



Australian Government

**CARBON POLLUTION
REDUCTION SCHEME
Australia's
Low Pollution
Future**

White Paper

Volume 2

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12 Assistance to emissions-intensive trade-exposed industries

Australia's adoption of a carbon constraint before other countries may have a significant impact on its emissions-intensive trade-exposed industries. The Government is committed to providing assistance to these industries to reduce the risk of carbon leakage and provide them with some transitional assistance. In doing so, it will ensure that these industries contribute to the national effort to reduce carbon emissions. This chapter describes the Government's assistance policy towards emissions-intensive trade-exposed industries.

The Australian Government has committed to a minimum 5 per cent reduction in national emissions from 2000 levels by 2020. Adopting such a target ahead of some other countries will mean that Australia's traded industries face higher carbon costs than some of their international competitors, which may have a significant impact on the most emissions-intensive trade-exposed (EITE) industries.

In the Green Paper, the Government proposed providing assistance to EITE industries to reduce the risk of carbon leakage—that is, to reduce the risk that industries would move from Australia to elsewhere, with no benefit in terms of global emissions reductions, upon introduction of a carbon price in Australia. It also proposed that this assistance would help these industries transition to an economy that appropriately prices carbon emissions.

This is a very difficult area of policy for a number of reasons and the proposal to assist EITE industries was closely scrutinised and debated by many stakeholders. EITE industries have legitimate concerns about taking on a carbon cost before some of their competitors. That said, the likelihood of carbon leakage depends on a number of factors, only one of which is the carbon cost. In developing this policy, the Government cannot overcome the considerable degree of uncertainty over future developments (technological and climate change related, among others) and the fact that individual businesses have significantly more information about their own cost structures than Government.

The Government also recognises that providing more assistance than necessary to industries at risk of carbon leakage reduces national income, reduces the amount of Government revenue available for other purposes and redistributes resources (capital and labour) within the economy to assisted industries.

The EITE assistance program has been designed to target assistance in as practical and effective a fashion as possible, to explicitly support continued growth in EITE industries and to provide a transparent assistance framework to ensure industry has the clarity and certainty it needs. It accommodates growth in these industries in a manner that has not been proposed in other cap and trade schemes to date, by directly linking allocations to the production of existing and new entities conducting EITE activities. The program is based on the expectation that all industries should contribute to the national emissions reduction effort and provides strong incentives for all entities to pursue abatement opportunities.

Summary of the key features of the EITE assistance program

The following table provides a summary of the key features of the EITE assistance program which can be used as a reference point:

Feature	Policy
Form of assistance	Allocation of permits at the start of each compliance period Based on individual entity's previous year's level of production Upon closure, must relinquish permits for production that did not occur in that year
Basis of assistance	Provided to new and existing entities undertaking an eligible EITE activity prescribed in regulations
Scope of assistance	Direct emissions covered by the Scheme Scheme related cost increase for electricity and steam use Scheme related cost increase for upstream emissions from natural gas and its components (e.g. methane and ethane) used as feedstock
Eligibility for assistance	Eligibility of activity based on an assessment of all entities conducting an activity Trade exposure assessed through quantitative and qualitative tests Emissions intensity assessment based on average emissions per million dollars of revenue or emissions per million dollars of valued added Time period for assessment: <ul style="list-style-type: none"> emissions data: 2006-07 to 2007-08 revenue/value added data: 2004-05 to the first half of 2008-09
Initial rates of assistance	90% for activities with emissions intensity of at least 2000t CO ₂ -e/\$m revenue or 6000t CO ₂ -e/\$m value-added 60% for activities with emissions intensity between 1000t CO ₂ -e/\$m and 1999t CO ₂ -e/\$m revenue or between 3000t and 5999t CO ₂ -e/\$m value-added
Carbon productivity contribution	Initial rates of assistance will be reduced by a carbon productivity contribution of 1.3% per annum
Allocative baselines	Allocative baseline for activity based on historic industry average level of emissions per unit of production for all entities conducting activity Electricity allocation factor set at 1t CO ₂ -e per MWh nationwide, may be adjusted in respect of existing large electricity supply contracts Natural gas feedstock allocation factor set state by state
New entrants	New entities conducting an existing EITE activity will receive the same assistance as existing entities conducting the activity Activities new to Australia will be able to apply for EITE eligibility -- assessment and baselines made on the basis of international best practice Allocations to existing entities conducting EITE activities will not be adjusted for allocations to new entrants
Quantum of assistance	Government expects allocations to EITE sector to be around 25% initially (35% including agriculture), increasing to around 45% by 2020
Review of assistance	EITE assistance program to be reviewed by independent body at each five year review point, or at request of Minister Review would consider: <ul style="list-style-type: none"> inclusion of additional activities in light of commodity price changes and expansions in Scheme coverage consistency of EITE program with overall rationale and principles existence of broadly comparable carbon constraints applying internationally Five years' notice of any changes to EITE program to be provided, unless required for compliance with Australia's international trade obligations

This chapter is structured as follows:

- Section 12.1 outlines the policy rationale for assisting EITE industries and the principles guiding the development of the EITE assistance program.
- Section 12.2 discusses the form and scope of assistance and the provision of assistance on an activity basis.
- Section 12.3 discusses how eligibility of activities for EITE assistance will be assessed and determined.
- Section 12.4 discusses the eligibility thresholds and rates of assistance for eligible entities, both initially and over time.
- Section 12.5 describes how the allocations for eligible activities will be determined.
- Section 12.6 describes how assistance will be calculated for individual entities conducting an EITE activity, including new entrants, and what happens when an EITE entity ceases to operate an activity.
- Section 12.7 outlines the process for reviewing the assistance program, including the criteria for when assistance will cease.
- Section 12.8 sets out the governance arrangements for the assistance program and describes the next steps in the process of finalising the implementation of the EITE assistance program ahead of Scheme commencement.

12.1 Rationale and principles underlying the EITE assistance program

This section discusses:

- the rationale for assistance to EITE industries
- the key principles guiding the development of the EITE assistance program.

12.1.1 Rationale for EITE assistance

The introduction of a global price on carbon emissions will drive a structural shift in the economy, from emissions-intensive towards low-emissions goods, technologies and production processes. Several factors will determine the impact of the introduction of a carbon constraint on a sector:

- the relative emissions intensity of the goods and services it produces
- its ability to pass through the carbon cost
- the relative emissions intensity of production across economies (how Australian producers compare with overseas producers)

- its potential emissions reduction opportunities
- the extent to which consumers of emissions-intensive goods and services reduce their demand for these goods and services as prices rise (the price elasticity of demand).

Coordinated global efforts would help ensure that any changes in Australia's production patterns arise from real differences in the emission intensity of production, rather than from uncoordinated policy action.

However, in the absence of carbon constraints being applied in other countries, Australia's trade-exposed industries may be constrained in their ability to pass through carbon costs, potentially reducing their profitability. This effect will be most pronounced for the most emissions-intensive trade-exposed sectors.

Green Paper position

The key rationales for providing assistance to emissions-intensive trade-exposed (EITE) industries would be to:

- address some of the competitiveness impacts of the Scheme on EITE industries in order to reduce carbon leakage
- provide transitional support to EITE industries that will be most severely affected by the introduction of a carbon constraint
- support production and investment decisions that would be consistent with a global carbon constraint.

The ultimate objective of the introduction of a carbon constraint in Australia is to contribute to reductions in global emissions. If the introduction of a carbon constraint in Australia ahead of key international competitors simply results in EITE industries contracting in Australia and relocating offshore and using similar or worse emissions-intensive fuels or technologies, it will weaken Australia's effective contribution to the global emissions reduction effort. This is often referred to as 'carbon leakage'. Since Australia is committed to contribute towards a comprehensive global solution to the climate change problem, the potential for carbon leakage provides a rationale to act to reduce this risk.

Another reason for assisting EITE industries is to smooth the transition of the economy to one that has a price on carbon. Given the significant differences between the emissions profiles of industries, the impact of the carbon price will be greater for some than for others. A shift away from emissions-intensive goods, technologies and processes will have implications for the allocation of resources and employment, and may alter the sectors in which Australia has a comparative advantage. Transitional assistance partly reflects the fact that businesses have invested capital and workers have chosen jobs in particular industries on the basis of previous policy settings.

Submissions in response to the Green Paper broadly agreed with the rationale for providing assistance to EITE industries, although they emphasised different aspects. For example, WWF–Australia stated:

Transitional assistance should not be provided to emissions-intensive, trade-exposed firms but [WWF] does not oppose the provision of assistance for the sole purpose of avoiding ‘carbon leakage’. (Submission 522, p. 22)

Some submissions from the LNG industry suggested that assistance should be provided to industries that are assessed as contributing to global reductions in emissions.

To deliver Australia’s emissions reduction objective while maintaining economic competitiveness, the Australian Government should: ... Implement national policy measures that secure the competitiveness of LNG, and any other trade exposed industry which contributes significant net reductions in emissions at the global level. (Woodside Energy, Submission 485, p. 32)

The Government does not intend to provide assistance on those grounds for two key reasons. First, determining life-cycle emissions is subjective and lacks transparency. Assessing a product’s emissions over its full life-cycle requires many assumptions about its production, its transportation, its transformation and its uses overseas and into the future. A comparison of life-cycle emissions would require an assessment of all domestic and traded products along with all of the products they compete with in overseas markets. Many Australian industries contribute to global reductions in emissions because they produce goods more emissions-efficiently than their major competitors. It is not clear how such an assessment would be able to be applied transparently and fairly across all industries.

Second, the current international climate change policy framework imposes obligations on each country’s national emissions, not on the life-cycle emissions from its domestic production. Adopting an approach that was not consistent with Australia’s current and likely future international emissions reduction commitments would undermine our capacity to help develop a global response to climate change and would further increase the cost of reducing national emissions.

The Green Paper also proposed that EITE assistance should support production and investment decisions that would be consistent with a global carbon constraint. In discussing this objective, however, it noted that distinguishing between industries that are likely to be viable and non-viable in Australia in a carbon-constrained future relies on assumptions about which there is a considerable degree of uncertainty. These include uncertainties about technological developments, future emissions constraints and the efficiency of overseas producers.

This approach has similarities to that proposed in the *The Garnaut Climate Change Review; Final report*¹ (see Box 12.1). The report proposed to provide EITE assistance in a way that mimicked the price signals that would be provided in a carbon constrained world and to re-calibrate assistance each year in light of carbon constraints that have been introduced across competitor countries. The Australian Energy Company argued against such an approach stating:

To claim that the shielding required to ensure that investment decisions are consistent with a world global carbon price can be deduced by adding on some simple carbon price factors seems excessively optimistic and unnecessarily risky for Australian industry. (Submission 390, p. 8)

While it would be desirable for the EITE assistance program to support production and investment decisions that would occur in a carbon constrained future, the Government's assessment is that there are significant limitations on the extent to which such a policy could be implemented in a fair, transparent and tractable way.

The Government has decided to assist EITE industries to reduce the risk of carbon leakage and to support these industries' transition to a carbon-constrained economy. It has decided that one of the key principles underlying the EITE assistance program will be to support production and investment decisions that will be consistent with a global carbon constraint, by ensuring that assistance to EITE industries is provided in a way that maintains the carbon price signal. This is discussed further below in Section 12.1.2.

Box 12.1: The Garnaut Final Report on assistance to EITE industries

The Garnaut Final Report¹ acknowledged the potential for carbon leakage and advocated a two-step approach to alleviating the problem. In the first instance, it recommended that the Government pursue a comprehensive agreement on carbon pollution mitigation, as well as sectoral agreements for EITE industries. In the interim, it recommended adopting a policy of transitional assistance for Australian EITE industries.

The report suggested that in the interim period eligible EITE firms receive a credit against their permit obligations for every unit of production, equivalent to the expected long-term 'uplift' in product price that would eventuate if Australia's trading partners had similar carbon mitigation policies in place.

This was intended to ensure that firms continue to produce at levels that would be sustainable under a global agreement, but do not bear the full cost of doing so until such an agreement is in place. Garnaut argued that payments above that level would support unsustainable output at the expense of assistance to other areas of the economy, such as households and research and development into new technologies. Higher levels of assistance might also reward inefficient production, rather than encouraging firms to invest in less emissions-intensive technologies.

The Garnaut Final Report¹ also recommended an eligibility threshold to identify firms for which the impact of the percentage uplift in price would be most significant. Eligible firms would receive credits for that part of the expected price uplift that is above the threshold, but not more than their permit obligations in the compliance period. It proposed that credits could be provided in the form of cash or a cash-equivalent reduction in the firm's obligation to acquit permits at the end of the compliance period.

An independent authority would be responsible for calculating the expected price uplift factors at regular intervals (at least yearly), based on a transparent and consultative process. As trading partners adopt comparable carbon mitigation policies, the gap between observed world product prices and Australian prices would narrow and the level of assistance would fall accordingly.

Policy position 12.1

The key rationale for providing assistance which addresses some of the competitiveness impacts of the Scheme on emissions-intensive trade-exposed (EITE) industries is to:

- reduce the likelihood of carbon leakage in the period before broadly comparable carbon constraints are applying internationally
- provide transitional support to these industries.

The provision of assistance to EITE industries will support production and investment decisions that would be consistent with a global carbon constraint.

12.1.2 Principles guiding development of the EITE assistance program

Targeting EITE assistance

Key decisions for the EITE assistance program are how assistance should be targeted and what level of assistance is required to reduce the likelihood of carbon leakage and provide adequate transitional assistance.

In the Green Paper, the Government proposed that EITE assistance should be targeted towards those industries that face the greatest material impact of the carbon cost that are constrained in their ability to pass through these costs because of international competition.

The Green Paper discussed the fact that it is difficult to determine how much assistance is required to prevent carbon leakage. Some stakeholders argued that there is a direct relationship between a loss in profitability and carbon leakage, and that assistance is required to restore profitability to what it would have been in the absence of a carbon constraint.

While there is a relationship between profitability and investment decisions, carbon pricing is only one of many factors that will influence investment decisions. These range from labour costs through to infrastructure availability and political stability, and include future projections of supply and demand conditions. Furthermore, this relationship may be quite different for new investment compared with existing facilities. For existing capital-intensive entities, for example, there can be quite substantial reductions in profitability before there is a change in the level of output. The introduction of a carbon constraint may therefore disadvantage the current owners of the assets, but not result in carbon leakage. These circumstances partly motivate the Government's rationale for EITE assistance as being to provide transitional support as well as reduce the likelihood of carbon leakage.

Some stakeholders suggested that assistance should be targeted to those entities that would be competitive in Australia in a carbon-constrained world.

The LNG industry, by virtue of its low greenhouse footprint compared to other fossil fuels and competitiveness with renewable energy sources, stands to benefit from a global carbon constraint and Australia, as an established LNG exporter, could be part of this growth opportunity. It is vital that the emissions trading scheme support this outcome. (Australian Petroleum Production & Exploration Association, Submission 834, p. 45)

However, as discussed above, the Government's assessment is that given the uncertainties over future developments, there are limitations on the extent to which such a policy could be implemented in a fair, transparent and tractable way.

Other stakeholders have suggested that assistance should be calibrated to reflect the actual potential for carbon leakage. That is, assistance should be more finely targeted to distinguish between the actual cost pass through or cost absorption of entities conducting different EITE activities. The Australian Industry Greenhouse Network consider 'there is no need for an emissions intensity test, rather what is required a trade exposure test, here trade exposure means no or limited opportunity to pass on costs as a result of the ETS' (Submission 424, p. 12). Once again, the Government's view is that such distinctions would be subjective and contentious – few firms producing traded goods perceive themselves to have capacity to pass through cost increases.

Given the wide variation in the impact of the carbon price on different industries in the economy, and the considerable uncertainties involved in determining where and when carbon leakage will take place, the Government has decided to adopt a rules-based approach to targeting and allocating EITE assistance. This policy targets assistance within a clear and transparent framework to entities producing internationally traded goods that have the most significant exposure to higher carbon prices. Given the overarching rationale for assistance, this policy will provide assistance to both new and existing entities operating in EITE industries.

Supporting the EITE sector's transition to a carbon-constrained future

The Government has announced that Australia's mid- and long-term emissions reduction targets will be delivered through the introduction of the Carbon Pollution Reduction Scheme and supporting policies. While it is committed to providing assistance to EITE industries, this assistance should not undermine the achievement of Australia's emissions reduction targets and should preserve, to the greatest extent possible, the carbon price signals introduced by the Scheme. Dampening the carbon price signal reduces the incentive for the EITE sector to transition to a carbon constrained future and would reduce the contribution of the EITE sector to achieving national emission reduction targets.

Modelling by the Treasury for the Australian Government² illustrates the advantages of acting early if carbon pricing expands gradually across the world—economies that defer action face higher long-term costs as global investment is redirected to early movers (see Box 12.2). Failing to provide incentives for EITE industries to undertake abatement would have consequences for the entire Australian economy.

The Government proposed in the Green Paper that the carbon price signal could be preserved in part by providing assistance to all entities (both new and all existing entities) conducting a given activity on the same basis. Such an approach would be consistent with the situation facing firms in a carbon-constrained world in which more emissions-efficient producers will have a cost advantage over less emissions-efficient producers of a product.

By contrast, if decisions on eligibility for EITE assistance were made on an entity-by-entity basis, less efficient entities could receive assistance while more efficient entities did not. Likewise, if the level of assistance was directly related to the emissions of each entity conducting an EITE activity, this would provide more assistance to less efficient producers relative to more efficient producers of a given product. These outcomes would be at odds with the principle that EITE assistance supports production consistent with a carbon-constrained future.

The Government proposed in the Green Paper to make decisions on EITE assistance on the basis of historic information on emissions to maintain the carbon price signal and not distort incentives for emissions reductions in the lead-up to or following Scheme commencement. If EITE assistance was based on an entity's current or future emissions, it would significantly weaken the carbon price signal faced by the entity and diminish the incentive to abate.

Stakeholder submissions broadly supported the proposal to provide assistance on the same basis for all entities conducting an activity. Cement Australia stated that '[it] is comfortable with the proposal to provide EITE allocation[s] calculated on the basis of an historical (2006-07 to 2007-08) Australian industry average emissions intensity baseline for eligible EITE sectors' (Submission 850, p. 12).

There was also general support for the use of historical emissions information. ABB Grain, for example, stated:

If (as is proposed) assistance is based on historical industry emissions baseline (e.g. industry average), businesses in competitive industries will notwithstanding assistance still have an incentive to reduce emissions. (Submission 290, p. 3)

However, a clear exception came from the petroleum refining industry. The Australian Institute of Petroleum considers that assistance levels should be entity-specific because of the variation in emissions intensity across entities in the petroleum industry:

A facility based index will take account of the significant variations in design and operating features of the seven Australian refineries, and will avoid the need to resolve intra-industry equity issues which would otherwise arise from the use of an industry average index. AIP analysis indicates that facility based indices cover a spread of +/- 40 per cent around the industry average index for refineries. (Australian Institute of Petroleum, Submission 673, p. 21)

The Government acknowledges that providing assistance on the same basis to all entities conducting a given activity may disadvantage older and less efficient plants, some of which may have limited abatement opportunities. However, this approach will provide the strongest incentives for less efficient producers to improve their emissions intensity and provide a relative benefit to more emissions-efficient producers.

The Government is committed to ensuring that the provision of EITE assistance does not mute the carbon price signal, thereby supporting the transition of the economy to a carbon-constrained future. To give effect to this objective, the Government will undertake the assessment of eligibility and provide assistance to all new and existing entities conducting an activity on the basis of the historic industry-wide emissions intensities of all entities currently conducting the activity. Such an approach will:

- ensure that relatively more support is provided to relatively more efficient entities conducting a given activity, providing a stronger incentive for the relatively less emissions-efficient entities to reduce their emissions
- in most cases, effectively result in relatively more generous support being provided to new investments in an activity, because new investments are generally more emissions efficient
- provide recognition of early action in some circumstances
- preclude the need for determining complex allocation rules for new EITE investments.

The Government will also base decisions on EITE assistance on historical information about emissions intensity of production to preserve the carbon price signal.

Providing assistance directly linked to production

In order to reduce the likelihood of carbon leakage and provide transitional assistance to entities conducting EITE activities, the Government needs to consider how to take account of any expansions or contractions in production that take place.

To address this issue, the Government's proposal in the Green Paper was for EITE assistance to be directly linked to the production of individual entities conducting an EITE activity; that is, it would be provided on a per unit of production basis. Individual entities would receive assistance based on their level of production in each year.

If EITE assistance did not take account of expansions in the production of individual EITE entities, it would fail to support the growth in these industries, and could increase the likelihood of carbon leakage. If EITE assistance did not take account of contractions in the production of individual EITE entities, it could result in windfall gains to those entities and advantage them relative to EITE entities that either keep production constant or expand production. Windfall gains would also occur if EITE entities continued to receive assistance once they had ceased to operate in Australia.

To take account of circumstances where entities contract or expand production, EITE assistance will be linked directly to the production of individual EITE entities. This will be implemented by providing assistance on a 'per unit of production' basis. This will mean that if an EITE entity doubles its level of production, it would receive double the level of assistance it would otherwise have received. This approach will accommodate expansions and contractions of entities conducting EITE activities and will ensure that assistance is not given to entities that have ceased to operate in Australia.

Balancing the impacts of EITE assistance on households and non-assisted sectors

In the Green Paper the Government discussed the need to ensure that in the design of the EITE assistance program, consideration is given to the impact that this assistance may have on non-assisted sectors and households. It highlighted that the provision of EITE assistance will reduce the amount of scheme revenue available for assisting other sectors and may increase the emissions reduction effort required of the rest of the economy.

In its submission in response to the Green Paper, the Australian Conservation Foundation agreed with the Government's position:

Every dollar that goes to polluting industries is a dollar less for households and climate change solutions. (Submission 809, p. 5)

The Australian Industry Greenhouse Network disagreed with the Government's position. It argued that trade-exposed industries:

are not able to pass the increased cost associated with the [scheme] to their customers. This means that households will not suffer increased costs for these products. It follows that every permit not allocated to [trade-exposed industries], but rather auctioned and the revenue used to compensate households, is in fact shifting the burden towards [trade-exposed industries]. (Submission 424, p. 6)

While Australian households will only face price increases from traded goods to the extent that carbon constraints are applying internationally or to the extent that such domestic industries can pass through cost increases, Australian households will face price impacts from non-traded products, in particular from their use of electricity and natural gas. It is also likely that trade-exposed industries will have some abatement opportunities. As such, there is a rationale to support both EITE industries and households adjust to the introduction of the Scheme.

Modelling by the Treasury for the Australian Government² illustrates that the provision of EITE assistance redistributes costs from EITE industries to non-assisted industries and households for several reasons.

First, the modelling by the Australian Treasury illustrates that EITE assistance results in higher production from EITE industries, which increases the demand for electricity, and electricity prices more generally, since EITE entities have higher electricity intensity of production than the economy overall. This results in higher electricity prices for all entities across the economy.

Second, the modelling shows that EITE assistance will generally imply that Australia would import more permits from overseas to meet its national emissions target. This in turn implies higher capital outflows from the economy and a lower level of national income (gross national product).

A third way in which EITE assistance may shift a burden onto the rest of the economy is that it may increase the domestic carbon price towards the international price. The modelling by the Treasury for the Australian Government² illustrated that the domestic price of permits is effectively set by the international price of permits. However, if the domestic price is lower than the international price, then EITE assistance is likely to increase the domestic price of

permits towards the international price, increasing prices of fuel, electricity and other emissions-intensive goods and services as a result.

Looking ahead, the design of the EITE assistance program should also take account of the impact of this assistance on non-assisted sectors and the cost of achieving national emissions reduction targets. In particular, it needs to take into account the fact that a declining national emissions cap combined with a growing national economy implies that the burden (or cost) of achieving a given national reduction in emissions will increase over time. This suggests that the degree of EITE assistance may need to be adjusted over time to ensure the sustainability of the EITE assistance program.

In designing the EITE assistance program, the Government has been mindful of the need to balance this support against its impacts on non-assisted sectors and households.

Box 12.2: Treasury modelling for the Australian Government—impacts of the Scheme on EITE industries and the effects of shielding

The Australian Government report *Australia's low pollution future*² modelled the impacts of four carbon pollution mitigation scenarios on EITE industries, relative to a reference 'business as usual' scenario.

The report found that the mitigation policies imposed relatively small aggregate economic costs on Australia as a whole. However, the impacts on individual sectors varied depending on their emissions intensity, their degree of trade exposure, the relative emissions intensities of production across economies, the potential mitigation options and the relative price elasticity of demand of EITE products.

The modelling projects carbon pricing will result in large reductions in the output of some sectors compared to the reference scenario; however, almost all sectors were expected to grow from current levels. In particular, outputs of key emissions-intensive exports, such as coal and aluminium, are expected to grow more slowly in all scenarios, as consumers substitute towards lower-emission commodities. Australia's share of global trade increases for coal, is broadly maintained for iron and steel and falls for aluminium, given its relatively higher emissions-intensity of production in Australia.

The risk of carbon leakage and the impact of providing EITE assistance were explored in the scenarios in which Australia introduces a carbon price ahead of many other regions. The report finds little evidence of carbon leakage. When no shielding is applied, the emissions and output from EITE industries in non-participating regions do not increase. This suggests the carbon prices in these scenarios are not high enough to induce significant industry relocation.

However, the modelling finds that the administrative allocation of permits to EITE industries eases the transition to a low-emission economy for shielded sectors. EITE assistance was found to be of most benefit to the very emissions-intensive sectors, such as non-ferrous metals, as well as beef and sheep farming when the Scheme is expanded to include agriculture.

Box 12.2: Treasury modelling—impacts of the Scheme on EITE entities and the effects of shielding (continued)

The report noted that shielding the EITE sector redistributed the costs of the Scheme to unshielded sectors mainly by increasing electricity prices, reducing the revenue available to other sectors and reducing national income due to the higher number of international permits that would need to be purchased. The costs of EITE assistance are reduced by a model of assistance which ensures that EITE industries face incentives to reduce their emissions over time.

Ensuring consistency with Australia’s international trade obligations

In the Green Paper, the Government committed to ensuring that the Scheme, including the EITE assistance program, would comply with Australia’s international trade commitments.

The Government is committed to delivering the EITE assistance program in a manner consistent with Australia’s international trade obligations. These include obligations under the World Trade Organisation, in particular the Agreement on Subsidies and Countervailing Measures, and various free trade agreements into which Australia has, or is in the process of, entering.

The Government will monitor the EITE assistance program to ensure that it remains consistent with Australia’s international trade obligations. If a compliance issue were to arise, the Government may adjust the relevant aspect of the assistance program to ensure that Australia remains compliant with its international obligations, following consultation with any stakeholder affected by such a change.

Policy position 12.2

The Government’s support for EITE industries will be:

- targeted towards industries that produce traded goods and have the most significant exposure to a carbon price
- designed to maximise the incentives for EITE industries to adjust to a carbon-constrained future by:
 - assessing eligibility and providing assistance on the same basis to all entities, new and existing, conducting a given activity
 - providing assistance on the basis of historical information on the emissions from these activities
- directly linked to production and contingent on production continuing in Australia
- balanced against its objectives for non-assisted sectors and households
- consistent with Australia’s international trade obligations.

12.2 Mechanics of the EITE assistance program

This section discusses:

- the form in which EITE assistance will be provided
- the basis for allocating EITE assistance
- the scope of emissions to be considered by EITE assistance.

12.2.1 Form of EITE assistance

Assistance could be provided to EITE industries in a number of alternative ways:

- exemption of EITE industries from obligations under the Scheme
- border adjustments, whereby adjustments are made to the prices of traded products to remove the carbon price from exported goods and add a carbon price to imported goods
- cash payments by the Government directly to EITE industries
- administrative allocations of permits to EITE industries.

While each of these options has advantages and disadvantages, the Government considered in the Green Paper that the key benefit of permits—that their value moves in line with the carbon cost faced by an entity conducting an EITE activity—outweighed concerns relating to their perceived lack of transparency.

Green Paper position

The proposed assistance would be provided to emissions-intensive trade-exposed industries in the form of free allocations of carbon pollution permits at the beginning of each compliance period, contingent on production.

In response to the Green Paper, stakeholders in potential EITE industries generally supported the option of administrative allocations, although some thought the exemption and border adjustments options may provide more effective and efficient assistance. Other stakeholders argued for cash payments, primarily on the grounds of transparency. Each option and stakeholder reactions to them are explored below.

Exemption from Scheme coverage

As noted in the Green Paper, exemption involves excluding from Scheme coverage emissions from particular EITE industries. Those industries would not be required to buy and surrender permits for their direct emissions.

Some LNG producers, Woodside Energy for example, argued that the LNG industry should be exempt from the Scheme (Submission 485, p. 21).

The advantage of exemption is that it is a relatively simple and administratively straightforward way to ameliorate the direct impacts of the Scheme on EITE industries. However, it does not assist entities conducting EITE activities with the increased costs associated with their indirect emissions; that is, those embedded in inputs, particularly the production of electricity.

The main disadvantage of this approach is that it compromises the achievement of a national emissions reduction target. If particular industries were exempted from the Scheme, total national emissions would still be the sum of emissions from industries under the cap and those from the exempted industries (which would be unconstrained and uncertain). Exempting industries effectively shifts the responsibility for, and risks of, achieving the national emissions reduction target onto non-exempt industries and the Government. It also increases the cost of achieving any given emissions reduction objective, as exempted industries face little incentive to reduce their emissions.

Therefore, the Government does not accept that assistance to EITE industries should be provided in the form of an exemption from Scheme coverage.

Border adjustment

Border adjustment is an approach in which adjustments are made to the export and import prices of goods according to the carbon costs embodied in the goods. The objective of a border adjustment is to quarantine the carbon costs imposed on exports to domestic consumers and provide a level playing field for producers of import-competing substitutes.

Several stakeholders disagreed with the Government's Green Paper consideration of border adjustments, arguing that border adjustments are an equitable, transparent and efficient form of assistance. Kimberly-Clark Australia stated:

We do not consider the [Green] Paper's arguments against border adjustment to be fully justified. ... Border adjustment seems like a realistic alternative to transitional assistance with permit allocation. It could provide a level playing field for all Australian industry in the transitional period until competing countries implement carbon constraints. Border adjustment deserves a thorough, continuing and more positive assessment by Government. (Submission 135, pp. 7–8)

In the Green Paper, the Government recognised the economic efficiency of border adjustments, stating that they imply that domestic prices for all emissions-intensive goods reflect the carbon price, which promotes efficient demand patterns.

However, the Government also recognised that challenges exist in implementing border adjustments for imports in a simple, transparent and verifiable manner. This is because adjustment would require accurate tracking of all inputs used in the production of a 'landed' good to determine both the amount of embedded emissions in that good and the effective carbon price that has been applied to the inputs. Accessing reliable and robust data from other jurisdictions is not straightforward, and the complexity of the task significantly increases when multiple jurisdictions contribute to the production of the good.

Moreover, if assistance were to be provided for one product that is particularly emissions-intensive to produce, a border adjustment would need to be applied to every imported good that contained that product. Otherwise, the application of a border adjustment would simply provide an incentive to import goods that contained the product, such as finished goods, rather than importing the product itself. For instance, a border adjustment applied to primary aluminium would also need to be proportionately applied to the aluminium content of every imported good. This adds a further degree of complexity to the application of border adjustments.

CSR concurs with the Government's assessment:

In general, CSR's view is that border adjustments will be difficult at best, or in most cases unworkable. The extensive foot printing of so many products with components across so many international boundaries makes this exercise nigh on impossible. (Submission 735, p. 20)

No stakeholder suggested a way in which border adjustments could apply across a range of non-standard products to overcome the implementation issues outlined above.

Accordingly, the Government continues to hold the view that it would be very difficult to implement border adjustments and that the risk remains that if they were widely adopted, border adjustments could be used to pursue protectionist trade policies to the detriment of small open economies, like Australia.

Cash payment

A few stakeholders offered a view on cash payments as a form of assistance to EITE industries. The Climate Action Network Australia, for example, stated:

The need for any adjustment assistance should be subject to a rigorous, transparent assessment process with clear conditions and take into account any existing subsidies or favourable tax treatment ... The assistance must be in the form of cash, not permits. (Submission 272, p. 8)

As noted in the Green Paper, the main advantage of cash payments over administrative allocations of permits is that they are a transparent way of providing assistance. In particular, cash payments make the quantum of assistance explicit, ensuring that all stakeholders are fully informed of the exact level of assistance provided to EITE industries.

However, cash payments also involve an element of complexity, because they would be based on an estimate of the permit price. If provided ahead of time, the payments would need to be made on the basis of a forecast permit price and could require a 'true up' at a later date. If paid at the end of the period, the Government would need to determine an average carbon price to be used for allocations, which would not necessarily reflect the price paid by individual entities during the period.

ROAM Consulting considered that cash payments would be the appropriate form of assistance for the carbon cost increase faced by EITE entities for indirect emissions (like electricity). This is because cash would remove transaction costs for businesses with a large amount of indirect emissions, and cash is directly related to the cost increase associated with such emissions. (Submission 575, p. 10)

However, it is not clear why different types of assistance should be provided for different sources of carbon cost impacts. Cost increases for indirect emissions would be expected to move in line with the carbon price, so the provision of permit allocations in relation to those costs would also seem appropriate and would avoid the need to adjust allocations for unexpected changes in the permit price.

Administrative allocation of permits

Entities in potential EITE industries broadly supported the Government's proposed form of assistance; that is, an administrative allocation of permits. The main advantage of permits is that their price moves in line with the Scheme cost faced by an entity, which means that providing assistance in this form eliminates the need for adjustments to the assistance because of changes in permit prices. This reduces administrative costs and provides greater business certainty.

In recognition of this, Chevron Australia noted:

The allocation of emissions permits has the added advantage of accommodating any change in permit prices between permit allocation and acquittal. (Submission 716, p. 12)

In the Green Paper, the Government acknowledged that the key disadvantage of administrative allocations is that they may be perceived to lack transparency. However, it also suggested that to overcome that perception, detailed information on allocations could be made publicly available, including estimates of the value of permit allocations at current prices.

The Government has decided to provide EITE assistance in the form of an administrative allocation of permits because permits will provide a natural hedge against the Scheme cost faced by entities in EITE industries. This approach has received widespread support.

The regulator will be required to publish details of the permits that are allocated as EITE assistance, including:

- the recipients of EITE assistance, the numbers of permits allocated to each and the provision under which they were allocated
- the total permits allocated for the EITE assistance program
- the total for each activity within this program.

This will ensure transparency in the allocations to EITE industries, which is appropriate given that permits are a public resource. In addition, provision of relevant market information on the volume of permits administratively allocated will assist scheme participants and financial market analysts to identify and understand the overall supply and demand conditions for permits, facilitating efficient price discovery.

Timing

A further consideration is the timing of the provision of permits; that is, whether permits should be provided at the start or end of a compliance period.

As the Government noted in the Green Paper, providing permits at the start of a compliance period would require determination of the expected production (output) for each entity on which to base allocations. However, it would provide assistance in advance of an entity's need for permits and increase market liquidity.

Providing permits at the end of a period would not require a projection of the level of production, as this would be known, although the effectiveness of assistance would be eroded for entities that face increased costs for indirect emissions throughout the compliance period. In addition, the Government would need to estimate the number of permits that would need to be quarantined from auctions during the period so that they could be allocated to EITE entities at the end of this time.

Few stakeholders commented on the Green Paper proposal to provide permits at the start of the compliance period. Hydro Aluminium Kurri Kurri stated that permits should be allocated annually in advance based on expected production. (Submission 641, pp. 11-12)

The Government has decided to provide an administrative allocation of permits at the start of each compliance period.

Policy position 12.3

EITE assistance will be provided to emissions-intensive trade-exposed industries in the form of an administrative allocation of carbon pollution permits at the beginning of each compliance period.

The regulator will publish details of permits that are allocated as EITE assistance in terms of:

- the recipients of EITE assistance, the numbers of permits allocated to each and the provision under which they were allocated
- the total permits allocated for the EITE assistance program
- the total for each activity within this program.

12.2.2 Determining assistance on an ‘activity’ basis

In the Green Paper, the Government proposed that the assessment of eligibility and the provision of EITE assistance be conducted at an ‘activity’ level.

Green Paper position

The proposed EITE assistance would be provided on the basis of the industry-wide emissions from a process or activity to ensure that assistance is well targeted and is equitable both within and between industries.

The Government preferred this position because it overcame a number of disadvantages associated with approaches at industry, company and facility level. In particular, an activity-level approach will allow the Government to target assistance most effectively and equitably. Provision of assistance to an entire company or facility, in contrast, may provide a relative benefit to some entities over others based purely on their physical or corporate structure. Targeting assistance to a specific activity will ensure that the provision of EITE assistance does not provide incentives to alter a company or facility structure to maximise the receipt of assistance.

The majority of stakeholder submissions recognised that an activity approach was appropriate in this regard. For example, O-I Australia stated:

The current definition of industry sector is inadequate to fully explain the high emissions of the glass container activity. The definition “waters down” the carbon intensity of this activity within the industry sector. The definition used (“ABS national accounts input-output tables”) agglomerates many disparate activities within the glass sector and hence results in an energy intensity of 645 kg of CO₂ per AUD \$1 million of revenue. (Submission 686, p.7)

The key drawback to an activity level approach is that traditionally, economic and financial reporting is not conducted at this level and a delineation of activities within a production process will therefore need to be determined for each activity. Several submissions, whilst still supporting the activity level approach, recognised the complexity of this and proposed solutions. For example, Chevron proposed that:

activity boundaries only be drawn where a readily marketable commodity is produced between each activity. (Submission 716, p. 16)

Despite the challenges, the Government prefers to provide assistance on an activity basis, because it is the best way of ensuring that assistance is targeted to the most emissions-intensive trade-exposed entities in the economy. It will help to ensure that assistance is equitably distributed within and across industries, and it will minimise distortions in structuring future investments to maximise allocations.

Principles for defining activities

The process of defining activities and the boundaries around these activities across the economy was not discussed in the Green Paper. Subsequent consultations with stakeholders have made it clear that the determination of activity definitions needs to be based on a set of clear principles to ensure that the provision of EITE assistance to such activities is equitable across industries, avoids unintended consequences and is consistent with the overarching principles of the EITE assistance program (see Section 12.1.2).

The Government has decided that the following principles will be used to define activities and the boundaries around these activities, for the purpose of assessing and providing EITE assistance:

- An activity consists of the chemical or physical transformation of inputs to produce a given set of outputs—the identification of inputs and outputs seeks to ensure uniformity of treatment within and between entities conducting activities. Identification of the chemical or physical transformation taking place is important because it defines the activity without regard to specific equipment or technology, which may change over time.
- Activities should not be differentiated by the technology employed, the fuel used, the age of the plant or the quality and types of feedstock used—the definition of activities should not be based on these factors to maximise the incentives in the economy to move towards the lowest-emissions ways of producing a given product.
- Boundaries around activities should be consistently and equitably applied across industries—the application of the EITE assistance program across the entire Australian economy requires consistent treatment of activities that are not directly related to an emissions-intensive activity. For example, the emissions associated with auxiliary activities such as head office and administrative operations should either be included in all activity definitions or excluded from all activity definitions.
- The approach to establishing boundaries around activities should have minimal impact on business investment, location and structure decisions—the definitions of activities should seek to minimise the influence that the provision of EITE assistance has on other decisions made by a firm, such as whether to co-locate different parts of its production process.
- In determining the boundaries around activities, consideration is given to the potential for intermediate inputs produced within the activity to be substituted for bought-in inputs—there is a risk of windfall gains if an activity is defined to encompass an intermediate input that could be sourced from an alternative domestic or overseas supplier.
- There should be no overlap between different activity definitions—activity definitions should be determined to ensure that it would not be possible to receive assistance more than once for a given quantum of emissions.

The process for determining activities definitions and eligibility for EITE assistance is discussed further in Section 12.8.

Box 12.3: An illustrative example of how activity principles will be applied

Kryptonite, kryptonite refining and kryptonium are imaginary constructs that are used throughout this chapter to illustrate different aspects of the EITE assistance program.

Vulcan and Kryptonite Refiners of Australia (KRA) are two separate companies that refine kryptonite.

- KRA operates two older and more emissions intensive facilities; one in Victoria and one in South Australia.
 - The Victorian facility refines a local ore that is relatively easy to process, but its energy related emissions are higher given its reliance on coal as a fuel source.
 - The South Australian facility uses natural gas as its energy source, but the facility refines an ore that is difficult to process necessitating greater energy usage.

At Vulcan's facility in Tasmania, it refines kryptonite and also smelts kryptonium. The technology used by Vulcan to refine kryptonite is newer and more emissions-efficient than used in either of the KRA facilities.

The activity of kryptonite refining is defined as the processing of krypton ore to produce kryptonite. A single activity definition will apply to kryptonite refining. This definition does not differentiate on the basis of the technology, feedstock or fuel used at each of these facilities. The boundaries of the definition of kryptonite refining will clearly exclude upstream activities such as the extraction of the ore and downstream activities such as smelting of kryptonite to produce kryptonium.

The next step in the application of the EITE assistance program to the activity of refining kryptonite is to assess its trade exposure as described in Box 12.4.

Policy position 12.4

EITE assistance will be provided on an activity basis to ensure that assistance is well targeted and is equitably distributed within and across industries.

The following principles will be used to determine activities and the boundaries around each activity:

- an activity consists of the chemical or physical transformation of inputs to produce a given set of outputs
- activities should not be differentiated by the technology employed, the fuel used, the age of the plant or the quality and types of feedstock used
- boundaries around activities should be consistently and equitably applied across industries
- the approach to establishing boundaries around activities should have minimal impact on business investment, location and structure decisions
- in determining the boundaries around activities, consideration is given to the scope for intermediate inputs produced within the activity to be substituted for bought-in inputs
- there should be no overlap between different activity definitions to ensure that it would not be possible to receive assistance more than once for a given quantum of emissions.

12.2.3 Scope of assistance

The scope of EITE assistance refers to the emissions and the carbon costs that assistance seeks to address. There are three broad categories of emissions that might impose a carbon cost on industry. EITE assistance could potentially be provided for the costs associated with:

- direct emissions associated with an activity and covered by the Scheme, for instance from industrial processes and on-site fuel use
- indirect emissions from energy consumption, including the use of electricity and steam
- indirect non-energy emissions associated with non-energy inputs used by the activity, for instance from the production of raw input materials (fuel used as feedstock) and transportation.

Green Paper position

Emissions-intensive trade-exposed (EITE) assistance would be provided for the direct and indirect electricity emissions associated with the activity or process.

Only emissions covered by the Scheme would be considered in determining assistance.

Direct emissions

In the Green Paper, the Government proposed to provide EITE assistance in relation to the direct emissions of an activity. This was because entities will clearly face a carbon cost for these emissions, whether the liability is placed at the entity level or upstream, and for most entities, direct emissions costs will constitute the most significant carbon cost incurred as a result of the Scheme.

This position was generally supported by stakeholders, including Cement Australia and Norske Skög (Submission 850, p. 2; Submission 378, p. 7). The Government has decided to provide EITE assistance in relation to the direct emissions of an EITE activity.

Indirect energy emissions

The Government also proposed in the Green Paper to provide EITE assistance in relation to the increase in costs associated with the use of electricity by an activity. Electricity consumption can be relatively transparently determined and verified, and the generation of electricity is a highly emissions-intensive process. It follows that electricity prices are expected to rise appreciably with the imposition of a carbon price.

This position was generally supported by stakeholders, particularly those that consume large amounts of electricity, such as the aluminium industry. The Government has decided to provide EITE assistance in relation to the cost increases associated with the indirect electricity emissions of an EITE activity.

Since the release of the Green Paper, several stakeholders have suggested that EITE assistance should be provided in relation to the emissions associated with the use of steam.

Steam is another source of energy used in production processes for its heat and pressurisation properties. Steam may be produced independently or via a cogeneration plant, which captures the waste heat or steam from existing production processes to recycle into the production chain or to sell to a third party. Cogeneration thereby avoids emissions that would otherwise have been generated and has clear emission reduction benefits.

The Government has decided that since steam is a substitute for other forms of energy (for instance energy from electricity or other fuel sources), it would be inequitable and could distort investment decisions to exclude these emissions from the scope of EITE assistance.

Indirect non-energy emissions

The Government considered the provision of assistance for other indirect emissions associated with non-energy inputs but did not propose it in the Green Paper due to concerns about how equitably and transparently such assistance could be provided. Nevertheless, it indicated that providing assistance for indirect non-energy emissions could be considered if it could be established that:

- the emissions are material
- the emissions can be consistently and transparently measured across activities
- the costs associated with the emissions are passed through the supply chain.

Estimation of indirect non-energy emissions associated with an activity is considerably more difficult than the measurement of direct emissions, because these emissions occur upstream, outside the control of the entity conducting the EITE activity, and it is not straightforward to track the emissions associated with inputs through a production chain.

Estimating the potential costs that would flow from indirect non-energy emissions is even more challenging. It requires an assessment of the ability of upstream entities to pass through these emissions costs, which will depend on a number of factors. For tradeable products it will depend on the extent to which the potential for imports constrains cost pass-through. For non-traded products, cost pass-through will depend on negotiations between the supplier and customer, which in turn will depend on other market conditions and alternative sources of, and uses of, the product or service.

This last consideration is very important. Throughout the consultation process, stakeholders have often made representations regarding the extent to which they will bear carbon costs. It has, on occasions, been suggested that two parties to the same contract will both bear the full costs of the Scheme. This cannot be correct, but these representations highlight the difficulty of making robust and clear judgments regarding the extent of carbon cost pass-through for indirect emissions.

Some stakeholders have argued strongly for the inclusion of some indirect non-energy emissions in the scope of EITE assistance, in particular those emissions associated with natural gas and its components (such as methane and ethane) purchased and used as fuel feedstock in production processes. The Plastics and Chemicals Industries Association stated:

The emissions associated with the extraction and delivery of feedstocks range between 30% and 50% of the combined Scope 1 and 2 emissions of the purchaser of those feedstocks. ... The use of these feedstocks as an input to product is analogous to the use of electricity by the aluminium sector. However the Green Paper proposes not to include them for assessing EITE status. It is PACIA's strong view that in order that the EITE threshold ratio appropriately measures the materiality of impact on businesses and that the effects of the Scheme are applied equally across the economy, indirect emissions from non-trade exposed feedstocks must to be included in the assessment. (Submission 709, p. 28)

While the Government still believes that providing assistance for indirect non-energy emissions is inherently challenging, it also believes that in a few situations these emissions costs are very likely to be passed down the supply chain and will constitute a significant cost impost for an entity, particularly if the input is emissions-intensive to produce, is non-traded, and has a significant number of alternative uses. This may be of most relevance for some plastics and chemicals manufacturers, where natural gas and its components (such as methane and ethane) are used as feedstock in the production process.

Accordingly, the Government's position is that the upstream emissions costs associated with the extraction, production and transportation of natural gas and its components (such as methane and ethane) used as a feedstock by an activity will be included in the scope of EITE assistance on the grounds that cost pass-through is most likely to occur and will constitute a particularly significant cost to the industry.

The provision of assistance for these emissions will be restricted to entities who apply for an Obligation Transfer Number to purchase natural gas used as a feedstock net of the carbon price. Chapter 6 discusses Obligation Transfer Numbers in more detail.

A number of other sources of indirect emissions costs (both upstream and downstream from the primary activity) have been brought to the Government's attention as potentially requiring EITE assistance. Most claims for assistance in this regard relate to traded goods, such as alumina, coal, iron ore, limestone and refined petroleum products. However, in situations in which the upstream industry is trade-exposed and therefore constrained in its ability to pass through cost increases, it would be inconsistent with the EITE assistance program to provide assistance to the downstream industry. Information barriers mean that it is extremely difficult for the Government to precisely determine when costs are and are not passed through and to adjust EITE assistance accordingly. This is why the EITE assistance program does not attempt to make these adjustments in determining allocations and it would not be appropriate to provide assistance in relation to other indirect emissions.

While all entities conducting EITE activities may face some cost increase in relation to other non-traded input costs, including for upstream emissions from natural gas used as an energy source, the Government has decided not to provide assistance in relation to these other indirect emissions costs on the grounds that they are significantly less material relative to other emissions costs throughout the economy.

Liable emissions

The Government proposed in the Green Paper that EITE assistance would be provided only for emissions covered by the Scheme. The Government's position on those emissions that will be covered and not covered under the Scheme is outlined in Chapter 6.

The Government's position remains that EITE assistance will only be provided to activities for the emissions that are covered under the Scheme. This means, for example, that assistance in relation to agricultural emissions will only be provided when these emissions are covered by the Scheme.

There may be situations in which some entities conducting an activity do not have an obligation under the Scheme because they do not emit more than 25,000 t CO₂-e per year of direct emissions, while other entities conducting the same activity do have an obligation under the Scheme. In such situations, the EITE allocations to each of these groups of entities conducting the given activity will be adjusted so that assistance is not provided in relation to direct emissions for which no Scheme obligation will be incurred.

Note, however, that entities will not be required to have obligations under the Scheme in order to be eligible to receive EITE assistance. Without having an obligation, entities may still face cost increases associated with the use of electricity, steam or other fuels for which an upstream Scheme obligation is being imposed.

Policy position 12.5

Assistance will be provided to entities conducting EITE activities in relation to:

- the direct emissions associated with an activity for which a Scheme obligation will be incurred
- the emissions associated with the use of steam by an activity
- the cost increase associated with the use of electricity by an activity, which is assessed as resulting from the introduction of the Scheme
- the cost increase related to the upstream emissions from the extraction, processing and transportation of natural gas and its components, such as ethane and methane, used as feedstock by an activity.

Assistance will not be provided in relation to other indirect emissions (upstream or downstream) associated with an activity.

Assistance will be provided only in relation to emissions that are covered under the Scheme.

12.3 Identifying activities eligible for EITE assistance

The Government's support for EITE industries will be targeted towards those industries in the economy that produce traded goods and have the most significant exposure to a carbon price. This assistance will be provided in a way that maximises the incentives for existing and prospective entities conducting EITE activities to lower their emissions. As outlined in Section 12.1.2, the assessment of eligibility of activities for EITE assistance will be conducted, where possible, by examining all entities conducting a given activity.

It follows that determination of activities that will be eligible for EITE assistance will be based on:

- an assessment of all entities conducting a given activity
- historical information on the emissions intensity of different activities.

This section discusses how activities eligible to receive EITE assistance will be identified. Issues covered include:

- the assessment of the relative trade exposure of activities
- the appropriate metric and time period for assessing the relative emissions intensity of activities across the economy
- the assessment of new activities that do not have an historic emissions profile
- future reviews of eligibility.

The process for determining the eligibility of different activities in the economy is outlined in Section 12.8.

12.3.1 Assessing trade exposure of activities

Trade-exposed industries will be somewhat constrained in their ability to pass through carbon costs if they are price takers on world markets or face competition in domestic markets from importers that source supplies from countries that have not imposed carbon constraints. In the Green Paper, the Government considered several options for determining the trade exposure of an industry. However, on balance, the Government assessed that there was no practical, transparent or robust test of the relative capacities of different industries to pass through cost increases. The Government's preferred position was that all industries, other than those for which there exists a physical barrier for trade, would be considered for EITE assistance, reflecting the fact that all tradeable industries are somewhat limited in their ability to pass through cost increases, particularly over the medium term.

Green Paper position

All industries, other than those for which there exists a physical barrier to trade, would be considered for emissions-intensive trade-exposed assistance.

A number of submissions did not support this position and argued for a more finely tuned assessment of the relative ability of different industries to pass through costs.

The Industry firmly asserts that to avoid unintended impacts, the structure for EITE funding should be adjusted to: ... address trade exposure by incorporating at least two levels of trade exposure (trade exposed and highly trade-exposed) to acknowledge the differing levels of threat and ability to pass on increased costs. (Joint Forestry Industry, Submission 565, p. 3)

Failing to recognise the differences in each industry's ability to pass on costs will deliver a skewed indicator of the true global exposure to a CPRS. (National Farmers Federation, Submission 462, p. 7)

In practice the degree of trade exposure faced by different industries will vary widely. Industries that are more trade-exposed will be subject to higher potential carbon leakage and therefore require a greater level of assistance ... Adopting a more comprehensive and robust definition of trade exposure would allow the Government to target industry assistance more efficiently, and lower the total cost of reducing carbon leakage. (Shell, Submission 561, p. 6)

No submissions, however, outlined a clear framework for assessing cost pass-through ability across the wide range of EITE industries. Norske Skög acknowledged:

There would be significant difficulty in defining a robust and transparent method to differentiate the degree of trade exposure between industries and activities. (Submission 378, p. 3)

In considering the responses from stakeholders, the Government acknowledges that it is important to ensure that assistance is provided only to entities conducting emissions-intensive activities that have a limited capacity to pass-through cost increases. The Government has given further consideration to identifying a measure of trade exposure to use as a proxy for an entity's cost pass-through ability, including:

- measurement of responsiveness to price changes (price elasticities)
- examination of import and export parity prices
- examination of trade shares
- qualitative assessment of actual or potential for international competition.

A measure of how responsive the demand for a product is to a change in its price is the price elasticity of demand for a product. While quantifying demand and price responsiveness would be an 'ideal' way of measuring the degree to which entities could pass through carbon costs related to an activity, these vary significantly over time. In addition, price responsiveness may change at different prices and may have a very different impact depending on the absolute size of the price increase. It would not be a fair and robust measure of the likely impact of a carbon-cost impost if a permanent price increase of similar magnitude has not been observed historically. Therefore, the Government considers that, in practice, estimation of price elasticities is a complex and subjective exercise, requiring too many contestable assumptions to form the basis of policy decisions in respect of EITE assistance.

An alternate approach to establishing trade exposure would be to examine movements in international parity prices of a product. The import parity price is calculated by converting the world price for the product into Australian dollars and adjusting for transport, tariff and other costs. Conversely, export parity prices are calculated by converting the world price into Australian dollars and removing any transport, tariff (in the destination market) and other costs the supplier would incur if exporting. If the price an entity receives for the goods it produces is directly related to the international parity price, it may provide an indication that the entity is constrained in its ability to raise its price on account of international competition.

The Government considers that in some cases examining pricing outcomes may be a good indicator of cost pass-through potential. That said, in many cases the existence of contracts and the lack of transparent international markets may make this assessment difficult. Short-run deviations of domestic prices from international prices, for example, may reflect market structure rather than a lack of international competition.

Another approach would be to consider trade shares, defined as the ratio of the traded quantity of a product relative to domestic production. These are used by the Australian Competition and Consumer Commission³, among other things, to assess whether competition from imports is likely to provide a competitive constraint on domestic competition. Assessing relative trade shares requires setting a threshold, above which the entity is considered to be constrained in its ability to pass through costs.

While trade shares may provide a broad indication of carbon-cost pass through potential, in some cases current trade shares may not accurately reflect this. A product that has a low trade share, for example, may not necessarily face barriers to trade or have the capacity to pass through costs, since the imposition of a significant cost impost could lead to a change in trade patterns.

On the other hand, a high trade share may not mean an industry is at a greater risk of carbon leakage. Some Australian industries have some market power in export markets and may have an ability to influence prices. In other situations, favourable market conditions, quite independent of trade shares, might provide some scope for entities conducting an activity to absorb cost increases.

Qualitative analysis may be useful where trade share data is not available or is not considered to give an accurate measure of an entity conducting an activity's ability to pass through carbon costs. Such analysis may involve the examination of factors that influence the trade of a particular product but which are not captured by trade data; for example, regulatory barriers to trade or the existence of supply infrastructure.

On balance, the Government considers that it is not possible to develop a clear and robust framework that equitably distinguishes between activities on the degree to which international competition limits cost pass-through potential over the medium term. It recognises, however, that it is important that EITE assistance is targeted to activities that produce traded products, as these activities will be somewhat constrained in their capacity to pass through the carbon cost. Accordingly, trade exposure will be a threshold test to determine eligibility for EITE assistance, but will not be used to determine the level of EITE assistance provided.

The Government therefore proposes that activities will be defined as trade-exposed if the annual trade share is at or above 10 per cent in any one of these years 2004–05, 2005–06, 2006–07 or 2007–08. Trade shares will be examined using information provided by applicants for EITE assistance and/or data available from the Australian Bureau of Statistics and the Australian Customs Service and will be defined as the ratio of the annual value of imports plus exports to domestic production of the product.

If the annual trade share is below the 10 per cent threshold, entities may submit an application to the Government for a qualitative analysis of entities conducting the activity's lack of capacity to pass through costs due to the potential for international competition. The potential for international competition may be demonstrated by one or more of the following:

- historical trade share greater than 10 per cent with evidence that this may recur in the future
- a high correlation between the price received by domestic producers and a transparent international price for the good, taking into account tariffs or import specific taxes and charges and transportation costs
- the existence of international producers who trade in the EITE product which is an exact substitute for the domestically produced product in terms of quality, range, price and any other factors, taking into account any relevant Australian or industry standards, combined with there being a lack of barriers to imports of the EITE product increasing in the medium term including:

- the existence of effective distribution networks and low cost associated with the development of any specialised facilities required to supply domestic customers
- relatively low transport costs as a percentage of the value of the good being imported
- absence of customs restrictions
- low switching costs to customers choosing imports rather than the domestic product.

Note that this is not a comprehensive list of the factors that could be used to demonstrate the potential for international competition.

In making its decision, the Government will have regard to the information provided by entities, their customers and its own analysis. Decisions on the trade exposure of potential EITE activities will be made by the Government and incorporated into the final decision on the activities that will be eligible for EITE assistance.

Box 12.4: An illustrative example of how the eligibility of activities will be assessed: trade exposure

The eligibility of the activity of ‘kryptonite refining’ for assistance under the EITE assistance program will be assessed against two tests. The first test is trade exposure.

Vulcan and KRA compile production and export data for each of their refining facilities for 2004-05, 2005-06, 2006-07 and 2007-08. The Australian Customs Service compiles data on the imports of refined kryptonite. The two data sets will be combined. If the combined value of Australian exports and imports of refined kryptonite is greater than 10 per cent of the value of total Australian production in at least one of those four years, kryptonite will be defined as trade exposed. If the combined value of exports and imports of refined kryptonite is less than 10 per cent of the value of total Australian production in one of the four years, Vulcan and KRA may present to Government a qualitative assessment of the exposure of kryptonite refining to international competition, as described in Section 12.3.1.

The activity of kryptonite refining has a trade share greater than 10 per cent and is therefore assessed as being trade exposed.

The next step is to assess the emissions intensity of kryptonite refining as described in Box 12.9.

Policy position 12.6

The trade exposure of activities will be assessed on either:

- a trade share (defined as the ratio of the value of imports and exports to the value of domestic production) greater than 10 per cent in any one of the years 2004–05, 2005–06, 2006–07 or 2007–08

or

- a demonstrated lack of capacity to pass through costs due to the potential for international competition.

12.3.2 Assessing emissions intensity

Comparing the emissions intensity of activities across the economy requires the emissions of different activities to be measured relative to a common unit of size or value, so that the emissions associated with the production of one good can be compared with those associated with the production of another. Three alternative common units discussed in the Green Paper that could be used to scale the emissions from different activities were employment, value added and the value of production or revenue.

In assessing the advantages and disadvantages of the alternative ‘common units’, the Government was mindful of whether the metric:

- enables a comparable assessment of the carbon cost impact across different types of activities which is likely to be correlated with the potential for carbon leakage
- can be calculated in a transparent and robust way across different types of activities.

On balance, the preferred measure of emissions intensity outlined in the Green Paper to assess the relative carbon-cost exposures of different activities was emissions per unit of revenue. The Government acknowledged, however, that there were advantages and disadvantages of all the alternative options, including the preferred approach.

Green Paper position

A measure of emissions per unit of revenue would be the most transparent and comparable indicator of the materiality of the carbon cost impact across different traded industries.

There has been widespread comment on the appropriate metric for assessing emissions intensity of different activities. In response to the Government’s proposal in the Green Paper, stakeholders suggested a number of alternative metrics, including operating costs, profits and value-added metrics.

Chevron did not support the use of the revenue metric:

If Government wishes to insist on the use of a single metric by which to determine the degree to which the international competitiveness of particular industries are impacted by the CPRS, it should use a metric which reflects the impact that the costs of purchasing permits will have on a firm's profit/loss statement. The requirement to purchase emissions permits will be felt by firms as an increase in operating cost (intermediate business inputs) and, as such, operating cost is preferred over revenue, although this may disadvantage industries that have high levels of throughput but operate on a low margin per unit of output. (Submission 716, pp. 17–18)

The Government believes that the ratio of emissions to operating costs would not provide a good indicator of the likelihood of carbon leakage across different activities. As discussed in Section 12.1.2, the risk of carbon leakage is greater for new investments and in considering these investments, it is the total returns to the project, not the ongoing operating costs that are relevant. The use of an operating cost metric would skew assistance towards capital-intensive industries and away from labour-intensive industries without effectively identifying those industries at greatest risk of carbon leakage.

Other stakeholders such as the Australian Workers Union supported the use of a metric based on profits:

[A] financial measure such as EBIT [earnings before interest and tax] is a better way of establishing impacts and affordability. (Submission 505, p. 18)

The Government does not believe that 'profits' would be an appropriate metric for assessing the relative emissions intensity of activities. The use of such a metric would result in assistance being targeted to the most marginal activities in the economy, which are most vulnerable to any cost increase, rather than to those activities for which the carbon cost is the most significant. It would also bias the assessment against industries that have higher required rates of return on capital (perhaps to compensate for the risk of their investment) and against industries that are currently in a strong, profitable position – this does not appear appropriate. Profits can also be highly variable over time, and between entities conducting an activity, which reduces the usefulness of a metric based on profits for assessing emissions intensity.

Many stakeholder submissions expressed a preference for a value-added metric.

[A revenue metric] clearly disadvantages industries that have large input costs, such as the refining industry with significant crude oil input costs and late chain processes. ... AIP strongly believes that value added, gross operating surplus and revenue net of raw material and other input costs could be effective metrics for establishing eligibility for EITE assistance. (Australian Institute of Petroleum, Submission 673, p. 16)

[E]missions per unit of value-added at an industry level is more equitable among firms, but that its use is subject to determining an efficient and effective value added basis for calculations. The existing ABS [Australian Bureau of Statistics] calculations have not been done for this purpose and will be vigorously scrutinised if they become the basis for EITE assessment. (Construction, Forestry, Mining and Energy Union, Submission 774, p. 29)

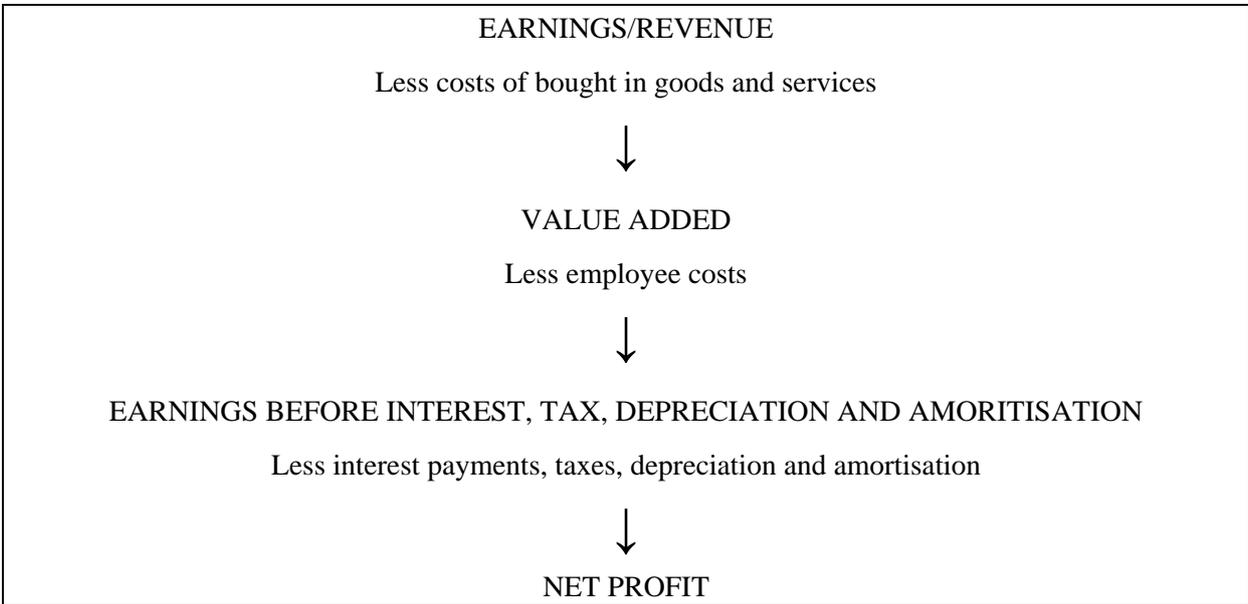
In response to stakeholder submissions on this issue, the Department of Climate Change released a discussion paper examining the use of a value-added metric to assess emissions intensity. The discussion paper and subsequent consultations with stakeholders indicated mixed support for the use of a value-added metric.

The Government believes that the use of a value-added metric has conceptual merit, as it may more accurately identify the likelihood of carbon leakage occurring in some activities. This is because it captures the economic value of conducting an activity and enables a fairer comparison of activities at different points in the supply chain, both within and across industries.

That said, there are significant challenges in calculating value added at the activity level. Value added is widely used for national accounting and statistical purposes. The Australian Bureau of Statistics (ABS) provides estimates of value added for industries and some sub-industries; however, in very few circumstances do these estimates of value added correspond with the activities considered to be potentially eligible for EITE assistance. To calculate value added for an activity using the methodology applied by the ABS would be an extremely onerous and complex task that would be difficult to make transparent.

It is also possible to derive an estimate of a firm’s value added from the components of a firm’s income or profit and loss statements (as illustrated in Figure 12.1). However, this information will often be on a whole-of-company basis rather than specific to an activity. Using whole-of-company estimates of value added for an activity-level assessment would not be appropriate for similar reasons for not basing assistance on a whole-of-company basis.

Figure 12.1: The relationship between components of a firm’s income statement and value added



Estimates of the value added of most potential EITE activities are not readily available. If value added is to be used to assess emissions intensity at the activity level, then a methodology for calculating a proxy for value added at an activity level needs to be determined.

Following consultation, the Government has determined that the most transparent and easily managed methodology for calculating value added at an activity level is revenue less the cost of the most significant non-labour, non-capital inputs used in the production of the output of the activity where:

- ‘revenue’ is the inflow from sales of goods produced by the activity
- ‘cost of the most significant non-labour, non-capital inputs used in the production of the output of the activity’ includes the cost of major consumable inputs into the activity’s production, such as the cost of feedstock, energy costs and other raw and intermediate input costs.

A key challenge with this methodology is that for each activity the Government would need to determine which significant input costs would be removed from the activity’s revenue to generate that activity’s proxy measure of value added, ensuring that a consistent approach is adopted across different activities.

Based on data and feedback provided by stakeholders, the Government believes that adopting a value-added metric rather than a revenue metric would have significant consequences for a small number of activities, such as petroleum refining, some activities in the pulp and paper industry and some activities in the plastics and chemicals industries, but that it would make relatively little difference to the relative rankings of the other EITE activities. For these activities the move to a value-added metric would present significant additional compliance costs, implementation risks and uncertainty, both for industry and Government, that would be avoided with the use of a revenue metric. The Government also notes that the use of a value-added metric would result in some activities receiving less assistance than was proposed under the Green Paper model.

The Government has decided that an assessment of emissions intensity, for the purposes of determining eligibility for EITE assistance, will be based on either of two metrics:

- the weighted average emissions per million dollars of revenue generated by entities conducting the activity
- the weighted average emissions per million dollars of value added generated by entities conducting the activity, where a simplified proxy for value added is used that takes the revenue from the activity and removes only the most significant non-labour, non-capital inputs used by the activity.

The weighted average (that is, weighted by production) emissions per million dollars of revenue will be the default test to assess emissions intensity. However, an entity or entities conducting a given activity may request that this assessment be based on the weighted average emissions per million dollars of value added. In such instances, the Government will need to determine, in consultation with industry, which input costs would be adjusted to calculate value added for the activity. The Government will make the final decision on eligibility after taking into account its confidence in the data provided by all entities conducting a given activity. Final decisions on assistance will apply to all entities conducting a given activity.

Determining comparable levels of emissions intensity in the two different metrics

Given the Government's decision to use two alternative metrics to determine eligibility (either a revenue or value-added metric), there needs to be a means of comparing assessments of activities using the two different metrics.

The Australian Bureau of Statistics' National Accounts Input Output Tables⁴ can be used to inform a decision about the appropriate relationship between these two metrics. These data show that, on average, revenue is around three times higher than value added for the most emissions-intensive industries in the economy, and that this ratio has remained relatively stable over time. Across the whole economy, revenue is a little higher than three times value added, reflecting the higher level of intermediate inputs used in non-emissions intensive sectors such as retail and wholesale trade. However, for the purpose of developing eligibility thresholds for the EITE assistance program, the ratio for the relevant set of potential industries is most important.

Therefore, the Government has decided that the value-added threshold for eligibility will be set at three times the revenue threshold to enable a fair comparison of activities on either basis.

Emissions to be used in calculating emissions intensity

As outlined above, the scope of EITE assistance will be provided in relation to an activity's direct emissions. The scope of assistance will also include the emissions associated with the use of steam and the cost increases associated with the use of electricity and natural gas (and its components) feedstock by an activity.

Therefore, in determining the emissions intensity of each activity, the following data will be required:

- the direct emissions associated with the activity for which a Scheme obligation will be incurred
- the emissions associated with the use of steam by the activity
- the volume of electricity used by the activity
- the volume of natural gas and its components (such as methane and ethane) used as feedstock by the activity.

Since the provision of assistance is in relation to the *cost increases* associated with the use of electricity and natural gas feedstock, it is necessary to convert cost increases for these inputs into 'emissions equivalent measure' for the purposes of determining the emissions intensity of an activity. The electricity and natural gas allocation factors, as described in Sections 12.5.4 and 12.5.5, are estimates of the cost increases associated with these inputs. These factors will also be used to convert electricity and natural gas feedstock use into emissions for eligibility assessment purposes.

Note that these factors use a different approach to that generally taken for greenhouse accounting or 'carbon foot-printing' purposes. For example, from a carbon foot-printing purpose, an entity's indirect electricity emissions would be calculated as the emissions

intensity of the supplying generator (if there is a direct relationship), or in the case of electricity supplied from a market, such as the National Electricity Market, the average emissions intensity of the electricity generators. However, the price increase in electricity associated with the Scheme will not necessarily be correlated with the average emissions intensity of the electricity generators in the market. It is appropriate, therefore, to use a measure other than the average emissions intensity of the electricity generators for calculating the 'emissions equivalent measure' for use of electricity and natural gas feedstock. This is discussed further in Sections 12.5.4 and 12.5.5.

How the measurement of direct and electricity and natural gas feedstock use by an activity will be determined is outlined in the box below.

Box 12.5: Measurement of direct emissions and electricity, steam and natural gas feedstock used by an activity

A guidance paper will be released in early 2009, that will provide details on how the direct emissions generated by an activity, including the emissions associated with the use of steam, and the electricity and feedstock quantities of natural gas and its components used by an activity will be calculated for the EITE assistance program.

Estimates will relate directly to the activity boundaries established for each activity and the same emissions factors will be used in the determination of eligibility and the setting of allocative baselines for EITE activities. If an activity boundary includes part of a facility, for example where a cogeneration facility produces steam and electricity, only part of which is used by the activity, the associated emissions will be apportioned using transparent and agreed approaches.

12.3.3 Time period for assessing emissions intensity

The assessment of the emissions intensity of different activities in the economy for the purpose of determining eligibility needs to be conducted over a pre-specified time period. As outlined in the Green Paper, it is important to ensure that the proposed time period for assessment:

- does not distort incentives for emissions reduction in the lead-up to Scheme commencement
- spans a reasonable period of time to reduce the effect of one-off factors on the assessment
- is sufficiently recent to enable robust verification of the data
- enables a fair comparison of different industries.

The Government sought stakeholder feedback in the Green Paper on whether data collected over the two years before the release of the Green Paper (2006–07 and 2007–08) could be used to determine eligibility. The Cement Industry Federation stated:

The CIF is comfortable with the allocation of assistance for direct emissions of new and existing EITE entities being calculated on the basis of an Australian historical industry average emissions intensity baseline for each EITE sector over the period 2006-07 to 2007-08. (Submission 926, p. 10)

Some stakeholders have suggested that this period is too short, for example BP stated:

Values should be based on long-run averages to recognise the cyclical nature of many industries. (Submission 355, p. 15)

Other stakeholders have pointed out that several commodity prices reached decadal highs during the two years proposed, resulting in estimates of revenue, profits and value added well above previous years and, in some cases, the current period. For example, Qenos outlined in its submission that 2006–07 and 2007–08 represented the peak years of the ‘cyclical market’ for polyethylene (PE) prices. The peak in prices had been driven by capacity constraints and demand growth. However, Qenos stated that ‘growing demand has encouraged major new investment in new PE manufacturing facilities which will drive the next downturn in the cycle over the next 2 to 3 years.’ (Submission 525, p. 13)

Forecasting commodity prices is highly problematic as it is difficult to distinguish between temporary and structural impacts on prices. The Government does not support the contention in a number of submissions that there is a well-defined price or profit cycle of regular length for particular goods or sectors. However, the Government acknowledges that it could be beneficial to use data spanning a longer period to inform the emissions-intensity assessment and to allow for the most recent developments in commodity prices to be taken into account.

On the other hand, stakeholders have pointed out that emissions data will be more difficult to verify further back in time. To balance these competing considerations, the Government has determined that a short period should be used to assess emissions per unit of production for an activity, while a longer period can be used to provide estimates of revenue or value added per unit of production. The Government has decided that the emissions intensity assessment will be based on:

- estimates of the weighted average emissions per unit of production in 2006–07 and 2007–08 combined
- estimates of revenue or value added per unit of production in 2004–05, 2005–06, 2006–07, 2007–08 and the first half of 2008–09, where the average is calculated as the weighted average of the lowest four estimates from these five periods.

The Government has decided to exclude the highest estimate of revenue or value added per unit of production to take account of commodity price spikes. As discussed in Section 12.3.4, to take account of circumstances in which changes in commodity prices vary significantly from those recorded during this assessment time period, the Government has included the provision to reassess the eligibility of activities at the five year Scheme review.

Policy position 12.7

The assessment of emissions intensity for the purposes of determining eligibility of an activity will be based on either:

- weighted average emissions per million dollars of revenue generated by entities conducting the activity

or

- entities may request to Government that the eligibility assessment for an activity is made on the basis of the weighted average emissions per million dollars of value added generated by entities conducting the activity, in which case, the entity and Government will need to agree on which input costs will be adjusted to calculate the proxy for value-added for the activity.

The estimates of the weighted average for each activity will be determined on the emissions per unit of production in 2006–07 and 2007–08 combined with estimates of revenue or value added per unit of production in 2004–05, 2005–06, 2006–07, 2007–08 and the first half of 2008–09, where the average is calculated as the weighted average of the lowest four estimates.

12.3.4 Review of eligibility assessment of an activity

Changes in commodity prices from those recorded during the assessment time period and changes in Scheme coverage could materially affect an activity's emissions intensity and its exposure to a carbon price. The Government will address this concern by including a provision to review the eligibility of activities for EITE assistance every five years on the basis of significant commodity price movements and changes in Scheme coverage.

Review in light of commodity price changes

In relation to the commodity price component of the review, the following decisions have been taken to ensure the carbon price signal is not muted and that all entities continue to pursue all available abatement opportunities in the lead-up to this reassessment.

The reassessment will use emissions data from the same historical time period selected for the initial assessment of activities ahead of Scheme commencement (2006-07 and 2007-08) or international emissions intensity best practice benchmarks. That is, only changes in the price of the product, not the emissions of an activity, will be considered in the reassessment. This will ensure all entities still have an incentive to reduce emissions for the first years of the Scheme, as these emissions will not affect assessments for eligibility.

The reassessment will be available for both activities initially assessed as ineligible for EITE assistance and activities initially assessed eligible at the lower (60 per cent) rate of assistance. In order to maintain certainty for entities conducting EITE activities, the review will only relate to activities for which the rate of assistance will *increase*.

If an activity is assessed as being eligible at the review point, the allocative baseline for the activity will be set at the emissions intensity of the activity in 2006-07 and 2007-08 or an international best practice emissions-intensity benchmark.

Note however, that the Government may not automatically apply the current EITE assistance rates or structure to the reassessed activities. If the five-year review proposes adjustments to these rates (see Section 12.7) these adjusted rates would be applied to these newly reassessed activities. These rates of assistance will also take into account the adjustment to date for the carbon productivity contribution (see Section 12.4.3).

Review in light of changes in Scheme coverage

In relation to changes in Scheme coverage, if agricultural emissions are included in the Scheme from 2015, the eligibility of agricultural activities for EITE assistance will be reconsidered. These decisions on inclusion and EITE eligibility will occur concurrently in the process leading up to the 2013 decision. The Government's disposition is to assess the eligibility of these activities using emissions information from 2006-07 to 2007-08 (or based on benchmarks) as for all other potential EITE activities so as to provide no disadvantage to entities that undertake abatement activities. The guiding principle is to provide ongoing incentives for abatement activities in this sector up until and following their potential inclusion in the Scheme.

It should be noted that if agricultural activities are assessed as eligible for EITE assistance in the event that agricultural emissions are included in the Scheme, they will receive assistance based on the initial rates of assistance (90 and 60 per cent) adjusted for the carbon productivity contribution. At 2015-16 these assistance rates will be 84.4 per cent and 56.2 per cent respectively (see Table 12.1).

Box 12.6: EITE activities in the agriculture sector

Entities that conduct activities that wish for these activities to be considered for EITE assistance can provide relevant emissions, production and revenue data to the Department of Climate Change in the process outlined in Section 12.8. Entities conducting activities in the agriculture sector should note that this initial eligibility assessment will be based on those emissions that are initially covered by the Scheme. For instance, if an agricultural processing activity meets the trade exposure requirements and is sufficiently emissions intensive to meet the thresholds based on their currently covered emissions (such as electricity, fuel use and combustion emissions), then they will be eligible for EITE assistance.

As outlined in Chapter 6, a decision will be made in 2013 regarding the inclusion of agricultural emissions in the Scheme from 2015. During this process, the eligibility of agriculture activities for EITE assistance will be reassessed to take into account any changes in the coverage of agricultural emissions. The Government is keen to ensure that ongoing incentives for emissions reductions are maintained for entities conducting activities in the agricultural sector. The Government's disposition is to assess the EITE eligibility of these activities using emissions information from 2006-07 to 2007-08 or based on benchmarks so as to provide no disadvantage to individual entities conducting an EITE activity that may undertake abatement activities in the period before this reassessment.

Policy position 12.8

The review of the EITE assistance program will determine whether activities that were initially ineligible for EITE assistance or were assessed as eligible at a 60 per cent assistance rate, should be reassessed either:

- in light of commodity price movements, where any such reassessment uses emissions data from 2006-07 and 2007-08 or best practice benchmarks to ensure incentives to reduce emissions are not muted. Assistance that would be provided to reassessed activities may be adjusted from initial levels to reflect an assessment of the EITE assistance program in achieving its objectives to date
- in light of extension to Scheme coverage to cover agricultural emissions, in which case the assessment of eligibility and determination of allocative baselines would be conducted in the process leading up to the 2013 decision on agriculture's inclusion. The Government's disposition is that decisions would be based on emissions from 2006-07 and 2007-08, as for all other potential EITE activities, or based on benchmarks that are unrelated to the behaviour of individual entities conducting the activity, to provide ongoing incentives for abatement activities.

Section 12.7 discusses these and other aspects of the review of the EITE assistance program in greater detail.

12.3.5 Assessment of activities new to Australia

The timeframe and process for assessment of activities before the commencement of the Scheme is outlined in Section 12.8. However, there may be circumstances where an entity commences an activity which is new to Australia and therefore has not previously been assessed for assistance.

The Government has decided that any such new activity will be eligible to be assessed on application to the Government and, should it be successful, the Scheme regulations would be amended.

The Government has decided that the assessment of eligibility for activities new to Australia will be made in reference to international best-practice emissions intensity for the production of the primary output of the new activity. This is because there would be no existing Australian producers for which historical emissions data would be available, and the Government has a preference to maximise incentives for new investments to adopt the lowest emissions technology and fuel type. Use of the entity's projected emissions for assessment would be inappropriate, as it may create an incentive for entities to use less efficient technology, fuel or feedstock to ensure that the activity meets the eligibility thresholds, and would mute carbon price signals with regard to new investment decisions.

It should also be noted that the assistance rates provided will be adjusted by the carbon productivity contribution.

Policy position 12.9

The eligibility of a completely new activity, that is an activity that is new to Australia after the commencement of the Scheme, will be considered by the Government with reference to international best-practice emissions-intensity benchmarks for producing the primary output of the activity.

12.4 Eligibility thresholds and rates of assistance

Central to the provision of EITE assistance is the:

- threshold level at which a trade-exposed activity is defined as being significantly exposed to a carbon price and therefore eligible for assistance (that is the emissions-intensity threshold)
- level of support provided to each entity conducting an eligible EITE activity (the rate of assistance).

This section outlines the Government's decisions on the emissions-intensity thresholds and rates of assistance, initially and over time. It also examines the total quantum of assistance proposed to be provided to the EITE sector.

12.4.1 Emissions-intensity eligibility threshold and initial rates of assistance

The Government's preferred position in the Green Paper was that eligibility for EITE assistance would be based on the industry-wide emissions intensity of an activity or process being above a threshold of about 1500 tonnes of carbon dioxide equivalent (CO₂-e) per million dollars of revenue.

The Government recognised in the Green Paper that it might not be possible or appropriate to provide entities with full cover for the burden of their emissions costs for EITE activities due to competing demands on Scheme revenue and the additional emissions-reduction challenge it would place on non-assisted industries and households. Another reason for not fully assisting EITE activities was to ensure equitable treatment of assisted and non-assisted traded industries by requiring all entities to bear some carbon cost.

Green Paper position

Eligibility for EITE assistance would be based on the industry-wide emission intensity of an activity or process being above a threshold of about 1,500 tonnes carbon dioxide equivalent (CO₂-e) per million dollars of revenue.

Initial assistance would cover around 90 per cent of emissions for EITE activities that have emissions intensities above about 2,000 tonnes CO₂-e per million dollars of revenue and around 60 per cent of emissions for EITE activities that have emissions intensities between about 1,500 and 2,000 tonnes of CO₂-e per million dollars of revenue.

Some stakeholders argued that EITE activities require rates of assistance of 90 per cent or 100 per cent and that anything less would be insufficient. For example, the Bureau of Steel Manufacturers of Australia believes that the level of EITE assistance for iron and steelmaking activities ‘should commence at 100%, given the absence of viable alternative technologies that would allow significant abatement, and given the significant cost burden that is likely to be imposed by the CPRS.’ (Submission 408, p. 11)

Similarly, Caltex argued ‘for a change in the allocation of free permits under CPRS to allow for a full offset of the loss of competitiveness.’ (Submission 734, p. 19)

In contrast to the comments by entities conducting potential EITE activities, the Australian Conservation Foundation suggested that the proposed levels of assistance (90 per cent and 60 per cent) were higher than necessary (Submission 809, p. 68). Similarly Altona Resources stated:

In operating EITEI assistance Altona recognises that some cost must still be borne by the [trade] exposed company. (Submission 323, p. 1)

Other stakeholders submitted that the assistance thresholds proposed in the Green Paper were ‘unfair’ to entities sitting just below each of the thresholds (that is, those activities with emissions intensities between 1000 and 1500 tonnes of CO₂-e per million dollars of revenue and just below 2000 tonnes of CO₂-e per million dollars of revenue). For example, Kimberly-Clark stated that:

There will be processes and industries which may well face significant cost increases yet don’t quite make the 1,500 t/\$m threshold. Government should consider an option of a third threshold, e.g. at 1,000 or 1,200 t/\$m to soften the blow to those just below 1,500 t/\$m level. Allocations of 30% or 50% of permits might be suitable for medium or high trade exposure respectively. (Submission 135, p. 5)

Setting the eligibility thresholds and rates of assistance requires consideration of both the impact that providing a given quantum of assistance to EITE activities has on non-assisted sectors and households and the extent of costs that could be borne by the EITE sector.

Judgments about the extent to which an EITE sector can absorb an additional cost impost will always be contested. Some industries, and some firms within all industries, may already be so marginal that any additional cost impost (from any source) could lead to a contraction in production levels.

On the other hand, some EITE industries will have some abatement opportunities, some EITE industries will be able to pass through a proportion of their carbon cost and all trade-exposed industries currently manage significant variations in a wide range of costs and prices due to variations in the exchange rate. For instance, significant movements in the exchange rate, such as those that occurred in 2007 and 2008, would have greater impact for most, if not all, industries than the introduction of a modest carbon price. Between 1 January 2007 and 15 July 2008, the Australian dollar appreciated by around 25 per cent relative to the United States dollar. It subsequently depreciated by around 35 per cent between 16 July 2008 and 28 October 2008. Those movements directly and markedly affected the profitability of Australia’s trade-exposed industries.

Businesses take a wide range of factors into account when making production and investment decisions and it will never be possible to provide a definitive analysis of which EITE activities (or entities) would move offshore in the absence of assistance, or the degree of assistance that would avoid such decisions, particularly given the fact that other countries are increasingly considering some form of carbon constraint.

The scenarios explored in the modelling by the Treasury for the Australian Government² showed little evidence of carbon leakage. The scenarios suggest that assistance to entities conducting EITE activities will act more to support the transition to a low-emissions economy in the initial years, than to reduce carbon leakage. The reason for this is that in the scenarios that have been modelled, along with the policy assumptions regarding international linking, the carbon price is not sufficiently high to induce relocation decisions.

In a study on the competitiveness impacts of the European Union Emissions Trading Scheme on heavy industry, the International Energy Agency examined the policy risks surrounding loss of competitiveness and carbon leakage in the steel, cement, primary aluminium, pulp and paper, chemical and refining industries. It found that the European scheme has not triggered, so far, observable carbon leakage in the studied sectors, but noted that generous free allowances, the existence of long term electricity contracts and buoyant commodity prices may have contributed to these outcomes. The study discusses the multiple drivers of investment and emphasises that climate change policy is only one of these drivers.⁵

On balance, the Government considers that entities conducting EITE activities will almost certainly have some abatement opportunities and may be able to pass through or absorb some of the carbon cost. In light of this, and because of the redistributive costs of providing EITE assistance, the Government does not believe that it would be appropriate to provide entities conducting EITE activities with 100 per cent assistance.

A number of submissions suggested that a 'sliding scale' or 'above threshold' approach should be used to determine assistance rates to different activities, so that activities across the economy, both assisted and non-assisted, are exposed to similar carbon costs.

The Green Paper proposes to use two levels of assistance to industry. If an activity is just below the threshold value for assistance, this activity will be worse off than activities that have slightly higher emissions that would result in 60% assistance. It would be more equitable to provide a sliding scale of assistance that would provide assistance to a broader range of activities without the discontinuities between those that fall just below and those just above the thresholds. (Titanium and zircon industry, Submission 798, p. 3)

To allow a 90% free permit allocation to business with 2000 tonnes or more of CO₂ emissions for every AUD \$1 million revenue, 60% to businesses that exceed 1500 tonnes and then nothing to industries which have less than 1500 tonnes of CO₂ emission per AUD \$1 million revenue, we believe, is unfair, iniquitous and distorts competitiveness across all industry groups. A wider distribution, provided on a sliding scale, dependent on the level of emissions, would create a fairer and more equitable system. (O-I Australia, Submission 686, p. 5)

Such an approach would involve setting the rates of assistance for each activity equal to their emissions intensity less the emissions intensity threshold. However, a 'sliding scale' or 'above threshold' approach poses significant challenges. The key challenge is that moving to such a model would require the emissions intensity of each EITE activity to be precisely estimated in order to determine the rate of assistance applying to each activity. The Government is concerned that individual firms have better information regarding their emissions profiles and other key financial data than Government. This increases the risk of over-allocation, particularly with value-added as a metric, with associated risks for the wider community including households and non-assisted sectors.

On further consideration, the Government has decided to extend EITE assistance to entities that have a lower emissions intensity than that proposed in the Green Paper. The lowest threshold for eligibility will thus be set at 1000 tonnes of CO₂-e per million dollars of revenue or 3000 tonnes of CO₂-e per million dollars of revenue value added. This threshold is lower than those proposed by either the former Prime Minister's Task Group on Emissions Trading or the states and territories' National Emissions Trading Taskforce reports.

Balancing the wide range of considerations, the Government has decided to retain the two rates of assistance, reflecting the need to provide relatively more assistance to relatively more emissions-intensive activities in order to target assistance to most effectively reduce the likelihood of carbon leakage.

The Government has therefore decided that:

- 90 per cent assistance is to be provided to activities that have an emissions intensity above 2000 t CO₂-e/\$million revenue or 6000 t CO₂-e/\$million value added in the specified assessment period
- 60 per cent assistance is to be provided to activities that have an emissions intensity between 1000 t CO₂-e/\$million revenue and 1999 t CO₂-e/\$million revenue or between 3000 t CO₂-e/\$million value added and 5999 t CO₂-e/\$million value added in the specified assessment period.

Box 12.7: Emissions intensity of activities in the Australian economy

The Green Paper presented preliminary analysis of the emissions per unit of revenue of Australian traded industries in 2001-02 (refer to Appendix D of the Green Paper). This analysis classified industries according to the ABS Australian National Accounts Input-Output industry sector classifications. Given the changes in greenhouse gas emissions, production and commodity prices that have occurred since 2001-02, this assessment of the relative emissions intensity of industry sectors was indicative only.

Furthermore, eligibility for EITE assistance will be based on activities, not industries that are emissions-intensive and trade-exposed. Eligible activities will be determined following a formal data collection process for assessment of eligibility in the first half of 2009. This process is outlined in Section 12.8.2.

Box 12.7: Emissions intensity of activities in the Australian economy (continued)

Since the release of the Green Paper, a number of entities conducting potential EITE activities have voluntarily presented the Government with emissions intensity data to assist in the development of the final policy design. On the basis of this preliminary and unverified data, the Government believes that there could be as many as 40 activities in the economy which may be eligible for EITE assistance.

The following activities appear likely to be eligible for assistance at a 90 per cent assistance rate, subject to the formal emissions-intensity and trade-exposure assessments:

- aluminium smelting
- cement clinker production
- lime production
- silicon production
- integrated iron and steel manufacturing

The following activities appear likely to be eligible for assistance at a 60 per cent rate, subject to the formal emissions-intensity and trade exposure assessments:

- alumina refining
- petroleum refining
- LNG production

There are also a large number of activities not listed above which are very likely to be eligible for EITE assistance.

These have not been listed above either because data has been provided by single entities on a commercial-in-confidence basis, or the data that has been provided is incomplete.

It is important to note, however, that activities which are formally assessed as eligible for EITE assistance will be listed publicly in the Scheme regulations. The regulator will also publish details of the recipients of EITE assistance and the number of permits allocated to each recipient (see Section 12.2.1).

Additional activities that are likely to be eligible for EITE assistance may include, but are not restricted to specified activities in the pulp and paper manufacturing sector, the iron and steel sector, the plastics and chemical manufacturing sector, the other non-ferrous metals sector and the glass manufacturing sector.

Agricultural Activities

On the basis of the industry level assessment conducted for the Green Paper analysis, if the Scheme's coverage is extended in 2015 to include agricultural emissions, there are several agricultural sectors that are likely to be eligible for EITE assistance including the production of beef cattle, sheep, dairy cattle, pigs and sugar cane.

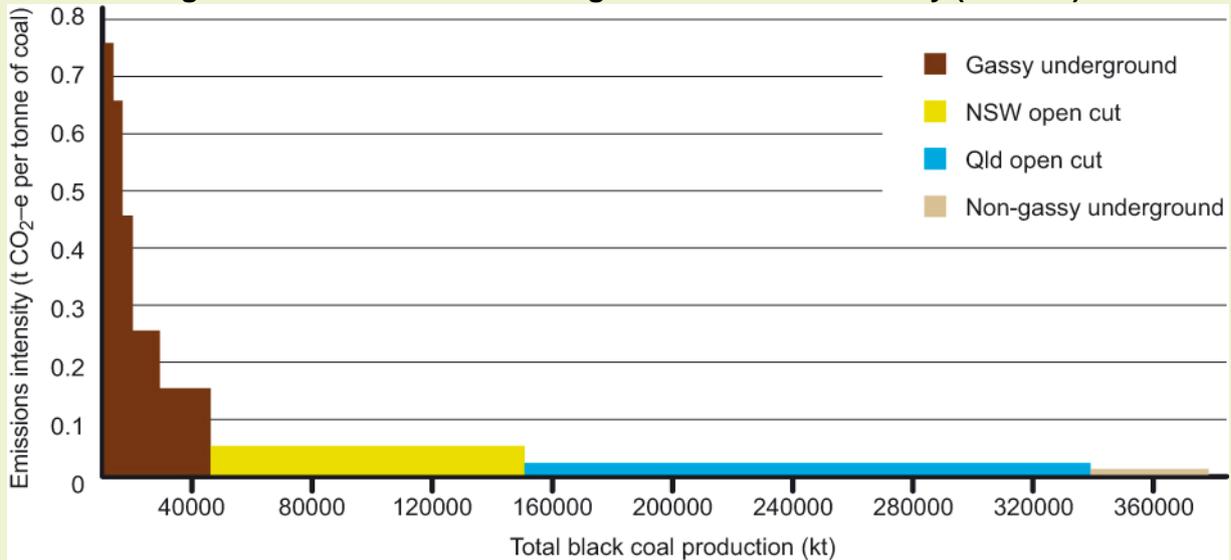
Box 12.8: Coal mining

In the coal mining industry, a significant number of emissions are fugitive emissions from the methane trapped within coal seams. Other emissions (chiefly combustion emissions) from coal mining are at an emissions intensity similar to other mining extraction activities. There is significant variation in the amount of methane—and therefore the fugitive emissions—in different coal seams and mines, ranging from close to zero to 0.7 t CO₂-e per tonne of coal (see below).

The most emissions-intensive coal mines ('gassy' underground mines) produce around 10 per cent of total coal production in Australia, yet they emit around 60 per cent of fugitive emissions from the coal mining sector. The vast majority of coal production comes from mines that are significantly below the EITE eligibility threshold of 1000t CO₂-e per million dollars of revenue.

Since the majority of coal mines are not emissions-intensive, the Government will not provide EITE assistance to the activity of coal mining. (An allocation based on the industry average would lead to the majority of coal mines receiving significant windfall gains.) However, a small number of coal mines are very emissions-intensive and will face a significant cost impact from the Scheme. The Government will allocate up to \$750 million from the Climate Change Action Fund to facilitate abatement and assist with the transition of these coal mines (see Chapter 18).

Figure 12.2: Black coal mine fugitive emissions intensity (2006-07)



Source: Department of Climate Change analysis based on publicly available coal industry data.

Policy position 12.10

The EITE assistance program will:

- require all entities conducting activities to bear a proportion of the carbon cost they face
- provide assistance at two different rates, reflecting the need to provide relatively more assistance to relatively more emissions-intensive activities to reduce the likelihood of carbon leakage

Eligibility for EITE assistance will be based on the industry-wide weighted average emissions intensity of an activity being above a threshold of:

- 1000 tonnes of carbon dioxide equivalent (CO₂-e) per million dollars of revenue; or
- 3000 tonnes of carbon dioxide equivalent (CO₂-e) per million dollars of value added.

Initial assistance to eligible activities will be set at:

- 90 per cent of the allocative baseline for activities that have an emissions intensity above 2000 t CO₂-e/\$million revenue or 6000 t CO₂-e/\$million value added in the specified assessment period
- 60 per cent of the allocative baseline for activities that have an emissions intensity between 1000 t CO₂-e/\$million revenue and 1999 t CO₂-e/\$million revenue or between 3000 t CO₂-e/\$million value added and 5999 t CO₂-e/\$million value added in the specified assessment period.

The coal mining industry will not be eligible for EITE assistance at Scheme commencement since the majority of coal mines have an emissions intensity well below the eligibility threshold. A Coal Sector Adjustment package is included within the Climate Change Action Fund to assist the most emissions-intensive mines following the introduction of the Scheme.

Box 12.9: Illustrative example of how the eligibility of activities will be assessed: emissions intensity

The first test to determine the eligibility of the activity of 'kryptonite refining' under the EITE assistance program was the trade exposure test described in Box 12.4.

The second test relates to the emissions intensity of kryptonite refining. This can be calculated using either a revenue or value-added metric. Given that the activity of refining kryptonite occurs relatively early in the supply chain, Vulcan and KRA provide data to the Department of Climate Change for an assessment of their emissions intensity using the revenue metric.

Box 12.9: Illustrative example of how the eligibility of activities will be assessed: emissions intensity (continued)

The assessment will occur as follows:

- Vulcan and KRA use the methodologies outlined in the guidance paper (reflecting the policy outlined in Section 12.3) to compile data on the emissions from each of the three kryptonite refineries for 2006-07 and 2007-08. They also submit their revenue data to Government from each of the three kryptonite refineries for 2004-05, 2005-06, 2006-07, 2007-08 and the first half of 2008-09.
- *Calculating average emissions per unit of production for kryptonite refining.* The Government will take the emissions and production data to determine the weighted average emissions to production for the activity. For kryptonite refining, this is 1.2 t CO₂-e per tonne of refined kryptonite.
- *Calculating average revenue per unit of production for kryptonite refining.* The Government will use the four years with the lowest revenue to production data for the industry (so as to exclude the effect of a particularly high level of kryptonite prices in one year.) When the Government aggregates these data to the industry level, the weighted average revenue to production is found to be \$780 per tonne of kryptonite.
- *Calculating the emissions intensity in terms of CO₂-e per million dollars of revenue.* Government calculates this by dividing emissions per unit of production by the revenue per unit of production and multiplying by one million. In the case of kryptonite refining, the emissions intensity is calculated to be 1538t CO₂-e per million dollars of revenue.

Kryptonite refining is therefore both trade exposed and emissions intensive and is eligible for assistance at the 60 per cent rate of assistance.

The next step is to calculate the allocative baseline and the permit allocation for each tonne of production of refined kryptonite as described in Box 12.14.

12.4.2 The quantum of assistance to EITE entities

The Government's preferred position in the Green Paper was to provide assistance to entities conducting EITE activities up to around 30 per cent of total available permits, taking into account the likely allocation to EITE agriculture industries from any eventual inclusion of agricultural emissions in the Scheme.

Green Paper position

Up to around 30 per cent of Australian carbon pollution permits would be freely allocated to emissions-intensive trade-exposed (EITE) activities. At the outset of the Scheme, if agricultural emissions are excluded from Scheme coverage, this would be up to around 20 per cent of permits.

This position reflected an initial assessment of:

- the materiality of the carbon cost on entities conducting EITE activities
- consideration of the share of the economy that the EITE sector comprises
- the economic and environmental benefit of shielding entities conducting EITE activities
- the overall economic cost, and particularly the cost to households, of shielding these entities conducting EITE activities
- the alternative uses of Scheme revenue.

The nomination of a total quantum of assistance to the EITE sector was the focus of many stakeholder responses to the Green Paper proposal for EITE assistance. It has been criticised as being ‘arbitrary’ and ‘too restrictive’, and not allowing support to be provided to some industries that are at risk of carbon leakage. For example, the Minerals Council of Australia stated:

The Government should increase the 30 per cent ‘limit’ on EITE assistance and acknowledge the reality that a much higher share of the Australian economy is emissions intensive and trade exposed. (Submission 884, p. 27)

In contrast, the Australian Conservation Foundation stated:

The proposed assistance package should be scaled back as it reduces potential permit revenue and increases the costs to rest of the economy. No more than 10 per cent of potential permit revenue should be allocated to emissions intensive trade exposed activities. (Submission 809, p. 5)

On the basis of the industry information that has been voluntarily provided to the Government to date, combined with publicly available data on emissions in different sectors, it is estimated that the new eligibility thresholds and rates of assistance will imply an initial allocation of around 25 per cent of permits being provided as EITE assistance. This would be equivalent to an allocation of around 35 per cent of permits if agricultural emissions were included in the Scheme and EITE assistance was therefore extended to a number of agricultural activities.

The initial allocations to the EITE sector have increased for a number of reasons. The decision to lower the emissions intensity threshold to 1000 t CO₂-e per million dollars of revenue or 3000t CO₂-e per million dollars of value added will provide assistance to an additional number of moderately emissions-intensive activities.

In addition, the decision to increase the scope of assistance to accommodate upstream carbon costs associated with use of natural gas as a feedstock, the potential broader group of activities captured by the use of two emissions-intensity metrics (emissions per unit of revenue and value added) and the use of longer time periods for assessment will result in a greater level of allocation to the EITE sector, and greater uncertainty about the actual share of permits to be provided to the EITE sector.

Note that there is uncertainty surrounding the emissions intensity of particular activities and there is a possibility that initial allocations will either be above or below the expected level.

However, the Government recognises the importance of giving entities conducting EITE activities certainty over the level of assistance they will receive initially and over time. This certainty will facilitate investment decisions. The Government does not intend to readjust or recalibrate the eligibility thresholds or initial rates of assistance in the light of subsequent information about the quantum of assistance that will be provided as EITE assistance. This implies that if the EITE sector as a whole is larger than expected, the initial share of permits being provided to the EITE sector will be greater than currently expected.

Policy position 12.11

At the start of the Scheme it is estimated that EITE industries will be allocated around 25 per cent of total carbon pollution permits (equivalent to around 35 per cent if agricultural emissions were included in the Scheme).

The Government does not intend to readjust or recalibrate the eligibility thresholds or initial rates of assistance in light of any subsequent information about the quantum of assistance likely to be provided as EITE assistance.

12.4.3 Reducing assistance rates over time—the carbon productivity contribution

In the Green Paper, the Government proposed that the rate of assistance per unit of production applying to EITE activities should be reduced over time at a pre-announced rate to ensure that all parts of the economy contribute to the key objective of reducing emissions and to reduce the economy-wide cost of achieving emissions reductions.

Green Paper position

The emissions-intensive trade-exposed (EITE) assistance rate would be reduced over time with the intent that the share of assistance provided to the EITE sector does not increase significantly over time.

The Government did not, however, recommend a particular reduction in assistance rates over time, but suggested that it should be set with regard to the likely growth in the EITE sector and the Government's committed reduction in the national trajectory. The Green Paper sought stakeholder feedback on the basis of how assistance rates should be adjusted over time.

Submissions from industry stakeholders provided mixed support for reducing the EITE assistance rates over time. For example, submissions by the Australian Aluminium Council and Xstrata called for the maintenance of initial assistance levels until comparable international action provides a level playing field (Submission 689, p. 9; Submission 593, p. 11). The Australian Institute of Petroleum expressed similar concerns in its submission:

AIP is concerned that the proposals for a significant decay of the EITE assistance will quickly undermine the impact of any assistance and contravenes the principles of the EITE assistance. As long as Australian industries are competing against countries that have no carbon constraints, the stated principles of the EITE assistance mean that the EITE assistance should offset this competitive disadvantage. To do otherwise, will

cause Australian industries that could survive under a global carbon price to unnecessarily close. (Submission 673, p. 11)

Some other industry submissions accepted that the assistance rate should be adjusted over time but were concerned with the pace and timing of this adjustment. For example, Norske Skög argued in its submission for ‘EITE assistance [to] be maintained at initial baseline levels per tonne of output for at least the first five years of the Scheme to allow for a period of adjustment. After this initial period allocations could be reduced in proportion to the overall Scheme cap.’ (Submission 378, p. 13)

Other stakeholders gave strong support for the policy to reduce assistance over time.

The Climate Institute strongly supports reducing assistance to EITEs over time. As the Green Paper states, failure to reduce assistance would result in ‘shifting an ever increasing burden onto the rest of the economy.’ Failure to reduce assistance would also provide a strong incentive to future governments not to implement stronger emission constraints as it would require an even greater burden on other parts of the economy. (Climate Institute, Submission 702, p. 18)

The view that assistance rates should not be reduced until comparable carbon constraints are introduced in key competitor economies has generally been based on the argument that applying any reduction would increase the risk of carbon leakage. This argument does not appear to have taken account of the fact that the provision of EITE assistance will increase the national cost of achieving any emissions reduction trajectory and discounts the abatement opportunities that will be available to many entities conducting EITE activities.

Furthermore, there is a question whether stakeholders have adequately taken account of the nature of emerging carbon constraints elsewhere. A comparable carbon constraint is not one that imposes the same economy-wide emissions reduction target, but is one that imposes a broadly comparable carbon cost, whether through the introduction of an explicit price or via a regulation-induced shadow price. If there is a comparable carbon price, there are no grounds for any EITE assistance. Even a relatively low carbon price in key competitor economies may mean that the assistance provided to Australian EITE entities should be reduced (see Box 12.16).

The key arguments for adjusting assistance rates over time relate to the ultimate objective of the Scheme—to reduce emissions and improve the carbon productivity of the Australian economy. That is, the Scheme is the primary mechanism driving a change in the structure of the economy by increasing the level of output produced for each tonne of carbon emissions generated. It is important that all sectors of the economy contribute to an improvement in carbon productivity. Therefore the Government considers it appropriate that, over time, assistance rates are reduced by a carbon productivity contribution.

The Green Paper outlined three broad parameters on which the carbon productivity contribution could be based:

- carbon-efficiency opportunities in EITE industries
- expected growth rates in EITE industries
- the committed decline in the national emissions target.

Considerable improvements in the carbon efficiency of most Australian EITE industries have been witnessed over the past couple of decades, and most industries are committed to continuing to improve their carbon efficiency. For example, between 1990 and 2007, the aluminium sector has improved its carbon efficiency by around 24 per cent, the alumina sector has improved its carbon efficiency by around 21 per cent and the cement sector has improved its carbon efficiency by around 20 per cent.⁶ These correspond to annual improvements in carbon efficiency of more than one per cent per year.

While outcomes will vary considerably across sectors, the introduction of a price on carbon emissions is expected to provide an additional impetus for firms to find efficiency improvements, suggesting that, on average, the emissions intensity of EITE activities will continue to reduce in future periods.

This provides one argument for modestly reducing EITE assistance rates over time, given that the Government will be allocating assistance on the basis of fixed historic emissions to production ratios. While conceptually such an adjustment could be set at different levels for different EITE activities, this would be inappropriate as there is too much uncertainty surrounding the technological opportunities that the imposition of a price on carbon will lead the market to deliver in different sectors.

The second basis on which the EITE carbon productivity contribution could be set is the expected growth rate of the EITE sector. In the same way that the national improvement in carbon productivity will depend on both growth in national output and the reduction in national emissions, the carbon productivity contribution of the EITE sector will depend on growth in that sector. Over the past 10 years, the average annual growth rates of potential EITE industries have varied widely. Future growth will be determined by a large number of factors, including the level of EITE assistance provided. Modelling by the Treasury for the Australian Government² generally sees most EITE industries continuing to grow under the Government's scenarios to 2050 under the proposed EITE assistance program in the Green Paper.

The third factor that is clearly relevant in this consideration is the committed annual reduction in emissions based on the 2020 trajectory. As outlined in Chapter 4, the 2020 range for the national trajectory will be between minus 5 per cent and minus 15 per cent of 2000 emission levels. This is equivalent to a decline in the trajectory of around 1.3 per cent a year under a 2020 target of 5 per cent below 2000 levels and around 2.4 per cent a year for a 2020 target of around 15 per cent below 2000 levels.

The Government recognises that a key concern of industry stakeholders is the size of the carbon productivity contribution for both existing and new investments. Many entities conducting EITE activities are prepared to contribute to national efforts to reduce emissions and most entities conducting EITE activities are actively exploring abatement opportunities.

The Government has therefore decided that the EITE carbon productivity contribution will be set at 1.3 per cent per year, requiring EITE industries to make some contribution to the national improvement in carbon productivity, but less than the economy-wide improvement, which will need to be around 4 per cent a year for a CPRS -5 target and 5 per cent for a CPRS -15 target. Given historic improvements in efficiency, most EITE industries should be able to achieve a significant proportion of this contribution through continued improvements in efficiency.

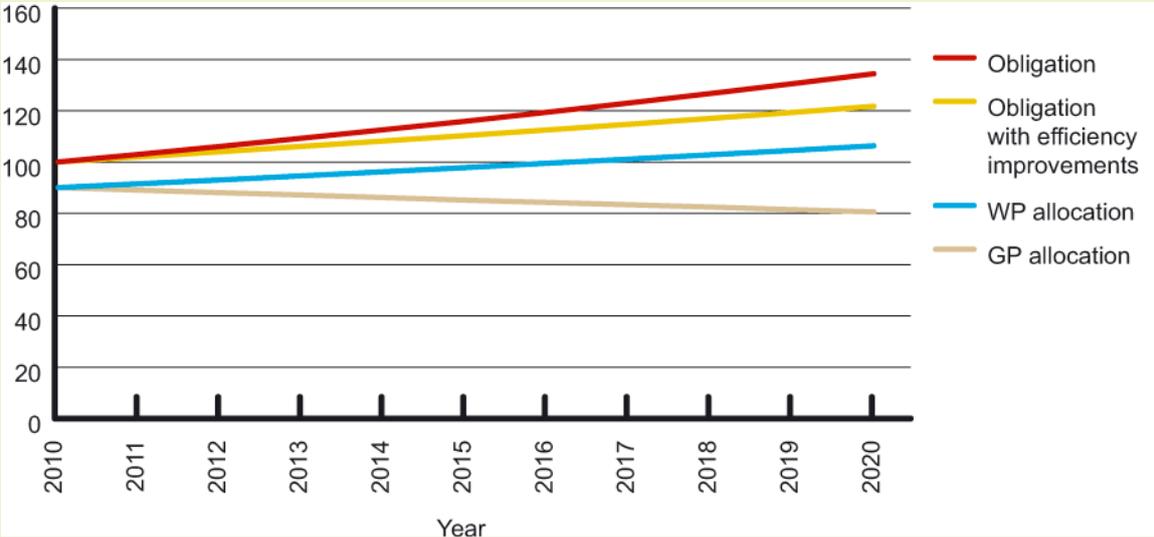
The implications of this decision on the EITE carbon productivity contribution is that the share of permits provided through EITE assistance is likely to increase over time. Modelling by the Treasury for the Australian Government² suggests that a reduction in assistance rates of around 3 per cent a year would keep the share of permits allocated as EITE assistance broadly constant over the period to 2020 under the ‘CPRS -5’ scenario. A lower carbon productivity contribution would thus be expected to lead to higher EITE allocations into the future. How much higher is difficult to determine. Depending on growth in EITE industries and future global developments, EITE assistance could increase to around 45 per cent of permits by 2020.

Box 12.10: Comparison of White Paper and Green Paper models of EITE assistance

The figures below illustrate the differences between the EITE assistance program and that proposed in the Green Paper.

Figure 12.3 shows the differences for an entity that conducts an activity that is eligible for the 90 per cent assistance rate that is expected to grow by 3 per cent per annum. This illustrates that the EITE assistance program is more generous than was proposed in the Green Paper. It also shows that if the entity achieves ongoing improvements in its emissions intensity over time, its level of unassisted emissions for the EITE activity will increase only modestly over time.

Figure 12.3: Illustrative obligations and allocations for an EITE entity receiving an initial 90 per cent allocation

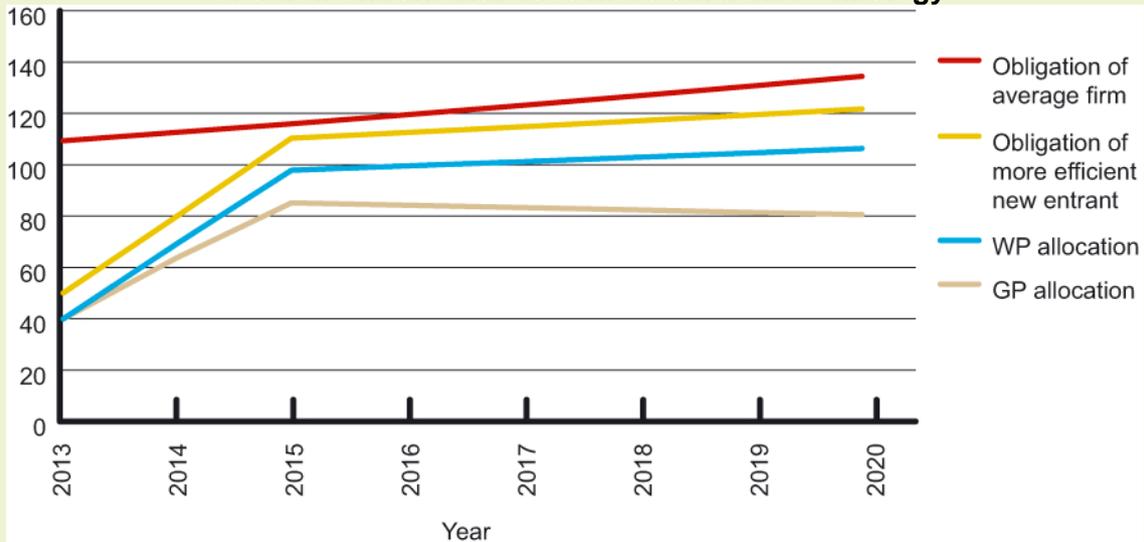


Assuming 3 per cent per annum growth for the EITE entity and 1 per cent per annum improvement in carbon efficiency.

Box 12.10: Comparison of White Paper and Green Paper models of EITE assistance (continued)

Figure 12.4 shows the relative impacts of the EITE assistance program and that proposed in the Green Paper from the perspective of a new entrant that uses a more efficient (lower emissions) technology.

Figure 12.4: Illustrative obligations and allocations for a new entrant that uses more efficient technology



Assuming 3 per cent per annum growth for the EITE entity and the 'ramp up' in allocations to the new entrant as described in Section 12.6.2

Feedback from submissions in response to the Green Paper and subsequent consultations with stakeholders indicates that some stakeholders have misunderstood how the carbon productivity contribution would be applied and how assistance rates would be calculated and modified over time. Many stakeholders were concerned that the Government's proposal to maintain allocations to the EITE sector over time to up to around 30 per cent of permits implied that the Government would regularly recalibrate assistance rates to ensure that the share of permits provided to the EITE sector remained at 30 per cent. That was not the Government's intention.

The Government confirms that assistance rates will not be recalibrated in order to ensure the share of permits remains consistent. It further commits that the 1.3 per cent EITE carbon productivity contribution announced in this White Paper will apply for the first 10 years of the Scheme and will thus not be readjusted or recalibrated between 2010 and 2020 unless the Scheme review was to conclude that comparable carbon constraints were applying and assistance was withdrawn following the five year notice period (see Section 12.7). This approach will provide industry with a transparent and predictable policy upon which to make investment decisions. The Government will bear the risk of EITE allocations that are higher or lower than expected, in turn reducing the level of permit revenue available for the rest of the community. Table 12.1 illustrates the rates of assistance that will be provided to activities in each tier over the period from 2010-11 to 2020-21 in the event that there is no international agreement in the intervening period that leads to a withdrawal of assistance rates.

Table 12.1: Applying the carbon productivity contribution to assistance rates until 2020

Year	60 per cent assistance rate	90 per cent assistance rate
2010-11	60.0%	90.0%
2011-12	59.2%	88.8%
2012-13	58.5%	87.7%
2013-14	57.7%	86.5%
2014-15	56.9%	85.4%
2015-16	56.2%	84.3%
2016-17	55.5%	83.2%
2017-18	54.8%	82.1%
2018-19	54.0%	81.1%
2019-20	53.3%	80.0%
2020-21	52.6%	79.0%

Policy position 12.12

Over time, the Government will reduce the rates of assistance (90 or 60 per cent) accorded each EITE activity at a pre-announced rate, the carbon productivity contribution, of 1.3 per cent a year, to broadly ensure that EITE activities share in the national improvement in carbon productivity.

The same carbon productivity contribution will be applied to all EITE activities.

Between 2010 and 2020, the carbon productivity contribution will not be recalibrated for variations in the share of permits allocated to the EITE sector from expected levels except in the circumstance where assistance is withdrawn.

Box 12.11: European Union Emissions Trading Scheme proposal for assistance to industries at risk of carbon leakage

The European Commission (EC) has proposed that in Phase III of the European Union Emissions Trading Scheme the allocation of free permits will be phased out by 2020 for all sectors except those deemed at risk of carbon leakage. The EC recently released a Commission services paper, referred to as a ‘non-paper’, that explores the provision of free allocations of permits for subsectors and activities deemed at risk of carbon leakage. (A ‘non-paper’ outlines the views of the EC but is not endorsed by the European Parliament.)

Box 12.11: European Union Emissions Trading Scheme proposal for assistance to industries at risk of carbon leakage (continued)

The proposed approach to assessing the risk of carbon leakage for an activity or (sub)sector is similar to the approach to be adopted in the EITE assistance program. For each activity or (sub)sector, the relative exposure to carbon leakage will be determined by assessing:

- the emissions intensity of production (taking into account direct emissions and upstream emissions associated with electricity production) and the relative price increase of the product which would be required to recover the carbon cost
- the exposure to international trade—considering the non-EU trade share of the activity and a qualitative assessment of the exposure of the activity to international competition—to assess the possibility of passing through higher costs into prices.

The ‘non-paper’ suggests that the level of allocations to activities will vary, depending on the relative exposure of the activity to carbon leakage. It states that activities which are judged as exposed to a high risk of carbon leakage would be entitled to receive up to 100 per cent free allocation of allowances (permits), while activities which are judged as exposed to a moderate risk of carbon leakage would receive less than 100 per cent free allocation of allowances (permits).

Note, however, that the amended draft Directive states that the maximum allocation of permits to installations that carry out EITE activities in a given year shall not exceed their share of emissions in the period 2005 to 2007 multiplied by the Scheme cap in that year. This implies that allocations to these installations must reduce by at least the Scheme cap each year and that 100 per cent free allocations will generally be less than the carbon cost that they bear, particularly as the EU scheme cap declines.

12.5 Determining allocative baselines for EITE activities

The provision of assistance to entities conducting EITE activities requires a methodology to determine how many permits will be allocated to entities conducting each eligible EITE activity.

This is a separate step in the EITE assistance program to the assessment of eligibility of activities for EITE assistance. Once an activity is deemed eligible for EITE assistance, an allocative baseline needs to be established to determine how many permits each entity that conducts that activity will receive.

The Government stated in the Green Paper that it is important that the methodology:

- maintain the emission reduction incentives for entities conducting EITE activities, consistent with the environmental objectives of the Scheme
- be directly linked to the output or production levels of individual entities conducting EITE activities

- be simple and transparent to achieve administrative efficiency and minimise implementation risk for both the Government and the regulator and provide clarity and certainty to business.

As discussed in Section 12.1.2, the Government has decided that the allocation methodology will be:

- designed to maximise the incentive for EITE industries to adjust to a carbon-constrained future by providing assistance on the same basis for all entities conducting a given activity, and using of historical information on the emissions from these activities
- directly linked to the production of each entity conducting the EITE activity.

As discussed in Section 12.2.3, the Government has decided to provide EITE assistance for direct emissions, and the costs associated with the use of electricity, steam and natural gas feedstock (and its components) by an activity on account of the introduction of the Scheme. Different approaches are necessary for calculating the allocations of permits for each of these sources of emissions costs.

12.5.1 Allocation formula

The Green Paper included a formula by which allocations to entities conducting EITE activities could be determined. This formula was a function of:

- output
- emissions and electricity intensity baselines
- an ‘electricity factor’, which reflected the average price increase for electricity faced by EITE entities as a result of the introduction of the Scheme
- assistance rates.

Green Paper position

Allocations of assistance for direct emissions of new and existing emissions-intensive trade-exposed (EITE) entities would be calculated on the basis of:

- an Australian historical industry-average electricity-intensity baseline for each EITE activity
- the output of the EITE activity for each entity
- the assistance rate for that EITE activity.

Allocations of assistance for indirect electricity emissions of new and existing EITE entities would:

- be calculated on the basis of
 - an Australian historical industry-average emissions-intensity baseline for each EITE activity
 - an electricity factor, where the electricity factor is determined to reflect the likely average electricity price impact of the Scheme
 - the output of the EITE activity for each entity
 - the assistance rate for that EITE activity
- take into account whether the EITE entity has contractual arrangements with regard to electricity supply that would shield them from increases in electricity prices as a result of the introduction of the Scheme.

The Government’s decision to extend assistance to emissions associated with the use of steam and the cost increase related to the upstream emissions associated with the production of natural gas and its components used as a feedstock (see Section 12.2.3) require amendments to the allocation formula. The Government’s decision that all entities conducting a given activity will receive allocations on the same basis also implies amendments to the allocation formula. A formula for how allocations to individual entities conducting an EITE activity will be calculated is provided below:

$$A_t^{ia} = \underbrace{k_t^a (EI^a \times O_t^{ia})}_{\text{Allocations with respect to direct emissions}} + \underbrace{k_t^a (EO^a \times EAF_t^i \times O_t^{ia})}_{\text{Allocations with respect to indirect electricity emissions}} + \underbrace{k_t^a (NGO^a \times NGAF_t^i \times O_t^{ia})}_{\text{Allocations with respect to upstream natural gas emissions where these are used as feedstock}}$$

- A_t^{ia} = allocation of permits to entity i for emissions associated with activity a in period t
- O_t^{ia} = output of activity a by entity i in period t

- k_t^a = assistance rate for activity a , representing the degree of assistance provided in relation to the activity. This will initially be set at 60 or 90 per cent depending on the activity but will reduce over time by the carbon productivity contribution of 1.3 per cent per year.
- EI^a = direct emissions-intensity baseline for activity a (that is, the baseline level of direct emissions per unit of output for the activity), including the emissions associated with the use of steam
- EO^a = electricity-intensity baseline for indirect electricity emissions for activity a (that is, the baseline level of electricity per unit of output for the activity)
- EAF_t^i = electricity allocation factor, which reflects the impact of the carbon price on the price of electricity. This could, but will not necessarily, vary across entities and/or time.
- NGO^a = natural gas (or its components) feedstock intensity baseline for indirect natural gas emissions for activity a (that is, baseline level of natural gas (or its components) feedstock used per unit of output for the activity)
- $NGAF_t^i$ = natural gas feedstock (or its components) allocation factor, which reflects the impact of the carbon price on the price of natural gas. This could, but will not necessarily, vary across entities and/or time.

This formula shows that allocations to individual entities conducting an EITE activity will vary over time in direct relation to their production levels. The baselines (that is, emissions, electricity use and feedstock natural gas use to output levels) are the same for all entities conducting an activity.

Emissions associated with the use of steam have been included with direct emissions since steam is not traded over a network or traded in an integrated market. The costs associated with the use of steam are therefore clearly the direct emissions costs associated with its generation.

The electricity and natural gas feedstock allocation factors could vary across entities and/or over time, although this may not be the case, as discussed further below.

All of the variables in this allocation formula, other than output levels of individual entities, will be determined up front and will be prescribed in the Scheme regulations.

The rest of this section discusses the Government's decisions concerning the allocative baselines, the electricity allocation factor, the natural gas feedstock allocation factor and the treatment of supply contracts for electricity, steam and natural gas and its components used as feedstock.

Data from industry will be necessary to make final decisions on the allocation for an EITE activity. Further detail concerning the formal collection of this data and the finalisation of allocative baselines for an EITE activity will be provided in a guidance paper for the determination of assistance to EITE activities to be released early in 2009 (see Section 12.8).

12.5.2 Allocative baselines

Allocative baselines measure the emissions generated per unit of output for a given activity, or the quantity of an input such as electricity or natural gas used in the production of a unit of production for a given activity – these are referred to above as the emissions intensity baseline, the electricity-intensity baseline and the natural gas feedstock-intensity baseline. They are necessary to calculate the number of permits to issue to an entity conducting an EITE activity for every unit of production that they produce.

The Government considered in the Green Paper several ways in which baselines could be set, including entity-specific or industry-wide baselines. As discussed in Section 12.1.2, the Government has decided that all entities conducting a given activity will receive permits on the same basis, implying that baselines will be set on an industry-wide basis.

The Government also considered in the Green Paper whether, if an industry-wide approach was taken, these baselines should be established using best practice emissions intensity or Australian historical industry-wide emissions intensity. The Government considered that while best-practice baselines have merit, they may also represent too severe an adjustment for entities conducting EITE activities in the short term. As a result, they could potentially increase the transition costs for entities conducting EITE activities as they adjust to a low-carbon economy. In addition, best-practice baselines are complex, contentious and time-consuming to determine, as has been demonstrated in the European Union scheme.

The Government has decided that the weighted Australian historical industry-average emissions to output, electricity to production and natural gas feedstock to production ratios for an activity will be used to determine the allocative baselines for each EITE activity. To the maximum extent possible, information from all entities conducting a given activity will be taken into account. The measurement of direct emissions, emissions associated with the use of steam, and electricity and natural gas feedstock use is outlined in Box 12.5, and in Section 12.3.2.

Stakeholders raised concerns about setting historical industry-average baselines when there is only a single entity currently operating in Australia. This would effectively represent an entity-specific baseline and might confer an advantage or a disadvantage on the entity conducting the activity. The titanium and zircon industry stated:

It will be difficult to use Australian ‘industry wide’ emissions intensity as a benchmark due to the limited number of companies involved in these activities. (Submission 798, p. 3)

The Government will take into account international evidence on the emissions per unit of output for activities, particularly those where there is currently only one entity operating in Australia. This process will seek to ensure that the allocative baselines will not result in more or less favourable treatment of activities in which there are few Australian producers, compared with those industries in which there are many producers.

In relation to activities that are reassessed as eligible after the Scheme commences (see Section 12.3.4) or are new to Australia (see Section 12.3.5), the Government will either use historical emissions data, or international best practice emissions-intensity benchmarks for determining allocative baselines. This will ensure all entities still have an incentive to reduce emissions, or invest in the lowest emissions technologies, as these emissions will not affect

determination of allocative baselines (see Section 12.6.2 for further discussion of allocations to new entities).

12.5.3 Timeframes for baselines

The Government must determine the period over which emissions and production data will be used to establish the allocative baselines for each activity. Section 12.3.3 discussed the related issue of timeframes for assessing the emissions intensity of activities.

The Government did not offer in the Green Paper a preferred position on the timeframe on which emissions and production data should be measured for the purposes of determining allocative baselines. It sought stakeholder views, and offered an option that data could be based on the period 2006–07 to 2007–08, since this represented the most recent two full years of data before the release of the Green and White Papers.

Stakeholders gave very little feedback on the timeframe for the determination of allocative baselines. The Government's position is that allocative baselines will be determined using data from the two years prior to the release of the Green and White Papers (2006–07 and 2007–08), which aligns with the period over which emissions data will be required for the assessment of eligibility.

12.5.4 Electricity allocation factor

The Government proposed in the Green Paper that in relation to allocations for indirect electricity emissions, the Government would establish a baseline level of electricity use per unit of production for the activity (the electricity intensity baseline) and determine an electricity allocation factor which would specify the number of permits to be allocated for each unit (megawatt-hour) of electricity consumed.

The intent of the electricity allocation factor was that it would reflect the likely average electricity price impact of the Scheme converted into permits. That is, the difference between the electricity price under the Scheme and the electricity price that would have occurred had the Scheme not been introduced, divided by the expected permit price. The expected price increase needs to be converted into permits since it is proposed that permits would be allocated to assist with electricity-related cost increases.

This approach was suggested since the existence of competitive electricity markets implies that what is relevant from an assistance perspective is not the emissions associated with electricity generation, but the increased price of electricity that is passed through the electricity supply chain to the entity conducting the EITE activity. This applies to electricity supplied across the various electricity networks in Australia. These networks include the National Electricity Market (NEM) encompassing the eastern states of Australia (New South Wales, Victoria, Queensland, South Australia and Tasmania), the Western Australian Wholesale Electricity Market (WEM), the Pilbara-Kimberly Interconnected System in Western Australia, and the Darwin-Katherine Interconnected System in the Northern Territory.

Determining the likely increase in electricity prices resulting from the introduction of the Scheme is a complex exercise. It will vary across regions and time depending on a number of factors, including:

- the emissions intensity of generation in the market and competitive market dynamics
- the resource costs involved in establishing new generation and transmission infrastructure over time (including the cost of capital and input fuel)
- demand responses to changes in electricity prices
- the operation of electricity markets in different parts of Australia.

In the Green Paper, the Government sought stakeholder views on how to calculate the electricity allocation factor in a robust and transparent manner. Very little detailed feedback was provided by stakeholders on how the electricity allocation factor should be calculated. Some stakeholders implied that the factor should be related directly to the emissions intensity of the generator providing electricity to an entity conducting an EITE activity, while others have suggested that it should be linked to the emissions intensity of the generation mix in a particular state or territory.

Many entities conducting EITE activities in Tasmania have been concerned that eligibility for, and allocations of, EITE assistance for indirect electricity emissions would be based on the average emissions intensity of electricity generation in Tasmania, which is much lower than the emissions intensity of electricity generation on the mainland due to the dominance of hydro-generation. They have argued that this would be inappropriate since the price of electricity in Tasmania will move in line with the price of electricity on the mainland due to the interconnection between networks. On the other hand, entities conducting potential EITE activities in Victoria have argued for the use of an electricity allocation factor reflecting the average emissions intensity of generation in Victoria, which is dominated by brown coal-fired generation, assuming that these costs would be fully passed through to them.

The operation of dynamic electricity markets that link electricity supply and demand over large areas implies that generator-specific and state-specific emissions intensity factors will not be appropriate indicators of the carbon cost that will be passed through to electricity prices. This suggests that electricity allocation factors should be based on modelled estimates of the likely electricity price impacts of the Scheme in an interconnected market. Given that model-based estimates are heavily dependent on assumptions concerning the modelled scenarios and underlying model structures, any analysis of such estimates should be conducted using several models' projections of the same scenario.

Modelling conducted by the Treasury for the Australian Government² estimated electricity price impacts of the Scheme under different emissions reduction scenarios. These estimates were provided by McLennan Magasanik and Associates (MMA). The two relevant modelled scenarios are:

- 'CPRS -5'—five per cent below 2000 levels by 2020 and 60 per cent below by 2050.
- 'CPRS -15'—15 per cent below 2000 levels by 2020 and 60 per cent below by 2050.

ACIL Tasman and ROAM Consulting were also commissioned by the Government to produce modelled estimates of electricity price impacts under both scenarios. The MMA, ACIL Tasman and ROAM Consulting estimates analysed here are the same estimates discussed in Chapter 13 with respect to the Electricity Sector Adjustment Scheme.

These models suggest that wholesale electricity prices under the Scheme are likely to increase across all states, with somewhat higher increases in those states that source their power predominantly from coal-fired generation sources. Within the eastern states, however, estimated increases are not directly correlated with the emissions intensity of electricity generation in each state due to the operation of the NEM. The operation of the NEM clearly drives a convergence in electricity price impacts, and over time it should increasingly imply that prices will converge within the eastern states to the extent interconnectors and transmission costs allow.

The electricity allocation factors that would be implied by these model-based estimates of impacts vary considerably over states, over time and between models. As illustrated in Table 12.2, there is no consistent prevailing pattern between, and in some cases within, modelled estimates of the factor. The MMA results imply that higher impacts will occur in the second half of the forthcoming decade in almost all states. They show that the most significant increases will occur in Victoria, while the ROAM Consulting results point to the most significant increases occurring in Queensland.⁷

Table 12.2: Electricity allocation factors derived from modelled estimates, CPRS -5

		Average 2010-15 (tCO ₂ -e/MWh)	Average 2015-20 (tCO ₂ -e/MWh)	Average 2010-20 (tCO ₂ -e/MWh)
NSW	MMA	0.92	1.16	1.04
	ACIL Tasman	0.84	0.77	0.81
	ROAM	0.44	0.90	0.67
	Average	0.73	0.94	0.84
QLD	MMA	0.74	1.03	0.88
	ACIL Tasman	0.49	0.53	0.51
	ROAM	0.64	1.17	0.90
	Average	0.62	0.91	0.77
SA	MMA	0.91	0.97	0.94
	ACIL Tasman	0.79	0.54	0.66
	ROAM	0.56	0.33	0.45
	Average	0.76	0.61	0.68
TAS	MMA	0.54	1.04	0.79
	ACIL Tasman	0.27	0.12	0.20
	ROAM	0.22	0	0.08
	Average	0.34	0.58	0.35
VIC	MMA	0.86	1.28	1.07
	ACIL Tasman	0.76	0.73	0.74
	ROAM	0.80	0.80	0.80
	Average	0.81	0.94	0.87
WA (WEM)	MMA	0.37	0.54	0.45
	ACIL Tasman	0.69	0.63	0.66
	ROAM	0.80	0.80	0.80
	Average	0.62	0.66	0.64
Weighted average (NEM)	MMA	0.84	1.14	0.99
	ACIL Tasman	0.70	0.65	0.67
	ROAM	0.57	0.85	0.71
	Average	0.70	0.88	0.79
Weighted average	MMA	0.80	1.09	0.95
	ACIL Tasman	0.70	0.65	0.67
	ROAM	0.59	0.85	0.72
	Average	0.70	0.86	0.78

(a) The electricity allocation factors in this table are derived from wholesale electricity prices.

Source: Australian Government estimates based on electricity market modelling commissioned from MMA, ACIL Tasman and ROAM Consulting.

The variability between results across states and across time suggests that model-based estimates of price impacts should be used to guide rather than finely calibrate the electricity allocation factor.

Table 12.3 shows the average emissions intensity of electricity consumption across states and networks within Australia as published in the National Greenhouse Accounts Factors.⁹ Comparing these emissions intensities with the model-based estimates of the electricity allocation factor suggest that in many cases the average model-based estimates of the factors are less than the current emissions intensity of electricity consumption. The consistent exception is Tasmania in which most of the model-based estimates of the electricity allocation factor is greater than the indirect emissions factors.

Table 12.3: Indirect emissions factors for consumption of purchased electricity from the grid

Region	Emission factor (kg CO ₂ -e/kWh)
NSW	0.89
QLD	0.91
SA	0.84
TAS	0.12
VIC	1.22
WA (WEM)	0.87
NT	0.69

Source: Department of Climate Change 2008, *National Greenhouse Accounts (NGA) Factors*, Department of Climate Change, Canberra. Table 5; indirect scope 2 emissions factors for consumption of purchased electricity from the grid.

Given the wide variation in model based estimates of impacts, three options are available to the Government in establishing the electricity allocation factor:

- differentiate the factor by state
- differentiate the factor by market or network
- establish a national factor.

The model-based estimates of impacts, particularly those relating to the NEM states, suggest that it would not be appropriate to differentiate the electricity factor by state. The second option, to differentiate by market or network, would be possible depending on one's confidence in the network level estimates of different impacts.

After careful consideration of the issue and analysis of the model-based electricity allocation factors, the Government has decided to adopt a single nation-wide electricity allocation factor to use in assessing the eligibility of EITE activities and determining allocative baselines.

The benefits of using a single national factor are that it is transparent and straightforward to apply and it explicitly recognises the inherent uncertainties surrounding estimates of the electricity allocation factor. This factor will be applied to all electricity use—on grid in all electricity markets and networks in Australia and off grid—which will be consistent with the approach adopted elsewhere in the EITE assistance program to not distinguish between fuel source and technologies in assessing and determining EITE activity baselines.

The single national factor will also be uniformly applied to EITE entities that use renewable generation, reflecting the fact that entities that produce renewable electricity face an opportunity cost for that electricity. That is, if the renewable electricity was not sold to, or used by, an EITE entity, it could be sold to the electricity grid and producers would benefit from the general uplift in electricity prices as a result of the introduction of the Scheme.

The Government's judgment is that a single national electricity allocation factor set at one permit per megawatt-hour is likely to provide an appropriate level of assistance to EITE entities in relation to their electricity use. This implies that in the allocative baseline, one permit will be provided for each megawatt-hour of electricity used on average, by an activity. This national electricity allocation factor will not be varied over time.

Setting the factor at one permit per megawatt-hour incorporates a premium above the emissions intensity of the electricity generation mix in each Australian electricity market and

a more significant premium above the average model-based estimates of electricity price impacts across 2010-20. While in some models, in some time periods, and in some regions, the estimated electricity price impacts are above one permit per megawatt-hour, looking across all of the modelled results, this electricity allocation factor should, on average, more than provide for the likely increase in electricity prices that entities that conduct EITE activities face across all markets in Australia—the NEM, the WA WEM and the Pilbara-Kimberly Interconnected System, and the Darwin-Katherine Interconnected System. Note that in regions within these markets in which high emissions generation dominates electricity production, such as Victoria, electricity prices should not increase by the full emissions intensity of generation in these regions, as increases should be constrained by the effect of competition between more and less emissions-intensive generators.

The key reason why the Government has decided to provide a relatively generous electricity allocation factor is because of the uncertainty surrounding projected impacts of the Scheme on wholesale electricity prices. It will always be challenging to predict exactly how the Scheme will affect electricity prices, even after the event, and while the various models are sophisticated attempts to control for the wide range of complexities, uncertainty remains. Given the materiality of the electricity price for some EITE industries, the Government has decided that the provision of a generous electricity factor is the appropriate way of managing this uncertainty.

Box 12.12: Treatment of electricity

The question of the likely change in electricity prices as a result of the Scheme is relevant for three elements of the overall Carbon Pollution Reduction Scheme package—the household assistance policy, the EITE assistance program and the policy concerning the Electricity Sector Adjustment Scheme.

The Government is aware that it has not used consistent assumptions of carbon cost pass through for each of these policies. If consistent assumptions were used, allocations to the EITE sector and/or the generators would be lower. Rather, given the initial uncertainties, the Government has made decisions on upfront cost pass-through assumptions that err on the side of generosity:

- the household package is constructed on the basis of full carbon cost pass-through
- the EITE assistance program is based on an electricity factor of one permit per megawatt-hour
- the Electricity Sector Adjustment Scheme will use an allocation formula that limits assistance to coal-fired generators with an emissions intensity greater than 0.86 t CO₂-e per megawatt-hour generated.⁸

A consistent approach under the EITE assistance program and the Electricity Sector Adjustment Scheme would either reduce the underlying generosity for the Electricity Sector Adjustment Scheme or EITE assistance, or both.

Box 12.13: An illustrative example of how allocative baselines and permit allocations will be calculated in the first year of the Scheme

The permits allocated for each tonne of production of ‘refined kryptonite’ will be determined using the allocation formula described in Section 12.5.1.

This formula defines the number of permits that Vulcan and KRA will receive for each tonne of refined kryptonite that they produce. This is a function of the allocative baseline and the electricity factor (kryptonite refining does not use natural gas as a feedstock). The number of permits allocated for each tonne of production of refined kryptonite will therefore be the sum of:

- *Allocation with respect to direct emissions* which is the average direct emissions intensity for the industry multiplied by the assistance rate of 60 per cent (as determined in Box 12.9).
 - Direct emissions-intensity baseline is equal to direct emissions divided by production. Data compiled by Vulcan and KRA is used to generate a weighted average for the industry of 0.8 tonnes of direct emissions per tonne of production.
 - The industry weighted average is multiplied by the assistance rate of 60 per cent to establish that 0.48 permits will be allocated for the direct emissions associated with each tonne of production of refined kryptonite.
- *Allocation with respect to indirect electricity emissions* which is the average electricity-intensity for the industry multiplied by the assistance rate of 60 per cent.
 - The average electricity intensity for the industry is equal to the electricity used in refining kryptonite divided by production. Data compiled by Vulcan and KRA is used to generate a weighted average for the industry of 0.4 megawatt hours per tonne of refined kryptonite.
 - The weighted average of electricity intensity is then multiplied by the electricity allocation factor of 1—reflecting the assistance provided in relation to the impact of the carbon price on the price of electricity—and the assistance rate of 60 per cent to establish that 0.24 permits will be allocated for each tonne of production of refined kryptonite.

The permit allocation for kryptonite refining is equal to the total allocation of permits for direct emissions and for electricity use. The permit allocation for kryptonite refining is therefore determined to be 0.72 permits for every tonne of production of refined kryptonite in the first year of the Scheme.

This permit allocation will be the same for both Vulcan and KRA and any new kryptonite refiners that commence operations in Australia.

The next step is for Vulcan and KRA to apply for assistance because they are engaged in an EITE activity. This process is described in Box 12.18.

12.5.5 Natural gas feedstock allocation factors

The proposal to widen the scope of EITE assistance to also cover the upstream emissions costs associated with the production of natural gas and its components, such as ethane and methane, used as feedstock by an activity requires a method for determining allocation factors.

As discussed in Section 12.2.3, determining the carbon cost pass-through associated with upstream emissions is inherently difficult. It requires an assessment of the ability of upstream entities to pass through these emissions costs, which will depend on a number of factors, including the extent to which competitive constraints restrict cost pass-through and contractual negotiations between the supplier and user.

Stakeholders in the plastics and chemicals industry have suggested that allocations of assistance should be directly linked to the cost pass-through implied in their existing and renewed contracts. However, such an approach would lack clarity and would provide an incentive for the estimated emissions pass-through to be distorted by suppliers and customers when conducting negotiations for new contracts. This would potentially expose the Government to higher claims for allocations.

The Government has decided to use state-based natural gas allocation factors to provide assistance in relation to the upstream emissions associated with the extraction, production and transportation of natural gas and its components used as feedstock. These factors will be determined with reference to the relevant emissions factors published in the National Greenhouse Accounts Factors (November 2008)⁹.

Policy position 12.13

Allocations will be determined taking into account:

- the weighted average direct emissions (including steam) per unit of production across all entities conducting the specified activity in 2006–07 and 2007–08
- international evidence on the emissions per unit of production, particularly for activities in which there is only one entity conducting the activity in Australia
- the quantum and quality of information provided to Government in response to the release, in early 2009, of a guidance paper for the determination of assistance to emissions-intensive trade-exposed activities
- estimates of the average electricity use per unit of production across all entities conducting the specified activity in 2006–07 and 2007–08
- estimates of the average use of natural gas (and its components) as feedstock per unit of production across all entities conducting the specified activity in 2006–07 and 2007–08
- the electricity allocation factor which will be set at one permit per megawatt-hour, which is a generous estimate of the average likely national impact of the Scheme on electricity prices
- the natural gas allocation factor which will be set on a state-basis for the extraction, production and transportation of natural gas and its components and will be determined with reference to the relevant emissions factors published in the National Greenhouse Accounts Factors (November 2008).⁹

Baselines for allocations will not be updated over time for changes in the emissions intensity of entities conducting EITE activities in order to maximise abatement incentives, and will be used to determine allocations to new and existing entities conducting a given activity.

12.5.6 Supply contracts and allocations for indirect emissions

Contracts entered into after 3 June 2007

The presence of contracts covering the supply of electricity and natural gas (and related) feedstock inputs to EITE activities will have a bearing on the increase in costs that individual entities conducting EITE activities face following the introduction of the Scheme.

In the Green Paper, the Government proposed that allocations for indirect electricity emissions take into account whether entities conducting EITE activities have contractual arrangements for electricity supply for the relevant activity that would shield them from increases in electricity prices as a result of the introduction of the Scheme. Details of how these contracts would be considered were not provided in the Green Paper.

While the Green Paper only dealt with this issue in relation to electricity, it is equally relevant to contracts for the supply of natural gas and component feedstock now that the Government has determined it will provide EITE assistance for emissions associated with the use of these inputs.

Some stakeholders suggested that allocations applying to individual entities should reflect the cost impact that is provided for in both existing and new or renewed contracts. Rio Tinto is aware of the Government's desire to ensure that, as new contracts are renegotiated between entities conducting and EITE activity and electricity suppliers, each party has an incentive to reduce emissions. Rio Tinto states that all contract renegotiations for new long term contracts will be made in the clear expectation that the current EITE allocation arrangements are transitional. This provides a very significant incentive to seek low emission electricity supplies and to ensure the electricity supplier and the entity conducting the EITE activity both undertake abatement. (Submission 768, p. 12)

The Government does not accept that allocations should be modified for outcomes negotiated under new or revised contracts.

Contract negotiations should take into account all information available at the time the contract was signed and reflect an assessment of the balance of risks between parties. Contracts signed after 3 June 2007 (when federal political bipartisan support was first established for an emissions trading scheme in Australia) should have factored in the possibility of the introduction of a carbon price and should reflect the balance of risks negotiated between the parties. If EITE assistance were directly linked to new or renewed contracts it would influence the way contracts were designed, could expose the Government to significantly higher allocations and imply that risks would be shifted from industry to government.

It is for these reasons that the Government will not adjust the electricity or natural gas feedstock allocation factors for contracts entered into on or after 3 June 2007, or existing contracts which are renewed or reviewed on or after this date.

Contracts entered into before 3 June 2007

With respect to supply contracts existing at 3 June 2007 (that is, those entered into before this date), discussions with stakeholders have suggested that in many cases it is not straightforward to establish the carbon cost pass-through that is implied by these. Contracts often have complex formulas for the increase of prices as market or regulatory conditions change and there is often considerable legal ambiguity as to the extent to which the form of the Scheme may trigger individual price review. In many situations, the quantum of carbon cost pass-through may depend on the outcome of negotiations between the parties regarding how the contract should be interpreted. Accordingly, the Government's general position is that it should not preferably be involved in, or should not influence, contract negotiations. Further detail on the Government's consideration of contractual arrangements and carbon cost pass through is discussed in Chapter 15.

However, the Government will consider certain contractual arrangements that are significant enough to warrant further investigation, as outlined below.

Large electricity users and contracts

Some stakeholders have suggested that extremely large electricity users, for whom the materiality of electricity emissions costs is likely to be magnified due to their significant electricity use, should be subject to a 'large user clause'. An entity-specific electricity allocation factor could be established for such electricity users, reflecting the individual electricity price impact of the Scheme on them. This would necessarily involve the disclosure of carbon cost pass-through under long-term electricity supply contracts. Rio Tinto proposed that:

Special consideration should be given to a minimum annual electricity use threshold test to identify large EITE electricity users. This represents a class of electricity users on whose competitiveness the impact of electricity price rises is most material and who are generally tied to longer term electricity supply contracts, the terms of which are non standard. For EITEs who pass this test, such as aluminium smelters, their allocations [would] be based upon actual EITE entity electricity price uplift. (Submission 768, p. 11)

Two extreme situations illustrate why the Government considers that such an exception may be warranted. Some electricity contracts may have no provision for the pass-through of scheme-related costs from the electricity generator to the user. If EITE assistance for electricity emissions did not take this into account, there would be a significant risk of windfall gain to the entity conducting the EITE activity. Some electricity contracts may also have provision for the full pass-through of scheme-related costs calculated as a direct function of the emissions intensity of the supplying generator. If EITE assistance for electricity emissions did not take this into account, there would be a risk that the costs associated with electricity consumption under the Scheme may be materially higher for the user than would be provided for with the national electricity allocation factor for the life of the contract.

The Government has decided that for large electricity users (those that consume more than 2000 gigawatt-hours a year at a single facility), contractual arrangements entered into before 3 June 2007 that are still in force (without having been renegotiated or reviewed) at 1 January 2010 will be considered by the regulator to determine an entity-specific electricity allocation factor in determining allocations of EITE assistance.

The Government recognises the administrative and economic risks in examining the carbon cost pass-through arrangements for the largest of the long-term electricity supply contracts that were in existence at 3 June 2007. To reduce these risks, it has established rules for administering the process (see Box 12.14).

Box 12.14: Determining entity-specific electricity allocation factors

EITE entities that consume more than 2000 gigawatt-hours of electricity at a single facility will be legally required to notify the regulator of contracts that were entered into before 3 June 2007 and that are still in force (without having been renegotiated or renewed) at 1 January 2010 and provide all relevant documents to the regulator six months before the Scheme starts.

If the regulator is not notified of the arrangements and provided with the relevant documents, no assistance will be provided for electricity-related cost increases faced by the entity.

The regulator, after receiving the relevant documentation, will determine an entity-specific electricity allocation factor for that entity for the period up to the time the long-term contract ends or can be reviewed. This entity-specific electricity allocation factor will reflect the average price increase in electricity faced by the entity as a result of the introduction of the Scheme. This will be determined by looking at the portion of electricity likely to be used in the activity supplied by the long-term contract or contracts and the portion of electricity likely to be used in the activity supplied by arrangements entered into after 3 June 2007 (for which the national electricity allocation factor will apply).

In relation to the long-term contract portion:

- the allocation factor will reflect, in the regulator's opinion, the difference in value between what would have been paid under the contract had a scheme not been introduced and what is likely to be the price charged for the electricity under the long-term contract (that is, with the Scheme in place)
- the electricity allocation factor must be within the range of 0 permits per megawatt-hour and a number that is equivalent to the emissions intensity of the electricity generator or generators that supply electricity to the activity.

To provide certainty to business and ensure that permits can be allocated as soon as possible after the Scheme commences, the regulator will endeavour to make decisions on entity-specific electricity allocation factors before the Scheme starts. These decisions will be subject to judicial review in the Federal Court under the *Administrative Decisions (Judicial Review) Act 1977*. The Government considers this will be an effective dispute resolution mechanism for issues that may arise in interpreting the contract and that additional review mechanisms (such as merits review in the Administrative Appeals Tribunal) would delay resolution of the matter.

The intent of this 'large user clause' is:

- to ensure EITE allocations align with historic contractual arrangements for the life of that contract
- to ensure appropriate use of permit revenue, in particular that significant windfall gains are not conferred upon entities conducting EITE activities

- to provide incentives for very large electricity users and generators to renegotiate their contracts for electricity supply until 1 January 2010, if they determine it is in their mutual interest to do so. If such a renegotiation occurred, the very large electricity user would be automatically allocated the proposed national electricity allocation factor of one permit per megawatt-hour.

All other contracts

It is also possible that smaller electricity users, users of steam, or users of natural gas and its components may also experience different levels of cost increases from the Scheme based on their contractual arrangements.

Contracts for smaller electricity users are generally for a shorter time period compared to those for large electricity users, and are based on the offers of electricity retailers who have hedged their risk against the NEM and equivalent arrangements in Western Australia (the NT does not have similar arrangements). The fact that the Government has decided to apply a national electricity allocation factor of one permit per megawatt-hour should mean that small electricity users are unlikely to experience significantly higher cost pass through than the electricity allocation factor rate. The Government has decided that the administrative complexity and associated implementation risk from opening each small user's pre-existing electricity contract to objectively determine an appropriate electricity allocation factor is not warranted.

Users of natural gas and its components as feedstock also have detailed supply arrangements throughout the gas supply chain which are generally based on a series of bilateral arrangements. Opening the contractual arrangements associated with the upstream gas supply chain to objectively determine the exact level of carbon cost pass through will be extremely challenging and subject to significant information asymmetries between participants in the supply chain and between these participants, the EITE entity and Government. The Government has decided that contracts for natural gas will not be considered in determining allocations of EITE assistance. As outlined in Section 12.5.5, assistance for gas will be based on state-based natural gas allocation factors, determined with reference to the National Greenhouse Accounts Factors (November 2008)⁹.

Policy position 12.14

For large electricity users that consume more than 2000 gigawatt-hours a year at a single facility, contractual arrangements will be considered by the regulator to determine an entity-specific electricity allocation factor if those contracts were entered into before 3 June 2007 and remain in force on 1 January 2010.

No other contracts concerning electricity, steam, and natural gas and its components used as feedstocks will be considered in determining allocations of EITE assistance.

12.6 Calculating and determining allocations to individual entities conducting EITE activities

12.6.1 Determining production levels on which allocations are based

EITE assistance will be provided via an up-front allocation of permits to EITE entities, which requires a methodology to determine and allocate assistance. Section 12.5 discusses the formula for determining allocations to EITE entities. The formula requires an estimated level of production of each entity.

Two options for estimating production on which to base allocations were considered in the Green Paper:

- a forecast of each entity's production each year and a 'true up' allocation at the end of the year
- the entity's production from the previous year.

The Government considered that the true-up approach would match allocations more closely to production levels of the entity from year to year. However, it would increase complexity for the regulator and for EITE entities, as they would need to estimate how many permits would need to be returned or allocated at the end of each period. Such an approach could lead EITE entities to hold on to excess permits in case they were required to return them at the end of the year, which would reduce the liquidity of the market.

The second option would be administratively simpler, but would require entities to manage variations in their allocations relative to their emissions liability from one year to the next, which could result in over or under allocations to entities that are contracting or expanding. The Government noted that specific rules might be necessary for the first year of the Scheme, given that a carbon cost would not be imposed in the year before Scheme commencement. Allocations based on production only in that year might create incentives to increase production before Scheme commencement to obtain a greater initial number of permits.

The Government did not put forward a preferred position, but sought stakeholders' views on the approach for estimating the level of production to calculate assistance to EITE entities.

Few stakeholders commented on the approach to estimating production; however, of those who provided comments, such as CSR and Norske Skög, there was a preference for the first option of using forecasts of production each year with a true up at the end of the year (Submission 735, p. 24; Submission 378, p. 12).

The Government has decided that basing allocations on the entity's production from the previous year provides for greater liquidity in the market and administrative simplicity, and is therefore the way in which the Government intends to proceed. For the first year allocation, the fairest approach would be to look at the three financial years before the Scheme begins and use the average production of the two highest years of those three. This is designed to take into account aberrations in an EITE's production levels due to maintenance or events beyond its control (such as the Western Australian gas shortage).

The concerns of stakeholders about expanding production will be addressed by the treatment of new entrants and expansions (see Section 12.6.2).

12.6.2 New entrants

In the Green Paper, the Government proposed that allocations would be made to new entities conducting EITE activities and to existing entities conducting EITE activities that expanded their production levels. Allocations to new entities and expansions were proposed to be made at the same rate per unit of production, as for allocations to existing entities.

There was strong support from stakeholders for the proposal to provide assistance to new investments. Tomago states that:

[it] accepts and supports the principle contained in the Green Paper that EITE assistance should be based on production and that existing and new production activities should be treated in the same manner, but an alternative, more flexible approach to the cap is required to accommodate new [growth] production. (Submission 843, p.5)

There was some misunderstanding among stakeholders about how allocations to new entrants or expanded production could be made without affecting the level of assistance to existing entities conducting an EITE activity. In addition, some stakeholders were concerned that, in the case of stronger than expected growth in the EITE sector, allocations to existing entities would be reduced at a faster rate. The Bureau of Steel Manufacturers of Australia stated that:

Failure to adequately accommodate growth in CPRS design could well increase imports from non-carbon constrained economies, will erode the competitiveness of Australian manufacture and will discourage local investment and employment. (Submission 408, p. 6)

The misunderstanding concerns how the total quantum of permits allocated to the EITE sector would change over time. As discussed in Section 12.4.2, in the Green Paper, the Government did not intend to imply that assistance to existing entities would be adjusted or re-calibrated to account for allocations to new entrants.

Several options for the treatment of new entrants and expanded production from existing entities were proposed in stakeholder submissions, including the establishment of a new entrant reserve and the exclusion of new entrants from the emissions cap.

New entrant reserve

The EU ETS allocation model provides for an explicit ‘new entrant reserve’—that is, a quantum of permits that are held back for allocation to new entrants during any given period. This was required in Phases I and II of the scheme because Member States allocated almost 100 per cent of their permits as their preferred allocation method. As a result, when determining the allocations of permits to each sector, an explicit reserve was needed for new entrants because there was no surplus of permits that could otherwise be allocated to them.

The size of the new entrant reserve varied among member states (from less than 2 per cent to around 10 per cent for larger countries), reflecting different growth expectations. If the reserve was exhausted, member states would generally take two approaches: some countries

required new entrants to buy permits, and in some countries the government would purchase the allowances (from the market) and provide them to the new entrant.

The Government considers that the adoption of a new entrant reserve is not necessary as the EITE assistance model outlined in this chapter fully and flexibly accommodates new growth in the EITE sector, without explicitly needing to set aside permits for new entrants. That is, because assistance is provided per unit of production, the greater the eligible production, the greater the number of permits allocated.

Exclusion of new entrants from emissions cap

Some stakeholders proposed that emissions from new entrants be excluded from the national emissions target as long as the new entrant conformed to world's best practice for that activity. Xstrata stated that:

Growth of emissions intensive trade exposed industries (EITE) within Australia, where 'world's best practice' technology is applied, should not be included in the national cap until such time as international agreements are in place. New capacity will be built if required by global markets and Australian investment should not be placed at a disadvantage for no global benefit. (Submission 593, p. 3)

The Government notes the suggestion from stakeholders that it could purchase international emissions units to cover new investment. It also notes that the former Prime Minister's Task Group on Emissions Trading stated in its final report:

To minimise the welfare implications on other sectors of the economy, the emissions cap under the scheme could be adjusted upwards to account for emissions as a result of new investments in the trade-exposed, emissions-intensive sector.¹⁰

Purchasing permits from abroad or adjusting the Scheme cap upwards to account for new EITE investment effectively amounts to excluding new investment from the Scheme cap. While this may have been an option when Australia had not yet ratified the Kyoto Protocol, such an approach now may jeopardise Australia's ability to meet the emissions reduction targets to which it agrees in international negotiations. The Government could also not expect other nations to take on meaningful emissions reductions targets if it excluded significant emissions from its own cap.

Calculating allocations to new entrants

The EITE assistance program will provide assistance to new entrants (and significant expansions) on the same basis as to existing entities conducting a given activity. Compared with a 'new entrant reserve' model, the Government's approach has less complexity for both Government and business and is more flexible in dealing with growth outcomes. The regulations will enable an entity to work out exactly how many units would be allocated for a given level of future production, so the approach promotes investment certainty both for existing entities and for new entrants. See Box 12.15 for further details.

The one area in which specific rules are necessary for a new EITE entity concerns the level of production on which to base assistance. If the previous year's production were applied, the

EITE entity would not receive assistance for its first year of production and would be disadvantaged compared to its competitors as it increases its production levels.

To address this problem, the regulations will set out rules for the regulator when determining production levels upon which to allocate assistance for new entrants and significant expansions, including a 'ramp up' to full production if appropriate. These will be designed to estimate fairly the expected production of the facility for the first few years of operation.

Box 12.15: Providing for growth in the EITE assistance program

A number of elements of the EITE assistance program have been intentionally designed to provide for growth in the EITE sector of the economy. This includes growth of existing EITE activities and the entrance of new players conducting EITE activities.

1. Allocations of EITE assistance will be provided on a *per unit of production* basis for an entity conducting an EITE activity. For instance, if an entity has an allocative baseline of 0.9 permits per tonne of production, is receiving assistance at a 90 per cent rate (taking account of the carbon production contribution) and produces 100 tonnes, its allocation of permits would be 81 permits.

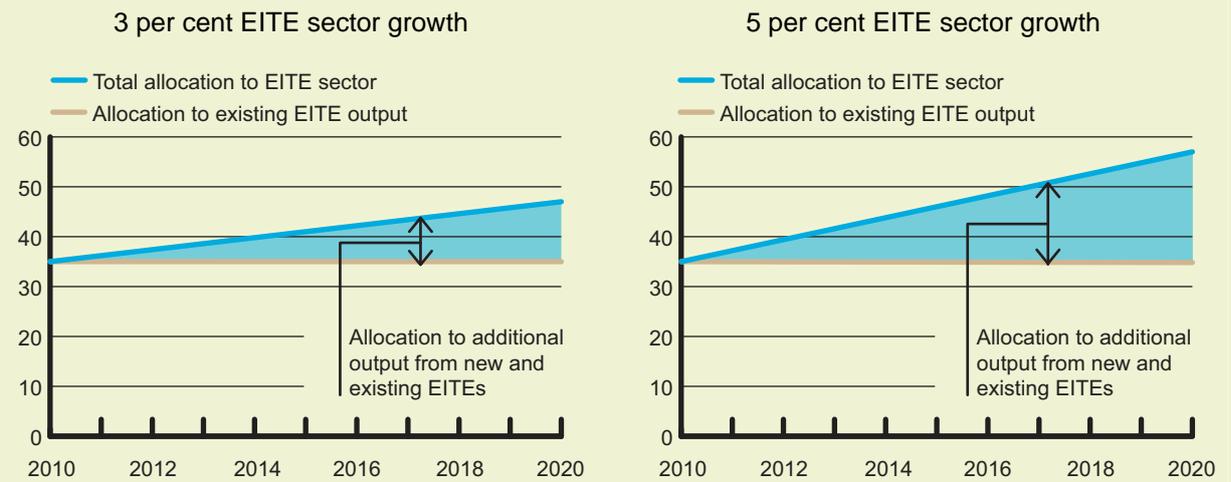
Production linked allocations allow for growth by their very nature. If an EITE entity doubles its production, the number of permits that it receives will be double what it would have received if it had not expanded production. By way of illustration, if the EITE entity above had twice the level of production (200 tonnes), its allocation of permits would be 162 permits.

2. Production linked allocations will apply to all entities conducting the activity. This means that new entities that commence an eligible EITE activity will receive the same allocation as incumbent entities that conduct the same activity. That is, an allocative baseline of 0.9 permits per tonne of production at a 90 per cent rate of assistance (taking account of carbon productivity contributions each year).
3. Allocations of EITE assistance for existing EITE activities will be provided on the basis of the average emissions intensity in 2006-07 and 2007-08 of entities conducting the eligible activity. This may benefit new entrants which invest in emissions efficient technology and processes as their emissions intensity may be below the established allocative baselines.
4. The Government does not propose to readjust assistance rates or allocative baselines during the first ten years of the Scheme unless there was a review that concluded that comparable carbon constraints existed and five years' notice was given. The current expectation is that this would lead to an increase in the percentage of permits being allocated to entities conducting EITE activities increasing to around 45 per cent by 2020. If, however, growth in the EITE sector was stronger than expected, the share of permits allocated as EITE assistance would rise commensurately.

Box 12.15: Providing for growth in the EITE assistance program (continued)

This approach is illustrated in the schematic below. The left hand panel shows how the quantum of EITE assistance rises over time if the EITE sector grows at a rate of 3 per cent per year. If the EITE sector grows at a faster rate of 5 per cent per year (right hand panel), then more assistance will be provided to the EITE sector as a whole. The implication of the right hand panel is that the Government will bear the budgetary risk of higher EITE allocations than is currently expected.

Figure 12.5: Share of permits allocated to the EITE sector (per cent)—sensitivities to different growth rates



Assuming 1.3 per cent per annum carbon productivity contribution. Illustrated shares assume coverage of agricultural emissions.

12.6.3 Closures

If allocations of permits to EITE entities are made at the beginning of each compliance period, a process for dealing with situations in which an entity ceases an EITE activity during the year is required. Unless particular rules are imposed, the upfront delivery of assistance would mean that the entity would have a windfall gain from the permits associated with production that does not take place.

In the Green Paper, the Government considered that when an entity ceases an EITE activity in the compliance period and therefore produces lower production than was expected, there is no possibility of reconciliation in the following year because no permits would be allocated to that entity.

Green Paper position

If an entity ceases operating an EITE activity, it would be required to return carbon pollution permits that had been allocated to it for production that did not occur.

The Government’s preferred position was that, should an entity cease operating an EITE activity, it would be required to relinquish permits that had been allocated to it for production

that did not occur. If the entity did not retain enough permits to account for production that did not occur, it could buy the shortfall on the market to make up the difference.

There was much support for the Green Paper position among stakeholders. Commerce Queensland stated that it:

...welcomes the proposal to require businesses that cease trade-exposed, energy-intensive activities to return permits that have been allocated for free but which cannot be attributed to production prior to the cessation of the relevant activities. Commerce Queensland considers that this approach will reduce the likelihood of some businesses accepting the free permits and then subsequently shifting production offshore. (Submission 816, p. 7)

However, some submissions suggested that the unused permits could be put to other uses. The Australian Workers' Union proposed that the unused permits held by an entity operating an EITE activity should be distributed to affected workers in the event that the activity ceases or relocates offshore. This was proposed to ensure that workers, in particular those with legacy or stranded skills, receive assistance to aid their transition to a low-carbon economy. (AWU Submission 505, p.21)

The Government is committed to addressing the employment impacts of the Scheme, for instance through re-skilling and re-training, but is not convinced that the Australian Workers' Union's approach, while highly innovative, is the most effective and equitable way of addressing these impacts. Such an approach would lead to an unpredictable quantum of assistance provided to workers in the event of a closure. It would depend on the number of workers associated with an entity, the emissions intensity of the activity and the number of permits that have not been acquitted at the time the entity ceases operating the activity. For example, if two firms shut down, each with a surplus of 1000 permits, workers in the firm with 1000 employees would receive significantly less assistance than workers in the firm with 10 employees. In addition, where an entity ceases operating an activity at the end of a period, workers will receive less assistance than if the activity ceases at the beginning of a period.

The Government considers that a more effective way to address employment impacts of the Scheme would be through targeted structural adjustment packages as provided for in the Climate Change Action Fund (refer to Chapter 18).

The Government will require an entity to relinquish permits allocated to it for production that did not occur if the entity ceases to operate, since this appropriately reflects the underlying intent of the assistance. The details of this, including relevant reporting requirements upon closure, will be set out in the Act and regulations. Failure to relinquish permits will attract an administrative penalty. Permits that are relinquished because of a closure will be available for re-auctioning.

12.6.4 Entity to receive EITE assistance

When allocating EITE assistance, the Government must ensure that assistance is only claimed once for a given activity. The Government must also determine the appropriate legal entity to provide the assistance.

In considering the entity to receive assistance, the following points are particularly relevant:

- while EITE assistance is related to the carrying out of an activity, liability under the Scheme for direct emissions is generally defined in relation to facilities, and the entity that has operational control of that facility (or, in the case of corporate groups, that entity's controlling corporation)
- liability from some direct emissions is acquitted upstream (for example, small amounts of natural gas), so a particular activity might not create direct liabilities under the Scheme
- there is no liability under the Scheme for an entity carrying out an eligible EITE activity with respect to indirect electricity emissions for which assistance will be provided and some activities may only have these types of emissions
- it is possible that an activity could be conducted by two entities
- the Scheme will include provisions whereby liability may be shifted to another entity either within the same corporate group or with financial control over the facility.

In the Green Paper, the Government proposed that the EITE assistance could be allocated to the entity with operational control over the activity. This was in the context of operational control being the sole determinant of liability under the Scheme. Stakeholders made very few comments on this issue and did not oppose the proposed approach.

However, that proposal risks misaligning the recipient of assistance with the party liable for the emissions from the activity, particularly where liability has been transferred. It would involve creating a new legal concept of 'operational control over an activity' that might be different from 'operational control over a facility', which is currently in use.

Given the complexities of scheme liability and the risks of delivering assistance to the 'wrong' entity, the Government has decided to link eligibility for EITE assistance more directly to the entity that is, or would be, liable for direct emissions from the activity. A number of different rules are needed to determine the entity eligible for assistance for a particular activity. The policy principle underpinning the rules is that the assistance should be given to the entity or entities that incur costs through the operation of the Scheme (directly or indirectly).

Where the EITE activity is carried out at a single facility, the assistance will be given to the entity that is liable for the direct emissions of the facility, as assessed on the last day of the previous financial year (irrespective of whether there were direct emissions that resulted in a liability under the Scheme Act, or whether some emissions were acquitted upstream).

Accordingly, this will be:

- the entity to which liability for the facility's emissions has been transferred (for example, to a person with financial control); and
- if there is no transfer of liability, the entity with operational control of the facility (or, where applicable, their controlling corporation).

That is, in both cases, the entity receiving assistance will be the same entity who is responsible for the reporting in relation to the facility as well as incurring liability under the Scheme for direct emissions.

This formulation will determine a responsible entity irrespective of whether the facility incurred a liability under the Scheme coverage rules. It is important that eligibility be fixed at a point in time (the end of the previous financial year) to avoid complications when facilities are sold.

Where the liability provisions result in more than one entity being liable for the direct emissions associated with the activity (e.g. because more than one facility is involved), all the parties that might have potential liability under the Scheme for the direct emissions of the activity must make a joint application to the regulator for assistance in respect of the activity. The joint application must set out how permits would be apportioned between each party to the application. It will be up to the parties to negotiate appropriate arrangements for sharing the assistance. It would not be appropriate for the regulator to be involved in that decision, as at that would involve complex questions of commercial value that the regulator is not equipped to resolve.

These rules will ensure that the assistance is delivered to the entity or entities with liability under the Scheme. The detail of these eligibility requirements will be set out in the regulations.

Policy position 12.15

Allocations of assistance to entities conducting EITE activities will be directly linked to the level of production of individual entities conducting an activity.

The previous year's production of the activity by the entity will be used to determine a given year's allocations, with the following exceptions:

- in the first year of the Scheme, the average production of the highest two of the last three years will be used
- with regard to new entrants and significant expansions, the Scheme regulator will be afforded the discretion to determine the first few years' allocations, to allow for a 'ramp up' period before capacity production levels are achieved.

If an entity ceases operating an EITE activity, it will be required to relinquish permits that had been allocated to it for production that did not occur.

Where an EITE activity is carried out at a single facility, the entity which has, or would have, liability under the Scheme for direct emissions from the facility may apply for assistance.

Where more than one entity has liability or potential liability under the Scheme (such as where more than one facility is involved), there must be a joint application from those entities, and that joint application must specify how they want the assistance allocated.

12.7 Review of EITE assistance

The provision of assistance to EITE activities is a program that will administratively allocate a large number of permits of significant value, and therefore should be subject to a periodic review. In the Green Paper, the Government proposed that the EITE assistance program be reviewed at each five-yearly Scheme review.

Green Paper position

The EITE assistance policy would be reviewed at each five-yearly scheme review to determine whether that assistance continues to be consistent with the rationale for assistance, appropriately balances the competing policy objectives and continues to be consistent with Australia's international trade and climate change obligations.

That proposal was generally supported by submissions to the Green Paper; however, the Australian Conservation Foundation called for the first review to be undertaken after two years of scheme operation in 2012 (Submission 809, p. 70).

There is considerable uncertainty about the future international climate change framework and the timing of significant decisions about that framework. The proposal to review the EITE assistance program every five years might not be consistent with the need for the Government to implement those decisions. Therefore, the Government has decided that the EITE assistance program will be reviewed by an Independent Expert Advisory Committee at each five-yearly review or at another date at the request of the responsible minister as discussed in Chapter 16.

The intent of the EITE assistance program review will be to provide advice to Government on fine-tuning the scheme. In reaching conclusions, the review will be expected to consider issues such as

- the actual experience of the Scheme operating in Australia
- international developments, including the extent to which:
 - Australia has entered international agreements
 - tangible emissions abatement commitments have been made by other competitor countries
 - major partners or competing countries have introduced carbon constraints into their own economies

The EITE assistance program review will advise as to whether:

- modifications should be made to the EITE assistance program
- activities not initially eligible for EITE assistance should be reconsidered for assistance
- conditions exist to cease providing EITE assistance.

12.7.1 Modifying the EITE assistance program

The review of the EITE assistance program will assess whether the program:

- continues to be consistent with the rationale for assistance—the review will assess the extent of the risk of carbon leakage and the appropriateness of the program in addressing that risk
- is appropriately balancing the competing policy objectives—the rationale for the provision of EITE assistance needs to be balanced against the Government’s other objectives for non-assisted sectors and households (in particular, appropriate burden-sharing between the different sectors)
- is conferring windfall gains on entities conducting EITE activities—this may occur if EITE industries have been able to pass through a significant portion of the carbon costs they have faced.

The Independent Expert Advisory Committee conducting the review will make recommendations to Government on any changes that should be made to the EITE assistance program. Five years notice will be provided for changes adopted by Government other than those to comply with international trade obligations. This will give business significant time to take those changes into account in its decision making.

12.7.2 Review of eligibility assessment of an activity

As discussed in Section 12.3.4, changes in commodity prices from those recorded during the assessment time period and changes to the Scheme’s coverage could materially affect an activity’s exposure to a carbon price. The Government will address these concerns by including a provision to review the eligibility of activities for EITE assistance every five years on the basis of commodity price movements or in the context of an extension of Scheme coverage. However, the Government will also ensure the carbon price signal is not muted and that all entities continue to pursue all available abatement opportunities in the lead-up to this reassessment.

12.7.3 Cessation of EITE assistance

In the Green Paper, the Government proposed two tests for determining the circumstances in which assistance to EITE activities should cease. The first test would apply between 2010 and 2020, and the second test thereafter. This approach aimed to provide a greater degree of certainty about assistance in the first 10 years of the Scheme while giving the Government greater flexibility to cease assistance beyond 2020.

Green Paper position

Between 2010 and 2020:

- assistance would be provided to emissions-intensive trade-exposed industries as proposed unless broadly comparable carbon constraints are introduced in key competitor economies, in which case assistance would be withdrawn.

Beyond 2020:

- assistance would be withdrawn if broadly comparable carbon constraints are introduced in key competitor economies or
- assistance would be phased out over a five-year period in the event of acceptable international action that places obligations on an industry's major competitors or
- assistance would be continued as proposed in the absence of broadly comparable carbon constraints or acceptable international action.

Submissions generally supported EITE assistance continuing until either an acceptable global agreement were reached or comparable carbon constraints were introduced into key competitor economies. For example, the Plastics and Chemicals Industries Association stated that 'PACIA supports the Green Paper proposal to phase out EITE assistance once broadly comparable carbon constraints are introduced in key competitor countries' (Submission 709, p. 11).

Some submissions called for a firm date for the phase-out of assistance. The Australian Network of Environmental Defenders Offices submits 'that assistance should be withdrawn by 2020 regardless of whether comparable carbon constraints have been introduced in competing economies, and not continued indefinitely' (Submission 517, p. 27).

A number of submissions, including those of the Business Council of Australia (Submission 812, Attachment 1, p. 30) and the Bureau of Steel Manufacturers of Australia (Submission 408, p. 9), called on the Government to provide clear criteria that would be used to determine when comparable carbon constraints apply. However, few submissions provided a clear indication of precisely how a test to cease assistance would be applied. This highlights the difficulties faced by the Government in defining such criteria, which may be dependent on the outcomes of international negotiations.

Rio Tinto called on the Government to outline a specific commitment to continue to provide EITE assistance until an emissions reduction regime embracing 80 per cent of global emissions had commenced (Submission 768, p. 10). The Garnaut Review¹ and the Australian Aluminium Council both argued that carbon leakage concerns would be removed when 80 per cent of producers in a sector agreed to international action, such as through a sectoral agreement (Submission 689, p. 4).

Around 80 per cent of global emissions are generated by 15 countries (counting the EU-27 as one 'country'). If those nations were to agree to implement legally binding emissions targets, it would be an important step to removing the risk of carbon leakage and the need for continued EITE assistance. However, when considering the need for ongoing EITE

assistance, the Government would need to determine whether nations were undertaking a comparable effort to mitigate global greenhouse gas emissions and whether a comparable carbon price or comparable shadow carbon prices are applying across those countries (see Box 12.16).

There is considerable uncertainty about the outcomes of international negotiations. The Government does not want to pre-empt or preclude possible outcomes, and some countries and sectors might move before others. In such circumstances, it is appropriate for the Government to retain flexibility to respond. If industries and countries agree to implement a carbon price for a particular product through a sectoral agreement, the Government will consider whether EITE assistance should be removed from industry based on that agreement.

The Independent Expert Advisory Committee reviewing the EITE assistance program will assess the state of international agreement on carbon constraints at each five-yearly review or at the request of the responsible minister and make recommendations to the Government. For instance if an agreement reached at the UNFCCC meeting in Copenhagen in 2009 was ratified in 2012, then the Minister may wish to request a review of the EITE assistance program based on this agreement. The Government has committed to providing five years' notice before any changes to the EITE assistance program take effect.

Box 12.16: The nature of global carbon constraints that remove the need for EITE assistance

There has been some confusion regarding the nature of a global carbon constraint that would remove the need for EITE assistance. With comparable carbon prices in place, the location of production will not be affected by the carbon regime, and there would therefore be no ground for continuing EITE assistance.

A comparable carbon constraint is not necessarily one that imposes the same economy-wide emissions reduction target. Rather it is one that imposes a broadly comparable carbon cost, whether through the introduction of an explicit price or via a regulation-induced shadow price.

An explicit carbon price may be imposed through:

- emissions trading schemes, either economy-wide or sector-specific
- carbon taxes.

A shadow carbon price could be imposed through the implementation of a range of policies, examples of which include:

- renewable energy targets or mandating the development of low-emissions electricity generation technologies
- mandated minimum energy efficiency standards (for example for industry or buildings)
- transport fuel standards
- vehicle emissions standards.

Box 12.16: The nature of global carbon constraints that remove the need for EITE assistance (continued)

Equivalent effective carbon prices can exist even if quite different absolute levels of emissions reductions have been imposed. For example, a given carbon price may be associated with continued strong growth in emissions in a country with fast population growth compared with a country with slower population growth. Broadly speaking, a comparable carbon constraint will imply similar reductions in emissions from business-as-usual levels across countries, if countries have similar abatement opportunities.

Even a low carbon price, or a carbon price applying to some sectors, in other countries, may mean that the assistance provided to some or all entities conducting EITE activities could be reduced without imposing a competitive disadvantage based on the relative price of carbon. For example, if Australia had a carbon price of \$24 per tonne, and key competitors face a carbon price (either an explicit or shadow carbon price) of \$6 per tonne, then providing assistance at a rate above 75 per cent would over-assist an Australian entity conducting an EITE activity, even before allowing for other factors that may affect competitiveness. Note that the carbon price implied by the NSW Greenhouse Gas Reduction Scheme was around \$6 in June 2008.

This highlights that adjustment to, and the removal of, EITE assistance will not require adoption of equivalent emissions reduction targets in all other countries.

12.7.4 Industry review mechanism

The Government has also decided to include a provision that, once the Scheme has commenced, firms may make representation to the Government to request that the Government commission the Productivity Commission to undertake an assessment of the Scheme impact on their industry. The Government will not necessarily refer all requests to the Commission; it will take into account the nature and details of the request.

The Productivity Commission will make an assessment of this industry's circumstances, taking into account the range of factors unrelated to the Scheme that will also affect the profitability of firms and industries, such as exchange rate movements, capital and labour costs, and commodity price movements. It will assess whether the introduction of the Scheme, including the assistance provided under the EITE and CCAF assistance programs, will substantially adversely affect the industry in which the firm is located within the next five years, result in carbon leakage, and be likely to result in the premature closure of an industry that would be likely to be competitive in a carbon constrained world.

Taking into account all of the above, the Commission will make recommendations to the Government about whether it should provide additional support to this industry from the CCAF, and the appropriate mechanism for that support.

Policy position 12.16

The EITE industry assistance program will be reviewed by an Independent Expert Advisory Committee at each five-year review point, or at another date at the request of the Minister for Climate Change and Water.

The review of the EITE assistance program will be in regard to:

- the review of eligibility assessment for activities (see policy position 12.8)
- whether modifications should be made to the EITE assistance program on the basis of whether it continues to be consistent with the rationale for assistance, is conferring windfall gains on entities conducting activities and is appropriately balancing the competing policy objectives
- whether broadly comparable carbon constraints are applying internationally, at either an industry or economy-wide level, or an international agreement involving Australia and all major emitting economies is concluded, in which case the Committee would make recommendations to Government with regard to the withdrawal of EITE assistance.

Five years' notice will be provided of any modifications to the EITE assistance program, unless the modifications were required for compliance with Australia's international trade obligations.

Once the Scheme has commenced, firms may request that the Government commission the Productivity Commission to undertake an assessment of the Scheme impact on their industry.

If the Government refers a request to the Commission, it will make an assessment of the impact of the introduction of the Scheme on the industry, taking into account the industry's circumstances, including the range of factors unrelated to the Scheme that will affect the profitability of the industry, and the assistance provided under the EITE and CCAF assistance programs.

The Commission will make recommendations to the Government about whether it should provide additional support to the industry from the CCAF, and the appropriate mechanism for that support.

12.8 Governance and Implementation

12.8.1 Governance

The Act and regulations implementing the EITE assistance program will aim to deliver a clear and workable framework for eligible entities to apply for assistance each year and appropriate accountability mechanisms to deal with the relinquishment of permits if an entity ceases production. Through the primary legislation, the Australian Parliament will set out the key boundaries of the EITE assistance program. The regulations will outline the details and mechanics of the program. This framework will provide certainty about the policy for industry and flexibility for the Government to add new activities as they arise.

Policy position 12.17

The establishing Act will set out the legal framework for the EITE assistance program.

The details of the EITE assistance program including the list of EITE activities that would be eligible for assistance, the definitions of these activities, the rates of assistance applying to these activities and the baselines for allocations will be set out in the Scheme regulations with allocation decisions being made by the regulator consistent with the requirements of those regulations.

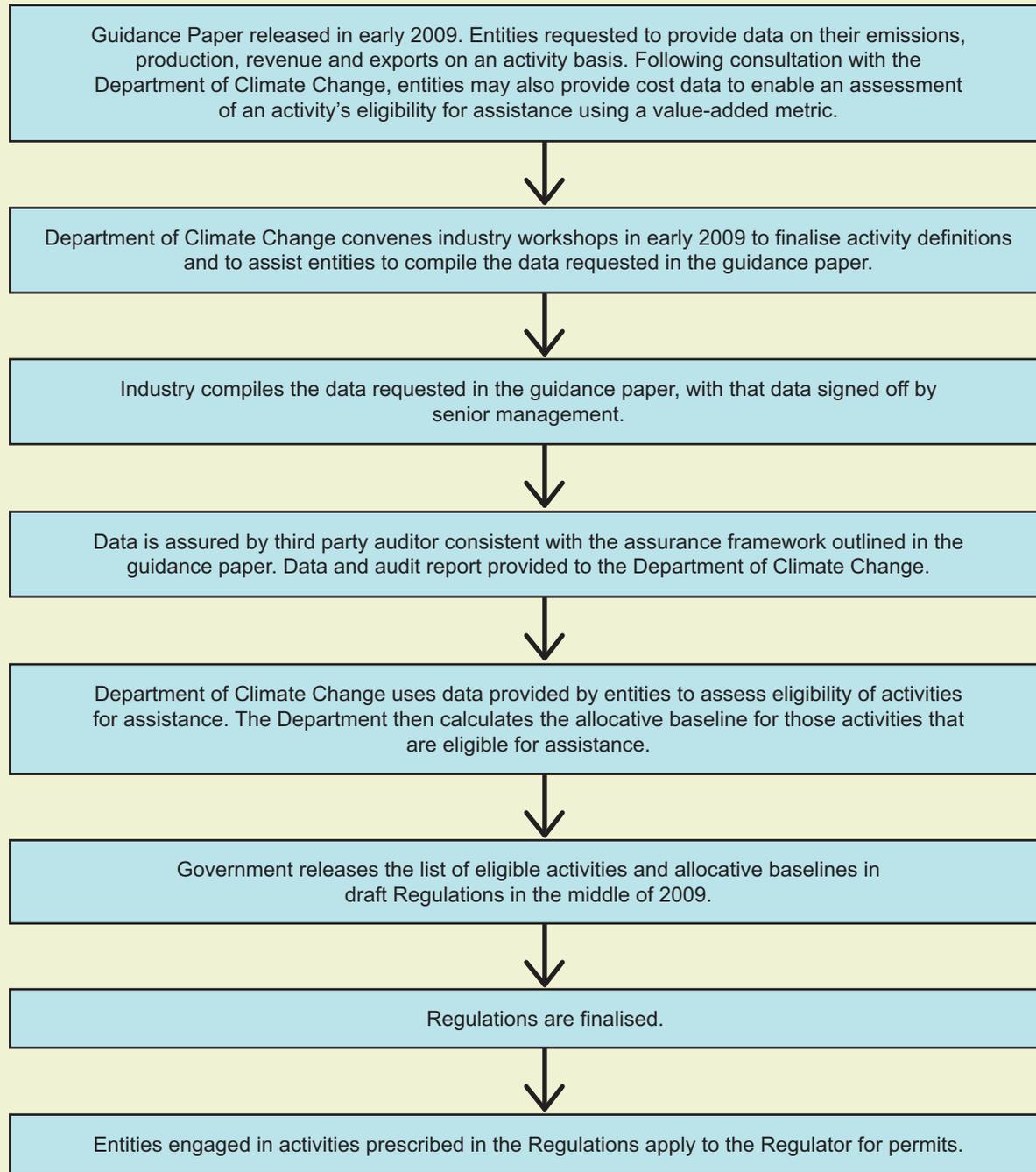
12.8.2 Implementation

This section covers the implementation of EITE assistance arrangements.

In order to provide industry with certainty about their treatment under the EITE assistance program ahead of the commencement of the Scheme, the Government will finalise the EITE assistance program by the middle of 2009. The four key stages to the finalisation of the EITE assistance program and its implementation are:

- data collection
- determination of eligibility and allocative baselines
- provide for calculating the allocation of permits by the regulator
- process for assessing new activities.

Box 12.17: Key steps



Data collection

While the Government has received useful emissions and production data from many different industries, data provided to date have not been calculated in a consistent manner, are not comprehensive and do not relate to the definitions of specific activities. It is also incumbent on the Government to ensure that the data on which it bases permit allocations have been appropriately assured given the value of this assistance.

Therefore the Government will issue a formal call for data from industry. Eligibility and allocative baselines for possible EITE activities will be determined on the basis of that

information. To assist industry to compile the information on a consistent basis, following further consultation with selected industries, the Department of Climate Change will issue a guidance paper at the beginning of 2009, spelling out:

- the specific methodologies to be applied in calculating emissions and economic data for the purpose of assessing EITE eligibility and setting allocative baselines
- the auditing and assurance that the Government will require of the information that is submitted to the Government
- the data that entities who believe they conduct an EITE activity will need to provide to Government and the format in which it is to be presented
- some of the activities that the Government's analysis suggests might be above or around the EITE assistance program eligibility thresholds and the draft definitions for those activities. The draft definitions will set out the key inputs for each activity, the transformation process those inputs undergo and list the outputs that will be used as the basis for allocating assistance. The upstream and downstream boundaries for each activity will be defined and will clearly outline which emissions are able to be included as part of an activity and those that are to be excluded
- the process by which entities undertaking activities that are not explicitly listed in the guidance paper can apply to have their activities considered.

The Government will request that entities which engage in the activities specified in the guidance paper provide data on:

- emissions
 - direct emissions, by activity, for 2006–07 and 2007–08
 - the consumption of electricity and steam, by activity, for 2006–07 and 2007–08
 - the consumption of nominated non-traded emissions-intensive feedstock (that is, natural gas and its components), by activity, for 2006–07 and 2007–08
- revenue
 - by activity, for 2004–05, 2005–06, 2006–07, 2007–08 and the first half of 2008–09
- production
 - by activity, for 2004–05, 2005–06, 2006–07, 2007–08 and the first half of 2008–09
- trade
 - exports by activity, for 2004–05, 2005–06, 2006–07 and 2007–08.

These data are needed to give effect to the trade exposure test and the default metric for assessing emissions intensity using revenue.

Entities will have the option of having the emissions intensity of their activity assessed using a value-added metric rather than a revenue metric. Entities wishing to use a value-added

metric will also need to supply details of the most significant non-labour, non-capital costs, by activity, for 2004–05, 2005–06, 2006–07, 2007–08 and the first half of 2008–09.

The Department of Climate Change will work with entities to conduct an interim assessment on the basis of the revenue metric. In the light of the interim assessment, the Department of Climate Change and individual entities may choose to conduct an assessment using the value-added metric. Therefore, for many entities, it is likely that cost data will not need to be collated, assured and provided to the Government.

The Department of Climate Change will conduct a series of workshops with industries following the release of the guidance paper to finalise activity definitions and boundaries and to facilitate data collection.

It should be noted that the data collection exercise described above will only be required once, and not on an ongoing basis. After an activity has been assessed and its eligibility status and allocative baseline have been established in the regulations, the only data that firms conducting that activity will be required to provide to the regulator will be their annual production data.

Determination of eligibility and allocative baselines

The Government will use the data collected from individual entities to establish the trade exposure and the emissions intensity for each activity averaged across all entities conducting that activity. The emissions per million dollars of revenue or value-added for each activity that is deemed to be trade exposed will be used to determine whether the activity meets a threshold for assistance and which rate of assistance would apply.

For those activities that meet a threshold for assistance, the Government will determine an allocative baseline that will be used to calculate the number of permits to be allocated to an entity conducting the activity. The baseline will take into account the weighted industry average emissions intensity for the activity and international evidence of the emissions intensity of that activity. This is particularly important for activities that are conducted by only one or two entities in Australia, to ensure that they are provided with an appropriate allocative baseline.

Other factors that will affect the determination of allocative baselines are the quantum and quality of data provided. In situations in which there is non compliance or partial compliance, or in which misleading information is provided by entities conducting a particular activity, the Government may either:

- determine the allocative baseline based on the information provided and any relevant international information on emissions intensity

or

- delay making determinations on these matters for the given activity, delaying the listing of the activity in the regulations and potentially the receipt of permits by entities conducting the activity.

The allocative baselines will be included in the draft regulations to be released in the middle of 2009. The same baseline will apply to all existing entities undertaking the activity and any new entities that undertake the activity.

Box 12.18: An illustrative example of the implementation of the EITE assistance program

Vulcan and KRA both provided their emissions, production and revenue data to the Department of Climate Change after the release of the Green Paper. The Department of Climate Change's analysis of the data suggested that 'kryptonite refining' might be an EITE activity, but that the smelting of refined kryptonite is unlikely to satisfy criteria to be an EITE activity

Early in 2009, following release of the guidance paper, Vulcan and KRA collect and audit the required emissions and economic data for the kryptonite refining activity and independently provide these data to the Department of Climate Change.

KRA will provide two sets of data, one for each of its plants. Vulcan will provide only one set of data, but it will have to ensure that its data do not inadvertently capture any emissions or economic revenue from its smelting activity. The data will be need to have been audited in line with the requirements set out in the guidance paper. The Department of Climate Change will then use the data to assess the following factors.

- *The trade exposure of kryptonite refining* as described in Box 12.4.
- *The emissions intensity of kryptonite refining* as described in Box 12.9.
- *The permit allocation for kryptonite refining* as described in Box 12.13.

The results of this assessment will be incorporated into the regulations. The regulations will define the activity of kryptonite refining, the assistance rate for which it is eligible and its allocative baseline. Vulcan and KRA will therefore know the number of permits for which they will be eligible for each tonne of refined kryptonite that they produce, and be able to determine this for the first 10 years of the Scheme unless the review determines that comparable carbon constraints are applying internationally in which case 5 years' notice of any changes in assistance would be provided.

To access the assistance, Vulcan and KRA will need to provide the details of their Registry account and to demonstrate to the regulator at the beginning of 2010–11 and subsequent financial years:

- that they conduct the activity of kryptonite refining as defined in the regulations
- that they are the relevant 'eligible person' for the activity (as discussed in Section 12.6.4)
- the quantity of kryptonite that they refined in the preceding financial year.

The regulator will then confirm that those details are correct and allocate permits according to the permit allocation multiplied by the number of tonnes of refined kryptonite production.

Allocation of permits by the regulator

Legislation will be introduced in the middle of 2009 to establish a regulator that will administer the Scheme. Among other functions, the regulator will be responsible for allocating permits to entities engaged in EITE activities listed in the regulations.

Those entities will need to apply to the regulator for their allocations of permits each year. This will not involve the same level of data collection as in early 2009, because eligibility and allocative baselines will have already been established.

At the start of each financial year, each entity will need to:

- demonstrate to the regulator that it conducts the activity specified in the regulations
- demonstrate to the regulator that it is the relevant eligible person for that activity
- provide details of the level of relevant production specified in the regulations in the preceding financial year. The two exceptions to this requirement will be:
 - in the first year of the Scheme, the average production of the highest two of the preceding three years will be used
 - for new entrants, the regulator will have discretion to determine the first few years' allocations to allow for a 'ramp up' period before capacity production levels are achieved.

Once the regulator is satisfied on these details, it will issue the permits to the entity. The number of permits that it issues to an entity conducting an EITE activity is the allocative baseline for that activity multiplied by the entity's production for the preceding year.

Process for assessing new activities

Activities may be added to the regulations in the following circumstances:

- Entities conducting activities that are new to Australia or have not previously been assessed for EITE assistance, will be able to apply to the Government to have those activities assessed against the eligibility criteria. The assessment will be based on emissions and production data from the same period as used for activities already listed in the regulations, in order to avoid distorting emissions reduction incentives. For production activities, for which there are no historical emissions and production data, the Government will take into account international best-practice emissions performance when assessing eligibility and determining allocative baselines.
- Activities that were assessed as not meeting the eligibility criteria for EITE assistance will also be reassessed, in light of commodity price changes and changes to Scheme coverage, at each review of the EITE assistance program.

In the circumstances that an activity is added to the regulations, allocations of assistance to activities already listed in the regulations would not be affected.

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- 1 R. Garnaut, 2008, *The Garnaut Climate Change Review – Final report*, Cambridge University Press, Melbourne.
 - 2 Department of the Treasury, 2008, *Australia's low pollution future: The economics of climate change mitigation*, Department of the Treasury, Canberra.
 - 3 Australian Competition and Consumer Commission 2008, *Merger guidelines*, Australian Competition and Consumer Commission, Canberra.
 - 4 Australian National Accounts: Input Output Tables, Electronic publication, 2001-02, ABS Cat no. 5209.0.55.001.
 - 5 International Energy Agency, 2008, *Issues behind competitiveness and carbon leakage: Focus on heavy industry*, International Energy Agency, Paris.
 - 6 Sustainability report, 2007, Australian Aluminium Council. Cement Industry Federation Submission 926, page 3.
 - 7 Electricity factors were also estimated for the CPRS -15 scenario to test the robustness of these results to a different carbon price trajectory. These showed broadly similar results. The estimated electricity allocation factors under the CPRS -15 scenario are consistently a little lower than those estimated under the CPRS -5 scenario.
 - 8 Note that the indirect emissions factors for consumption of electricity from the grid are higher than the emissions factors for the generation of electricity due to transmission and distribution losses.
 - 9 Department of Climate Change 2008, *National Greenhouse Accounts (NGA) Factors*, Department of Climate Change, Canberra.
 - 10 Prime Ministerial Task Group on Emissions Trading 2006, *Report of the Task Group on Emissions Trading*, Commonwealth of Australia, Canberra.

13 Assistance to strongly affected industries

This chapter considers the need for assistance for non-trade-exposed industries that are likely to be strongly affected by the introduction of a carbon constraint, and outlines the Government's decisions on the Electricity Sector Adjustment Scheme to help some coal-fired electricity generators transition to the Carbon Pollution Reduction Scheme.

The Green Paper noted that, in addition to emissions-intensive trade-exposed (EITE) industries, some non-trade-exposed industries could be particularly strongly affected by the Scheme. Where competitive pressures may prevent non-trade-exposed industries from passing on the full cost of the Scheme to consumers or other businesses, the Government would consider the need for measures to reduce the impact of the Scheme on such 'strongly affected industries'.

The Green Paper outlined various preferred positions for the design of an Electricity Sector Adjustment Scheme to assist the coal-fired electricity generation sector, which was the only strongly affected industry identified by the Government at that time. However, the Green Paper also stated that the Government would consider assistance measures for other strongly affected industries in light of stakeholder feedback.

This chapter addresses the following issues:

- Section 13.1 considers whether the characteristics of strongly affected industries identified in the Green Paper remain appropriate for the Government's assessments of whether assistance should be provided to particular industries.
- Section 13.2 and Appendix D assesses particular industries against those characteristics, and finds that only coal-fired electricity generators demonstrate all the characteristics of a strongly affected industry.
- Section 13.3 considers a range of assistance measures that could be incorporated in an Electricity Sector Adjustment Scheme for coal-fired electricity generators.
- Section 13.4 outlines in detail the Government's preferred model for the delivery of limited direct assistance through the Electricity Sector Adjustment Scheme.
- Section 13.5 examines policy considerations relevant to the design of the Electricity Sector Adjustment Scheme, including energy security.

13.1 Characteristics of strongly affected industries

The Green Paper proposed that assistance to strongly affected industries be made available only to non-trade-exposed industries, as trade-exposed industries would be eligible for assistance if they undertake EITE activities. From that starting position, the Green Paper

outlined four other characteristics that the Government proposed to use in identifying strongly affected industries that might warrant assistance.

Green Paper position

The characteristics of strongly affected industries are that they must:

- be non-trade-exposed (as entities in trade-exposed industries may be eligible for assistance as EITE industries)
- be emissions-intensive (exceeding the threshold for eligibility proposed for EITE industries)
- include some entities that are emissions-intensive compared to their competitors, such that they cannot pass on carbon costs and could experience significant losses in asset value
- have significant sunk capital costs
- not have significant economically viable abatement opportunities available to them.

Stakeholders made only limited comment on the appropriateness of the five characteristics (the ‘Green Paper characteristics’). However, some stakeholders:

- argued that an inability to pass on carbon costs should be interpreted to include contractual impediments to carbon cost pass-through
- sought to amend the characteristics to reflect the impact of the Scheme on entities or industries that arise in markets they supply, or in markets that supply them.

13.1.1 Contractual impediments to carbon cost pass-through

Where individual entities’ contractual arrangements prevent them from passing through carbon costs to their customers, the impact of the Scheme on those entities is likely to be higher than if those contracts were not in place.

In response to stakeholder comment, the Government has considered the general issue of removing or legislatively altering the effect of such contractual impediments to carbon cost pass-through. As noted in Chapter 15, which considers this matter in detail, for some contracts the extent of pass-through cannot be determined until the contracting parties have assessed the form of the final Scheme legislation.

Nevertheless, it is likely that, for some entities and under some circumstances, contractual impediments to carbon cost pass-through will remain for some time. Some stakeholders argued for transitional assistance as a method of addressing the economic impact of these contractual impediments on particular entities. Those arguments were often put forward in confidential submissions and so are discussed here in general terms.

The Government would face significant difficulties in accurately determining the economic impact of the Scheme on parties to a given contract before those parties have been able to

determine the nature of pass-through that exists in that contract. Furthermore, in many circumstances it will be in the best interests of both parties to a contract to renegotiate the contract to allow full or partial pass-through of carbon costs. The provision of assistance on the basis of an inability to pass-through carbon costs would weaken the incentives to re-negotiate.

For these reasons, the Government is not able to commit to up-front transitional assistance measures for strongly affected industries on the basis of contractual impediments to carbon cost pass-through.

Furthermore, the Government is generally reluctant to intervene in the contractual arrangements of private parties. As noted in Chapter 15, implementing a statutory override of existing contracts to allow for pass-through of carbon costs raises a range of additional policy issues.

Policy position 13.1

Strongly affected industry assistance is not an appropriate measure to address the effect of contractual impediments to carbon cost pass-through.

13.1.2 Transferred impacts from upstream or downstream markets

Stakeholders in the coal mining industry argued that coal mines that are ‘captured’ by an electricity generator (‘captured coal mines’) should be eligible for strongly affected industry assistance because of the potential impact of the Scheme on the generators that those mines supply.

Stakeholders expressing this view included the Australian Coal Association, the Minerals Council of Australia, the New South Wales Minerals Council, Centennial Coal, Xstrata Coal and Wesfarmers Limited.

The Australian Coal Association argued that this assessment should be made independently of the emissions intensity of the coal mine in question and should simply reflect the expected impact of the Scheme on the coal mine:

[S]ome captured mines will be strongly affected *even if they are not emissions intensive*. These are mines selling to a power station that has its economic life truncated by the advent of a price on carbon. The mine thus is impacted by the roll-on effect of the closure of the power station as well as the inability to pass through the costs of the Scheme. Accordingly, the [Australian Coal Association] proposes that emissions intensity not be a determining factor when deciding on provision of compensation to captured coal mines under the Strongly Affected Industry category. (Australian Coal Association, Submission 530, p. 17, emphasis in original)

Some stakeholders in the tourism industry expressed concern that the Scheme’s impact on the aviation industry would flow through to the tourism industry (a conceptually similar argument).

The Green Paper characteristics reflect the general principle that strongly affected industries will be those that face the largest change in asset value because of the Scheme. In most cases,

that change will be driven by an inability to pass on carbon costs because of competitive pressures within the market in which the entity or industry operates.

However, the Government acknowledges that some entities or industries might face impacts from the effect of the Scheme in the market they supply (a 'downstream market', such as the electricity generation industry in relation to the coal supply industry), or a market that supplies them (an 'upstream market', such as aviation in relation to tourism).

In such a circumstance, the effect of the Scheme depends on not only the emissions intensity and demand characteristics of the entity or industry in question, but also those of the relevant upstream or downstream markets.

The extent of these impacts may well vary from industry to industry and entity to entity. The Government does not consider that entities or industries that might be exposed to losses in asset value because of impacts transferred from upstream or downstream markets can be readily identified on the basis of clear characteristics in addition to the Green Paper characteristics. However, such transferred impacts may be relevant to considering the ability of an entity or industry to pass on carbon costs given its specific circumstances.

The specific circumstances of captured coal mines and the tourism industry in relation to upstream and downstream markets are considered in more detail in Appendix D.

The Government considers that the Green Paper characteristics remain appropriate for assessing the assistance industries might need to transition to the Scheme.

Policy position 13.2

The characteristics of strongly affected industries are that they must:

- be non-trade-exposed, as entities in trade-exposed industries may be eligible for assistance as emissions-intensive trade-exposed (EITE) industries
- be emissions-intensive (exceeding the threshold for eligibility proposed for EITE industries)
- include some entities that are emissions-intensive compared to their competitors, such that they cannot pass on carbon costs, and so could experience significant losses in asset value
- have significant sunk capital costs
- not have significant economically viable abatement opportunities available to them.

13.2 Possible strongly affected industries

Green Paper position

Coal-fired electricity generators are likely to be strongly affected by the scheme, based on the characteristics proposed in Section 10.1 of the Green Paper.

The Green Paper considered carefully whether coal-fired electricity generation demonstrated the characteristics of a strongly affected industry, and concluded that this sector is likely to be strongly affected by the Carbon Pollution Reduction Scheme (the Scheme) due to:

- being non-trade-exposed
- being highly emissions-intensive
- facing significant reductions in asset values due to its inability to pass on the costs of the Scheme to consumers in full
- the sunk capital costs associated with investments in this sector
- the lack of significant economically viable abatement opportunities for coal-fired generators.

Very few submissions argued that coal-fired electricity generators did not satisfy the Green Paper characteristics.

However, a number of submissions from non-government organisations and private citizens reflected concerns about the Government's proposal to provide assistance to coal-fired electricity generation as a strongly affected industry. In particular, many submissions were opposed to the proposal to provide limited direct assistance to entities in this sector. However,

many submissions also supported alternative forms of assistance to the sector, such as assistance to develop low-emissions electricity generation technologies.

The Government maintains the view that coal-fired electricity generators satisfy the Green Paper characteristics, and so should receive some form of assistance.

Sections 13.3, 13.4 and 13.5 consider the appropriate form of assistance to coal-fired electricity generators in further detail.

Policy position 13.3

Coal-fired electricity generation has the characteristics of a strongly affected industry, and the Government will consider appropriate assistance measures for that industry.

The Green Paper also considered the circumstances of the waste, natural gas production and gas supply industries as potential strongly affected industries.

Various stakeholders argued that additional entities or industries fitted the Green Paper characteristics in submissions. Many of those arguments were made in confidential submissions, and have been considered by the Government in its decision making on the final policy positions in this White Paper.

Appendix D considers the arguments made for providing strongly affected industry assistance to:

- gas-fired and diesel-fired electricity generators
- pumped storage hydro-electric generators
- ‘captured’ coal mines
- gas transmission pipelines
- landfill waste and wastewater facilities
- landfill gas electricity generators
- the aviation and tourism industries
- the community services sector
- Government administration
- public transport.

The Government does not consider that these industries satisfy the characteristics of a strongly affected industry but does recognise that, in some cases, other forms of assistance may be appropriate to reflect their particular circumstances.

Policy position 13.4

Industries other than coal-fired electricity generation do not have the characteristics of strongly affected industries.

13.3 The Electricity Sector Adjustment Scheme

The Green Paper identified the coal-fired electricity generation sector as a strongly affected industry. On that basis, the Government proposed that measures be considered to assist the transition of that sector and the workers and communities dependent on it. The Green Paper outlined support through a new fund called the Electricity Sector Adjustment Scheme (ESAS).

The Green Paper identified three potential elements of support under ESAS:

- support for the development and deployment of carbon capture and storage (CCS) technologies, including through existing CCS support programs
- commitments to address particular impacts of the Scheme on workers, communities and regions through various structural adjustment assistance packages, as required
- direct assistance to coal-fired generators.

In light of the Government's policy position 13.3 above, the content and design of these three possible elements are considered below.

13.3.1 Assistance for carbon capture and storage technologies

Green Paper position

The Australian Government has made significant contributions to the commercial deployment of CCS technologies. Those contributions, and any further support, should recognise the technical and institutional hurdles to be overcome, and reflect Australia's significant domestic and international interests in the development of the technologies.

The Government's contributions to the development and deployment of CCS technology reflect the technology's importance in meeting Australia's target of a 60 per cent reduction in emissions from 2000 levels by 2050.

CCS offers the potential to significantly reduce global greenhouse gas emissions, particularly from coal-fired power generation. As a result of its high reliance on coal to generate electricity, and its position as a major coal exporter, Australia has a vital interest in the successful commercialisation of CCS as part of the domestic and global response to climate change.

The Government recognises that ongoing support will be needed to drive the development and deployment of CCS technology internationally. In September 2008, the Government announced the Global Carbon Capture and Storage Initiative and a proposal to contribute up

to \$100 million per year to a new Global CCS Institute. The Government is also supporting a range of CCS-related projects with key international partners, including China, through the Asia–Pacific Partnership on Clean Development and Climate.

The Government has also established the National Low Emissions Coal Initiative (NLECI) to accelerate the development and deployment of low-emissions coal technologies, including CCS, in Australia. The NLECI will provide a range of research programs and some medium-scale demonstration projects, and facilitate the location of carbon dioxide storage sites and the provision of transport infrastructure.

The Australian Government is providing \$500 million over eight years to support the NLECI through the National Low Emissions Coal Fund. In July 2008, the Government announced the formation of the National Low Emissions Coal Council and the Carbon Storage Taskforce to provide expert guidance and advice on the development and implementation of the NLECI.

Furthermore, the Government is enabling offshore CCS projects through the development of a legislative framework. The *Offshore Petroleum Amendment (Greenhouse Gas Storage) Act 2008* was passed through the Australian Parliament in late 2008 and establishes a new range of offshore titles providing for the transport by pipeline of carbon dioxide and potentially other greenhouse gases, and their injection into and storage in geological formations. This legislation makes Australia one of the first countries to establish a comprehensive regulated CCS regime.

The Government recognises that assistance for low-emissions technology, including CCS, will be most effective when delivered through targeted and specific programs to address particular technical or institutional hurdles to the technology. Therefore, assistance to CCS technologies will be best delivered through the NLECI and as part of the Global Carbon Capture and Storage Initiative. Additional assistance delivered separately through ESAS would most likely overlap with these existing programs, potentially reducing their effectiveness. That said, success with CCS would be an important contribution to enhancing the viability of electricity generation and coal-based sectors of the economy.

Policy position 13.5

Australian Government assistance for carbon capture and storage technologies will be delivered through existing programs, such as the National Low Emissions Coal Initiative and the Global Carbon Capture and Storage Initiative.

13.3.2 Assistance to workers, communities and regions

Green Paper position

The Government would address particular impacts of the Scheme on workers, communities and regions. Assistance would:

- take into account the existence of generally applied measures that assist structural adjustment in all sectors (such as social security and employment policies)
- be provided where a clear and sizeable burden has been, or is highly likely to be, imposed on an identifiable segment of the community
- be designed to assist the adjustment of workers, communities and regions to their new circumstances, rather than to prevent or hinder that adjustment
- apply, as necessary, regardless of whether an affected industry has received support as a strongly affected or EITE industry.

The Green Paper noted that the Scheme will affect some industries more than others. Because some regions rely heavily on particular industries, the impact on regions will also vary. In a region where employment is dominated by an industry facing a significant burden from structural change under the Scheme, there may be a need for assistance for workers, communities in that region, or the region as a whole.

In the Green Paper, the Government identified that regions that have coal-fired electricity generation as a major employer might need assistance to adjust to a low-emissions economy. It will take some time to determine the commercial viability of CCS technologies. In the interim, imposing a carbon constraint may affect the sector, with implications for the workers, communities and regions that depend on it.

Regions other than those that depend on the coal-fired electricity generation sector could also face challenges. To assist the transition, the Government proposed to establish the Climate Change Action Fund, and indicated that the Fund would include support on an ‘as needed’ basis for particular workers, regions and communities outside the coal-fired electricity generation sector.

The Government recognises the importance of not duplicating measures to assist structural adjustment within regions and across industries. There is the real risk that structural adjustment assistance delivered through ESAS could overlap with similar assistance provided through the Climate Change Action Fund.

For example, regions such as the Latrobe Valley and the Hunter Valley include both significant coal-fired electricity generation industries and a number of other emissions-intensive industries.

The Government considers that any structural adjustment assistance provided to workers, communities and regions, whether they are dependent on the coal-fired electricity generation industry or on other industries that may be affected by the Scheme, should be delivered in a consistent way.

The Climate Change Action Fund is better tailored to deliver structural adjustment assistance, where required, to workers, communities and regions that face a particular adjustment burden under the Scheme. Therefore, similar assistance measures for regions dependent on the coal-fired electricity generation sector will not be delivered through ESAS, but will be available under the Climate Change Action Fund.

Policy position 13.6

Structural adjustment assistance for regions dependent on the coal-fired electricity generation sector will be provided, if required, through the structural adjustment provision of the Climate Change Action Fund, and so will be consistent with other structural adjustment assistance measures for workers, communities and regions.

While the precise impact of the Scheme on individual regions cannot be easily determined in advance, the Government has considered whether the Scheme would be likely to cause significant structural changes for regions with a high dependence on coal-fired electricity generation.

In particular, the Government has commissioned modelling of Australia's major wholesale electricity markets undertaken by McLennan Magasanik Associates (MMA), ACIL Tasman and ROAM Consulting to assess the potential impact of the Scheme on the electricity generation sector. In turn, this modelling can illustrate potential impact of the Scheme on regions that are dependent on this sector. The results of this modelling exercise are outlined in more detail in Section 13.4.2 below.

The modelling indicates that, while the pattern of impacts on individual coal-fired electricity generators is uncertain, the transition of the sector as a whole is likely to be manageable.

Whilst emissions-intensive generators may lose profitability, only a minority of generators are likely to face marked reductions in generation volume. In addition, coal-fired generators are often well situated in respect to electricity transmission and gas supply infrastructure, making those locations ideal for new generation investments. Consequently, regions that currently have a high level of electricity generation are well placed to enjoy continuing employment in the sector.

In the longer term, the pattern of closures in the coal-fired electricity generation sector is likely to be greatly affected by technological developments, including in CCS. The Government is committed to ensuring that the development of those technologies will contribute to a strong economic future for regions dependent on coal-fired electricity generation.

Although the modelling suggests a manageable transition in this sector, some submissions to the Green Paper raised some concerns. Submissions from the Victorian Government, the Gippsland Local Government Network and Monash University identified Gippsland, and specifically the Latrobe Valley, as a region where impacts from the introduction of the Scheme might be concentrated.

The Gippsland Local Government Network argued for transitional assistance for workers and communities in Gippsland because the effects of economic adjustment in the region may be exacerbated by a lack of alternative markets for brown coal, the relatively lower

socioeconomic status of segments of Gippsland’s population, and the relatively older coal-mining and electricity generation workforce. However, it acknowledged the potential for government assistance in the development and deployment of clean coal technologies to allow generators using brown coal to maintain market share (Submission 226).

The Victorian Government noted that economic modelling had indicated that the Latrobe Valley is likely to be the most strongly affected region in Australia. It proposed that transitional assistance be tailored to the adjustment needs of the affected group on the basis of an in-depth analysis into the regional impacts and opportunities of the Scheme. The Victorian Government also argued that assistance should be delivered proactively and be integrated with long-term regional planning (Submission 780).

The Australian Government is aware of stakeholder concerns in relation to particular regions, and stands ready to provide assistance through the Climate Change Action Fund to any region where a clear, identifiable and significant impact arises, or is highly likely to arise, as a direct result of the Scheme. As outlined in Chapter 18, the Government has committed \$200 million of provisional assistance for this purpose.

13.3.3 Limited direct assistance for coal-fired electricity generators

Green Paper position

To ameliorate the risk of adversely affecting the investment environment, the Government proposes to provide a limited amount of direct assistance to existing coal-fired electricity generators.

The assessment that coal-fired electricity generators have the characteristics of a strongly affected industry does not, of itself, justify direct assistance to those generators to partially offset potential losses in asset value.

Other forms of assistance are available and may be appropriate in the sector. As noted above, assistance could be provided in the form of funding for the development and deployment of CCS or other clean coal technologies, or could be directed to workers, communities and regions affected by changes in patterns of activity in the sector.

The Green Paper outlined the Government’s preferred position that direct assistance to coal-fired electricity generators was warranted in addition to those other forms of assistance.

In the Green Paper, the Government argued that providing limited direct assistance could reduce the impact of the Scheme on assessments of the risk of investing in the sector. To the extent that the Scheme may cause large and unanticipated losses of asset value for some coal-fired electricity generators, a failure of the Government to partially offset those impacts may cause investors to assess the risk of future regulatory changes more pessimistically. Such assessment of risk can have economic consequences, as new investments would require a return sufficient to cover the increased risk premium required by investors.

The Government concluded that providing direct assistance to the most adversely impacted asset owners reduces the likelihood that the Scheme would increase assessments of the risk of investing in the Australian electricity generation sector. In this way, assistance supports the

ability of the electricity generation industry to deliver lower-emissions technologies while continuing to meet Australia's growing electricity demand.

Stakeholders in the energy industry broadly supported the provision of assistance and the rationale for assistance. For example, the National Generators Forum argued that:

For international power generation investors the loss of profitability, and potential stranding of generation assets, unless adequately compensated via scheme design, will change their assessment of regulatory risk in Australia, with flow on impacts on future investment decisions in Australia ... Perceptions in the investment community about the threat of fundamental change in the key scheme parameters that damages the value of past investments will add to the cost of new projects. (Submission 766, p. 18)

However, outside the electricity generation industry, there was little support for providing direct assistance to address the effect on the investment environment in the Australian electricity generation sector. For example:

Investors that have made long-term investments on the assumption that the future will not bring carbon pricing have simply made a poor subjective risk judgement. (Total Environment Centre, Submission 542, p. 4)

The Government notes a range of stakeholder views on the extent to which the generators should have foreseen the likelihood of the introduction of a carbon constraint over the life of their assets. Whilst the extent to which the introduction of a carbon constraint should have been foreseen by investors cannot be clearly determined, it is relevant to the Government's consideration of the form and extent of assistance provided to address the impact the Scheme will have on perceptions of investment risk.

The Green Paper also considered the merits of providing direct assistance to coal-fired generators on the grounds of improving energy security. While the Government recognised that there are incidental benefits to energy security from limited direct assistance, such as improving the prospects of future investments and mitigating the effects of reduced creditworthiness for generators, it concluded that limited direct assistance is likely to play a small role in maintaining energy security compared to the Government's choice of medium-term target range for emissions reductions.

Some electricity generation stakeholders argued that the Government underestimated the energy security benefits of direct assistance in the Green Paper. For example, Babcock & Brown Power argued that:

there are other strong policy arguments in favour of adjustment assistance [to generators] beyond investment risk. Investment risk necessarily leads to issues with supply reliability or excessive costs to consumers. (Submission 488, p. 7)

The Government remains unconvinced that increasing the quantum of direct assistance above that provided in light of concerns about the risk of the Scheme adversely affecting the investment environment would provide a material or cost-effective benefit to energy security. Section 13.5 considers energy security issues in detail.

On balance, the Government considers that the Green Paper proposal to provide limited direct assistance to coal-fired electricity generators remains appropriate to ameliorate the risk of adversely affecting the investment environment in the Australian electricity generation sector.

Policy position 13.7

The Government will provide limited direct assistance to coal-fired electricity generators through the Electricity Sector Adjustment Scheme (ESAS) to ameliorate the risk of adversely affecting the investment environment in the Australian electricity generation sector.

13.4 Direct assistance to coal-fired electricity generators

13.4.1 Considerations in providing limited direct assistance

Asset value impacts

To ameliorate the impact of the Scheme on the investment environment in the Australian electricity generation sector, the quantum and allocation of assistance should reflect the likely pattern and extent of asset value impacts on coal-fired electricity generators, as it is these impacts that can primarily affect perceptions of investment risk in this sector.

The Government considers that perceptions of the risk of investing in the sector are most likely to be affected by the extent of extreme losses in asset value, rather than by the average level of loss across the sector. In this light, the Green Paper proposed assistance to ‘partially ameliorate the most acute impacts of the Scheme’ on electricity generators.

The Energy Supply Association of Australia, the National Generators Forum of Australia, the Energy Retailers Association of Australia and the Australian Pipeline Industry Association argued, in a similar vein, that:

it will be the scale and sum of individual asset losses, rather than the average loss across the sector, which will affect the risk attached to future investment, especially as individual asset losses reflects ownership and financing structure. (Submission 715, p. 26)

To assess the likely pattern and extent of impacts of the Scheme on coal-fired electricity generators, the Government commissioned three detailed models to examine how Australia’s major wholesale electricity markets, the National Electricity Market (NEM) and Western Australia’s Wholesale Electricity Market (WEM), would respond to the Scheme. This modelling was undertaken by MMA (as part of the Treasury modelling in *Australia’s low pollution future*), ACIL Tasman and ROAM Consulting. Reports outlining the results of these modelling exercises will be made available on the Department of Climate Change website.

The asset value impacts of the Scheme on coal-fired electricity generators suggested by the modelling are outlined in more detail in Section 13.4.2.

Other recipients of assistance

While modelling results provided some guidance for decisions on the final design of ESAS, the Government also kept in mind competing policy priorities, such as the need to provide assistance to low-income households and entities that undertake EITE activities to adapt to the Scheme.

As discussed further below, modelling results are only indicative. The Government's final policy decisions reflect a judgement based on: modelling results; broader analysis of the sector; and consideration of competing Budget priorities across the community.

Chapter 12 and Chapter 17 outline the Government's policy decisions on assistance to EITE entities and industries, and to households, respectively.

Mitigating factors for coal-fired electricity generators

As noted in the Green Paper, investors in the electricity generation sector who have diversified their generation portfolio may offset some of the losses experienced by coal-fired electricity generation assets with gains to other lower emissions generation assets.

More broadly, individual or institutional investors may have portfolios of investments beyond the energy sector that provide revenue streams that are unaffected or increased by the Scheme.

Furthermore, coal-fired electricity generators may be able to increase the effective value of tax benefits for depreciation of capital assets by bringing forward the timing of those benefits in response to a reduction in the value of the assets.

13.4.2 Impacts on generators

Modelling of wholesale electricity markets is very sensitive to assumptions; that is, small changes in key assumptions can lead to significant changes in modelling results. In the Green Paper, the Government stated that it would treat the outputs of modelling as one input among many in determining an appropriate quantum of assistance.

Modelling results are particularly sensitive at the level of analysing potential impacts of the Scheme on individual generators. For this reason, the Government has analysed modelling results with a view to understanding the broad pattern of asset value impacts across the generation sector, rather than attempting to discern a precise estimate of the likely asset value change experienced by generators individually.

Uncertainties surrounding likely changes in the value of individual generation assets increase further over long time periods. Uncertainties about technological developments, fuel prices, demand trends, transmission interconnection and market structure led the Government to primarily consider modelled changes in the value of individual assets over the first decade of the Scheme (that is, the period to 1 July 2020) when discerning broad patterns of impacts across the sector.

Despite these uncertainties, modelling has suggested some broad patterns of impacts on coal-fired electricity generators that can usefully help inform both the quantum and the allocation of limited direct assistance through ESAS.

Sensitivity to modelled carbon prices

The cost of the Scheme faced by an individual generator is a function of its emissions intensity and the carbon price. The general level of carbon prices and the capacity to pass these through, will materially influence asset values in the electricity generation sector.

The indicative national emissions trajectory associated with the Government's choice of medium-term national target range for emissions will be a key input for assessing the likely impact of the Scheme on electricity generators. Chapter 4 outlines the Government's decisions in relation to the indicative national emissions trajectory and the medium-term national target range.

Accordingly, the Government's wholesale electricity market modelling incorporated carbon prices derived from the Treasury modelling for two different policy scenarios:

- 'CPRS -5', involving a 5 per cent reduction in emissions on 2000 levels by 2020
- 'CPRS -15', involving a 15 per cent reduction.

However, in a system with full international linking, the emissions reduction trajectory does not directly determine the domestic carbon price. The Scheme does not require that abatement be achieved in Australia, but allows abatement to occur in other countries where cheaper abatement options are available internationally. Accordingly, policy settings on the extent of international linking (Chapter 11) will also have a material impact on the carbon prices expected under the Scheme.

Similarly, Scheme policy settings on the banking and borrowing of permits and the price cap (Chapter 8) will affect carbon prices, and therefore the impact on asset values in the electricity generation sector.

As expected, modelling results indicate that higher carbon prices drive greater abatement within the Australian electricity generation sector and generally greater asset value impacts on coal-fired electricity generators.

The Government's analysis considers primarily the pattern of results modelled on the basis of the lower carbon price trajectory (the CPRS -5 scenario), but modelled results using a higher carbon price trajectory indicate that asset value impacts are broadly correlated with the carbon price.

To the extent that carbon prices vary materially from those assumed in the Government's modelling, assistance in the form of administrative allocations of permits can manage the risk for recipients as the value of those permits, and therefore of the assistance, would vary in line with the price. (Section 13.4.5 outlines the Government's decision that assistance in the form of administrative allocations of permits is preferable to cash transfers.)

It is possible that at significantly higher carbon prices, impacts within the coal-fired electricity generation sector will change such that this correlation breaks down and the provision of assistance in the form of permits would not satisfactorily deal with variations in carbon prices. For example, extreme carbon prices could change the relative cost of different generation technologies such that the technical and economic operation of electricity markets changes dramatically. However, the Government's choice of medium-term target range is moderate,

making extreme price outcomes unlikely. Other Scheme design elements in relation to international linking, banking and borrowing and the price cap further act to moderate carbon prices and smooth them over time.

Impact of the expanded national Renewable Energy Target

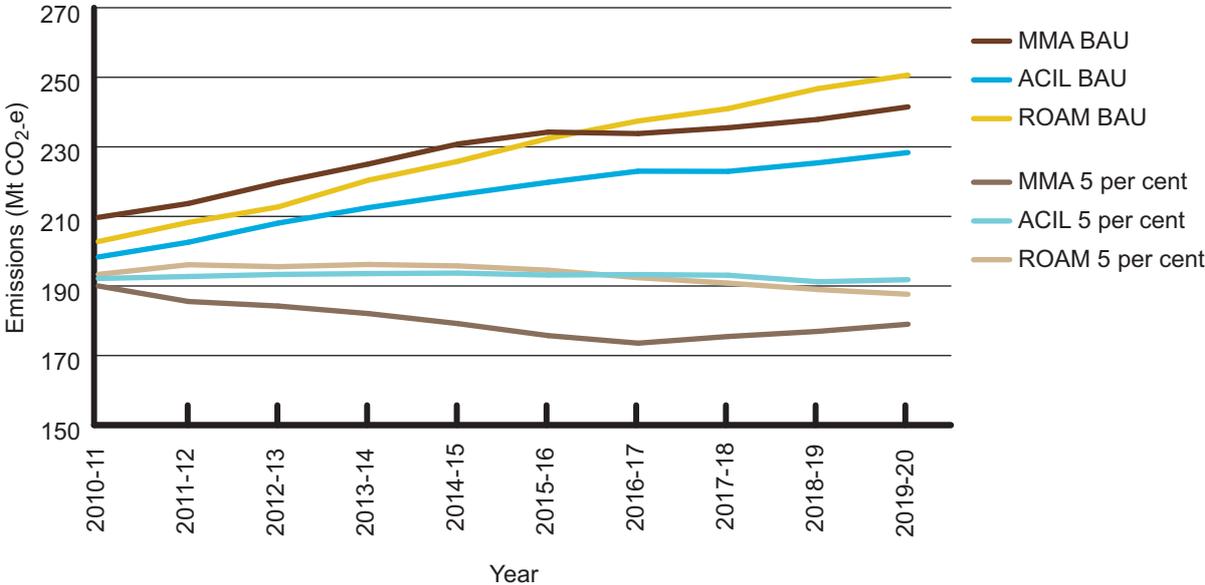
The modelling incorporates the effect of the expanded national Renewable Energy Target, as well as the effect of the Scheme, on the wholesale electricity market by excluding both policies from the modelled ‘business-as-usual’ reference case, and then including both policies in subsequent modelling runs. While the Government is not delivering assistance to recognise the impact of the expanded Renewable Energy Target on coal-fired electricity generators, it is worth noting that the modelling captured the effects of both policy initiatives in combination.

Emissions reductions

In both policy scenarios, the modelling indicates that the abatement required from the Australian electricity generation sector is significant, but achievable.

While modelling indicates that the Scheme will drive significant abatement in this sector compared to the expected growth in emissions under business-as-usual, emissions do not reduce significantly below current levels over the first decade of the Scheme (see Figure 13.1). Modelling suggests that the primary impact of the Scheme is to reduce the emissions intensity of new investment in the sector, rather than to dramatically change the mode of operation of most existing generation assets.

Figure 13.1: Electricity sector emissions



Source: Australian Government analysis of modelling commissioned from MMA, ACIL Tasman and ROAM Consulting.

Generation volume

The modelling indicates that, while some of Australia's 30 major coal-fired electricity generators are exposed to material losses of generation volume over the first decade of the Scheme, the majority maintain their market share.

Table 13.1 outlines the number of coal-fired generators that lose more than 25 per cent of their cumulative generation volume over the first decade of the Scheme when compared to modelled business-as-usual generation.

Table 13.1: Modelled loss of generation volume

Scenario	McLennan Magasanik Associates	ACIL Tasman	ROAM Consulting
CPRS -5	Three brown coal generators	One brown coal generator	One brown coal generator
	Six black coal generators	Two black coal generators	Three black coal generators
CPRS -15	Four brown coal generators	Three brown coal generators	Two brown coal generators
	Six black coal generators	Five black coal generators	Three black coal generators

Source: Australian Government estimates based on modelling commissioned from MMA, ACIL Tasman and ROAM Consulting.

In particular, it is primarily the most emissions-intensive coal-fired electricity generators, that is, brown coal generators and relatively emissions-intensive black coal generators, that are exposed to losses of generation volume.

Modelling also suggests that relatively few generators exit the market in their entirety, although, as noted above, some do reduce their overall generation volume. ROAM Consulting's analysis suggests no generators will exit the market in their entirety prior to 2020, other than those that are already expected to close under business-as-usual.

Whilst MMA and ACIL Tasman analysis do suggest some retirement of power stations or generating units that were not expected to retire under business-as-usual, the extent of this is limited. Under both the CPRS -5 and CPRS -15 scenarios, MMA suggests that only one generator will retire in its entirety due to the Scheme prior to 2020. ACIL Tasman suggests that only two brown coal generators and one black coal generator will retire in their entirety under the CPRS -5 scenario. However, ACIL Tasman modelling suggests that the Scheme will cause three brown coal and four black coal generators to retire in their entirety under the CPRS -15 scenario.

While these conclusions are sensitive to assumptions about the level of growth in demand for electricity, the rate of growth in electricity demand assumed in the policy scenarios used in the modelling is at the lower end of market predictions of demand growth, and so may overestimate the extent of likely losses of generation volume. For example, the National Electricity Market Management Company's 2008 'Statement of Opportunities' considers the impact of the Scheme on the NEM but projects that the total amount of electricity that must be generated to meet demand will continue to grow between 1.0 per cent and 3.4 per cent per year over the period to 2017–18¹.

Electricity prices

The Government's wholesale electricity market modelling shows significant variability in the extent to which carbon costs incurred by electricity generators under the Scheme translate into general increases in the level of electricity prices (the rate of 'carbon cost pass-through'). The

rate of carbon cost pass-through varies both between models and within models between states.

For example, ACIL Tasman shows a low rate of carbon cost pass-through in the NEM region of Queensland under the CPRS -5 scenario, while MMA and ROAM Consulting suggests a strong rate of pass-through in that region. MMA modelling suggests a very strong rate of carbon cost pass-through in the NEM regions of New South Wales and South Australia, while ROAM Consulting and ACIL Tasman show significantly lower rates in those regions. Conversely, MMA modelling suggests a lower rate of pass-through in the Western Australian WEM than ACIL Tasman and ROAM Consulting. Rates of carbon cost pass-through are broadly similar in the Victorian region in all three models.

Table 12.2 (Chapter 12) outlines the rate of carbon cost pass-through resulting from different models in different NEM regions and the WEM over the first decade of the Scheme.

Asset value impacts

Given that less emissions-intensive coal-fired electricity generators generally retain significant quantities of generation volume under the Scheme, the extent of carbon cost pass-through that occurs in the wholesale electricity market will have a large bearing on the impact of the Scheme on those generators' asset values. The impact is a function of the difference between a generator's individual emissions intensity (which determines the increase in costs it faces under the Scheme) and the rate of carbon cost pass-through it experiences in the market.

In combination, the difference between a generator's cost increase and the general price increase due to carbon cost pass-through determines how much asset value it loses due to 'margin compression', that is, due to earning a reduced margin on each unit of electricity it produces. Where generators lose generation volume they may face reductions in asset value beyond those due to margin compression.

Modelling results indicate the potential for significant variation in carbon cost pass-through, both between the three models employed and between different locations in any given model. Accordingly, the extent of expected changes in asset value varies significantly across the three models. Within any given model, the variation in the rate of carbon cost pass-through in different locations and in the emissions intensity of different generators creates significant variation in the impact of the Scheme on different generators.

Table 13.2 illustrates the variability in changes in asset value by outlining the absolute changes in asset value suggested by the three models over the first decade of the Scheme under the CPRS -5 scenario. Changes in asset value are discounted back to present values and are presented in millions of real 2008-09 dollars. Results are broken down into broad 'brown coal' and 'black coal' categorisations, with assets in the brown coal sector being located in Victoria and South Australia, and assets in the black coal sector being located in New South Wales, Queensland and Western Australia.

The Government notes that these results are driven by the assumptions in each model, and that actual asset losses would need to be determined by taking into account the individual circumstances of each generator. Changes in asset value can vary significantly due to uncertainty in both modelled business-as-usual asset values and asset values under the policy

scenarios, and so should be regarded as indicative only. Accordingly, individual assets are not named, but are separated to distinguish brown coal and black coal generators and ranked broadly in each asset class in order of decreasing asset value loss. Gains in asset value are expressed as positive numbers.

Table 13.2: Modelled changes in asset value

Generator	MMA (\$m)	ACIL Tasman (\$m)	ROAM Consulting (\$m)
Brown Coal 1	-901	-1185	-1168
Brown Coal 2	-620	-949	-989
Brown Coal 3	-321	-1183	-939
Brown Coal 4	-137	-643	-403
Brown Coal 5	-127	-305	-407
Brown Coal 6	-61	-127	-103
Brown Coal 7	-47	-93	-86
Brown Coal 8	-130	-67	-5
Brown Coal sub-total*	-2,344	-4,552	-4,100
Black Coal 1	-250	-466	-773
Black Coal 2	155	-662	-265
Black Coal 3	-15	-657	-88
Black Coal 4	183	-746	-175
Black Coal 5	-12	-376	-106
Black Coal 6	-63	-346	-77
Black Coal 7	-206	-144	-129
Black Coal 8	794	-338	-907
Black Coal 9	15	-390	-50
Black Coal 10	65	-146	-342
Black Coal 11	923	-414	-915
Black Coal 12	-37	-286	-46
Black Coal 13	-181	-108	-50
Black Coal 14	-62	-154	-108
Black Coal 15	-36	-146	-89
Black Coal 16	306	-163	-393
Black Coal 17	-2	37	-209
Black Coal 18	20	-87	-50
Black Coal 19	4	-162	49
Black Coal 20	26	-57	-76
Black Coal 21	15	0	-67
Black Coal 22	553	-144	-389
Black Coal sub-total*	2,197	-5,954	-5,258

Source: Australian Government estimates based on modelling commissioned from MMA, ACIL Tasman and ROAM Consulting.
* Sub-totals may not equal the sum of individual asset value changes due to rounding.

The table above shows that, while all brown coal generators lose asset value across all models, only nine of 22 black coal generators do so.

Of those black coal assets that are expected to lose more than \$300 million in asset values under the ACIL Tasman modelling (Black Coal 1, 2, 3, 4, 5, 6, 8, 9 and 11), only three also lose more than \$300 million in either of the two other models (Black Coal 1, 8 and 11). Whilst asset value impacts for these assets are large in absolute terms due to the absolute size of these assets, these same assets may also enjoy significant increases in asset value in circumstances of strong carbon cost pass-through (such as for Black Coal 8 and 11).

There is significant uncertainty as to the asset value impacts of the Scheme on black coal assets in absolute terms. Relative asset value losses, that is, the percentage change in asset value from an asset's business-as-usual value, also shows significant variation, particularly for small generators.

Conversely, the modelling consistently suggests losses of asset value for brown coal assets, reflecting their relative emissions intensity.

13.4.3 Quantum of assistance

The Government has considered the broad pattern of modelling results when deciding the quantum of assistance to be delivered through ESAS and the allocation of that assistance.

However, the significant variability in modelled asset value impacts between states, and particularly at the level of individual assets, means that the Government has proceeded cautiously in calibrating an assistance package. In particular, the Government is mindful that attempting to calibrate assistance to individual generators in a way that closely matches upper estimates of modelled loss estimates brings a significant risk of delivering windfall gains to those generators and is inconsistent with its commitment to a limited amount of direct assistance.

It should also be noted that the estimates in all the models is implicitly based on the assumption that the introduction of a carbon constraint was not foreseen by investors. The models calculate the difference in economic returns between a market without a carbon constraint and with the Scheme. If the introduction of a carbon constraint was, or should have been, foreseen at the time of making a particular investment, then the price paid for the asset should reflect this possibility. In that event, the modelled loss estimates represent an over-estimate of the real economic loss experienced by the investor.

If coal-fired electricity generators achieve a high rate of carbon cost pass-through, much of the loss suggested by some models will not eventuate. Significant uncertainty in the rate of pass-through between models and states indicates that a large portion of the upper estimates of modelled losses is also uncertain.

Alternatively, if the rate of pass-through in particular states or throughout Australia's wholesale electricity markets is low, asset value losses for those generators will be correspondingly larger in aggregate and more widely spread, with a greater number of assets experiencing some loss in value. However, in this circumstance, whilst the overall level of loss is significantly larger in absolute terms, the losses experienced by the majority of generators are not necessarily large in percentage terms. Addressing such diffuse and

uncertain losses through direct assistance is unlikely to be effective in achieving the Government's policy objectives.

Conversely, even where carbon cost pass-through is estimated to be high, it appears that particular emissions-intensive assets are still exposed to significant losses of value.

Given these uncertainties, the Government has designed an assistance package that seeks to partially offset the most extreme losses in asset value, rather than attempting to precisely offset all modelled losses in value. The Government is targeting a quantum of assistance that is sufficient to offset a large portion of the most extreme losses in asset value suggested by the modelling for the CPRS -5 scenario.

The quantum of assistance when delivered through an administrative allocation of permits will vary in line with actual permit prices (see Section 13.4.5). Actual permit prices may vary for a number of reasons, including due to Government decisions on the level of Scheme caps consistent with the medium-term target range.

The Government has determined that ESAS will deliver limited direct assistance through the administrative allocation of a fixed quantity of permits (see Section 13.4.6). This fixed quantity of permits would deliver assistance valued at around \$3.9 billion in nominal terms or \$3.5 billion in 2008–09 dollars, based on carbon prices estimated under the CPRS -5 scenario. The assistance, when delivered as outlined below, should be sufficient to achieve the Government's policy objectives by significantly offsetting the most probable and most extreme asset value impacts of the Scheme.

Policy position 13.8

The Government will deliver limited direct assistance through the administrative allocation of a fixed quantity of permits valued at around \$3.9 billion in nominal terms, or \$3.5 billion in 2008–09 dollars.

13.4.4 Allocation of assistance

Green Paper position

Direct assistance for coal-fired electricity generators would be allocated to individual recipients using a simple asset-by-asset method that involves:

- the available assistance being split into separate pools, with one pool being made available to brown coal-fired assets and the other to black coal-fired assets
- assistance in each pool being allocated to individual assets in direct proportion to the capacity of each asset.

The allocation of assistance should reflect the likely pattern and extent of asset value impacts on coal-fired electricity generators, as it is mainly those impacts that can affect perceptions of investment risk in the sector. Such an approach will also minimise the risk of delivering windfall gains to coal-fired electricity generators.

While stakeholders generally recognised that the allocation methodology outlined in the Green Paper was intended to deliver a simple and transparent allocation method that reasonably reflects potential impacts on the value of individual assets, several submissions argued that alternative allocation methodologies might target assistance more effectively.

The National Generators Forum commented:

A more accurate allocation of assistance could be achieved by using an alternative measure based, for example, on sent out energy, emissions or capacity weighted by emissions intensity. Given the relatively small number of generators, this could also be expected to meet the simplicity and transparency criteria. (Submission 766, p. 30)

The Government has assessed the benefits of several alternative assistance allocation approaches in the light of its modelling.

In essence, all allocation methodologies must be weighted using the ‘size’ of generators in some way. All other things being equal, larger assets produce more electricity and hence have higher asset values under business-as-usual. It follows that larger generators also have more asset value to lose because of changes in the market in which they operate.

All allocation methodologies must also take into account the variability in emissions intensity between coal-fired electricity generators in order to reflect the varying cost and asset value impacts of the Scheme on similar sized assets.

Calibration of assistance to reflect asset size

The allocation methodology set out in the Green Paper attempted to reflect the relevance of asset size to asset loss by weighting assistance to individual assets according to their generation capacity.

Several stakeholders raised concerns about the use of generation capacity as a method for weighting the assistance provided to individual assets. For example, the proposed Green Paper allocation methodology does not reflect variability in the capacity factor of different generators, that is, the proportion of their theoretical maximum output that they produce over a period of time.

Given the concerns raised, the Government considers that weighting assistance by the historical energy output of an asset, rather by its generation capacity, offers appropriate calibration, while also offering transparency and simplicity.

In implementing this approach, the Government must also:

- choose between using ‘electricity generated’ (that is, all electricity produced by the generator) and ‘electricity sent out’ (that is, the electricity produced by the generator less the electricity used in the generation process) as its output measure
- choose an appropriate timeframe over which to calibrate this baseline
- consider how to fairly determine energy baselines for assets that only entered service relatively recently.

Using electricity sent out as an energy output baseline risks creating arbitrary distortions between generators. For example, an electricity sent out baseline would advantage a generator that exports all of its electricity to the grid and then purchases electricity from the grid for use internally relative to a generator that exports its electricity net of internal consumption. It would also disadvantage generators that use electricity for on-site coal mining compared to generators that purchase coal mined at a different location, or that use other fuels to operate mining equipment. Furthermore, electricity sent out figures are generally more commercially sensitive than electricity generated data, so using sent out data as a basis of allocations would be less transparent.

Accordingly, the Government considers that electricity generated is an appropriate basis for determining an energy output baseline.

Electricity generated can vary significantly over time due to changing market conditions, periods of planned or unplanned maintenance, and other events beyond the control of generators, such as restricted access to cooling water during drought. All these considerations support the use of an energy output baseline over a number of years to smooth out observed fluctuations. However, using a longer period to determine an output baseline potentially introduces distortions between assets that have entered service or been refurbished more recently.

The Government considers that three years is an appropriate period to use in determining an energy output baseline for an individual asset. The three-year period should cover the period up to the date on which bipartisan support was declared for an emissions trading scheme in Australia; that is, 3 June 2007. Therefore, the appropriate baseline period is from 1 July 2004 to 30 June 2007.

Generators that were not in service prior to 1 July 2004 might be unfairly disadvantaged by this choice of period, so special provision will need to be made for them. One approach would be to assume a particular capacity factor to derive a proxy for the generator's energy output by applying that factor to the capacity of the asset. If that approach were adopted, draft Scheme legislation would outline the Government's final decision on an appropriate assumed capacity factor for coal-fired electricity generators. Coal-fired electricity generators generally operate at quite high capacity factors (between 65 and 90 per cent). An assumed capacity factor at the higher end of this range, such as 80 per cent, may be appropriate to reflect the likely mode of operation and reliability of a new coal-fired generator.

Calibration of assistance to reflect emissions intensity

The Green Paper allocation methodology attempted to reflect variation in the emissions intensity of individual coal-fired electricity generators simply and transparently through the creation of two 'pools' of assistance (one for assets using brown coal and the other for those using black coal, to reflect their different emissions intensities).

In addition to the Green Paper approach, the Government has also considered assistance allocation methodologies that reflect the emissions intensity of the generator by incorporating:

- the historical emissions intensity of that generator
- the variation between the historic emissions intensity of a generator and a 'threshold' level of emissions intensity.

The modelling commissioned by the Government demonstrated a pattern of impacts that reflected the emissions intensity of individual assets to an extent that could not be adequately captured by using two pools of assistance as a proxy for the different emissions intensities of brown-coal and black-coal assets, as proposed in the Green Paper.

While the overall extent of loss varied significantly between models and scenarios according to the rate of carbon cost pass-through, losses were clearly concentrated among the most emissions-intensive generators.

This pattern emerged for two main reasons:

- for any given level of carbon cost in the market, margin compression is greater for more emissions-intensive generators
- assets that lost generation volume under the Scheme were typically the most emissions-intensive assets in the market.

Weighting assistance by a generator's emissions intensity alone does not take into account the ability of all generators to pass-through a significant portion of their carbon costs to the market through increased electricity prices.

Generators will attempt to pass on as much of their carbon costs as competition within the market will allow. An individual generator is constrained by being under-priced in the market by their competitors. Generators with particularly high emissions intensity, and hence carbon costs, will not be able to pass on their full costs because their competitors face lower costs.

Whilst all generators will be able to pass on some portion of their carbon costs as allowed by the emissions intensity of their competitors, any given generator will face exposure to losses of asset value when the carbon cost it faces exceeds the average level of carbon cost pass-through reflected in electricity prices.

Furthermore, while all coal-fired electricity generators are emissions intensive, modelling indicates that only some of them—largely the most emissions intensive—face a significant risk of losses of generation volume during the first 10 years of the Scheme. This supports the use of a threshold level of emissions intensity to weight assistance in line with the extent to which an asset's emissions intensity exceeds the threshold.

Estimating emissions intensity

All estimates of the emissions intensity of an individual generator involve some uncertainty. Its fuel efficiency will vary over time depending on how it is operated and how well it has been maintained, among other things. The quality of fuel used may also vary over time, potentially creating variation in the quantity of emissions released per unit of fuel consumed in the generation process. Using a three-year baseline period will smooth out fluctuations in the emissions intensity of an asset, allowing a more reliable estimate of its true performance.

As for the energy output baseline, the Government recognises that it will need to make special provision for assets that did not enter service prior to 1 July 2004. The emissions intensity of those assets could be estimated on the basis of fuel quality and engineering design documents; in many cases, those estimates will be able to be confirmed against the performance of the asset since it entered service.

Additional complexity emerges from the use of different measures of emissions intensity. One measure considers only the generator's direct emissions (that is, the emissions released in the process of combusting fuel to generate electricity). An alternative measure would consider the generator's 'full fuel cycle' emissions, including emissions from the production and transport of the fuel (such as fugitive emissions from coal mining).

Uncertainty in estimates of an individual generator's full fuel cycle emissions can be quite significant, due to the variation in the emissions released in the production and transport of different fuels and the variation in those emissions over time (for example, because of changing operational patterns at a coal mine). Furthermore, taking such emissions into account would result in the calibration of assistance for an individual generator in a way that reflects operational decisions taken by a variety of other parties, particularly fuel suppliers.

For this reason, the Government considers that estimates of emissions intensity used for the allocation of assistance should consider only direct emissions.

Furthermore, some coal-fired generators might also be part of 'cogeneration' facilities, which produce both electricity (for sale or internal use) and steam (for use in a co-located industrial process for example). In such circumstances, some emissions created by the combustion of fuel by the generator are not attributable to the generation of electricity, but to the production of steam.

Because assistance is targeted to address the competitive pressures facing generators in the wholesale electricity market, the emissions intensity estimates used in the allocation of assistance will only consider emissions directly attributable to the generation of electricity.

To retain consistency between the emissions intensity baseline and the energy output baseline, emissions intensity will be estimated on an 'electricity generated' basis, rather than on an 'electricity sent out' basis.

Threshold level of emissions intensity

The National Greenhouse Accounts Factors (November 2008)² include a series of aggregated factors for both the direct and full fuel cycle emissions intensity of electricity consumption in each state. The Government has used those factors to estimate the direct emissions intensity of electricity generated in Australia at approximately 0.78 tonnes of CO₂-e per megawatt-hour.

However, the Government considers that the average emissions intensity of all generation in Australia is not the threshold at which risks of more extreme asset value impacts might emerge. That threshold is more closely represented by the relative emissions intensity of an asset when compared to other fossil fuel-fired generators. This is because a large portion of renewable generation, including most wind generation, is dispatched into the market preferentially and so does not directly compete with fossil fuel-fired generation. Furthermore, most hydro-electric generators are constrained by access to water, and so are likely to change their competitive behaviour to reflect the increase in cost of their fossil fuel-fired competitors, rather than in a way that reflects the emissions intensity of hydro-electric generation.

The Government's estimate of the average emissions intensity of fossil fuel-fired generation in Australia is 0.86 tonnes of CO₂-e per megawatt-hour.

This threshold emissions intensity calculated on an ‘as-generated’ basis is approximately equal to the Government’s preferred electricity allocation factor for EITE assistance of 1 permit (representing 1 tonne of CO₂-e) per megawatt-hour, which is calculated on an ‘as-consumed’ basis. The difference between the emissions intensity of electricity generation on an as-consumed basis and an as-generated basis is primarily due to electrical losses in the generation process and through the transmission network. The Government’s estimate of Australia’s as-generated emissions intensity of 0.78 tonnes of CO₂-e per megawatt-hour translates to an as-consumed emissions intensity of approximately 0.93 tonnes of CO₂-e per megawatt-hour.

Calibration to reflect asset age

Several stakeholders argued that the allocation methodology proposed in the Green Paper failed to recognise that the impact of the Scheme may vary between assets according to their remaining useful lives. For example, the Griffin Group argued that ‘the useful remaining asset life of coal fired generators should be taken into account’, but acknowledged the practical difficulties in such an approach (Submission 600, p. 4). The Griffin Group suggested that this approach could use the date an asset first entered service as a proxy for its remaining asset life.

An electricity generation asset requires significant ongoing maintenance and expenditure over its period of operation. Furthermore, the useful remaining life of an asset can only be estimated imprecisely because it will vary under different maintenance regimes.

As a result, adjusting assistance on the basis of the date a generator first entered service does not recognise the significant ongoing expenditure incurred by owners of assets that first entered service many years ago. Such assets can include many components that are at the beginning of their working lives.

Furthermore, it is unclear whether coal-fired electricity generation assets that have been constructed more recently are entitled to more, rather than less, assistance. While the Government’s choice of eligibility cut-off date is intended to capture the date at which the risk of the imposition of a carbon price became certain, in reality there was some risk before that date. It could be argued that more recent investors had the advantage of greater clarity on this matter, and are thus entitled to less assistance.

Given this ambiguity, and the potential that a simple proxy for asset age will not reflect the timing of actual investments in generation plant, the Government does not consider that asset age should be included as a factor in the allocation of assistance under ESAS.

Policy position 13.9

The Government will allocate assistance through ESAS to coal-fired electricity generators according to a methodology that weights assistance by:

- the historical energy output of the generator, measured as the electricity generated by the asset between 1 July 2004 and 30 June 2007
- the extent by which the Scheme regulator's estimate of the emissions intensity of the generator (over the period 1 July 2004 to 30 June 2007) exceeds the Government's threshold level of emissions intensity (0.86 tonnes of CO₂-e per megawatt-hour of electricity generated).

The Scheme regulator's estimate of emissions intensity will be on an 'electricity generated' basis, and will consider emissions only from the combustion of fuel that are directly attributable to the generation of electricity.

The Government will clarify how this methodology will apply to assets that did not enter service until after 1 July 2004.

13.4.5 Allocations of cash or permits

In the Green Paper, the Government sought stakeholder feedback on the relative merits of providing direct assistance to coal-fired electricity generators through administrative allocations of permits or through cash payments.

Electricity generation stakeholders almost uniformly preferred allocations of permits, often citing the risk management or 'natural hedge' benefits of permits—that is, the benefit that the value of assistance delivered in the form of permits increases or decreases in line with the carbon price, and therefore in line with the broad impact of the Scheme on emissions-intensive generators. However:

- Origin Energy argued that assistance in the form of cash 'would prevent hoarding ... allow for a more efficient operation of the auction and secondary market and provide a more transparent means of assistance' (Submission 815, p. 93).
- Despite broadly supporting assistance in the form of permits, the joint submission of the Energy Supply Association of Australia, the National Generators Forum, the Energy Retailers Association and the Australian Pipeline Industry Association observed that 'cash may be more applicable for assets with projected short lives' (Submission 715, p. 26).
- The National Generators Forum's submission supported the provision of assistance in the form of permits but argued that 'other approaches may need to be considered when the national targets are announced' (Submission 766, p. 31).

The natural hedge qualities of assistance through the administrative allocation of permits offer a significant advantage for recipients of assistance. Administratively allocating permits would support the Government's policy objective by ensuring that the value of assistance delivered will adjust over time in a way that is correlated with the need for assistance.

While the Green Paper noted the transparency benefits for Government in providing assistance in the form of cash, on balance the Government considers that the natural hedge qualities of assistance as permits outweighs the benefits of delivering assistance in the form of cash.

Policy position 13.10

The Government will provide assistance through ESAS in the form of administratively allocated permits.

13.4.6 Delivery of assistance

Capping the overall permit allocation

The value of assistance delivered in the form of permits will vary depending on the carbon price. Similarly, the value of the permit revenue the Government foregoes through administratively allocating permits is related to the prevailing market price.

To reduce the scope of uncertainty surrounding the value of assistance to be delivered to coal-fired electricity generators, the Government will cap the total number of permits to be allocated under ESAS.

Capping the overall quantum of permits that may be provided under ESAS requires the Government to allocate assistance on a ‘pro rata’ basis, such that assistance decisions in relation to each individual generator are inter-related. An increase in the amount of assistance provided to any one generator, for example due to revision of an estimate of its emissions intensity, necessarily reduces the quantum of assistance available to other generators to ensure that the cap is not breached.

Allocating assistance pro rata under a cap in accordance with the methodology set out in Section 13.4.4 means that the assistance for an individual asset can be determined according to the following formula (considering only those generators that satisfy the eligibility criteria in Section 13.4.7):

$$AF_i = \frac{(EI_i - EI_{average}) \times EO_i}{\sum [(EI_i - EI_{average}) \times EO_i]}$$

for all eligible generators where $(EI_i - EI_{average}) > 0$

where

AF_i = the assistance factor for generator i

EI_i = the emissions intensity of generator i (in kilotonnes CO₂e/GWh)

$EI_{average}$ = the average emissions intensity of all fossil fuel fired generators, 0.86

EO_i = the historic electricity output of generator i over the period 1 July 2004 to 30 June 2007
(in GWh)

then

Assistance to generator i = $Q \times AF_i$

where

Q = the quantum of assistance (in permits)

The assistance factor in the formula multiplies the emissions intensity (above the average) for a particular generator, by its electricity output, and divides this by the same calculation summed across all generators with emissions intensity greater than the average.

Where a generator receiving assistance under ESAS breaches the conditions attached to assistance, or has assistance withheld on the basis that it is likely to receive a windfall gain, the Government will ensure that the pro rata allocation to all other generators is not adjusted. Such an adjustment would not support the Government's policy objectives, as decisions made in relation to one eligible generator would arbitrarily reward all other eligible generators.

Indicative allocations

Despite the inter-relationship of allocations to individual generators, indicative allocations for any given generator can be estimated by considering its emissions intensity and energy output, provided that reasonable estimates of these same variables can be made for all other eligible generators.

The Government has used a variety of industry data to estimate emissions intensities and electricity output baselines for coal-fired electricity generators that may meet the eligibility criteria set out in Section 13.4.7. Based on this data, the Government estimates that the denominator in the formula provided above is approximately 69,100. Given that the total number of permits available for allocation under ESAS is 130.7 million (as set out in Policy position 13.12), the number of permits that would be provided to a generator through ESAS can be estimated using the formula below, where its emissions intensity and energy output baselines are known:

$$\text{Assistance to generator } i = Q \times AF_i$$

where

$$Q = 130.7 \text{ (million permits)}$$

$$AF_i \approx \frac{(EI_i - 0.86) \times EO_i}{69,100}$$

EI_i = the emissions intensity of generator i (in kilotonnes CO₂e/GWh)

EO_i = the historic electricity output of generator i over the period 1 July 2004 to 30 June 2007
(in GWh)

The value of an indicative allocation of permits estimated in this way will vary in accordance with the carbon price. Noting this, Table 13.3 sets out the indicative value of assistance that may be provided to several hypothetical generators, assuming that actual carbon prices under the Scheme result in the total quantity of permits available under ESAS being valued at \$3.9 billion in nominal terms (see Policy position 13.12).

Table 13.3: Indicative allocations

Hypothetical generator	Emissions Intensity (ktCO ₂ -e/GWh)	Capacity (MW)	Capacity factor	Estimate of energy generated (GWh) over three years	Indicative assistance calculation	Indicative assistance over five years (\$m nominal)
Calculation	[A]	[B]	[C]	[D] = (3 years x 365 days x 24 hours x [B] x [C])/1000	[E] = ([A] - 0.86) x [D]	[F] = ([E]/69100) x 3880
Brown coal	1.3	1000	90%	23652	10407	584
Emissions intensive black	0.95	1000	80%	21024	1892	106
Efficient black	0.85	1000	85%	22338	< 0	0

Source: Australian Government analysis based on industry data.

Implementing the allocation approach

The allocation of assistance under ESAS must be implemented in a transparent and fair manner. Given the policy settings established in Policy position 13.9, the quantum of assistance that will be provided to individual generators will be sensitive to accurate determinations of that generator's emissions intensity and energy output.

Further, given the inter-related nature of decisions on the quantum of assistance provided to individual generators, the quantum of assistance provided to any individual generator will vary depending on equivalent decisions made in respect of all other eligible generators.

To provide certainty and transparency to this process, the Government will require the Scheme regulator to make determinations as to the eligibility, emissions intensity and historic energy output of generators that apply for assistance under ESAS.

Within 90 days of the commencement of Scheme legislation, potential recipients of assistance will be required to apply to the Scheme regulator to prove their eligibility, and to have their emissions intensity and historic energy output determined.

The Scheme regulator will assess each application. Once all applications have been assessed and finalised, the Scheme regulator will be able to determine the number of permits that form the allocation of assistance to each generator. However, the delivery of this quantity of permits to any individual generator will be subject to complying with conditions attached to the assistance (see Section 13.5.4), and subject to the outcomes of a windfall gains review (see Section 13.4.9).

Policy position 13.11

Potential recipients of assistance under ESAS will:

- be required to apply to the Scheme regulator within 90 days of the commencement of Scheme legislation to prove their eligibility and provide other information relevant to determining the amount of assistance they should receive
- have these applications assessed by the Scheme regulator to determine eligibility and the quantity of permits that may be provided to each eligible generator.

Timing of delivery of assistance

Given the need to consider a range of factors, including the quantum of limited direct assistance, the emissions reduction trajectory, the timing of auctions, and the amount of permits available at each auction, the Government did not set out a preferred position on the timing of the delivery of assistance in the Green Paper.

Green Paper position

The proposed direct assistance for coal-fired electricity generators would be provided on a ‘once and for all’ basis—that is, further allocations would not be provided after the scheme begins.

A decision on the timing of the delivery of the proposed direct assistance for coal-fired electricity generators would be made at the time the quantum of assistance is determined.

The Government considers that assistance through ESAS should be delivered relatively promptly after the Scheme begins, to reinforce the ‘once and for all’ nature of the decision on the quantum of assistance.

However, the timing of the delivery of assistance must also support the Government’s objectives in relation to conditionality of assistance (see Section 13.5.4) and the windfall gains review (see Section 13.4.9).

Conditional assistance will only be effective where a significant portion of the assistance available can be withdrawn in response to a breach of the relevant condition. The Government considers that the risk of perverse outcomes in wholesale electricity markets will have

dissipated within five years of the commencement of the Scheme. Accordingly, delivering assistance over the first five years of the Scheme ensures that generators are provided with an incentive to comply with the Government’s preferred conditionality model through this period.

Similarly, an effective midway assessment approach for the windfall gains review requires that a significant portion of the available assistance be subject to the review. Delivering the assistance over five years allows the regulator to benefit from information from more than two years of the operation of the Scheme, while retaining the ability to reduce the prospect of windfall gains through withholding the final two years of assistance.

Limited direct assistance through ESAS will be delivered in the form of administrative allocations of permits. The permits can be of different ‘vintages’, and can be delivered over a number of years to ensure that the Government retains enough permits to auction in any given year.

The Government has determined that ESAS will deliver limited direct assistance through the administrative allocation of a fixed quantity of permits valued at around \$3.9 billion in nominal terms or \$3.5 billion in real terms in 2008–09 dollars. The Government has calibrated the total quantum of permits available through ESAS by converting the (nominal) carbon prices set out in Table 13.4 to real 2008-09 dollars, using an inflation rate of 2.5 per cent. The total number of permits that deliver assistance valued at around \$3.5 billion in 2008-09 dollars is 26.14 million permits each year, or 130.7 million permits in total.

Assistance of \$3.5 billion in real 2008-09 dollars is approximately equal to assistance of \$3.9 billion in nominal dollars when that assistance takes the form of five equal allocations of permits over five years, as set out in Table 13.4.

Table 13.4: Modelled number and value of permits

	2010–11	2011–12	2012–13	2013–14	2014–15	Total
No. of permits ('000s)	26,140	26,140	26,140	26,140	26,140	130,700
Permit price (\$ nominal)	25.00	26.43	29.26	32.32	35.37	-
Value (\$m nominal)	654	691	765	845	925	3,880

Source: Australian Government estimates.

The Government considers that this schedule for the delivery of assistance does not compromise its auction policies (see Chapter 9), and ensures that sufficient permits are available to allocate to entities that undertake EITE activities.

Policy position 13.12

The Government will issue up to 130.7 million permits over the first five years of the Scheme through ESAS which delivers assistance of around \$3.9 billion in nominal terms based on carbon prices estimated under the CPRS -5 scenario. The permits will be distributed in equal amounts in each of the five years, subject to eligible entities satisfying the conditions for assistance, and subject to the outcome of the windfall gains review.

13.4.7 Eligibility for assistance

Green Paper position

Eligibility for the proposed direct assistance for coal-fired electricity generators would be limited to those assets that were ‘in existence’ on 3 June 2007; that is, assets that were in operation or satisfied the National Electricity Rules criteria for a ‘committed project’ on that date.

In the Green Paper, the Government recognised that the risk of the imposition of a carbon price on emitting industries has emerged over time, rather than materialising at a single moment. Nevertheless, the Government proposed a single point in time as a cut-off for eligibility for limited direct assistance under ESAS. That point was the date on which bipartisan support for an emissions trading scheme was confirmed.

Assets ‘in existence’

Energy sector stakeholders such as the National Generators Forum (Submissions 715 and 766) and the Energy Supply Association of Australia et al (Submission 715) supported the use of 3 June 2007 as the eligibility cut-off date for direct assistance through ESAS and the criteria for determining that an asset was ‘in existence’ on that date.

The Government considers that whether an asset is ‘in operation’ is more easily determined by assessing its behaviour over a month rather than a single day. For example, market conditions or maintenance practices may mean that an asset did not generate electricity on 3 June 2007 but should still be considered to be in operation at that time. The Government considers that an asset that generated electricity at any time during June 2007 can be regarded as having been ‘in operation’ on 3 June 2007.

The Government also recognises that a generation asset that was essentially ‘in operation’ might nevertheless have been out of service for all of June 2007, for example, due to routine maintenance. Therefore, assets in operation should include assets that were out of service in June 2007 but which had a plan to return to service before the end of 2007.

Finally, the Government recognises that drought restricted access to cooling water for some generators during 2007, and so considers that an asset that was out of service temporarily for that reason should also be regarded as being in operation in June 2007.

The Green Paper also recognised that investors may have been committed to constructing a new generator as of 3 June 2007 such that their investment decisions could not have been easily altered in response to the emergence of full knowledge that the Government would implement the Scheme, but that such an asset would not satisfy the criteria of being ‘in operation’. Accordingly, the Government proposed extending eligibility for assistance under ESAS to assets that could be considered to be a ‘committed project’ according to the National Electricity Rules criteria on that date.

The Government considers that the National Electricity Rules criteria remain relevant for determining whether an asset was ‘in existence’ if the asset had not entered service before

June 2007. The rules define a ‘committed’ project as one that has been fully committed by the project proponent, taking into account:

- the proponent’s rights to land for the construction of the project
- whether contracts for the supply and construction of the project’s major plant or equipment, including contract provisions for project cancellation payments, have been executed
- the status of all planning and construction approvals and licences necessary for the commencement of construction of the project, including completed and approved environmental impact statements
- the level of commitment to financing arrangements for the project
- whether project construction has commenced or a firm date has been set for it to commence.³

Connection to a major electricity grid

In addition to the Green Paper criteria for eligibility for assistance, the Government considers that coal-fired electricity generators that are not connected to a major electricity grid are unlikely to be exposed to the same competitive pressures as those that are connected to large grids where alternative sources of electricity are available.

For this reason, the Government has added the criterion that a coal-fired electricity generator must have been connected to a major electricity grid, or been intending to connect to a major grid, in June 2007 to be eligible for direct assistance under ESAS.

For consistency with the *Renewable Energy (Electricity) Act 2000* and associated regulations, one option for defining a ‘major electricity grid’ is that it is a grid on which the installed capacity of generation is more than 100 megawatts (excluding minor sources of generation).

Generators that use other fuels in addition to coal

Coal-fired electricity generators can use fuels other than coal under certain circumstances. While some generators routinely use other fuels as a major energy input for generation, almost all coal-fired electricity generators use some alternative fuel, such as fuel oil or natural gas, to start combustion in their boilers. The Government’s definition of a ‘coal-fired generator’ must allow for this.

However, a generator designed or modified to allow the combustion of significant quantities of an alternative fuel as a major energy input, and that has demonstrated this capability through historical use of the alternative fuel, does not face the same risk of asset value loss as a generator that relies exclusively on coal as its major energy input.

For example, a generator that can use natural gas as an alternative fuel in place of coal has available to it an immediate and significant abatement opportunity that is not available to a generator reliant on coal.

The Government considers that an asset must have used coal to supply over 95 per cent of its energy used in electricity generation over the period from 1 July 2004 to 30 June 2007 to be eligible for assistance as a ‘coal-fired’ electricity generator.

Where an asset had not entered service before 1 July 2007, the asset must have intended to use coal to supply over 95 per cent of its energy for electricity generation once the generator entered service.

Policy position 13.13

The Government will limit eligibility for assistance under ESAS to electricity generators that:

- generated electricity in June 2007, or were planned to return to service before the end of 2007 (or following the end of restrictions on their access to cooling water), or are considered to have been ‘committed’ projects at 3 June 2007 when assessed against the relevant National Electricity Rules criteria
 - were, or were planned to be, connected to a major electricity grid
- and
- used coal for over 95 per cent of their energy supply in the period from 1 July 2004 to 30 June 2007, or, if the generator was not in operation before 1 July 2007, intended to use coal for over 95 per cent of their energy supply.

13.4.8 Recipient of assistance

The Government must make the identity of the legal entity that will receive assistance clear enough to give parties to an asset transaction certainty about how the right to assistance will be treated in that transaction. Clarity on this matter will also help to improve investor confidence, which is an overall objective of providing assistance.

The Green Paper sought stakeholder views on the approach of providing assistance to registered generators in the NEM or the Western Australian WEM for particular generation assets, as of the day on which the proposed allocation is delivered.

While this approach had general, if cautious, support, several submissions (including those of Babcock & Brown Power and the State Electricity Commission of Victoria) argued that the recipient of assistance should be defined as the liable entity under the Scheme.

That approach has intuitive appeal, but runs into some practical difficulties. For example, where an asset ceases production, it will not have a liability under the Scheme and so the liable entity will not be identified as part of the routine operation of the Scheme.

Nevertheless, linking the recipient of assistance with liability under the Scheme has significant policy advantages, particularly because it ensures that assistance is not provided to entities that do not face a direct cost under the Scheme.

Therefore, the Government has adopted an approach that allows the recipient of assistance to be identified as the liable entity in relation to an asset. Where the asset does not create

sufficient emissions to incur a liability under the Scheme, the recipient is identified as the entity that would have incurred a liability had the asset been operated so as to incur one.

Because multiple entities could incur a liability under the Scheme across a financial year in relation to a single asset, the Government must identify only one of them as the recipient of assistance. If multiple recipients were identified, the appropriate division of assistance could create significant uncertainty.

The clearest arrangement for all parties is to identify the liable entity, or the entity that would have been the liable entity had a liability been incurred, at the close of the previous financial year. As assistance will be delivered across five years, with one allocation of assistance each year (Section 13.4.6 refers), that assessment will be made in relation to each yearly allocation of assistance. Multiple entities may receive assistance in relation to a given generation asset over the course of the delivery of ESAS, but only one will receive the assistance provided in respect of an asset in any given year.

This ‘point in time’ assessment allows asset transactions to be clear about whether the value of assistance is transferred to the buyer (for transactions before the end of a financial year) or retained by the seller (for transactions effected after the end of the financial year). Where parties are concerned about residual uncertainty in the date of effect of a transaction, additional private contractual arrangements can be used to ensure that the rights to assistance are clearly assigned in the transaction.

Policy position 13.14

The Government will provide assistance that is available through ESAS in respect of a given asset in any given year to:

- the entity that was the liable entity for an eligible asset’s emissions at the end of the preceding financial year, or
- if no liability is incurred in relation to an eligible asset, the entity that would have been liable for that asset’s emissions at the end of the preceding financial year had a liability been incurred.

13.4.9 Windfall gains review

Green Paper position

The quantum of proposed direct assistance for coal-fired electricity generators would be determined ‘up front’ (that is, before the scheme begins). However, potential recipients would need to submit to a review process to minimise any prospect of windfall gains.

Because of the inherent uncertainty of the impact of the Scheme on specific electricity generators, any quantum of assistance delivered by the Government carries some risk of delivering a windfall gain to some generators.

A windfall gain can be regarded as arising when the generator’s discounted net revenue stream (where ‘net revenue’ is the revenue earned from selling electricity, less the costs of

generating that electricity) under the Scheme, plus the value of the assistance delivered through ESAS, exceeds the discounted net revenue stream of the generator in the absence of the Scheme.

The submission of the Energy Supply Association of Australia et al supported such a review ‘to provide assurance to the Government that there have not been any windfall gains’ (Submission 715, pp. 26–27).

Despite targeting the available ESAS assistance using the allocation methodology outlined in Section 13.4.4, the Government considers that a review is necessary to minimise the risk of delivering windfall gains to coal-fired electricity generators that receive ESAS assistance.

Structure of the review

The Government has considered three mechanisms for windfall gain reviews:

- ‘*ex ante*’ reviews, which assess of the appropriateness of proposed assistance quanta before the assistance is delivered
- ‘*ex post*’ reviews, which assess whether there have been windfall gains in the light of observed outcomes for individual generators under the Scheme, and allows assistance to be reclaimed by the Government
- ‘midway assessment’ reviews, which are held after a portion of assistance is delivered without review, but which subject the remaining portion of assistance to review and allows this portion to be withheld if windfall gains are in prospect.

An *ex ante* review would minimise uncertainty for potential recipients of assistance following the completion of the review. However, before the review, potential recipients would face significant uncertainty about the value of assistance to be delivered to them under ESAS.

Some stakeholders indicated that some auditors and creditors might seek to revalue generation assets well in advance of the commencement of the Scheme. Given this, the Government considers that giving stakeholders certainty about the likely value of assistance they will receive is important to prevent full losses in asset value from being realised on an entity’s balance sheet before the Government’s commitment to a level of assistance becomes clear. An *ex ante* review does not offer enough certainty in this regard.

Furthermore, an *ex ante* review does not have the benefit of allowing the review body to observe actual behaviour in the electricity market following Scheme commencement.

An *ex post* review would give potential recipients significant certainty that a given level of assistance may be delivered to them, but would subject that assistance to the persistent risk that it could be reclaimed by the Government at a later time. The impact of a potential ‘clawback’ on the valuation of assistance on balance sheets is not clear, but there is a material risk that this approach would devalue the assistance enough to undermine the policy rationale for assistance.

An *ex post* review may still require some element of projection about future outcomes, as asset value impacts of the Scheme could occur beyond the period over which assistance will

be delivered. An *ex post* review does not remove the inherent uncertainty in assessing the impact of the Scheme on asset values over an extended period.

A midway assessment review overcomes some of the difficulties of both approaches by giving potential recipients a high degree of certainty that some assistance will be delivered and cannot be reclaimed by the Government. Furthermore, once the midway assessment has occurred, recipients will also have a high degree of certainty that the remaining portion of assistance will be delivered.

Midway assessment reviews will benefit from observing how electricity markets have responded to the Scheme. While the body undertaking the windfall gains review will still need to make projections to assess asset value impacts of the Scheme over a long period, it will be informed by observed outcomes within the electricity market.

A midway assessment approach to the windfall gains review balances the need to minimise the prospect of windfall gains, while giving potential recipients of assistance enough certainty about the value of that assistance to avoid undermining its value. Therefore, the Government will adopt a midway assessment approach to the windfall gains review.

Timing of the review

The Government considers that approximately three-fifths of the proposed assistance should be delivered before the midway assessment. This will give recipients of assistance certainty that a significant portion of the assistance available to them will be delivered without review.

The remaining two-fifths will be subject to the assessment, ensuring that the portion of assistance that can be withheld is sufficiently large to make the review effective in mitigating the risk of windfall gains.

This approach involves a review in the 2012–13 financial year, after the delivery of assistance in 2010–11, 2011–12 and 2012–13. Assistance due in 2013–14 and 2014–15 will be delivered subject to the outcomes of the windfall gains review.

Decision-making structure

Assessing windfall gains is inherently complex and uncertain for reasons including:

- the requirement to project asset value impacts over a long period to reflect the longevity of electricity generation assets
- the complex and strategic nature of behaviour in the wholesale electricity market
- the interaction of the Scheme with other policy measures, including the expanded national Renewable Energy Target
- variability in key economic parameters in the electricity market, including demand, fuel costs and capital costs.

The windfall gain review cannot provide an absolute answer that a windfall gain will or will not occur. Instead, it must make a probabilistic assessment of the likelihood of such a gain. This assessment must factor in the uncertainty inherent in a number of key variables.

No individual organisation or government agency has an ideal skill set to administer the review. The Government considers that the Scheme regulator will be best placed to draw on relevant expertise to administer the review and so is the appropriate body to undertake the windfall gains review.

Given the uncertainty of the assessment, withholding assistance should be implemented through a ministerial determination rather than an action of the Scheme regulator. This allows the responsible minister to assess whether the withholding of assistance because of a ‘likely’ windfall gain is appropriate to minimise the risk of the gain, without undermining the original purpose of the assistance.

If the Scheme regulator does not find that a windfall gain is likely, the minister will not be empowered to withhold assistance. Furthermore, if the Scheme regulator finds that a windfall gain is likely, that finding will be subject to merits review in the Administrative Appeals Tribunal.

Where the minister and Scheme regulator consider that a windfall gain is likely, this assessment would indicate the net impact of the Scheme on the generator in question has been largely offset through the provision of the initial portion of assistance not subject to the windfall gains review. Providing further assistance would not be necessary to offset extreme asset value losses, and so would not further the Government’s policy objective of ameliorating the impact of the Scheme on perceptions of risk in the electricity generation sector. Accordingly, the windfall gains review will not provide the minister with discretion to partially withhold assistance.

To provide certainty to recipients of assistance that the windfall gains review will occur in a manner that reflects the policy intention of the review mechanism, while protecting the policy intention of delivering assistance, the Scheme regulator will be required to publish a legislative instrument outlining key assumptions and methodologies that it will employ in the review.

Assessing the impact of the expanded national Renewable Energy Target

To minimise the complexity in the review arising from the need to differentiate the impact of the Scheme on recipients of assistance from the impact of the expanded national Renewable Energy Target, the Scheme regulator will assess the net revenue of the generator in the absence of both the Scheme and the expanded target, and the net revenue of the generator under both those policy measures in combination.

The period assessed in the review

The Government must also establish a period of time over which the windfall gains review will assess the impact of the Scheme and the Renewable Energy Target on generators. While the assessments used in the initial calibration of ESAS focused on impacts arising in the first decade of the Scheme, the longevity of generation assets warrants an assessment of windfall gains over a slightly longer period.

Uncertainty in any wholesale electricity market modelling exercise increases with the period over which projections are made. Because almost four years will have passed between final policy decisions on ESAS and the windfall gains review, the Scheme regulator will be able to

observe actual impacts of the Scheme and project beyond the Scheme's first decade with reduced uncertainty. Furthermore, it is likely that, at the time of the windfall gains review, there will be additional certainty for all participants in the market as to the likely rate of emissions reductions that will be required in the Australian electricity generation sector beyond 2020 given international and domestic policy settings.

Therefore, it is appropriate to extend the period of assessment of the windfall gains review beyond the period primarily assessed in the Government's modelling, such that it encompasses the first 15 years of the Scheme.

The effect of upgrading generation assets

Some coal-fired electricity generators will be able to upgrade their assets in some way over the period of the windfall gains review to reduce their emissions intensity. If the review were to take account of actual or potential modifications, the generator in question would face disincentives to announcing or undertaking plant modifications before the completion of the review.

This would distort abatement incentives for the parties subject to the review. Therefore, it is appropriate for the Scheme regulator to assume that generation assets are not upgraded over the period of the windfall gains review.

Policy position 13.15

The Government will require each recipient of assistance through ESAS to submit to a windfall gains review, which will involve the following:

- The Scheme regulator will assess whether the delivery of assistance to an individual generator would be likely to deliver that generator a windfall gain.
- The likelihood of windfall gains will be assessed by comparing the generator's actual and predicted revenues under the Scheme with those predicted to have occurred in the absence of the Scheme and the expanded national Renewable Energy Target over a 15-year period.
- The Scheme regulator's assessment of the likelihood of a windfall gain will not take into account actual or predicted upgrades to generation plant.
- If the Scheme regulator finds that a windfall gain is likely, the responsible minister will have discretion to withhold the last two years of assistance from that asset.
- A regulator finding that windfall gains are likely may be challenged by the generator in the Administrative Appeals Tribunal.

13.4.10 Adjustment of assistance for contractual arrangements

The Government recognises that the impact of the Scheme on individual coal-fired electricity generators may vary depending on the terms of their contractual arrangements relating to the supply and price of electricity.

Contractual arrangements are not an appropriate basis for identifying strongly affected industries (see Policy position 13.1). However, providing assistance to a generator that holds a contract that allows for significant pass-through of carbon costs might not be effective in promoting the Government's policy objective, which is to ameliorate the risk of the Scheme affecting the investment environment in the Australian electricity generation sector.

Methods of considering contractual arrangements

The Government could:

- adjust the initial allocation of assistance provided to individual generators in the light of an *ex ante* assessment of the effect of favourable contractual arrangements to which they are party
- reserve the right to reclaim assistance provided to individual generators in the light of an *ex post* assessment of the effect of contractual arrangements to which they are party
- explicitly consider the effect of contracts in the windfall gains review.

Where a generator has consciously allocated the risk of an exposure to a carbon cost to another party to the contract, adjusting the initial allocation of assistance might unfairly penalise a generator for establishing favourable contractual arrangements.

Furthermore, the extent of adjustment that this approach requires is not evident. Withdrawing all assistance on the basis of a contract might not be appropriate—it could disadvantage the generator more than the absence of the contract. Conversely, the appropriate extent of a partial withdrawal of assistance is not clear and depends on a range of assessments.

Allowing the Government to reclaim assistance *ex post* creates significant risks that the initial provision of assistance will be significantly devalued by the generator because of the risk that the assistance will be reclaimed. Such devaluation would undermine the Government's objective in delivering assistance.

On balance, addressing the impact of contractual positions through the windfall gains review best supports the objective of delivering assistance through ESAS, while protecting against the possibility that excessive and unwarranted assistance will be provided to individual generators.

This view also recognises that the Government's determination of an appropriate quantum and allocation of assistance to generators reflects a broad judgement rather than a precise calculation arising out of certain information. Accordingly, a mechanical assessment of the impact of a given contractual position on the level of loss likely to be experienced by an individual asset is not appropriate.

Contracts that will be considered

Where a generator and purchaser of electricity enter into a contract in full knowledge of the impending introduction of a carbon price, the economic incentives faced by both parties reflect the cost increase faced by the generator relative to its competitors in the market. In such a circumstance, the underlying economic impact of the Scheme would generally be reflected in the terms of the contract struck between the parties.

However, where a contract has been entered into before the emergence of full knowledge of the introduction of the Scheme, the contractual arrangements might distort who bears economic costs under the Scheme.

Under those circumstances, a generator could either be penalised by facing a lower carbon cost pass-through than it could achieve in the market, or benefit by achieving a higher level of pass-through than the market suggests.

The Government is concerned about the delivery of windfall gains to generators that enjoy favourable contractual arrangements. However, it does not want to penalise generators that have obtained a favourable contractual position in a circumstance where both parties to the contract negotiated that position with full knowledge of the introduction of the Scheme.

Therefore, the Government will only require the Scheme regulator to consider contracts that were entered into before 3 June 2007 in the windfall gains review. The effect of the contract should only be considered up until the point that it is subject to revision or renegotiation.

Policy position 13.16

The Government will not adjust the assistance allocation methodology in the light of the contractual positions of individual generators. However, the Scheme regulator will be required to take into account the effect of contracts entered into before 3 June 2007 (for the period that they are not subject to revision or renegotiation) as part of the windfall gains review.

13.5 Energy security and the Scheme

Australia enjoys a high level of energy security, with adequate and reliable supply at internationally competitive prices. The Government recognises that supporting energy security is crucial to the successful introduction of the Scheme.

In the Green Paper, the Government outlined three elements to energy security: adequacy, reliability of supply, and affordability. Submissions by stakeholders generally supported that approach to defining energy security. Therefore, the Government's consideration of the relationship between energy security and the introduction of the Scheme has centred on those three elements.

The affordability element has been addressed through comprehensive Scheme measures, such as household income support (with full assistance provided to low-income households and partial assistance to middle income households) and assistance for entities that undertake EITE activities. This section deals with the other two elements: the reliability and adequacy of energy supply. It describes risks that have been suggested by the energy industry and other stakeholders, and how the medium-term target range and other Scheme design elements will help to ameliorate potentially material risks.

13.5.1 Risks identified in the Green Paper

The Green Paper noted a range of industry arguments about the potential impacts of the Scheme on energy security. These included the risks of reducing the profitability of electricity generators, leading to the early retirement of significant generation capacity, thereby reducing the adequacy, reliability and affordability of energy supply. Industry considered that there was a risk that the Scheme could reduce participants' ability to fund basic operational maintenance, resulting in more frequent generator malfunctions and reduced reliability of supply. More generally, industry was concerned that the Scheme could reduce its creditworthiness in financial dealings with other parties, exposing those parties to increased financial risk.

Green Paper position

The Government considers that the medium-term national target range, and the pace of expected emissions reductions, will have the greatest bearing on energy security. When setting the medium-term national target range, the Government will be mindful of the speed with which the economy generally, including the electricity generation industry, can adjust.

Submissions to the Green Paper by industry stakeholders emphasised the risks of imposing an overly ambitious emissions reduction requirement on the sector in the short-term. Stakeholders focused on the risk of asset devaluation and reduced creditworthiness causing the retirement of plant before replacement plant could be installed:

Large impacts on asset values could trigger debt facility review events which in turn could lead to repayments or a credit rating downgrade, which could cascade to the suspension or withholding of payments under electricity hedge/bilateral contracts. (Energy Supply Association of Australia et al, Submission 715, p. 24)

Existing generators experiencing cash flow and funding difficulties and holding assets with reduced lifespans will be less inclined to maintain these assets effectively, leading to a loss in reliability and resultant increase in price volatility. (The Griffin Group, Submission 600, p. 3)

As a reflection of the geographical separation of the [Western Electricity Market] from the [National Electricity Market], reliability of supply in [Western Australia] will only be maintained if the existing Market Participants (retailers and generators), are insulated by the transitional arrangements for [the scheme]. Failure to do so may result in market failure. (Synergy, Submission 865, p. 2)

Conversely, other submissions argued that energy security would not be enhanced through the provision of limited direct assistance to existing coal fired generators (Origin Energy, Submission 815, p. 89). Others also argued that the current market structures are appropriate to ensure that energy security is maintained, noting the importance of the trajectory. However, stakeholders have also raised concerns about the energy security implications of state-based retail price regulation. The retail price regulation issue is discussed further in Chapter 15.

13.5.2 Energy security and the carbon constraint

In its consideration of options for the medium-term national emissions target range, the Government carefully considered the speed with which the economy, including the electricity generation industry, can adjust.

Noting the importance of the carbon constraint trajectory, the submission from the Energy Supply Association of Australia et al, stated that:

To ensure a smooth transition to a low emission energy supply system, a modest interim target should be set for 2020. This would mitigate some of the immediate negative impacts on coal-fired generators and improve the prospects for security of supply until there is sufficient new investment in lower emission generation. (Submission 715, p. 6)

In the Green Paper, the Government outlined an approach to setting the trajectory that ensured a gradual industry transition, avoiding the need for sudden, large-scale retirements of capacity before enough replacement capacity could be installed. By spreading the burden across almost all sectors of the economy, drawing on international sources of abatement and providing additional flexibility within the Scheme, undue pressure on any particular sector could be reduced, giving all sectors time to begin the necessary adjustment.

As the overall carbon constraint will have the greatest impact on energy security, the Government has received advice from three national energy market agencies on the impact of the medium term target range, as described in detail below. In addition, the Government has considered the impact on the generation sector as modelled by MMA, ACIL Tasman and ROAM Consulting.

As described in Section 13.4.2, the Government's wholesale electricity market modelling shows that demand continues to be met, although some emissions-intensive plant lose volume. However, as electricity prices increase in line with carbon prices, most existing power plants continue to operate. In addition, the assumed convergence of east coast gas prices to export parity also helps coal-fired electricity maintain its competitiveness for baseload generation.⁴ This mitigates the risk that large-scale generators retire prematurely from the market, ahead of new capacity being installed.

13.5.3 Energy market characteristics that support energy security

Both of Australia's main wholesale electricity markets, the NEM and the WEM, are underpinned by financial contracts between generators and retailers. In the NEM, risk management and the potential for exposure to the \$10,000 pool price cap provide a strong incentive for parties to enter hedge contracts that fix the price of electricity between them. Alternatively, parties may manage the risk of purchasing electricity from the spot market through 'vertical integration', that is, by purchasing or constructing generation to supply their customer base. In the WEM, the market design is predicated on parties entering bilateral contracts.

Since the energy market reforms of the late 1990s, there has been significant investment in the energy sector and the security and reliability of supply has been maintained. There is significant evidence that energy markets are maturing and are well equipped to deal with the introduction of the Scheme.

Some stakeholders have noted that there is already a tight supply situation emerging in some energy markets. Stakeholders have suggested that this is partly due to uncertainty caused by a lack of climate change policy clarity for many years. Indeed, a major finding of the Task Group on Emissions Trading⁵ was that policy uncertainty was a key factor inhibiting investment decisions. This White Paper is a major step in addressing that uncertainty and should provide a strong policy foundation for the necessary investment in the Australian energy industry.

In this context, an important consideration for the maintenance of energy security is the possibility of premature closure of the existing generators. Any tightening of supply in the wholesale electricity market will have the effect of increasing prevailing prices. This price signal means that it would not make commercial sense for a generator to withdraw its capacity at peak times and create a supply shortfall. Generally, wholesale electricity markets are designed to provide large incentives for generators to be available at peak demand times, as that is when their capacity is most valued by the market.

The Government recognises that there are practical constraints on the speed at which new generation capacity can be constructed. Long lead-times in the construction of generation plant, sourcing upstream gas supplies or accessing gas pipelines can all delay new investment in lower emissions generation. However, when new capacity is required, tightness of supply and associated high prices are likely to create sufficient incentive for incumbent generators to stay in the market until replacement capacity can be provided.

A range of other characteristics of the energy market that have developed over time will further curtail the speed at which existing emissions-intensive generators are retired. Recent trends toward vertical integration in electricity markets mitigate the risk of premature retirement of generation capacity that is owned to supply an existing customer base. It is unlikely that a vertically integrated entity would withdraw its generation capacity from the market if that would leave it exposed to high and volatile prices when supplying its customer base.

As a final guard against supply shortfalls, the market operator has the power to direct the behaviour of participants to ensure system security. A participant can refuse to follow a direction only where there is a risk to life or to plant and equipment.

For the directions power to be functional, the participant must be registered with the market operator. While the Government considers the medium-term target range and other Scheme design elements, particularly the flexibility provided through international linking, have the biggest impact on energy security, it has considered how the ESAS package could be used to further secure energy security by providing an additional incentive for participants to remain registered (see Section 13.5.4).

Energy security advice from energy market institutions

Given the importance of continued energy security to Australia, the Government approached the Australian Energy Regulator (AER), the National Electricity Market Management Company (NEMMCO) and the Australian Energy Market Commission (AEMC) to seek their assessment of the risks of electricity reserve shortfalls due to plant shutdown due to the introduction of the Scheme. To facilitate their assessment, the agencies were provided with the high level parameters of the Scheme design and the ESAS package.

The three agencies' responses indicate that the risk to energy security is significantly mitigated by the choice of trajectory and other parameters, such as international linking, unlimited banking and limited borrowing. All agencies noted that the initial modelled carbon prices are not likely to significantly alter the merit order of the existing generators, or the role they currently play in the electricity market. The AER concluded that these parameters 'all suggest a measured implementation of the CPRS. This reduces the risk of disruptive plant closure.'

However, it was noted that there is already a tight supply and demand balance in South Australia, Victoria and Tasmania. NEMMCO indicated that given this pre-existing tight supply situation, which is independent of the Scheme, it is not possible for the policy package to completely remove the existing risks to energy security. The AER noted that these conditions are likely to put upward pressure on spot and contract market prices, meaning that it would be unlikely that generators would retire plant, mitigating any additional risks to energy security arising from the implementation of the Scheme. In addition, the impact of the global financial crisis was noted by the AEMC and NEMMCO. NEMMCO noted that it is difficult to predict precisely what position financiers might take in a tight global market.

In relation to the allocation of assistance under ESAS, all agencies noted that it appeared to target the most strongly affected participants. For example, whilst NEMMCO noted that 'even at a carbon price of \$20 per tonne however, the absolute and relative financial positions of generation businesses are likely to be impacted', it went on to conclude that '[t]he proposed ESAS payments to the most affected generation businesses represent an important mitigating factor. It is recognised that ESAS payments are primarily intended to address the issue of sovereign risk to investors, but they inevitably also serve to mitigate the financial risks to businesses'. Similarly, the AEMC noted that '[t]he risk of acute and rapid financial distress is significantly reduced by an exogenous contribution to capital of \$3.9 billion, targeting on the most carbon-intensive plant'.

However, the AEMC and NEMMCO agreed that the risk of technical failure remained, irrespective of the broader Scheme design or the quantum and design of the ESAS package. Both agencies noted that there is a risk that if a significant plant failure was to occur, this may lead to the early shutdown of some generating plant as undertaking the repairs may not be economic. Whilst NEMMCO notes these risks are elevated by the Scheme, particularly when the current supply situation and the effects of the global financial crisis are considered, it notes that these 'relatively extreme outcomes, might also have been plausible in the market to date, and no evidence has come to light of their emergence.' Further, the AEMC note that the risk of technical failure 'is reduced if plant can continue to operate base-load.' As noted earlier, the modelled carbon prices do not indicate a significant shift in the merit order, implying that the mode of operation of existing plant will not change significantly.

Box 13.1: Energy security—advice from energy market institutions

Having considered the broader Scheme design and the ESAS package, the three agencies conclude that the risks to energy security have been significantly mitigated. The AEMC noted that ‘measures to provide additional financial assistance to generators of the form and quantum contemplated...would reduce significantly the risk of immediate, acute financial distress—and, therefore, any consequential operational impacts such as the withdrawal of capacity.’

The AER concluded that, given the broader Scheme design and ESAS package, ‘the risks of CPRS-related plant shutdown are low and further measures are unnecessary.’ Similarly, NEMMCO concluded that the ‘mitigation factors included in this policy package clearly reduce the energy security risks arising from the CPRS,’ whilst noting that some risks are independent of the Scheme.

Energy security impacts of capital funding and financial contracts

Some stakeholders have indicated that the Government should consider the likely reactions of hedge counterparties and financiers to possible revaluations of generation assets, as both the NEM and the WEM are underpinned by financial contracts.

The Government understands that, while differences exist, generation assets are usually funded with a mix of debt and equity, with the debt sized according to the expected cash flows from the asset. Debt covenants are established when the loan is agreed and provide bounds on how far financial ratios can move before the debt provider can take action. For example, as noted in the submission from Access Capital Advisers, the debt service coverage ratio (DSCR) is commonly used to calculate the number of times debt servicing costs could be paid from the forecast free cash flows. Access Capital Advisers suggested that a typical loan agreement might have a trigger point set at a DSCR of 1.2–1.5 times, at which point no payments would be made to equity, which is known as ‘lock up’. At a DSCR of between 1.05–1.20, equity holders risk the asset being placed in default and creditors taking financial control of the asset. (Submission 712). However, even in this scenario, so long as the generator is able to cover its marginal cost, it will likely continue to operate. Importantly, the likelihood of a generator being able to cover its marginal cost is greatest at times of tight supply conditions.

The Government considers that lenders have significant incentives to negotiate outcomes with financially distressed borrowers rather than taking precipitous enforcement action. Creditors are likely to recognise that there is a risk of making a deteriorating financial situation terminal if they enforce their security on an asset and appoint an administrator. In addition, any action on behalf of creditors to force a sale of the asset risks depressing the sale price, which (depending on the debt levels) may risk leaving the creditor exposed.

The Government considers that, given the advice of the energy market institutions regarding the likely impact on the energy market, and the provision of assistance to the most affected generators through ESAS, it is very unlikely that the actions of creditors will pose a risk to energy security, as it will not be in their interests to take aggressive enforcement action, or to withdraw an asset from the market when prices would justify continued generation.

AEMC review of the energy market framework

In July 2005, the Council of Australian Governments established the AER and the AEMC to regulate and monitor the energy market and undertake rule making and market development functions for the national electricity and gas markets. Under the National Electricity Law, the administrator of the rules (the AEMC) and the AER are bound to promote markets that safeguard the short- and long-term interests of electricity and gas consumers in the efficiency, security and reliability of supplies.

These new market institutions provide flexibility in the market framework and enable it to adjust to changing conditions as required to ensure that the long-term interests of energy consumers continue to be met. However, these arrangements also have benefits for the introduction of the Scheme, as the market rules can be adjusted if necessary to ensure the Scheme's smooth implementation.

The Ministerial Council on Energy has directed the AEMC to review the current energy market frameworks to identify any amendments that may be necessary because of the implementation of the Scheme and the expanded Renewable Energy Target. In identifying options for implementation, the AEMC has been asked to take into account the need for actions to be proportionate, and the value of stability and predictability in the energy markets regulatory regime. In September 2009, the review will report to the Ministerial Council on Energy with a detailed implementation plan for any changes required to the market rules.

The AEMC published a scoping paper for the review on 10 October 2008. The paper raised a number of areas for stakeholders' consideration, including the convergence of the electricity and gas markets, time lags in the delivery of electricity generation capacity, and the interplay with increased renewable generation. The paper also examined how to share the cost of network augmentation, the efficient location of new generation, signalling to the market and the risks associated with the maintenance of retail price caps.

The question of retail price caps has long been an issue across Australia. The AEMC scoping paper highlights the risks of maintaining price caps below cost-reflective levels. The Government considers it very important that, if retail price caps are to be maintained, they be set at levels that allow for full cost recovery. As noted in the AEMC paper, failure to do so risks the viability of retailers and mutes the potential for retail competition.

Policy position 13.17

Energy security can be maintained through the setting of a target range for emissions cuts that allows for a smooth transition to lower-emissions technology. Any minor amendments that are required to the energy market frameworks can be accommodated within the current rules amendment processes.

13.5.4 Conditionality of assistance

In the Green Paper, the Government indicated that it is open to exploring conditions that could be attached to the limited direct assistance to be provided through ESAS.

Green Paper position

Direct assistance to coal-fired electricity generators that is designed to address changes in asset values should generally be provided unconditionally. However, options for conditional support could be considered, provided that they would be consistent with the economic and environmental objectives of the scheme.

Submissions generally did not support conditionality, as it would have the potential to distort market behaviour and frustrate the Scheme objective of meeting emissions reduction targets in the most flexible and cost-effective way:

Conditions will distort market behaviour and frustrate the scheme objective of meeting emission reductions targets in the most flexible and cost-effective way. (Energy Supply Association of Australia et al, Submission 715, p. 26)

Placing conditions on direct assistance to coal-fired electricity generators runs the risk of compromising the environmental and economic objectives of [the Scheme]. It is also completely unnecessary from a policy perspective. (TRUenergy, Submission 813, p. 13)

Assistance and energy security are not related. Origin also strongly argues against assistance which is conditional on investment in new low emission technology—this could ‘squeeze out’ other firms who are not eligible for assistance from investing in new technologies. (Origin Energy, Submission 815, p. 94)

In contrast, some non-government organisations and unions believed that assistance should be conditional on the recipient making a commitment to significantly reducing emissions through investments in low-emissions technology.

In support of some limited form of conditionality, Babcock & Brown Power noted that:

Conditionality of some component of assistance might provide some confidence to the Government that the allocations will assist with the structural adjustment task, and are not purely compensation related ... Making a component of structural adjustment assistance as conditional could be acceptable if it does not disrupt the economic operations of the business.

Principles for considering conditionality options

The Government recognises that the objective of the ESAS package is important when considering options for conditionality. Given that the purpose of the package is to ameliorate the impact of the Scheme on the investment environment in Australia’s electricity generation sector, the ability of the assistance to affect the balance sheets of recipient generators is paramount.

Whilst the Government noted in the Green Paper that the provision of direct assistance is not primarily designed to deliver energy security benefits, ESAS may be capable of providing incidental benefits for energy security through mitigating impacts that could arise in the unlikely event of financial distress of generators. To further mitigate the risk of supply shortfalls, the Government has also considered various models for attaching conditionality to assistance to deliver additional energy security benefits without undermining the original intent of the assistance.

When considering options for conditionality, the Government has taken some key principles into account. First, any mechanism must not undermine the Government's objective of achieving significant carbon pollution cuts. For example, conditionality based on output of electricity (rather than availability) would have the potential to distort the operation of the Scheme. Furthermore, a conditionality mechanism should not artificially lower the short-run marginal cost of a recipient generator, as that would have the potential to artificially increase output from emissions-intensive generators.

Second, conditionality should reinforce and not distort the current energy market design and work within the existing well-functioning and efficient market frameworks.

Third, across Australia, energy systems are experiencing a tightening of the supply and demand balance (in both generation and network capacity). In this context, it is very important that any conditionality mechanism provides incentives for the recipient generator to be available at times when it is most valued by the market. This ties into the second principle: the current NEM energy-only design provides very strong incentives for generation to be available in times of tight supply–demand balance because the market employs a high price cap, currently set at \$10,000 per megawatt-hour and due to increase to \$12,500 per megawatt-hour from 1 July 2010.

Finally, conditionality proposals should seek to address residual reliability issues that might occur only in the transitional period. The measures should not delay the entry of new lower-emissions generation facilities and should take into account the lead time for commissioning new plant.

The Government has considered the cost of implementation of different conditionality models. Heavily intrusive models of conditionality that require, for example, approval of operational, maintenance or financial plans are inherently more costly to administer.

Assessment of options

One option that has been suggested is to make assistance conditional on the recipient investing in low-emissions technology in some form. The Government has carefully considered this option and has decided against it for a number of reasons. First, the recipients of the assistance are a limited set of entities that are defined as strongly affected. However, there is no reason to conclude that those entities are the ones that are best placed to make the most efficient investment in low-emissions technology. The Government shares the concern of Origin Energy that a conditionality model along those lines risks crowding out potentially more efficient investment.

In addition, in using this model it is very difficult to determine whether investment was over and above what would have occurred in any event. This makes monitoring and enforcement

of this conditionality model complex, uncertain and open to a high degree of interpretation. Those characteristics would devalue the package in the eyes of the recipients and undermine the Government's intent in providing the assistance package.

The Government has also examined conditionality options that seek to provide further reassurance of continued reliable electricity supply. However, among the range of conditionality models relating to energy security that have been proposed, some have been ruled out because they tend to conflict with the operation of the overall Scheme. For example, any model that requires that a generator maintain a specific output distorts the operation of both the carbon and energy markets. Rather than rely on the pricing signals that flow from those markets, a participant would be forced, by virtue of the conditions for assistance, to produce electricity and, necessarily, emissions. This runs the risk of creating inefficient or perverse outcomes and forcing a higher cost of abatement than would otherwise be the case.

The Government has, therefore, focused on models of conditionality that require generators to be available to meet demand but do not compel a given level of production. A well-designed conditionality model will allow the energy market to function with minimal distortion. The market ensures that incentives remain for generators to be available when their energy is most valued. For example, in the NEM, a generator that fails to produce energy when the market is priced at the ceiling faces a cost approaching \$10 000 per megawatt-hour, either as the opportunity cost of not generating or as the actual cost of contract for difference payments to retailers. This provides a great level of surety that the necessary incentives will work so that generators ensure that peak demand is met.

An alternative model might be to make limited direct assistance conditional on recipients producing electricity when called on by the market operator. This would provide a further insurance policy in addition to price signals. Under this model, recipients would lose future assistance if they failed to produce electricity on request. The Government does not consider this to be the optimal model, as it does not appear to add to the price incentive or to the existing requirement for generators to follow a direction of the market operator, subject to caveats on risks to safety and to plant and equipment. If the Government applied conditionality along these lines, with similar caveats, the Scheme regulator would be cast in the role of making technical assessments about why a plant did not produce when asked to. The Government considers that these matters are best left to the current energy market institutions.

However, for the powers of direction to apply, a recipient must be registered with the relevant market operator. Being registered also requires the generator to meet a range of maintenance, reporting and other requirements specified in the market rules. Therefore, there may be benefit in making the limited direct assistance package conditional on the recipient remaining registered with the relevant market operator. This would enable the benefits to energy security of keeping recipients registered, but would leave the market operator in control of making directions and determining whether a participant has complied with those directions and the broader market rules.

However, the Government recognises that simply requiring a recipient to remain registered could force the recipient to keep an asset in operation when they would ordinarily decide to reduce capacity. Where adequacy of supply is not in question, this condition could impose additional costs on the industry and therefore on consumers. Therefore, the Government has

considered models of conditionality that include a mechanism to allow the withdrawal of capacity, where there are likely to be sufficient energy reserves.

Energy market agencies assessment

As part of seeking advice on the risks and energy security implications from the implementation of the Scheme, the Government asked the AER, NEMMCO and the AEMC for their views on the need to attach conditionality to the ESAS package. The agencies were presented with the Government's high level principles for assessing conditionality options, along with a possible model that requires recipients to remain registered unless the relevant market operator assesses that the withdrawal of generation capacity is not likely to result in a breach of the power system reliability standards in that market at any time within the next two years.

In general all agencies agreed that if conditionality were to be applied it should be designed in a way that does not distort the energy market. It was also noted that, depending on the model contemplated, there is a risk that the imposition of conditionality could detract from the stated purpose of the ESAS package.

However, NEMMCO noted that a form of conditionality which requires that a recipient remain registered with the market operator does not impose material additional costs on generation businesses or have a significant distortion to the market. The AEMC further indicated that this form of conditionality does not appear to 'detract from the ability of generators to count any assistance as a contribution to capital.' This is important as it maintains the integrity of the ESAS package.

In summary, neither the AEMC nor the AER considered that conditionality provided material additional benefits for energy security. Conversely, NEMMCO indicated that this form of conditionality would 'provide a degree of increased mitigation against the energy security risks.' In addition, NEMMCO noted that this would ensure 'that the business remains open to NEM intervention mechanisms such as 'directions' which can be issued at times of forecast supply shortfall by the market operator.' NEMMCO concluded by indicating that conditionality would have some value in mitigating the risks to energy security.

Conditionality model

Given the analysis of options and the advice from the energy market agencies, the Government has developed a conditionality model that meets all of the high level principles outlined above, but also provides additional protection for the ongoing adequacy of supply in markets with tight supply and demand balances.

The Government will make limited direct assistance conditional on the recipient generator remaining registered with the relevant market operator, with the same planned or actual capacity as at the eligibility cut off date of 3 June 2007. However, given concerns that this may lead to the imposition of unnecessary costs, in situations where there are sufficient energy reserves, a recipient will be allowed to reduce registered capacity without any loss of assistance. If a recipient of assistance wishes to reduce its registered capacity, it will need to ask for an assessment by the relevant market operator that there are likely to be adequate energy reserves in the system to allow the reduction in capacity without breaching the power

system reliability standards applicable to the energy market concerned at any time within two years.

Whilst this model requires that a participant remain registered if a reserve shortfall is forecast, it does not distort the operation of the Scheme or the energy market as it still relies on the price signals inherent in the energy market to ensure that generators produce at times of high demand.

Policy position 13.18

The provision of limited direct assistance will be conditional on the recipient remaining registered with the relevant market operator, with the same actual or planned capacity as at 3 June 2007, unless the relevant the market operator assesses that there are likely to be adequate energy reserves in the system to allow the reduction in capacity without breaching the power system reliability standards.

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- 1 National Electricity Market Management Company, *Statement of Opportunities*, 2008, p. 3-39.
 - 2 Australian Government, *National Greenhouse Accounts Factors*, 2008.
 - 3 National Electricity Rules, version 21, 1 July 2008, Clause 11.10A.1, published by the Australian Energy Market Commission.
 - 4 Australian Government, *Australia's low pollution future*, p. 177, 2008.
 - 5 Prime Ministerial Task Group on Emissions Trading, *Report of the Prime Ministerial Task Group on Emissions Trading, Commonwealth of Australia*, 2007, p. 86.

14 Tax and accounting issues

The tax treatment of permits will not compromise the Scheme's main objectives of meeting Australia's emissions reduction targets on a cost effective basis and contributing to the development of an effective global response to climate change.

Tax arrangements will support the principles of simplicity, efficiency and equity.

This chapter sets out arrangements for the valuation and tax treatment of eligible compliance units, including carbon pollution permits.

The chapter is structured as follows:

- Section 14.1 discusses the tax treatment of permits, taking into account the need for the tax system to be simple, efficient and equitable.
- Section 14.2 considers the desirability of developing discrete legislative provisions for the tax treatment of permits.
- Section 14.3 discusses the tax treatment of administratively allocated permits.
- Section 14.4 discusses the tax treatment of permits surrendered for non-commercial purposes.
- Section 14.5 outlines the tax treatment of permits created from reforestation and destruction of synthetic greenhouse gases.
- Section 14.6 discusses the transfer of eligible Kyoto units into and out of the Australian registry.
- Section 14.7 outlines the tax treatment of penalties and of additional permits issued for immediate surrender as part of the price cap.
- Section 14.8 discusses other tax issues related to the treatment of carbon pollution permits.
- Section 14.9 considers whether normal GST rules should apply to Scheme transactions.
- Section 14.10 discusses appropriate accounting requirements for emissions-related assets and liabilities resulting from the Scheme.

14.1 Objectives of the tax system in relation to the Scheme

The tax design aims to:

- ensure the tax treatment of permits does not compromise the Scheme's main aim of cost-effectively meeting Australia's emissions reduction targets and contributing to the development of an effective global response to climate change
- incorporate the tax axioms of simplicity, efficiency and equity
 - The Government has placed a strong emphasis on simplicity to ensure the implementation of the Scheme by 2010, to reduce compliance costs for taxpayers and government administration costs and to allow effective decision-making. Simplicity in law design ensures affected taxpayers clearly understand their responsibilities and rights, and can easily understand and apply the law to their circumstances. Simplicity ensures consistency in the application of the law. A complex tax treatment makes it harder for emitters choosing between options and deciding whether to use, bank or sell permits. This increases the entity's likelihood of making less optimal choices and increasing the Scheme's economic cost.
 - Efficiency in the tax system refers to the interaction between the tax system and the wider economy, so tax system arrangements do not interfere with investment decisions and the efficient allocation of resources.
 - Equity in the tax system refers to both horizontal and vertical equity. Horizontal equity means that taxpayers in similar economic circumstances are treated similarly. Vertical equity means that taxpayers in different situations are treated differently, with a greater share of the tax burden being borne by those with a greater capacity to pay.

14.1.1 Cost-effectiveness and tax neutrality

Cost-effectiveness means the achievement of environmental goals as efficiently as possible; that is, the permits should go to the user who values them most highly and the lowest cost abatement should be undertaken.

Tax has the potential to change behaviour and distort choices, and can lead to the reallocation of resources. A tax neutral design minimises distortions to decisions about acquiring, surrendering or selling permits. This ensures that permits are used when they are most valued.

Tax can also affect decisions that businesses make about whether to emit or abate. Businesses can use a number of methods to manage their potential exposure to carbon costs, including:

- acquiring and surrendering permits
- emitting less carbon by reducing or altering production processes
- sequestering greenhouse gases to reduce net emissions.

Businesses will consider the after-tax cost of each method. The Scheme's cost may increase if businesses choose actions that receive preferential tax treatment over otherwise cost-effective actions.

If all three methods are tax neutral, the tax treatment should not influence an entity's decision to:

- surrender or trade purchased or administratively allocated permits
- acquire and surrender permits, or to incur capital expenditure to sequester or eliminate an equivalent amount of emissions.

When the tax treatment is free from distortions, businesses can use or trade permits when they are most valuable, improving the Scheme's cost-effectiveness by increasing market flexibility. Tax arrangements that are tax neutral across time will ensure that businesses can use permits when they are most valuable.

Box 14.1: Scheme features integral to the tax treatment of permits

The Carbon Pollution Reduction Scheme's design affects the tax treatment of permits. The Scheme allows permits to be:

- purchased either directly from the Government through auctions or a secondary market to meet obligations from emissions
- issued free of charge to entities in emissions-intensive trade-exposed industries or to coal-fired electricity generators
- created and issued to entities undertaking Kyoto-compliant forestry activities or destruction of synthetic greenhouse gases
- surrendered either to meet Scheme obligations or voluntarily to reduce or remove a carbon footprint when there is no legal requirement to do so
- carried over to the following year if entities surrender too many permits
- surrendered to meet a liability during the emissions year or up to 15 December in the following year
- issued with a future vintage year, whereby, subject to a borrowing allowance, entities cannot surrender the permit before the permit's 'vintage' year (that is, the first year the permit can be surrendered)
- set aside for use in a later compliance period (banked).

It is necessary for the income tax system to recognise permits. Permits are a business input for an emitting entity. Expenditure on permits should be recognised as deductions and hence reduce taxable income. In addition, taxpayers can make gains and losses from buying and selling permits that income tax, which is essentially a tax on the net gains (called taxable income) made by a taxpayer in an income year, should take into account in working out the taxpayer's annual liability.

14.2 Income tax—development of discrete legislative provisions for the treatment of permits

In designing a tax treatment for permits, the Government considered applying the existing law. Applying the existing law leads to neutral outcomes for most permit holders, but its application is complex and uncertain.

Enacting discrete provisions achieves simplicity, efficiency and equity through:

- allowing a deduction for expenditure incurred in purchasing permits for commercial taxpayers
- including in assessable income the proceeds from selling permits
- not applying the capital gains tax provisions of the income tax law to transactions involving permits.

This treats expenditure on permits consistently, and disregards an entity's reasons for holding the permits. It reduces tax minimisation opportunities that could otherwise arise and helps to cost-effectively reduce greenhouse gas emissions.

Green Paper position

The Government's preferred position was to develop discrete provisions of income tax law. Such provisions would generally treat permits purchased by taxpayers who carry on a business or other income-earning activity in the same way as they would be treated under existing legislation, but would increase certainty and reduce complexity.

The provisions would allow a deduction for expenditure incurred in purchasing permits and include in assessable income proceeds from selling permits.

Most stakeholders who commented on the Green Paper agreed with the proposal to develop discrete legislation. For example, the Institute of Chartered Accountants in Australia (Submission 847, p. 1) supports the proposal, as it 'should provide increased certainty, reduced complexity and equitable outcomes'.

The joint submission by the Energy Supply Association of Australia, the National Generators Forum, the Energy Retailers Association of Australia and the Australian Pipeline Industry Association (Energy Supply Association of Australia et al.) (Submission 715, p. 27), welcomed the Green Paper's focus on cost-effectiveness, simplicity and neutrality and endorsed the proposal to create discrete provisions in the income tax law.

Policy position 14.1

Discrete legislative provisions will be developed for the tax treatment of permits.

14.2.1 Rolling balance method

The Scheme includes banking to allow entities to purchase permits for use in different income years.

The ‘rolling balance’ method ensures that entities bring permits to account, for income tax purposes, when they are used. Under the rolling balance method:

- the permit’s cost is deductible
- the proceeds of the permit’s sale are assessable
- any difference in the permit’s value from the start to the end of an income year is reflected in taxable income, with
 - increases in value included in assessable income
 - decreases in value allowed as a deduction.

The effect of the rolling balance method will generally be that any expenditure on permits will only affect taxable income in the year in which the permit is surrendered or sold. Therefore, if a permit is purchased and surrendered in the same income year, the cost of the permit will reduce the taxable income in that year. However, if a permit purchased in an income year is banked, the cost of the permit will not affect the taxable income in that year, where the permits banked are valued at historical cost (which is expected to be the usual valuation method—see the discussion of valuation methods in section 14.2.2).

After a permit held at the start of the income year is surrendered or sold, the rolling balance will be lower than if the permit had not been surrendered. In effect, this gives the taxpayer a deduction for using the permit. The sale price will be included in assessable income.

Green Paper position

The effect of deferring a deduction for the purchase of a permit would be achieved through a rolling balance method, under which the value of permits held at the beginning and end of the income year would be taken into account.

Stakeholders were broadly comfortable with the rolling balance method.

For example, CPA Australia (Submission 800, pp. 18–19) noted that the rolling balance method would mimic most of the features of existing trading stock provisions, which are very familiar to business taxpayers, and that it would ensure consistency across all segments of the business community, including emitters, traders of permits, entities that both emit and trade, and non-liable entities that voluntarily purchase permits for marketing purposes.

Some stakeholders suggested modifying the method, particularly the timing and valuation. This is discussed in sections 14.2.2 and 14.2.3.

Policy position 14.2

The rolling balance method will be used to bring permits to account for income tax purposes, as it provides an effective mechanism for achieving the goals of the Scheme and upholds the principles of simplicity, tax neutrality and cost-effectiveness.

14.2.2 Valuing permits held in the rolling balance

How the law requires permits to be valued is an important consideration in the operation of the rolling balance method. The valuation method can influence the tax outcomes if the price changes over time. The Green Paper outlined two methods that could be used to determine the values of permits under the rolling balance method: historical cost and market value.

Historical cost method

Under the historical cost method, the value of a purchased permit in the rolling balance would be the original purchase cost. This method does not adjust for movements in the market value while the permit is held. If the taxpayer does not sell or surrender a permit in a particular income year, they do not face any income tax consequences for holding that permit in that income year.

If the taxpayer acquires and banks a permit in an income year, the rolling balance increases in line with the permit's cost. If the taxpayer later sells or surrenders the permit, the effect will be to reduce the value of the rolling balance by the value of the permit's original cost. If the taxpayer banks a permit in an income year, the cost of acquiring that permit will also be taken into account in determining the amount of any increase or decrease in the rolling balance for that income year.

Market value method

Under the market value method, the closing value of a permit will be equal to the market value of the permit at the end of the income year. This method adjusts the rolling balance every year to take account of changing market values. If a taxpayer does not acquire, sell or surrender permits in an income year, an increase in the market value of permits held at the start of the year will be included in the taxpayer's assessable income for that year. Similarly, any fall in the value of permits will be a deduction.

If the taxpayer sells or surrenders a permit in an income year, the permit's value is deducted from the previous closing balance, so the new closing balance will be lower than if the permit had not been sold or surrendered. This effectively is a deduction for the permit's opening value for the year. The proceeds from the sale of the permit will also be included in the taxpayer's assessable income.

Green Paper position

The Government did not outline a preferred approach in the Green Paper for valuing permits for the rolling balance, but noted that possible approaches included:

- valuing permits at historical cost
- valuing permits at market value.

Advantages and disadvantages of the two methods

Stakeholders raised advantages and disadvantages for both methods.

Under the historical cost method taxpayers would need to record only the permit's cost and sale proceeds. The Taxation Institute of Australia (Submission 119, p. 4) explained the compliance costs would be implementation costs arising from creating the record-keeping system and would not be substantial. This method might require the taxpayer to keep a record of the cost of each permit until it is surrendered or sold. Such a period might be considerably longer than the period over which records are normally kept for tax purposes.

The historical cost method also avoids taxing unrealised gains, because a gain or loss will only be recognised when it is realised. Gains would be realised at sale; losses would be realised at sale or surrender.

Under the market value method, from a tax perspective, taxpayers should be indifferent to whether they sell or retain permits. This is because net increases in the rolling balance will be included in assessable income (and any net decrease will be allowed as a deduction), irrespective of whether the permits are sold. Also, it is less likely that large amounts will be included in a taxpayer's assessable income upon sale, because the increase in market value of permits in previous income years would have been taxed in those years.

There is the potential for taxpayers to be taxed on unrealised gains under the market value method. For example, this might occur where the value of permits suddenly increases before year end, but goes back to trend levels a few days later. This may result in taxpayers being taxed on gains that they are unlikely ever to realise—although a deduction could be allowed in the subsequent year if prices fall back to trend at the end of that year.

Requiring taxpayers to value assets on a market-value basis might also impose additional compliance costs. This is because new record-keeping systems will be required on implementation, and ongoing costs will be incurred (Taxation Institute of Australia, Submission 119, pp. 4–5).

The Government does not expect compliance costs to be high, as market values should be readily available at low cost with the regular auctions of permits (see chapter 9) and an active secondary market.

Different taxpayers might prefer one valuation method to another. CPA Australia (Submission 800, p. 20) observed that the historical cost method may be attractive to emitters, while financial intermediaries may prefer the market value method. It stated that such preferences resulted from existing systems and business practices. This is consistent with stakeholder views expressed in consultations conducted by the Treasury.

Most submissions favoured a flexible approach to valuing permits, allowing the use of either historical cost or market value. Stakeholders also wanted the ability to change methodologies so that they can adapt to the Scheme and opt for the method most suited to their commercial situation, particularly in the transition to the Scheme.

Many stakeholders sought flexibility but did not comment on when or how often the methodology might be changed (Energy Supply Association of Australia et al., Submission 715, p. 29; Business Council of Australia, Submission 812, p. 9; and the Taxation Institute of Australia, Submission 119, p. 5).

The Corporate Tax Association and PricewaterhouseCoopers (Submission 863, p. 5) sought the flexibility of existing trading stock provisions and a choice on a permit-by-permit basis. Rio Tinto (Submission 768, pp. 22-23), on the other hand, discouraged any requirement to track the cost of individual permits, as it would impose an excessive administration burden.

Some submissions sought flexibility to allow an entity an annual choice to value permits at either historical cost or market value at year end (CPA Australia, Submission 800, p. 21; Minerals Council of Australia, Submission 884, p. 45).

The Corporate Tax Association and PricewaterhouseCoopers (Submission 863, p. 5) stated their disapproval of a once-off election because it would be inflexible and inadequately anticipate future business changes. Similarly, the National Institute of Accountants (Submission 441, pp. 1–2) was opposed to a mandatory market value approach and suggested an annual choice as an alternative.

The Minerals Council of Australia (Submission 884, pp. 47–48) suggested that an annual election (in contrast to a one-off election) should be allowed at least for the initial transitional period until the current uncertainties such as the accounting treatment of permits and international linking are resolved.

Choice of valuation method for transitional period

There is no overriding policy rationale for allowing only one valuation method. A single method could not provide appropriate outcomes for all stakeholders.

Giving taxpayers a choice of valuation method will enable them to choose the method most suited to their commercial situation and to use existing business practices. It will also enable them to respond to changing circumstances while transitioning to the Scheme.

However, giving taxpayers a choice will make the tax legislation more complex and will increase interpretive and administrative complexities for the Australian Taxation Office.

Some stakeholders suggested during consultation meetings that the ‘first in, first out’ rule would be acceptable if the historical cost method were chosen. Under this rule, for income tax purposes, permits of the same vintage leave the rolling balance in same order as they entered. This would limit possible distortion of choices between using an administratively allocated permit and using a purchased permit.

Allowing a choice on a permit-by-permit basis would introduce a high compliance burden for taxpayers.

The Government agrees that there are advantages in allowing taxpayers to choose their valuation method for all permits. This will enable them to apply their existing business practices to their commercial situation and will reduce their compliance costs. Giving taxpayers a choice of valuation method will therefore meet the simplicity objective of the tax regime.

However, allowing an annual choice would create opportunities for tax arbitrage (that is, the exploitation of differences in the historical cost and market value of permits in order to reduce tax liabilities). It would also increase administrative and compliance costs for the Australian Tax Office.

The Government has decided to give taxpayers limited flexibility, for a transitional period of five years, to elect the valuation method they will use to value permits under the rolling balance method. The first time taxpayers hold permits at the end of an income year they will have to choose whether they will use historical cost or market value to value their permits. They will be able to change valuation methods only once during the transitional period. After the transitional period, each liable entity will be required to make an irrevocable election and will not be able to change the method.

The exposure draft legislation will contain further detail about the operation of the historical cost and market value methods.

This will ensure that taxpayers can adjust to the Scheme and select the method that best suits their existing business practices. It will give them the opportunity to consider changing valuation methods in the period after the first Kyoto Protocol commitment period ends in 2012, should circumstances change.

Policy position 14.3

Taxpayers will make an election to use either historical cost or market value to value all permits held at the end of an income year.

Taxpayers will be able to change valuation methods once during a transitional period of five years from the Scheme's commencement, after which no change will be allowed.

14.2.3 Timing of deductions for permits

Determining when costs and proceeds are to be recognised for income tax purposes is important, because permits can be banked and can change in value over time. The value of the deduction available to the taxpayer also changes.

The rolling balance method is tax neutral because it delays the deduction until the year the permit is surrendered or sold. Consequently, this does not bias a taxpayer's decision to acquire, trade or surrender purchased permits or administratively allocated permits, or to incur capital expenditure to sequester or eliminate an equivalent amount of emissions. It ensures no adverse tax consequences from using or selling a permit. Tax neutrality across time ensures permits are surrendered or traded when they are most valuable.

Where a permit is purchased and surrendered or sold in the same income year, a deduction will be allowed in that year. If a permit is banked, the effect of the deduction will be deferred

until the permit is surrendered or sold. Proceeds from the sale of a permit will be included in assessable income in the year of sale.

Green Paper position

The cost of acquiring a permit would be deductible at the time the permit is acquired.

If the permit is banked, the effect of the deduction would be deferred until the time the permit is surrendered or sold.

Any proceeds received on the sale of a permit would be treated as assessable income.

Most submissions from tax professional bodies commented that the Government's preferred position to delay the deduction until the permit is sold or surrendered might create a timing mismatch. A mismatch occurs when the emissions that give rise to the liability occur in one income year while the deduction occurs at the point of surrender in the following income year (Taxation Institute of Australia, Submission 119, p. 4).

Submissions suggested that the timing mismatch may also introduce a distortion, as emitters would estimate the carbon cost of their emissions throughout a given year in order to reflect that cost in the prices they charge customers. Emitters would be assessed on the resulting increased revenue. A distortion occurs if the commercial cost of those emissions was not reflected in a tax deduction for the same year (National Institute of Accountants, Submission 441, p. 2).

Stakeholders maintain the timing mismatch is incongruous with the fundamentals of accrual accounting and taxation. Several submissions wanted deductions in the year the obligation arises, rather than the year permits are surrendered (Corporate Tax Association and PricewaterhouseCoopers, Submission 863, p. 3; Taxation Institute of Australia, Submission 119, p. 2; Energy Supply Association of Australia et al, Submission 715, p. 28; Institute of Chartered Accountants in Australia, Submission 847, p. 14).

Some stakeholders argued for moving to an accrual methodology to better align tax outcomes with the accounting treatment, which would make the Scheme simpler for companies to administer because they already use that methodology (Corporate Tax Association and PricewaterhouseCoopers, Submission 863, p. 3).

CPA Australia (Submission 800, p. 20) sought to bring forward the deduction for the cost of acquiring permits where the permits are purchased soon after the end of the income year in which the emissions occur and are subsequently surrendered to offset those emissions. CPA Australia (Submission 800, p. 25) made the case that liable entities will almost invariably have very significant difficulties in accurately determining their specific emissions liability at 30 June each year, as the liability will depend on both the specific volume of emissions (driven by dynamic market demands for their goods and services) and the prevailing market value of permits at year end. Babcock & Brown Power (Submission 488, p. 16) suggested that having this option would enable entities to eliminate the timing mismatch.

There is not considered to be a substantial timing disadvantage, as entities can surrender permits at any time throughout the financial year, thereby matching deductions with their actual emissions.

Allowing a deduction at the time of purchase for the cost of acquiring permits would introduce a major departure from existing income tax law principles. Where revenue assets are still on hand at the end of the income year, currently the deduction would generally be deferred until they are used.

Furthermore, allowing a deduction in the income year that a permit is purchased could encourage entities to hold more permits than would be optimal. This would reduce the cost-effectiveness of the Scheme, as permits would not be used or traded when they are most valuable, thus restricting market flexibility. Also, if there was a gap between when the cost of the permit is deducted and when income from the disposal of the permit is recognised, taxpayers could employ a tax minimisation strategy; they would get the benefit of the deduction before they had to pay tax on the proceeds of the permit.

An accrual method of recording transactions can match the tax treatment with the accounting treatment. It provides a direct link between the year in which the emissions occur and the year in which the cost of permits and the resulting deduction are recognised. Accordingly, emitters are effectively allowed to deduct an amount reflecting the value of the permits that would need to be surrendered by the final surrender date to completely offset the emissions during the relevant emissions year.

However, the argument for matching the tax treatment to the accounting treatment is not compelling. As permits can be sold or surrendered at any time during the financial year, taxpayers can already choose to recognise their expense by surrendering permits during the emission year. Therefore, a timing mismatch will occur only if taxpayers choose to bank permits.

Some emitters will receive higher revenue by passing on the estimated cost of permits in prices charged to consumers. They can then choose to offset their emissions in the same income year by surrendering permits and receiving a deduction for the cost of the permits. Alternatively, they can take advantage of the cash-flow benefit of using that revenue before they are required to surrender permits to meet their liability under the Scheme.

Implementing an accrual method of recording transactions would give taxpayers a further cash-flow gain, because bringing forward the deduction to align with the emissions liability would allow them to profit from an early deduction before they have surrendered, or even acquired, permits.

Emissions-intensive trade-exposed industries may be affected by a timing disadvantage, as they are constrained in their ability to pass through cost increases. However, those industries are being given assistance through administratively allocated permits, and any timing disadvantage will be dealt with by a 'no disadvantage' rule. This is discussed further in section 14.3.

Using an accrual method of recording transactions would require an estimation of permit price and emissions obligation. Such estimation may be complicated. Entities may find it very difficult to accurately determine the expected cost of the permits that need to be surrendered to offset their emissions, as that cost will depend on various market factors. Inaccurate estimations would need to be rectified, increasing compliance costs.

Allowing a deduction where there is no presently existing liability, and the amount of the liability is not ascertained until the next income year, would introduce a significant departure

from the existing tax law. It would also introduce complexity and significantly undermine the effectiveness of the rolling balance method as a single treatment for all taxpayers.

Departing from the Government's preferred position in the Green Paper would undermine the effectiveness and simplicity of the rolling balance valuation method. It would provide special treatment for emitters, as financial intermediaries would not have an emissions liability under the Scheme, and would thus create distortions in the Scheme. It would increase the complexity of the legislation, which would need to make provision for determining the nature of the entity holding the permit and the purpose for which the permit was held. There would be difficulties in characterising taxpayers that hold permits for different purposes—for example, an emitter that both surrenders and trades permits.

The Government's preferred position in the Green Paper allows taxpayers sufficient flexibility and the choice to match their emissions under the Scheme with deductions for surrendered permits, while upholding the simplicity and tax-neutrality principles. The Government believes that the preferred position should be retained.

Policy position 14.4

- The cost of acquiring a permit will be deductible when the taxpayer starts to hold the permit.
- If the permit is banked, the effect of the deduction will be deferred until the time the permit is surrendered or sold.
- Any proceeds received on the sale of a permit will be treated as assessable income.

14.3 Income tax—treatment of direct government assistance

The Government is committed to providing direct assistance to emissions-intensive trade-exposed industries and coal-fired electricity generators to help them adjust to the introduction of the Scheme (see Chapters 12 and 13). Direct assistance will be in the form of an allocation of permits.

A longstanding principle in the income tax system is that assessable income should include the value of benefits obtained, whether in the form of money or assets, that are directly related to a business or income-producing activity. This includes benefits obtained from Government.

To ensure that the tax system supports the achievement of cost effective reductions in greenhouse gas emissions, the treatment of administratively allocated permits and purchased permits must be tax neutral to the greatest extent possible.

Where an administratively allocated permit is received and surrendered in the same income year, the rolling balance produces no effect on taxable income because the permit is not on hand at the end of the income year and the taxpayer is not entitled to a deduction for the permit as the taxpayer did not incur a cost for it. Amendments to the tax law will ensure that the existing provisions which may otherwise have applied to Government assistance will not apply to administratively allocated permits.

Green Paper position

The value of administratively allocated permits would be included in the taxpayer's assessable income in the year the permits are received.

Many submissions sought income tax exemption for administratively allocated permits on receipt (Institute of Chartered Accountants in Australia, Submission 847, p. 5; Taxation Institute of Australia, Submission 119, p. 2; National Institute of Accountants, Submission 441, p. 1). Some argued that exempting administratively allocated permits was necessary to prevent cash-flow and timing disadvantages.

It was argued that cash-flow and timing disadvantages arise if entities are allocated a large number of administratively allocated permits and they choose to hold those permits, rather than surrender them at the end of the income year. This will result in a larger tax liability due to the recipient being assessed on the value of the administratively allocated permits that they might not surrender before the final surrender date for the emissions year the administratively allocated permits were issued for. If the recipient of administratively allocated permits is assessed on them in the year of receipt via the rolling balance they will be entitled to a deduction in the year when they are surrendered or sold as the value of the rolling balance would have been reduced.

These timing problems are significantly reduced by administratively allocated permits being provided to emissions-intensive trade-exposed entities on an annual basis and to coal-fired electricity generators over a number of years rather than in the one year. Permits can also generally be surrendered at any time throughout a year, subject to the borrowing limitation on future vintages, and any over surrender of permits will be offset against the next emissions year obligations.

Stakeholders argued that, because taxing administratively allocated permits results in a reduced level of compensation, the permits are not 'free' and that the level of compensation is not the face value of permits. For example, the National Institute of Accountants (Submission 441, p. 1) argued that administratively allocated permits (particularly those issued to coal-fired electricity generators) should not be assessable, as they effectively represent compensation for diminished capital value.

Other stakeholders argued that administratively allocated permits should have a zero cost applied in the rolling balance and no corresponding deduction allowed on surrender (Corporate Tax Association and PricewaterhouseCoopers, Submission 863 p. 6; Energy Supply Association of Australia et al, Submission 715, p. 28).

Some recommended that administratively allocated permits be exempted (Minerals Council of Australia, Submission 884, p. 48). At consultation meetings, there was also support for the application of a 'first in, first out' rule where administratively allocated permits were exempt or had a zero cost in the rolling balance to limit any possible distortion in the tax treatment of administratively allocated permits and purchased permits.

Emissions-intensive trade-exposed entities will receive permits on an annual basis. Where entities are allocated fewer permits than their expected emissions liability any cash-flow

problems will be the result of their decision to bank the permits, rather than surrender them, before the end of the income year.

Emissions-intensive trade-exposed industries are being provided with assistance in the form of administratively allocated permits because, as price-takers on the world market, they are constrained in their ability to pass through cost increases. The assistance is intended to ensure that the Scheme will have minimal impact on a company's decision on whether to continue to produce in Australia. Stakeholders argued that it was possible that these companies could be required to pay tax on their administrative allocation at the end of the year the permits were received, even though the permits would be surrendered before the last surrender date for the emissions year for which they were issued.

Administratively allocated permits issued to emissions-intensive trade-exposed entities will be valued at zero in the rolling balance when held at the end of an income year that ends before the last surrender date for the emissions year for which they were issued. This is referred to as the 'no disadvantage rule'. It ensures that an emissions-intensive trade-exposed entity that receives administratively allocated permits in an income year that ends before the last surrender date and chooses not to surrender them will not be assessed on their value in that income year.

Administratively allocated permits on hand at the end of the income year in which that last surrender date occurs (and later income years) will be included in the rolling balance using the normal valuation method; that is, the permits will be valued at market value or historical cost, depending on which method the taxpayer has chosen. The historical cost of an administratively allocated permit will be considered to be the market value at the date of its issue (that is, what it would have cost to purchase a permit on that day).

Box 14.2 sets out the tax treatment of administratively allocated permits issued to an emissions-intensive trade-exposed entity.

Box 14.2: Tax treatment of administratively allocated permits issued to an emissions-intensive trade-exposed (EITE) entity

Example

In August 2011 the Regulator issues 1 million administratively allocated permits with a 2011-12 vintage to an EITE entity. The market value of a permit at issue (as per the secondary market) is \$21.

In October 2011 the entity sells 400,000 of the administratively allocated permits for \$22 each. The entity has an emissions liability for the 2011-12 emissions year and surrenders 400,000 permits in June 2012 and a further 100,000 in December 2012 to avoid a permit shortfall penalty (for not surrendering sufficient permits by the due date, 15 December 2012).

The entity sells the remaining 100,000 permits in July 2013 for \$25 each.

For income tax, the entity has a standard income year ended 30 June and has chosen to value all units held at the end of an income year at historical cost.

Box 14.2: Tax treatment of administratively allocated permits issued to an emissions-intensive trade-exposed (EITE) entity (continued)

For simplicity purposes this example concentrates on the group of administratively allocated permits with a 2011-12 vintage and ignores any other permits acquired, held or surrendered by the entity.

Income tax treatment

Income year ended 30 June 2012: the proceeds of selling permits (400,000 @ \$22 = \$8.8 million) are assessable income. The surrender of permits has no effect on taxable income because none of the permits were held at the start of the income year and no amount is included in assessable income. The remaining 200,000 permits held at year end are valued at zero in the rolling balance under the “no disadvantage” rule. The net effect on taxable income is an increase of \$8.8 million.

Income year ended 30 June 2013: The surrender of permits has no effect on taxable income because the opening balance is zero and no amount is included in assessable income. At year end the no disadvantage period has finished because the last surrender date for the 2011-12 emissions year (15 December 2012) has passed. Consequently, the remaining 100,000 permits held at year end are valued in the rolling balance at their deemed cost, the market value at the date of issue (100,000 @ \$21 = \$2.1 million). The net effect on taxable income is an increase of \$2.1 million.

Income year ended 30 June 2014: the proceeds of selling permits (100,000 @ \$25 = \$2.5 million) are assessable income. The entity deducts the decline in the value of permits held in the rolling balance (100,000 @ \$21 = \$2.1 million). Therefore, the net effect on taxable income is an increase of \$400,000.

Limited direct assistance for coal-fired electricity generators will be provided over a number of years. This is a form of transitional assistance. It is not intended to affect the recipient’s production decisions. It is provided to offset some of the loss in asset value.

The permits will be tradeable, and there is likely to be an active secondary market. An entity will be able to ameliorate cash-flow problems by selling permits in that market.

Exempting administratively allocated permits from taxation or giving them a zero cost in the rolling balance may create an unnecessary distortion. Proceeds from the sale of an administratively allocated permit are assessable income, as the taxpayer receives a financial gain. If a permit remains banked, its market value is likely to rise while its book value remains at zero. Not taxing the permit could create an incentive to hold the permit when other taxpayers might value the permit more highly.

Furthermore, if an administratively allocated permit were exempt from income tax, the taxpayer would not get a deduction. If a liable entity could choose between using a purchased permit it had banked and using an administratively allocated permit it had banked, it might choose to use the purchased permit because of the deduction it could claim for that permit’s use.

Administratively allocated permits issued to coal-fired electricity generators that are on hand at the end of the income year they are received will be assessed through the rolling balance. Adopting this approach will ensure consistency between the current approach to taxing industry assistance generally and the intended tax-neutral treatment of administratively allocated and purchased permits. It will ensure that a banked administratively allocated permit has the same value for tax purposes as a purchased permit, and therefore will not distort a liable entity's choice to surrender or sell the administratively allocated permit. Administratively allocated permits that are banked will be dealt with under the rolling balance method. The taxpayer can choose to value the administratively allocated permits at their market value at the end of the income year or at historical cost. The historical cost of administratively allocated permits will be their market value at the date of issue.

If administratively allocated permits are sold, the sale proceeds will be assessable income in the year of sale, as are the proceeds from the sale of purchased permits. To avoid double counting when banked permits are sold there is a corresponding decrease in the value of the rolling balance at the end of the income year. This creates, in effect, an offsetting deduction for the amount that was assessed in the year of issue.

For the reasons outlined above, assessing administratively allocated permits on hand at the end of the income year they are received by coal-fired electricity generators via the rolling balance is considered to be the most cost-effective, simple and tax-neutral approach.

Policy position 14.5

- The value of administratively allocated permits issued to coal-fired electricity generators that are on hand at the end of the income year they are received will be included in the taxpayer's assessable income through the rolling balance mechanism in that year.
- The value of administratively allocated permits issued to emissions-intensive trade-exposed entities will be valued at zero at the end of an income year ending before the last surrender date for the emissions year for which they were issued. If administratively allocated permits are held at the end of a later income year, the permit will be valued according to the election the taxpayer makes between historical cost and market value. The historical cost value will be the market value at the issue date.

14.4 Permits surrendered for non-commercial purposes

Entities can acquire permits for private or domestic purposes. For example, a person can acquire a permit to voluntarily offset an individual carbon footprint.

A deduction is allowed for any expenditure incurred in purchasing a permit; the deduction is in effect deferred if the permit is banked. However, where an individual or a business surrenders a permit for non-commercial purposes, they will in effect not be entitled to a deduction for the cost of that permit. This is consistent with the non-deductibility of private or non-commercial liabilities for tax purposes.

In these cases, the proposed tax legislation will claw back the deduction by including an amount in assessable income in the year of surrender.

Policy position 14.6

If a permit is surrendered for a non-commercial purpose an amount equal to the original deduction will be included in assessable income.

14.5 Permits created from reforestation and destruction of synthetic greenhouse gases

Forestry is included on an 'opt-in' basis from the start of the Scheme. Chapter 6 sets out the requirements and the consequences of opting into the Scheme. The destruction of synthetic greenhouse gases will be included from the start of the Scheme. Chapter 6 sets out the requirements for the issue of permits for that destruction.

Expenditure on forestry activities and the destruction of synthetic greenhouse gases leads to the issue of permits and the inclusion of such permits in the rolling balance method is important for their income tax treatment.

The tax law already recognises expenses incurred in relation to establishing and maintaining a Kyoto-compliant forest. Those provisions will continue to apply to avoid:

- changing the timing of deductions for forestry expenditures
- apportioning expenses between any permits issued in relation to Kyoto-compliant forests and other purposes for which those forests are created.

Expenditure incurred in forestry sequestration activity will be deducted under the provisions that apply to the particular forestry activity, for example, the carbon sink provisions. This will not change the timing of the write-off of forestry expenditure, and deductions will not be delayed until the income year that a permit is issued by the Regulator.

Similarly, expenditure incurred in destroying synthetic greenhouse gases will also be deductible under the existing provisions that apply expenditure of that kind.

Permits issued for carbon sequestered in Kyoto-compliant forests and destruction of synthetic greenhouse gases, known as 'created permits', will be treated similarly to administratively allocated permits to ensure that the use of permits on hand is not distorted.

If created permits are:

- surrendered in the income year they are issued, they will not enter the rolling balance, will not be assessable on receipt and no deduction will be allowed for their surrender
- sold in the income year they are issued, the proceeds from sale will be fully assessable and no deduction will be allowed for their sale
- held at the end of the income year they are issued, they will be included in the rolling balance at the following values:
 - if historical cost is the valuation method, the market value at the date of issue
 - if market value is the valuation method, the market value at the end of the income year.

The value included in the rolling balance is effectively included in the holder's taxable income for that income year. When the permit is used (sold or surrendered) in a later income year, the reduction in the rolling balance effectively results in a reduction in taxable income in that income year. Proceeds from the sale of permits will be assessable income.

Using the market value on the day of permit issue is conceptually simple and straightforward to apply, avoiding the complex cost-allocation procedures required by determining the actual cost of producing a permit. It also ensures a comparable costing method between purchased, created and other administratively allocated permits that will reduce distortions in the behaviour of entities holding permits. Although an entity might not sell or surrender a created permit until substantially after issue, the permit's value at the time of issue is appropriately recognised. The created permit is a reward or return for the entity's forestry activities or destruction of synthetic greenhouse gases and is immediately convertible to cash on the secondary market.

Policy position 14.7

The tax law already recognises expenses incurred in relation to establishing and maintaining a Kyoto-compliant forest or synthetic greenhouse gases.

The value of created carbon pollution permits will be included in the rolling balance and included in the entity's taxable income for that year, with a corresponding reduction in taxable income in the year the permits are used (sold or surrendered). Proceeds of selling the permit are assessable income.

If created permits are on hand at the end of the income year they are issued, they will be included in the rolling balance at the following value:

- if historical cost is the valuation method, the market value at the date of issue
- if market value is the valuation method, the market value at the end of the year.

14.6 Transferring eligible Kyoto units into and out of the Australian registry

An entity holding eligible Kyoto units will be able to transfer the units into the Australian National Registry (commonly called importing). This will usually occur where the entity intends to surrender the units to acquit an Australian emissions liability. The rolling balance treatment will only apply to units registered in Australia because they are the units that can be used to acquit Australian emissions obligations. Where an eligible Kyoto unit is transferred into the Australia registry, the rolling balance treatment will apply from when the unit is held in the registry; normal income tax rules will apply while the unit is held in a registry outside Australia. This will be achieved by treating the entity as having sold the unit just before it is registered in Australia for its market value at that time and as having immediately repurchased the unit at the same value.

In the early years of the Scheme, exporting Australian carbon pollution permits will not be allowed. However, an entity holding eligible Kyoto units in the Australian registry may transfer them to an overseas registry. Similarly to importation cases, the rolling balance

treatment will apply while a unit is held in the Australian registry; normal income tax rules will apply for the period after the unit ceases to be registered in Australia. This will be achieved by treating the entity as having sold the unit just before it ceased to be held in Australia for its market value at that time and as having immediately repurchased the unit at the same value.

14.7 Income tax—treatment of penalties and price cap

Liable taxpayers will be subject to an administrative penalty if they fail to surrender sufficient eligible compliance permits by the final surrender date for each emissions year.

14.7.1 Penalties

The income tax law does not generally allow a deduction for the payment of a penalty imposed under an Australian law. Consequently, a penalty imposed under the Scheme, including one imposed on a liable entity for failing to surrender sufficient eligible compliance permits, will not be deductible.

The penalty will also have a ‘make-good’ provision. A make-good provision requires that, in addition to the monetary penalty, the noncompliant liable entity must surrender permits equal to the difference between its emissions for the relevant year and the number of permits surrendered within time in respect of those emissions.

A number of stakeholders argued that penalties that have a make-good provision should be deductible (Energy Supply Association of Australia et al., Submission 715, p. 29; Business Council of Australia, Submission 812, p. 8). For instance, the Taxation Institute of Australia (Submission 119, pp. 9-11) argued that any penalty shortfall amount and any make-good permits that have to be acquired for failing to surrender sufficient eligible compliance permits should be deductible.

The Government considers that the penalty for non-compliance should provide a clear monetary disincentive to minimise non-compliance with the Scheme.

Permits purchased to satisfy a make-good provision would be deductible in the same way as any other permits acquired by an emitter.

14.7.2 Transitional price cap

The Scheme will have a price cap for the period from 2010–11 to 2014–15. The price cap will take the form of the issue of additional permits at a fixed price in the period between the final reporting date (31 October) and the final surrender date for an emissions year (15 December). Details of the price cap are outlined in Chapter 8.

The permits that are issued must be used for the purposes of immediate surrender; and they cannot be banked or traded. The cost of purchasing these permits will be deductible.

Policy position 14.8

A penalty imposed under the Scheme, including one imposed on a liable party for failing to surrender sufficient eligible compliance permits, will not be deductible.

For the first five years of the Scheme fixed price permits issued under the price cap arrangements will be available for purchase between the final reporting date and the final surrender date for each emissions year. The cost of these permits will be deductible but they cannot be banked or traded, they can only be surrendered.

14.8 Other income tax issues

The other income tax issues that relate to the treatment of carbon pollution permits are:

- how the new income tax provisions for permits will interact with other income tax provisions
- whether State and Territory governments may levy taxes on the allocation, auctioning and transfer of permits.

14.8.1 Interactions with the income tax system

Introducing a discrete set of provisions in the income tax law to cover the treatment of carbon pollution permits raises questions about how those provisions interact with the rest of the income tax law. This is not unusual as interaction issues arise with any new income tax provisions.

In submissions and consultation meetings on the Green Paper, stakeholders raised the following main interaction issues:

- the application of the proposed ‘taxation of financial arrangements’ provisions to permits and derivatives of permits
- the application of the rules about consolidated groups of entities to permits held by entities that enter or leave a consolidated group
- international tax issues, including the application of the provisions about controlled foreign corporations and foreign investment funds to entities holding permits
- the ability of managed investment trusts to invest or trade in permits without becoming subject to the public trading trust provisions
- the application of the Pay As You Go (PAYG) instalment provisions to entities that sell permits.

Taxation of financial arrangements

Industry has sought clarification on whether the proposed Taxation of Financial Arrangements (TOFA) legislation, released as an exposure draft on 1 October 2008 (called ‘TOFA stages 3

and 4'), will apply to permits and derivatives of permits. In consultations conducted by Treasury and in submissions in response to the Green Paper, the favoured treatment was that the TOFA provisions should not apply to permits (for example, CPA Australia, Submission 800, p. 26.). The Corporate Tax Association and PricewaterhouseCoopers (Submission 863, p. 10) suggested that permits could be included in TOFA on an opt-in basis. The Taxation Institute of Australia (Submission 119, p. 3) said that either the TOFA threshold should be lifted or both permits and derivatives should be excluded from TOFA.

The Government has decided that the TOFA provisions and other tax provisions that could apply to the acquisition, holding and disposal of permits will not apply. Instead, gains and losses from permits will be worked out exclusively under the rolling balance provisions which will provide a clear and uniform treatment that will be easy for taxpayers to apply.

Derivatives of permits that are 'cash settleable' may be 'financial arrangements' under the draft TOFA legislation. Therefore, they may be subject to the TOFA regime where they satisfy other relevant conditions (including relevant thresholds). As derivatives of permits are one of many types of derivative traded, the normal rules that apply to derivatives should apply to them.

Consolidated groups of entities

Submissions sought clarification on how permits held by an entity that joins or leaves a consolidated group will be treated. CPA Australia (Submission 800, p. 25) and the Institute of Chartered Accountants in Australia (Submission 847, p. 13) said that when an entity joins a consolidated group, permits should be treated, like trading stock, as reset cost base assets.

This approach could be implemented as follows. If an entity that holds permits joins a consolidated group part way through an income year, its income year ends at the time it joins the group. The value of the permits at that time will be the joining entity's terminating value, which will be the value of the permits at the start of the income year in which the entity joined the group plus the amount paid to acquire additional permits during that income year.

Under the tax cost setting rules, permits held by a joining entity will be reset cost base assets. However, the tax cost setting amount will not exceed the greater of the market value of the permits and the joining entity's terminating value for the permits. The head company will be taken to have held the permits from the start of the income year in which the entity joined the group. The value of the permits at that time will be equal to the tax cost setting amount. The head company will value the permits at the end of the income year based on the choice that it has made for valuing permits in its rolling balance account. This choice will override any choice made by the joining entity.

When an entity holding permits leaves a consolidated group, the permits will be taken to be an asset of the head company at the end of the income year in which the leaving occurs, but not at the start of the next income year. The value of the permits at that time will be the terminating value for the permits at the time of leaving.

Under the exit history rule, the opening value of the permits for the leaving entity will be the terminating value for the permits at the leaving time. In addition, the leaving entity will inherit the head company's choice to maintain its rolling balance account using the historical cost method or the market value method.

The exposure draft legislation will contain more detail about these consolidation entities.

International tax—controlled foreign companies, foreign investment funds and foreign residents

Few submissions commented on international tax matters, although some issues arise from introducing specific provisions for permits.

The controlled foreign company and foreign investment fund rules ensure that entities cannot accumulate specified foreign source income offshore to defer, or avoid, paying Australian tax.

The Board of Taxation has reviewed these rules and provided a final report to the Government. The Government will decide on the appropriate treatment of permits in its response to the Board's review.

The treatment of foreign residents holding carbon pollution permits held on the Australian National Registry raises a technical issue. This issue attracted little comment in submissions. Permits will generally be used to acquit an Australian emissions obligation, and registration on the Australian registry is a clear and verifiable link to Australia. Consequently, permit sale proceeds and increases in the rolling account balance over an income year will be treated as having an Australian source and, therefore, as assessable income of a foreign resident. For a resident of a country with which Australia has a tax treaty, this outcome will be subject to the treaty terms. Australia's taxing rights to a foreign resident's permits connected to a permanent establishment in Australia may be limited by the relevant tax treaty. Other residents from treaty countries would not maintain a rolling balance account for their permits or be able to claim a deduction for the cost of acquiring permits.

Public trading trusts

The ability of managed investment trusts to invest in or trade permits without becoming subject to the public trading trust provisions in Division 6C of Part III of the *Income Tax Assessment Act 1936* was raised in some submissions. These provisions treat public trading trusts like a company for income tax purposes if the trust does not carry on an 'eligible investment business'. An eligible investment business includes investing in land for rent, and investing or trading in certain financial instruments.

Submissions argued trusts should be able to invest and trade in permits without these provisions applying (for example, Corporate Tax Association and PricewaterhouseCoopers, Submission 863, p. 10). This policy issue is within the scope of the Board of Taxation's review of tax arrangements applying to managed investment trusts. The Board will provide a final report to the Government in mid-2009.

The Government will consider the Board of Taxation's report in deciding whether managed trusts can invest in and trade in permits without the public trading trust provisions applying.

The amendments to the tax law through the *Tax Laws Amendment (2008 Measures No. 5) Act 2008* which was recently passed by Parliament provides a two per cent 'safe harbour' allowance for managed funds at the whole-of-trust level for non-trading income, which would include investment in permits. The amendments broaden the range of financial instruments in which a trust can invest or trade without becoming subject to the public trading trust provisions to include financial instruments that are 'financial arrangements' as defined in the

Income Tax Assessment Act 1997, other than certain excepted arrangements. However, it is doubtful whether permits would be financial arrangements because it is not clear that the holder of a permit has, under an arrangement, a cash settlable right to receive a financial benefit.

Pay As You Go instalments

Some submissions raised the need to amend PAYG instalment provisions to clarify their application to entities dealing in permits. The submissions did not indicate a preferred position although the Institute of Chartered Accountants in Australia (Submission 847, pp. 14-15) suggested carving out the proceeds of permit sales from instalment income.

Instalment income primarily includes ordinary income that is assessable. Proceeds from selling permits would mainly be ordinary income. One possible exception is for permits acquired for the purpose of resale at a profit. In such cases the rules will include gross proceeds in the taxpayer's assessable income, whereas the net gain or loss would be brought to account under the tax law's ordinary income principles.

The exposure draft legislation will set out how the PAYG instalment provisions will apply to the sale of permits.

Petroleum resource rent tax

The Government's position on the interaction between the Scheme and the petroleum resource rent tax will be finalised once consultation on the income tax treatment of permits has been completed. This will ensure consistent treatment across income tax and the petroleum resource rent tax.

The Government will continue to consult relevant stakeholders on petroleum resource rent tax as the income tax legislation for the taxation treatment of permits is finalised.

Other interactions

Other, mainly technical, interaction issues will be dealt with in the exposure draft legislation for the Carbon Pollution Reduction Scheme and explained in the accompanying draft explanatory memorandum.

14.8.2 State and Territory taxes

Many stakeholders were concerned that States and Territories potentially may levy taxes on the allocation, auctioning and transfer of carbon pollution permits.

If the States and Territories apply taxes to these transactions, trading would be more costly and complex. Such taxes would undermine the Scheme's objectives.

The Commonwealth Government has written to the State and Territory governments seeking agreement to not apply these taxes.

14.9 Goods and services tax

The Government's preferred approach in the Green Paper was to treat Scheme transactions under the normal GST rules, which would generally result in:

- GST not applying to administratively allocated permits, unconditional government assistance (including grants)¹, surrendering of permits, penalty for non compliance, imports² of permits and their financial derivatives, and exports³ of permits and their financial derivatives
- GST applying to purchased permits or permits otherwise supplied for consideration
- input taxed treatment for financial derivatives of permits that are connected with Australia.

Green Paper position

Scheme transactions would be treated under the normal GST rules. This would ensure that scheme transactions would receive the same treatment as similar transactions in the broader economy. It would also be consistent with the underlying principles of the GST, including its broad-based nature, minimise compliance costs for entities and avoid complexity in the law.

The treatment of permits under the normal rules would generally not lead to embedded GST for registered entities and, from a GST perspective, those entities would be indifferent as to whether permits were auctioned or administratively allocated.⁴

14.9.1 Stakeholders' comments on the application of the normal GST rules

Some stakeholders supported the Government's preferred position to apply the normal GST rules to Scheme transactions but emphasised the need for certainty.⁵ For example, CPA Australia (Submission 800, p. 27) argued that subjecting the supply of permits to the normal GST rules, articulated in a discrete set of provisions, would provide certainty and be tax neutral.

Other stakeholders suggested amending the GST law to make Scheme transactions GST-free or non-taxable to avoid cash-flow and compliance costs, and in the case of financial derivatives of permits, to avoid businesses facing embedded taxes.⁶ For example, the Taxation Institute of Australia (Submission 119, p. 8) noted the significant GST costs, including financing costs and compliance costs, of the Government's preferred position and recommended making the trading of permits and associated derivatives GST-free.

This section outlines stakeholders' concerns about uncertainty, cash-flow and compliance costs, and embedded tax for financial derivatives.

Uncertainties

A small number of stakeholders raised the need for certainty in the GST treatment of Scheme transactions. Some proposed inserting specific provisions on Scheme transactions into the GST law to ensure the law was interpreted as the Government intended it to be. For example,

Babcock & Brown Power (Submission 488, p. 17-18) preferred codifying the GST law similar to the approach proposed for income tax to eliminate uncertainty associated with the GST consequences of transactions under the Scheme.

The key uncertainty stakeholders raised was about how to characterise permits to apply the normal GST rules. This characterisation is critical to determine the tax status of imports and exports of permits.

Cash-flow and compliance costs

Some stakeholders claimed that applying the normal GST rules to Scheme transactions would put pressure on cash-flows and result in substantial financing costs, including interest and opportunity costs. The delay between paying a GST-inclusive price for permits and recovering the GST costs by claiming an input tax credit could give rise to a cash-flow cost. For instance, the Taxation Institute of Australia (Submission 119, p. 5) argued that if the covered sector's input tax credits amounted to \$191 million per year then interest costs arising from the delay in claiming input tax credits could amount to \$16.2 million per year.

Stakeholders also claimed that applying the normal GST rules would increase compliance costs as entities would need to satisfy GST administrative obligations, adjust systems to track transactions receiving different GST treatments, determine the residence status of entities involved in cross-border transactions and, in some cases, register for GST purposes to claim input tax credits.

Stakeholders suggested amending the GST law to make supplies of permits GST-free or non-taxable to avoid cash-flow and compliance costs.

Some stakeholders argued if the normal GST rules apply, the Government could consider introducing a special matching mechanism, such as a reverse charge scheme or a deferral scheme (like that applying to imports)⁷, to remove cash-flow costs. For example, CPA Australia (Submission 800, p. 27), while supporting the application of the normal GST rules, suggested including specific measures to mitigate any adverse cash-flow effects.

Other stakeholders supported the Government's preferred position of applying normal GST rules, despite potential cash-flow and compliance costs consequences. For example, the National Institute of Accountants (Submission 441, p. 2), while describing the cash-flow costs as significant and noting that a deferral scheme or a reverse charge are options, concluded that for simplicity, normal GST rules should apply as far as possible.

Input taxed treatment of financial derivatives—embedded tax

Stakeholders noted that the derivatives market is critical to the Scheme's success and claimed the input taxed treatment of financial derivatives of permits will adversely affect the market by leading to embedded tax. Embedded tax arises because input tax credits are not available for GST paid on acquisitions related to a supply. This would increase costs for industry that might not be passed on to consumers and introduce a different GST treatment to that applying to permits. For example, the Australian Financial Markets Association (Submission 550, pp. 29-30) claimed that normal GST rules impose a non-recoverable tax on cash settled derivatives through input taxation, increasing the cost of market transactions and imposing a Scheme related tax burden on business.

Caltex (Submission 734, p. 25) raised a concern that companies trading in financial derivatives to hedge against the cost of permits may exceed the threshold for claiming full input tax credits on acquisitions relating to the making of financial supplies and thus would be denied input tax credits. Caltex claimed that companies breaching the financial acquisitions threshold would need to calculate the proportion of input tax credits that relate to financial supplies and not claim these.

Stakeholders suggested the Government amend the GST law to make supplies of financial derivatives of permits GST-free or non-taxable or raise the financial acquisitions threshold substantially.

CPA Australia (Submission 800, p. 28), while supporting the input taxed treatment of financial derivatives of permits as it is tax neutral compared to other derivative products, suggested introducing a transitional measure (providing either GST-free treatment or an entitlement to a reduced input tax credit) for the first two years of the Scheme.

14.9.2 Analysis of stakeholders' concerns

The Government considered stakeholders' concerns about:

- how permits would be characterised when applying normal GST rules
- the GST system's effects on business cash-flow and compliance costs
- whether financial derivatives should be GST-free or subject to special rules.

Uncertainties

The main area of uncertainty about the GST treatment of Scheme transactions is how to characterise permits for the purposes of applying the normal GST rules.

If permits are characterised for the purposes of the normal GST rules as personal property rights (and not rights within the meaning of real property in the GST law), the normal GST rules generally would treat supplies of purchased permits as taxable supplies, imported permits as non-taxable supplies and exported permits as GST-free supplies. This delivers the Green Paper's GST outcomes by ensuring entities acquiring permits in the course or furtherance of an enterprise generally can claim input tax credits, including if they purchase permits for investment as part of their enterprise. It also addresses uncertainties about the treatment of cross border transactions.

As the nature of permits is critical to determine their GST treatment, the GST law will be amended to characterise permits as personal property rights (and not rights within the meaning of 'real property' in the *A New Tax System (Goods and Services Tax) Act 1999*).

The Government does not support establishing a discrete set of GST rules for Scheme transactions. While such provisions might provide certainty, they would add complexity without achieving a tax result different from that achieved by applying the normal rules.

Cash-flow and compliance costs

In general, the GST system is designed to tax private consumption in Australia. However, the application of GST at every stage in the production and distribution chain affects the cash-flow of businesses and imposes compliance costs on them.

The GST system may have either a positive or a negative effect on a business's cash-flow, depending on when in a business activity statement reporting cycle the business makes taxable supplies and acquisitions for which it can claim input tax credits, and whether it trades on a cash basis or has extended terms for payment. The design of the GST recognises the potential for cash-flow costs, which is why businesses can claim input tax credits on taxable supplies in the same tax period that they receive a tax invoice.

Compliance costs will arise regardless of whether the normal GST rules, GST-free treatment or other special rules apply to Scheme transactions. Taxpayers will need to determine the tax status of permits, as they do with any other business inputs, and remit GST and/or claim input tax credits accordingly.

Changing the GST law to make Scheme transactions either GST-free or subject to special rules to remove the cash-flow effect on businesses or to minimise their compliance costs would have significant negative impacts on the GST system without providing a commensurate reduction in compliance costs. It would undermine the broad-based nature of the GST, provide different GST treatments for like transactions in the economy (including purchasing more energy efficient assets), and add complexity to the GST law.

Input taxed treatment of financial derivatives—embedded tax

While the input taxed treatment of financial derivatives leads to embedded tax, this treatment is consistent with that of other financial derivatives. In general, financial supplies are input taxed because valuing and taxing such supplies transaction by transaction is difficult. Most value added tax systems apply input taxation to financial derivatives.

Changing the GST law to make financial derivatives GST-free or subject to special rules including on a transitional basis would give the supply of financial derivatives of permits GST preferential treatment over other financial supplies, including other derivatives. This would compromise market neutrality, undermine the GST's broad base and add to the complexity of the GST law. It might increase compliance costs because businesses would need to distinguish between the GST-free treatment of derivatives of permits and the input taxed treatment of other forms of derivatives.

Increasing the financial acquisitions threshold would have broader implications for the taxation of financial services in general and is not supported.

Policy position 14.9

The Government will amend the GST law to characterise carbon pollution permits and eligible Kyoto units for GST purposes as personal property rights (and not rights within the meaning of real property in the *A New Tax System (Goods and Services Tax) Act 1999*) to promote certainty.

The normal GST rules will apply to Scheme transactions, including the input taxed treatment of supplies of financial derivatives of permits.

14.10 Accounting for emissions-related assets and liabilities

Accounting systems will need to take into account the introduction of emissions obligations and a carbon market.

In the Green Paper, the Government outlined a proposed way forward. It proposed that the International Accounting Standards Board (IASB), which is currently making progress on this issue, would determine accounting requirements in Australia. This is consistent with Australia's policy on the international harmonisation of accounting standards to ensure globally consistent accounting policies. The Australian Government is actively engaging the IASB on this issue and will continue to monitor the IASB's progress through the Australian Accounting Standards Board (AASB).

The Government also suggested that interim Australian-specific accounting requirements be issued closer to the Scheme's start date, depending on the status of the IASB project.

Some submissions in response to the Green Paper (CPA Australia, Submission 800, p. 6; Institute of Chartered Accountants in Australia, Submission 847, p. 2; Business Council of Australia, Submission 812, p. 9) strongly supported the accounting requirements for emissions-related assets and liabilities in Australia being in line with the requirements issued by the IASB.

This will ensure that Australian companies have the same reporting options as overseas companies and will provide them with financial reporting options for emissions-related assets and liabilities. This is consistent with other accounting requirements in Australia that have also been harmonised with the requirements of the International Financial Reporting Standards (IFRS) issued by the IASB.

The submissions generally did not support issuing Australian-specific accounting requirements, if that results in Australian companies' financial statements no longer being IFRS compliant. This would negatively affect the international credibility of those statements.

Based on this analysis, the Australian Government has decided that the IASB should determine the accounting requirements for emissions-related assets and liabilities in Australia. The IASB is expected to issue an exposure draft outlining its proposals in 2009. Once the IASB issues the exposure draft, the AASB will reissue it for comment in Australia.

Policy position 14.10

The International Accounting Standards Board will determine accounting requirements for emissions-related assets and liabilities in Australia.

The International Accounting Standards Board will issue an exposure draft of the proposed accounting requirements in 2009, and the Australian Accounting Standards Board will reissue the draft for comment in Australia.

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- 1 Administratively allocated permits and government assistance will not be subject to GST provided they are not supplied for consideration.
 - 2 For example, acquiring a permit or financial derivative from a non-resident entity that is not required to register for GST.
 - 3 For example, supplying a permit or financial derivative to a non-resident entity outside Australia, or for use outside Australia.
 - 4 This is because, in general, neither taxable nor non-taxable treatment of transactions involving permits would impose any net GST burden on registered entities (as any GST included in the price of inputs can be claimed by such entities as a credit).
 - 5 Stakeholders supporting the Government's preferred position of applying the normal GST rules to Scheme transactions included the Business Council of Australia (Submission 812, p. 9), CPA Australia (Submission 800, p. 27), National Institute of Accountants (Submission 441, p. 2), BP Australia (Submission 355, p. 16), Babcock & Brown Power (Submission 488, p. 17), Telstra (Submission 853, p. 8) and ExxonMobil Australia Pty Ltd (Submission 254, p. 12).
 - 6 Stakeholders concerned with aspects of applying the normal GST rules to Scheme transactions and suggesting amending the GST law to make those transactions GST-free or exempt from the GST definition of 'supply' included the Taxation Institute of Australia (Submission 119, p. 8), the Institute of Chartered Accountants in Australia (Submission 847, p. 2), the Corporate Tax Association and PricewaterhouseCoopers (Submission 863, p. 11), the Minerals Council of Australia (Submission 884, p. 49), the Energy Supply Association of Australia (Submission 715, p. 27), the Australian Financial Markets Association (Submission 550, p. 30), the Australian Chamber of Commerce and Industry (Submission 786, p. 8), KPMG (Submission 545, p. 12), Westpac (Submission 695, p.10) and CSR Limited (Submission 735, p. 25).
 - 7 Under the 'reverse charge' rule, a recipient entity is required to charge itself GST on its acquisitions from non-resident entities. For example, under Division 84 of the *A New Tax System (Goods and Services Tax) Act 1999*, imported services used to make input taxed financial supplies are subject to a GST reverse charge. The reverse charge removes the incentive for a financial supply provider to import services rather than source GST inclusive services domestically. Under the 'deferral scheme' an importer liable for GST on imported goods can defer paying this until its monthly business activity statement is lodged rather than paying the GST liability when the goods enter Australia.

15 Transitional issues

The introduction of the Carbon Pollution Reduction Scheme (the Scheme) will be a major economic reform that will have widespread economic consequences. Several issues require consideration in the lead-up to, and following, the introduction of the Scheme.

This chapter addresses four issues associated with the transition to the Scheme:

- Section 15.1 discusses the termination of two existing state-based schemes operating in the electricity market.
- Section 15.2 describes possible measures to provide credit for early abatement action and the need for such measures.
- Section 15.3 considers whether specific measures are needed to address carbon cost pass-through.
- Section 15.4 assesses the advantages and disadvantages of a fixed-price transition period.

15.1 Termination of existing measures

The Green Paper noted that two major state-based greenhouse gas reduction measures operate in the electricity market—the New South Wales (NSW) and Australian Capital Territory (ACT) Greenhouse Gas Reduction Scheme (GGAS) and the Queensland Gas Scheme.

GGAS began on 1 January 2003 and was originally scheduled to operate until 2012. On 8 December 2006 the *Electricity Supply Amendment (Greenhouse Gas Abatement Scheme) Act 2006* (NSW) came into effect, extending GGAS until 31 December 2021 and beyond, subject to possible national policy developments. The aim of GGAS is to reduce greenhouse gas emissions associated with the production and use of electricity in NSW from 8.65 tonnes of CO₂-e (carbon dioxide equivalent) per capita in 2003 to 7.27 tonnes of CO₂-e per capita by 2007, and to maintain that level.

The Queensland Gas Scheme commenced on 1 January 2005 and is scheduled to operate until 2020. Under this scheme, Queensland electricity retailers and other liable parties are required to source at least 13 per cent of their electricity from gas-fired generation. The Queensland Government subsequently revised the 13 per cent target to 15 per cent by 2010 and up to 18 per cent beyond 2010. Gas-fired generators in Queensland are able to create certificates for every megawatt-hour of electricity that they produce.

The Queensland Gas Scheme aims to diversify the state's energy mix, encouraging greater use of gas and the development of new gas sources and infrastructure in Queensland. An associated benefit is the reduction of greenhouse gas emissions from the Queensland electricity sector.

Green Paper position

State and territory governments are encouraged to discontinue their market-based programs once the national scheme commences, as this is consistent with the Council of Australian Governments' complementary measures and streamlining agenda. The Government will continue to work cooperatively with the New South Wales, Australian Capital Territory and Queensland governments to assist them in their development of appropriate transitional arrangements.

15.1.1 Multiplicity of schemes

The introduction of the Scheme provides an opportunity for all governments to assess the necessity of related policy measures, with a view to ensuring economic efficiency and streamlining the number of schemes in operation in Australia.

The Australian and state and territory governments have agreed to review existing policies and programs, assessing complementarity using a set of agreed principles. Those principles, which are also relevant to the GGAS and the Queensland Gas Scheme, are discussed more broadly in Chapter 19.

In response to the Green Paper, stakeholders generally supported the termination of existing market-based schemes. However, some were worried about the effect on investments made based on existing schemes:

Transitional or complementary measures should only be introduced or maintained where the [scheme] cannot deliver the proposed policy objective ... BP fully supports both the Commonwealth and the States through COAG in their efforts to review existing measures and remove those that duplicate the intent of the [scheme]. This is an essential step to reduce the compliance burden for industry and ensure that legislation is fit-for-purpose. (BP Australia, Submission 355, p. 17)

[Energy Australia is] concerned about the growth in greenhouse reduction and energy efficiency schemes ... any alternative schemes need to be national in scope and truly complementary. Clear termination or transition paths must be developed for existing schemes as a direct element of [the Carbon Pollution Reduction Scheme]. (Energy Australia, Submission 339, p. 2)

As a major participant in both GGAS and [the Queensland Gas Scheme], Origin has a keen interest in the transitioning arrangements for those schemes. We broadly agree with the statements made in the Green Paper in relation to these schemes. From an investment perspective most projects undertaken under either GGAS or [the Queensland Gas Scheme] are unlikely to be adversely impacted if these schemes are discontinued as the [Carbon Pollution Reduction Scheme] price signal is incorporated into market prices. The caveat on this statement is that a 'soft start' to the [scheme], with a weak price signal, would raise concerns about cancelling the existing schemes. For this reason, Origin agrees that the state schemes should logically be discontinued once the [national scheme] commences. (Origin Energy, Submission 815, p. 99)

The Australian Government considers that GGAS and the Queensland Gas Scheme are not complementary to the Scheme and that their continued operation would result in an increased

compliance burden on business and increased costs to the economy. In the interests of economic efficiency, and to reduce the number of schemes in operation in Australia, the Government supports termination of those schemes. However, the Government also recognises that it is the responsibility of the relevant jurisdictions to make decisions about the operation, and eventual termination, of those schemes.

15.1.2 Queensland Gas Scheme

The Green Paper noted that, while the Queensland Gas Scheme was not necessarily incompatible with a national cap and trade scheme, both schemes were likely to promote the use of gas, and the Government would need to carefully consider the interaction of the schemes to avoid imposing unnecessary costs on the economy.

The Queensland Government has made no decision to halt the Queensland Gas Scheme on the introduction of a national emissions trading scheme. In its submission in response to the Green Paper, it indicated that it would seek to transition the Queensland Gas Scheme into the national Scheme as soon as practicable:

The Queensland Government will work closely with the Australian Government to develop appropriate transitional arrangements once the interim and medium-term national emissions reduction targets are announced, and once it is satisfied that the objective of the gas scheme will be efficiently serviced through the [national scheme]. It is likely that when the benefits of the [Carbon Pollution Reduction Scheme] are broadly equivalent to that of the 18 per cent Gas Scheme, the [Carbon Pollution Reduction Scheme] will be the main mechanism driving new investment in gas fired generation in Queensland. At this time, the Queensland Government will consider transitioning out of the Gas Scheme to the [national scheme]. (Submission 518, p. 19)

Comparatively few stakeholders commented on the Queensland Gas Scheme. Among those arguing for its continuation were Ergon–Energex (Submission 369, p. 10) and Babcock & Brown Power (Submission 488, p. 19), who noted that participants with significant exposure could be adversely affected. Furthermore, they argued that the transitional process should be transparent to minimise any adverse financial or investment impacts on market participants and that transition should recognise investments made in good faith. Some stakeholders also noted the role of gas as a transitional lower-emissions fuel for electricity generation and argued that the cessation of the Queensland Gas Scheme would lessen the incentive for development of gas infrastructure. (QLD Gas Generator Forum, Submission 432; Arrow Energy, Submission 321).

However, other stakeholders supported the termination of the Queensland Gas Scheme, noting that most projects undertaken under it were unlikely to be adversely affected if it ended, as the national Scheme price signal is incorporated in market prices (Origin Energy, Submission 815, p. 99). However, the effect of termination would depend on the price signal of the Scheme.

The Australian Government has an interest in ensuring that unnecessary additional measures are phased out as soon as possible—the Queensland Gas Scheme is likely to be inconsistent with the complementary measures principles currently being considered by the COAG Working Group on Climate Change and Water. While a decision to end the Queensland Gas

Scheme is a matter for the Queensland Government, the Australian Government believes the Queensland Gas Scheme should be terminated at the earliest opportunity.

Policy position 15.1

The Australian Government will continue to work with the Queensland Government to encourage the development of appropriate termination arrangements for the Queensland Gas Scheme.

15.1.3 Greenhouse Gas Reduction Scheme

The NSW Government has previously concluded that GGAS and a national cap and trade emissions trading scheme should not operate in parallel. In December 2006, the *Electricity Supply Act 1995* (NSW) was amended to enable GGAS to be terminated if NSW participates in a national emissions trading scheme that will achieve greenhouse outcomes at least as stringent as those of GGAS. In the ACT, the *Electricity (Greenhouse Gas Emissions) Act 2004* (ACT) was similarly amended in November 2007. The NSW Government also released a consultation paper, *Transitional arrangements for the NSW Greenhouse Gas Reduction Scheme* (the GGAS Consultation Paper), in April 2008. The paper canvassed transitional issues for each rule and for NSW Greenhouse Gas Abatement Certificates (NGACs) that were unused at the end of GGAS.

In contrast to the national cap and trade Scheme, GGAS is a baseline and credit scheme. It requires individual electricity retailers and certain other parties who buy or sell electricity in NSW to meet mandatory benchmarks based on the size of their share of the electricity market. The benchmarks can be met by surrendering NGACs, each of which represents one tonne of CO₂-e that has been abated (that is, a reduction in emissions, measured against a baseline). The ACT has a counterpart scheme, which mirrors GGAS.

Four rules define how NGACs are created:

- The *generation rule* allows a generator to create NGACs where it generates electricity at a lower emissions intensity (for example, through the use of renewable or gas-fired generation) than the NSW pool average. The rule also rewards coal-fired generators that reduce their emissions intensity, measured against prior performance (that is, against a baseline).
- The *demand-side abatement rule* rewards projects for more efficient use of energy on the consumer side (for example, projects that install compact fluorescent light bulbs or replace electricity with gas), where that will result in lower greenhouse gas emissions.
- The *carbon sequestration rule* (relating to forestry) credits the estimated net increase in carbon stored in eligible forests.
- The *Large User Abatement Certificates (LUACs) rule* covers abatement activity by large electricity users that is not directly related to electricity production or consumption, such as reductions in industrial process emissions or energy-efficiency measures that improve the efficiency of gas use.

The Green Paper noted that for a project to be made worse off by the introduction of the Scheme and the termination of GGAS, the financial returns to the project would have to be less than would have been achieved if GGAS had continued in the absence of the national Scheme. Furthermore, until it was extended—conditional on NSW participation in a scheme that had or would be established (either nationally or in NSW and at least one other state or territory)—projects established under GGAS were only guaranteed that GGAS would be in existence until 2012. The assessment of project impacts should also take this into consideration.

In response to the Green Paper, the NSW Government noted:

[A] smooth transition is critical to protect the legitimate business interests of scheme participants, minimise avoidable impacts on NGAC and [national scheme] permit markets, and maintain incentives for abatement projects in the transition to the [scheme]. (Submission 903, p. 23)

Most stakeholders commenting on GGAS expressed similar views. Some stakeholders claimed that a number of project proponents and categories of GGAS participants would be made worse off.

The Australian Government has carefully considered these matters and has concluded that the bulk of projects entered into under GGAS will not be adversely affected by its cessation and the start of the Scheme. Specifically, the Government considers that there is no case for providing any assistance for the following classes of project:

- *Projects under Category A of the GGAS generation rule.* These projects entered into power purchase agreements with electricity retailers under a previous NSW voluntary benchmark scheme and were carried forward into GGAS. While there will be a loss of NGAC revenue, abatement as a result of these projects cannot be attributed to GGAS and the Australian Government does not consider that transitional arrangements are necessary for them
- *Projects creating LUACs.* Some stakeholders claimed that returns on investments in abatement projects creating LUACs, such as reductions in industrial process emissions or energy-efficiency measures that improve the efficiency of gas use, might not be realised by 2010. However, LUACs could never be traded—they could only ever be used against a party's own liability. When GGAS ceases, so does the liability, so a party could not be made worse off as a result of this transition. Furthermore, entities that have undertaken such abatement activities will benefit from having a lower liability under the Scheme
- *Lost NGAC revenue from energy-efficiency projects.* Energy-efficiency projects will not be able to create credits under the Scheme as they can under GGAS. Few stakeholders commented on this category. The NSW Government is considering arrangements to include existing energy-efficiency project accreditations in its planned NSW Energy Efficiency Trading Scheme
- *Forestry projects under the carbon sequestration rule.* GGAS sequestration providers are likely to be able to opt into the Scheme to continue to earn permits for net increases in carbon stocks. Once GGAS ends, forestry projects will still retain permanence obligations (there is a one hundred year minimum level of permanency required for continued storage of carbon). The NSW and ACT governments will allow these participants to either buy

back NGACs and acquit any liability for permanence or to opt in to the Scheme with a corresponding liability if sequestration is not maintained.

Projects that may be adversely affected by GGAS termination and national Scheme commencement

The Australian Government considers that three categories of GGAS participants may be adversely affected by the termination of GGAS:

- *Landfill gas and waste coal mine methane generation projects (Category D).* Proponents of some of these projects claimed that they would not be able to capture a sufficient proportion of the benefits associated with their activities to offset the loss of their income stream from selling NGACs. GGAS rewards these generators for destroying methane, which is a more powerful greenhouse gas than carbon dioxide. Proponents of these projects also receive revenue from electricity generation.

Under the Scheme, there will still be strong incentives to destroy methane, although the generator might not be able to capture all of the associated benefits. This is because the Scheme penalises the coal mine or landfill (once the emissions from that landfill are covered by the Scheme) for emitting methane. By supplying gas to the generator rather than emitting that gas directly to the atmosphere, the coal mine or landfill reduces its liability to surrender permits under the Scheme. The coal mine or landfill will not necessarily pass on all of the benefits from its reduced liability to the company generating electricity by burning the gas, which will no longer receive NGAC revenue.

However, subject to contractual arrangements, coal mine methane and landfill gas generators will benefit from increases in electricity prices as a result of the Scheme. In addition, some landfill gas projects will receive revenue under the expanded national Renewable Energy Target as renewable energy generators. These factors could ameliorate the effect of lost NGAC revenue.

- *Holders of unused certificates at the time that the Scheme commences.* Once the Scheme begins, unused NGACs will become worthless, unless they have value in the voluntary market.
- *Cogeneration projects.* A small number of proponents of these projects claimed that they might not receive the same incentive under the Scheme as they do under GGAS. It is highly unlikely that any cogeneration project will be rendered uneconomic as such projects will be implicitly rewarded under the Scheme, which will increase the price of other power sources. However, some cogeneration projects currently receive NGACs for avoiding methane emissions via the diversion of putrescible waste from landfill, for which they would not receive benefit under the Scheme. The Government considers that these projects may be adversely affected by the termination of GGAS.

NGAC revenue for the period after 2012

A number of project proponents argue that consideration should be given to NGAC revenue for the period to 2020, claiming that they acted on assurances from the NSW Government. Some stakeholders claimed that they acted on direct assurances that GGAS would continue to operate, prior to a commitment to a national Scheme. For instance, Visy noted:

Direct assurances by the NSW Government that the GGAS would be extended to 2020 must be honoured because investment decisions were made, and developments are on foot, based on these assurances. (Submission 437, p. 16)

As evidence for claims that the Australian Government should consider lost NGAC revenue to 2020, a number of submissions referred to assurances in the second reading speech on the Electricity Supply Amendment (Greenhouse Gas Abatement Scheme) Bill 2006 (NSW). However, the second reading speech, available on the NSW Parliament website <http://www.parliament.nsw.gov.au>, reiterated the conditional nature of the extension:

The New South Wales Government has called for national leadership from the Commonwealth in ratifying the Kyoto Protocol and establishing a national emissions trading scheme.

...

In August [2006], Premiers and first Ministers released a discussion paper on a possible design for a national greenhouse gas emissions trading scheme. A national scheme could start as soon as 2010 if State and Territory governments agree to proceed with it. The [NSW] Government is keen to maintain the incentive to invest in low-emission generation and abatement projects until a national emissions trading scheme is established. Unless honourable members pass this bill, the New South Wales Greenhouse Gas Abatement Scheme will end in 2012, leaving business without the certainty it needs to invest now in an environmentally responsible way.

...

Without a clear signal that carbon trading will continue beyond 2012, investment in environmentally friendly technologies under the Greenhouse Gas Abatement Scheme may dry up. For this reason, the [NSW] Government decided to extend the Scheme until a national emissions trading scheme is established. The bill extends the scheme without major amendments. This is an interim measure to provide continuity for investors facing the uncertainty that the New South Wales scheme may end before a national emissions trading scheme begins. If it becomes clear that a national emissions trading scheme is not going to be established or will be delayed indefinitely, the [NSW] Government will conduct a wide-ranging review of the New South Wales Greenhouse Gas Abatement Scheme. The aim of such a review would be to ensure the extended scheme continues to meet the government policy objectives over a longer time frame than currently anticipated. These objectives include a future transition to a national emissions trading scheme.

...

The major provision in the bill is to extend the operation of the New South Wales Greenhouse Gas Abatement Scheme from 2012 to 2021 and beyond or until a national emissions trading scheme is established.

...

This bill extends the New South Wales Greenhouse Gas Abatement Scheme without major amendment, while allowing the Governor to suspend the operation of the scheme once a national emissions trading scheme is established.

As mentioned in the second reading speech, in August 2006 the states and territories released a discussion paper on the possible design for a national emissions trading scheme, which had a potential start-date of 2010. It was made clear that GGAS would be terminated if such a scheme were implemented.

The Australian Government is not in a position to verify claims by some stakeholders that the NSW Government had given direct assurances that GGAS would be extended to 2020. Given the conditional nature of the GGAS extension, the Australian Government will not provide any assistance in relation to lost NGAC revenue beyond 2012.

Transitional package

The NSW and ACT governments are responsible for transitional arrangements—they control GGAS and can affect its operation and termination. However, the Australian Government also has an interest in ensuring that adequate arrangements are made to reduce compliance costs and increase efficiency. The Government will continue to work with the NSW and ACT governments to help them develop appropriate transitional arrangements, including by contributing to a financial package for the transition of GGAS.

It is important that the form of any assistance should not increase implementation risks for the national Scheme or reduce the Government's policy flexibility. If assistance were in the form of a free allocation of permits, as requested in the NSW Government submission and by several stakeholders, it would add an unnecessary complication to Scheme design. This could be avoided if any assistance is provided outside the Scheme, such as in the form of a cash assistance package.

The Australian Government encourages the NSW and ACT governments to terminate GGAS one day before the Scheme begins. It will continue to seek agreement with the NSW and ACT governments on GGAS termination. The Government prefers that any funds be distributed by the NSW Government under agreed terms. However, should agreement not be reached on this approach, the Government will consider providing some limited assistance for the benefit of GGAS participants. Priority will be given to adversely affected cogeneration (being rewarded for avoided methane creation), landfill gas and waste coal mine methane generators directly, and, as a lesser priority, to holders of unused NGACs. The NSW and ACT Governments are encouraged to take steps in their power to reduce the number of unused NGACs in existence at the start of the Scheme.

Policy position 15.2

The Australian Government will continue to seek an agreement with the NSW and ACT governments on GGAS termination. However, should agreement not be reached on this approach, the Government will consider providing some limited assistance for the benefit of GGAS participants, with priority given to adversely affected cogeneration (being rewarded for avoided methane creation), landfill gas and waste coal mine methane generators directly, and, as a lesser priority, to holders of unused NGACs.

The Australian Government will also allow GGAS forestry projects to opt into the Scheme, provided they meet the Scheme eligibility requirements.

15.2 Credit for early action

Credit for early action would involve allocating carbon pollution permits to companies that reduce their emissions before the Scheme begins.

The Green Paper gave the establishment of an early action credit regime a low priority compared to the design of essential components of the Scheme. The Government encouraged early action and considered that businesses would be adequately rewarded for early action with the commencement of the Scheme and the incentives it would create to reduce emissions between publication of the Green Paper and Scheme commencement.

The options discussed related only to abatement between 3 June 2007 and the start of the Scheme. A further option, giving credit for action before 3 June 2007, was not considered because it would not achieve the basic objective of promoting additional abatement before the start of the Scheme and would be impossible to verify and allocate transparently and fairly.

Green Paper position

A program for allocating early action credits would not be established.

The few stakeholders who commented on this issue generally supported recognition of action that they had undertaken to reduce emissions. For example, Visy (Submission 437, p. 6) and the Chamber of Commerce and Industry of Western Australia (Submission 500, p. 12) maintained that credit should be given to businesses that took early action to reduce their emissions.

With only two years before trading commences, and early action arrangements yet to be designed or introduced, the scope for delivering additional abatement through early action crediting is limited:

- It would take some time to develop an administrative system for approving early action project proposals, even if that system were based on an existing program, such as the Greenhouse Friendly initiative.
- Experience with previous grants programs, such as GGAS, has shown that planning, development approvals, environmental approvals, financing, and construction and

commissioning of plant take several years. Therefore, it is highly unlikely that major projects with large-scale abatement benefits could be executed in time to produce emissions reductions in 2008, 2009 and part of 2010.

In addition, businesses are likely to seek to reduce emissions in preparation for the start of trading. A key advantage of a cap and trade scheme is that it implicitly rewards early action by reducing the number of permits that a business will be required to surrender to government (or the associated carbon cost passed on by another entity).

For these reasons, the Government confirms its Green Paper position that no special scheme giving credit for early action will be created.

Policy position 15.3

A program for allocating early action credits will not be established as companies that have taken action ahead of the introduction of the Scheme may already be benefiting from lower input costs and will continue to benefit under the Scheme through avoidance of higher energy costs or Scheme liabilities.

15.3 Carbon cost pass-through

The Scheme will impose a cost on carbon pollution that will change the relative prices for goods and services throughout the economy. In general, the additional cost to those producers required to surrender permits will be passed through the production chain and will be reflected in the final price for a product.

However, in some cases, economic, regulatory or contractual barriers might prevent carbon cost pass-through initially:

- Economic barriers, such as international competition, might impede the ability of domestic retailers to pass on the carbon price in international markets. This issue is particularly relevant for emissions-intensive trade-exposed industries and is dealt with in Chapter 12 of this White Paper.
- Regulatory impediments, such as retail energy market price caps, could impede retailers' ability to pass on the carbon price.
- Contractual impediments (that is, absent or ambiguous cost pass-through clauses in contracts) might also impede the ability of producers to pass on the carbon price resulting from Scheme obligations.

There are two main effects of constraints on businesses' ability to pass through carbon costs:

- it is likely to be more difficult and expensive for Australia as a whole to meet any particular emissions target if price signals that guide production, investment and consumption decisions to reduce emissions are blocked, and prices do not reflect reasonable carbon costs
- regulatory or contractual impediments to cost pass-through may increase the impact of the Scheme on particular firms or industries.

15.3.1 Regulatory impediments to carbon cost pass-through

Ideally, there should be no regulatory impediments to the pass-through of reasonable carbon costs. Various stakeholders commented on the impacts of regulatory impediments to carbon cost pass-through.

The National Electricity Law and National Gas Rules, along with individual retail price regulation regimes, will also need to ensure that any prudently incurred scheme related costs are included in pricing determinations. (Energy Supply Association of Australia and others, Submission 715, p. 12)

Network businesses would require that the cost associated with the purchase of carbon permits is able to be recovered in charges to customers. However, regulated businesses are subject to revenue/price caps, and specific pass-through provisions would be required. ... SP AusNet believes that there is a need for the White Paper to give some certainty to regulated businesses on pass-through, as part of the design of the scheme. This should provide the specific mechanisms for pass-through, or, provide sufficient direction and intent for energy sector rule makers to make the necessary pass-through provisions in rules. (SP AusNet, Submission 729, pp.1–2)

Origin Energy, commenting on regulation in energy markets, argued:

With the introduction of the [scheme] in 2010, Origin believes that a renewed priority must be placed on de-regulating retail prices in accordance with the commitments made by all energy ministers under the Australian Energy Markets Agreement (AEMA). (Submission 815, p. 108)

The Energy Supply Association of Australia noted:

Electricity and gas tariffs are optimally set by competitive markets and the Energy Industry strongly believes that retail price regulation should be removed in all competitive markets immediately. Retail price regulation in competitive markets provides no benefits but imposes considerable direct and indirect costs. Where competitive markets are not in place, and where jurisdictions retain inefficient price regulation despite competitive markets, it is vital that regulated tariffs are adjusted in a timely manner to fully allow for increased energy costs under the scheme. (Submission 715, p. 22)

Retail price regulation would prevent retailers from passing on higher wholesale energy costs in a timely manner. Retailers could therefore experience significant losses and be unable to contract forward with the remaining generators, forcing their eventual exit. (Submission 715, p. 7)

The National Electricity Law and the National Gas Law already enshrine the principle that every regulated transmission and distribution network service provider is to be provided with a reasonable opportunity to recover at least the efficient costs the operator incurs in providing network services and complying with regulatory obligations. Consistent with access regulation under the *Trade Practices Act 1974* (Cwlth), the application of this principle to pricing decisions will guarantee that regulated gas and electricity network charges reflect the efficient costs of complying with the Scheme and any increase in supply costs that result from it.

In 2006, the COAG Australian Energy Market Agreement was amended such that '[a]ll Parties agree to phase out the exercise of retail price regulation for electricity and natural gas where effective retail competition can be demonstrated' (clause 14.11). The process for achieving this is for the AEMC to conduct reviews of the effectiveness of competition in each relevant market and provide a report to the relevant jurisdiction on whether or not there is effective competition and ways in which retail price regulation can be phased out. Jurisdictions have six months to provide a public response to that report.

In 2007, the AEMC reviewed the Victorian market and found that there was effective competition in that market. In 2008, the AEMC has been reviewing the South Australian market and has made a finding of effective competition. While the COAG agreement indicates that reviews of each jurisdiction should ordinarily take place each two years, resourcing of the reviews has meant a more staged approach has been adopted. The agreement also sets out that retail price regulation should not hinder further development of competition (clause 14.12(a)).

In considering the interaction of the Carbon Pollution Reduction Scheme and the operation of retail markets, the broader issue of retail price regulation for electricity and gas consumers is being addressed through the work of the Ministerial Council on Energy (MCE). At its 31 July 2008 meeting, the MCE agreed to further consider issues of retail price regulation in light of the Scheme and the expanded national Renewable Energy Target and report on this to COAG. On 25 August 2008, under direction from the MCE, the Australian Energy Market Commission (AEMC) began the Review of Energy Market Frameworks in light of climate change policies. The review will focus on assessing how the Scheme and the expanded national Renewable Energy Target scheme might affect existing energy market frameworks and determine what, if any, amendments are needed to those frameworks as a result. The review will advise the MCE on adjustments that may be necessary to ensure that energy markets can continue to promote the ongoing efficiency, reliability and security of electricity and gas supplies in the long-term interest of consumers.

The Energy Supply Association of Australia, in commenting on the work of the MCE, stated:

This process is insufficient to ensure the removal of retail price regulation as there is no obligation on individual jurisdictions to remove retail price regulation even where the markets are demonstrated to be competitive. In fact, several State Energy Ministers have indicated that they will not remove retail price regulation even if their markets are shown to be competitive. Consumers can only respond to the emissions price signal to improve their energy efficiency if they are exposed to the real price increases that will flow from the scheme. The removal of retail price regulation would lead to more flexible tariffs, improved demand side management (including peak summer demand), greater energy efficiency and consequently a lowering in the cost of reducing emissions. Price regulation, with its inherent inefficiencies and cross-subsidies, distorts efficient market outcomes and prevents efficient price signals reaching customers, including the emissions price signal that will be provided by the scheme. (Submission 715, p. 22)

The Government notes the results of California's partial deregulation of its electricity market (see Box 15.1). If regulated retail prices do not allow for the pass-through of carbon costs, this could threaten the viability of energy retailers and, in turn, weaken their ability to contract with existing and new electricity generators.

Box 15.1: Energy security and retail price caps that do not reflect costs: the Californian experience

On 31 March 1998, California partially deregulated its electricity industry. Utilities were vertically disaggregated—generation was separated from retailers and privatised. No regulation applied to wholesale electricity pricing. However, the reform did not change the fixed, regulated retail prices paid by end users of electricity.

Wholesale prices were below regulated retail prices for several years, but surged in mid-2000 to reach more than six times the retail price. The regulated retail price was not changed. The inability of the utilities to pass through the increase in wholesale prices to consumers appears to have been a key contributor in sending California's two largest utilities into insolvency. The position of retailers was exacerbated because there was no new price incentive for end users to conserve electricity, as the retail price did not reflect the wholesale price.

While there were several likely causes of the Californian energy crisis, it appears that the inflexibility of retail prices to allow the pass-through of higher wholesale prices was a contributing factor.

Competition and consumer choice in retail energy markets is the best way to achieve a cost-effective demand-side response and to protect consumers from being overcharged for the costs imposed by the Scheme. The mandatory roll-out of 'smart meters' in jurisdictions where the benefits outweigh the costs will help consumers manage their energy demand and has the potential to deliver considerable carbon savings, as demonstrated by the MCE's cost-benefit analysis.

Nonetheless, even in competitive markets, vulnerable and low-income consumers' interests need to be recognised. The general market framework already provides particular protections, and the household measures package will alleviate the impacts of the Scheme. The Government has proposed a significant package of assistance to help low-income households adjust to the impact of the carbon price, which compensates them for the higher electricity prices resulting from the Scheme (see Chapter 17). Those measures will deal with equity issues directly, and in a manner that is more effective and efficient than would artificially suppressed energy prices.

The Australian Government also recognises that there are markets in which competition may not yet be effective and retail price regulation may be necessary to protect consumers from monopoly pricing. The Government notes the importance, in those markets, of independently administered price controls that reflect the underlying costs of service provision, including network pricing signals, the costs imposed by the expanded national Renewable Energy Target and the increased wholesale prices resulting from the Scheme. Failure to adequately provide for recovery of those costs would reduce the potential for competition to develop and could threaten the long-term security of supply if retailers do not have viable business models. Nonetheless, these matters should be addressed through the MCE's energy market reform agenda, rather than in the implementation of the Scheme.

The Australian Government recognises the importance of carbon cost pass-through in energy markets to ensure that Scheme objectives are not undermined. The Australian Government

supports the work of the MCE and the review currently being conducted by the AEMC and places a high priority on removing unnecessary, inefficient and distortional regulatory barriers to carbon cost pass-through. It strongly urges state and territory governments to ensure that there are no regulatory impediments to the pass-through of costs in retail electricity and gas prices.

Policy position 15.4

The Australian Government supports the work of the MCE and the review currently being conducted by the AEMC and places a high priority on removing unnecessary, inefficient and distortional regulatory barriers to carbon cost pass-through.

15.3.2 Contractual impediments to carbon cost pass-through

A number of stakeholders have claimed that the terms of their contracts with their customers do not allow them to pass on carbon costs (that is, the costs of complying with the Scheme). There are several potential reasons that contracts might not allow carbon costs to be passed through:

- the issue was considered, but not judged to be material
- the issue was considered and judged to be material, but the carbon cost price risk was consciously allocated to the seller
- the issue was considered and judged to be material but an alternative mechanism for imposing a carbon price was anticipated (for example, a carbon tax), and the pass-through mechanism is not triggered by the imposition of a carbon price in the form of the Scheme
- the issue was considered and judged to be material and a pass-through provision was included that would be triggered by the Scheme, except that other contractual impediments apply (for example, an entity with operational control has obligations under the Scheme, but might not be the seller in the contract, which might be a company in a subsidiary relationship or a separate organisation, such as one in a mine owner—mine operator relationship)
- the issue was not considered (and the contract does not include a generic ‘change of law’ or ‘change of tax’ provision that is triggered by the Scheme).

The Australian Government expects that some parties will renegotiate contracts to allow full or partial pass-through of carbon costs. For instance, in the case of a coal mine supplying an electricity generator where the coal mine cannot pass through carbon costs, it is likely to be in the best interests of both the mine and the generator that the mine continues to operate. Even if the coal mine could not pass on carbon costs and the existing owners decided to exit from operations, a new mine owner would, in any event, negotiate a contract that allowed pass-through. However, it might take some time to find a new buyer and to negotiate a supply agreement, potentially affecting the profitability of the generator.

Similarly there are strong incentives for other entities, including emissions-intensive trade-exposed, to renegotiate with suppliers that are likely to cease operations if they are unable to pass on costs. A new supplier would, in any event, negotiate a contract that allowed

some level of pass-through. However, it might take some time to find a new supplier and to negotiate a supply agreement, which could affect the profitability of the entity.

That said, for other parties, renegotiation may not be possible.

The contractual impediment that arises when the entity deemed to have operational control (and thus a liability under the Scheme) is not the seller in the contract can be resolved by allowing that entity (subject to meeting specified criteria) to transfer its Scheme obligations to the entity with financial control over the facility, or from the controlling corporation to a member of its corporate group (see Chapter 7).

Creating scope for transfer of liability would help in some cases. For the remaining contractual impediments, there is no single and readily implementable solution and while the Government is aware of some parties' contractual difficulties, it is likely that there are many more.

In addition, there is considerable uncertainty among parties about whether costs can be passed on—indeed, one seller disclosed a contract to the Government as evidence of its inability to pass on costs, while the buyer showed the same contract to the Government as evidence of the cost burden it would assume.

A number of proposals have been put forward that may involve significant risks for the Government and affected parties:

- *Implement a statutory pass-through provision.* For example, the Australian Pipeline Industry Association (Submission 584, p. 3), Asciano (Submission 416, p. 8) the Australian Coal Association (Submission 530, p. 18), Babcock and Brown Power (Submission 488, p. 16), the Energy Networks Association (Submission 762, p. 8), Wesfarmers (Submission 370, p. 2) and a number of confidential submissions supported a statutory override of contracts. A number of submissions also refer to the introduction of the GST as an example of a statutory override of contracts (see Box 15.2).

However, there is a risk that implementing a statutory override of existing contracts would involve a requirement to provide on 'just terms' compensation under s51(xxxi) of the Constitution. The Government is concerned about exposing taxpayers to these risks, particularly given the lack of certainty surrounding existing contractual arrangements. In addition, a statutory override of existing contracts would set a dangerous precedent of government intervention in commercial arrangements to which the overwhelming majority of businesses would be likely to object.

- *Implement a carbon tax instead of a cap and trade emissions trading scheme.* A number of confidential submissions supported this option as a potential solution to those contracts where an alternative mechanism for imposing a carbon price was anticipated.

This proposal would be inconsistent with government policy. In addition, it could assist only some parties and might create a new set of contractual constraints.

- *Monitor developments.* For instance Origin (Submission 815, pp. 110-111) and a number of confidential submissions note that existing contracts will allocate carbon costs appropriately and that Government intervention is not required. However, some of these

submissions also note that in the event that contractual impediments remain, the Government should provide access to compensation.

This option recognises that prudent businesses would consider and appropriately deal with risks, including the potential for a carbon constraint, and that there is little that the Government can or should do. Taking no action also provides considerable incentive to parties to renegotiate contracts. However, it would result in a loss to the seller if the contract could not be successfully renegotiated.

- *Provide limited assistance to some affected parties.* A number of public and confidential submissions suggested the Government provide compensation to affected parties. However, this could impose a large and uncertain cost on taxpayers, particularly given the lack of certainty about specific contractual terms and expiration dates. In addition, assistance would dilute the incentive to renegotiate contracts.

Box 15.2: The GST and non-reviewable contracts

When the GST was introduced on 1 July 2000, there were some pre-existing contracts that did not allow the supplier to increase the price to reflect the GST. If these contracts were subject to GST:

- the supplier would have been liable to pay GST on the supply. However, it would not be able to pass on the additional cost to the recipient
- in some cases, the recipient would have been eligible for an input tax credit for GST even though the amount being paid by it to the supplier had not increased.

To ensure that suppliers were not unduly disadvantaged and recipients did not obtain windfall gains, transitional provisions were enacted to allow supplies made under these pre-existing contracts to remain GST-free until 30 June 2005, unless there was an earlier review opportunity under the contract. A similar arrangement to exempt those entities with contracts affected by contractual impediments from the Scheme would be inconsistent with Government policy and would place an unfair burden on covered entities.

In February 2005, the GST law was amended to facilitate suppliers and recipients revising the price of their long-term non-reviewable contracts to take account of the supplies becoming taxable from 1 July 2005. If a supplier and a recipient cannot agree on a revised price, the supplier can initiate an arbitration process which will result in either:

- the supplier being reimbursed by the recipient for the GST paid by the supplier or
- the liability to pay GST shifting to the recipient.

Under the arbitration process, an independent assessor is appointed to work out an appropriate revised price for the contract. If the recipient does not agree with the arbitrated offer, the recipient will be required to pay the GST instead of the supplier. In either case, the recipient's entitlement to an input tax credit (if any) is determined on the usual basis. Accordingly, even if an arbitrated offer is not accepted and the recipient is required to pay the GST (similar to the statutory override of contracts proposed by some stakeholders), a GST-registered recipient is likely to be entitled to claim an input tax credit.

Box 15.2: The GST and non-reviewable contracts (continued)

In effect, the GST arrangements prevent a windfall gain to recipients by ensuring adequate incentives for price revision. However, there is no net gain or loss due to the ability of recipients to claim an input tax credit, where entitled.

It is important to note that the GST provisions do not involve a statutory override of contracts. The recipient has the sole discretion as to whether it will accept the arbitrated offer. If it chooses not to accept the revised contract price, it will become liable to pay GST of 10% of the existing contract price.

This type of burden-shifting arrangement does not translate well to carbon cost pass-through. It is not possible to determine with certainty whether and to what extent carbon costs can be passed through. This means that the trigger for the burden-shift would be a matter of ambiguity and contention. Moreover, shifting the liability for a supplier's greenhouse gas emissions to the recipient would have the effect of substantially varying the coverage arrangements under the Scheme. It would impose a liability on entities that are not responsible for, or able to quantify, emissions (as opposed to GST payments, which are easily calculated based on known data). The supplier would have no incentive to reduce its emissions if it is not liable to surrender permits for those emissions.

Determining who will be adversely affected ahead of certainty regarding Scheme design and legislation implementing the Scheme is difficult. Parties would require the legislation implementing the Scheme to specify whether pass-through would occur in their specific circumstances (for instance, the exact wording of the final legislation may provide the necessary trigger for contracts with ambiguous or alternative forms of carbon cost pass-through). In addition, it is too early to determine which parties will be able to successfully renegotiate their contracts. For these reasons, the Government considers it appropriate to continue to monitor the nature of contractual issues, including the scope for, and progress of, commercial renegotiations.

Policy position 15.5

Based on current information, the Government will take no action with respect to contractual impediments other than as discussed in Chapter 7 in relation to the ability of firms to transfer obligations under certain circumstances. In 2009 the Government will continue to monitor the nature of contractual issues, including the scope for, and progress of, commercial negotiations, once stakeholders have had an opportunity to assess the exposure draft of the legislation.

The legislation will not contain any provisions designed to override contracts to allow for pass-through of carbon costs.

15.4 Fixed price transition

One of the central elements of the Carbon Pollution Reduction Scheme is that it places a quantitative restriction on the level of greenhouse gas emissions. The price of permits will then be determined through trading in the carbon market.

One way in which the Government can manage price risk as the Scheme is developing would be a fixed-price start, as proposed in The Garnaut Final Report (see Box 15.3). Under a fixed-price regime, liable entities would pay a fixed price for permits at surrender date at a level determined by the Government. There would be no effective cap on emissions and no trading in current vintage permits during the transitional period. A transitional fixed-price regime would, in effect, delay the commencement of the trading scheme and impose a carbon tax in the interim.

Box 15.3: Garnaut Final Report: fixed price transition period

The Garnaut Final Report recommended a transition period to the end of 2012, during which permits would be sold at the fixed price of \$20 per tonne of CO₂-e (in 2005 prices, and rising at 4 per cent a year plus the rate of inflation).

The report advocated advanced auctions of permits for the period after 2011–12, so that trading could still occur in these instruments and to allow forward prices to develop. This would provide an early price signal for the period beyond the fixed-price regime, giving firms a way of managing future price uncertainty. No import or export of credits would be allowed during the fixed-price period.

The main advantage of a transitional fixed-price regime is that it avoids the risk of price volatility in the early years of the Scheme, as the carbon market evolves and international arrangements become clearer. International carbon prices beyond the Kyoto commitment period are uncertain, and will depend on the nature of any new international agreement. Expectations of future international carbon prices, and uncertainty over those prices, will influence Australian permit prices. A transitional fixed price removes the need for businesses to manage permit price risks in the short term. It also gives businesses more time to prepare for the introduction for the Scheme.

A fixed-price regime may also allow the Government to set a price that will not be perceived as too low or too high. For example, the Garnaut Final Report (p. 350) noted:

A period of derisively low prices would be damaging for the credibility of the scheme in its formative years...The remainder of the Kyoto period is best considered as a transition period in which the emissions trading scheme is established soundly for the larger task that will lie ahead of it after 2012. The Review considers the most appropriate approach to the transition period will be to fix the permit price in order to address both the likelihood of very low prices and fears of the opposite outcome.

On the other hand, a fixed-price transition period would have a number of important disadvantages. Australia's international climate change obligations are all framed in terms of reductions in emissions. Consistent with this, the Scheme design set out in this White Paper commits to setting a quantitative target for emissions reductions. It is not possible to control both the quantity of emissions and the price of emissions at the same time through a fixed price. A fixed price can only ever be a short-term proposition as long as the Government is committed to a quantitative target, meaning that a transitional fixed price defers a period of price uncertainty, rather than avoiding it.

A transitional fixed price period may not align with an emissions reduction path that enables Australia to most efficiently meet its medium-term emissions reduction target. While the fixed price would be based on modelling, for the period it was in place the Government would not control the actual quantity of Australia's emissions:

- If the fixed price were set above the price that would be required to prevail in the market for Australia to meet its medium-term emissions reduction target, then it would impose unnecessarily high costs on the economy during its years of operation. That is, Australia may have reduced emissions by too much in the transitional period.
- If the fixed price were set below the price that would be required to prevail in the market for Australia to meet its medium-term emissions reduction target, then there is a risk that Australia may not have reduced emissions by the efficient level in the transitional period.

A fixed price could also hamper the development of a reliable price signal which is needed to inform long-term business investment. Price variation promotes market efficiency, as it ensures that the carbon pollution permit price reflects the market's most up-to-date estimates of future emissions reduction costs. That price signal, which will capture the expected future cost of abatement, will enable businesses to make informed investment decisions. A fixed-price transition period would delay the development of a full emissions trading scheme, which in turn would curb the development of a reliable price signal and appropriate risk management instruments.

This is noted by the Australian Financial Markets Association:

The fundamental problem with Professor Garnaut's proposal is that it would remove key motivating factors for the development of price discovery and risk management capabilities. Since the price of carbon would be known in a given year and also future years, depending on the likelihood and nature of an international agreement, the incentive to develop the capability to price carbon and manage the associated risk over the near term would be removed. In effect, the key function of the market in providing price discovery would be redundant and development of a viable carbon market could be delayed for years. (Submission 1023, p. 2)

Proposals for a transitional fixed price do not take into account the difficulty in later changing to a floating price determined in the market. The Government would be likely to come under considerable pressure to extend the fixed-price period, especially if the price had inadvertently been set too low to meet national emissions targets. As well as creating a further period of uncertainty for business, this would delay the market development needed to underpin the Scheme's operation.

A fixed-price transition period would also rule out linking to international markets, which would mean that liable entities could not take advantage of low-cost abatement options in other countries during the transition period.

Finally, a fixed price would not adapt during periods of slower-than-trend economic growth. Under the Scheme lower economic growth, constraints on credit, or both, will cause the carbon price to be lower and permits to be more affordable for business than otherwise. Under a fixed-price regime, the price of permits would not change, regardless of the prevailing economic conditions.

On balance, the Government considers that the disadvantages of a fixed-price transition outweigh the advantages. The Government considers that a price cap is a better way of managing excessive prices that might arise under the Scheme (see Chapter 8). Furthermore, a number of elements in the Scheme design will help participants manage price risk, without the Government directly controlling the price. Those elements include unlimited imports of eligible international units, unlimited banking, limited short-term borrowing and advance auctions of future vintage permits.

Policy position 15.6

The Scheme will not have a fixed-price transition period.

16 Governance arrangements and implementation

This chapter considers the governance arrangements for the Carbon Pollution Reduction Scheme (the Scheme) and the key steps in the implementation of the Scheme. Sound governance arrangements are critical in delivering the Scheme efficiently, effectively and accountably.

This chapter discusses the following issues:

- Section 16.1: responsibilities for roles in the operation of the Scheme, and their allocation between the parliament, the Government (through the responsible minister), the regulator and the independent expert advisory committee
- Section 16.2: institutional arrangements for the Scheme regulator.
- Section 16.3: the independent expert advisory committee and its reviews of the Scheme.
- Section 16.4: compliance measures.
- Section 16.5: the form of the legislation.
- Section 16.6: key steps in implementing the Scheme.

These issues were discussed in Chapter 13 of the Green Paper.

16.1 Roles of parliament, the Government, the minister, the regulator and the advisory committee

16.1.1 Key roles

Governance arrangements require the allocation of responsibility for particular roles in the operation of the Scheme. Key roles include:

- setting the medium- and long-term national emissions reduction targets
- setting the emissions trajectory (including the Scheme caps and gateways) to meet the national targets over time
- deciding which sectors should be covered initially by the Scheme, and on what terms
- deciding which additional sectors should be covered as the Scheme develops, and on what terms
- setting out principles and criteria for assistance to emissions-intensive trade-exposed industries and strongly affected industries

- deciding whether particular entities are eligible for such assistance
- deciding rules for the banking and borrowing of carbon pollution permits
- applying any banking and borrowing rules to individual cases
- allocating permits, including handling auction proceedings
- deciding which methods should be allowed for measuring and reporting emissions
- receiving emissions data and assessing each liable entity's obligation to surrender eligible compliance permits
- monitoring, facilitating and enforcing compliance with the Scheme
- operating a registry to track the issuance, holding and transfer of eligible compliance permits
- determining the nature and extent of linking between Australia's Scheme and other schemes operating internationally
- providing education about the Scheme
- reviewing the performance of the Scheme and the effectiveness of Scheme settings.

16.1.2 Responsibility for particular roles

Responsibility for particular roles may be allocated to:

- the parliament, by setting out decisions, or the rules for making decisions, in legislation
- the Government, encompassing the Cabinet and the minister with primary responsibility for the Scheme
- the regulator, a statutory body established to administer the Scheme
- advisory or review bodies.

16.1.3 Green Paper preferred positions

The Green Paper assessed possible governance arrangements against the common assessment criteria set out in Chapter 1 of that paper. Accountability and transparency, economic efficiency, and policy flexibility and fairness were noted as particularly significant for the Scheme's governance arrangements.

The Green Paper suggested that the parliament and the Government should be responsible for major policy decisions requiring the balancing of broad environmental, economic and social factors and having far-reaching implications. For decisions of great consequence, or where a high degree of certainty is desirable, it would be best to involve the parliament by setting out the decisions in legislation. For decisions that need to be made often or where flexibility is

needed, it would be better to assign the role to the Government, acting through the responsible minister within the framework set out in legislation.

The Green Paper referred to the advantages of having an independent regulator to administer the Scheme within a limited and legislatively prescribed discretion. Such an arrangement would reduce the risk that the regulator's decisions are based on factors other than the Scheme's objectives, and could also contribute to efficient and effective administration.

Green Paper position

Elected representatives (the parliament and the Government, acting through the responsible minister) would be given responsibility for policy decisions with significant and far-reaching implications, and an independent regulator would be responsible for decisions that are essentially administrative in nature or that involve individual cases.

The guiding approach to governance arrangements would be to provide as much certainty and predictability for regulated entities and the market as is practicable, while retaining a legitimate degree of flexibility for the Government to adjust the Scheme in response to changed circumstances.

The Scheme regulator would be given a high level of operational independence to implement the emissions trading legislation and apply it to individual cases. The regulator would be accountable to the responsible minister and subject to ministerial directions of a general nature only.

The Green Paper discussed two particular decisions: the setting of national targets and the trajectory (Preferred position 13.2) and industry assistance (Preferred position 13.3).

Green Paper position

A non-binding reference to the medium- and long-term national targets would be included in the objects clause of the Act establishing the Scheme. Factors that the Government may consider when making decisions about the national targets over time could also be set out in the objects clause.

The scheme caps and gateways would be set out in delegated legislation.

The broad principles of industry assistance would be set out in the establishing Act. Further detailed criteria for determining eligibility and the quantum of assistance would be set out in delegated legislation. This would be administered by the regulator, which would have a high level of operational independence in determining individual cases in accordance with the legislatively prescribed criteria.

16.1.4 Submissions received in response to the Green Paper

Submissions to the Green Paper indicated overwhelming support for an independent regulator, for integrity in decision making, transparency, certainty and predictability.

Some stakeholders indicated a preference for establishing a ‘carbon bank’ (as proposed by the Garnaut Final Report and modelled on the Reserve Bank of Australia), or simply a regulator able to make independent decisions on individual matters in accordance with the legislative criteria and not subject to ministerial direction on such matters. Professor McKibbin (submission 642) suggested that emissions trading policy be designed like monetary policy, with a central bank of carbon managing the short-term price of carbon in line with pre-committed government policy on long-term goals for the Australian economy. Australian Climate Exchange (submission 756) proposed that a carbon bank perform only such functions as lending permits, accrediting joint implementation projects and managing the national account. It would not act as a market regulator or have a compliance or governance role; instead, existing regulators would play those roles.

While submissions generally accepted the mechanism for setting industry assistance proposed in the Green Paper, some questioned the mechanism for setting Scheme caps and gateways. Suggestions included the following:

- indicators of Scheme caps and gateways should be included in the establishing Act; actual Scheme caps and gateways should be set out in delegated legislation (BP Australia—submission 355)
- matters the minister would be required to consider in making determinations should be included in the legislation (Business Council of Australia—submission 812)
- the rules for determining the Scheme caps and gateways could be set out in delegated legislation, but the caps and gateways could be administered and announced by the Scheme regulator, based on national targets and trajectories determined by the Government (Energy Supply Association and others—submission 715)
- because regulations prescribing Scheme caps and gateways could be disallowed in the parliament, creating uncertainty, the Act and ministerial powers should be favoured over disallowable instruments (CSR Limited—submission 735).

The Australian Chamber of Commerce and Industry (submission 786) and Origin Energy (submission 815) referred to Commonwealth–state governance arrangements, including the National Electricity Market (which involves a rule-making body, a separate body enforcing the regulations, and the Ministerial Council on Energy).

Origin Energy (submission 815) considered that it would not be appropriate for the Government to devolve such decision-making powers to a fully independent body in the short term, but suggested as a compromise the creation of another body without binding decision-making powers but with a remit to provide recommendations to the minister on such matters as the Scheme cap, gateways, coverage and annual review. Origin Energy suggested that the Government consider devolving decision making to the independent body after the five-year review of the Scheme.

16.1.5 Analysis of comments on the preferred positions

The Government maintains the view that the parliament should make general decisions that are crucial to the Scheme and are unlikely to change. These include decisions on the medium and long-term national targets and on which sectors should be covered.

The major cause of concern is that the Scheme cap could, if set in regulations, be disallowed by the parliament, resulting in uncertainty about the central price determinant of the Scheme. However, setting Scheme caps is akin to setting a tax rate. It is appropriate that it be done by the Government, rather than an independent regulator. Therefore, the Government believes that the responsible minister should decide the Scheme caps and gateways and the methods for measuring emissions, subject to parliamentary oversight. To reduce uncertainty resulting from the possibility that Scheme caps might be disallowed in parliament, a default Scheme cap will be set in legislation, as outlined in Chapter 10.

The Government recognises the need for a high level of transparency in decision making, for public participation and for the involvement of experts to ensure the integrity of the Scheme. These objectives can be achieved through the establishment of an independent expert advisory committee, as proposed in the Green Paper. The committee's functions are discussed in Section 16.3.

Policy position 16.1

Elected representatives (the parliament and the Government, acting through the responsible minister) will be given responsibility for policy decisions with significant and far-reaching implications, and an independent regulator will be responsible for decisions that are essentially administrative or that involve individual cases.

- The guiding approach to governance arrangements is to provide as much certainty and predictability for regulated entities and the market as is practicable, while retaining an appropriate degree of flexibility for the Government to adjust the Scheme in response to changed circumstances.

Policy position 16.2

A reference to the 2020 national target range and long-term national target will be included in the objects clause of the Act establishing the Scheme.

- The factors that the Government may consider when making decisions about the national targets over time will be set out in the explanatory memorandum.

Policy position 16.3

The Scheme regulator will be given a high level of operational independence to implement the emissions trading legislation and apply it to individual cases.

- The regulator will be accountable to the responsible minister and subject to ministerial directions of a general nature only. However, the minister will be able to direct the regulator to make transactions involving the emissions units belonging to the Commonwealth, through the Commonwealth's account in the national registry.

Policy position 16.4

The Scheme caps and gateways will be set out in regulations. The first regulations relating to Scheme caps will contain the caps for years 1–5. Scheme caps will always be specified for at least five years in advance. Subsequent regulations will extend Scheme caps by increments of one or more years at a time. These will be set in the light of Australia’s obligations under international agreements, consistent with Chapter 10.

Table 16.1 provides further details of the functions of the parliament, the minister, the regulator and the independent expert advisory committee.

Table 16.1: Responsibilities for key roles and decisions in the Carbon Pollution Reduction Scheme

Decision/role	Responsibility	Form of the decision
Setting the medium- and long-term national emissions reduction targets	Parliament An expert advisory committee may also report on this.	A reference to the 2020 target range and the 2050 target will be contained in the objects clause of the establishing Act.
Setting the Scheme caps and gateways	The Government, through the responsible minister, with parliamentary oversight. An expert advisory committee may make recommendations to the minister on caps and gateways from the first strategic review (scheduled in 2014).	The minister’s decision on the annual caps and gateways will be reflected in regulations. The primary legislation will contain default Scheme caps that will apply if regulations are not in place.
Determining which sectors should be covered initially and on what terms	Parliament	The sectors to be covered by the Scheme will be set out in the establishing Act.
Determining which additional sectors should be covered as the Scheme develops and on what terms	Parliament An expert advisory committee may make recommendations to the minister on this.	The establishing Act will be amended to include additional sectors and possibly make specific provisions for them.
Determining the framework for assistance to emissions-intensive trade-exposed industries	Parliament and the Government, acting through the responsible minister. An expert advisory committee may make recommendations to the minister on potential modifications to this framework from the first strategic review (scheduled in 2014).	Detailed provisions governing assistance will be set out in the establishing Act and regulations.
Determining strongly affected electricity generators and the quantum of permits to be allocated administratively for each facility through the Electricity Sector Adjustment Scheme	Parliament and the Government, acting through the responsible minister.	Detailed provisions governing assistance will be set out in the establishing Act and regulations.
Deciding whether particular entities are eligible for assistance in the form of permits to be allocated administratively, and the number of other permits to be allocated	Regulator	The regulator’s decisions will be based on the establishing Act and regulations.
Withholding further assistance to generators if windfall gains are likely	Minister (but only in relation to generators where the Regulator has assessed that a windfall gain is likely).	The Minister may make an administrative decision to withhold further assistance to a generator but only has this power in relation to generators which the Regulator has assessed as likely to make a windfall gain.

Table 16.1: Responsibilities for key roles and decisions in the Carbon Pollution Reduction Scheme (continued)

Decision/role	Responsibility	Form of the decision
Deciding general principles for the banking and borrowing of permits	Parliament An expert advisory committee may make recommendations to the minister on this.	General principles governing banking and borrowing will be set out in the establishing Act.
Applying banking and borrowing principles to individual cases	Regulator	The regulator's role will be set out in the establishing Act.
Allocating carbon pollution permits, including handling auction proceedings	The minister will determine auction policy and operational rules from 1 January 2010 to 31 December 2011. The regulator will determine them from 1 January 2012. The minister's determination will have effect until replaced or amended by the regulator. An expert advisory committee may make recommendations to the minister on this.	The establishing Act will set out a broad framework for the conduct of auctions and assign a wide discretion to the minister/regulator to set auction policy and operational rules within that framework through legislative instruments.
Deciding which methods should be allowed for measuring and reporting emissions	The Government, through the responsible minister, with parliamentary oversight.	Set out in delegated legislation under the <i>National Greenhouse and Energy Reporting Act 2007</i> .
Assessing emissions data to determine each liable entity's obligation to surrender eligible compliance permits	Regulator	The regulator's role will be set out in the establishing Act.
Monitoring, facilitating and enforcing compliance with the Scheme	Regulator	The establishing Act will set out a broad compliance framework. A shortfall of units surrendered against emissions will trigger an administrative penalty and a 'make good' requirement. The regulator will also have a range of investigative, compliance and enforcement powers.
Operating a registry to track issues, holdings and transfers of eligible compliance permits	The regulator (with the capacity for services to be contracted out as appropriate).	The functions and the key features of the national registry will be set out in the establishing Act. Detailed processes will be set out in the delegated legislation.
Deciding the nature and extent of linking between Australia's Carbon Pollution Reduction Scheme and other schemes operating internationally	Parliament An expert advisory committee may make recommendations to the minister on this.	The legislation will set out the international units that will be acceptable for surrender in the Scheme.
Managing Australia's assigned amount under the Kyoto Protocol and the Government's registry account	The Government, through the responsible minister, will manage the purchase and sale of its own Kyoto units and (if required) carbon pollution permits. The regulator will transfer units into and out of the Government's registry account upon instruction, as it would for any other account holder.	The establishing Act will provide for the responsible minister (and other account holders) to instruct the regulator to make transfers of units.
Providing education on the Scheme	The Government, through the responsible minister, and the regulator.	This role will be included in the establishing Act.
Reviewing the performance of the Scheme and the effectiveness of the Scheme settings	Parliament and the Government, through the responsible minister. An expert advisory committee may make recommendations to the minister on this.	An outline of the five-yearly review process, including an indication of the timing, will be included in the establishing Act. It will specify the matters for review and the functions of the committee.

16.2 The regulator

This section covers the Scheme regulator's functions, accountability, structure and relationship with the Greenhouse and Energy Data Officer and the Renewable Energy Regulator.

The key functions of the Scheme regulator proposed in the Green Paper were to:

- monitor, facilitate and enforce compliance with the Scheme
- determine procedures for the auction of permits, and arrange auctions
- determine the eligibility of individual entities to receive an administrative allocation of permits, and the quantity of permits to be allocated to them
- assess the emissions obligations of individual liable entities, based on emissions data reported under the National Greenhouse and Energy Reporting System
- assess any shortfalls in eligible compliance permits surrendered by liable entities
- maintain a national registry of eligible compliance permits (Kyoto units and Australian carbon pollution permits)
- open and close registry accounts upon request, and transfer eligible compliance permits, as instructed by account holders
- conduct education, information and outreach activities relating to the Scheme
- provide information on the national registry and other matters, as required under Australia's Kyoto Protocol obligations
- publish information related to the Scheme (unless protected under the legislation)
- exchange information with specified agencies, bodies or statutory office-holders to enable or assist them to perform their functions.

The preferred positions included in the Green Paper on the other issues to which this section relates were as follows.

Green Paper position

The regulator would be required to report on its operations each financial year to the responsible minister for presentation to the parliament. The regulator's decisions would be subject to sound appeals processes, including judicial review pursuant to the *Administrative Decisions (Judicial Review) Act 1977* and merits review by the Administrative Appeals Tribunal.

The regulator would be established as an incorporated body subject to the *Financial Management and Accountability Act 1997*. The regulator would have a commission structure with a number of statutory office-holders appointed by the responsible minister.

The Government will assess the potential for consolidating the Greenhouse and Energy Data Officer, the Renewable Energy Regulator and the proposed scheme regulator.

Very few submissions referred to these positions. Discussion about the functions of the regulator related mainly to the division of functions discussed in Section 16.1 of this paper.

The Government will adopt the key functions of the Scheme regulator outlined above and the Green Paper's preferred positions 13.8 and 13.9.

As foreshadowed in the Green Paper, the Government has examined the advantages and disadvantages of amalgamating the functions of the Greenhouse and Energy Data Officer, the Renewable Energy Regulator and the Carbon Pollution Reduction Scheme regulator. In brief, the advantages identified are:

- improved regulatory outcomes, including reduced risk of conflicts or gaps emerging between regulators with separate functions
- streamlining of procedures for reporting and surrender
- reduced burden for businesses that would otherwise need to deal with two or three regulators
- economies of scale in the administration of legislation
- consistency with current Australian Government policy on the governance arrangements for Australian Government bodies.

Stakeholders' submissions raised no concerns about this position.

Therefore, the Government will consolidate the three regulators into one. To ensure a smooth transition, consolidation will be staged as follows:

- passage of legislation, including amendment of the *National Greenhouse and Energy Reporting Act 2007* and the *Renewable Energy (Electricity) Act 2000*, to reflect the unified governance arrangements

- establishment of the combined regulator, with greenhouse and energy reporting, emissions trading and renewable energy target functions co-located and under a common internal governance framework
- progressive integration of systems and business processes where practicable.

The combined regulator will continue to perform existing functions under the National Greenhouse and Energy Reporting Act and functions under the expanded renewable energy target. Legislation will require the regulator to address these functions in its corporate plan and annual report. In addition, the Government will ensure that members of the regulator have, in combination, qualifications and experience relevant to all of the regulator's functions.

Policy position 16.5

The regulator will be required to report on its operations each financial year to the responsible minister for presentation to the parliament. In addition, it will be required to have a corporate plan addressing specified matters. The regulator's decisions will be subject to sound appeals processes, including judicial review pursuant to the *Administrative Decisions (Judicial Review) Act 1977* and merits review by the Administrative Appeals Tribunal.

Policy position 16.6

The regulator will be established as an incorporated body subject to the *Financial Management and Accountability Act 1997*. The regulator will have a commission structure with a minimum of three and a maximum of five statutory office-holders appointed by the responsible minister.

The legislation will also provide that the Minister, regulator and members of the regulator are not liable to an action or proceedings for damages in relation to an act done or omitted in good faith in the exercise of their functions under the Scheme.

Policy position 16.7

The functions of the Greenhouse and Energy Data Officer, the Renewable Energy Regulator and the Carbon Pollution Reduction Scheme regulator will be combined into one agency. The Government will put in place measures to ensure that all these functions are given adequate attention. The Scheme legislation will require the regulator to include details of all its functions in a three-yearly corporate plan and in the regulator's annual report.

16.3 The advisory committee and review of the Scheme

The Green Paper suggested that there be periodic, independent, public reviews of the Scheme and that this would make decisions under the Scheme more accountable and transparent. The reviews could also improve the environmental integrity and economic efficiency of the Scheme by fostering consistency and predictability in decision making. The Green Paper

suggested that the review advice would be made public and the Government would consider the advice when making decisions about the Scheme.

The paper listed the issues that reviews might usefully consider. It suggested that an ad hoc committee, constituted every five years, would be appropriate for this purpose.

Green Paper position

An independent expert committee would be constituted every five years to conduct public strategic reviews of the Scheme. The responsible minister would be provided with the power to bring forward a review. More frequent 'care and maintenance' reviews may be necessary in the early years of the Scheme to assess the operation of administrative arrangements. To improve market certainty, the scope of those early reviews would be tightly defined.

A number of submissions to the Green Paper referred to the review, making various suggestions:

- that there be more clarity about the review process
- that the five-year review be extended to include assessing the effectiveness of household and employment assistance
- that there be fewer reviews, but that they be more in depth
- that the first review occur after two years, to be followed by another after three more years
- that an independent body, which would have a number of other functions to ensure integrity of decision making, carry out the five-year review, and take into account the total climate change agenda, rather than simply the Carbon Pollution Reduction Scheme.

Clearly, there is a need for review; however, at this stage it is difficult to determine the most desirable timing. The Government is conscious that holding a review too early may give undue weight to transitional issues, particularly the Scheme's operation in the context of secondary and other financial markets that are likely to be less developed in the short term.

Therefore, the Government has decided to adopt Preferred position 13.5 in the Green Paper, and to further clarify the review process. The first review will be completed by mid-2014, so that any improvements to the Scheme can be made before the start of the sixth year of the Scheme (2015-2016).

Policy position 16.8

An independent expert advisory committee will be constituted periodically to conduct public strategic reviews of the Scheme.

The first review will be completed by 30 June 2014, and the independent expert advisory committee will be constituted with sufficient time before then for preparatory work. Adequate secretariat support will be provided to enable the committee to perform its functions effectively. Reviews will involve public consultation, and the advisory committee will be required to prepare a report of the review and give it to the minister. The minister will be required to table the report in parliament within 15 sitting days of receipt. If the report includes recommendations, the minister will be required to prepare a statement of the Government's response and table it within six months of receiving the report.

The establishing Act will provide that each subsequent review will be completed within five years after the last day on which the Government's response to the previous review was tabled in parliament, or earlier if the responsible minister makes a written determination specifying an earlier date.

More frequent 'care and maintenance' reviews may be necessary in the early years of the Scheme to assess the operation of administrative arrangements. Legislative provisions will not be required for such reviews. However, to improve market certainty, the scope of those early reviews will be tightly defined.

Based on the Green Paper, the Government has decided that the independent expert advisory committee will consider any of the following in the course of the strategic review:

- the effectiveness and efficiency of the Scheme as a whole, including administration costs for both Scheme participants and government
- changes or extensions to the national targets
- extensions to the Scheme caps and gateways
- the effectiveness of emissions reporting and coverage by the Scheme
- emissions-intensive trade-exposed activities program (see Policy position 12.15)
- auction design
- the effect of, and potential for, international linking
- borrowing limits
- Scheme governance arrangements, including the responsibilities of the regulator and the responsible minister's power of direction
- any other aspect of the Scheme and its operation that the responsible minister asks to be reviewed.

In reaching conclusions, the independent expert advisory committee would be expected to consider issues such as:

- actual experience with the Scheme
- international developments, including:
 - the extent to which Australia has entered into international agreements
 - the extent to which commitments have been made by major trade partners or competitor countries on tangible emissions abatement
 - the extent to which major trade partners or competitor countries introduce carbon constraints into their own economies
- emerging developments in climate change science
- improvements in technology.

‘Care and maintenance’ reviews with a more restricted scope (for example, addressing a discrete aspect of the Scheme) will be undertaken as required and with appropriate consultation, either within government or by persons nominated by the minister. The conduct of such reviews is a common administrative practice and requires no legislative provisions.

16.4 Monitoring, facilitating and enforcing compliance

The Green Paper referred to mechanisms for compliance.

Green Paper position

The Act establishing the Scheme would set out a broad framework for monitoring, facilitating and enforcing compliance. The regulator would then be given responsibility for ensuring compliance by liable entities and, to that end, be given a range of compliance, investigative and enforcement powers, with the flexibility to select from a set of graduated options to respond proportionately to non-compliance.

Submissions to the Green Paper which referred to this position agreed with it, and the Government has decided to adopt it.

Enforcement is addressed in Chapter 6 of this White Paper.

Policy position 16.9

The Act establishing the Scheme will set out a broad framework for monitoring and facilitating compliance.

16.5 The legislation

The Green Paper proposed the implementation of the Scheme through national legislation.

Green Paper position

The Scheme would be implemented through unitary Commonwealth legislation. States and territories will be informally engaged as part of ongoing cooperation and coordination on climate change policy through the Council of Australian Governments.

The Government's preferred position was supported in submissions, and is adopted in this White Paper.

Policy position 16.10

The Scheme will be implemented through unitary Commonwealth legislation. States and territories will be informally engaged as part of ongoing cooperation and coordination on climate change policy through the Council of Australian Governments.

16.6 Implementation

Effective implementation of the Scheme will be as important as good design in meeting the Government's goal of reducing emissions by 60 per cent by 2050. Detailed implementation planning is already underway to provide a high level of certainty for stakeholders about how the Scheme will be administered. Planning includes identifying key implementation tasks, required infrastructure and resources, implementation risks and risk mitigation measures.

The Government intends the Scheme to commence on 1 July 2010, subject to the passage of enabling legislation, and recognises the need to ensure that business is ready to implement the Scheme at that time. For this reason, extensive consultation with business and other stakeholders will continue as the Scheme's administrative systems are developed. Key implementation steps up to 2015 are outlined in Table 16.2.

Key elements of the Scheme are already in place since the commencement of the *National Greenhouse and Energy Reporting Act 2007* on 1 July 2008. That Act provides key infrastructure for reporting emissions and will assist industry to put in place emissions reporting and build capacity before obligations begin under the Scheme. That the Act is already in operation places Australia well ahead of comparable nations at this stage of development of emissions trading schemes.

To ensure smooth implementation of the Scheme, work to build additional infrastructure and capacity required to deliver the Scheme has already begun. Early implementation tasks will be undertaken in a way that does not prejudice final decisions on Scheme design. These tasks include:

- the acquisition of a national registry (commenced in September 2008) and other essential IT systems

- establishing the regulator
- education and outreach to improve understanding of the Scheme and its requirements before it begins
- preparing and trialling a system for auctioning permits.

The Government will create an interim regulator in the first half of 2009 to ensure that key personnel are in place before the regulator is formally established later in 2009. The interim regulator will have no statutory powers, but will be responsible for establishing administrative systems and staffing to ensure a smooth start to the Scheme.

The Government will consult on key implementation issues that affect stakeholders, such as the development of the registry, compliance procedures and strategy, and education and information activities.

A consultative committee comprising business, environmental and community stakeholders will be convened to provide their perspectives and advice to ministers about the guidelines and delivery mechanism for the Climate Change Action Fund and operational aspects of the regulation of the Carbon Pollution Reduction Scheme. This body will not have a decision making role. All funding decisions will be made by ministers. The committee is expected to be convened early in 2009 and to continue until the Scheme commences, at which time consultative arrangements may be adjusted to meet changing needs. The consultative committee is separate from the independent expert advisory committee which will undertake strategic reviews of the Scheme every five years.

The Minister for Climate Change and Water will have primary responsibility for Scheme implementation.

Table 16.2: Timetable for introduction of the Carbon Pollution Reduction Scheme

Year/quarter	Date	Milestone
2008		
4th quarter	December	Release of the White Paper National registry operational with Kyoto Protocol functions and connected to International Transaction Log
2009		
1st quarter		Government releases guidance paper on data requirements of the EITE assistance program ('guidance paper') Workshops to follow up on guidance paper Entities engaged in potential EITE activities submit data requested in guidance paper
	Late February	Public release of exposure draft legislation
2nd quarter	April	Close of consultation period on exposure draft legislation Release of Tracking Towards the Kyoto Target 2008
	May	Bills to enact Scheme (including consequential amendments) introduced into parliament
	June	Public release of key draft regulations Government aims to achieve passage of the Bill through parliament
3rd quarter		Central provisions of the Act establishing Carbon Pollution Reduction Scheme in force 28 days after Royal Assent Regulator formally established Private entities able to open national registry accounts for Kyoto units
4th quarter		Stage I regulations and legislative instruments made and tabled in parliament following passage of Bill
	November/ December	United Nations Climate Change Conference in Copenhagen, Denmark (COP 15)
2010		
1st quarter		Release of Tracking Towards the Kyoto Target 2009 Government announces: —extension of national emissions trajectory up to 2014–15 —Scheme caps for first five years of Scheme (2010–11 to 2014–15) —10 years of Scheme gateways after 2014–15 —approach for expanding cap to accommodate increases in coverage National registry operational with Carbon Pollution Reduction Scheme functions Stage II regulations and legislative instruments made and tabled in parliament
1st to 2nd quarter		First auction of permits
3rd quarter	1 July	Start of first compliance year under the Scheme Applications under the EITE assistance program made to the regulator
2011		
2nd quarter	30 June	End of first compliance year under the Scheme
4th quarter	31 October	Deadline for liable entities to submit emissions reports through the National Greenhouse and Energy Reporting System
	15 December	Deadline for surrender of eligible compliance permits for first compliance year
2012		
4th quarter	31 December	End of first commitment period under the Kyoto Protocol
2013		
		Government announces final decisions on coverage of agriculture A decision to allow for the sale and transfer of Australian carbon pollution permits internationally will not be made before 2013
2014		
2nd quarter	June	Completion of the first public strategic review of the Scheme by an independent expert advisory committee
4th quarter	December	Response by the Government to the report on the strategic review tabled in parliament (within six months of the report being delivered to the minister)
2015		
		Possible inclusion of agriculture in the Scheme

17 Household assistance measures

This chapter outlines the package of cash assistance, tax offsets and other measures the Government will provide to help Australian households maintain their standard of living while moving to a low pollution future.

The Carbon Pollution Reduction Scheme (the Scheme) will result in changes to a wide range of prices, but the overall increase in the cost of living will be modest. The Scheme will provide price signals to give households incentives to reduce their greenhouse gas emissions.

This change in relative prices will provide businesses and consumers with incentives to adjust their behaviour, invest in low-emission technologies and help Australia reduce emissions. Over time, this will lead to changes in the goods we produce, the way we produce them and the goods we buy.

For households, over time, the increase in the price of emissions-intensive goods will reduce demand for these goods and shift household consumption towards goods that are relatively cheaper because they require fewer emissions to produce.

The Scheme is central to Australia's domestic mitigation response, aimed at delivering substantial reductions in emissions while enabling Australians to continue to improve their standard of living.

Building on the commitments it outlined in the Green Paper, the Government will provide upfront support to a range of low- and middle-income households in 2010-11.

- Pensioners, seniors, carers and people with disability will receive additional support, above indexation, to fully meet the expected overall increase in the cost of living flowing from the Scheme
- Low-income households will receive additional support, above indexation, to fully meet the expected overall increase in the cost of living flowing from the Scheme
- Middle-income households will receive additional support, above indexation, to help meet the expected overall increase in the cost of living flowing from the Scheme. For middle-income families receiving Family Tax Benefit Part A, the Government will provide assistance to meet at least half of those costs
- Low- and middle-income working households will also receive a tax cut to assist with the expected overall increase in the cost of living flowing from the Scheme
- Motorists will be protected from higher fuel costs from the Scheme by 'cent-for-cent' reductions in fuel tax for the first three years
- All households will receive support to take practical action to reduce their energy use and save on energy bills

- Small businesses and community organisations can apply to receive assistance to invest in energy efficient equipment (See Chapter 18)
- Australian workers will be supported through targeted assistance for industry and investment in the green economy
- The Government will review the adequacy of assistance annually to ensure households continue to receive the support they need

Through the household assistance package, the Government will return to households directly a significant proportion of the revenue the Australian Government receives from the sale of carbon pollution permits. The remaining revenue it receives will be used to assist business adjust to a low-carbon economy, and to invest in clean energy options.

This chapter explains the rationale for the Government's household assistance measures and their operation:

- Section 17.1 discusses the Scheme's impact on households.
- Section 17.2 sets out the Government's commitments to households.
- Section 17.3 outlines household cash assistance measures.
- Section 17.4 assesses the effect on households of having a flexible carbon price.
- Section 17.5 discusses possible interactions between these arrangements and reviews of the tax and transfer systems.
- Section 17.6 outlines fuel tax adjustment arrangements.
- Section 17.7 outlines ways households can reduce energy costs.
- Section 17.8 illustrates the impact of the assistance measures on households.

17.1 Impacts on households

This section assesses the Scheme's impact on households.

For more detail on the Department of the Treasury's modelling of the household impacts, see the Australian Government's report *Australia's low pollution future: the economics of climate change mitigation*.

17.1.1 Impact of the Scheme on households

Under the Scheme the permit price will be determined by the market. Assistance for households has been based on an assumed carbon price of \$25 (nominal) in 2010-11. A permit price of \$25 is broadly consistent with an emission target of 5 per cent below 2000 levels by 2020. The Scheme will affect Australian households, but the impact will be modest. At a carbon permit price of \$25, the cost of living is estimated to increase by 1.1 per cent in 2010-11.

The carbon price will have the greatest impact on emissions-intensive goods, such as electricity, gas and other household fuels. Electricity prices are estimated to increase by around 18 per cent and gas prices by 12 per cent. Across all households, this would lead to an average increase in spending of \$4 per week on electricity and \$2 per week on gas and other household fuels.

These estimates assume that the permit price costs are immediately passed through to consumers; that firms do not change their production processes; and that households do not change their consumption behaviour in response to the Scheme. To the extent that households reduce their consumption of goods whose relative prices have risen and increase their consumption of goods and services whose relative prices have decreased, then the real impact on households would be expected to be lower. The impact of the increase in the cost of living for a particular household could vary from the average for their household type, depending on its size, composition, consumption preferences, energy sources and location.

Because lower-income households generally spend more of their income on emissions-intensive goods and may be less able to quickly substitute to other goods, introducing a carbon price is likely to affect them more than other households. A single pensioner household in the lowest income quintile (i.e. the bottom 20 per cent of households) faces an average price increase of 1.4 per cent in 2010-11; households in the highest income quintile face an average price rise of 1.0 per cent.

The impact in dollar terms also varies with levels of income, with households with more modest incomes experiencing a smaller dollar increase in their cost of living due to the introduction of the Scheme.

Table 17.1: Estimated price impacts, by household type— 2010-11

Household type—primary source of income	Household income quintile ^a					
	All	First	Second	Third	Fourth	Fifth
	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
All	1.1	1.3	1.2	1.1	1.0	1.0
Two income household, no children ^b	1.0	**	1.3	1.1	1.0	1.0
Two income household, with children ^b	1.0	**	1.1	1.1	1.0	1.0
One income household, no children ^b	1.0	1.0	1.1	1.0	1.1	0.9
One income household, with children ^b	1.1	**	1.1	1.1	1.0	1.0
One income single person household ^b	1.1	**	1.2	1.1	1.1	1.0
Self-employed household	1.1	1.3	1.1	1.1	1.1	1.1
Household with primary income source from Commonwealth allowances (e.g Newstart Allowance, Youth Allowance)	1.3	1.3	1.3	**	**	**
Married pensioner household	1.2	1.3	1.1	**	**	**
Single pensioner household	1.4	1.4	1.3	**	**	**
Sole parent pensioner household	1.3	1.4	1.3	**	**	**
Part-pension and self-funded retiree households	1.1	1.1	1.1	1.1	1.0	1.0

(a) Income quintiles rank households from the lowest 20 per cent of disposable income to the highest 20 per cent. Modified OECD equivalence scales apply to household disposable incomes to allow for comparisons across households of different sizes and compositions.

(b) Principal source of income from wages and salaries.

(c) The price impacts assume there is no change in consumption behaviour and price increases are fully passed through to households.

** Results for which the sample size is too small to produce statistically reliable results.

Source: Treasury.

Due to their higher levels of disposable incomes, middle- and high-income households may have greater opportunities to adjust their consumption to reduce the Scheme's impact on their cost of living

Increases in the permit price over time are expected to have a minimal impact on ongoing inflation. Consequently, the Scheme is also likely to have only a relatively small impact on the cost of living over time.

17.1.2 Timing of price impacts

Prices of some household goods will begin to rise from the start of the Scheme. The Government will provide assistance upfront when the Scheme begins, so households can maintain their standard of living from the outset.

Government payments are regularly indexed to keep pace with the cost of living.

Prices will rise from the commencement of the Scheme. While payments will be automatically indexed, the Government wants Australians to have extra money in their pockets to manage price increases as they occur.

That's why the Government will bring forward expected indexation of 1.1 per cent to meet expected increases in the cost of living and pay it from 1 July 2010.

To meet its commitments to households, the Government will also provide a further ongoing increase to payment recipients on 1 July 2010.

17.2 Household assistance commitments and targeting

The Scheme will result in changes to a wide range of prices, but the overall increase in the cost of living will be modest. The package of assistance the Government will provide will help Australian households maintain their standard of living.

The Government will provide the most assistance to low- and middle-income households, as they will be disproportionately affected by the transition to a low pollution economy.

Changed prices for emissions-intensive goods will encourage households to shift their consumption to less emissions-intensive alternatives. By restoring household purchasing power in the form of cash rather than measures which relate to the consumption of specific emissions-intensive products, the assistance package will not distort the incentives the Scheme introduces to reduce emissions.

Green Paper commitments

The Australian Government is committed to:

- increasing payments, above automatic indexation, to people receiving pensioner, carer, senior and allowance benefits, and provide other assistance to meet the overall increase in the cost of living flowing from the Scheme
- increasing assistance to other low-income households through the tax and transfer system to meet the overall increase in the cost of living flowing from the Scheme
- assisting middle-income households to help them meet any overall increase in the cost of living flowing from the Scheme
- reviewing annually, in the Budget context, the adequacy of automatically indexed payments to beneficiaries and recipients of family assistance to assist households with the overall impact of the Scheme
- the Government has also indicated in the terms of reference for Australia's Future Tax System review that it is to consider the interrelationships between the tax and transfer payment systems and the Scheme
- cutting fuel taxes on a 'cent-for-cent' basis to offset the initial price impact on fuel from introducing the Scheme, periodically assessing the adequacy of this measure for three years, and adjusting this offset accordingly
- providing additional support through energy efficiency measures and consumer information to help households reduce energy use and save on energy bills, so all households can make a contribution

17.2.1 Issues raised by stakeholders

Several submissions in response to the Green Paper, called for an adequate household assistance package, in the context of strong support for the Government's decision to introduce the Carbon Pollution Reduction Scheme.

Nearly all submissions highlighted the need for cash assistance targeted specifically at low-income households (St Vincent de Paul Society, Submission 785; Victorian Council of Social Service, Submission 560; Uniting Church in Australia, Submission 288).

Many submissions also proposed including energy-efficiency measures in the package. The Brotherhood of St Laurence, in conjunction with KPMG and Ecos Corporation, recommended that the Government implement a national energy efficiency program over several years to provide energy efficiency improvements to low-income households¹. Similarly, in addition to calling for direct household compensation, the Australian Council of Social Service (Submission 887) recommended that the Government implement programs for low-income households to upgrade basic equipment and appliances, as well as to retrofit housing stock to maximise thermal efficiency and minimise energy consumption.

17.2.2 Targeting assistance to those most in need

Different kinds of households will face different costs following the introduction of the Carbon Pollution Reduction Scheme. Whether a household qualifies for assistance will depend on their income, whether they are single or a member of a couple, and whether they have children. The Government has considered household size and composition², in conjunction with existing tax and transfer system markers, to determine thresholds for assistance to different household types.

A two person household would generally require more income than a single person household to maintain the same standard of living. However, given that some living expenses can be shared, the two person household does not require twice the income of the single person household to maintain the same standard of living. Similarly, the income required by a couple with children would generally be greater than for a couple with no children.

To deliver on its commitments to households, outlined in the Green Paper, the Government has therefore determined to use the following income definitions.

Low-income households

Single person households with income of \$30,000 per year or less will be considered low income. At this level of income they would normally be eligible for the maximum rate of the Low-Income Tax Offset. The equivalent income for a low-income couple with no children is \$45,000 and for a family with children is \$60,000. The latter threshold applies to both sole parents and couples with children and is around the same level that the main family payment (Family Tax Benefit Part A) will start to reach its 'base rate' in 2010-11.³

Middle-income households

For a family with children, a middle-income household has income between \$60,000 and \$160,000. The latter is around the point where a household will no longer be eligible for the Baby Bonus in 2010-11.

For a couple without children, a middle-income household has income between \$45,000 and \$120,000. For a single person the equivalent middle-income threshold is \$80,000. This aligns with the upper limit for the 30 per cent marginal tax rate and around the point where the Low Income Tax Offset will cut out in 2010-11 (\$77,250).

The low-, middle- and high-income household thresholds (in 2010-11 dollars) are set out for the purposes of assistance in Table 17.2.

Table 17.2: Thresholds defining low-, middle- and high-income households

Household type	Low income (less than)	Middle income (between)	High income (above)
Single person	\$30,000	\$30,000 – \$80,000	\$80,000
Couple, no children	\$45,000	\$45,000 – \$120,000	\$120,000
Couple with children	\$60,000	\$60,000 – \$160,000	\$160,000
Single parent	\$60,000	\$60,000 – \$160,000	\$160,000

Note: These thresholds are based on projected estimates of CPI to 2010–11.

In 2010–11 the Government estimates Australia will have around 3.2 million low-income households, 3.9 million middle-income households and 1.5 million high-income households.

17.3 Household cash assistance measures

The cash assistance measures fulfil the Government's commitments to low- and middle-income households. The Government will provide assistance upfront from 1 July 2010 so that from the outset, households can maintain their standard of living.

Household assistance will be provided through existing cash payments and tax offsets in the tax and transfer systems. Existing mechanisms provide the most efficient and effective method of delivering and targeting assistance. They deliver assistance simply and minimise costs both for households and the Government. However, the design of the tax and transfer systems and the need to target all low-income households, requires a comprehensive assistance package. A small number of low-income households and others in special circumstances who can show they will not be assisted in accordance with the Government's commitments will be provided with a transitional payment.

Key features of the household assistance package

- pensioners, seniors, carers and people with disability will receive a 2.5 per cent pension increase (including upfront indexation) an increase of around \$382 for singles and \$320 for each member of a couple, based on current arrangements
- self-funded retirees will receive an upfront increase in the Seniors Concession Allowance of around \$382 for singles and \$320 for each member of a couple, based on current arrangements
- recipients of allowance benefits will receive an increase of 2.5 per cent (including upfront indexation) an increase of up to \$307 for singles, and up to \$276 for each member of a couple (based on current Newstart Allowance arrangements—they will be different for other allowance type income support payments)
- low and middle income families will receive one or a combination of:
 - an increase of \$390 in the Low Income Tax Offset
 - an increase in the maximum rate of the Family Tax Benefit Part A of 2.5 per cent (including upfront indexation) an increase of \$124.10 per child (child aged 0-12 years) and \$156.95 per child (child aged 13-15 years), based on current arrangements
 - an increase in the base rate of the Family Tax Benefit Part A of \$115 per child (child aged 0-17 years) and \$140 per child (child aged 18-24 years), based on current arrangements
 - an increase in Family Tax Benefit Part B of 2.5 per cent (including upfront indexation) an increase of \$98.55 per family (child aged less than 5 years) and \$73 per family (child aged over 5 years), based on current arrangements

Box 14.2: Key features of the household assistance package (continued)

- an increase of \$150 in the Dependency Tax Offsets
- a \$500 transitional payment per adult for low-income households and others who can show they will not be assisted in accordance with the Government's commitments

Some households are likely to receive more assistance than required to maintain their standard of living. For example, the use of the tax and transfer systems to deliver sufficient assistance to all households means some will receive assistance through more than one mechanism.

This additional assistance has some advantages. First, many households who receive assistance that more than meets their cost of living impact, for example maximum-rate income support recipients, are among the most vulnerable. These households have the least ability to make adjustments quickly to maintain their standard of living. These households have less flexibility in their weekly budget to adopt quickly energy efficiency measures that would help them respond to changes in prices.

Second, additional assistance effectively provides a buffer for households whose cost of living increase proves higher than estimated. This could happen because their price impact is greater than the average or the permit price is higher than estimated. This provides further protection for those on the lowest incomes.

Other low-income households might require assistance through multiple mechanisms to maintain their standard of living. A low-income family with children may require assistance through Family Tax Benefit payments, the Low Income Tax Offset and income support payments.

How well cash assistance restores the purchasing power of low-income households also depends on individual circumstances. Households consuming fewer emissions-intensive goods will be better off than those consuming more.

17.3.1 Providing upfront assistance for cost of living impacts

At a carbon permit price of \$25, households will face a modest increase in prices of around 1.1 per cent as a result of the Scheme. To maintain the standard of living for low- and middle-income households the Government will provide upfront assistance to coincide with this increase.

If the Government did not provide upfront assistance, transfer payments would not reflect the higher cost of living until after low-income households started to face higher prices.

From 1 July 2010, the Government will permanently increase the rates of certain transfer payments by 2.5 per cent (including upfront indexation). This increase has two components. The first will bring forward the Scheme's estimated cost of living increase (1.1 per cent) that would normally flow through to transfer payments 9 to 18 months later under automatic indexation. The second provides an ongoing increase, which is over and above the general increase in prices to ensure the Government delivers on its commitments to households.

That is, the 2.5 per cent increase in income support payments includes a 1.1 per cent expected increase in the cost of living and a further ongoing increase of 1.4 per cent.

Because assistance for the cost of living increase provided through certain payments will be brought forward and delivered from 1 July 2010, subsequent indexation arrangements will be adjusted to avoid duplication.

The cost of living increase will flow through to other tax and transfer system payments and income test thresholds which do not undergo upfront adjustments via normal indexation arrangements.

Policy position 17.1

The Government will provide direct cash assistance to households upfront to coincide with any increase in the cost of living flowing from the Scheme. This will help low- and middle-income households maintain their standard of living and take advantage of mitigation opportunities.

Low- and middle-income households will receive assistance from 1 July 2010 to meet the higher cost of living resulting from the Scheme's introduction.

17.3.2 Assistance for income support recipients

Pensioners, seniors, carers and people with disability

Pensioners, seniors, carers and people with disability will receive additional support, above indexation, to fully meet the expected overall increase in the cost of living flowing from the Scheme.

To ensure that these groups can manage their household budget as prices rise, the Government will bring forward the expected increase in indexation of pension payments of 1.1 per cent and pay it upfront from 1 July 2010. To make sure all pensioners—maximum-rate and part-rate—receive the assistance they need, the Government will provide a further ongoing 1.4 per cent pension increase, above indexation, from 1 July 2010.

In all, from 1 July 2010, pension payments will increase by \$382 for singles and \$320 for each member of a couple, based on current pension arrangements. (The Seniors Concession Allowance, which is targeted at self-funded retirees, will also increase by these amounts).

The pension increase will be delivered through the pension supplement which will ensure that it exceeds the wage benchmarking arrangements of pensions. The pension supplement will continue to be indexed to increases in the cost of living as measured by the Consumer Price Index.

The increase will apply to pension-type income support payments including the Age Pension, Disability Support Pension, Carer Payment, Parenting Payment (single), Bereavement Allowance, Widow Class B Pension, Wife Pension, Department of Veterans' Affairs Service Pension and Disability Pension (special rate, intermediate rate, extreme disablement rate and general rate).

Pension adequacy remains a top priority for the Government. Changes to pension payments flowing from the Harmer Pension Review will not reduce the amount or durability of assistance provided to households as part of this assistance package.

Benefits and allowance-type income support payments

The Government will increase income support allowance payments by a total of 2.5 per cent (including upfront indexation) to fully meet the expected overall increase in the cost of living flowing from the Scheme.

From 1 July 2010, income support allowance payments such as Newstart, Youth Allowance and Austudy will be increased by up to \$307. For a couple household receiving the full rate of Newstart Allowance, this equates to a payment increase of around \$276 for each member of a couple.

The increase will apply to allowance-type income support payments including Newstart Allowance, Widow Allowance, Sickness Allowance, Youth Allowance, Mature Age Allowance, Partner Allowance, Special Benefit, Crisis Payment, Exceptional Circumstances Relief Payment, Parenting Payment (partnered), Austudy and ABSTUDY.

17.3.3 Assistance for other low-income households

The Government will increase Family Tax Benefit Part A and Family Tax Benefit Part B, the Low Income Tax Offset, the Dependency Tax Offsets and the Seniors Concession Allowance to assist other low-income households meet the overall cost of living increase flowing from the Scheme.

Family assistance payments

In addition to other forms of government support, outlined above, low-income families will receive extra assistance through Family Tax Benefit Part A (FTB-A) and Family Tax Benefit Part B (FTB-B).

FTB-A assists families with a dependent child under 21 years, or a full-time dependent student 24 years or under. The payment is provided on a per child basis.

From 1 July 2010, the maximum rate of FTB-A will be increased by a 1.1 per cent bring forward of indexation and a 1.4 per cent ongoing increase (a total of 2.5 per cent). The increase in the maximum rate will specifically target low-income families.

In addition, the base rate of FTB-A will be increased by \$115 per child (child aged 0-17years) and \$140 per child (child aged 18-24 years).

Family Tax Benefit Part B (FTB-B) provides additional assistance to single-parent families and two-parent families with one main income earner. FTB-B is paid where the youngest child is under 16 years or is a dependent full-time student 18 years or under and is provided on a per family basis.

From 1 July 2010, the rate of FTB-B will be increased by a 1.1 per cent bring forward of indexation and a 1.4 per cent ongoing increase (a total of 2.5 per cent).

Low Income Tax Offset

The Low Income Tax Offset provides tax relief to low-income earners. The full amount of the offset is available to individuals with incomes up to \$30,000. The amount of offset then reduces at the rate of 4 cents per dollar.

Low-income taxpayers will benefit from the increase in the Low Income Tax Offset of \$390 from 1 July 2010, in addition to the \$150 increase already legislated to occur at that time. The change will increase the Offset from \$1,500 to \$1,890 in 2010-11.

The increase in the Offset will increase the effective tax-free threshold for individuals on incomes below \$30,000 from \$16,000 to \$18,600, and would provide additional tax relief to individuals on incomes up to \$77,250.

Dependency Tax Offsets

The Dependency Tax Offsets provide relief for taxpayers who maintain a dependant.

The Dependency Tax Offsets will increase by \$150 from 1 July 2010. This increase benefits low-income households with adult dependents and no children.

The increase will apply to the dependent spouse offset, the invalid relative offset, the parent/parent-in-law offset, the housekeeper offset, and the child-housekeeper offset.

Seniors Concession Allowance

The Seniors Concession Allowance is a quarterly payment to self-funded retirees who hold a Commonwealth Seniors Health Card or eligible DVA Gold Card holders over Service Pension age. Eligibility for the Commonwealth Seniors Health Card is restricted to singles with an adjusted taxable income up to \$50,000, couples with an income up to \$80,000, or couples who are separated due to ill-health with an income up to \$100,000. The DVA Gold Card is available to veterans with a certain level of disability, or who are aged over 70. No income test is applied to the DVA Gold Card.

The Seniors Concession Allowance will increase by \$382 for singles and \$320 for each member of a couple. Self-funded retirees may benefit from this increase in addition to the increase in the Low-Income Tax Offset.

17.3.4 Assistance for middle-income households

Middle-income households will receive additional support, above indexation, to help meet the expected overall increase in the cost of living flowing from the Scheme. They will receive assistance through the following measures:

- an increase of \$390 in the Low-Income Tax Offset
- an increase in the maximum rate of Family Tax Benefit Part A of 2.5 per cent (including upfront indexation)—an increase of \$124.10 per child (for children aged 0-12 years) and \$156.95 per child (for children aged 13-15 years).

- an increase in the base rate of Family Tax Benefit Part A of \$115 per dependent (for children aged 0-17 years) and \$140 per child (for children aged 18-24 years).
- an increase in the rate of Family Tax Benefit Part B of 2.5 per cent (including upfront indexation)—an increase of \$98.55 per family (for children aged less than 5 years) and \$73 per family (for children aged over 5 years).
- an increase of \$150 in the Dependency Tax Offsets

Middle-income families with one main income earner

Middle-income families with one main income earner may not benefit from the tax cut provided by an increase in the Low Income Tax Offset to the same extent as dual income families.

Consequently, in addition to the increases in the maximum rate of FTB-A and FTB-B, families, where the main income earner has income of \$60,000 or more per year and is in receipt of FTB-A and FTB-B, will be eligible for a special end of year FTB-B supplement up to an amount of \$620 per family, from 2010–11. The entitlement to this supplement will cease when a household's entitlement to FTB-A ceases.

17.3.5 One-off transitional payment for households not adequately assisted through other measures

A small number of households who can show they will not be assisted in accordance with the Government's commitments will be provided with a transitional payment of \$500 per adult. People will be able to apply for this one-off payment for up to two years after the Scheme's introduction.

17.4 What will a flexible carbon price mean for households?

Under the Scheme, the market will determine the carbon pollution permit price. The permit price will, however, be capped at \$40 per permit in 2010–11 (see Chapter 8). The Government has based the household assistance package on an assumed initial \$25 permit price, which is in line with Treasury modelling of the Government's unconditional interim target in 2020.⁴

The household assistance package will deliver assistance above automatic indexation to income support recipients and meets the expected cost of living increase up to an emission price of \$25 per permit. If the emission price is higher than this, the amount of the price increase that is greater than expected as a result of the Scheme (1.1 per cent) will be allowed to flow through to the package's indexed payments. For example, if the CPI increases by 1.3 per cent above underlying inflation, 0.2 per cent (in addition to underlying inflation) will flow through in subsequent indexation adjustments.

In addition, the package will adequately assist the most vulnerable households. For example pensioners relying solely on government support will receive assistance to cover average cost of living increases associated with a carbon price equal to the price cap of \$40 per permit.

If there is a higher than expected carbon price, other low-income households, will receive assistance with a lag through the automatic indexation arrangements. At a \$25 permit price around 90 per cent of low-income households will receive assistance equal to 120 per cent or more of their overall cost of living increase which would provide some level of buffer against higher than expected price increases.

The Government will update the household assistance package on the basis of any new information on the estimated carbon price before the Scheme starts. The value of the package could increase if new information indicates that the permit price will be higher than the assumed \$25; however, to provide households with certainty, it will not be reduced if the price is lower than expected.

The Government will also annually review the adequacy of the household assistance package in the Budget process.

17.5 Interactions with the Pension Review and the Australia's Future Tax System Review

On 13 May 2008, the Treasurer announced a comprehensive review of Australia's tax system to create a tax structure that positions Australia to deal with the demographic, social, economic and environmental challenges of the 21st century and enhance the nation's economic and social outcomes.

The Australia's Future Tax System (AFTS) Review will encompass Australian Government and state taxes, except the GST, and interactions with the transfer system. It is due to deliver its final report to the Government by December 2009.

To guide the development of the household assistance package, the Government sought advice from the AFTS Review panel to minimise policy complications and possible constraints on future reforms. The panel's guiding principles helped in designing the assistance package (see Box 17.1).

As part of the review, the Australian Government also announced an investigation into measures to strengthen the financial security of seniors, carers and people with a disability. The Pension Review will investigate measures to strengthen the financial security of seniors, carers, and people with disability by considering:

- appropriate levels of income support and allowances, including the pension's base rate and the payment's stated purpose
- the frequency of payments, including the efficacy of lump sum versus ongoing support
- the structure and payment of concessions or other entitlements

The review is due to report by 28 February 2009, and the Government will respond in the 2009-10 Budget.

In the event that any future changes to the tax and transfer system alter the mechanisms for delivering direct household assistance, the durability and amount of assistance provided to low- and middle-income households will be preserved.

Box 17.3: Guiding principles from the Australia's Future Tax System Review panel

Targeting

First, assistance should aim to provide an amount up to the degree of expected household real income lost from the Scheme and rely solely on relative price changes to provide the incentive to reduce carbon pollution.

The extent of indirect assistance reduces the need for direct assistance (such as increased benefits or lower income taxes).

Households tend to be better off where direct assistance is untied and does not require them to purchase specific goods or services.

A feasible assistance package assists people with the higher prices of goods and services they *currently* consume, even though the higher prices will encourage them to switch to cheaper or less carbon emitting products. Therefore, some overcompensation should be expected.

Since the Scheme's primary purpose is to change behaviour, it should not be used to change the distribution of the tax burden across different household incomes. Avoiding real reductions in household incomes reduces the risk that wage earners will seek assistance through wage demands.

Addressing distortions

Second, assistance should aim to reduce existing distortions, rather than add to them.

Household assistance might consider opportunities to reduce existing work disincentives created by the tax and transfer system. While assistance to those outside the tax system must be through increased transfer payments, it is preferable that assistance to those who pay income tax be delivered through lower personal taxes rather than increased transfer payments.

Also, the Scheme should not replicate existing anomalies in the current fuel excise system, to the extent it replaces fuel excise over the long term.

Simplicity and certainty

Third, assistance should aim to be delivered as simply as possible for both the Government and the public, preferably through existing mechanisms, to minimise administrative costs and avoid new overlapping means tests.

To increase certainty, the assistance should aim to be as predictable and stable as possible. While the Scheme permit price may at times be volatile, the package should avoid ad hoc changes to tax and transfer payment settings after the initial adjustments, as such changes would increase uncertainty about the Scheme's costs and benefits.

The Government should consider implementing durable *ex ante* assistance rather than developing complex mechanisms, beyond the normal CPI adjustment of transfer payments, to respond to changes in the carbon price.

17.6 Fuel tax adjustment arrangements

The Government recognises that people have limited flexibility to respond quickly to changes in fuel prices but that, over time, transport choices are influenced by price changes.

To give households and businesses time to adjust to the Scheme, the Government outlined transitional arrangements for fuels in the Green Paper. It will provide ‘cent-for-cent’ reductions in fuel taxes as a transitional measure. It will also provide transitional assistance to agriculture, fishing and heavy on-road transport industries. Liquefied petroleum gas (LPG), liquefied natural gas (LNG) and compressed natural gas (CNG) will also receive assistance.

The assistance will give households and key industries time to adjust to the Scheme.

17.6.1 Current fuel tax arrangements

Unlike other emissions sources, fuels are currently subject to their own tax regime.

The fuel tax regime consists of excise on certain domestically manufactured fuels and excise-equivalent customs duty on the relevant imported fuels. These include petrol, diesel, fuel oil, kerosene, benzene, toluene, xylene, biodiesel and fuel ethanol. A general fuel tax rate of 38.143 cents/litre applies to these, and a special rate of 2.854 cents/litre applies to kerosene and gasoline used for domestic air flights.

LPG, LNG, CNG and certain other fuels are currently outside the fuel tax regime.

The regime also provides fuel tax credits to remove or reduce the incidence of fuel tax from business inputs so that fuel tax falls primarily on the consumption of fuel for transport on public roads. Consequently, most businesses do not pay fuel tax, other than for fuel used in light vehicles on roads or, to the extent of the road user charge, for heavy vehicles on roads.

17.6.2 Issues raised in submissions

Through the Australian Institute of Petroleum, petroleum refiners suggested maintaining the current fuel excise rate, with Government hypothecating a portion of the excise revenues to a ‘CPRS fund’, and the Government retiring the appropriate number of carbon pollution permits associated with the fuel use.

An alternative option proposed by the Australian Institute of Petroleum was to adjust the excise rate regularly and frequently to reflect the prevailing carbon costs associated with the use of those liquid fuels. Frequent changes to the fuel tax rate would add to the industry’s administrative and compliance burden, including fuel refiners and businesses claiming fuel tax credits.

The agriculture and fishing industries broadly supported the Green Paper commitments but were concerned about minimising their compliance burden. They preferred a system like, or integrated into, the fuel tax credit system to minimise the additional administrative burden.

The heavy transport industry argued that the ‘cent-for-cent’ fuel tax offset should be separate from the road user charge and should be enabled through a separate legislative instrument.

The Government's approach to the implementation of the fuel tax adjustment package is consistent with these preferences.

17.6.3 Fuel tax adjustment

Initial fuel tax cut

The Government will cut fuel taxes on a 'cent-for-cent' basis to offset the initial price impact on fuel of introducing the Carbon Pollution Reduction Scheme. For three years, the Government will assess periodically the adequacy of this measure and adjust the offset accordingly. At the end of the three years, the Government will review this adjustment mechanism.

The fuel tax reduction will apply from 1 July 2010 to all liquid fuels currently subject to the general 38.143 cents/litre rate.

The tax cut will be based on the expected rise in fuel prices flowing from the Scheme. As different fuels emit different amounts of carbon when they burn, their prices will increase according to the volume of their emissions.

To minimise compliance costs, an across-the-board fuel tax cut will be made, based on the impact of the Scheme on diesel prices. This will provide 'cent-for-cent' assistance for diesel users.

Because diesel emits more carbon than petrol, the fuel tax cut will provide more than 'cent-for-cent' assistance for petrol users, which make up the majority of motorists. However, diesel use is becoming more common as fuel and vehicle standards improve. Basing the fuel tax cut on diesel will ensure that the Government's 'cent-for-cent' commitment is delivered for both fuels.

The fuel tax cut on 1 July 2010 will be based on the carbon pollution permit price established in the first half of 2010 through auctions and market transactions.

Policy position 17.2

The Government will initially reduce excise and excise-equivalent customs duty (fuel tax) on 1 July 2010 for all fuels currently subject to the general rate of 38.143 cents per litre. The tax cut will be based on the effect of pricing diesel emissions.

Periodic adjustment mechanism

The Government will periodically assess the adequacy of the initial fuel tax cut and adjust fuel taxes accordingly. At the end of the three years, the Government will review this adjustment mechanism.

The Government will automatically assess the fuel tax rate every six months. Assessment will be based on the average permit price for the previous six months. If the average price exceeds the price used for the previous cut, there will be a further fuel tax cut. Any reductions will take effect on 1 February and 1 August each year.

Six-monthly assessment strikes a balance between ensuring that the 'cent-for-cent' fuel tax cut reflects permit price movements and minimising compliance costs for industry.

A one-month lag will occur between the date the new fuel tax rate is calculated and the date the new rate takes effect. This will give the Australian Taxation Office time to communicate the rate change to businesses and allow time for businesses to adjust their systems.

Reductions in fuel tax made during this transition period will become permanent after three years.

The fuel tax rate will not increase if the emissions price falls. The Government will only cut the fuel tax rate (not increase it), to ensure that this assistance benefits motorists.

After 1 July 2013, the Government will make a final assessment and, if needed, a final fuel tax cut will take effect from 1 August 2013.

The assessment mechanism will be legislated to make its operation transparent. The Government will review the mechanism after July 2013.

Policy position 17.3

The Government will legislate to automatically reduce fuel tax on a six-monthly basis if the average carbon pollution permit price in the six-month period exceeds the previous reduction, including the initial one, in the period to 30 June 2013.

17.6.4 Assistance to business

Fuel tax credits remove or reduce the incidence of effective fuel tax from business inputs. They ensure that most businesses do not pay effective fuel tax. Therefore, reducing the rate of fuel tax will not benefit those businesses. To address this, the Green Paper proposed to introduce special measures for the agriculture and fishing industries and heavy on-road vehicle users.

Assistance to the agriculture and fishing industries

Agriculture and fishing businesses pay no effective fuel tax, and so will not benefit from fuel tax cuts. Instead, they will receive a new 'CPRS fuel credit'. The amount of credit will equal the fuel tax cut. The Government will align the credit amount with the six-monthly fuel tax cut assessments. This will ensure that these businesses receive assistance equivalent to the full benefit of the fuel tax cut.

Agricultural and fishing activities, excluding forestry, will be eligible for the CPRS fuel credit from 1 July 2010 to 30 June 2013. The Government will review this measure after three years as part of the review of the fuel tax adjustment mechanism.

The new CPRS fuel credit scheme will minimise compliance burdens for eligible businesses. The Australian Taxation Office will administer the CPRS fuel credit, and businesses will claim it on their business activity statements.

Policy position 17.4

The Government will introduce legislation to implement a new CPRS fuel credit scheme for three years for businesses in the agriculture and fishing industries.

Assistance to heavy on-road transport vehicle users

Heavy vehicle road users will be eligible for a CPRS fuel credit to offset the initial price impact on fuel from introducing Scheme.

Heavy road transport businesses are eligible for fuel tax credits up to the value of the road user charge, which will be 21 cents/litre from 1 January 2009. Businesses in this industry will be able to claim the CPRS fuel credit, equal to the cut in fuel tax for one year. The Government will review this measure after one year.

Vehicles with a gross vehicle mass exceeding 4.5 tonnes will be eligible for the CPRS fuel credit.

To minimise the compliance burden for eligible businesses, the Australian Taxation Office will administer the CPRS fuel credit, and businesses will claim it on their business activity statements.

Policy position 17.5

The Government will introduce legislation to implement a new CPRS fuel credit scheme for one year for businesses in heavy on-road transport.

17.6.5 Assistance to LPG, CNG and LNG fuel users

LPG, CNG and LNG are alternative transport fuels that compete with petrol and diesel. LPG is Australia's most widely used alternative fuel, comprising over 5 per cent of the transport fuel market.

LPG, CNG and LNG are not currently subject to fuel tax, so their users will not benefit from fuel tax cuts. Instead, a CPRS fuel credit will be available in each case to an appropriate entity in the supply chain. As the volume of emissions from these fuels is substantially lower than the volume from petrol and diesel, the carbon price impact on them will be lower. To reflect this, the amount of credit will be less than the full amount of the fuel tax cut. This will maintain the relative prices of these fuels against petrol and diesel. CNG users will benefit from a credit of around three-quarters of the fuel tax cut, LPG users will benefit from a credit of around two-thirds, and LNG users will benefit from a credit of around one-half.

CNG and LNG fuel suppliers will not be provided with CPRS fuel credits after 30 June 2011. This treatment is the same as heavy on-road transport as these fuels are predominantly used for this purpose. The Government will review this measure after one year.

CPRS fuel credits will cease for LPG on 1 July 2013. The Government will review this measure after three years.

Policy position 17.6

The Government will introduce legislation to implement a new CPRS fuel credit scheme for LPG, CNG and LNG users that reflects the lower emissions of those fuels.

The CPRS fuel credit scheme for LPG will be in place for three years.

The CPRS fuel credit scheme for CNG and LNG will be in place for one year.

17.7 Helping households reduce energy costs

The Government will assist households to take practical action to improve energy efficiency.

These measures will give households an important opportunity to act to reduce their energy use and carbon footprint.

Improved energy efficiency can significantly reduce carbon pollution over coming years. It can reduce the average cost of mitigation across the economy and help the economy to adjust to the introduction of a carbon price.

Australian households generate an average of around 13 tonnes of greenhouse gas emissions each year from their direct use of electricity, gas and fuel for domestic heating, lighting and transport. Improved energy efficiency measures will help households save energy or consume it more efficiently.

17.7.1 Household energy efficiency opportunities

Home insulation is very important. An uninsulated roof cavity can lose 35 per cent of a home's heat. Insulation is cost-effective in permanently reducing household greenhouse gas emissions, and can lower emissions by more than 2.5 tonnes per year per home. Home insulation in hot climates has cooling benefits, and the benefits are even greater with external shading.

Water heating consumes a significant portion of household energy; an electric storage hot water system uses around 30 per cent of a household's electricity. Upgrading the hot water system can result in significant savings, as can installing low-flow devices to taps and showers.

On average, Australian households generate more than 0.75 tonnes of greenhouse gas emissions and pay more than \$100 each year to light their homes. Fitting compact fluorescent light globes will save around 75 per cent of running costs, and the globes last around six times longer than incandescent globes.

Using public transport, cycling, walking and changing driving behaviour can all reduce transport costs and associated emissions.

Household appliances vary in how much energy they use. Many have labels to show their energy ratings, so consumers can compare running costs. A lower running cost over the life of an appliance can save a household a significant amount on energy bills. While turning

appliances off saves energy, switching them off at the power point saves even more, because most appliances continue to consume energy even in standby mode.

17.7.2 Energy efficiency initiatives

The Scheme's impact on households will depend critically on their capacity to change their behaviour and their capacity to afford energy efficiency improvements. In addition to direct assistance, the Government will further support households by delivering energy efficiency measures and providing consumer information so households can act practically to reduce energy use and save on energy bills over time.

The Government will deliver energy efficiency measures prior to the commencement of the Scheme in 2010.

The Government acknowledges that low-income households often have a limited capacity to take up energy efficiency measures due to insufficient access to capital and a lack of access to information. These matters will be taken into account in delivering energy efficiency measures.

Together, these policies will allow Australian households to do their bit to tackle climate change and reduce energy bills.

17.8 Assistance for households

This section provides distributional analysis details on outcomes for particular household types.

The Government estimates that all low-income households will receive assistance that meets the overall cost of living increase flowing from the Scheme (based on the assumed permit price of \$25 per tonne). Around 89 per cent of low-income households (or 2.9 million households) will receive assistance equal to 120 per cent or more of their cost of living increase.

Around 97 per cent of middle-income households will receive some direct cash assistance. Around 60 per cent of all middle-income households (or 2.4 million households) will receive sufficient assistance to meet their cost of living increase. Of those around 60 per cent will receive assistance equal to at least 1.2 times the average price impact flowing from the Scheme. Of the remaining middle income households, around 57 per cent will receive assistance equivalent to half or more of their cost of living impact.

17.8.1 Introduction to cameos

The tables in Section 17.8.2 provide details on the estimated impact of the Scheme and the amounts of direct cash assistance for some common household types. These 'cameos' show that total cash assistance is greater than the estimated average effect of the Scheme for low income households of all types. Assistance for FTB-A families covers at least 50 per cent of the average carbon price impact.

The sections below briefly explain the main factors underpinning the results for households depicted in the cameos.

Single people

Low income singles will benefit from the increase in income support payments, such as the Newstart Allowance. On 1 July 2010, a Newstart allowee with no private income will receive the equivalent of an additional \$307 per year, more than fully offsetting the impact of the Scheme. Singles with private income between \$11,000 and \$77,000 will benefit from the increase in the Low Income Tax Offset. A single person earning around the Federal Minimum Wage will benefit from the \$390 increase in the Low Income Tax Offset, more than covering the impact of the Scheme.

Low income singles that do not benefit from either of the income support or Low Income Tax Offset increases may be eligible for a transitional payment of \$500.

Dual-income couples with no dependent children

At low levels of income, couples with no dependent children benefit from the increase in income support payments, such as Newstart Allowance. At higher income levels, they benefit to varying degrees from the increase in the Low Income Tax Offset and the Dependent Spouse Tax Offset, depending on the income earned by each partner.

A couple with equally shared incomes who are eligible for Newstart Allowance will benefit from the increase to the payment with private family income up to around \$42,000, or with higher income if they are eligible for Rent Assistance. The increase in Low Income Tax Offset benefits couples with equally shared private incomes between \$21,000 and \$154,000. A couple with equally shared income with both partners earning around the Federal Minimum Wage will receive \$780 from the increase in Low Income Tax Offset, more than covering the impact of the Scheme. Couples with different income shares will receive varying benefits from the increase in the Low Income Tax Offset, and may receive some Dependent Spouse Tax Offset if the second earner has income of around \$9,000 or less.

Dual-income couples with dependent children

From 1 July 2010, low income couples with dependent children benefit from the increase in income support payments such as the Newstart Allowance and Parenting Payment and family assistance through FTB-A and FTB-B. At higher income levels, taxpayers in dual-income families with children benefit to varying degrees from the increase in the Low Income Tax Offset and FTB-A, depending on the age and number of children and the income earned by each partner.

A couple with equally shared income with a child aged under 5 may benefit from the increase in income support payments up to a private income of around \$42,000. The increase in family assistance benefits this family type up to private income of around \$109,000, and the increase in Low Income Tax Offset benefits couples with equally shared private incomes between \$21,000 and \$154,000. The benefit of the package varies for couples with less evenly shared incomes, as families with higher incomes may receive some FTB-B or the Low Income Tax Offset, depending on the income of the second earner.

Similarly, a couple with equally shared income, with two children aged 10 and 13, may benefit from the increase in income support payments, Family Tax Benefit and Low Income Tax Offset. The increase in family assistance will benefit them up to a private income of around \$120,000, and Low Income Tax Offset benefits them if their private income is between \$21,000 and \$154,000. If both partners are earning the Federal Minimum Wage, the family will receive around \$1,061 a year from increases in the Low Income Tax Offset and FTB-A, more than covering the impact of the Scheme. Again, the benefit of the package may vary for couples with less evenly shared incomes.

Levels of assistance are higher for low income families with children aged 13 to 15 years, with a larger dollar increase in FTB-A.

Single-income couples with dependent children

At low levels of income, single-income couples with dependent children benefit from the increase in income support payments such as the Newstart Allowance and Parenting Payment and family assistance through FTB-A and FTB-B. A couple with two children aged 3 and 8 may benefit from the increase in income support payments up to a private income of around \$40,000. Additional family assistance benefits this family type if the sole earner's private income is up to \$160,000, where FTB-B cuts out. The increase in Low Income Tax Offset benefits a single-income family with private income between around \$11,000 and \$77,000.

Single-income couples with no dependent children

Low income single-income couples benefit from the increase in income support payments such as Newstart Allowance. On 1 July 2010, a partnered Newstart allowee couple with no private income will receive the equivalent of \$551 a year, more than fully offsetting the impact of the Scheme. Higher income single-income couples benefit from the increase in the Low Income Tax Offset and the Dependent Spouse Tax Offset. The increase in the Low Income Tax Offset may benefit couples with a private income between around \$33,000 and \$77,000, while the increase in Dependent Spouse Tax Offset may benefit taxpayers with income up to \$160,000.

Low income couples that do not benefit from increased income support payments or the increase in the Low Income Tax Offset may be eligible for a transitional payment of \$500 for each member.

Sole parents

From 1 July 2010, low income sole-parent families benefit from increases in income support payments, such as the Parenting Payment and Newstart Allowance, and family assistance. A sole parent with a child aged 3 benefits from the increase in income support payments up to a private income of around \$44,000. The increase in Low Income Tax Offset benefits the family if private income is between around \$18,000 and \$77,000. Additional family assistance benefits this family type if private income is up to \$160,000, where FTB-B cuts out. A sole parent with no private income and one child aged 3 will receive the equivalent of \$605 a year, more than fully offsetting the impact of the Scheme. The amount of assistance provided through Family Tax Benefit varies depending on the age and number of children. At low and middle incomes, sole parents with more children or with children aged 13 to 15 years benefit from larger increases in FTB-A.

Aged pensioners

From 1 July 2010, the 2.5 per cent increase in the Age Pension (including upfront indexation) will benefit low income single seniors with incomes up to about \$43,000. Single pensioners with a private income of \$24,000 or more will benefit from tax changes, including the increase in the Low Income Tax Offset and a resulting rise in the Senior Australians Tax Offset threshold. A single Age pensioner with no private income will benefit from an increase in the Age Pension of around \$382 in annual terms, more than covering the impact of the Scheme.

Age pensioner couples with private income up to around \$72,000 will benefit from the increase in Age Pension. Pensioner couples with equally shared private income of \$42,000 or more will benefit from tax changes, including the increase in the Low Income Tax Offset and a resulting rise in the Senior Australians Tax Offset threshold. A pensioner couple with no private income will benefit from an increase in the Age Pension of around \$640 a year, more than fully offsetting the impact of the Scheme.

Self-funded retirees

The increase in the Seniors Concession Allowance and Low Income Tax Offset will assist self funded retirees. The \$382 increase in the Seniors Concession Allowance benefits single self-funded retirees with private incomes up to \$50,000. Single self-funded retirees with a private income between \$24,000 and \$77,000 benefit from tax changes. The increase in the Low Income Tax Offset results in a rise in the Senior Australians Tax Offset threshold that benefits self-funded retiree taxpayers with private income up to \$50,000.

Self-funded retiree couples with private income up to around \$79,000 benefit from a \$640 increase in the Seniors Concession Allowance. Self-funded retiree couples with equally shared private income between \$42,000 and \$154,000 also benefit from tax changes. The increase in the Low Income Tax Offset results in a rise in the Senior Australians Tax Offset threshold that benefits self-funded retiree taxpayer couples with private income up to \$84,000.

17.8.2 Cameos

Individuals	single person	25
Sole parent	one dependent child aged under 5 years	26
	two dependent children, one aged between 8 and 12 years and one aged between 13 and 15 years	27
Single income couple	no dependent children	28
	one dependent child aged under 5 years	29
	one dependent child aged between 6 and 12 years	30
	two dependent children, one aged under 5 years and one aged between 6 and 12 years	31
	two dependent children, one aged between 6 and 12 years and one aged between 13 and 15 years	32
	three dependent children, one aged under 5 years and two aged between 6 and 12 years	33
Dual income couple	no dependent children	34
(income split 50:50)	one dependent child aged under 5 years	35
	one dependent child aged between 6 and 12 years	36
	two dependent children, one aged under 5 years and one aged between 6 and 12 years	37
	two dependent children, one aged between 6 and 12 years and one aged between 13 and 15 years	38
	two dependent children, one aged between 13 and 15 years and one aged between 16 and 17 years	39
	three dependent children, one aged under 5 years and two aged between 6 and 12 years	40
Dual income couple	no dependent children	41
(income split 70:30)	one dependent child aged under 5 years	42
	one dependent child aged between 6 and 12 years	43
	two dependent children, one aged under 5 years and one aged between 6 and 12 years	44
	two dependent children, one aged between 6 and 12 years and one aged between 13 and 15 years	45
	two dependent children, one aged between 13 and 15 years and one aged between 16 and 17 years	46
	three dependent children, one aged under 5 years and two aged between 6 and 12 years	47
Seniors	single Age Pensioner	48
	single self-funded retiree	49
	Age Pensioner couple	50
	self-funded retiree couple (income split 50:50)	51

Individuals—single person

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$12,264	\$12,264	\$307	-	\$307	\$159	100% +
\$5,000	\$15,570	\$15,570	\$307	-	\$307	\$199	100% +
\$10,000	\$17,720	\$17,720	\$307	-	\$307	\$224	100% +
\$15,000	\$19,720	\$19,109	\$307	\$313	\$620	\$241	100% +
\$20,000	\$21,720	\$20,609	\$307	\$313	\$620	\$256	100% +
\$25,000	\$25,000	\$23,275	-	\$390	\$390	\$283	100% +
\$30,000	\$30,000	\$27,450	-	\$390	\$390	\$324	100% +
Middle income households							
\$35,000	\$35,000	\$31,425	-	\$390	\$390	\$363	100% +
\$40,000	\$40,000	\$34,950	-	\$390	\$390	\$396	50—99%
\$45,000	\$45,000	\$38,175	-	\$390	\$390	\$426	50—99%
\$50,000	\$50,000	\$41,400	-	\$390	\$390	\$456	50—99%
\$55,000	\$55,000	\$44,625	-	\$390	\$390	\$485	50—99%
\$60,000	\$60,000	\$47,850	-	\$390	\$390	\$515	50—99%
\$65,000	\$65,000	\$51,075	-	\$390	\$390	\$544	50—99%
\$70,000	\$70,000	\$54,400	-	\$290	\$290	\$574	50—99%
\$75,000	\$75,000	\$57,825	-	\$90	\$90	\$607	1—49%
\$80,000	\$80,000	\$61,250	-	-	-	\$640	-
High income households							
\$85,000	\$85,000	\$64,325	-	-	-	\$670	-
\$90,000	\$90,000	\$67,400	-	-	-	\$699	-
\$95,000	\$95,000	\$70,475	-	-	-	\$729	-
\$100,000	\$100,000	\$73,550	-	-	-	\$758	-
\$120,000	\$120,000	\$85,850	-	-	-	\$877	-
\$140,000	\$140,000	\$98,150	-	-	-	\$995	-
\$160,000	\$160,000	\$110,450	-	-	-	\$1,113	-
\$180,000	\$180,000	\$122,750	-	-	-	\$1,232	-
\$200,000	\$200,000	\$133,450	-	-	-	\$1,335	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Sole parent—one dependent child aged under 5 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$15,340	\$24,479	\$605	-	\$605	\$337	100% +
\$5,000	\$20,135	\$29,274	\$605	-	\$605	\$381	100% +
\$10,000	\$23,135	\$32,274	\$605	-	\$605	\$408	100% +
\$15,000	\$26,135	\$35,274	\$605	-	\$605	\$435	100% +
\$20,000	\$29,135	\$37,799	\$605	\$390	\$995	\$458	100% +
\$25,000	\$32,135	\$39,889	\$605	\$375	\$980	\$474	100% +
\$30,000	\$35,135	\$41,944	\$605	\$358	\$963	\$487	100% +
\$35,000	\$38,135	\$43,550	\$605	\$279	\$884	\$497	100% +
\$40,000	\$41,135	\$44,860	\$605	\$275	\$880	\$505	100% +
\$45,000	\$45,000	\$47,158	\$223	\$390	\$613	\$519	100% +
\$50,000	\$50,000	\$49,566	\$223	\$390	\$613	\$534	100% +
\$55,000	\$55,000	\$51,791	\$223	\$390	\$613	\$548	100% +
\$60,000	\$60,000	\$54,016	\$223	\$390	\$613	\$566	100% +
Middle income households							
\$65,000	\$65,000	\$57,160	\$414	\$390	\$804	\$593	100% +
\$70,000	\$70,000	\$60,485	\$614	\$290	\$904	\$622	100% +
\$75,000	\$75,000	\$63,910	\$814	\$90	\$904	\$651	100% +
\$80,000	\$80,000	\$67,335	\$834	-	\$834	\$681	100% +
\$85,000	\$85,000	\$70,410	\$834	-	\$834	\$707	100% +
\$90,000	\$90,000	\$73,485	\$834	-	\$834	\$738	100% +
\$95,000	\$95,000	\$76,560	\$834	-	\$834	\$768	100% +
\$100,000	\$100,000	\$79,635	\$834	-	\$834	\$799	100% +
\$120,000	\$120,000	\$89,836	\$99	-	\$99	\$900	1—49%
\$140,000	\$140,000	\$102,136	\$99	-	\$99	\$1,023	1—49%
\$160,000	\$160,000	\$114,436	\$99	-	\$99	\$1,145	1—49%
High income households							
\$180,000	\$180,000	\$122,750	-	-	-	\$1,228	-
\$200,000	\$200,000	\$133,450	-	-	-	\$1,335	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.
- 6 Single income families receiving Family Tax Benefit Part A and Part B will be entitled to a special payment of up to \$620 per year paid with the end of year Family Tax Benefit Part B supplement where income of the primary earner is \$60,000 or more.

Sole parent—two dependent children, one aged 8–12 and one aged 13–15 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$13,265	\$27,587	\$687	-	\$687	\$386	100% +
\$5,000	\$16,571	\$30,893	\$687	-	\$687	\$420	100% +
\$10,000	\$18,721	\$33,043	\$687	-	\$687	\$440	100% +
\$15,000	\$20,721	\$34,335	\$687	\$348	\$1,035	\$452	100% +
\$20,000	\$22,721	\$36,035	\$687	\$340	\$1,027	\$468	100% +
\$25,000	\$25,000	\$37,816	\$564	\$382	\$946	\$484	100% +
\$30,000	\$30,000	\$42,066	\$354	\$390	\$744	\$524	100% +
\$35,000	\$35,000	\$46,116	\$354	\$390	\$744	\$561	100% +
\$40,000	\$40,000	\$49,548	\$354	\$390	\$744	\$587	100% +
\$45,000	\$45,000	\$52,348	\$354	\$390	\$744	\$605	100% +
\$50,000	\$50,000	\$54,749	\$354	\$390	\$744	\$619	100% +
\$55,000	\$55,000	\$56,974	\$354	\$390	\$744	\$633	100% +
\$60,000	\$60,000	\$59,199	\$354	\$390	\$744	\$646	100% +
Middle income households							
\$65,000	\$65,000	\$61,424	\$554	\$390	\$944	\$660	100% +
\$70,000	\$70,000	\$63,749	\$754	\$290	\$1,044	\$674	100% +
\$75,000	\$75,000	\$66,174	\$954	\$90	\$1,044	\$693	100% +
\$80,000	\$80,000	\$68,599	\$974	-	\$974	\$714	100% +
\$85,000	\$85,000	\$71,410	\$923	-	\$923	\$738	100% +
\$90,000	\$90,000	\$74,485	\$923	-	\$923	\$764	100% +
\$95,000	\$95,000	\$77,560	\$923	-	\$923	\$790	100% +
\$100,000	\$100,000	\$80,635	\$923	-	\$923	\$817	100% +
\$120,000	\$120,000	\$88,737	\$897	-	\$897	\$889	100% +
\$140,000	\$140,000	\$101,037	\$73	-	\$73	\$1,011	1—49%
\$160,000	\$160,000	\$113,337	\$73	-	\$73	\$1,134	1—49%
High income households							
\$180,000	\$180,000	\$122,750	-	-	-	\$1,228	-
\$200,000	\$200,000	\$133,450	-	-	-	\$1,335	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.
- 6 Single income families receiving Family Tax Benefit Part A and Part B will be entitled to a special payment of up to \$620 per year paid with the end of year Family Tax Benefit Part B supplement where income of the primary earner is \$60,000 or more.

Single income couple—no dependent children

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$22,131	\$551	-	\$551	\$221	100% +
\$5,000	\$25,437	\$25,437	\$551	-	\$551	\$262	100% +
\$10,000	\$27,587	\$27,587	\$551	-	\$551	\$289	100% +
\$15,000	\$29,587	\$29,209	\$551	\$349	\$900	\$309	100% +
\$20,000	\$31,587	\$30,909	\$551	\$349	\$900	\$327	100% +
\$25,000	\$33,592	\$32,493	\$556	\$361	\$918	\$343	100% +
\$30,000	\$35,592	\$34,255	\$556	\$354	\$910	\$362	100% +
\$35,000	\$37,592	\$35,810	\$556	\$358	\$915	\$378	100% +
\$40,000	\$40,000	\$37,278	\$149	\$540	\$689	\$394	100% +
\$45,000	\$45,000	\$40,503	-	\$540	\$540	\$428	100% +
Middle income households							
\$50,000	\$50,000	\$43,728	-	\$540	\$540	\$462	100% +
\$55,000	\$55,000	\$46,953	-	\$540	\$540	\$496	100% +
\$60,000	\$60,000	\$50,178	-	\$540	\$540	\$530	100% +
\$65,000	\$65,000	\$53,403	-	\$540	\$540	\$564	50—99%
\$70,000	\$70,000	\$56,728	-	\$440	\$440	\$599	50—99%
\$75,000	\$75,000	\$60,153	-	\$240	\$240	\$635	1—49%
\$80,000	\$80,000	\$63,578	-	\$150	\$150	\$664	1—49%
\$85,000	\$85,000	\$66,653	-	\$150	\$150	\$691	1—49%
\$90,000	\$90,000	\$69,728	-	\$150	\$150	\$717	1—49%
\$95,000	\$95,000	\$72,803	-	\$150	\$150	\$743	1—49%
\$100,000	\$100,000	\$75,878	-	\$150	\$150	\$769	1—49%
\$120,000	\$120,000	\$88,178	-	\$150	\$150	\$865	1—49%
High income households							
\$140,000	\$140,000	\$100,478	-	\$150	\$150	\$957	1—49%
\$160,000	\$160,000	\$112,778	-	\$150	\$150	\$1,048	1—49%
\$180,000	\$180,000	\$122,750	-	-	-	\$1,122	-
\$200,000	\$200,000	\$133,450	-	-	-	\$1,201	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Single income couple—one dependent child aged under 5 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$29,879	\$719	-	\$719	\$388	100% +
\$5,000	\$25,437	\$33,185	\$719	-	\$719	\$410	100% +
\$10,000	\$27,587	\$35,335	\$719	-	\$719	\$425	100% +
\$15,000	\$29,587	\$36,957	\$719	\$349	\$1,067	\$440	100% +
\$20,000	\$31,587	\$38,657	\$719	\$349	\$1,067	\$455	100% +
\$25,000	\$33,592	\$40,485	\$668	\$390	\$1,058	\$472	100% +
\$30,000	\$35,592	\$42,335	\$668	\$390	\$1,058	\$489	100% +
\$35,000	\$37,592	\$43,340	\$779	\$343	\$1,122	\$498	100% +
\$40,000	\$40,000	\$44,068	\$371	\$377	\$749	\$505	100% +
\$45,000	\$45,000	\$47,158	\$223	\$390	\$613	\$533	100% +
\$50,000	\$50,000	\$49,566	\$223	\$390	\$613	\$555	100% +
\$55,000	\$55,000	\$51,791	\$223	\$390	\$613	\$575	100% +
\$60,000	\$60,000	\$54,016	\$223	\$390	\$613	\$596	100% +
Middle income households							
\$65,000	\$65,000	\$57,160	\$414	\$390	\$804	\$624	100% +
\$70,000	\$70,000	\$60,485	\$614	\$290	\$904	\$655	100% +
\$75,000	\$75,000	\$63,910	\$814	\$90	\$904	\$686	100% +
\$80,000	\$80,000	\$67,335	\$834	-	\$834	\$717	100% +
\$85,000	\$85,000	\$70,410	\$834	-	\$834	\$745	100% +
\$90,000	\$90,000	\$73,485	\$834	-	\$834	\$772	100% +
\$95,000	\$95,000	\$76,560	\$834	-	\$834	\$799	100% +
\$100,000	\$100,000	\$79,635	\$834	-	\$834	\$825	100% +
\$120,000	\$120,000	\$89,836	\$99	-	\$99	\$912	1—49%
\$140,000	\$140,000	\$102,136	\$99	-	\$99	\$1,024	1—49%
\$160,000	\$160,000	\$114,436	\$99	-	\$99	\$1,146	1—49%
High income households							
\$180,000	\$180,000	\$122,750	-	-	-	\$1,228	-
\$200,000	\$200,000	\$133,450	-	-	-	\$1,335	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.
- 6 Single income families receiving Family Tax Benefit Part A and Part B will be entitled to a special payment of up to \$620 per year paid with the end of year Family Tax Benefit Part B supplement where income of the primary earner is \$60,000 or more.

Single income couple—one dependent child aged 6–12 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$28,780	\$693	-	\$693	\$374	100% +
\$5,000	\$25,437	\$32,086	\$693	-	\$693	\$400	100% +
\$10,000	\$27,587	\$34,236	\$693	-	\$693	\$417	100% +
\$15,000	\$29,587	\$35,858	\$693	\$349	\$1,042	\$430	100% +
\$20,000	\$31,587	\$37,558	\$693	\$349	\$1,042	\$446	100% +
\$25,000	\$33,592	\$39,386	\$642	\$390	\$1,032	\$463	100% +
\$30,000	\$35,592	\$41,236	\$642	\$390	\$1,032	\$480	100% +
\$35,000	\$37,592	\$42,241	\$754	\$343	\$1,096	\$489	100% +
\$40,000	\$40,000	\$42,969	\$346	\$377	\$723	\$495	100% +
\$45,000	\$45,000	\$46,059	\$197	\$390	\$587	\$524	100% +
\$50,000	\$50,000	\$48,467	\$197	\$390	\$587	\$546	100% +
\$55,000	\$55,000	\$50,692	\$197	\$390	\$587	\$566	100% +
\$60,000	\$60,000	\$52,917	\$197	\$390	\$587	\$587	100% +
Middle income households							
\$65,000	\$65,000	\$56,061	\$388	\$390	\$778	\$615	100% +
\$70,000	\$70,000	\$59,386	\$588	\$290	\$878	\$645	100% +
\$75,000	\$75,000	\$62,811	\$788	\$90	\$878	\$676	100% +
\$80,000	\$80,000	\$66,236	\$808	-	\$808	\$707	100% +
\$85,000	\$85,000	\$69,311	\$808	-	\$808	\$734	100% +
\$90,000	\$90,000	\$72,386	\$808	-	\$808	\$762	100% +
\$95,000	\$95,000	\$75,461	\$808	-	\$808	\$788	100% +
\$100,000	\$100,000	\$78,536	\$808	-	\$808	\$815	50—99%
\$120,000	\$120,000	\$88,737	\$73	-	\$73	\$903	1—49%
\$140,000	\$140,000	\$101,037	\$73	-	\$73	\$1,013	1—49%
\$160,000	\$160,000	\$113,337	\$73	-	\$73	\$1,135	1—49%
High income households							
\$180,000	\$180,000	\$122,750	-	-	-	\$1,228	-
\$200,000	\$200,000	\$133,450	-	-	-	\$1,335	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.
- 6 Single income families receiving Family Tax Benefit Part A and Part B will be entitled to a special payment of up to \$620 per year paid with the end of year Family Tax Benefit Part B supplement where income of the primary earner is \$60,000 or more.

Single income couple—two dependent children, one aged under 5 and one aged 6–12 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$34,876	\$843	-	\$843	\$453	100% +
\$5,000	\$25,437	\$38,182	\$843	-	\$843	\$475	100% +
\$10,000	\$27,587	\$40,332	\$843	-	\$843	\$489	100% +
\$15,000	\$29,587	\$41,954	\$843	\$349	\$1,191	\$502	100% +
\$20,000	\$31,587	\$43,654	\$843	\$349	\$1,191	\$518	100% +
\$25,000	\$33,592	\$45,482	\$792	\$390	\$1,182	\$535	100% +
\$30,000	\$35,592	\$47,332	\$792	\$390	\$1,182	\$552	100% +
\$35,000	\$37,592	\$48,522	\$903	\$390	\$1,293	\$562	100% +
\$40,000	\$40,000	\$49,362	\$496	\$377	\$873	\$570	100% +
\$45,000	\$45,000	\$52,162	\$347	\$390	\$737	\$596	100% +
\$50,000	\$50,000	\$54,563	\$347	\$390	\$737	\$618	100% +
\$55,000	\$55,000	\$56,788	\$347	\$390	\$737	\$638	100% +
\$60,000	\$60,000	\$59,013	\$347	\$390	\$737	\$658	100% +
Middle income households							
\$65,000	\$65,000	\$61,238	\$547	\$390	\$937	\$679	100% +
\$70,000	\$70,000	\$63,563	\$747	\$290	\$1,037	\$700	100% +
\$75,000	\$75,000	\$66,008	\$929	\$90	\$1,019	\$722	100% +
\$80,000	\$80,000	\$69,433	\$949	-	\$949	\$753	100% +
\$85,000	\$85,000	\$72,508	\$949	-	\$949	\$781	100% +
\$90,000	\$90,000	\$75,583	\$949	-	\$949	\$809	100% +
\$95,000	\$95,000	\$78,658	\$949	-	\$949	\$837	100% +
\$100,000	\$100,000	\$81,733	\$949	-	\$949	\$865	100% +
\$120,000	\$120,000	\$89,836	\$923	-	\$923	\$936	50—99%
\$140,000	\$140,000	\$102,136	\$99	-	\$99	\$1,041	1—49%
\$160,000	\$160,000	\$114,436	\$99	-	\$99	\$1,147	1—49%
High income households							
\$180,000	\$180,000	\$122,750	-	-	-	\$1,229	-
\$200,000	\$200,000	\$133,450	-	-	-	\$1,335	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.
- 6 Single income families receiving Family Tax Benefit Part A and Part B will be entitled to a special payment of up to \$620 per year paid with the end of year Family Tax Benefit Part B supplement where income of the primary earner is \$60,000 or more.

Single income couple—two dependent children, one aged 6–12 and one aged 13–15 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$35,062	\$850	-	\$850	\$456	100% +
\$5,000	\$25,437	\$38,368	\$850	-	\$850	\$476	100% +
\$10,000	\$27,587	\$40,518	\$850	-	\$850	\$490	100% +
\$15,000	\$29,587	\$42,140	\$850	\$349	\$1,199	\$504	100% +
\$20,000	\$31,587	\$43,840	\$850	\$349	\$1,199	\$519	100% +
\$25,000	\$33,592	\$45,668	\$799	\$390	\$1,189	\$536	100% +
\$30,000	\$35,592	\$47,518	\$799	\$390	\$1,189	\$553	100% +
\$35,000	\$37,592	\$48,708	\$910	\$390	\$1,300	\$564	100% +
\$40,000	\$40,000	\$49,548	\$503	\$377	\$880	\$571	100% +
\$45,000	\$45,000	\$52,348	\$354	\$390	\$744	\$597	100% +
\$50,000	\$50,000	\$54,749	\$354	\$390	\$744	\$619	100% +
\$55,000	\$55,000	\$56,974	\$354	\$390	\$744	\$639	100% +
\$60,000	\$60,000	\$59,199	\$354	\$390	\$744	\$660	100% +
Middle income households							
\$65,000	\$65,000	\$61,424	\$554	\$390	\$944	\$680	100% +
\$70,000	\$70,000	\$63,749	\$754	\$290	\$1,044	\$701	100% +
\$75,000	\$75,000	\$66,174	\$954	\$90	\$1,044	\$723	100% +
\$80,000	\$80,000	\$68,599	\$974	-	\$974	\$745	100% +
\$85,000	\$85,000	\$71,410	\$923	-	\$923	\$770	100% +
\$90,000	\$90,000	\$74,485	\$923	-	\$923	\$798	100% +
\$95,000	\$95,000	\$77,560	\$923	-	\$923	\$826	100% +
\$100,000	\$100,000	\$80,635	\$923	-	\$923	\$854	100% +
\$120,000	\$120,000	\$88,737	\$897	-	\$897	\$925	50—99%
\$140,000	\$140,000	\$101,037	\$73	-	\$73	\$1,031	1—49%
\$160,000	\$160,000	\$113,337	\$73	-	\$73	\$1,136	1—49%
High income households							
\$180,000	\$180,000	\$122,750	-	-	-	\$1,229	-
\$200,000	\$200,000	\$133,450	-	-	-	\$1,335	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.
- 6 Single income families receiving Family Tax Benefit Part A and Part B will be entitled to a special payment of up to \$620 per year paid with the end of year Family Tax Benefit Part B supplement where income of the primary earner is \$60,000 or more.

Single income couple—three dependent children, one aged under 5 and two aged 6–12 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$40,165	\$982	-	\$982	\$522	100% +
\$5,000	\$25,437	\$43,471	\$982	-	\$982	\$543	100% +
\$10,000	\$27,587	\$45,621	\$982	-	\$982	\$557	100% +
\$15,000	\$29,587	\$47,242	\$982	\$349	\$1,330	\$568	100% +
\$20,000	\$31,587	\$48,942	\$982	\$349	\$1,330	\$583	100% +
\$25,000	\$33,592	\$50,770	\$931	\$390	\$1,321	\$600	100% +
\$30,000	\$35,592	\$52,620	\$931	\$390	\$1,321	\$617	100% +
\$35,000	\$37,592	\$53,811	\$1,042	\$390	\$1,432	\$628	100% +
\$40,000	\$40,000	\$54,818	\$634	\$390	\$1,024	\$637	100% +
\$45,000	\$45,000	\$57,748	\$485	\$390	\$875	\$663	100% +
\$50,000	\$50,000	\$59,852	\$485	\$390	\$875	\$683	100% +
\$55,000	\$55,000	\$62,077	\$485	\$390	\$875	\$703	100% +
\$60,000	\$60,000	\$64,302	\$485	\$390	\$875	\$723	100% +
Middle income households							
\$65,000	\$65,000	\$66,527	\$685	\$390	\$1,075	\$743	100% +
\$70,000	\$70,000	\$68,852	\$885	\$290	\$1,175	\$765	100% +
\$75,000	\$75,000	\$71,277	\$1,085	\$90	\$1,175	\$787	100% +
\$80,000	\$80,000	\$73,702	\$1,105	-	\$1,105	\$809	100% +
\$85,000	\$85,000	\$75,777	\$1,105	-	\$1,105	\$827	100% +
\$90,000	\$90,000	\$77,974	\$1,078	-	\$1,078	\$847	100% +
\$95,000	\$95,000	\$81,049	\$1,078	-	\$1,078	\$875	100% +
\$100,000	\$100,000	\$84,124	\$1,078	-	\$1,078	\$903	100% +
\$120,000	\$120,000	\$93,427	\$1,078	-	\$1,078	\$987	100% +
\$140,000	\$140,000	\$102,136	\$99	-	\$99	\$1,063	1—49%
\$160,000	\$160,000	\$114,436	\$99	-	\$99	\$1,169	1—49%
High income households							
\$180,000	\$180,000	\$122,750	-	-	-	\$1,240	-
\$200,000	\$200,000	\$133,450	-	-	-	\$1,335	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.
- 6 Single income families receiving Family Tax Benefit Part A and Part B will be entitled to a special payment of up to \$620 per year paid with the end of year Family Tax Benefit Part B supplement where income of the primary earner is \$60,000 or more.

Dual income couple—50:50 income split, no dependent children

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$22,131	\$551	-	\$551	\$288	100% +
\$5,000	\$26,243	\$26,243	\$551	-	\$551	\$334	100% +
\$10,000	\$28,743	\$28,743	\$551	-	\$551	\$363	100% +
\$15,000	\$31,043	\$31,043	\$551	-	\$551	\$386	100% +
\$20,000	\$33,043	\$33,043	\$551	-	\$551	\$405	100% +
\$25,000	\$35,043	\$34,587	\$551	\$456	\$1,008	\$420	100% +
\$30,000	\$37,043	\$36,287	\$551	\$697	\$1,249	\$436	100% +
\$35,000	\$39,043	\$37,920	\$551	\$642	\$1,193	\$452	100% +
\$40,000	\$41,043	\$39,420	\$551	\$642	\$1,193	\$467	100% +
\$45,000	\$45,000	\$42,388	-	\$780	\$780	\$495	100% +
Middle income households							
\$50,000	\$50,000	\$46,550	-	\$780	\$780	\$530	100% +
\$55,000	\$55,000	\$50,725	-	\$780	\$780	\$562	100% +
\$60,000	\$60,000	\$54,900	-	\$780	\$780	\$594	100% +
\$65,000	\$65,000	\$58,875	-	\$780	\$780	\$624	100% +
\$70,000	\$70,000	\$62,850	-	\$780	\$780	\$658	100% +
\$75,000	\$75,000	\$66,675	-	\$780	\$780	\$690	100% +
\$80,000	\$80,000	\$69,900	-	\$780	\$780	\$718	100% +
\$85,000	\$85,000	\$73,125	-	\$780	\$780	\$746	100% +
\$90,000	\$90,000	\$76,350	-	\$780	\$780	\$773	100% +
\$95,000	\$95,000	\$79,575	-	\$780	\$780	\$801	50—99%
\$100,000	\$100,000	\$82,800	-	\$780	\$780	\$831	50—99%
\$120,000	\$120,000	\$95,700	-	\$780	\$780	\$960	50—99%
High income households							
\$140,000	\$140,000	\$108,800	-	\$580	\$580	\$1,090	50—99%
\$160,000	\$160,000	\$122,500	-	-	-	\$1,226	-
\$180,000	\$180,000	\$134,800	-	-	-	\$1,349	-
\$200,000	\$200,000	\$147,100	-	-	-	\$1,471	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Dual income couple—50:50 income split, one dependent child aged under 5 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$29,879	\$719	-	\$719	\$388	100% +
\$5,000	\$26,243	\$33,580	\$719	-	\$719	\$413	100% +
\$10,000	\$28,743	\$35,830	\$719	-	\$719	\$430	100% +
\$15,000	\$31,043	\$37,900	\$719	-	\$719	\$449	100% +
\$20,000	\$33,043	\$39,700	\$719	-	\$719	\$465	100% +
\$25,000	\$35,043	\$41,043	\$719	\$456	\$1,175	\$478	100% +
\$30,000	\$37,043	\$42,543	\$719	\$697	\$1,416	\$491	100% +
\$35,000	\$39,043	\$44,043	\$719	\$697	\$1,416	\$505	100% +
\$40,000	\$41,043	\$45,324	\$719	\$596	\$1,314	\$517	100% +
\$45,000	\$45,000	\$47,849	\$223	\$780	\$1,003	\$540	100% +
\$50,000	\$50,000	\$50,730	\$187	\$780	\$967	\$566	100% +
\$55,000	\$55,000	\$53,905	\$124	\$780	\$904	\$595	100% +
\$60,000	\$60,000	\$57,080	\$124	\$780	\$904	\$624	100% +
Middle income households							
\$65,000	\$65,000	\$60,974	\$115	\$780	\$895	\$659	100% +
\$70,000	\$70,000	\$64,949	\$115	\$780	\$895	\$695	100% +
\$75,000	\$75,000	\$68,774	\$115	\$780	\$895	\$730	100% +
\$80,000	\$80,000	\$71,999	\$115	\$780	\$895	\$759	100% +
\$85,000	\$85,000	\$75,224	\$115	\$780	\$895	\$787	100% +
\$90,000	\$90,000	\$78,449	\$115	\$780	\$895	\$814	100% +
\$95,000	\$95,000	\$81,674	\$115	\$780	\$895	\$842	100% +
\$100,000	\$100,000	\$84,899	\$115	\$780	\$895	\$870	100% +
\$120,000	\$120,000	\$95,700	-	\$780	\$780	\$962	50—99%
\$140,000	\$140,000	\$108,800	-	\$580	\$580	\$1,090	50—99%
\$160,000	\$160,000	\$122,500	-	-	-	\$1,227	-
High income households							
\$180,000	\$180,000	\$134,800	-	-	-	\$1,349	-
\$200,000	\$200,000	\$147,100	-	-	-	\$1,471	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Dual income couple—50:50 income split, one dependent child aged 6—12 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$28,780	\$693	-	\$693	\$374	100% +
\$5,000	\$26,243	\$32,481	\$693	-	\$693	\$403	100% +
\$10,000	\$28,743	\$34,731	\$693	-	\$693	\$421	100% +
\$15,000	\$31,043	\$36,801	\$693	-	\$693	\$439	100% +
\$20,000	\$33,043	\$38,601	\$693	-	\$693	\$456	100% +
\$25,000	\$35,043	\$39,945	\$693	\$456	\$1,150	\$468	100% +
\$30,000	\$37,043	\$41,445	\$693	\$697	\$1,391	\$482	100% +
\$35,000	\$39,043	\$42,984	\$675	\$697	\$1,373	\$496	100% +
\$40,000	\$41,043	\$44,464	\$675	\$596	\$1,271	\$509	100% +
\$45,000	\$45,000	\$47,385	\$124	\$780	\$904	\$536	100% +
\$50,000	\$50,000	\$50,730	\$124	\$780	\$904	\$566	100% +
\$55,000	\$55,000	\$53,905	\$124	\$780	\$904	\$595	100% +
\$60,000	\$60,000	\$57,080	\$124	\$780	\$904	\$624	100% +
Middle income households							
\$65,000	\$65,000	\$60,974	\$115	\$780	\$895	\$659	100% +
\$70,000	\$70,000	\$64,949	\$115	\$780	\$895	\$695	100% +
\$75,000	\$75,000	\$68,774	\$115	\$780	\$895	\$730	100% +
\$80,000	\$80,000	\$71,999	\$115	\$780	\$895	\$759	100% +
\$85,000	\$85,000	\$75,224	\$115	\$780	\$895	\$787	100% +
\$90,000	\$90,000	\$78,449	\$115	\$780	\$895	\$814	100% +
\$95,000	\$95,000	\$81,674	\$115	\$780	\$895	\$842	100% +
\$100,000	\$100,000	\$84,899	\$115	\$780	\$895	\$870	100% +
\$120,000	\$120,000	\$95,700	-	\$780	\$780	\$962	50—99%
\$140,000	\$140,000	\$108,800	-	\$580	\$580	\$1,090	50—99%
\$160,000	\$160,000	\$122,500	-	-	-	\$1,227	-
High income households							
\$180,000	\$180,000	\$134,800	-	-	-	\$1,349	-
\$200,000	\$200,000	\$147,100	-	-	-	\$1,471	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Dual income couple—50: 50 income split, two dependent children, one aged under 5 and one aged 6–12 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$34,876	\$843	-	\$843	\$453	100% +
\$5,000	\$26,243	\$38,577	\$843	-	\$843	\$478	100% +
\$10,000	\$28,743	\$40,827	\$843	-	\$843	\$492	100% +
\$15,000	\$31,043	\$42,897	\$843	-	\$843	\$511	100% +
\$20,000	\$33,043	\$44,697	\$843	-	\$843	\$528	100% +
\$25,000	\$35,043	\$46,040	\$843	\$456	\$1,299	\$540	100% +
\$30,000	\$37,043	\$47,540	\$843	\$697	\$1,540	\$554	100% +
\$35,000	\$39,043	\$49,040	\$843	\$697	\$1,540	\$568	100% +
\$40,000	\$41,043	\$50,540	\$843	\$673	\$1,516	\$581	100% +
\$45,000	\$45,000	\$52,853	\$347	\$780	\$1,127	\$603	100% +
\$50,000	\$50,000	\$55,727	\$311	\$780	\$1,091	\$629	100% +
\$55,000	\$55,000	\$58,902	\$248	\$780	\$1,028	\$658	100% +
\$60,000	\$60,000	\$62,077	\$248	\$780	\$1,028	\$687	100% +
Middle income households							
\$65,000	\$65,000	\$65,052	\$248	\$780	\$1,028	\$714	100% +
\$70,000	\$70,000	\$68,027	\$248	\$780	\$1,028	\$741	100% +
\$75,000	\$75,000	\$70,873	\$230	\$780	\$1,010	\$767	100% +
\$80,000	\$80,000	\$74,098	\$230	\$780	\$1,010	\$796	100% +
\$85,000	\$85,000	\$77,323	\$230	\$780	\$1,010	\$825	100% +
\$90,000	\$90,000	\$80,548	\$230	\$780	\$1,010	\$854	100% +
\$95,000	\$95,000	\$83,773	\$230	\$780	\$1,010	\$883	100% +
\$100,000	\$100,000	\$86,998	\$230	\$780	\$1,010	\$911	100% +
\$120,000	\$120,000	\$95,700	\$204	\$780	\$984	\$985	50—99%
\$140,000	\$140,000	\$108,800	-	\$580	\$580	\$1,098	50—99%
\$160,000	\$160,000	\$122,500	-	-	-	\$1,228	-
High income households							
\$180,000	\$180,000	\$134,800	-	-	-	\$1,349	-
\$200,000	\$200,000	\$147,100	-	-	-	\$1,471	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Dual income couple—50:50 income split, two dependent children, one aged 6–12 and one aged 13–15 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$35,062	\$850	-	\$850	\$456	100% +
\$5,000	\$26,243	\$38,763	\$850	-	\$850	\$480	100% +
\$10,000	\$28,743	\$41,013	\$850	-	\$850	\$495	100% +
\$15,000	\$31,043	\$43,083	\$850	-	\$850	\$513	100% +
\$20,000	\$33,043	\$44,883	\$850	-	\$850	\$530	100% +
\$25,000	\$35,043	\$46,226	\$850	\$456	\$1,307	\$542	100% +
\$30,000	\$37,043	\$47,726	\$850	\$697	\$1,547	\$556	100% +
\$35,000	\$39,043	\$49,265	\$832	\$697	\$1,530	\$570	100% +
\$40,000	\$41,043	\$50,965	\$832	\$673	\$1,505	\$585	100% +
\$45,000	\$45,000	\$53,674	\$281	\$780	\$1,061	\$610	100% +
\$50,000	\$50,000	\$57,012	\$281	\$780	\$1,061	\$640	100% +
\$55,000	\$55,000	\$60,187	\$281	\$780	\$1,061	\$669	100% +
\$60,000	\$60,000	\$63,362	\$281	\$780	\$1,061	\$698	100% +
Middle income households							
\$65,000	\$65,000	\$66,337	\$281	\$780	\$1,061	\$725	100% +
\$70,000	\$70,000	\$69,312	\$281	\$780	\$1,061	\$752	100% +
\$75,000	\$75,000	\$72,137	\$281	\$780	\$1,061	\$777	100% +
\$80,000	\$80,000	\$74,362	\$281	\$780	\$1,061	\$798	100% +
\$85,000	\$85,000	\$77,323	\$230	\$780	\$1,010	\$824	100% +
\$90,000	\$90,000	\$80,548	\$230	\$780	\$1,010	\$854	100% +
\$95,000	\$95,000	\$83,773	\$230	\$780	\$1,010	\$883	100% +
\$100,000	\$100,000	\$86,998	\$230	\$780	\$1,010	\$911	100% +
\$120,000	\$120,000	\$95,700	\$204	\$780	\$984	\$985	50—99%
\$140,000	\$140,000	\$108,800	-	\$580	\$580	\$1,098	50—99%
\$160,000	\$160,000	\$122,500	-	-	-	\$1,228	-
High income households							
\$180,000	\$180,000	\$134,800	-	-	-	\$1,349	-
\$200,000	\$200,000	\$147,100	-	-	-	\$1,471	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Dual income couple—50:50 income split, two dependent children, one aged 13–15 and one aged 16–17 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$35,530	\$864	-	\$864	\$462	100% +
\$5,000	\$26,243	\$39,231	\$864	-	\$864	\$484	100% +
\$10,000	\$28,743	\$41,481	\$864	-	\$864	\$499	100% +
\$15,000	\$31,043	\$43,551	\$864	-	\$864	\$518	100% +
\$20,000	\$33,043	\$45,351	\$864	-	\$864	\$534	100% +
\$25,000	\$35,043	\$46,695	\$864	\$456	\$1,320	\$546	100% +
\$30,000	\$37,043	\$48,195	\$864	\$697	\$1,561	\$560	100% +
\$35,000	\$39,043	\$49,734	\$846	\$697	\$1,543	\$574	100% +
\$40,000	\$41,043	\$51,214	\$846	\$596	\$1,442	\$588	100% +
\$45,000	\$45,000	\$51,667	\$295	\$780	\$1,075	\$592	100% +
\$50,000	\$50,000	\$54,114	\$272	\$780	\$1,052	\$614	100% +
\$55,000	\$55,000	\$57,289	\$272	\$780	\$1,052	\$643	100% +
\$60,000	\$60,000	\$60,464	\$272	\$780	\$1,052	\$672	100% +
Middle income households							
\$65,000	\$65,000	\$63,439	\$272	\$780	\$1,052	\$699	100% +
\$70,000	\$70,000	\$67,048	\$230	\$780	\$1,010	\$731	100% +
\$75,000	\$75,000	\$70,873	\$230	\$780	\$1,010	\$766	100% +
\$80,000	\$80,000	\$74,098	\$230	\$780	\$1,010	\$795	100% +
\$85,000	\$85,000	\$77,323	\$230	\$780	\$1,010	\$824	100% +
\$90,000	\$90,000	\$80,548	\$230	\$780	\$1,010	\$854	100% +
\$95,000	\$95,000	\$83,773	\$230	\$780	\$1,010	\$883	100% +
\$100,000	\$100,000	\$86,998	\$230	\$780	\$1,010	\$911	100% +
\$120,000	\$120,000	\$95,700	\$204	\$780	\$984	\$985	50—99%
\$140,000	\$140,000	\$108,800	-	\$580	\$580	\$1,098	50—99%
\$160,000	\$160,000	\$122,500	-	-	-	\$1,228	-
High income households							
\$180,000	\$180,000	\$134,800	-	-	-	\$1,349	-
\$200,000	\$200,000	\$147,100	-	-	-	\$1,471	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Dual income couple—50:50 income split, three dependent children, one aged under 5 and two aged 6—12 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$40,165	\$982	-	\$982	\$522	100% +
\$5,000	\$26,243	\$43,865	\$982	-	\$982	\$545	100% +
\$10,000	\$28,743	\$46,115	\$982	-	\$982	\$559	100% +
\$15,000	\$31,043	\$48,185	\$982	-	\$982	\$576	100% +
\$20,000	\$33,043	\$49,985	\$982	-	\$982	\$593	100% +
\$25,000	\$35,043	\$51,329	\$982	\$456	\$1,438	\$605	100% +
\$30,000	\$37,043	\$52,829	\$982	\$697	\$1,679	\$619	100% +
\$35,000	\$39,043	\$54,329	\$982	\$697	\$1,679	\$632	100% +
\$40,000	\$41,043	\$55,829	\$982	\$697	\$1,679	\$646	100% +
\$45,000	\$45,000	\$58,439	\$485	\$780	\$1,265	\$670	100% +
\$50,000	\$50,000	\$61,016	\$449	\$780	\$1,229	\$694	100% +
\$55,000	\$55,000	\$64,191	\$387	\$780	\$1,167	\$723	100% +
\$60,000	\$60,000	\$67,366	\$387	\$780	\$1,167	\$752	100% +
Middle income households							
\$65,000	\$65,000	\$70,341	\$387	\$780	\$1,167	\$779	100% +
\$70,000	\$70,000	\$73,316	\$387	\$780	\$1,167	\$806	100% +
\$75,000	\$75,000	\$76,141	\$387	\$780	\$1,167	\$832	100% +
\$80,000	\$80,000	\$78,366	\$387	\$780	\$1,167	\$852	100% +
\$85,000	\$85,000	\$80,591	\$387	\$780	\$1,167	\$872	100% +
\$90,000	\$90,000	\$82,938	\$360	\$780	\$1,140	\$893	100% +
\$95,000	\$95,000	\$86,163	\$360	\$780	\$1,140	\$922	100% +
\$100,000	\$100,000	\$89,388	\$360	\$780	\$1,140	\$951	100% +
\$120,000	\$120,000	\$99,292	\$360	\$780	\$1,140	\$1,038	100% +
\$140,000	\$140,000	\$108,800	-	\$580	\$580	\$1,120	50—99%
\$160,000	\$160,000	\$122,500	-	-	-	\$1,238	-
High income households							
\$180,000	\$180,000	\$134,800	-	-	-	\$1,350	-
\$200,000	\$200,000	\$147,100	-	-	-	\$1,471	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Dual income couple—70:30 income split, no dependent children

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$22,131	\$551	-	\$551	\$288	100% +
\$5,000	\$26,187	\$26,187	\$551	-	\$551	\$333	100% +
\$10,000	\$28,693	\$28,693	\$551	-	\$551	\$362	100% +
\$15,000	\$30,843	\$30,768	\$551	\$75	\$626	\$383	100% +
\$20,000	\$32,993	\$32,675	\$551	\$318	\$869	\$401	100% +
\$25,000	\$35,043	\$34,515	\$551	\$349	\$900	\$419	100% +
\$30,000	\$37,048	\$36,206	\$546	\$294	\$840	\$436	100% +
\$35,000	\$39,048	\$37,406	\$556	\$390	\$946	\$448	100% +
\$40,000	\$41,048	\$38,828	\$556	\$390	\$946	\$461	100% +
\$45,000	\$45,000	\$42,143	-	\$390	\$390	\$494	50—99%*
Middle income households							
\$50,000	\$50,000	\$46,425	-	\$390	\$390	\$532	50—99%
\$55,000	\$55,000	\$50,408	-	\$465	\$465	\$562	50—99%
\$60,000	\$60,000	\$53,940	-	\$690	\$690	\$588	100% +
\$65,000	\$65,000	\$57,442	-	\$780	\$780	\$615	100% +
\$70,000	\$70,000	\$60,824	-	\$780	\$780	\$641	100% +
\$75,000	\$75,000	\$64,207	-	\$780	\$780	\$670	100% +
\$80,000	\$80,000	\$67,710	-	\$780	\$780	\$700	100% +
\$85,000	\$85,000	\$71,220	-	\$780	\$780	\$730	100% +
\$90,000	\$90,000	\$74,730	-	\$780	\$780	\$760	100% +
\$95,000	\$95,000	\$78,240	-	\$780	\$780	\$790	50—99%
\$100,000	\$100,000	\$81,850	-	\$680	\$680	\$822	50—99%
\$120,000	\$120,000	\$95,930	-	\$390	\$390	\$962	1—49%
High income households							
\$140,000	\$140,000	\$108,560	-	\$390	\$390	\$1,088	1—49%
\$160,000	\$160,000	\$121,040	-	\$390	\$390	\$1,212	1—49%
\$180,000	\$180,000	\$133,520	-	\$390	\$390	\$1,336	1—49%
\$200,000	\$200,000	\$146,000	-	\$390	\$390	\$1,460	1—49%

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
 - 2 At zero private income, households are fully reliant on income support payments.
 - 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
 - 4 Components may not exactly sum to totals due to rounding.
 - 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.
- * Over a small income range just before \$45,000 per year, this couple would be eligible for the Transitional Payment.

Dual income couple—70: 30 income split, one dependent child aged under 5 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$29,879	\$719	-	\$719	\$388	100% +
\$5,000	\$26,187	\$33,635	\$719	-	\$719	\$414	100% +
\$10,000	\$28,693	\$35,980	\$719	-	\$719	\$432	100% +
\$15,000	\$30,843	\$37,905	\$719	\$75	\$794	\$449	100% +
\$20,000	\$32,993	\$39,661	\$719	\$318	\$1,037	\$465	100% +
\$25,000	\$35,043	\$41,371	\$719	\$349	\$1,067	\$481	100% +
\$30,000	\$37,048	\$43,050	\$699	\$360	\$1,059	\$496	100% +
\$35,000	\$39,048	\$44,673	\$668	\$343	\$1,010	\$511	100% +
\$40,000	\$41,048	\$46,226	\$668	\$344	\$1,012	\$525	100% +
\$45,000	\$45,000	\$49,403	\$223	\$390	\$613	\$554	100% +
\$50,000	\$50,000	\$52,569	\$223	\$390	\$613	\$583	100% +
\$55,000	\$55,000	\$55,252	\$223	\$465	\$688	\$607	100% +
\$60,000	\$60,000	\$57,484	\$223	\$690	\$913	\$627	100% +
Middle income households							
\$65,000	\$65,000	\$60,604	\$214	\$780	\$994	\$656	100% +
\$70,000	\$70,000	\$63,687	\$214	\$780	\$994	\$684	100% +
\$75,000	\$75,000	\$66,769	\$214	\$780	\$994	\$712	100% +
\$80,000	\$80,000	\$69,973	\$214	\$780	\$994	\$741	100% +
\$85,000	\$85,000	\$73,319	\$115	\$780	\$895	\$771	100% +
\$90,000	\$90,000	\$76,829	\$115	\$780	\$895	\$801	100% +
\$95,000	\$95,000	\$80,339	\$115	\$780	\$895	\$831	100% +
\$100,000	\$100,000	\$83,949	\$115	\$680	\$795	\$862	50—99%
\$120,000	\$120,000	\$95,930	-	\$390	\$390	\$965	1—49%
\$140,000	\$140,000	\$108,560	-	\$390	\$390	\$1,088	1—49%
\$160,000	\$160,000	\$121,040	-	\$390	\$390	\$1,212	1—49%
High income households							
\$180,000	\$180,000	\$133,520	-	\$390	\$390	\$1,336	1—49%
\$200,000	\$200,000	\$146,000	-	\$390	\$390	\$1,460	1—49%

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Dual income couple—70: 30 income split, one dependent child aged 6–12 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$28,780	\$693	-	\$693	\$374	100% +
\$5,000	\$26,187	\$32,536	\$693	-	\$693	\$403	100% +
\$10,000	\$28,693	\$34,881	\$693	-	\$693	\$421	100% +
\$15,000	\$30,843	\$36,806	\$693	\$75	\$768	\$438	100% +
\$20,000	\$32,993	\$38,563	\$693	\$318	\$1,011	\$455	100% +
\$25,000	\$35,043	\$40,273	\$693	\$349	\$1,042	\$470	100% +
\$30,000	\$37,048	\$41,951	\$673	\$360	\$1,034	\$486	100% +
\$35,000	\$39,048	\$43,575	\$642	\$343	\$985	\$500	100% +
\$40,000	\$41,048	\$45,127	\$642	\$344	\$986	\$515	100% +
\$45,000	\$45,000	\$48,305	\$197	\$390	\$587	\$544	100% +
\$50,000	\$50,000	\$51,471	\$197	\$390	\$587	\$573	100% +
\$55,000	\$55,000	\$54,153	\$197	\$465	\$662	\$597	100% +
\$60,000	\$60,000	\$56,386	\$197	\$690	\$887	\$618	100% +
Middle income households							
\$65,000	\$65,000	\$59,540	\$153	\$780	\$933	\$646	100% +
\$70,000	\$70,000	\$62,923	\$115	\$780	\$895	\$677	100% +
\$75,000	\$75,000	\$66,305	\$115	\$780	\$895	\$708	100% +
\$80,000	\$80,000	\$69,809	\$115	\$780	\$895	\$739	100% +
\$85,000	\$85,000	\$73,319	\$115	\$780	\$895	\$771	100% +
\$90,000	\$90,000	\$76,829	\$115	\$780	\$895	\$801	100% +
\$95,000	\$95,000	\$80,339	\$115	\$780	\$895	\$831	100% +
\$100,000	\$100,000	\$83,949	\$115	\$680	\$795	\$862	50—99%
\$120,000	\$120,000	\$95,930	-	\$390	\$390	\$965	1—49%
\$140,000	\$140,000	\$108,560	-	\$390	\$390	\$1,088	1—49%
\$160,000	\$160,000	\$121,040	-	\$390	\$390	\$1,212	1—49%
High income households							
\$180,000	\$180,000	\$133,520	-	\$390	\$390	\$1,336	1—49%
\$200,000	\$200,000	\$146,000	-	\$390	\$390	\$1,460	1—49%

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Dual income couple—70: 30 income split, two dependent children, one aged under 5 and one aged 6–12 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$34,876	\$843	-	\$843	\$453	100% +
\$5,000	\$26,187	\$38,632	\$843	-	\$843	\$478	100% +
\$10,000	\$28,693	\$40,977	\$843	-	\$843	\$494	100% +
\$15,000	\$30,843	\$42,902	\$843	\$75	\$918	\$511	100% +
\$20,000	\$32,993	\$44,658	\$843	\$318	\$1,161	\$527	100% +
\$25,000	\$35,043	\$46,368	\$843	\$349	\$1,191	\$543	100% +
\$30,000	\$37,048	\$48,046	\$823	\$360	\$1,183	\$558	100% +
\$35,000	\$39,048	\$49,821	\$792	\$390	\$1,182	\$574	100% +
\$40,000	\$41,048	\$51,520	\$792	\$343	\$1,135	\$590	100% +
\$45,000	\$45,000	\$54,408	\$347	\$390	\$737	\$616	100% +
\$50,000	\$50,000	\$57,566	\$347	\$390	\$737	\$645	100% +
\$55,000	\$55,000	\$60,249	\$347	\$465	\$812	\$669	100% +
\$60,000	\$60,000	\$62,481	\$347	\$690	\$1,037	\$690	100% +
Middle income households							
\$65,000	\$65,000	\$64,683	\$347	\$780	\$1,127	\$710	100% +
\$70,000	\$70,000	\$66,765	\$347	\$780	\$1,127	\$729	100% +
\$75,000	\$75,000	\$68,868	\$329	\$780	\$1,109	\$748	100% +
\$80,000	\$80,000	\$72,072	\$329	\$780	\$1,109	\$777	100% +
\$85,000	\$85,000	\$75,418	\$230	\$780	\$1,010	\$807	100% +
\$90,000	\$90,000	\$78,928	\$230	\$780	\$1,010	\$839	100% +
\$95,000	\$95,000	\$82,438	\$230	\$780	\$1,010	\$871	100% +
\$100,000	\$100,000	\$86,048	\$230	\$680	\$910	\$903	100% +
\$120,000	\$120,000	\$95,930	\$204	\$390	\$594	\$988	50—99%
\$140,000	\$140,000	\$108,560	-	\$390	\$390	\$1,096	1—49%
\$160,000	\$160,000	\$121,040	-	\$390	\$390	\$1,213	1—49%
High income households							
\$180,000	\$180,000	\$133,520	-	\$390	\$390	\$1,336	1—49%
\$200,000	\$200,000	\$146,000	-	\$390	\$390	\$1,460	1—49%

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Dual income couple—70:30 income split, two dependent children, one aged 6–12 and one aged 13–15 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$35,062	\$850	-	\$850	\$456	100% +
\$5,000	\$26,187	\$38,818	\$850	-	\$850	\$479	100% +
\$10,000	\$28,693	\$41,163	\$850	-	\$850	\$495	100% +
\$15,000	\$30,843	\$43,088	\$850	\$75	\$925	\$513	100% +
\$20,000	\$32,993	\$44,844	\$850	\$318	\$1,168	\$529	100% +
\$25,000	\$35,043	\$46,554	\$850	\$349	\$1,199	\$544	100% +
\$30,000	\$37,048	\$48,233	\$830	\$360	\$1,191	\$560	100% +
\$35,000	\$39,048	\$50,008	\$799	\$390	\$1,189	\$576	100% +
\$40,000	\$41,048	\$51,706	\$799	\$343	\$1,142	\$592	100% +
\$45,000	\$45,000	\$54,594	\$354	\$390	\$744	\$618	100% +
\$50,000	\$50,000	\$57,752	\$354	\$390	\$744	\$647	100% +
\$55,000	\$55,000	\$60,435	\$354	\$465	\$819	\$671	100% +
\$60,000	\$60,000	\$62,667	\$354	\$690	\$1,044	\$692	100% +
Middle income households							
\$65,000	\$65,000	\$64,903	\$319	\$780	\$1,099	\$712	100% +
\$70,000	\$70,000	\$67,286	\$281	\$780	\$1,061	\$734	100% +
\$75,000	\$75,000	\$69,668	\$281	\$780	\$1,061	\$755	100% +
\$80,000	\$80,000	\$72,172	\$281	\$780	\$1,061	\$778	100% +
\$85,000	\$85,000	\$75,418	\$230	\$780	\$1,010	\$808	100% +
\$90,000	\$90,000	\$78,928	\$230	\$780	\$1,010	\$839	100% +
\$95,000	\$95,000	\$82,438	\$230	\$780	\$1,010	\$871	100% +
\$100,000	\$100,000	\$86,048	\$230	\$680	\$910	\$903	100% +
\$120,000	\$120,000	\$95,930	\$204	\$390	\$594	\$988	50—99%
\$140,000	\$140,000	\$108,560	-	\$390	\$390	\$1,096	1—49%
\$160,000	\$160,000	\$121,040	-	\$390	\$390	\$1,213	1—49%
High income households							
\$180,000	\$180,000	\$133,520	-	\$390	\$390	\$1,336	1—49%
\$200,000	\$200,000	\$146,000	-	\$390	\$390	\$1,460	1—49%

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Dual income couple—70:30 income split, two dependent children, one aged 13–15 and one aged 16–17 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$35,530	\$864	-	\$864	\$462	100% +
\$5,000	\$26,187	\$39,286	\$864	-	\$864	\$483	100% +
\$10,000	\$28,693	\$41,631	\$864	-	\$864	\$500	100% +
\$15,000	\$30,843	\$43,556	\$864	\$75	\$939	\$517	100% +
\$20,000	\$32,993	\$45,313	\$864	\$318	\$1,182	\$533	100% +
\$25,000	\$35,043	\$47,023	\$864	\$349	\$1,212	\$549	100% +
\$30,000	\$37,048	\$48,701	\$844	\$360	\$1,204	\$564	100% +
\$35,000	\$39,048	\$50,325	\$813	\$343	\$1,156	\$579	100% +
\$40,000	\$41,048	\$51,877	\$813	\$344	\$1,157	\$593	100% +
\$45,000	\$45,000	\$52,587	\$368	\$390	\$758	\$600	100% +
\$50,000	\$50,000	\$54,854	\$345	\$390	\$735	\$620	100% +
\$55,000	\$55,000	\$57,537	\$345	\$465	\$810	\$645	100% +
\$60,000	\$60,000	\$59,769	\$345	\$690	\$1,035	\$665	100% +
Middle income households							
\$65,000	\$65,000	\$62,005	\$310	\$780	\$1,090	\$686	100% +
\$70,000	\$70,000	\$65,022	\$230	\$780	\$1,010	\$713	100% +
\$75,000	\$75,000	\$68,404	\$230	\$780	\$1,010	\$744	100% +
\$80,000	\$80,000	\$71,908	\$230	\$780	\$1,010	\$776	100% +
\$85,000	\$85,000	\$75,418	\$230	\$780	\$1,010	\$808	100% +
\$90,000	\$90,000	\$78,928	\$230	\$780	\$1,010	\$839	100% +
\$95,000	\$95,000	\$82,438	\$230	\$780	\$1,010	\$871	100% +
\$100,000	\$100,000	\$86,048	\$230	\$680	\$910	\$903	100% +
\$120,000	\$120,000	\$95,930	\$204	\$390	\$594	\$988	50—99%
\$140,000	\$140,000	\$108,560	-	\$390	\$390	\$1,096	1—49%
\$160,000	\$160,000	\$121,040	-	\$390	\$390	\$1,213	1—49%
High income households							
\$180,000	\$180,000	\$133,520	-	\$390	\$390	\$1,336	1—49%
\$200,000	\$200,000	\$146,000	-	\$390	\$390	\$1,460	1—49%

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Dual income couple—70:30 income split, three dependent children, one aged under 5 and two aged 6–12 years

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$22,131	\$40,165	\$982	-	\$982	\$522	100% +
\$5,000	\$26,187	\$43,921	\$982	-	\$982	\$545	100% +
\$10,000	\$28,693	\$46,265	\$982	-	\$982	\$560	100% +
\$15,000	\$30,843	\$48,190	\$982	\$75	\$1,057	\$576	100% +
\$20,000	\$32,993	\$49,947	\$982	\$318	\$1,300	\$592	100% +
\$25,000	\$35,043	\$51,657	\$982	\$349	\$1,330	\$608	100% +
\$30,000	\$37,048	\$53,335	\$962	\$360	\$1,322	\$623	100% +
\$35,000	\$39,048	\$55,110	\$931	\$390	\$1,321	\$639	100% +
\$40,000	\$41,048	\$56,885	\$931	\$390	\$1,321	\$655	100% +
\$45,000	\$45,000	\$59,994	\$485	\$390	\$875	\$684	100% +
\$50,000	\$50,000	\$62,855	\$485	\$390	\$875	\$710	100% +
\$55,000	\$55,000	\$65,537	\$485	\$465	\$950	\$734	100% +
\$60,000	\$60,000	\$67,770	\$485	\$690	\$1,175	\$754	100% +
Middle income households							
\$65,000	\$65,000	\$69,971	\$485	\$780	\$1,265	\$774	100% +
\$70,000	\$70,000	\$72,054	\$485	\$780	\$1,265	\$793	100% +
\$75,000	\$75,000	\$74,136	\$485	\$780	\$1,265	\$812	100% +
\$80,000	\$80,000	\$76,340	\$485	\$780	\$1,265	\$832	100% +
\$85,000	\$85,000	\$78,686	\$387	\$780	\$1,167	\$853	100% +
\$90,000	\$90,000	\$81,318	\$360	\$780	\$1,140	\$877	100% +
\$95,000	\$95,000	\$84,828	\$360	\$780	\$1,140	\$909	100% +
\$100,000	\$100,000	\$88,438	\$360	\$680	\$1,040	\$942	100% +
\$120,000	\$120,000	\$99,522	\$360	\$390	\$750	\$1,040	50—99%
\$140,000	\$140,000	\$108,560	-	\$390	\$390	\$1,118	1—49%
\$160,000	\$160,000	\$121,040	-	\$390	\$390	\$1,226	1—49%
High income households							
\$180,000	\$180,000	\$133,520	-	\$390	\$390	\$1,338	1—49%
\$200,000	\$200,000	\$146,000	-	\$390	\$390	\$1,460	1—49%

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Seniors—single age pensioner

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$15,340	\$16,043	\$382	-	\$382	\$225	100% +
\$5,000	\$19,879	\$20,583	\$382	-	\$382	\$277	100% +
\$10,000	\$22,879	\$23,583	\$382	-	\$382	\$304	100% +
\$15,000	\$25,879	\$26,583	\$382	-	\$382	\$331	100% +
\$20,000	\$28,879	\$29,583	\$382	-	\$382	\$358	100% +
Middle income households							
\$25,000	\$31,879	\$32,087	\$382	\$496	\$878	\$374	100% +
\$30,000	\$34,879	\$33,842	\$382	\$693	\$1,075	\$385	100% +
\$35,000	\$37,879	\$35,616	\$382	\$485	\$867	\$396	100% +
\$40,000	\$40,879	\$37,176	\$382	\$463	\$845	\$406	100% +
\$45,000	\$45,000	\$38,616	\$382	\$647	\$1,029	\$415	100% +

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Seniors—single self-funded retiree

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Middle income households							
\$25,000	\$31,879	\$32,087	\$382	\$496	\$878	\$374	100% +
\$30,000	\$34,879	\$33,842	\$382	\$693	\$1,075	\$385	100% +
\$35,000	\$37,879	\$35,616	\$382	\$485	\$867	\$396	100% +
\$40,000	\$40,879	\$37,176	\$382	\$463	\$845	\$406	100% +
\$45,000	\$45,000	\$38,616	\$382	\$647	\$1,029	\$415	100% +
\$50,000	\$50,000	\$41,400	-	\$462	\$462	\$435	100% +
\$55,000	\$55,000	\$44,625	-	\$390	\$390	\$463	50—99%
\$60,000	\$60,000	\$47,850	-	\$390	\$390	\$490	50—99%
\$65,000	\$65,000	\$51,075	-	\$390	\$390	\$518	50—99%
\$70,000	\$70,000	\$54,400	-	\$290	\$290	\$547	50—99%
\$75,000	\$75,000	\$57,825	-	\$90	\$90	\$581	1—49%
\$80,000	\$80,000	\$61,250	-	-	-	\$616	-
High income households							
\$85,000	\$85,000	\$64,325	-	-	-	\$646	-
\$90,000	\$90,000	\$67,400	-	-	-	\$677	-
\$95,000	\$95,000	\$70,475	-	-	-	\$707	-
\$100,000	\$100,000	\$73,550	-	-	-	\$738	-
\$120,000	\$120,000	\$85,850	-	-	-	\$861	-
\$140,000	\$140,000	\$98,150	-	-	-	\$983	-
\$160,000	\$160,000	\$110,450	-	-	-	\$1,105	-
\$180,000	\$180,000	\$122,750	-	-	-	\$1,228	-
\$200,000	\$200,000	\$133,450	-	-	-	\$1,335	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Seniors—age pensioner couple

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Low income households							
\$0	\$25,631	\$26,334	\$640	-	\$640	\$342	100% +
\$5,000	\$30,631	\$31,334	\$640	-	\$640	\$373	100% +
\$10,000	\$34,293	\$34,997	\$640	-	\$640	\$406	100% +
\$15,000	\$37,293	\$37,997	\$640	-	\$640	\$434	100% +
\$20,000	\$40,293	\$40,997	\$640	-	\$640	\$461	100% +
\$25,000	\$43,293	\$43,997	\$640	-	\$640	\$488	100% +
Middle income households							
\$30,000	\$46,293	\$46,997	\$640	-	\$640	\$515	100% +
\$35,000	\$49,293	\$49,997	\$640	-	\$640	\$542	100% +
\$40,000	\$52,293	\$52,997	\$640	-	\$640	\$569	100% +
\$45,000	\$55,293	\$55,465	\$640	\$532	\$1,171	\$591	100% +
\$50,000	\$58,293	\$57,640	\$640	\$1,254	\$1,894	\$611	100% +
\$55,000	\$61,293	\$59,763	\$640	\$1,229	\$1,868	\$630	100% +
\$60,000	\$64,293	\$61,526	\$640	\$1,521	\$2,161	\$645	100% +
\$65,000	\$67,293	\$63,281	\$640	\$1,657	\$2,296	\$660	100% +
\$70,000	\$70,293	\$65,036	\$640	\$1,575	\$2,215	\$675	100% +
\$75,000	\$75,000	\$67,174	\$640	\$1,602	\$2,242	\$694	100% +

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

Seniors—self-funded retiree couple, 50:50 income split

Private income	Taxable income before CPRS	Disposable income before CPRS	Increases in Australian Government payments	Gains from CPRS tax changes	Total assistance	Average cost of living impact of CPRS	Percentage of impact offset
Middle income households							
\$30,000	\$46,293	\$46,997	\$640	-	\$640	\$515	100% +
\$35,000	\$49,293	\$49,997	\$640	-	\$640	\$542	100% +
\$40,000	\$52,293	\$52,997	\$640	-	\$640	\$569	100% +
\$45,000	\$55,293	\$55,465	\$640	\$532	\$1,171	\$591	100% +
\$50,000	\$58,293	\$57,640	\$640	\$1,254	\$1,894	\$611	100% +
\$55,000	\$61,293	\$59,763	\$640	\$1,229	\$1,868	\$630	100% +
\$60,000	\$64,293	\$61,526	\$640	\$1,521	\$2,161	\$645	100% +
\$65,000	\$67,293	\$63,281	\$640	\$1,657	\$2,296	\$660	100% +
\$70,000	\$70,293	\$65,036	\$640	\$1,575	\$2,215	\$675	100% +
\$75,000	\$75,000	\$67,174	\$640	\$1,602	\$2,242	\$694	100% +
\$80,000	\$80,000	\$69,900	-	\$1,304	\$1,304	\$717	100% +
\$85,000	\$85,000	\$73,125	-	\$780	\$780	\$745	100% +
\$90,000	\$90,000	\$76,350	-	\$780	\$780	\$773	100% +
\$95,000	\$95,000	\$79,575	-	\$780	\$780	\$801	50—99%
\$100,000	\$100,000	\$82,800	-	\$780	\$780	\$831	50—99%
\$120,000	\$120,000	\$95,700	-	\$780	\$780	\$960	50—99%
High income households							
\$140,000	\$140,000	\$108,800	-	\$580	\$580	\$1,090	50—99%
\$160,000	\$160,000	\$122,500	-	-	-	\$1,226	-
\$180,000	\$180,000	\$134,800	-	-	-	\$1,349	-
\$200,000	\$200,000	\$147,100	-	-	-	\$1,471	-

Notes:

- 1 Estimates relate to projected tax and transfer system parameters as at 1 July 2010.
- 2 At zero private income, households are fully reliant on income support payments.
- 3 Average cost of living impact of CPRS is based on estimated price impact for this family type at different levels of equivalised household income.
- 4 Components may not exactly sum to totals due to rounding.
- 5 Low-, middle-, and high-income household thresholds are based on adjusted taxable income according to ranges in the table on page 17-6.

- 1 KPMG, the Brotherhood of St Laurence & Ecos Corporation, 'A National Energy Efficiency Program to Assist Low-Income Households' www.bsl.org.au accessed December 2008.
- 2 Modified-OECD equivalence scales were applied to household incomes to allow for comparisons across households of different sizes. They assign a weight of 1 for the first adult (person aged over 15) in the household, 0.5 for additional adults aged 15 or more and 0.3 for children under 15. For example, the 'equivalent' income of a two-parent household with two children is 2.1 times that of a single adult person household.
- 3 In 2008-09, for a family with one child aged 0–12 years, Family Tax Benefit Part A (FTB-A) reaches the base rate when the family's income exceeds \$55,991 per year
- 4 For more detail on the Australian Treasury's modelling of the household impacts, see Australia's low pollution future: The economics of climate change mitigation.

18 Climate Change Action Fund

The Climate Change Action Fund will provide targeted assistance to businesses, community sector organisations, workers, regions and communities to smooth the transition to a carbon constrained economy. It will provide assistance by addressing both the distributional impacts of the Scheme and persistent market failures that impede the uptake of lower emission technologies and processes.

While the impacts of the Carbon Pollution Reduction Scheme (the Scheme) will be spread broadly across the economy, some sectors may be disproportionately affected in the transition to the Scheme. The Government recognised this in the Green Paper, indicating its preference to establish the Climate Change Action Fund (CCAF) to assist businesses and communities to adjust to the impact of the Scheme.

This chapter outlines the objectives, design and timing of the CCAF.

- Section 18.1 sets out the objectives of the CCAF.
- Section 18.2 describes the design of the fund and the scope of activities that will take place through the CCAF.
- Section 18.3 outlines the governance arrangements for CCAF and the Government's timetable for finalising guidelines and eligibility criteria, following further consultation with stakeholders.
- Section 18.4 considers the CCAF's potential to create opportunities for jobs of the future.

18.1 Objectives

In the Green Paper, the Government stated that the challenge of adjusting to a lower emissions environment will be broadly shared across the economy. However, the Government also recognised that during the transition period some industries and communities may be disproportionately affected due to their emissions intensity, inability to pass on carbon costs or lack of emissions abatement options. Accordingly, the Government is providing significant support to emissions-intensive, trade-exposed (EITE) industries through the administrative allocation of permits covering a significant proportion of their direct and indirect emissions (see Chapter 12). In addition, the Government is also providing limited direct assistance to some coal-fired electricity generators through the Electricity Sector Adjustment Scheme (ESAS) (see Chapter 13). The Government is also providing significant assistance to households (see Chapter 17).

Through the EITE and ESAS assistance packages, the Government has committed significant support to those industries that face the greatest material impact of the Scheme. However, various segments of the economy that will nevertheless be affected by the introduction of the Scheme and may face difficulties in adjusting to a carbon constrained environment. For

example, in certain circumstances, some companies may have difficulty assessing and addressing their exposure to the carbon price. Without assistance, it is possible that some industries, companies and community organisations will face a decline in production, profitability or service delivery. The Government committed in the Green Paper to establishing the CCAF to help smooth the transition to the Scheme for those firms and organisations not receiving assistance through other elements of the Scheme, but which may nevertheless need assistance to adjust to the carbon price.

In the Green Paper, the Government set out the following preferred position.

Green Paper position

To assist business more generally, the Government proposes to establish the Climate Change Action Fund. The Fund will focus predominately on those industries not receiving free permit allocation, but which nevertheless need assistance to adjust to the carbon price.

Submissions to the Green Paper were highly supportive of the establishment of the CCAF to provide transitional assistance for businesses, industries and communities unlikely to be eligible for EITE or ESAS assistance. For example, in its submission, the Australian Chamber of Commerce and Industry stated:

ACCI supports the establishment of the Climate Change Action Fund (CCAF) for assisting firms specifically or industry more broadly as well as employees and their communities. (Submission 786, p. 9)

Submissions to the Green Paper suggested a number of objectives for the fund, including the need to help address the effects of the Scheme on small and medium sized enterprises in the transitional period of the Scheme (Australian Industry Group, Submission 882). Due to their smaller size, most SMEs will not be liable entities under the Scheme, and will not be required to surrender permits or engage with the Scheme mechanisms in any substantive way. However, SMEs will be a conduit for price changes throughout the economy as the price of energy, transport and other business inputs change with the introduction of a carbon price. Assisting SMEs to realise low cost abatement options, such as energy efficiency improvements in the transitional period of the Scheme, will ameliorate the overall impact on businesses and reduce the overall cost of the Scheme.

The Australian Industry Group (Submission 882) also stressed the need for support for liable entities that may be ineligible for free permits under the EITE assistance framework. In particular the Australian Industry Group argued for support for liable entities in industries that fall in a range immediately below the lower threshold for EITE assistance, which at the time of the Green Paper was 1500 tonnes of emissions per million dollars revenue, reduced now to 1000 tonnes of emissions per million dollars revenue (or 3000 tonnes of emissions per million dollars of value added).

The special circumstances of parts of the coal sector are discussed below.

Support from stakeholders was also strong for the CCAF to provide a means for transitional assistance for particular community sector organisations (Aged and Community Services Australia, Submission 855). Community service organisations are in a similar position to SMEs, in that they will not generally be liable entities under the Scheme and may not be fully

aware of their exposure to the carbon price. Not-for-profit community service organisations support some of the most financially vulnerable in our society, and may experience higher operating costs as a result of the Scheme. They are for the most part unable to pass on these costs which may mean that their ability to provide essential services to the community is reduced.

In the Green Paper, the Government indicated that while existing welfare safety net support mechanisms provide a means to assist affected workers and regions, additional support may be required in some cases.

Submissions also highlighted the need to ease the transition for workers, regions and communities to a lower carbon economy (Geelong Chamber of Commerce, Submission 443; Members Equity Bank, submission 439). In its submission to the Green Paper, the Australian Council of Social Services (ACOSS) stated:

ACOSS is fully supportive of policies and programs that ease the transition for workers, communities and regions to a low carbon economy. However, while there may indeed be measures already in existence, the Climate Change Action Fund should be directed to address structural adjustment necessitated by climate change and responses, including the CPRS. Climate change will likely prove to be a concern rightly regarded as whole-of-government and whole-of-economy. Where the need for assistance to adjust is attributable to climate change and where the resources of the Fund permit, the Fund should be used for this purpose. (Submission 887, p.23)

The Government agrees with these general views on the direction of the CCAF. The Government has decided, therefore, that the priority of the CCAF should be on smoothing the transition to the Scheme for:

- businesses that are not eligible for other forms of assistance associated with the Scheme, with the exception of firms receiving the lower level of EITE assistance, recognising that there may be other situations where assistance is warranted
- small to medium sized enterprises and community sector organisations which will be impacted by the Scheme
- specific industries, workers, regions and communities that will experience a concentrated impact flowing from the implementation of the Scheme.

Policy position 18.1

The objective of the Climate Change Action Fund will be to assist in smoothing the transition for businesses, community sector organisations, workers, regions and communities to an operating environment that includes a price on carbon.

18.2 Design

In the Green Paper, the Government proposed that support under the CCAF would be provided in two distinct components—firm specific support (including various one-off grants or broader industry wide measures), and support to particular workers and communities.

The Government also indicated the activities that could be supported through the CCAF include capital investments in new low emission processes, industrial energy efficiency projects with long pay back periods, and the dissemination of information regarding innovative practices among small to medium sized enterprises.

Stakeholders commented broadly in submissions to the Green Paper on the design and the types of assistance that might be provided for under the CCAF. In general, stakeholders expressed support for:

- capital subsidies for investments in low emissions technologies and infrastructure (for example, Australia Industry Group, Submission 882)
- funding for large-scale demonstration of energy efficiency measures (for example, WA Chamber of Commerce and Industry, Submission 500)
- assistance to overcome information barriers and provision for workforce retraining and re-skilling (for example, Members Equity Bank, Submission 439).

18.2.1 Four streams of assistance

In targeting assistance under the CCAF, the Government's preference is to correct market failures that may prevent or impede the uptake of low emissions technologies and processes that are otherwise cost effective and, where required, to provide structural adjustment assistance to industries and communities disproportionately affected by the Scheme. With this in mind, the CCAF will be designed in four streams, which will include:

- the provision of information to businesses and community service organisations about the operation of the Scheme and how these entities can manage the expected financial impacts
- grants and incentives for businesses and community service organisations to invest in energy efficiency projects and low emissions technologies, processes and products
- structural adjustment assistance in the event workers and communities are significantly impacted by the introduction of the Scheme
- structural adjustment assistance for coal mines with high fugitive emissions which will be significantly impacted by the introduction of the Scheme.

In order to support these activities the Government will commit \$2.15 billion to the CCAF over a five year period running from 2008–09 to 2012–13. The Government has committed an additional \$300 million for structural adjustment assistance for coal mines with high fugitive emissions over the period 2013–14 and 2014–15. The CCAF will complement existing climate change measures such as the Clean Business Australia initiative and the low emissions technology funds including the National Low Emissions Coal Fund.

Annual budgets will range between \$300–700 million during the program delivery phase (2009–10 to 2012–13) with some small-scale program establishment expenditure allocated in the early phase of the fund. The additional \$300 million over 2013-14 and 2014-15 is for the continuation of the *Coal Sector Adjustment Stream*.

Stream 1: Addressing information gaps for business and community organisations

Lack of information is a persistent market failure that can act as a barrier to the uptake of less carbon intensive practices and processes. This impacts on the ability of firms and community organisations to respond to a carbon price.

In submissions to the Green Paper, stakeholders strongly supported the provision of information to help businesses adjust to the impact of the Scheme. For example, in its submission to the Green Paper, the Western Australian Chamber of Commerce and Industry stated:

CCI also believes that the CCAF should fund information, training and advisory services for small and medium enterprises. This would allow businesses that are not directly involved in permit trading to understand, adapt and mitigate their own carbon emissions footprint. (Submission 500, p.25)

The information stream of the CCAF will focus on informing businesses and community service organisations about the operation of the Scheme and how they can manage the expected financial impacts. It will also improve information available to assist the uptake of low emission practices and processes, particularly during the early years of the Scheme when the price signal is expected to be low. A unified information stream will ensure that businesses impacted by the Scheme, particularly SMEs and non-EITE industrial firms, and community sector organisations, have a single information point on the operation of the Scheme and advice on how to manage its possible impacts.

The information stream of the CCAF will be designed and delivered in partnership with business groups, industry associations and community services sector peak bodies and will proactively harness the expertise and networks of these representative bodies.

Funding for the CCAF information stream will be up to \$130 million, over five years, beginning in 2008–09. This will fund the following activities:

- The development of broad based information and education outreach material for small businesses and community groups, to build awareness of the operation of the Scheme and knowledge of low emission opportunities. Carbon prices may not be “top of mind” for many businesses, even though they are potentially vulnerable to impacts. Businesses and industries will benefit from assistance to understand where carbon price impacts will flow through into their particular processes and practices. Once this is understood, businesses will be better informed to make judgements about how to best manage the carbon price impacts on their operations. This material will be developed and delivered in partnership with relevant industry bodies.
- The development of targeted outreach information for community sector organisations, small and medium sized enterprises and larger industrial businesses. This information would include tailored advice on low emission opportunities and available assistance packages, and be delivered through relevant community and industry associations. For example, there may be a range of alternatives available for a particular process that would allow a business to reduce exposure to a carbon price. Unless this information is available to business, processes or technologies which may be cost-effective choices will remain unexploited. An example that the CCAF might support could be a website information portal for industry with best practice case studies.

- The development and dissemination of information on energy efficiency opportunities through the funding and publication of model energy efficiency assessments for particular industries. In addition to these assessments, the CCAF may also support energy benchmarking for a particular sector, so that members can understand how well their business performs against the average.
- Activities to address skill shortages in energy auditing and advisory services.

The timeframe for the development and detailed design of the Information stream is outlined in section 18.3 below.

Stream 2: Investment in energy efficiency and low emissions technologies

This stream will comprise of three sub-programs to provide grants and incentives for businesses and community groups to invest in energy efficiency projects and low emissions technologies, processes and products. The *Small Business Capital Allowance* and the *Community Organisation Capital Allowance* programs will assist small business and small community organisations to invest in energy efficiency equipment, while the *Innovation in Climate Change* sub-program will target large-scale emission reduction opportunities. The funding for this stream will be up to \$1.4 billion over 5 years commencing with program development in 2008–09.

Small Business Capital Allowance

The *Small Business Capital Allowance* program will provide small business with assistance to invest in energy efficiency equipment (for example efficient hot water systems; improved insulation; efficient lighting, motors and drives; combined heat and power equipment; heating, ventilation and air conditioning; and refrigeration equipment) that meets established energy saving criteria.

Applicants will be required to complete an allowance application form, identifying which eligible activities will be undertaken and, upon completion, be partially reimbursed for the capital and installation costs of the energy efficiency equipment. Priority will be given to those small businesses that are not eligible for other forms of assistance. Detailed program guidelines and eligibility criteria for this program will be developed in the first half of 2009.

Community Organisation Capital Allowance

Like the *Small Business Capital Allowance* this sub-program will provide community organisations with assistance to invest in energy efficiency equipment that meets established energy saving criteria. Applicants will be required to complete an allowance application form, identifying which eligible activities will be undertaken. Upon completion, applicants will be partially reimbursed for the capital and installation costs of the energy efficiency equipment. Detailed program guidelines and eligibility criteria for this measure will be developed in the first half of 2009.

Innovation in Climate Change

The *Innovation in Climate Change* program will provide competitive grant funding to contribute to the cost of innovative low emission technologies, production methods, supply-chain improvements or products, and energy savings projects with long pay back

periods. Priority will be given to those businesses that are not eligible for other forms of assistance, or receive the lower rate of EITE assistance, recognising that there may be other situations where assistance is warranted. The competitive funding rounds will begin in late 2009. Any cap to be placed on grants made under this program, co-contribution levels and program eligibility criteria will be determined in the first half of 2009.

This program will complement the Government's existing range of energy technology specific funds such as the Renewable Energy Fund, Energy Innovation Fund, the National Low Emissions Coal Fund, Re-tooling for Climate Change and the Green Building Fund.

The timeframe for the development and detailed design of the Investment stream is outlined in section 18.3 below.

Stream 3: Structural Adjustment Provision for Workers and Communities

The third CCAF stream will provide structural adjustment assistance in the event that workers and communities are disproportionately impacted by the introduction of the Scheme.

In the Green Paper, the Government indicated that it would address particular impacts of the Scheme on workers, communities and regions. Further, the Government indicated that adjustment assistance would:

- take into account the existence of other measures that would assist structural adjustment in all sectors (such as social security and employment policies)
- be provided where a clear and sizable burden has been, or is highly likely to be, imposed on an identifiable segment of the community
- be designed to assist the adjustment of workers, communities and regions to their new circumstances, rather than to prevent or hinder that adjustment
- apply, as necessary, regardless of whether an affected industry has received support as a strongly affected or emissions-intensive trade-exposed industry.

The Government will continue to closely monitor the impact of the Scheme on workers, communities and regions to identify any segments of the economy that may require structural adjustment assistance. For many industries, the specific impacts of the Scheme will be not be quantifiable with any degree of certainty until the legislation is passed. In considering this issue, the Garnaut Final Report indicated that whilst it is possible that regional development issues may arise in areas heavily reliant on emissions intensive industries, it will be several years before the adverse impacts are realised and it will be difficult to quantify the extent and nature of transitional assistance required in the short-term.

This is partly because it will also be difficult to assess in advance the opportunities which may arise from the Scheme in particular regions. For example, the introduction of the Scheme will allow the unique attributes of some areas (such as those with a strong industrial and skills base, existing infrastructure and access to alternative industries) to generate new possibilities, enabling those areas to respond to the impacts of the Scheme without the need for additional support. CSIRO modelling in its report '*Growing the Green Collar Economy*' indicates that employment sectors with high potential environmental impacts will grow strongly, with projected increases of more than 10 per cent over the next ten years. CSIRO predicts this will

add 230,000 to 340,000 new jobs to the agriculture, construction, manufacturing, mining and transport sectors. In the case of construction and transport, projected growth will exceed the national average.¹

To respond effectively to this uncertainty, the Government will closely monitor the impact of the Scheme on workers, communities and regions and stands ready to provide assistance where a clear, identifiable and significant impact arises, or is highly likely to arise as a direct result of the Scheme. An amount of \$200 million has been provisionally set aside for this assistance from 2010–11.

Stream 4: Coal Sector Adjustment

The coal sector is unlike any other sector with respect to the diversity of the emission profiles between mines. Some coal mines have very high fugitive emissions. For these mines, the introduction of the Scheme may lead to a concentrated adverse impact due to the relatively high permit liabilities and in many cases limited opportunities to pass on these costs.

That said, the high variation in emissions means that some mines have very low emission intensities. Fugitive emissions from coal mines range from close to zero to 0.71 tonnes of CO₂-e per tonne of coal extracted. No other industry has the emission-intensity of different production facilities that varies by a factor of 1000. While there are some very gassy mines, the vast majority of production (nearly 90%) originates from mines which have an emissions intensity of less than 0.05 tonnes of CO₂-e per tonne of coal extracted.

Another distinguishing factor for coal mines is the potential for substantial step changes in emissions due to the availability of some relatively low-cost abatement technologies. Examples of possible abatement technologies are provided in Box 19.1.

This variation in emissions intensity means that it is problematic to treat the coal industry as eligible for EITE assistance, since estimates of the average emissions intensity of coal mining will be significantly inflated by the relatively small amount of coal produced by very gassy mines. Providing EITE assistance may lead to significant windfall gains for the less gassy mines and for gassy mines that subsequently undertake substantial low-cost abatement.

That said, certain segments of the industry, namely the most gassy coal mines, which are generally underground coal mines, would benefit from transitional assistance while they explore available abatement opportunities.

To address this problem, the Government will allocate \$750 million over the period 2010–11 to 2014–15, to assist coal mines with high fugitive emissions, with associated benefits for the communities that rely on them. The Coal Sector Adjustment Stream will involve two components—the *Coal Mining Transitional Assistance Fund* and the *Coal Mining Abatement Fund*.

This White Paper outlines the high level principles that will be frame the design of the adjustment scheme. The detailed design of this stream of the CCAF will be determined in the first half of 2009 following further consultation with stakeholders.

Coal Mining Transitional Assistance Fund

The Government will provide \$500 million through the *Coal Mining Transitional Assistance Fund* for existing coal mines (that is mines in operation at 3 June 2007) that are particularly gassy.

An amount of \$100 million per annum will be allocated amongst eligible coal mines in the form of cash payments. The Government's intention is to divide this amount between eligible mines on the basis of each mine's proportion of the total fugitive emissions (based on 2007–08 data) from mines that are eligible for assistance.

To be eligible for this fund, mines will need to:

- demonstrate that their emissions intensity is greater than 0.1 tonnes CO₂-e per tonne of output
- establish an Emissions Reduction Plan and undertake, to the best of their ability, the actions outlined in the Plan:
 - the Plan must be approved and represent *bona fide* efforts to reduce emissions
 - the mine would be required to report annually on progress towards executing the Emissions Reduction Plan
 - should the mine not fulfil the commitments outlined in the Plan, then assistance would be terminated.

The Government will make best endeavours to assist affected mines in progressing relevant planning and environmental approval matters related to the Emissions Reduction Plans.

Coal Mining Abatement Fund

The Government will provide \$250 million over five years to fund expenditure on abatement activity. All coal mines (including underground and open cut mines) will be eligible to apply for funding from the *Coal Mining Abatement Fund*. Abatement projects from mines in receipt of transitional assistance funding will be required to be consistent with their Emissions Reduction Plan. The Government's intention is that:

- funding will be provided on a competitive basis with the priority being given to cost-effective abatement, innovative technology, or the application of technology in innovative ways
- recipients will be required to provide matching funding
- consideration will be given to bring forward worthwhile abatement projects to 2009–10.

The Coal Sector Adjustment Stream will be reviewed in 2014–15 in the context of the broader review of the Scheme. The review will consider the overall impact of the Scheme on the coal sector and the likely impact in the period ahead. It will also consider the sector's experience with abatement measures. The provision of assistance to eligible coal mines through the Coal Sector Adjustment package will not preclude the re-consideration of the sector for EITE

assistance in the context of the five-yearly review in light of commodity price movements that unfold.

Box 19.1: Available abatement technologies for underground gassy mines

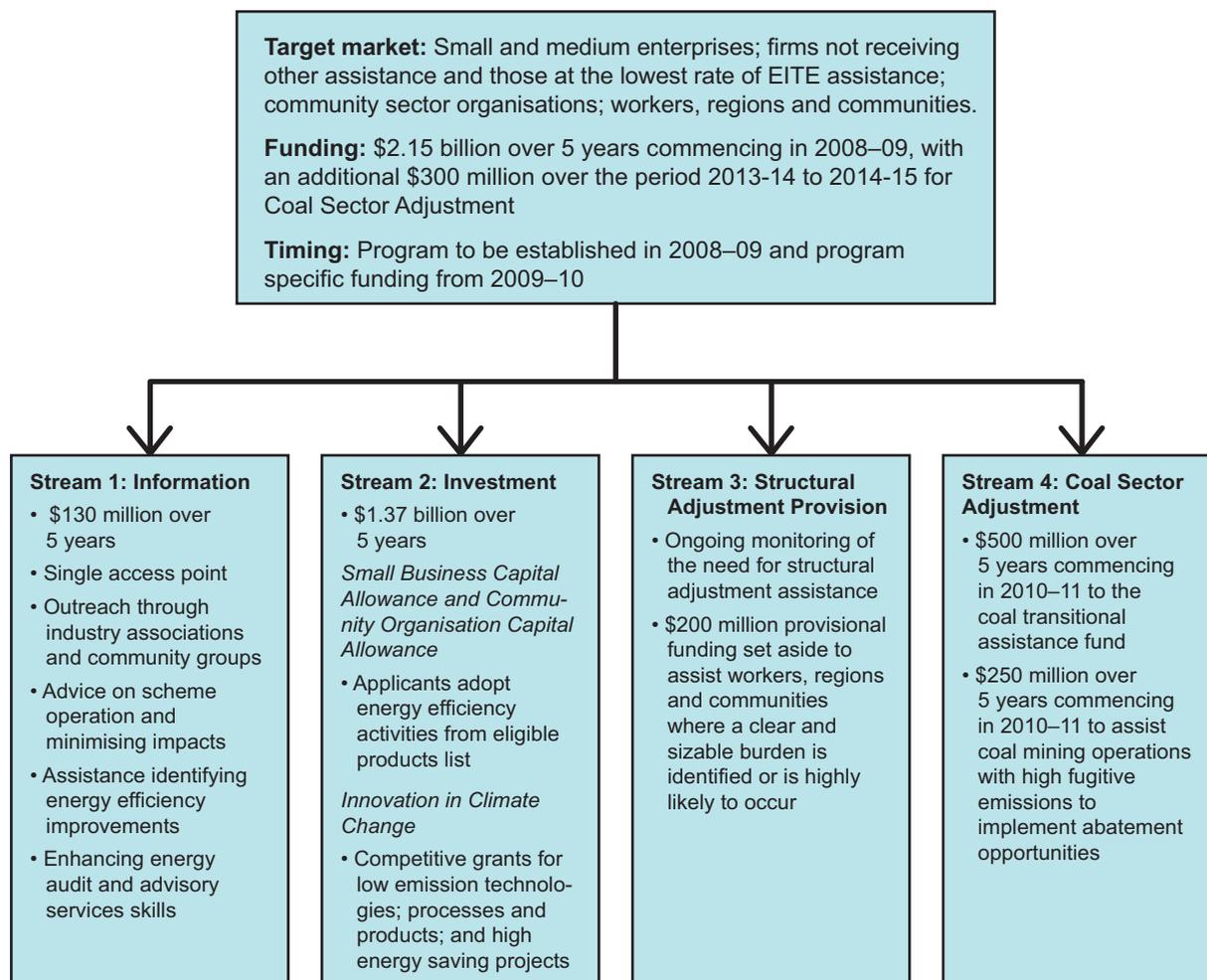
Methane from underground coal mines is commonly vented to the atmosphere but there are a number of technologies, either under development or already available, to utilise the gas and substantially reduce emissions.

Methane drained from the coal seam can now be used in a number of industrial processes such as combustion for power generation, co-firing gas injection air in power stations and as a chemical feedstock. The burning of methane through flaring is also a viable abatement opportunity. For example, flaring 30 per cent of the methane emitted from just one of Australia's gassy coal mines, has resulted in an emission reduction of 125,000 tonnes CO₂-e a year.

Methane which leaks into mine ventilation air during the mining process can also be used for power generation including use as combustion air in conventional turbine operations and in lean burn turbines or porous burners. The 'vocsidiser' technology can generate electricity fuelled by air coming from mine ventilation. This technology has been successfully installed by BHP at its West Cliff underground mining operation. This trial installation utilises some 20 per cent of the mine's ventilation to operate a 6 megawatt steam turbine and is expected to abate approximately 1.04 million tonnes of CO₂-e over four years.

The figure below provides an overview of the CCAF structure.

Figure 18.1: Structure of the Climate Change Action Fund



Policy position 18.2

The CCAF will be structured in four streams:

- Addressing information gaps for business and community organisations about the operation of the Scheme and how these entities can minimise the expected financial impacts.
- Grants and incentives to support investment in energy efficiency and low emissions technologies, processes and products.
- Structural adjustment assistance for workers and communities significantly impacted by the introduction of the Scheme. The Government will monitor the impact of the Scheme on workers, communities and regions following the commencement of the Scheme and stand ready to provide assistance where a clear, identifiable and significant impact arises, or is highly likely to arise, as a direct result of the Scheme.
- Adjustment assistance for the coal sector to address impacts on coal mines with high fugitive emissions.

18.3 Governance and timing

18.3.1 Governance

Sound governance arrangements for the implementation of the CCAF will be critical in ensuring its success in transitioning businesses, workers and regions adversely impacted by the Scheme, and to maintain the transparency and accountability of the CCAF.

A Stakeholder Consultative Committee, comprising business, environmental and community stakeholders will be established to provide advice to the Government on detailed design and implementation of activities under the CCAF. The Committee will not have a decision making role, but will advise Ministers in relation to applications and proposals received under each of the streams of the CCAF. The Committee will also provide their perspectives and advice to Ministers about the operational aspects of the regulation of the Scheme. The Committee is expected to be convened early in 2009 and to continue until the Scheme commences, at which time consultative arrangements may be adjusted to meet changing needs. The Committee will be separate from the independent expert advisory committee which will undertake strategic reviews of the Scheme every five years.

Each individual stream under the CCAF will have tailored eligibility criteria, proposal parameters, funding limits, assessment processes, success metrics and quality assurance provisions. These will be informed by the objectives and activities to be undertaken under the CCAF, and through consultation with relevant stakeholders. Ministerial oversight arrangements for the various streams of activity will be decided in 2009.

Policy position 18.3

A Stakeholder Consultative Committee, comprising business, environmental and community stakeholders, will be established to provide advice on detailed design and implementation of activities under the CCAF and on the operational aspects of the regulation of the Scheme.

18.3.2 Timing

Detailed program guidelines and the eligibility criteria for assistance under each stream of the CCAF will be determined by the Government in the first half of 2009, following consultation with key stakeholders.

The Government recognises that to smooth the transition to the Scheme, businesses and regions will require assistance to prepare for the Scheme before it begins. Therefore, following finalisation of detailed program guidelines, the CCAF will commence in the second half of 2009 with Streams 1 (Information) and 2 (Investment) to enhance the preparedness of businesses, workers, regions and communities for the commencement of the Scheme.

Stream 4 (Coal Sector Adjustment) will formally commence in mid-2010 to coincide with the commencement of the Scheme. Consideration will be given to worthwhile abatement projects being brought forward in 2009–10. The funds under Stream 3 (Structural Adjustment) will be expended as required following the commencement of the Scheme to address material impacts of the Scheme on workers, communities and regions.

Table 18.1 provides an indicative timetable for the finalisation of detailed program design and the commencement of programs under the CCAF.

Table 18.1: Indicative forward timetable

Date	Stream 1	Stream 2		Stream 3	Stream 4	
	Information	Small Business Capital Allowance	Community Organisation Capital Allowance	Innovation in Climate Change	Structural adjustment provision for workers and communities	Coal sector adjustment package
February 2009	Initial draft program design information prepared for consultation	Initial draft program design information prepared for consultation	Initial draft program design information prepared for consultation	Initial draft program design information prepared for consultation	Design and establishment of systems and underpinning analysis required to monitor the impact of the Scheme on workers, communities and regions.	Initial draft program design information prepared for consultation
March 2009	Consultation with business, industry and community groups	Consultation with small business	Consultation with community groups	Consultation with industry groups		Consultation with affected companies
April 2009	Program design finalised	Draft program guidelines released for consultation	Draft program guidelines released for consultation	Draft program guidelines released for consultation		Draft program guidelines released for consultation
Mid 2009	Agreements finalised with industry/community groups	Final program guidelines published	Final program guidelines published	Final program guidelines published		Final program guidelines published
Mid-late 2009	Information Program launch	Program launch—round 1 opens	Program launch—round 1 opens	Program launch—round 1 opens		Abatement program launch with transitional assistance commencing in mid 2010
July 2010	CARBON POLLUTION REDUCTION SCHEME COMMENCES					

Policy position 18.4

Detailed program guidelines and the eligibility criteria for assistance under each stream of the CCAF will be determined by the Government in the first half of 2009, following consultation with key stakeholders.

18.4 Opportunities for jobs of the future

The CCAF provides a substantial fund which will bring forward and enhance the creation of new job opportunities that will occur as part of the transition to a low carbon economy.

Green-collar jobs range from low-skill, entry-level positions to high-skill, higher-paid jobs, and include opportunities for advancement in both skills and wages. The CCAF, along with other policies complementary to the Scheme, have the potential to stimulate a range of these new employment opportunities in our economy in areas such as energy and resource efficiency, renewable energy, low emission technologies, product and process design. Many green jobs will not be highly visible as they will be spread across the economy as all businesses move towards more emission-efficient practices.

1 <http://www.csiro.au/resources/GreenCollarReport.html>.

19 Complementary measures

Together with the Carbon Pollution Reduction Scheme, an expanded Renewable Energy Target, investment in carbon capture and storage demonstration, and action on energy efficiency are the foundation elements of Australia's emissions reduction strategy. These policies will ensure that Australia has the tools and incentives to reduce its emissions and to develop technologies to help reduce greenhouse gas emissions globally.

The Green Paper noted that the Government has inherited a collection of policy measures and programs that evolved over the past 11 years. When those measures are viewed together, it is clear that they could have been more coherent, consistent and effective if they had been developed within a clear policy framework.

The introduction of the Scheme provides an opportunity to assess whether additional policy measures are needed. While the Scheme will be the primary mechanism to achieve low-cost national abatement, additional measures will be needed to assist the transition to a low-carbon economy.

This chapter sets out the framework for complementary measures to work alongside the Scheme to help reduce Australia's emissions and outlines key measures the Government will implement. It also describes processes to be pursued with the States and Territories through the Council of Australian Governments (COAG) to review the complementarity of existing measures.

- Section 19.1 sets out the framework and principles to guide the development and assessment of current and future complementary measures.
- Section 19.2 outlines the foundation elements of the Government's emissions reduction strategy.
- Section 19.3 outlines factors taken into account when assessing complementary measures, including existing programs.

19.1 An overarching framework for complementary measures

The introduction of the Scheme is a fundamental shift in Australia's response to climate change. For the first time, a national market price will be put on carbon. An equally fundamental change to the way governments approach climate change measures as a whole is essential.

The Council of Australian Governments have agreed a set of principles for jurisdictions to review and streamline their existing climate change emission reduction measures, with the aim of achieving a coherent and streamlined set of climate change measures in 2009. These principles provide the framework that will guide the future direction of the Government's

emissions reduction strategy and will ensure that the emissions reduction impact of intervention options is evaluated against the lowest-cost market price determined by the Scheme.

Policy position 19.1

The Government will use the following principles to guide assessment of emission reduction measures:

1. The measures are targeted at a market failure that is not expected to be adequately addressed by the Scheme or that impinges on its effectiveness in driving emissions reductions. For example, research and development failures, common use infrastructure issues, information failures and excess market power.
2. Complementary measures should adhere to the principles of efficiency, effectiveness, equity and administrative simplicity and be kept under review. They may include:
 - a) measures targeted at a market failure in a sector that is not covered by the Scheme
 - b) measures for where the price signals provided by the Scheme are insufficient to overcome other market failures that prevent the take-up of otherwise cost-effective abatement measures
 - c) measures targeted at sectors of the economy where price signals may not be as significant a driver of decision making (e.g. land use and planning)
 - d) Some measures in (a) or (b) may only need to be transitional depending on expected changes in coverage or movements in the carbon price.
3. Complementary measures should be tightly targeted to the market failures identified in the above criteria that are amenable to government intervention. Where the measures are regulatory they should meet best practice regulatory principles, including that the benefits of any government intervention should outweigh the costs.
4. Complementary measures may also be targeted to manage the impacts of the Scheme on particular sectors of the economy (for example to address equity or regional development concerns). Where this is the case, in line with regulatory best practice, the non-abatement objective should be clearly identified and it should be established that the measure is the best method of attaining the objective.
5. Where measures meet the above criteria, they should generally be implemented by the level of government that is best able to deliver the measure. In determining this, consideration should be given to which level of government has responsibility, as defined by the Constitution or convention/ practice; the regulatory and compliance costs that will be imposed on the community; and how the delivery of the measure is best coordinated or managed across jurisdictions.

19.2 Measures to reduce emissions

In the absence of emissions trading, governments have developed a range of measures to reduce greenhouse gas emissions. Some measures address the same market failure that the Scheme addresses; that is, greenhouse gas emissions will impose a cost on the economy if left unchecked. Once emissions trading matures and a carbon price becomes integrated into the economy, overcoming a significant market failure, it will be necessary to ensure policies are designed for an environment shaped by the price of carbon.

The Government recognises that complementary measures will be required to work in parallel with the Scheme, building Australia's capacity to respond to a carbon price and reducing the average cost of greenhouse gas abatement across the economy. Alternatively, complementary measures are designed either to address market failures that a carbon price alone cannot overcome, or to ameliorate the distributional consequences of the Scheme. Complementary measures may be transitional in some circumstances: although they may be necessary to address a specific failure in the short to medium term, they will not be required in the longer term.

Box 19.1: Relevant market failures

Once a carbon price is introduced, businesses and households will have a financial incentive to lower their emissions and take up low-emissions technologies and practices. However, non-price barriers might prevent energy users from fully responding to the carbon price signal. The Government has a role in developing measures to correct non-price-based market failures. Non-price issues include the following:

Information barriers. Without adequate information, individuals and organisations might not exploit the lowest cost low-emissions processes or technologies because it is too time consuming or too complex for them to assess alternatives.

Split incentives. Landlords, for example, have a weak financial incentive to retrofit rental properties with energy-efficient appliances or insulation because tenants benefit most from the reduced operating costs of the upgrades and it is difficult for the landlord to recoup the full benefits of the additional amenity. With 22 per cent of Australia's population living in rental housing, split incentives may be a significant barrier to the take-up of energy efficiency in the residential sector.

Early mover disadvantage. An emissions trading scheme should spur the development and take-up of new technologies by creating demand for more low-emissions products and processes, and successful development and deployment of new technologies across sectors is critical to minimising the cost of mitigation across the economy. However, firms pioneering low-emissions technologies or processes may bear higher initial costs than later adopters, who share the benefits at no cost to themselves.

The important role of complementary measures in addressing inefficiencies in the market and achieving low-cost abatement was raised in many submissions. For example, Shell considered that well-targeted measures that operate alongside the Scheme will 'help lower the costs involved with meeting the [scheme] emission trajectories, and create smoother transitions across abatement options' (Submission 561, p. 2). Stakeholders such as the Climate Institute

noted that, while the scheme can deliver significant emissions reductions, that measure alone will not fully unlock Australia's carbon reduction potential (Submission 702)

The Government's emissions reduction strategy has four foundation elements: the Carbon Pollution Reduction Scheme, the Renewable Energy Target, carbon capture and storage, and energy efficiency. The latter three of these focus on reducing emissions from stationary energy sources, which emit the largest proportion of Australia's greenhouse gases and have the greatest potential for transformation.

19.2.1 Energy transformation

The stationary energy sector produces about 50 per cent of Australia's greenhouse gas emissions and has the greatest potential to deliver reductions, through changes to the way that energy is generated and used.

Renewable Energy Target

Renewable energy will have a key role in moving Australia to the clean economy of the future. The Renewable Energy Target (RET) will ensure that 20 per cent of our electricity is generated from renewable sources by 2020. This is equivalent to almost the entire Australian annual residential electricity consumption, or approximately the amount of electricity currently generated each year in Victoria.

While the Scheme will help bring renewable energy technologies into the market over time, the RET will accelerate their use. The RET is an important transitional measure that will support the development of a domestic renewable power industry and prepare the electricity sector for its contribution to the significant emissions reductions needed to tackle climate change. The measure will help ensure that renewable energy technologies can be readily deployed when the price signal under the Scheme makes those technologies more competitive.

The Government is working in cooperation with the states and territories through COAG to implement the expanded national RET, which will bring the current mandatory target together with existing and proposed state and territory targets into a single national scheme.

The expanded national RET is intended to provide interim stimulus for the deployment of renewable electricity during the early years of the Scheme. The RET is to be phased out between 2020 and 2030.

Carbon capture and storage

Carbon capture and storage (CCS) involves capturing carbon dioxide that would otherwise be emitted to the atmosphere and transporting it to a suitable site where it is injected deep underground or below the seabed, where it will be trapped for long-term, safe and secure storage. CCS will be a key component of the global solution to climate change and is a foundation element of the Government's emissions reduction strategy.

The future of coal depends on CCS. Coal is likely to continue to be a major energy source for the world over the coming decades and, for Australia, coal is likely to be the main source of our energy supply into the future and a major component of our export revenue. While there

have been small-scale trials of CCS technology, no industrial-scale integrated CCS power stations have been built.

The Garnaut Climate Change Review observed that the greatest barriers to innovation in CCS technologies are cost and commercialisation of technology to the scale required. CCS will need to overcome a barrier common to new technologies: early movers might face higher costs than later adopters of the technology and might not reap the full benefits of their investment. The Government is keen to ensure that these barriers are overcome and that commercial-scale CCS projects are in operation as soon as possible.

The Government is supporting several projects underway in Australia, including the world's largest research and geosequestration demonstration project, the Cooperative Research Centre for Greenhouse Gas Technologies Otway Project in Western Victoria, which aims to inject and store 100 000 tonnes of carbon dioxide over one or two years to a depleted natural gas reservoir 2 kilometres underground.

The Garnaut Final Report has also noted that it is strategically important for Australia's coal exports and domestic electricity generation to find ways to harness low-emissions energy from coal. The Government has also launched the Global Carbon Capture and Storage Initiative to accelerate the scaling up and deployment of CCS technology across the world.

Energy efficiency

Energy use drives emissions growth in Australia. While low-emission technologies, such as renewable energy or CCS, will reduce the emissions produced in the generation of energy, considerable scope exists to increase the efficiency of current energy use. Energy efficiency represents a significant opportunity to achieve low-cost abatement and could help to cut future energy demand growth by as much as half. The Government will announce energy efficiency measures before the start of the Scheme.

Research commissioned by McKinsey & Company found significant low-cost opportunities for increased energy efficiency in Australia.¹ The International Energy Agency (IEA) reviewed a range of existing and prospective energy technologies and found that energy efficiency improvements—predominantly in buildings, appliances, transport and industry—represent the largest and least costly abatement opportunities.² In the IEA's study, for example, improvements in energy efficiency involving low costs or net-cost savings over time are projected to provide more than a third of the reductions in energy related emissions required to reduce total global emissions by 50 per cent from current levels by 2050.

While the introduction of the Scheme will drive improvements in energy efficiency by creating a price signal that encourages the use of less energy, in the short term a number of market failures are likely to persist, impeding investment in energy efficiency by households and business. To adopt already established low-emissions technologies or practices, individuals and organisations need to be aware of alternatives that will enable them to reduce their exposure to a carbon price. If they are not aware of the options available or do not know how or do not have the time to evaluate and implement them, they will not be able to exploit the lowest cost choices.

As the carbon price matures and the benefits of gathering information become relatively greater, many of the barriers to energy efficiency will be overcome. However, the Garnaut

Final Report identified information failure in the short term as a barrier to energy efficiency, and noted the Government's role in helping energy users to overcome that barrier.

By becoming more energy efficient, households can reduce the cost impacts of the Scheme. Prior to the commencement of the Scheme, the Government will deliver household energy efficiency initiatives building on existing programs to help households do their bit to tackle climate change and reduce energy bills.

A number of stakeholders responding to the Green Paper strongly supported government action on energy efficiency, particularly stakeholders in the property sector—for example, Lend Lease (Submission 484); Western Australia Sustainable Energy Association Inc (Submission 640); Total Environment Centre, (Submission 542); and the Property Council of Australia (Submission 0528). According to the Facility Management Association:

The introduction of complementary measures to encourage energy efficiency in the built environment will assist Australia to adapt to a carbon constrained economy and reduce carbon emissions whilst shielding households and businesses from the shock of increased energy prices. (Submission 430, p.6).

In October 2008, COAG agreed to develop the National Strategy for Energy Efficiency, to accelerate energy efficiency efforts across all governments and to help households and businesses prepare for the introduction of the Scheme. Streamlined roles and responsibilities for energy efficiency policies and programs will be agreed in early 2009. The strategy will be implemented by June 2009, ensuring that programs assisting households and businesses to reduce their energy costs are in place before the Scheme's introduction.

Box 19.2: Energy network infrastructure

The extent to which new low-emissions technologies are adopted also depends on the availability of effective network infrastructure. The Garnaut Climate Change Review recognised:

Good infrastructure will not always be provided in a timely manner and adequate scale by the market. Network infrastructure is vulnerable to market failure. Effective government action may be necessary for its provision in relation to electricity transmission, transport of combustible gas and carbon dioxide, freight and passenger systems, water storage and transport, and planning of urban settlements.³

The provision of infrastructure may be inadequate for a range of reasons, including because the provider is unable to capture the full benefits of investment, infrastructure is provided without competition or there are positive or negative spillovers, including an early mover disadvantage for providers.

In June 2008, the Ministerial Council on Energy directed the Australian Energy Market Commission to review the energy market frameworks to determine whether they need to be amended to accommodate the introduction of the Scheme and the Renewable Energy Target. An assessment of the adequacy of network infrastructure to meet both short- and medium-term demand will be conducted following this review to determine what action, if any, is required.

19.2.2 Assisting the transition to a low-carbon economy

As well as specific measures to assist households (Chapter 17), business, industry and the community sector (Chapter 18), emissions-intensive trade-exposed industries (Chapter 12) and other strongly affected industries (Chapter 13), the Government has committed to other measures that do not directly reduce emissions but that assist in the efficient and smooth transition to a carbon constrained economy.

Emissions measurement and reporting

The National Greenhouse and Energy Reporting System will enable corporations to report their greenhouse gas emissions and consumption and production of energy to the Government. Their data will underpin the environmental and financial integrity of the Scheme, provide essential information to governments, investors and the public, and help Australia meet its international reporting obligations. The system will reduce the reporting burden on industry by allowing the corporate greenhouse and energy reporting requirements of the Australian Government and the State and Territory governments to be streamlined.

Voluntary carbon offsets

The Government has made a commitment to develop a national standard for carbon offsets to provide national consistency and give consumers confidence in the voluntary carbon offset market. The offset standard will provide guidance on what constitutes a genuine, additional voluntary offset credit, as well as setting requirements for the verification and retirement of such credits, and standards for calculating the emissions of a product or service.

The introduction of the Scheme has significant implications for voluntary abatement action and current approaches to carbon offsetting and carbon neutrality. The broad sectoral coverage of the Scheme, as outlined in Chapter 6, means there is inherently less scope to pursue offset activities, with domestic offsets limited to uncovered emission sources.

A discussion paper regarding the national offset standard, to be released in December 2008, will address the scope of the voluntary carbon market. The Government has instituted a number of arrangements through the Scheme to support individuals and firms to undertake voluntary action to reduce emissions. The Scheme's linkage to international markets and its registry architecture provide for the voluntary cancellation of Kyoto units and Australian carbon pollution permits, which ensures that voluntary action delivers an additional environmental outcome. Those arrangements are detailed in Chapter 7.

Other policies enhancing mitigation efforts

A number of policy measures that are not focused on climate change might enhance our ability to achieve lowest-cost emissions reductions:

- The Government has asked Australia's Future Tax System Review to consider, among other things, the interrelationship between the tax system and the Scheme. The Review will release a final report by the end of 2009. The Government has also asked Australia's Future Tax System Review to consider the merits of using the taxation system to assist industries adjust to the introduction of the Scheme.

- The \$6.2 billion Green Car Plan is intended to make the automotive industry more economically and environmentally sustainable by 2020. The plan includes an expanded Green Car Innovation Fund, which will drive industry investment in green cars and support Australia's transformation to a low-carbon, internationally competitive economy.

19.3 Reviewing current climate change programs and policies

The Government is progressing a process to assess climate change programs and policies to determine whether they are consistent with the overarching framework for complementary measures. As some existing emission reduction measures address the same market failure dealt with by the Scheme, it is necessary to consider the value of those measures and any potential negative implications they may have for the ongoing operation of the Scheme.

The Strategic Review of Australian Government Climate Change Programs ('the Wilkins Review') was commissioned as a source of independent advice to the Australian Government on measures that might complement the Scheme and on whether existing climate change measures will have a role once the Scheme is in place.

The Government will consider a range of factors and inputs in assessing current programs and policies for complementarity, including:

- the Wilkins Review
- *The Garnaut Climate Change Review: Final report*
- obligations and contractual arrangements for existing programs.

As part of the COAG Working Group on Climate Change and Water, governments in all jurisdictions have committed to reviewing all existing climate change programs and policies against the principles agreed to by COAG.

Chapter 15 on Transitional Issues provides further background on the Government's commitment to work with the NSW, ACT and QLD Governments to develop transitional arrangements for the discontinuation of their market-based emission reduction programs once the Scheme begins.

Box 19.3: Findings from the Garnaut Climate Change Review

The Garnaut Final Report noted:

- For the emissions trading scheme to have the desired effect of driving new consumption behaviour and investment decisions, it must be well integrated within the broader economy. Barriers to change must be removed or minimised in order that there may be an efficient economic response to the ever diminishing supply of permits.⁴

A key aspect of this integration process will be the review of existing policies and measures. The report stated:

[R]eviews will need to extend beyond programs and policies that directly compete with the emissions trading scheme for emissions reductions. The aim should be to identify perverse incentives that might inhibit investment in low-emissions technologies or promote activities associated with high emissions.⁵

The Final Report identified three key market failures that must be addressed to maximise the benefits of the scheme:

- market failures in the use of energy, such as misplaced incentives and information failures
- recognition that private investors in research and development are not able to fully capture the full social value of their investments
- external benefits in the pioneering provision of infrastructure, particularly energy and transport infrastructure.

1 McKinsey & Company, *An Australian cost curve for greenhouse gas reduction*, 2008, p. 14.

2 International Energy Agency, *Energy technology perspectives*, 2008, p. 4.

³ R Garnaut, *The Garnaut Climate Change Review: Final report*, p. 445.

4 R Garnaut, *The Garnaut Climate Change Review: Final report*, 2008, Cambridge University Press, pp. 317–318.

5 R Garnaut, *The Garnaut Climate Change Review: Final report*, p. 318.

Appendix A: List of public submissions

Name of organisation/individual	Submission number
ABB Grain Ltd	0290
ABC Carbon	0287
ABN AMRO Australia Pty Limited	0828
Academy of Technological Sciences and Engineering	0230
Access Capital Advisers Pty Ltd	0712
ACT Government	0662
Acton, Prue	0842
Actrol Parts	0446
ACW Coskerie and Blackout Masters Pty Limited	0140
Adams, Rhoda	0732
Adda Enterprises, LLC	0086
Adelaide Hills Climate Action Group	0596
Aerial Agricultural Association of Australia Ltd	0386
A-Gas (Australia) Pty Ltd	0274
Aged and Community Services Australia	0855
AgForce Queensland	0861
AGL Energy Limited	0125
AGL Energy Limited	0508
Air Conditioning and Refrigeration Equipment Manufacturers Association Inc (AREMA Inc.)	0582
Air Conditioning and Refrigeration Wholesalers Association Inc (ARWA Inc.)	0445
Ajani, Judith	0250
Albion, Kristy	0307
Alcoa of Australia	0740
Aldrick, Tom	0923
Alexander, Meredith	0694
Allat, Craig	0100
Alstom Limited	0340
Alternative Technology Association	0497
Altman, Prof. JC and K Jordan	0233
Altona Resources PLC	0323
Ambre Energy Limited	0563
Anarchist Media Institute	0154
Andrew, Yarrow	0822
Anglicare Diocese of Sydney	0210
Arkema Pty Ltd	0442
Arkx Carbon Fund	0631
Arrow Energy Limited	0321
Arrow, Coen	0090
Arup Pty Ltd	0827
Asciano	0416
Ashiabor, Assoc. Prof. Hope	0699
Asia Iron Holdings Limited, Atlas Iron Limited and Gindalbie Metals Limited	0839
Asia Pacific Emissions Trading Forum (AETF)	0904
Asphalt Service Pty Ltd	0089
Association of Asia Pacific Airlines	0889

Name of organisation/individual	Submission number
Association of Consulting Engineers Australia	0690
Aurora Energy Pty Limited	0636
Auscott Limited	0335
Austin, Colin and Xuilan Tang	0116
Australasian Energy Performance Contracting Association	0570
Australasian Housing Institute	0418
Australasian Institute of Mining and Metallurgy (AusIMM)	0672
Australasian Railway Association (trading as ARG)	0760
Australia and New Zealand Banking Group Limited	0504
Australia Institute Ltd	0482
Australia Western Railroad	0486
Australian Aluminium Council	0689
Australian Automobile Association	0787
Australian Bankers' Association	1036
Australian Biochars	0179
Australian Bureau of Statistics	0375
Australian Centre for Social Innovations	0181
Australian Chamber of Commerce and Industry	0786
Australian CleanTech	0187
Australian Climate Exchange	0756
Australian Coal Association	0530
Australian Conservation Foundation	0809
Australian Council for International Development	0384
Australian Council of Recyclers	0759
Australian Council of Social Service	0887
Australian Council of Superannuation Investors and Australian Institute of Superannuation Trustees	0628
Australian Council of Trade Unions (ACTU)	0784
Australian Dairy Industry Council	0354
Australian Democrats Victorian Division	0324
Australian Electric Vehicle Association	0544
Australian Energy Company Limited	0390
Australian Environment and Planning Law Group of the Law Council of Australia	0357
Australian Environment Business Network	0592
Australian Farm Institute	0429
Australian Financial Markets Association	0550
Australian Financial Markets Association	1023
Australian Food and Grocery Council	0831
Australian Forest Growers	0848
Australian Forestry Standard Limited	0314
Australian Grains Industry	0511
Australian Indigenous Chamber of Commerce	0514
Australian Industry Greenhouse Network	0424
Australian Institute of Architects	0347
Australian Institute of Marine and Power Engineers	0330
Australian Institute of Petroleum	0673
Australian Labour Party, Tasmania, Channel Branch	0091
Australian Liquefied Petroleum Gas Association	0773
Australian Local Government Association	0769
Australian Lot Feeders' Association	0761
Australian Meat Industry Council	0401

Name of organisation/individual	Submission number
Australian Metal Workers Union	0791
Australian Network of Environmental Defenders Offices	0517
Australian Petroleum Production and Exploration Association Limited	0834
Australian Pipeline Industry Association	0584
Australian Pork Limited	0728
Australian Private Hospitals Association	0360
Australian Rail Track Corporation	0572
Australian Rail, Tram and Bus Industry Union	0820
Australian Retailers Association	0683
Australian Securities and Investments Commission	0426
Australian Securities Exchange	0811
Australian Services Roundtable (ASR)	0980
Australian Services Union	0627
Australian Shipowners Association	0612
Australian Sugar Milling Council	0516
Australian Taxi Industry Association	0221
Australian Tourism Export Council	0470
Australian Uranium Association	0069
Australian Water Association	0520
Australian Workers' Union	0505
Australian Youth Climate Coalition	0652
Babcock & Brown Infrastructure Ltd	0479
Babcock & Brown Limited	0489
Babcock & Brown Power	0488
Bagley, Chris	0209
Bailey, Stuart W	0054
Baker, Nicholas	0921
Balance Carbon Pty Ltd	0298
Ballarat Renewable Energy and Zero Emissions Inc (BREAZE)	0919
Ballinger, Megan	0629
Barrett Burston Malting Co Pty Ltd	0333
Barron, Neill	0048
Barton Group	0246
Bates, Graham and Darryl Rigby	0651
Bathgate, Stephen	0068
Bathurst Community Climate Action Network	0345
Baulman, Chris	0050
Bavinton, Paul Robert	0186
Baxter, Clare	0626
Benbrook, Marr J	0739
Bendigo Sustainability Group	0553
Bennett, Richard and Rodney Allen	0543
Bernard, Joseph	0400
Best Party of Allah in Australia	0163
Beyond Zero Emissions	0458
Beyond Zero Emissions	0754
Beyond Zero Emissions	0755
Beyond Zero Emissions solutions working group	0753
Beyond Zero Radio Program	0548
Biofuels Association of Australia	0067
Biogy Pty Ltd	0015

Name of organisation/individual	Submission number
Biological Farmers of Australia Co-op Ltd	0414
Blackburn, William	0399
Blueblood Solutions Pty Ltd	0624
Boden, Derek William	0968
Boomerang Alliance	0634
Boral Limited	0595
Borowiak, William	0200
Bowie, Ian Bowie	0039
Boyd family	0121
BP Australia Pty Ltd	0355
Bradshaw, Graham Wayne	0113
Brazier, Matt	0076
Briggs, Juel	0158
Briggs, Juel	0159
Brisbane City Council	0562
Broad, Nolan	0094
Brooke, Vicki	0289
Brooks Maher, Emma	0356
Brown, A, Emma Francis, Marcela Garrardo, Emma Galloway, and Kerrie Moore	0454
Brown, David	0002
Brown, Victor	0161
Bruce, Wesley	0871
Brunton, David	0203
Buckleboo Branch of the South Australian Farmers' Federation	0175
Bureau of Steel Manufacturers of Australia (BOSMA)	0408
Burnie, Helen	0224
Burns, Perry	0093
Bushell, John	0260
Business Council of Australia	0812
Business Outlook and Evaluation	0103
Business SA	0700
Butler, Paul	0299
Byrne, Mark A	0476
Byrne, Vivienne	0122
C&L Aerospace	0182
Caltex Australia Limited	0734
Cameron, Colin	0097
Campbell-Ross, Rod	0144
CANEGROWERS Australia	0688
Carbines, John	0619
Carbon Balance Solutions Pty Ltd	0267
Carbon Coalition Against Global Warming	0645
Carbon Link Limited	0080
Carbon Reduction Institute	0547
Carbon Sense Coalition	0778
Carbon Store Pty Ltd	0770
CarbonShift Pty Ltd	0079
Carmichael, Christine	0456
Carter Holt Harvey	0211
Catholic Health Australia	0746
Catholic Superannuation Fund	0420

Name of organisation/individual	Submission number
Cattle Council of Australia Limited	0614
CBH Resources Limited	0779
Cement Australia Pty Limited	0850
Cement Industry Federation	0926
Centennial Coal Company Limited	0292
Central Land Council	0576
Centre for Cultural Research, University of Western Sydney	0534
Centre for Regional Climate Change Studies, Southern Cross University	0167
Chamber of Commerce and Industry of WA	0500
Chamber of Minerals and Energy WA (CME)	0840
Chandler, Peter	0134
Chartered Institution of Building Services Engineers (CIBSE)	0151
Chevron Australia Pty Ltd	0716
Churches' Social Justice Round Table	0669
Churches' Social Justice Round Table	0881
Churchward, Dr Kenneth Edwin	0909
CIOB Australasia	0481
CITIC Pacific Mining Management Pty Ltd	0730
City of Fremantle Council	0886
City of Greater Bendigo	0207
City of Greater Geelong and Associated Stakeholder Group	0775
City of Onkaparinga	0509
Civil Contractors Federation	0232
Clancy, Michael G	0667
Clarence Environment Centre	0788
Clarence Valley Conservation Coalition Inc	0749
Clean Energy Council	0829
Cleveland Power Pty Ltd	0763
Climate Action Coogee	0326
Climate Action Network Australia (CANA)	0272
Climate Action Newcastle Inc	0297
Climate Action Now Wingecarribee (CANWin)	0204
Climate Action Tomaree	0622
Climate Change Australia—Clarence Branch	0341
Climate Change Balmain—Rozelle	0136
Climate Easy	0197
Climate Friendly	0062
Climate Institute	0702
Climate Positive Limited	0285
CO2 Group Ltd	0589
Coca-Cola Amatil (Aust) Pty Ltd	0825
	0334
Colley, Thomas	0245
Commerce Queensland	0816
Committee for Geelong	0638
Commonwealth Bank of Australia	0338
Communications Alliance	0857
Confectionery Manufacturers of Australasia Limited (CMA)	0413
ConocoPhillips Australia Pty Ltd	0422
Construction Forestry Mining and Energy Union (CFMEU)	0774
Consumer Action Law Centre	0793

Name of organisation/individual	Submission number
Consumer Utilities Advocacy Centre	0463
COOE (Care of Our Environment)	0146
Cooney, Dr Philip Geoffrey	0008
Cooper, Gerald	0112
Cooperative Research Centre for Greenhouse Gas Technologies (CO2CRC)	0648
Corporate Tax Association–PricewaterhouseCoopers	0863
Cotton Australia Ltd	0364
Council of Mayors (South East Queensland)	0251
Country Energy	0814
Coupe, John	0717
Cowan, Chris	0927
Cowan, Warren	0935
Cox, Russell	0790
CPA Australia	0800
Craig, Andrew	0925
Craig, Bill	0065
Crucible Carbon Pty Ltd	0681
Crynes, George James	0061
CS Energy Limited	0427
CSR Limited	0735
Cumpston Sarjeant Pty Ltd	0319
Curl Curl Lagoon Friends Inc	0771
Currie, John	0872
Curtis, Jackie	0075
Cygnus	0873
Dalitz, Chris	0120
Darebin City Council	0468
David L Allen Pty Ltd	0217
Davies, Richard	0265
Dawson, G	0604
Deakin University Climate Change and Social Health Research Group	0472
Deloitte Touche Tohmatsu	0890
Denham, Dr David	0549
DESERTEC (Victoria)	0705
DESERTEC Australia and GENI	0128
Dichmont, Michael	0063
Digwood, Terrence	0674
Distributed Power Pty Ltd	0821
District Council of Grant	0156
DoloMatrix International Ltd	0247
DoloMatrix International Ltd	0975
Downer EDI	0710
Drake, Tom	0199
DuPont (Australia) Ltd	1029
Dynamic Commercialisation Pty Ltd	0074
Earth Trust	0490
Ecofibre Industries Limited	0117
Egan, David	0172
Electrical Trades Union, Southern States Branch	0438
Electricity Management Pty Ltd	0123
Ellett, Gary	0304

Name of organisation/individual	Submission number
Emanuel, Kamala	0807
Encycle Consulting Pty Ltd	0273
Energetics Pty Ltd	0558
Energy Australia	0339
Energy Efficient Strategies Pty Ltd	0352
Energy Networks Association	0762
Energy Renovations	0311
Energy Supply Association of Australia, National Generators Forum, Energy Retailers Association of Australia, Australian Pipeline Industry Association	0715
Engineered Wood Products Association of Australasia	0320
Engineers Australia	0322
Environment Business Australia	0864
Environment Institute of Australia and New Zealand	0713
Environment Tasmania	0459
Environment Victoria	0591
Erbsland, Seija	0130
Ergon Energy Corporation Limited and Energex Limited	0369
Ericsson Australia Pty Ltd	0588
ERM Power	0571
Ernst & Young	0879
Eternal Source—Climate Action Pittwater	0467
Evans, Peter	0138
Evergreen Farming Inc	0212
Ewald, Dr Ben	0394
ExxonMobil Australia	0254
Facility Management Association of Australia (FMA Australia)	0430
Fairbairn-Calvert, Clive	0930
Families Facing Climate Change	0190
Fawcett, John	0162
Fertl, Durouan	0502
Financial Counsellors Association of Queensland	0177
Finlayson, Lydia	0362
Flanagan, Peter	0132
Fleming, Phyllis	0931
Fletcher, Rod	0905
Flinders Bioremediation Pty Ltd	0043
Foley, Matt	0110
Ford Motor Company of Australia Limited	0876
Foreman, Joanne	0092
Forest Industries Association of Tasmania	0765
Foster, Susan	0295
Fowler, Robert	0127
Friends of the Earth Australia	0411
Friends of Wilunga Basin Inc	0328
Frontier Economics	0531
Funnell, Patricia	0184
Gannawarra Shire Council	0894
Gates, Robert	0027
Geelong Chamber of Commerce	0443
Geelong Manufacturing Council	0564
Genever, Matt	0087

Name of organisation/individual	Submission number
George, Scott	0852
GetUp	0805
GHD Pty Ltd	0635
Gibbs, Marc	0603
Gillespie, Angus	0611
Gindalbie Metals Limited	0837
Gippsland Area Consultative Committee Inc	0343
Gippsland Local Government Network	0226
Gladstone Regional Council	0358
Global Sustainability at RMIT University	0393
GM Holden	0908
GMK Centric Pty Ltd	0193
Godden, Lee, Jacqueline Peel and Anne Kallies	0271
Gold Coast and Hinterland Environment Council Assoc Inc (GECKO)	0372
Gold Coast City Council	0436
Goldfields-Esperance Development Commission	0706
Goldsworthy, John	0059
Gould, Paul	0030
Gould, Richard	0049
Grafton, Prof. R Quentin and Dr Michael B Ward	0152
Grains Research and Development Corporation	0579
Grant Thornton Australia Pty Ltd	0896
GRD Limited	0581
Green Building Council of Australia	0496
Green Cooling Council Ltd	0714
Green Institute	0365
Green, Lydia	0106
Greenfleet	0646
Greenlivingpedia	0310
Greenpeace Australia Pacific	0692
Greg Kater & Associates Pty Ltd	0055
Griffin Group	0600
Griffin, Bernard	0799
Group of 100	0797
Growcom	0644
Gull Group	0296
HAC Consulting Pty Ltd	0654
Hammond, David	0970
Harewood, Michael S	0118
Harewood, Michael S	0192
Harris, Jaden	0012
Hawkins, Craig	0102
Hayes, Paula	0198
Heal, Craig	0637
Heaton, Philip	0028
Heidecker, Dr Eric J	0946
Henderson, Paul	1009
Herbert, Eugene	0206
Hilliard, Jonathon A	0318
Hills Against Global Warming	0737
Hills Climate Action Group	0632

Name of organisation/individual	Submission number
Hodgins, Ian	0395
Hodgins, Wendy	0315
Hoekstra-Fokink, Lotte	0836
Horticulture Australia Council	0856
Hotel Motel and Accommodation Association (HMAA)	0711
Housing Industry Association	0552
Hudson, Dr Geoffrey M	0066
Humane Society International	0368
Hume City Council	0880
Humphrey, Mike	0078
Hunter Business Chamber	0388
Hunter Community Environment Centre	0381
Huon Valley Environment Centre Inc	0777
Hutchison, Greg	0665
Hutchison, James	0524
Huxtable, Rowan	0220
Hydro Aluminium Kurri Kurri Pty Ltd	0641
Hydro Tasmania	0849
Hydrogen Energy International Limited	0313
ICLEI – Local Governments for Sustainability	0480
Illawarra Coke Company Pty Limited	0242
Iluka Resources Limited	0577
Indigenous Business Australia	0698
Indigenous Land Corporation (ILC)	0888
Infrastructure Partnerships Australia (IPA)	0818
INPEX Browse Ltd	0510
Institute of Chartered Accountants in Australia	0847
Institute of Public Affairs	0802
Insulation Council of Australia and New Zealand	0380
InterGen (Australia)	0392
International Emissions Trading Association	0658
Investment and Financial Services Association	0846
Investor Group on Climate Change (Australia–New Zealand)	0697
Jennings, Colin	0222
Jensen, Gerald	0011
Jesuit Social Services	0877
Jinks, Duncan	0196
Johnson, Adam	0832
Joint Accreditation System of Australia and New Zealand	0434
Joint Forest Industry	0565
Jones, Simon	0129
Kalatzis, Athanasius	0104
Kavanagh, Patrick	0621
Keats, June	0178
Kelly, Tim	0703
Kelly, Tim	0885
Kent, Louis	1027
Kerjman, Michale	0020
Kernke, David	0417
Kildonan UnitingCare	0841
Kimberly-Clark Australia Pty Ltd	0135

Name of organisation/individual	Submission number
King, Helen	0655
Kirk, Andrew	0013
Knight, Charles	0053
Koci, Stephen	0680
Kolesnikow, Dr Tassia	0277
Kolsen, HM	0228
Kortschak, Dan	0316
Kotevski, Tony	0003
Kyogle Climate Action Network	0170
Laird, Dr Philip	0164
Land and Environment Planning	0590
Land and Water Australia	0469
Landgate	0283
Lane Cove Council	0748
Langfield, Russell Robert	0010
Lathouris, Arthur and Rosemary	0019
Law Council of Australia	0901
Law Institute of Victoria	0195
Lawyers for Forests	0583
Lees, Bruce	0147
Lees, Russell	0180
Leighton Holdings	0402
Lend Lease Corporation, Lincolne Scott and Advanced Environmental	0484
Lenne, Suzanne	0546
Lett, Ian	0741
Lewin-Hill, Darren	0398
Liberation of Brother and Sister Animals	0804
Liebe Group Buntine 6612	0058
Lighter Footprints	0306
Limousine Line, Sydney	0111
Linacre, Nicholas	0526
Linfox	0157
Living Corridors Inc	0137
Lloyd, Robert	0082
LMS Generation Pty Ltd	0275
Local Government and Shires Associations of NSW	0383
Local Government Association of Queensland	0845
Local Government Association of Tasmania	0366
Local Government Association South Australia	0404
Locals into Victoria's Environment (LIVE)	0387
Love, Ashley	0241
Lovell, Tony and Bruce Ward	0615
Luca, Dr Victor	0983
Mackenzie, Kenneth Andrew	0610
Maher, Michael	0263
Malavisi, Pete	0693
Manildra Group of Companies	0833
Maribyrnong Council	0373
Mars, Malcolm C	0150
Marsh, Kate	0605
Marsh, Kate	0868

Name of organisation/individual	Submission number
Martin, Roger	0051
Master Builders Australia	0835
Mauger, Warwick Lloyd	0573
McCormack, Lyndall	0072
McCormick, Dr Fiona	0270
McDonald, Douglas	0098
McGrath, Dr Chris	0660
McGregor, Ian	0131
McKeon, Karen	0023
McKibbin, Prof. Warwick	0642
Medcalf, Moira	0900
Melbourne Water	0679
Members Equity Bank	0439
Miles, David Eric	0213
Milford, Dr Bernard and Andrew East	0719
Miller, Ann E	0913
Miller, Philip	0044
Miller, Stephen	0189
Millett, John	0108
Mills, David John	0838
Minerals Council of Australia	0884
Mitchell, Rohani	0266
Mitic, Milan	0929
Molan, Dr Anna	0663
Monash Governance Unit, Monash University, Coghill, Hon Dr Ken and Prof. Amanda Lynch	0448
Monash University	0538
Monash University	0538
Moore, Gary	0001
Morandini, John	0160
Moreland Energy Foundation Limited	0738
Morrison, Susan	0607
Morrow, Ben	0374
Morrow, Paula	0529
Mortimer, Stephanie	0009
Morton, Ross	0580
Mudgee District Environment Group	0475
Mulholland, Lyn	0808
Mullum Branch of the Australian Conservation Foundation	0403
Municipal Association of Victoria	0493
Munn, Sam	0922
Murchland, Iain	0185
Murphy, Barry	0165
Murray Goulburn Co-operative Co Limited	0342
Murrumbidgee Horticulture Council Inc.	0625
Murrumbidgee Landcare Incorporated (MLI)	0166
Mushalik, Matt	0535
Myers, Paul	0007
Nash, David	0317
National Association of Forest Industries (NAFI)	0767
National Association of Retail Grocers of Australia Pty Ltd (NARGA)	0899
National Australia Bank	0495

Name of organisation/individual	Submission number
National Bulk Commodities Group Inc	0071
National Carbon Committee of the Waste Management Association of Australia	0597
National Council of Women of Australia	0918
National Farmers' Federation	0462
National Generators Forum	0766
National Hydrogen Institute of Australia	0022
National Institute of Accountants	0441
National Institute of Economic and Industry Research	0501
National Lime Association of Australia	0869
National Measurement Institute	0973
National Native Title Council	0830
National Seniors Australia	0433
National Tourism Alliance	0750
National Water Commission	0936
Nature Conservation Council of NSW and the Conservation Council of the South East Region and Canberra	0555
Nature Net Pty Ltd	0639
New Forests Pty Limited	0449
Newcastle City Council NSW	0723
Nicholls, Fiona	0005
Nicholls, Peta	0720
Nillumbik Shire Council	0608
No Waste Pty Ltd	0916
Noonan, Gerard	0155
Norske Skog Paper Mills (Australia) Limited	0378
North Coast Environment Council	0450
North East Forest Alliance	0425
North East Forest Alliance, Hunter Region	0810
North Queensland Conservation Council Inc	0764
Northeast Greenhouse Alliance	0616
Northern Alliance for Greenhouse Action (NAGA)	0620
Northern Territory Cattlemen's Association Inc	0902
Northern Territory Government	0782
Northshore Prestige Motors	0917
Nott, Glenn F	0733
NRMA Motoring and Services	0895
NSW Business Chamber	0867
NSW Government	0903
NSW Irrigators' Council	0238
NSW Liberals/Nationals Coalition	0883
NSW Minerals Council	0875
Nunn, Eric Edward	0194
O'Callahan, Geoffrey Cyril	0056
Ocean Nourishment Corporation Pty Ltd	0173
O-I Australia	0686
One Thousand Years	0743
Oram, William	0046
Organic Federation of Australia, National Association of Sustainable Agriculture Australia and Center for Organic Resource Enterprises	0513
Origin Energy	0815
Otway Ranges Climate Action (ORCA)	0174

Name of organisation/individual	Submission number
Owers, Don	0239
Oxer, Michael	0305
PA Matthews Audio	0095
Pacific Hydro Pty Ltd	0556
Packaging Council of Australia Inc	0819
Page, Alan and Dianne	0515
Page, Phillip A	0945
Palm Oil Action Group	0440
Pandora Sustainable Energies Pty Ltd	0301
Parker, Alan A	0047
Parker, Alexander	0924
Parramatta Climate Action Network, Great Lakes Environment Association, Pine Rivers Climate Action Network, Ink Orchestra, Association for Berowra Creek, Lower Clarence Climate Action Network, Australian Student Environment Network, Rising Tide Newcastle, Hills Against Global Warming, The Courthouse Group – Newtown, Climate Action Pittwater, Climate Change Balmain-Rozelle, Climate Action Newcastle, Climate Action Coogee, Wollongong Climate Action Network, University of Queensland Climate for Change, Bathurst Community Climate Action Network, Adelaide Hills Climate Action Group, Darebin Climate Action Now, Ryde Gladesville Climate Change Action Group	0744
Paxton, Lisa	0201
Peabody Foundation	0696
Pears, Alan	0331
Pedro, S	0032
Penman, Paul	0018
People for Public Transport	0218
People for Public Transport (SA Inc)	0223
Pinswan Nominees P/L and Back to Earth Australia P/L	0017
Pitts, Robert	0096
Plantation Timbers Group Pty Ltd	0237
PMP Group of Companies	0494
Pollard, Paul	0149
Pols, Michael and Laura Henning	0653
Polya, Dr Gideon	0004
Pope, Michael	0969
Port of Melbourne Corporation	0234
Power, Clare	0623
Premiers Climate Change Council	0824
Price, Andrew	0099
Printing Industries Association of Australia (Printing Industries)	0527
Property Council of Australia	0528
Protiviti	0649
Public Interest Advocacy Centre	0503
Public Transport Authority (Western Australia)	0397
Qantas Airways Limited	0671
QR Ltd and Subsidiaries	0487
Queensland Conservation Council	0286
Queensland Council of Social Service (QCOSS)	0567
Queensland Farmers' Federation	0866
Queensland Gas Generator Forum	0432
Queensland Government	0518
Queensland Public Sector Union	0452
Queensland Resources Council (QRC)	0666
Queensland Resources Council (QRC)	0726

Name of organisation/individual	Submission number
Queensland Tourism Industry Council	0349
Radford, Mark	0205
Rail Corporation NSW (RailCorp)	0350
Rajaratnam, Krishna	0077
Randwick City Council	0243
Redfern Legal Centre	0677
Refrigerant Reclaim Australia Limited	0691
Refrigerants Australia Limited	0444
Refrigeration and Air Conditioning Contractors Association of Australia	0336
Regional Aviation Association of Australia	0240
Regnan Governance Research and Engagement	0348
Renewable Fuels Australia	0772
ResourcesLaw International	0464
Restaurant and Catering Australia	0893
Returned and Services League of Australia	0153
Richardson, Tony	0675
Ricketts, David L	1004
Riley, Lester	0052
Rising Tide Newcastle	0332
Ritchie, Ian M	0115
RnP Group Pty Ltd	0035
Roach, Christopher	0284
ROAM Consulting – Energy Market Modelling	0575
Roaring 40s Renewable Energy Pty Ltd	0532
Rockdale Beef Pty Ltd	0264
Rocky Point Power Project Pty Ltd	0670
Rogers, Zoe	0618
Rose, Martin	0064
Ross, Anne	0231
Ross, Michael	1005
ROTEC Design Ltd	0601
Rotheram, Ian	0085
Royal Automobile Club of Queensland (RACQ)	0725
Royal Institution of Chartered Surveyors	0742
Rule, James	0057
Rural Industries R&D Corporation—Methane to Markets in Agriculture Program	0506
Rusal Australia Pty Ltd	0606
Russell, David	0363
Russell, Geoff	0409
SA Water	0912
Sait, Ron	0932
Sandow family	0294
SCA Hygiene Australasia Pty Ltd	0382
Schlesinger, Peter	0854
Schlumberger Carbon Services	0227
Schneider Electric (Australia) Pty Limited	0281
School of Accounting and Finance, Faculty of Commerce, University of Wollongong	0721
School of Economics, University of Queensland, Menezes, Flavio, Quiggin, John and Wagner, Liam	0617
School of Law, University of Sydney	0657
Schoots, Imogen	0455

Name of organisation/individual	Submission number
Schuch, Gemma	0477
Secker, Steven	0244
Seldon, Dr H Lee	0148
Sequoia Pastoral	0907
Shadowlands Website	0613
Shell Australia Limited	0561
Sheppard, Julie	0191
Shipping Australia Limited	0225
Shire of Manjimup	0258
Shoalhaven City Council	0498
Simply Energy	0377
SITA Australia Pty Ltd	0406
Skywest Airlines Pty Ltd	0216
SMAC Technologies Pty Ltd	0045
Smith Family	0859
Social Responsibilities Commission, Anglican Province of Western Australia	0891
Socialist Alliance	0533
Soil Carbon Industry Group	0643
Solectair Pty Ltd	0396
South Australian Advisory Board of Agriculture	0668
South Australian Farmers Federation	0684
Southern Metropolitan Regional Council	0722
SP AusNet	0687
SP AusNet	0729
St John's Wood Sustainability Group	0389
St Vincent de Paul Society National Council of Australia	0785
Stanier, Robin	0114
Stanwell Corporation Limited	0491
State Electricity Commission of Victoria (SECV)	0609
Stone, Amanda	0536
Stones, Martin	0040
Stop MAIWA	0029
Sunshine Coast Environmental Council Inc	0557
Sunshine Coast Regional Council	0282
Surf Coast Energy Group (SCEG)	0428
Sustainable Agricultural Communities of Australia, Victorian Farmers Federation Sunrasia Horticultural Branch	0107
Sustainable Forestry Management Australasia Pty Limited	0473
Sustainable Population Australia Inc—Canberra and Region Branch	0124
Swift, Harriett	0659
Sydney Water Corporation	0419
Synergy	0865
Szencorp Pty Ltd	0568
Tager, Shani	0219
Talbot, Max	0070
Tapp, David	0109
Tarong Energy Corporation	0499
Tasmanian Council of Social Service (TasCOSS)	0385
Tasmanian Forest Contractors Association	0169
Taxation Institute of Australia	0119
Taylor, Derek	0073

Name of organisation/individual	Submission number
Telstra Corporation Ltd	0853
TEPCO Forests Australia Pty Ltd	0303
The Victorian Farmers Federation	0451
The Victorian Government	0780
Thiess Services Pty Ltd	0229
Think Brick Australia	0682
Timber Communities Australia (Tasmania)	0359
Timber Communities Australia Limited (National)	0795
Timber Queensland	0708
Timbercrete Australia Pty Ltd	0578
Tipping Point Institute	0551
Titanium and Zircon Industry in Australia	0798
Tomago Aluminium Company Pty Ltd	0843
Tomney, Philip	0268
Tony Windsor MP—Independent Member for New England	0752
Total Environment Centre	0542
Tourism and Transport Forum	0664
Townsville Enterprise	0823
Toyota Motor Corporation Australia Limited	1024
Transfield Services Ltd and Transfield Services Infrastructure Fund	0478
Transpacific Industries Group Ltd	0253
TRUenergy	0813
TT-Line Company Pty Ltd	0249
Tweed Richmond Organic Producers Organisation	0492
Uniting Church in Australia	0288
UnitingCare Australia	0911
UQ Environment Collective	0256
Urban Development Institute of Australia (Queensland)	0423
Urban Taskforce Australia	0457
Vanclay, Jerome	0650
VASA (The Mobile AC, Electrical and Cooling Technicians of Australasia)	0367
Veolia Environmental Services (Australia) Pty Ltd	0171
Victoria Electricity Pty Ltd	0704
Victorian Association of Forest Industries	0844
Victorian Council of Social Service	0560
Victorian Employers' Chamber of Commerce and Industry (VECCI)	0344
VicWater	0858
Vierboom, Peter T	0208
Vim Sustainability	0037
Virgin Blue	0461
Visy Industries Australia Pty Ltd	0437
Vodafone Australia	0431
Walker, Derek	0309
Wallington	0025
Wallis-Smith, Mike	0278
Ward, Donald and Harold Downes	0483
Warnken ISE	0327
Water Services Association of Australia	0252
Watts, Michael Corey	0948
WeAreChange Brisbane	0041
Webb, LM and PC	0992

Name of organisation/individual	Submission number
Weeks, Jason	0325
Weir, Terrence Philip	0745
Welch, Stephen	0084
Werner, Tom	0202
Wesfarmers Limited	0370
Western Alliance for Greenhouse Action	0727
Western Australian Council of Social Service	0405
Western Australian Farmers Federation (Inc)	0081
Western Australian Local Government Association	0235
Western Australian Local Government Association	0236
Western Australian Sustainable Energy Association Inc.	0640
Western Port Greenhouse Alliance	0878
Western Sydney Regional Organisation of Councils	0361
Westpac Banking Corporation	0695
Westport Innovations (Australia) Pty Ltd	0701
White, Garry M	0168
Whitehead, Peter	0101
Whitelaw, Sally	0143
Whitlock-Jones, Alan	0083
Whitmore, Richard	0088
Wilderness Society Inc	0540
Williams, Dr Paul	0269
Willoughby City Council	0139
Wilson, Ed	0021
Wilson, Gwen	0376
Wincott, Dr John	0006
Winemakers' Federation of Australia	0554
Winston, George	0312
Wodonga City Council	0860
Wood, Peter J	0507
Wood, Peter J and Judith Ajani	0379
Wood, Peter J and Judith Ajani	0133
Woodside Energy Limited	0485
WorleyParsons	0471
WWF–Australia (World Wide Fund For Nature–Australia)	1025
WWF–Australia (World Wide Fund For Nature–Australia)	0522
Wynne-Jones, Megan	0599
Xstrata	0593
Yurangalo	0215
Zahedi, Assoc. Prof. A	0033
Zahedi, Assoc. Prof. A	0214
Zetah, Daniel	0862

Appendix B: Comparison of emissions trading scheme design approaches

Part 1: Australian models

Design feature	White Paper final position	Green Paper preferred position	Garnaut Final Report
Scheme objective	<p>The objective of the Carbon Pollution Reduction Scheme (the Scheme) is to meet Australia's emissions reduction targets in the most flexible and cost-effective way; to support an effective global response to climate change; and to provide for transitional assistance for the most affected households and firms.</p> <p>Design options are to be assessed against the following assessment criteria:</p> <ul style="list-style-type: none"> • environmental integrity • economic efficiency • minimisation of implementation risk • policy flexibility • promotion of international objectives • implications for the competitiveness of traded and non-traded industries • accountability and transparency • fairness. 	<p>The objective of the Carbon Pollution Reduction Scheme (the Scheme) is to meet Australia's emissions reduction targets in the most flexible and cost-effective way; to support an effective global response to climate change; and to provide for transitional assistance for the most affected households and firms.</p> <p>Design options are to be assessed against the following assessment criteria:</p> <ul style="list-style-type: none"> • environmental integrity • economic efficiency • minimisation of implementation risk • policy flexibility • promotion of international objectives • implications for the competitiveness of traded and non-traded industries • accountability and transparency • fairness. 	<p>The primary policy objective is reducing emissions. In designing the Emissions Trading Scheme, there should be a single clear objective, "to provide a transactional space that enables the transmission of permits to economic agents for whom they represent the greatest value". Other policy objectives – environmental, economic or social – should be pursued through complementary policy instruments.</p> <p>Furthermore, for a market in emissions permits to operate effectively and efficiently, five principles must be met. There needs to be scarcity, credibility of institutions, simplicity, tradability of permits and integration with other markets.</p>
Long-term emissions reduction target	The Commonwealth Government has set a target to reduce emissions by 60% below 2000 levels by 2050.	The Commonwealth Government has set a target to reduce emissions by 60% below 2000 levels by 2050.	Australia's approach to targets should be linked to comprehensive global agreement on emissions reductions. Unconditional target of 60% on 2000 levels by 2050. Conditional targets depending on the level of international ambition (partial mitigation, stabilisation at 500ppm or 450ppm) range from 60 – 90%.

Design feature	White Paper final position	Green Paper preferred position	Garnaut Final Report
Short- and medium-term targets	<p>The White Paper includes a medium-term target range, an indicative national trajectory, and the timing of further announcements of the trajectory.</p> <p>The target range for emissions reductions to be achieved by 2020 is between 5% and 15% below 2000 levels.</p> <p>The higher boundary of the range represents Australia's minimum commitment to emissions reductions irrespective of the actions of other countries. The lower boundary represents the extent to which Australia will accept tighter targets in the context of stronger international action.</p> <p>The first indicative national emissions trajectory will be:</p> <ul style="list-style-type: none"> • In 2010-11, 109 percent of 2000 levels • In 2011-12, 108 percent of 2000 levels • In 2012-13, 107 percent of 2000 levels <p>In 2010, the Government will announce either a further two years of the trajectory (for the years 2013-14 and 2014-15) or an indicative trajectory to the end of any new international commitment period. The trajectory will be updated from 2011, such that the trajectory for the current year and four forward years are known as of 1 July each year. The indicative trajectory will not represent emissions projections or benchmarks to be met.</p>	<p>At the end of 2008, the Government will announce a range for 2020 and the indicative national emissions trajectory for the period from 2010–11 to 2012–13.</p> <p>The Government will take into account a range of factors, including the work of the Garnaut Climate Change Review and modelling undertaken by the Treasury.</p>	<p>Consistent with unconditional policy commitment to achieve 60 per cent reduction by 2050, reduction of 5 per cent from 2000 levels by 2020. Conditional targets for 2020 of between 5 and 25%.</p>
Emissions trajectories: Cap duration and extension intervals	<p>Caps will be set for five years in advance, with the option to extend this certainty period to the end of any existing international commitment period, if longer. Scheme caps will be extended by one year, every year, to maintain a five year cap horizon.</p> <p>In early 2010, the Government will announce scheme caps for the first five years of the scheme (2010–11 to 2014–15) and intends to announce up to ten years of gateways beyond this period, taking into account progress in international negotiations.</p>	<p>Caps could be set for five years in advance, or longer in the event that international obligations extend for longer than this. Scheme caps would be extended by one year, every year, to maintain a five year cap horizon.</p> <p>In early 2010, the Government will announce scheme caps for the first five years of the scheme (2010–11 to 2014–15) and ten years of gateways beyond this period.</p>	<p>The Government should set the emissions limit for Australia. This emissions limit should be expressed as a trajectory of annual emissions targets over time, which define long term budgets.</p>

Design feature	White Paper final position	Green Paper preferred position	Garnaut Final Report
Emissions trajectories: Gateway duration and extension	<p>The Government will use gateways to provide guidance over future scheme caps beyond the period of fixed scheme caps.</p> <p>The Government intends to provide up to 10 years of gateways beyond the minimum five years of scheme caps, taking into account progress in international negotiations.</p> <p>Gateways will be extended by five years and narrowed, every five years, as part of a strategic review of international conditions and Australia's likely future international commitments.</p>	<p>The Government to provide guidance over future scheme caps beyond the initial certainty period through the use of a gateway in each of the following years, to the end of the gateway period.</p> <p>The initial length of the gateway will be 10 years beyond the minimum five years of scheme caps.</p> <p>Gateways will be extended by five years, every five years, as part of a strategic review of international conditions and Australia's likely future international commitments.</p>	<p>In the period up to 2012, there should be trajectory based on Australia's Kyoto commitments.</p> <p>Beyond 2012, along with targets, Australia's approach to trajectories should be linked to the outcome of international negotiations. One possible trajectory based on unconditional targets. Two different trajectories conditional upon the level of international ambition, based on stabilisation at 450ppm and 550ppm.</p> <p>Five years' notice to be provided by Government before movement to another trajectory. If international obligations require Australia to move to lower emissions within 5 years, the independent carbon bank will be responsible for purchasing international emissions entitlements to meet this commitment.</p>

Design feature	White Paper final position	Green Paper preferred position	Garnaut Final Report
Sectoral coverage	<p>Coverage of stationary energy, transport, fugitive emissions, industrial processes, waste and forestry sectors and all six greenhouse gases.</p> <p>Emissions from landfill waste sites that closed prior to 30 June 2008 will not be included in the scheme. Emissions from waste deposited prior to 1 January 2009 will be excluded from the Scheme until 2018.</p> <p>Forestry to be included on an 'opt in' basis from scheme start - only forestry activities that are recognised in Australia's Kyoto Protocol accounts will be eligible for inclusion in the Scheme. Deforestation will not be included in the Scheme. It is not practical to include agricultural emissions in the emissions trading scheme at commencement. The Government is disposed to cover agricultural emissions in 2015 with final decision in 2013.</p> <p>The Government has committed to cut fuel taxes on a cent -or-cent basis to offset the initial price impact on fuel associated with the scheme and will periodically assess the adequacy of this measure for three years and adjust accordingly. At the end of the three year period it will review this mechanism. To assist rural and regional areas, the Government will provide an equivalent CPRS fuel credit payment to businesses in the agricultural and fishing industries for three years. The Government will review this measure after three years.</p> <p>It will also provide a CPRS fuel credit payment to heavy vehicle road users, to offset the initial price impact associated with the scheme. The Government will review this measure after one year.</p> <p>CPRS fuel credit payments will also be provided to CNG and LNG for one year, and to LPG for three years, at rates that reflect the lower emissions of these fuels.</p>	<p>Coverage of the stationary energy, transport, fugitive emissions, industrial processes, waste and forestry sectors at scheme commencement and all six greenhouse gases counted under the Kyoto Protocol. Forestry to be included on an 'opt in' basis from scheme start - only forestry activities that are recognised in Australia's Kyoto Protocol accounts will be eligible for inclusion in the Scheme. Deforestation would not be included in the Scheme. It is not practical to include agricultural emissions in the Scheme at commencement. Dispensation to cover agricultural emissions in 2015 with final decision in 2013.</p> <p>The Government has committed to cut fuel taxes on a cent-for-cent basis to offset the initial price impact on fuel associated with the scheme and will periodically assess the adequacy of this measure for three years and adjust accordingly. At the end of the three year period it will review this mechanism. To assist rural and regional areas, the Government will provide an equivalent rebate to businesses in the agricultural and fishing industries for three years.</p> <p>It will also cut fuel taxes cent-for-cent for heavy vehicle road users, to offset the initial price impact associated with the scheme. The Government will review this measure after one year.</p>	<p>All six Kyoto gases. In terms of sectors, as broad as possible: stationary energy, industrial processes, fugitives and transport covered from commencement. Waste and forestry covered as soon as practicable. The inclusion of agriculture subject to progress on measurement, administration and cost effectiveness.</p>

Design feature	White Paper final position	Green Paper preferred position	Garnaut Final Report
Point of obligation	<p>Point of obligation set as a combination of direct and indirect:</p> <ul style="list-style-type: none"> Stationary energy (combination of direct emitters above 25,000t CO₂-e and fuel supplier for small emitters) Transport (upstream point of obligation only, via excise system) Industrial process emissions (direct emitters, 25,000t CO₂-e threshold) Fugitive emissions (direct emitters only, 25,000t C CO₂-e threshold) Waste (direct emitters only, 25,000t CO₂-e in rural areas, 10,000t CO₂-e if a landfill facility is operating within proximity to another landfill facility, with a distance to be determined in the regulations) Large users (emissions of greater than 25,000t CO₂-e from a single source) and other eligible entities will be able to 'net out' (purchase without a carbon price) their fuel purchases and directly manage their scheme obligations. 	<p>Point of obligation be set as a combination of direct and indirect:</p> <ul style="list-style-type: none"> Stationary energy (combination of direct emitters above 25,000t CO₂-e and fuel supplier for small emitters) Transport (upstream point of obligation only, via excise system) Industrial process emissions (direct emitters, 25,000t CO₂-e threshold) Fugitive emissions (direct emitters only, 25,000t CO₂-e threshold) Waste (direct emitters only, threshold to be determined). 	<p>Point of obligation should be set at emissions source where efficient. Otherwise, an upstream or downstream point of obligation should be preferred where transaction costs are lower, accuracy of emissions measurement higher, or coverage greater.</p>

Design feature	White Paper final position	Green Paper preferred position	Garnaut Final Report
Definition of a liable entity	<p>In general, entities with operational control over covered facilities or activities will be liable for emission obligations arising from those facilities or activities under the scheme. With the approval of the scheme regulator, entities will have the ability to transfer scheme obligations arising from a covered facility to another entity with financial control over that facility, where certain criteria are met.</p> <p>For corporations, obligations will be placed on the controlling corporation of a company group where either the controlling corporation or a member of the group has operational control over a covered facility or activity. With the approval of the scheme regulator, entities will have the ability to transfer scheme obligations arising from the controlling corporation to another legal entity within the same corporate group, where certain criteria are met.</p> <p>Where a covered facility is operated in accordance with an unincorporated joint venture agreement, the entity with operational control over the facility (the operator) will be the liable entity under the scheme.</p> <p>Where a partnership, trust with multiple trustees, or an unincorporated association has operational or financial control over a covered facility or activity, the partnership, trust or association will be obliged to nominate a single partner, trustee or member of the management committee of the association to meet scheme obligations arising from the controlled facility, for which the partners, trustees or the members of the management committee of the association respectively will be jointly and severally liable.</p>	<p>In general, entities with operational control over covered facilities or activities would be liable for emission obligations arising from those facilities or activities under the scheme.</p> <p>Where multiple entities exercise a degree of operational control over a covered facility or activity, a single responsible entity would be required to register and meet scheme obligations. For corporations, obligations would be placed on the controlling corporation of a company group where either the controlling corporation or a member of the group has operational control over a covered facility or activity.</p> <p>Unincorporated entities would also be liable under the scheme if they have operational control over a covered facility or activity.</p> <p>Further consultation and analysis would be undertaken on the definition of liable entities under the scheme in relation to the forestry sector and upstream fuel suppliers.</p>	No specific definition of liable entity.
Domestic offsets	The Scheme's broad initial coverage leaves limited scope for domestic offsets. Offsets will not be allowed from agriculture emissions in the period prior to coverage of these emissions. The Government will consider the scope for domestic offsets in 2013.	The Scheme's broad initial coverage leaves limited scope for domestic offsets. Offsets would not be allowed from agriculture emissions in the period prior to coverage of these emissions.	Domestic offsets allowed from uncovered sectors if it is cost effective to do so. Unlimited offset credits for net sequestration should be accepted from forestry and possibly soil management practices. Appropriateness of offsets from agriculture assessed in light of coverage.
Banking of permits	Unlimited banking of permits will be allowed under the Scheme (except those accessed under the price cap arrangements).	Unlimited banking of permits allowed under the Scheme.	Unlimited banking.
Borrowing of permits	The Scheme will allow liable entities to discharge up to 5% of their obligations by surrendering permits dated from the following year.	There would be a limited amount of short term borrowing by allowing liable entities to surrender up to a certain percentage (less than 5%) of their liabilities by using permits dated from the following year.	Official lending of permits by the independent authority to the private sector allowed, but may be subject to limits, in terms of quantity and time, determined by the independent authority.

Design feature	White Paper final position	Green Paper preferred position	Garnaut Final Report
Price cap	<p>The scheme will have a transitional price cap for the period 2010–11 to 2014–15.</p> <p>The level of the price cap will be set at \$40 commencing in 2010-11.</p> <p>The level of the price cap will rise in real terms by 5% per year.</p>	<p>The scheme would have a transitional price cap for the period 2010–11 to 2014–15.</p> <p>The level of the price cap will be set high enough above the expected permit price, taking into account the allowance for banking, to provide a very low probability of use.</p> <p>The price cap would also be reviewed at the first review point, taking into consideration banking and borrowing arrangements, importation allowance for international units, the maturity of the market and future international linking commitments.</p>	<p>Price controls not supported except during the transition period to end 2012. During the transition period, permit price should be fixed, starting at \$20 per tonne and increasing 4% per annum plus the rate of inflation.</p>
Assurance (verification)	<p>Assurance will be carried out in accordance with guidelines made under the <i>National Greenhouse and Energy Reporting System Act, 2007</i>.</p> <p>The Government will finalise the standards (if any) to be referenced in these guidelines after considering submissions made in response to its public consultation paper, <i>National Greenhouse and Energy Reporting Act 2007</i> and Carbon Pollution Reduction Scheme—external audit consultation paper. All third-party emissions auditors will be registered to ensure the development of a pool of properly trained and qualified providers. The form and nature of registration (including whether it is conducted by the Government or a non-government body) will be finalised following the consideration of submissions in response to the public consultation paper <i>National Greenhouse and Energy Reporting Act 2007</i> and Carbon Pollution Reduction Scheme—external audit paper.</p> <p>Large emitters (obligations under the Scheme of 125,000 t CO₂-e or more) will be required to have their annual emissions reports assured by an independent third-party prior to their submission.</p> <p>The Scheme regulator will have powers to conduct assurance audits. The regulator will also have the power to review an annual emissions report for up to four years after its submission, except in the case of fraud, in which case the period will be unlimited.</p>	<p>Assurance would be carried out in accordance with guidelines made under the <i>National Greenhouse and Energy Reporting System Act</i> and standards to be produced by the Australian Government's Auditing and Assurance Standards Board.</p> <p>Large emitters (obligations under the Scheme of 125,000 t CO₂-e or more) required to have their annual emissions reports assured by an independent accredited third-party prior to their submission.</p> <p>The Scheme regulator would have powers to conduct assurance audits. The regulator would also have the power to review an annual emissions report for up to four years after its submission, except in the case of fraud, in which case the period would be unlimited.</p> <p>The Government would investigate further the scope to align financial and emissions reporting and verification systems.</p>	<p>In order for a sector to be covered by an emissions trading scheme, there must be a reliable and accurate way to monitor, measure or estimate, and verify emissions from that sector. It is easier to do this for some sectors than others, depending on the nature of emissions and activities.</p>

Design feature	White Paper final position	Green Paper preferred position	Garnaut Final Report
Governance	<p>The functions of three regulators, Greenhouse and Energy Data Officer, the Renewable Energy Regulator and the Carbon Pollution Reduction Scheme Regulator, will be amalgamated into a single regulator. This will streamline procedures, improve regulatory outcomes and reduce the burden on businesses.</p> <p>The combined regulator's responsibilities will include monitoring, facilitating and enforcing compliance, running auctions for permits, allocating free permits in accordance with rules clearly specified by the Government, publishing information relating to the scheme and maintaining the national registry.</p> <p>Also, the combined regulator will continue to perform existing functions under the <i>National Greenhouse and Energy Reporting Act, 2007</i>, and functions under the expanded renewable energy target.</p> <p>An independent expert review committee will be constituted on a five yearly basis to conduct public strategic reviews of the scheme, with the first review being completed in 2014.</p>	<p>Establish an independent scheme regulator, whose primary responsibilities will be to monitor and enforce compliance, run auctions for permits, allocate free permits according to rules clearly specified by the Government, and maintain the national registry.</p> <p>Independent scheme reviews are proposed for a number of scheme components every five years.</p>	<p>The emissions limit and policy framework for the scheme should be set directly by the Government.</p> <p>The scheme should be administered by an independent authority (independent carbon bank).</p>
Reporting and compliance	<p>The National Greenhouse and Energy Reporting System will provide the framework for monitoring, reporting and assurance under the scheme, and elements of that system will be strengthened to support the Scheme.</p> <p>For the first five years of the scheme, liable entities may apply to the regulator to allow contractors to report commercially sensitive data directly to the regulator.</p> <p>Provisions relating to documentation and record keeping under the scheme will be those set out under the <i>National Greenhouse and Energy Reporting Act 2007</i>.</p> <p>The Government will consider whether more frequent than annual reporting of emissions is justified following the commencement of the scheme.</p>	<p>The National Greenhouse and Energy Reporting System will be the starting framework for monitoring, reporting and assurance under the scheme, and elements of that system would be strengthened to support the scheme.</p> <p>A single report would be sufficient to satisfy an entity's obligations under both the National Greenhouse and Energy Reporting System and the emissions trading scheme, with reports to be submitted by 31 October each year.</p> <p>The compliance period would be on a financial year basis.</p>	<p>Compliance period not defined.</p> <p>A penalty should be set as a compliance mechanism. The penalty does not replace the obligation to acquire permits; a make-good provision should apply.</p>
Linking to international schemes/markets	<p>In the longer term, the Government has a preference for open linking within the context of an effective global emissions constraint.</p>	<p>In the longer term, the Government has a preference for open linking within the context of an effective global emissions constraint.</p>	<p>Opportunities for international linking of the Australian scheme should be sought in 'a judicious and calibrated manner' due to the variable quality of mitigation approaches in other countries and the risk of price volatility due to the small relative size of the Australian market.</p>

Design feature	White Paper final position	Green Paper preferred position	Garnaut Final Report
Acceptance of international units	<p>Liable entities will be able to meet their obligations by using eligible international units for compliance in the scheme.</p> <p>The use of eligible international units will not be subject to quantitative restrictions.</p> <p>Liable entities will (initially) be able to surrender certified emission reductions (with the exception of long-term and temporary certified emissions reductions), emission reduction units and removal units.</p>	<p>Liable entities would be able to meet their obligations by using eligible Kyoto units for compliance in the scheme.</p> <p>In the short term, there will be limits on the number of international offset credits that liable entities can surrender for compliance. International emissions units that would be accepted, subject to this limit, would be Certified Emission Reductions and Emissions Reduction Units. However, temporary or long-term Certified Emission Reductions would not be accepted.</p>	<p>Accept Kyoto units associated with clean development mechanism to encourage participation by low-income developing countries that do not yet have target. Acceptance of such units subject to restrictions on the source and quantity.</p> <p>Re-evaluation of acceptance of certified emissions reductions to occur after 2012 if clean development mechanism is substantially changed or expanded.</p>
Acceptance of non-Kyoto units	<p>International non-Kyoto units will not be accepted for compliance in the scheme. This will be reviewed for the post-2012–13 period in the light of future developments in international negotiations.</p>	<p>International non-Kyoto units would not be accepted for compliance in the scheme. This would be reviewed for the post-2012–13 period in the light of future developments in international negotiations.</p>	<p>No constraints specified. Should consider accepting credits from avoided deforestation.</p>
Exporting permits	<p>In the initial years of the scheme, export of carbon pollution permits will not be allowed. A minimum of five years notice will be given on a decision to allow the sale and transfer of carbon pollution permits, except where an independent review finds that establishing a bilateral link will not have a significant impact on the permit price in the scheme, and the responsible minister decides to waive or shorten the notice period.</p> <p>Australia will not host joint implementation projects in sectors that are covered by the scheme. Decisions on joint implementation projects in uncovered sectors will be aligned with decisions on domestic offsets. Australia will not host joint implementation projects prior to the commencement of the scheme.</p>	<p>In the initial years of the scheme the Government proposes not to enable the export of Australia's own Kyoto Protocol compliance units.</p>	<p>Export of permits precluded by the fixed price of permits in the transition period.</p> <p>Under floating price regime, export may be possible as options to link with New Zealand, European Union and emerging United States and Japanese markets are pursued.</p>
Permit allocation (free allocation/auctioning)	<p>Allocations should progressively move towards 100% auctioning as the scheme matures, subject to provision of transitional support for emissions-intensive trade-exposed industries and strongly affected industries.</p>	<p>Allocations should progressively move towards 100% auctioning as the scheme matures, subject to provision of transitional support for emissions-intensive trade-exposed industries and strongly affected industries.</p>	<p>Permits should be released according to the emissions reduction trajectory, with all permits auctioned. Auctions should take place at regular intervals. There should be no limit on the use of permits (that is, no date stamping).</p> <p>During the transition period, permits should be sold at a fixed price as of right. Permits to be released according to demand, rather than in line with the emissions reduction trajectory.</p> <p>Permits for post-2012 should be auctioned as soon as possible.</p>

Design feature	White Paper final position	Green Paper preferred position	Garnaut Final Report
Use of auction revenue	Every cent raised for the Australian Government from the Scheme will be used to help Australians – households and businesses – adjust to the scheme and to invest in clean energy options	Every cent raised from the Scheme will be used to help Australians – households and businesses – adjust to the Scheme and to invest in clean energy options.	<p>All of the revenue from the Scheme should be returned to households or business:</p> <ul style="list-style-type: none"> • Half of the permit revenue should be returned to the household sector • Twenty per cent of the permit revenue should be allocated to support for research, development commercialisation of low-emissions technologies • Cash reserves should be used to purchase international permits/offsets to reconcile domestic emissions with international commitments.
Treatment of households	<p>The Government will use every cent it raises by putting a cost on carbon pollution to help households and businesses adjust and move Australia to the low pollution economy of the future.</p> <p>Pensioners, seniors and carers will receive additional support, above indexation, to fully meet the expected overall increase in the cost of living flowing from the Scheme.</p> <p>Other low-income households will receive additional support, above indexation, to fully meet the expected overall increase in the cost of living flowing from the Scheme.</p> <p>Around 89% of low-income households (or 2.9 million households) will receive assistance equal to 120% or more of their cost of living increases.</p> <p>Middle-income households will receive additional support, above indexation, to help meet the expected overall increase in the cost of living flowing from the Scheme. For middle-income families receiving Family Tax Benefit Part A, the Government will provide assistance to meet at least half of those costs.</p> <p>Around 97% of middle-income households will receive some direct cash assistance. Around 60% of all middle-income households (or 2.4 million households) will receive sufficient assistance to meet the overall expected cost of living increase.</p> <p>Motorists will be protected from higher fuel costs from the Scheme by 'cent for cent' reductions in fuel tax for the first three years.</p> <p>Each year, the Government will review the adequacy of the household assistance package in the context of the Budget.</p>	<p>The Government is committed to providing low-income households with increases in assistance through the tax and payment system and all households with other assistance to address the impact on their living standards. It is committed to:</p> <ul style="list-style-type: none"> • Increase payments, above automatic indexation, to people in receipt of pensioner, carer, senior and allowance benefits and provide other assistance to meet the overall increase in the cost of living flowing from the scheme. • Increase assistance to other low-income households through the tax and payment system to meet the overall increase in the cost of living flowing from the scheme. • Provide assistance to middle-income households to help them meet any overall increase in the cost of living flowing from the scheme. • Review annually in the Budget context the adequacy of payments to beneficiaries and recipients of family assistance to assist households with the overall impacts of the scheme. • Provide additional support through the introduction of energy efficiency measures and consumer information. 	<p>Assistance could be provided through the tax and welfare system, and to facilitate greater efficiency in energy use and reduce dependence on emissions-intensive goods and services. A focus for this assistance should be on the bottom half of the income distribution.</p>

Design feature	White Paper final position	Green Paper preferred position	Garnaut Final Report
Mechanisms for emissions-intensive, trade-exposed industry (EITE) assistance	<p>Assistance will be provided to EITE industries with up front (ex-ante) free allocation of permits at the beginning of each compliance period contingent on continuing production. This assistance is provided with the dual purpose of reducing carbon leakage and providing a measure of transitional assistance. Assistance will be reduced at 1.3 per cent per year so that the EITE sector shares the task of meeting the national commitment to reduce emissions. The EITE assistance program will be reviewed at the five year Scheme review or at an earlier date at the request of the Minister. Five years' notice will be provided of changes to the program unless required for compliance with Australia's international trade obligations.</p>	<p>Assistance be provided to EITE industries with upfront (ex-ante) free allocations of permits contingent on continued production. Assistance would be calibrated over time such that the share of assistance provided to the EITE sector does not increase significantly over time. Assistance would be withdrawn in the event of acceptable international action.</p>	<p>Global and sectoral agreements to achieve comparable treatment of emissions in important competitors should be pursued as a priority. If not reached by 2012, transitional assistance should be provided to EITE firms by way of cash or cash-equivalent credits towards a liable firm's obligation to acquit permits at the end of a compliance period.</p>
Eligibility for and calculation of assistance	<p>Eligibility for EITE assistance will be determined using industry average estimates of emissions intensity. The activity must also be demonstrated to be trade exposed. Emissions intensive activities are those with an emissions intensity above 1000t CO₂/\$m revenue or 3000t CO₂/\$m value added.</p> <p>There are two assistance rates — 90% and 60% — with the most emissions intensive activities, over 2000t CO₂/\$m revenue, receiving a 90% assistance rate and those with an emissions intensity above 1000t CO₂/\$m revenue receiving a 60% assistance rate.</p> <p>Assistance will be provided to new and existing entities at the same rates on the same basis. Allocative baselines will be based on historic information on the emissions intensity of all entities conducting a given activity.</p> <p>Assistance will be provided in relation to direct emissions and some indirect emissions. Permit allocations for indirect emissions will be related to the cost increase associated with the use of electricity, steam, and natural gas and its components where these are used as feedstocks by an activity.</p> <p>Administrative allocations of permits to EITE entities will be around 25% of permits, which is equivalent to around 35% including agriculture.</p>	<p>Wherever possible, simple, clear and transparent methodologies should be used to determine those entities that are eligible for EITE assistance and to calculate the assistance for these entities.</p> <p>EITE assistance should be provided to those traded activities which face the largest material impact from the introduction of the scheme.</p> <p>Assistance could be provided with respect to direct and indirect (electricity) emissions from an EITE activity.</p> <p>Assistance could be provided on the basis of an industry-average emissions intensity baseline.</p> <p>Assistance could be provided in respect of activities that have an emissions intensity above 1500t/\$m, but at two rates of assistance — 90 % and 60%.</p> <p>Overall, allocations to EITE activities could be up to around 30 per cent including agriculture..</p>	<p>For every unit of production, eligible firms receive a credit against their permit obligations, equivalent to the expected uplift in world production prices that would eventuate if Australia's trading competitors had similar policies.</p> <p>Eligibility determined by threshold of expected percentage uplift in price in compliance period, such that:</p> <ul style="list-style-type: none"> only products whose price is expected to increase by a percentage in excess of the threshold would be eligible for assistance; assistance would only be provided for that part of the price uplift in excess of the threshold; and firms would not receive assistance in excess of their permit obligations in the compliance period. <p>An independent authority would be responsible for calculating the expected price uplift factors at regular intervals (minimum yearly) based on a transparent and consultative process.</p> <p>As trading competitors adopt carbon mitigation policies, the gap between observed world and Australian product prices will narrow and assistance will decrease accordingly.</p>

Design feature	White Paper final position	Green Paper preferred position	Garnaut Final Report
Assistance to strongly affected industries	<p>Provide limited direct assistance to coal-fired electricity generators, in the form of allocations of administrative allocation of permits, to the value of \$3.9 billion over five years, based on a \$25 carbon price.</p> <p>Assistance to workers and regions to be delivered through the Climate Change Action Fund (CCAF).</p> <p>Assistance for the development and deployment of carbon capture and storage technologies to be delivered through existing programs.</p>	<p>Provide assistance to workers and regions in the form of structural adjustment assistance.</p> <p>Provide support for investment in carbon capture and storage research and technologies.</p> <p>Provide some limited direct assistance to coal-fired electricity generators.</p>	<p>\$1 to \$2 billion fund proposed to support new investments that reduce emissions in coal-based generation, as a form of 'pre-emptive' structural adjustment assistance. No direct assistance for generators as compensation for loss.</p>
Complementary measures	<p>The scheme will be the primary measure to achieve Australia's emissions reduction targets. Other measures will be required to address market failures that a carbon price alone cannot overcome, or to deal with the distributional consequences of the scheme.</p> <p>Across all levels of government an overarching framework has been adopted for assessing and developing complementary measures to ensure initiatives contribute to Australia's emission reduction targets and do not undermine them in the context of the scheme. These principles will guide the future direction of Australia's emission reduction strategy and in particular will ensure that the impact of intervention options are evaluated against the lowest cost market price determined by the scheme.</p> <p>State and territory governments are encouraged to terminate the Greenhouse Gas Reduction Scheme (GGAS) and the Queensland Gas Scheme.</p>	<p>The emissions trading scheme will be the primary measure to achieve Australia's emissions reduction targets. Other measures will be required to address market failures that a carbon price alone cannot overcome, or to deal with the distributional consequences of the scheme.</p> <p>Across levels of government, a coordinated approach to assessing and developing complementary measures is desirable. The Council of Australian Governments is currently developing a set of criteria to assess whether other measures are genuinely complementary, and reviewing existing programs to assess whether they meet those criteria. State and territory governments are also considering the ongoing role of GGAS and the Queensland Gas Scheme. The Government will continue to work cooperatively with the New South Wales, Australian Capital Territory and Queensland governments to assist them in their development of appropriate transitional arrangements.</p>	<p>Complementary measures (e.g. renewable energy target schemes) continue in parallel.</p> <p>New South Wales/Australian Capital Territory GGAS and Queensland Gas Generation Scheme to transition into the national emissions trading scheme; transition arrangements to be developed.</p> <p>The scheme to be complemented by other greenhouse gas abatement policies, particularly relating to energy efficiency and low-emissions technology R&D.</p>

Design feature	White Paper final position	Green Paper preferred position	Garnaut Final Report
Climate Change Action Fund	<p>The Government will commit \$2.15 billion to the CCAF between 2008-09 to 2012-13 to assist in smoothing the transition for businesses, community sector organisations, workers, regions and communities to an operating environment that includes a price on carbon. An additional \$300 million (between 2013-14 to 2014-15) will be provided for adjustment in the coal mining sector.</p> <p>The CCAF will be structured in four streams:</p> <ul style="list-style-type: none"> • Addressing information gaps for business and community organisations about the operation of the scheme and how these entities can minimise the expected financial impacts. • Grants and incentives to support the investment in energy efficiency and low emissions technologies, processes and products. • Structural adjustment assistance for workers and communities significantly impacted by the introduction of the scheme. The Government will stand ready to provide assistance where a clear, identifiable and significant impact arises, or is highly likely to arise, as a direct result of the scheme. • Adjustment assistance for the coal sector to address impacts arising from emission intensive components of the coal mining sector. 	<p>To assist businesses more generally, the Government proposes to establish the CCAF. The Fund will focus predominately on those industries not receiving free permit allocation, but which nevertheless need assistance to adjust to the carbon price.</p>	<p>No comment.</p>

Part 2: International models

Design feature	European Emissions Trading Scheme (EU ETS) 2005-2012 (Phase I and II)	European Emissions Trading Scheme (EU ETS) 2013-2020 (Phase III)	New Zealand Emissions Trading Scheme (NZ ETS)
Status	Currently operating. Phase I in the period 2005–07, Phase II in the period 2008–12. Established under Directive 2003/87/EC and adopted on 25 October 2003 (as amended).	Phase III proposed for 2013–20. The European Commission is currently finalising the design of Phase III of the EU ETS and the final design may change from that summarised below.	The NZ ETS commenced on 1 January 2008, with legislation passed on 11 September 2008. The new New Zealand Government has indicated it will review its emissions trading scheme and any amendments or alternatives to it by the end of 2009. The final design of the NZ ETS may change from that summarised below.
Scheme objective	To promote reductions of greenhouse gases emissions in a cost-effective and economically efficient manner.	To promote reductions of greenhouse gases emissions in a cost-effective and economically efficient manner.	That a NZ ETS support and encourage global efforts to reduce greenhouse gases emissions by: <ul style="list-style-type: none"> reducing New Zealand's net emissions below business as usual levels complying with New Zealand's international obligations, including Kyoto Protocol obligations while maintaining economic flexibility, equity, and environmental integrity at least cost in the long term.
Long-term emissions reduction target	Global emissions of greenhouse gases will need to be reduced by approximately 70% compared to 1990 levels.	By 2050, global greenhouse gases emissions should be reduced by at least 50% below their 1990 levels.	As per the Kyoto Protocol, and its successor, with national/regional targets if no successor to Kyoto emerges.
Short- and medium-term targets	Kyoto Protocol target of an 8% reduction in emissions by 2008 to 2012 compared to 1990 levels.	Reduce the overall greenhouse gas emissions of the European Community by at least 20% below 1990 levels by 2020, and by 30% provided that other developed countries commit themselves to comparable emissions reductions and economically more advanced developing countries contribute adequately according to their responsibilities and respective capabilities.	As per international commitments.
Sectoral coverage	Combustion installations with a rated thermal input exceeding 20 MW (except hazardous or municipal waste installations), mineral oil refineries and coke ovens. Specific thresholds on other industries, including the production and processing of ferrous metals, mineral industries, and the timber and paper pulp industries based on production capacity. Installations or parts of installations used for research, development and testing of new products and processes not covered. Carbon dioxide only.	Combustion installations with a rated thermal input exceeding 20 MW, combined with an emission threshold of 10,000t CO ₂ /yr (as long as their rated thermal input does not exceed 25 MW). Emissions from biomass excluded. Other industries covered as per Phases I and II, with the inclusion of aluminium and certain ferrous metal refineries, chemical industrial processes (both carbon dioxide and nitrous oxide in some cases), capture, transport and geological storage of all greenhouse gases. Installations or parts of installations used for research, development and testing of new products and processes and combustion installations exclusively using biomass not covered.	<ul style="list-style-type: none"> All sectors and all six major greenhouse gas emissions to be covered by 2013: Forestry (pre-1990 forests) and forestry removal activities (post-1989 forests) – 1 January 2008 Liquid fossil fuels (opt in for obligation jet fuel) – 1 January 2011 Stationary energy (opt in for purchasers of coal or natural gas) – 1 January 2010 Industrial processes – 1 January 2010 Agriculture, waste and synthetic gases – 1 January 2013 Other removal services (embedded products) – 1 January 2010 Other removal products (Carbon Capture and Storage) – to be determined Other removal products (HFCs & PFCs) –

Design feature	European Emissions Trading Scheme (EU ETS) 2005-2012 (Phase I and II)	European Emissions Trading Scheme (EU ETS) 2013-2020 (Phase III)	New Zealand Emissions Trading Scheme (NZ ETS)
		Nitrous oxide and perfluorocarbons will be covered.	1 January 2013. Voluntary and then mandatory reporting of emissions precedes full coverage in some sectors.
Point of obligation	As for sector coverage.	As for sector coverage.	Generally upstream where possible to minimise the number of compulsory participants and therefore administration costs.
Definition of a liable entity	As for sector coverage.	As for sector coverage.	Activities that require compulsory participation (with different entry dates) in the NZ ETS, including, inter alia: <ul style="list-style-type: none"> • deforesting pre-1990 forest land • importing or mining coal or natural gas • importing/removing from refinery liquid fossil fuels • producing iron, steel, aluminium, clinker, burnt lime, glass or cable resulting in industrial process emissions • slaughtering ruminant livestock and dairy processing (subject to the possibility of placing the obligation at the farmer level by order in council) • importing synthetic gases • operating a disposal facility (waste).
Domestic offsets	Not permitted.	Yes, projects that reduce greenhouse gas emissions in the European Community should be allowed to issue allowances provided they comply with certain conditions necessary to safeguard the proper functioning of the EU ETS.	The scheme provides for participants who conduct activities that remove greenhouse gas emissions from the atmosphere to earn one permit for each tonne of emissions they remove. They can then sell the permits they earn on the market for a profit.
Banking of permits	Allowed within, but not between, Phases I and II. Unrestricted after 2012.	Allowances remain valid throughout the trading period and any surplus allowances can now be banked for use in subsequent trading periods.	Permits can be banked for future use. Imported assigned amount units banked from the Kyoto Protocol first commitment period cannot be used for compliance in the NZ ETS after 2012.
Borrowing of permits	Limited administrative borrowing within, but not between, phases.	Limited administrative borrowing within, but not between, phases.	Limited borrowing allowed by releasing some of the next year's permits before acquittal time. These can be used for acquittal as soon as they are released.
Price cap	No price cap.	Yet to be determined.	No price cap. Financial and make-good penalties will apply.
Assurance (verification)	Annual verification to ensure that: <ul style="list-style-type: none"> • data in the installation's emissions report are fairly stated • the installation is in conformity with the agreed greenhouse gas emissions permit and with its 	Regulation adopted through comitology (i.e. committee) should provide common requirements for verification, in order to guarantee a certain level of quality of the verification process, while further improvements should be enabled through amendments to Annexes IV and V of the Directive.	Participants are required to: <ul style="list-style-type: none"> • calculate their level of emissions, using prescribed methodologies • retain sufficient records to allow verification of emissions calculations

Design feature	European Emissions Trading Scheme (EU ETS) 2005-2012 (Phase I and II)	European Emissions Trading Scheme (EU ETS) 2013-2020 (Phase III)	New Zealand Emissions Trading Scheme (NZ ETS)
	associated monitoring methodology and other relevant requirements.	This regulation should also enable Community-wide accreditation for verifiers for the benefit of the internal market.	<ul style="list-style-type: none"> report their level of emissions provide information, if required by the chief executive (scheme administrator), to allow the chief executive to verify compliance.
Reporting and compliance	Installations must report emissions annually. Each year, member states submit to the commission a report on emissions.	Experience with monitoring and reporting to date showed some degree of divergence of member states' practices. In order to improve overall performance of the monitoring and reporting system across the EU, a regulation adopted through comitology should replace the current guidelines.	<p>Liquid fossil fuels, agriculture, synthetic gases and waste sectors to monitor and report annual emissions first on a voluntary and then mandatory basis for the two years prior to inclusion.</p> <p>Firms report annually by 31 March on any emissions or removals that resulted from their activities in the previous year (except for post-1989 forest participants).</p> <p>Firms must retain records showing their emissions and removed emissions for seven years.</p> <p>Initial compliance periods for sectors to be one year from entry into the scheme except for forestry, which will have a two-year initial compliance period.</p>
Linking to international schemes/markets	Member states may participate in international emissions trading as parties to the Kyoto Protocol with any other party included in Annex B to the Kyoto Protocol.	<p>Member states may participate in international emissions trading as parties to the Kyoto Protocol with any other party included in Annex B to the Kyoto Protocol.</p> <p>Consideration of acceptance of permits from other emissions trading systems in third countries and administrative entities.</p>	International linking considered to be critical to reduce costs, provide flexibility and moderate potential market volatility due to a small domestic market.
Acceptance of international units	Participants may surrender certified emission reductions and emission reduction units, subject to quantitative and qualitative limits.	Once a future international agreement on climate change has been reached, certified emission reductions shall only be accepted in the EU ETS from third countries that have ratified the international agreement. Principle of subsidiarity may still apply.	<p>Several types of Kyoto units can be surrendered by participants to meet domestic obligations:</p> <ul style="list-style-type: none"> Domestic assigned amount units Imported assigned amount units, subject to regulations specifying which imported assigned amount units may be used. Emission reduction units, excluding those from nuclear projects. Removal units. Certified emission reductions, excluding those from forestry projects or nuclear projects. No quantitative restrictions on the use of imported units.
Acceptance of non-Kyoto units	Not permitted.	Possible acceptance of non-Kyoto units depending on future agreement and in accordance with a priority for least developed countries when revenues generated from auctioning are used to facilitate developing	Provision for non-Kyoto "approved overseas units" to be approved and accepted to meet scheme obligations. This allows for the possibility of an international agreement/trading regime not based on

Design feature	European Emissions Trading Scheme (EU ETS) 2005-2012 (Phase I and II)	European Emissions Trading Scheme (EU ETS) 2013-2020 (Phase III)	New Zealand Emissions Trading Scheme (NZ ETS)
		countries' adaptation to the impacts of climate change. It is appropriate to give certainty on the acceptance of credits from projects started in least developed countries after 2012, even in the absence of an international agreement. This entitlement should apply to least developed countries until 2020, provided that they have by then either ratified a global agreement on climate change or a bilateral or multilateral agreement with the European Community.	Kyoto units post-2012.
Exporting permits		Possible export of units under mutual recognition arrangements.	For the first commitment period, each New Zealand Unit (NZU) will be fully comparable to a Kyoto unit and will be backed by a Kyoto unit in the New Zealand Emission Unit Registry. No restrictions on export of New Zealand Units (subject to commitment period reserve).]
Permit allocation (free allocation/auctioning)	<p>Phase I</p> <p>At least 95% of allowances freely allocated.</p> <p>Member states to decide the total quantity of allowances allocated to each installation.</p> <p>Phase II</p> <p>At least 90% of allowances freely allocated.</p> <p>Member states to decide the total quantity of allowances they will allocate for that period and initiate the process for the allocation of those allowances to the operator of each installation.</p> <p>This decision shall be taken at least 12 months before the beginning of the relevant period, taking due account of comments from the public.</p>	<p>Full auctioning from 2013 onwards for the power sector and carbon capture and storage.</p> <p>For installations in sectors other than electricity generators, a gradual transition is appropriate, starting with free allocation at a level of 80%, decreasing by equal amounts each year, arriving at zero free allocation by 2020.</p> <p>Five per cent of the Community-wide quantity of allowances over the period 2013 to 2020 shall be set aside for new entrants.</p>	<p>Free allocation to the forestry, industrial, agricultural and fishing sectors.</p> <p>In the industrial sector, the government will allocate permits units to firms that meet specific criteria. Some of the criteria set out in the Act, others to be specified in the allocation plan for the industrial sector.</p> <p>Free allocation to the industrial and agriculture sectors will be at 90% of 2005 levels from date of entry to the end of 2018, and will be phased out at a linear rate between 2019 and 2029, reaching zero in 2030. Phase-out will be subject to review as part of periodic scheme reviews. Each year during the phase-out period, the number of free permits allocated will reduce by one-twelfth.</p> <p>Free allocation to the fishing sector will be provided at 50% of 2005 levels for each year from 2011 to 2013</p>
Use of auction revenue	Not specified (auctioning was limited).	<p>To be determined. Draft proposal suggests the proceeds from the auctioning of allowances could be used to:</p> <ul style="list-style-type: none"> • reduce emissions • adapt to the impacts of climate change • fund research and development • further develop renewable energies to meet the EU's commitment to using 20% renewable energies by 2020 • fund carbon capture and storage • contribute to the Global Energy Efficiency and 	Not-specified.

Design feature	European Emissions Trading Scheme (EU ETS) 2005-2012 (Phase I and II)	European Emissions Trading Scheme (EU ETS) 2013-2020 (Phase III)	New Zealand Emissions Trading Scheme (NZ ETS)
		<p>Renewable Energy Fund</p> <ul style="list-style-type: none"> fund measures to avoid deforestation and facilitate adaptation in developing countries address social aspects such as possible increases in electricity prices in lower and middle income households. <p>Proceeds should also be used to cover costs associated with scheme administration.</p> <p>Provision should be included for monitoring the use of funds from auctioning for these purposes.</p>	
Treatment of households	Not covered by the Directive.	To be determined. Draft proposal suggests that a portion of revenue should be allocated to addressing social aspects, such as possible increases in electricity prices in lower and middle income households.	Proposed allocation to households from one-off electricity rebate and increased income support payments (not contained in legislation). \$1 billion household emission reduction fund over the 15 years from 2009.
Mechanisms for emissions-intensive, trade-exposed industry (EITE) assistance	Free allocation.	Emissions-intensive industries which are determined to be exposed to a significant risk of carbon leakage could receive some allowances free of charge or an effective carbon equalisation system could be introduced.	<p>Permits allocated free of charge to eligible parties.</p> <p>The allocation of permits to the industrial and agriculture sectors as a whole will initially cover 90% of the total of all eligible parties' 2005 emissions in each sector until the end of 2018. Free allocation to these sectors will then be phased out as described above.</p> <p>In the industrial sector, 150,000 permits per year will be set aside from the free allocation pool for use in the Innovation Fund from 2010 to 2012, and this Fund may be extended in future years.</p> <p>The allocation to the fishing sector as a whole will cover 50% of the total of all eligible parties' 2005 emissions from the consumption of fuel. This free allocation will be provided each year from 2011 to 2013.</p> <p>In the forestry sector, only owners of forests greater than 5 hectares that have not applied for exemption from the emissions trading scheme will be eligible to receive free emission units.</p> <p>No thresholds are specified for other sectors. Thresholds, if any, may be applied to other sectors through allocation plans.</p>
Eligibility for assistance—new and existing EITEs	<p>Free allocations to installations in relation to their direct emissions.</p> <p>A new entrant reserve is provided for allocations to new entrants.</p>	European Commission will identify which emissions intensive sectors or subsectors are likely to be subject to carbon leakage. Those sectors may continue to receive some free allocations of allowances from	Companies in the industrial sector may qualify as trade exposed if they face foreign competition, are exposed to higher emissions costs than their overseas competitors and are unable to pass on some or all of

Design feature	European Emissions Trading Scheme (EU ETS) 2005-2012 (Phase I and II)	European Emissions Trading Scheme (EU ETS) 2013-2020 (Phase III)	New Zealand Emissions Trading Scheme (NZ ETS)
		2013.	their emissions costs due to foreign competition. Any thresholds for eligibility would be established in allocation plans.
Assistance to strongly affected industries	Free allocation to electricity generators. Member states may apply to the European Commission for installations to be temporarily excluded until 31 December 2007.	Assistance to the aviation sector.	Design features of the scheme that will moderate its impact on firms include: <ul style="list-style-type: none"> • free allocation • delayed entry. The aim is to preserve sufficient pressure for behavioural change, while enabling firms to make a smooth transition to lower emissions.
Governance arrangements/ independent scheme regulator	Member states to make the appropriate administrative arrangements, including the designation of the appropriate competent authority or authorities, for the implementation of the rules of the Directive. A central administrator also designated by the European Commission, to maintain an independent transaction log recording the issue, transfer and cancellation of allowances.	In order to ensure that allowances can be transferred between persons within the European Community without any restriction, and to ensure that the EU ETS can be linked to emissions trading systems in third countries and sub-federal and regional entities, from January 2013 onwards, all allowances should be held in the Community registry established under Decision No 280/2004/EC of the European Parliament and of the Council of 11 February 2004. This should be without prejudice to the maintenance of national registries for emissions not covered by the EU ETS.	The Ministry of Economic Development is the administering agency for the emissions trading scheme and runs the Registry. The Ministry for the Environment also administers the emissions trading legislation.
Complementary measures	Encourage the use of more energy-efficient technologies, including combined heat and power technology, producing less emissions per unit of output. Specifically promote combined heat and power technology. Member states must endeavour to support capacity-building activities in developing countries and countries with economies in transition.	Complementary measures include: <ul style="list-style-type: none"> • 20% of energy from renewable sources by 2020 • increase energy efficiency by 20% by 2020. 	Target for renewable electricity generation of 90% by 2025. Wide range of complementary policies include ones relating to energy efficiency, agricultural research, sustainable land management, transport initiatives, waste and local government. The current programme of complementary measures is under review in light of the introduction of a price based measure as the primary means of achieving emission reductions.

Appendix C: Implementing the Kyoto Protocol

The Government's first official act was to ratify the Kyoto Protocol, which places binding emission reduction targets on 37 countries. Australia's target is to limit its greenhouse gas emissions in the 2008–2012 period to 108 per cent of 1990 emissions. Australia's implementation of the Kyoto Protocol will have implications for the use of Kyoto units by Australian entities and for the design of the Carbon Pollution Reduction Scheme.

The Kyoto Protocol was created under the United Nations Framework Convention on Climate Change (UNFCCC). After a series of negotiations and preliminary agreements between 1988 and 1992, the UNFCCC was concluded in New York on 9 May 1992 and opened for signature in Rio de Janeiro in June of that year. It enjoys near universal membership, with Australia's ratification occurring on 30 December 1992. The UNFCCC is aimed at stabilising greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. It provides an overall framework for intergovernmental efforts, rather than setting binding targets.

The Kyoto Protocol came into being on 11 December 1997 at the third Conference of the Parties to the UNFCCC and entered into force on 16 February 2005, following ratification by countries responsible for at least 55 per cent of the world's emissions. It places binding emission reduction targets on 37 industrialised countries and countries with economies in transition ('Annex I' countries¹). The targets take the form of an absolute emissions cap for each country for the 2008–2012 period (the first commitment period), with the average cap for Annex I countries being 5.2 per cent below 1990 baseline levels. Australia's target is to limit its greenhouse gas emissions to 108 per cent of 1990 emissions in the first commitment period. Each country's target is listed in Annex B to the Kyoto Protocol.

The crux of the Kyoto Protocol is the requirement for each Annex I country to retire an amount of Kyoto units equal to or greater than its total greenhouse gas emissions before the end of the 'true-up' period (most likely the end of 2014 for the first commitment period). This is analogous to the mechanics of Australia's Carbon Pollution Reduction Scheme (the scheme), in which each liable entity must surrender an eligible compliance permit for every tonne of emissions it produces in the relevant year. Under the Kyoto Protocol, Australia as a nation must retire a Kyoto unit for every tonne of emissions it produces in the relevant commitment period. An Annex I country retires a Kyoto unit by transferring it to a specially designated retirement account in the country's national registry.

A framework is provided under the Kyoto Protocol for countries to create and acquire Kyoto units from other countries via three 'flexibility mechanisms': international emissions trading, the clean development mechanism and joint implementation. The Kyoto Protocol's system of registries, which is governed by the international transaction log, checks and records transfers of units. Kyoto units, each one of which corresponds to one tonne of carbon dioxide equivalent (CO₂-e), are:

- *assigned amount units* (AAUs) issued by an Annex I country on the basis of its assigned amount pursuant to Articles 3.7 and 3.8 of the Kyoto Protocol (for example, Australia will issue AAUs equal to 108 per cent of 1990 emissions)
- *removal units* (RMUs) issued by an Annex I country on the basis of land use, land-use change and forestry activities under Articles 3.3 and 3.4 of the Kyoto Protocol
- *emission reduction units* (ERUs) generated by joint implementation projects under Article 6 of the Kyoto Protocol
- *certified emission reductions* (CERs) generated from clean development mechanism projects under Article 12 of the Kyoto Protocol.

Countries that fail to meet their emission reduction targets during the first commitment period may be liable for a 30 per cent penalty, to be made up in the next commitment period. For example, an Annex I country that exceeds its target by 100 million tonnes during the first commitment period will have 130 million tonnes deducted from its allowable emissions in the post-2012 commitment period.

Where appropriate, the scheme regulator will be empowered and required to perform certain functions under the Kyoto Protocol, including transactions in Kyoto units on behalf of the Government. The Government, acting through the responsible minister, will retain direct responsibility for all other elements of meeting Australia's Kyoto Protocol obligations.

This appendix sets out the steps that Australia must take to implement the Kyoto Protocol and participate in the flexibility mechanisms.

- Section 1.1 provides an overview of Australia's reporting obligations.
- Section 1.2 discusses Australia's compliance with its Kyoto emission reduction target and management of its assigned amount.
- Section 1.3 looks at the international greenhouse gas accounting framework.
- Section 1.4 outlines Australia's accounting for domestic land use, land-use change and forestry activities.
- Section 1.5 discusses participation by Australia and private entities in the clean development mechanism, joint implementation and international emissions trading.
- Section 1.6 analyses the approach taken by Australia to ensure that the number of Kyoto units in the national registry does not fall below the commitment period reserve.
- Section 1.7 looks at the way Australia will manage the carry over restrictions applying to certain Kyoto units.
- Section 1.8 discusses Australia's compliance with the supplementarity principle.
- Section 1.9 considers the establishment of Australia's national Kyoto registry.

Meeting reporting obligations

Annex I countries are required to satisfy a range of monitoring and reporting obligations, which are designed to ensure they remain on track to meet their obligations and to measure the overall success of the Kyoto Protocol.

Initial report

As an Annex I country, Australia is required to submit an initial report within one year of the Kyoto Protocol entering into force (for Australia) to facilitate the calculation of its assigned amount and demonstrate its capacity to account for its emissions. The initial report must include:

- an inventory of greenhouse gas emissions containing a complete set of common reporting format tables for Australia's base year up to the most recent year, and a national inventory report (see Section 1.1.2)
- Australia's selection of its base year for the fluorinated gases—hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride
- Australia's calculation of its assigned amount (see Section 1.2)
- Australia's calculation of its commitment period reserve (see Section 1.6)
- identification of Australia's forestry parameter values for use in accounting for its land use, land-use change and forestry activities (see Section 1.4)
- identification of the land use, land-use change and forestry activities that Australia elects to account for under Article 3.4 of the Kyoto Protocol (see Section 1.4)
- identification of the frequency of accounting by Australia for each land use, land-use change and forestry activity (see Section 1.4)
- a description of Australia's national system for the estimation of anthropogenic emissions by sources and removals by sinks of greenhouse gases (see section 1.1.2)
- a description of Australia's national registry (see Section 1.9).

Australia's initial report was submitted on 11 March 2008 and is currently under review by the Kyoto Protocol expert review team. It is available online.²

Annual reports

Australia must include supplementary information on its implementation of the Kyoto Protocol in its annual inventory submitted under the UNFCCC. Inventory submissions under the UNFCCC comprise:

- the common reporting format tables—standardised data tables for reporting estimates of greenhouse gas emissions/removals and other relevant information

- the national inventory report—a description of the methodologies used in compiling the inventory, the data sources, the institutional structures, and quality assurance and control procedures.

The Department of Climate Change compiles Australia’s greenhouse gas inventory using the Australian Greenhouse Emissions Information System (AGEIS). The AGEIS centralises emissions estimation, inventory compilation, reporting and data storage processes into a single system. It has been used to consolidate Australia’s emissions estimation methodologies and fully integrated quality control procedures into the compilation process. The AGEIS provides high transparency levels for the inventory—emissions data from the AGEIS database for the set of national inventory accounts are publicly accessible through a dynamic web interface.³

Submission of an annual report is mandatory under the Kyoto Protocol regime from 2010. However, submission of the most recent annual report is a precondition for participation in the flexibility mechanisms, so many countries have voluntarily submitted annual reports ahead of 2010.

Australia’s National Greenhouse Accounts are designed to meet both UNFCCC and Kyoto Protocol requirements. Its most recently completed UNFCCC inventory - the *National Inventory Report: 2006* - and associated common reporting format tables were submitted to the UNFCCC Secretariat on 13 June 2008. Once the national registry has been established and Australia holds Kyoto units, all holdings and transactions in those units must be reported in Australia’s annual report. The information must be reported in a specific format called the ‘standardised electronic format for reporting Kyoto units’. From 2010 onwards, the annual report must include additional information on emissions and removals from land use, land-use change and forestry activities under Articles 3.3 and 3.4 of the Kyoto Protocol. Details of any significant changes to the national registry or national system must also be included in the annual report, as must information on Australia’s implementation of its commitment to strive to minimise adverse social, environmental and economic impacts of its climate change mitigation actions on developing countries.

National communications

Australia must include supplementary information on its implementation of the Kyoto Protocol in its national communications submitted under the UNFCCC. This means that, in addition to details of the steps Australia is taking to implement the UNFCCC, national communications must incorporate the following information:

- a description of Australia’s national system for the estimation of anthropogenic emissions by sources and removals by sinks of greenhouse gases
- a description of Australia’s national registry (see Section 1.9)
- an explanation of how Australia’s use of the Kyoto mechanisms is supplementary to domestic action (see Section 1.8)
- details of Australia’s implementation of policies and measures to promote sustainable development under Article 2 of the Kyoto Protocol
- a description of Australia’s legislative, enforcement and administrative arrangements

- a description of technology transfer, capacity-building and other activities specified under Article 10
- details of any financial resources provided by Australia pursuant to the Kyoto Protocol, including to advance the implementation of commitments by developing countries.

Australia’s fourth national communication under the UNFCCC was submitted on 12 December 2005, and is available online.⁴

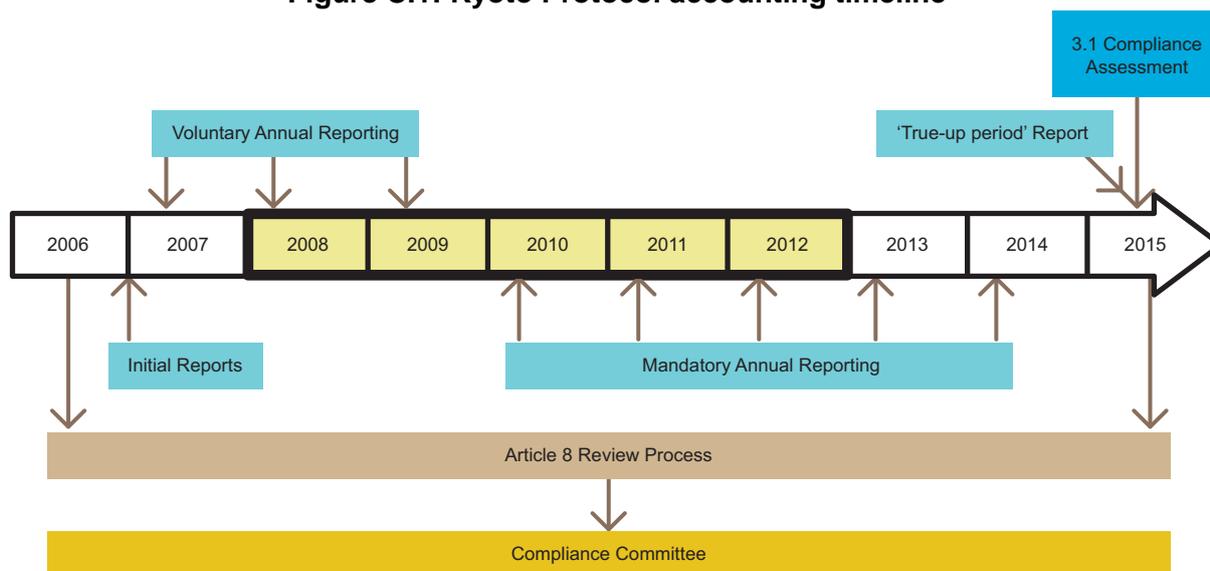
True-up period report

Annex I countries are given an ‘additional period for fulfilling commitments under the Kyoto Protocol’ following each commitment period, during which Kyoto units from the relevant commitment period can be transferred and acquired for the purposes of meeting emission reduction targets. This 100-day period (known as the ‘true-up’ period) is expected to begin in late 2014 for the first commitment period.⁵ Australia must submit a final report at the end of the true-up period to enable determination of its compliance with its emission reduction target. This report must contain the information found in an annual report on Australia’s holdings of, and transactions in, Kyoto units. It must also include a list of Kyoto units retired by Australia for compliance purposes and the units that Australia wishes to carry over to the subsequent commitment period.

The true-up period report will be used by the Kyoto Protocol expert review team (an international team of experts nominated by Kyoto Protocol countries) to determine whether Australia has met its Kyoto target. The determination will be based on a comparison of the quantity of Kyoto units retired by Australia with Australia’s total greenhouse gas emissions for the commitment period.

Figure C.1 is a timeline of the Kyoto Protocol reporting and accounting requirements.

Figure C.1: Kyoto Protocol accounting timeline



Source: UNFCCC Secretariat, Kyoto Protocol Reference Manual on Accounting of Emissions and Assigned Amounts 2007, available at: http://unfccc.int/files/national_reports/accounting_reporting_and_review_under_the_kyoto_protocol/application/pdf/rm_final.pdf.

Managing Australia's assigned amount

The allowable level of emissions for Kyoto countries that have emission reduction targets is referred to as their 'assigned amount'. A country's initial assigned amount is calculated as the base year emissions (1990 emissions) × emission target relative to base year (108 per cent for Australia) × five (the number of years in the first commitment period). Australia's initial assigned amount has been calculated to be 2,957,579,143 tonnes of CO₂-e and is currently under review by the Kyoto Protocol expert review team.

Issuance of assigned amount units

As an Annex I country, Australia is allocated Kyoto units called 'assigned amount units' (AAUs) on the basis of its initial assigned amount, where each AAU signifies an allowance to emit one tonne of CO₂-e. Australia's initial assigned amount, and the method by which it is calculated, is set out in Australia's initial report under the Kyoto Protocol. After the initial report has been reviewed by the Kyoto Protocol expert review team and any questions of implementation have been resolved, Australia's initial assigned amount will be recorded in the UNFCCC Secretariat's compilation and accounting database and provided to the international transaction log.

Australia must then, before any transactions take place for the relevant commitment period, issue a quantity of AAUs equivalent to its initial assigned amount in its national registry. This will be done by the scheme regulator at the instruction of the responsible minister. However, the Government will issue AAUs before the scheme regulator is in place. AAUs will be issued into the Government's holding account in the national registry. Each AAU must have a unique serial number comprising the following elements:

- the commitment period for which the AAU is issued
- the Annex I country issuing the AAU
- an element identifying the unit as an AAU
- a number unique to the AAU for the identified commitment period and country of origin.

Compliance

At the end of each commitment period, Australia must retire Kyoto units to match (or exceed) its greenhouse gas emissions. Total emissions for each Annex I country during a commitment period must be equal to or less than its final assigned amount. Australia's allowable level of emissions during the first commitment period (its final assigned amount) will be equal to:

- Australia's initial assigned amount (see Section 1.2.1)

plus

- any additional Kyoto units that Australia has acquired from other countries through international emissions trading (see Section 1.5.2)

plus

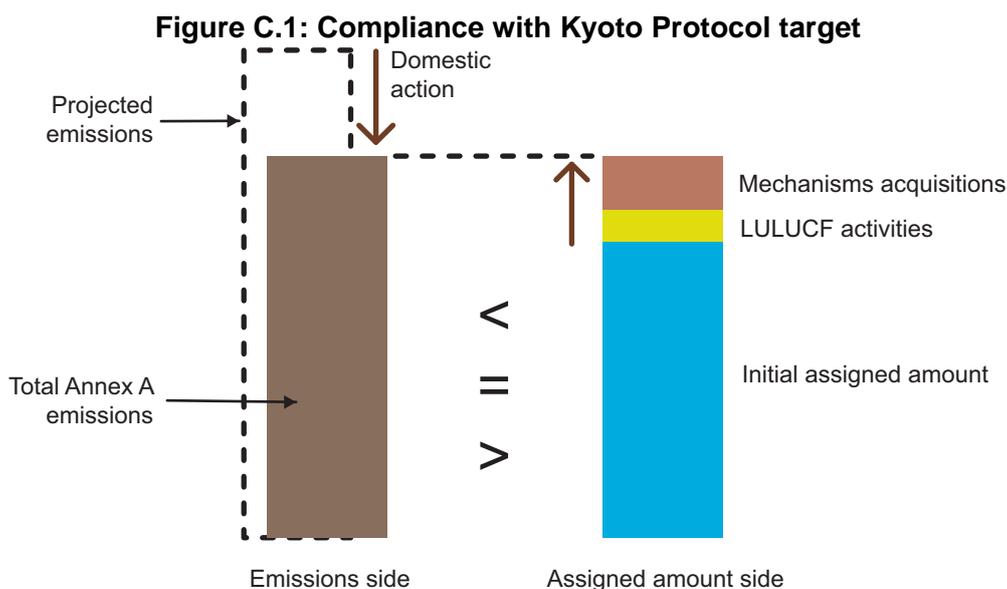
- any removal units (RMUs) issued for net removals from land use, land-use change and forestry activities (see Section 1.4)

minus

- any Kyoto units that Australia has transferred to other countries (see Section 1.5.2)

minus

- any Kyoto units that Australia has cancelled—for example, voluntarily or for net emissions from land use, land-use change and forestry activities (see Section 1.4).



Source: UNFCCC Secretariat, Kyoto Protocol Reference Manual on Accounting of Emissions and Assigned Amounts 2007, available at http://unfccc.int/files/national_reports/accounting_reporting_and_review_under_the_kyoto_protocol/application/pdf/rm_final.pdf.

The Kyoto Protocol expert review team will assess Australia's compliance with its emission reduction target at the end of the true-up period. The Kyoto Protocol's compliance procedure indicates that, if Australia has not retired sufficient Kyoto units to cover its emissions, a quantity of Kyoto units will be deducted from Australia for the subsequent commitment period equal to the amount by which its emissions exceeded its final assigned amount, multiplied by 1.3.

Policy position C.1

To effect Australia's obligations associated with its assigned amount under the Kyoto Protocol, the scheme regulator will be required to perform the following functions, as instructed by the responsible minister:

- issue Australia's AAUs into the national registry (note that the Government will issue AAUs before the scheme regulator is in place)
- make appropriate additions to, and subtractions from, Australia's assigned amount at the end of the true-up period
- retire Kyoto units valid for the relevant commitment period
- transfer Kyoto units into a cancellation account in the national registry, should Australia's emissions exceed its final assigned amount, as indicated by the Kyoto Protocol's compliance procedure.

The Government, through the responsible minister, will be responsible for:

- managing Australia's emissions and assigned amount on an ongoing basis
- ensuring that sufficient Kyoto units will be available to meet Australia's Kyoto Protocol commitments
- managing the Government's national registry accounts.

International accounting framework

The international accounting framework under the Kyoto Protocol specifies which emissions sources and sinks count towards Australia's Kyoto target and provides guidance on approaches to, and methodologies for, calculating national emissions inventories. See Chapter 6 for details about the international accounting framework.

Accounting for land use, land-use change and forestry activities

The Kyoto Protocol framework establishes rules for countries to account for land use, land-use change and forestry activities in the first commitment period.

Australia's definition of a 'forest' for Kyoto Protocol purposes is a forest of trees:

- with a potential height of at least 2 metres
- with crown cover of at least 20 per cent
- in patches greater than 0.2 hectares in area.

Afforestation, reforestation and deforestation

Article 3.3 of the Kyoto Protocol requires Annex I countries to account for direct human-induced emissions and removals from land-use change and forestry activities, limited to afforestation, reforestation and deforestation since 1990. Afforestation is the direct human-induced conversion to forested land of land that has not contained a forest for at least 50 years. It is distinct from reforestation, which is the direct human-induced conversion to forested land of land that did not contain forest on 31 December 1989. Deforestation is the direct human-induced conversion of forested land to non-forested land.

Forest management, grazing land management, cropland management and revegetation

Article 3.4 of the Kyoto Protocol allows Annex I countries to elect to account for greenhouse gas emissions from any or all of the following activities:

- forest management (a system of practices for stewardship and use of forest land aimed at fulfilling relevant ecological, economic and social functions in a sustainable manner)
- revegetation (a direct human-induced activity to increase carbon stocks through the establishment of vegetation that covers a minimum area of 0.05 hectares and does not satisfy the definition of afforestation or reforestation)
- grazing land management (the system of practices on land used for livestock production aimed at manipulating the amount and type of vegetation and livestock produced)
- cropland management (the system of practices on land on which agricultural crops are grown and on land that is set aside or temporarily not being used for crop production).

It is a general requirement that Annex I countries must report on changes in carbon stocks that occur in soil organic carbon. As accounting for Article 3.3 activities is mandatory, Australia accounts for soil carbon from afforestation, reforestation and deforestation. However, because Australia did not elect to account for any Article 3.4 activities, it does not account for soil carbon from forest management, cropland management, grazing land management or revegetation. There are likely to be important opportunities to increase the carbon stored in agricultural soils. However, scientific research conducted in Australia suggests that, while there are opportunities for increasing and retaining agricultural soil carbon, Australia does not have the same sequestration potential as other countries, and there is significant risk of loss of soil carbon in times of drought or changed management practices.

If a country chooses to account for any Article 3.4 activities, it must include, and report on, all emissions from all land nationwide on which those activities are undertaken. Australia has elected not to include any such activities because of the risk that random natural events, such as drought or bushfire, could result in significant emissions from those sources during a commitment period. Box C.1 provides more detail on why Australia elected not to count emissions from Article 3.4 activities.

Box C.1: Variability of emissions from Article 3.4 activities

Activities defined under Article 3.4 of the Kyoto Protocol might deliver gradual emission reductions over time. However, natural events such as drought and fire result in the release of greenhouse gases over much shorter periods. The risks of substantial emissions due to such events were judged to outweigh any potential emission reduction benefits from counting Article 3.4 activities towards Australia's Kyoto Protocol commitments.

Natural disturbances are episodic events that can lead to massive variations in emissions and removals from the land sector. If those variations counted towards Annex I countries' targets, then countries subject to natural disturbances would have no control over meeting or exceeding their targets. Countries cannot create a policy response to counteract impacts from natural disturbances that overwhelm emission reduction efforts from all Annex A sectors (Annex A to the Kyoto Protocol specifies the inventory sources and sectors that are counted towards a country's emission reduction target).

Natural disturbance events in Australia have that potential, so Australia did not elect to account for any Article 3.4 activities in the first commitment period. Very few other countries have elected to account for Article 3.4 activities.

In an accounting sense, most activities under Article 3.4 compare emissions and removals against a 1990 baseline. As a consequence, the estimated emissions outcome for the elective activities is strongly influenced by emissions in 1990. Rainfall in many regions of Australia was above average in that year, resulting in productive growth conditions with associated relatively low net emissions from relevant lands. Drier conditions from 2008 to 2012 compared with 1990 would result in negative national emissions outcomes. For cropland management, the outcome would only be positive if rainfall conditions from 2008 to 2012 consistently exceeded those in 1990.

Forest management is accounted for using a different method, which does not measure against the 1990 baseline but instead focuses only on carbon stock changes during the commitment period. Australia has a zero cap on forest management activities. That is, Australia could not report sequestration benefits due to forest management, but would have been required to report emissions. This cap was applied to ensure that countries did not receive an unfair gain from the climate change effects of carbon dioxide fertilisation and nitrogen deposition and other considerations relating to countries' differing national circumstances.

Given the risk of natural events over which Australia has no control, this would have represented too great a risk of a negative emissions profile from Article 3.4 activities for Australia.

Removal units

Net removals of greenhouse gases by Article 3.3 activities (afforestation, reforestation and deforestation) result in the issuance of RMUs. Australia must account for any net emissions from Article 3.3 activities by cancelling one Kyoto unit (not necessarily an RMu) for each tonne of CO₂-e emitted. Cancellation of Kyoto units on behalf of Australia will be performed by the scheme regulator at the direction of the responsible minister (unless cancellation of Kyoto units is necessary before the scheme regulator is in place, in which case the

Government will perform the cancellation). Australia has elected to report and publish annual estimates of emissions and removals from activities identified under Article 3.3. This decision is fixed for the first commitment period and means that Australia must issue or cancel units (as appropriate) for the relevant activities on an annual basis. Projections show that, for each year in the first commitment period, emissions from Article 3.3 activities will outweigh removals—that is, it is unlikely that RMUs will be issued during the first commitment period.

If net removals do occur, Australia will issue a quantity of RMUs in its national registry equivalent to those removals. This will be done by the scheme regulator at the instruction of the responsible minister. If necessary, the Government will issue RMUs before the scheme regulator is in place. Like AAUs, RMUs will be issued into the Government's holding account in the national registry. Each RMU will have a unique serial number comprising the following elements:

- the commitment period for which the RMU is issued
- the Annex I country issuing the RMU
- an element identifying the unit as an RMU
- the type of activity for which the RMU was issued
- a number unique to the RMU for the identified commitment period and country of origin.

If the Kyoto Protocol expert review team identifies a question of implementation (that is, a potential problem) in relation to the calculation of the net removals of greenhouse gases from Article 3.3 activities, Australia will not be able to issue RMUs until that question is resolved. The expert review team may recommend an adjustment to the net emissions and removals for an activity. If the magnitude of adjustments applied to Australia's reported net removals for an activity in a particular year exceeds 9 per cent, Australia will be unable to issue any RMUs for that activity for that year.

Policy position C.2

The scheme regulator will be required to perform the following functions, as instructed by the responsible minister:

- issue removal units into Australia's national registry
- suspend issuance if a question of implementation is identified under the Kyoto Protocol
- cancel Kyoto units equivalent to Australia's net emissions from relevant land use, land-use change and forestry activities.

Participating in the Kyoto flexibility mechanisms

The Kyoto Protocol establishes three 'flexibility mechanisms' to supplement domestic action: international emissions trading, the clean development mechanism and joint implementation. These mechanisms are based on the principle that the benefit to the climate of reducing greenhouse gas emissions is the same regardless of where they are reduced. The cost for

taking action will vary from place to place, so the Kyoto Protocol enables the global community to reduce emissions where it is the most cost-effective.

Eligibility criteria

For Australia—and legal entities authorised by Australia—to be able to participate in the flexibility mechanisms, it must:

- have ratified the Kyoto Protocol
- have had its initial assigned amount calculated and recorded in the UNFCCC Secretariat's compilation and accounting database
- have established a national system for estimating emissions and removals of greenhouse gases within its territory
- have established a national registry to record and track the creation and movement of Kyoto units and must annually report such information to the secretariat
- annually report the necessary information on emissions and removals of greenhouse gases to the UNFCCC Secretariat.

Australia will be considered eligible to participate in the flexibility mechanisms 16 months after the date of submission of its initial report, provided the eligibility criteria are met. It will be deemed eligible at an earlier date if the Kyoto Protocol Compliance Committee notifies the UNFCCC Secretariat that it is not considering any question of implementation related to Australia's eligibility for the flexibility mechanisms. Australia submitted its initial report on 11 March 2008 and will endeavour to meet the eligibility criteria as soon as possible. It should therefore be eligible to participate in the flexibility mechanisms by no later than mid-2009. Once Australia is eligible, the Government intends to ensure that the eligibility criteria continue to be satisfied.

International emissions trading

Australia may need to buy Kyoto units to meet its emission reduction target or may have extra units to sell at the end of a commitment period. If it satisfies the above eligibility criteria, Australia could trade in Kyoto units under the international emissions trading mechanism set up by Article 17 of the Kyoto Protocol.

The Government will authorise legal entities to transfer and acquire Kyoto units using the national registry. Those entities will be required to comply with the applicable provisions of the Kyoto Protocol, including the *Modalities, rules and guidelines for emissions trading under Article 17*.⁶ The Kyoto Protocol requires Australia to maintain a list of entities authorised by the Government to participate in international emissions trading and make that list available through the national registry.

All transfers of Kyoto units out of Australia's national registry will be subject to the commitment period reserve imposed by the Kyoto Protocol (see Section 1.6). Authorised entities will be unable to transfer or acquire Kyoto units under Article 17 during any period during which Australia does not satisfy the eligibility criteria.

Policy position C.3

In accordance with the Kyoto Protocol, the scheme regulator will maintain a list of entities authorised by Australia to participate in international emissions trading, and will make that list available through the national registry. The regulator will also transfer and acquire Kyoto units on behalf of the Government, as instructed by the responsible minister.

Clean development mechanism

The clean development mechanism (CDM) is a project-based mechanism created by Article 12 of the Kyoto Protocol. It allows Annex I countries to implement emission reduction projects in developing countries to receive Kyoto units called ‘certified emission reductions’ (CERs). To qualify as a CDM project, an emission reduction project must meet certain criteria:

- it must be undertaken in a non-Annex I country that is a party to the Kyoto Protocol
- involvement of each participant must be voluntary and approved by the country authorising its participation (either the host country or an Annex I country involved in the project, depending on the participant)
- it must contribute to the goal of national sustainable development for the host country
- it must result in real, measurable and long-term benefits related to the mitigation of climate change
- emission reductions must be additional to any emission reductions that would have occurred in the absence of the project.

Validation of CDM projects (including an assessment of whether they comply with all necessary criteria) and verification of emission reductions achieved by those projects is performed by independent accredited auditors called ‘designated operational entities’, under the supervision of the CDM Executive Board. CERs are issued after the CDM Executive Board receives a report from the designated operational entity verifying that the claimed emission reductions have actually occurred. The CDM Registry Administrator will issue CERs equivalent to the achieved emission reductions into the pending account of the CDM Executive Board in the CDM Registry. From there, the CERs are forwarded to the national registry accounts of project participants and can be transferred between registry accounts under the international emissions trading mechanism. Further information about CDM projects can be found on the UNFCCC website.⁷

Forestry projects

Unlike emission reductions from other types of CDM projects, those arising from afforestation or reforestation activities receive either temporary CERs (tCERs) or long-term CERs (lCERs). These units have a limited life—fewer than two commitment periods for tCERs and between 20 and 60 years for lCERs. Project participants must elect whether to create tCERs or lCERs.

tCERs expire at the end of the commitment period after the one in which they were issued, while ICERs expire at the end of the crediting period of the project. Retired tCERs and ICERs must be replaced before their expiry. That is, if a tCER or ICER is placed in the retirement account to offset a country's emissions, then it must be replaced with an additional Kyoto unit prior to its expiry. Furthermore, ICERs must be replaced if there is a reversal of carbon storage or a certification report is not provided.

If tCERs and ICERs were eligible for compliance purposes under the scheme, the Government would retire them for its own compliance under the Kyoto Protocol—this would expose the Government to replacement liability. However, if tCERs and ICERs require replacement when they are in a holding account, they can simply be cancelled.

The Government's policy position on the use of tCERs and ICERs in the scheme is discussed in Chapter 11.

Nuclear projects

The Conference of the Parties to the UNFCCC has noted that Annex I countries 'are to refrain from using certified emission reductions generated from nuclear facilities to meet their [emission reduction] commitments' under the Kyoto Protocol in the first commitment period.⁸ There are no nuclear projects currently registered under the CDM.

Designated National Authority

An entity must obtain a letter of approval from a party to the Kyoto Protocol to be eligible to participate in a CDM project. Australia may provide an Annex I letter of approval to legal entities, thereby authorising them to participate in the CDM (on a project-by-project basis). The Department of Climate Change will be appointed in 2009 as Australia's national authority (Designated National Authority) for the purposes of providing such authorisation.

Entities authorised by Australia to participate in the CDM will be required to comply with the relevant provisions of the Kyoto Protocol framework, including the *Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol*.⁹

To apply for an Australian letter of approval, an entity will need to submit the following documents (at a minimum):

- a copy of the host country letter of approval
- a copy of the project design document
- a signed declaration of compliance with the CDM rules and procedures.

Many Australian companies have expressed interest in participating in the CDM, but are unfamiliar with the processes and rules. Designated operational entities are best placed to advise project participants on the likelihood of a project achieving registration and generating CERs. However, the Department of Climate Change will provide background information to potential investors and project developers on the CDM project cycle and requirements. It will also help participants access other useful information via the internet.

The Government is working to establish national rules and procedures for authorising private entities to take part in the CDM and for approving projects.

Policy position C.4

The Department of Climate Change will be appointed in 2009 as Australia's Designated National Authority for the purposes of approving participation by legal entities in CDM projects.

Joint implementation

Joint implementation (JI) provides for an Annex I country to implement projects in the territory of another Annex I country and to count the resulting emission reduction units (ERUs) towards meeting its own Kyoto target. Article 6(1) of the Kyoto Protocol requires that:

- all Kyoto countries involved approve the project
- the reductions or removals achieved by the project are additional to those that would have been achieved in its absence
- the acquisition of ERUs is supplemental to domestic action for the purposes of meeting the investor country's Kyoto target.

If the Annex I host country meets the above eligibility criteria for participation in the flexibility mechanisms (see Section 1.5.1), it can choose to verify emission reductions from a JI project itself (using its own procedures) and issue the appropriate quantity of ERUs. This simplified procedure—commonly referred to as the 'Track 1' procedure—is not subject to approval by an international body.

Where the Annex I host country does not meet all of the eligibility requirements, the 'Track 2' procedure must be applied, meaning that verification occurs through specified procedures under the supervision of an international body called the Joint Implementation Supervisory Committee. A country can elect to follow the Track 2 procedure even where it is eligible for Track 1. Under the Track 2 procedure, an independent entity accredited by the Joint Implementation Supervisory Committee (called an 'accredited independent entity') must determine whether the necessary requirements have been met before the host country can issue and transfer ERUs. Further information about JI projects can be found on the UNFCCC's website.¹⁰

An Annex I country hosting a JI project issues ERUs by directing its national registry to convert specified AAUs or RMUs into ERUs within an account of the country's national registry. JI is therefore an indirect way of exporting AAUs or RMUs (when the ERUs are transferred from the host country's registry). Practically speaking, an AAU or RMU is converted into an ERU by adding a project identifier to the serial number and changing the type indicator in the serial number to indicate an ERU.

The Government's policy position on hosting JI projects in Australia is discussed in Chapter 11.

Designated Focal Point

To be eligible to participate in a JI project, an entity must obtain a letter of approval from an Annex I country. Although Australia will not be hosting JI projects in sectors covered by the scheme and a decision on JI projects in uncovered sectors will be made in 2013, Australia may provide a letter of approval to legal entities allowing them to directly invest in, and purchase ERUs from, a JI project in another Annex I country. To provide letters of approval, the Department of Climate Change will be designated as Australia's Designated Focal Point in 2009—a role concurrent with its position as Designated National Authority.

Entities authorised by Australia to participate in a JI project will be required to comply with the relevant provisions of the Kyoto Protocol framework, including the *Guidelines for the implementation of Article 6 of the Kyoto Protocol*.¹¹

To apply for an Australian letter of approval, an entity will need to submit the following documents (at a minimum):

- a copy of the host country letter of approval
- a copy of the project design document
- a signed declaration of compliance with the national guidance rules and procedures of the host country for Track 1 projects, or a signed declaration of compliance with the international JI rules and procedures for Track 2 projects.

The Government is working to establish national rules and procedures for authorising private entities to take part in JI and for approving projects.

Policy position C.5

The Department of Climate Change will be appointed in 2009 as Australia's Designated Focal Point for the purposes of approving participation by legal entities in JI projects in other Annex I countries.

Commitment period reserve

To address the concern that Annex I countries could oversell Kyoto units and then be unable to meet their own emission targets, each country is required to hold a minimum level of Kyoto units in its national registry. This is called the 'commitment period reserve' and is calculated as the lower of the following:

- *90 per cent of the country's initial assigned amount*. This calculation is likely to apply to Annex I countries that prove, at the end of the commitment period, to be 'net buyers' of Kyoto units (projections indicate that Australia is likely to be a small net buyer).
- *The level of national emissions indicated in the country's most recent national inventory (multiplied by five, for the five years of the commitment period)*. This calculation is likely to apply to Annex I countries that prove, at the end of the commitment period, to be 'net sellers' of Kyoto units.

The commitment period reserve is unlikely to pose an immediate problem for Australia because export of Australia's AAUs by private entities will not initially be permitted under the scheme. The Government can simply manage the commitment period reserve by restricting its own transfers of AAUs out of the national registry, as it will be the only entity able to export AAUs. For example, if the Government does not export AAUs, Australia's holdings of Kyoto units will not fall below its initial assigned amount, meaning that the commitment period reserve will not be breached.

However, if and when the scheme allows for the transfer of AAUs by private entities to other countries, specific procedures and measures will need to be in place to govern the transfer of Kyoto units out of the national registry from all accounts in order to manage the commitment period reserve.

Each time an account in Australia's national registry attempts to transfer Kyoto units to an account in another national registry, the international transaction log will check whether the proposed transaction would cause the total number of Kyoto units in Australia's national registry (that are held in holding accounts or the retirement account) to drop below the commitment period reserve. If the transfer would result in an infringement of the commitment period reserve, the international transaction log will reject the entire transaction and direct the registry to terminate the transfer. For example, if the registry were to initiate a transfer of 50 Kyoto units and the last 10 Kyoto units would give rise to a breach of the commitment period reserve, the international transaction log will reject the transfer of all 50 units.¹²

Green Paper position

The Green Paper canvassed the following methods for the Government to manage the commitment period reserve if the scheme were to allow for the conversion of a carbon pollution permit into an AAU for the subsequent transfer to another country:

- The Government could specify a set number of 'special' carbon pollution permits that could be converted and transferred to another country. Only those units could be converted into an AAU for transfer to another country.
- The Government could manage the commitment period reserve by establishing a gateway for all transfers of Kyoto units with a queuing system that would apply if the commitment period reserve were breached.

Analysis by Baker & McKenzie indicates that the most equitable and efficient method of regulating the commitment period reserve would be to set a minimum holding requirement (a 'required reserve') for all Kyoto units in the national registry and operate a queuing system once that reserve is met. The alternative approach of maintaining the commitment period reserve by imposing a limit on the conversion of carbon pollution permits for export would potentially:

- restrict market liquidity
- limit the ability of liable entities to meet their compliance obligations in the most flexible and cost-efficient manner

- limit the ability of holders of carbon pollution permits to export while holders of Kyoto units would be free to transfer their units out of the national registry—essentially creating two classes of units within the Australian system.

If Australia were to breach its commitment period reserve, the international transaction log would not allow for any further transfer out of the Australian registry until such time that the commitment period reserve was again met. That is, no further outbound transfers could occur until sufficient Kyoto units entered the registry to satisfy the commitment period reserve. Assuming that Australia's commitment period reserve does not change, the only way that it could be breached is through the cancellation of Kyoto units, which can occur for a number of reasons. The cancellation events relevant to the management of the commitment period reserve are as follows:

- *Net source cancellation.* For any Article 3.3 activity (afforestation, reforestation and deforestation) that results in net emissions, a number of AAUs, RMUs, ERUs or CERs equal to those emissions must be cancelled (see Section 1.4.3).
- *Mandatory cancellation.* Cancellation may be necessary where there are Kyoto units in the national registry that are, or become, invalid; for example, expired tCERs or ICERs that require replacement due to a reversal of carbon storage (see Section 1.5.3).
- *Voluntary cancellation.* Account holders in the national registry will be able to voluntarily cancel Kyoto units (see Section 1.9) and carbon pollution permits. In the latter situation, the Government will cancel a Kyoto unit held by the Government for each carbon pollution permit cancelled (see Chapter 7).

The Government could build a buffer into the required reserve, if modelling indicates a large enough risk that the commitment period reserve will be breached through unit cancellations. The buffer could incorporate one or both of the following elements:

- *Setting a required reserve that is higher than the level of the commitment period reserve.* For example, setting the required reserve at 92 per cent of Australia's initial assigned amount would effectively provide a buffer of 2 per cent against the risk that the commitment period reserve may be breached through the cancellation of Kyoto units. Modelling (particularly of projected annual emissions and removals from Article 3.3 activities) would assist in determining the appropriate size of the buffer.
- *Limiting the kinds of Kyoto units that can be counted in determining compliance with the 90 per cent holdings requirement imposed by the commitment period reserve.* To determine compliance with the commitment period reserve under the Kyoto Protocol, all holdings of Kyoto units in Australia's retirement and holding accounts are counted. Cancellations are mainly associated with forestry units and activities (tCERs, ICERs and RMUs). The Government could define the required reserve by reference to holdings of AAUs, CERs (excluding tCERs and ICERs) and ERUs only. That is, it could require that holdings of AAUs, CERs and ERUs equal to 90 per cent of Australia's initial assigned amount be retained in the national registry at all times, effectively imposing a buffer.

Regular information about the holdings of Kyoto units in the national registry would help market participants that want to transfer Kyoto units to plan the timing of exports.

Policy position C.6

All transfers of Kyoto units out of Australia's national registry will be subject to the commitment period reserve imposed by the Kyoto Protocol.

The Government may make regulations prescribing procedures and measures for managing the commitment period reserve.

The Government will specify how the commitment period reserve will be managed if and when the scheme allows for the transfer of AAUs to other countries by private entities.

Carry over restrictions

Under the Kyoto Protocol, an Annex I country may carry over to a subsequent commitment period (that is, it may bank) certain Kyoto units that have neither been retired for that commitment period nor cancelled. The extent to which the country can carry over the units differs depending on the kind of units involved:

- ERUs (not converted from RMUs) can be carried over up to a maximum of 2.5 per cent of the country's initial assigned amount
- CERs can be carried over up to a maximum of 2.5 per cent of the country's initial assigned amount
- AAUs can be carried over without restriction
- RMUs, tCERs and ICERs cannot be carried over.

The carry over of AAUs, CERs and ERUs will be undertaken by the Government in an account in the national registry on the basis of the number of Kyoto units in holding accounts after the end of the true-up period. Following submission of the true-up period report, the number of Kyoto units that Australia will be entitled to carry over to the next commitment period will be confirmed through the Kyoto Protocol reporting, review and compliance procedures and passed on to the national registry. The national registry will then initiate the carry over transactions. Unless they can be carried over into the subsequent commitment period, any Kyoto units remaining in the national registry at the end of the true-up period must be cancelled.

Since the carry over of ERUs and CERs is limited, the Government will need to manage the carry over restrictions applying to those units.

Green Paper position

The options for managing the carry over restrictions on CERs and ERUs canvassed in the Green Paper were as follows:

- Option 1: the Government could decide not to allow any carry over of CERs or ERUs held in accounts in the Australian national registry other than the Government's accounts. The Government would reserve the right to carry over the full amount of the allowed CERs or ERUs and manage the restrictions directly.
- Option 2: the Government could allow for CERs and ERUs held in the national registry and created before the end of 2012 to be exchanged for Australian carbon pollution permits (which can be banked) at some time after 2012 and before the end of the Kyoto true-up period (beginning at the end of 2014).
- Option 3: the Government could allow for the carry over of CERs and ERUs held in any account in the national registry, each up to 2.5 per cent of Australia's initial assigned amount in aggregate. If there are more CERs or ERUs held in the registry at the time of carry over, the Government could use prespecified rules to determine which units would be carried over.

Stakeholders provided very little feedback on the Green Paper's discussion of the carry over restrictions. Origin Energy preferred Option 2, noting that:

[b]y allowing participants to exchange CERs and ERUs for Australian pollution permits (which can be banked indefinitely), and using the exchanged Kyoto units to meet Australia's national obligations, the Government could substantially reduce the risk for participants of holding excess units. We think that the likelihood of the volume of CERs and ERUs to be exchanged exceeding Australia's assigned amount is extremely low in the first commitment period. (Submission 815, p. 59)

The Government has further analysed its options for managing the carry over restrictions and has commissioned an independent expert report by Baker & McKenzie.

Option 1: Government management

Option 1, which does not allow any carry over of CERs or ERUs by market participants, would be administratively simple and provide maximum flexibility for the Government. However, it would have several negative implications for market participants, including the following:

- All CERs and ERUs remaining in market participants' accounts at the end of the true-up period would be cancelled.
- Liable entities would have less flexibility to manage their future scheme compliance obligations.

- If the value of Kyoto units and carbon pollution permits increases in later commitment periods (as emissions caps are tightened), relative costs of compliance for liable entities might increase.
- Market participants would be unable to realise a potentially higher price by selling CERs and ERUs in later commitment periods.

Because of these implications, the Government does not support Option 1.

Option 2: Exchange model

Option 2 would involve the limited exchange of CERs and ERUs for carbon pollution permits. Because unlimited banking of carbon pollution permits will be possible under the scheme, the account holder could carry forward those permits into the next commitment period, in which they could be used for compliance or traded. The Government could choose to:

- sell the CERs and ERUs (provided enough Kyoto units were carried over to back each carbon pollution permit issued)
- retire the CERs and ERUs to meet its Kyoto obligation in place of an equal number of AAUs, which it would otherwise have had to surrender
- carry over the CERs and ERUs (up to the allowable 2.5 per cent limits) into the next commitment period.

In any event, the Government would need to carry over enough Kyoto units to back the carbon pollution permits issued through the exchange process. The Kyoto Protocol imposes no limit on the number of AAUs that can be carried over.

From the perspective of market participants, this approach would lessen the risk of having CERs and ERUs cancelled at the end of the true-up period. It would also give liable entities more flexibility in planning to meet future compliance obligations. Furthermore, the risks associated with the recognition of Kyoto units after 2012 would be transferred from market participants to the Government.

The main disadvantage of this approach from the perspective of market participants relates to the tradeability of carbon pollution permits. A carried over CER or ERU would be freely and immediately tradeable in the international market in the second commitment period (if recognised in a post-2012 regime). However, export of carbon pollution permits into international markets will not be permitted in the initial years of the scheme. For this reason, many market participants would prefer to hold onto their tradeable Kyoto units.

Option 2 could also cause international market participants to flood the Australian national registry with CERs and ERUs to escape restrictions on carry over imposed in other jurisdictions. This would hamper the ability of Australian account holders to exchange and carry over carbon pollution permits. It would not be possible for the Government to allow for the exchange of more CERs and ERUs than Australia's initial assigned amount.

Option 3: Devolved right

Option 3 would allow for the carry over of CERs and ERUs held in any account in the national registry, up to 2.5 per cent of Australia's initial assigned amount in aggregate. This would enable market participants to export carried over CERs and ERUs into the international market from the outset of the second commitment period (provided that such units are recognised under the post-2012 regime). The Government would be treated the same as any other account holder in the national registry.

The two most feasible approaches to determining which CERs and ERUs would be carried over are:

- a queuing approach, in which holders of CERs and ERUs could apply to have their units carried over (once the number of applications had reached the allowed threshold, the Government would close applications)
- a pro rata approach, which would stipulate that each holder of CERs or ERUs would only be allowed to carry over a specified proportion of their CERs and ERUs held at the time of carry over.

Queuing could be seen as inequitable, because it would enable those market participants that get in early to carry over all their CERs and ERUs without constraint, while others would only have limited or no ability to carry over.

A pro rata approach would be more equitable. For example, if the total number of CERs remaining in the national registry were equal to 5 per cent of the initial assigned amount, then 50 per cent of each holder's units would be carried over. This would limit the total number carried over to the 2.5 per cent allowed. At the same time, the market would have the flexibility to reallocate carry over quotas to those entities that value them most through market mechanisms such as quota swaps.

Although the pro rata approach involves some administrative complexity, this option would ensure the most equitable management of the carry over restriction and give market participants maximum latitude to manage, and benefit from, their participation in the scheme and the flexibility mechanisms.

Policy position C.7

The carry over restrictions applying to Kyoto units held in Australia's national registry will be managed by establishing a rule so that each holder of CERs and ERUs (including the Government itself) will be allowed to carry over a proportion of their units so that, in aggregate, no more than the allowable volume of CERs and ERUs is carried over. For example, if the total number of CERs in the registry at the time of carry over is twice the allowable amount, each holder will be able to carry over half its CERs.

In accordance with the Kyoto Protocol, carry over will not be permitted of RMUs, ERUs converted from RMUs, tCERs or ICERs. AAUs may be carried over without restriction.

To help the market better manage the risk associated with the carry over restrictions, the scheme regulator will regularly report the number of CERs and ERUs held in Australia's national registry.

Supplementarity principle

The Kyoto Protocol includes a requirement that countries' use of the flexibility mechanisms be supplemental to their domestic actions. This is commonly referred to as the 'supplementarity principle'. The supplementarity principle is referred to in three Articles of the Kyoto Protocol:

- Article 6(1)(d) states that the acquisition of emission reduction units shall be supplemental to domestic actions for the purposes of meeting commitments under Article 3
- Article 12(3)(b) states that Annex I parties may use the certified emission reductions accruing from CDM projects to contribute to compliance with part of their commitments under Article 3
- Article 17 states that international emissions trading shall be supplemental to domestic actions for the purposes of meeting commitments under Article 3.

The Marrakesh Accords¹³, which elaborate on the rules for the flexibility mechanisms, state that:

[T]he use of the mechanisms shall be supplemental to domestic action and that domestic action shall thus constitute a significant element of the effort made by each party included in Annex I to meet its quantified emission limitation and reduction commitments ...

The supplementarity requirements mean that Australia must take some meaningful domestic action to meet its emission reduction target, and cannot rely solely on the flexibility mechanisms. Projections of Australia's greenhouse gas emissions for the first commitment period indicate Australia's reliance on the flexibility mechanisms to meet the target is expected to be minimal. Australia has undertaken a range of measures to reduce domestic greenhouse gas emissions, and will continue to do so. Collectively, those measures represent 'significant' domestic action.

Domestic abatement will occur under the scheme, which will reduce emissions in Australia by introducing a price on carbon. The price of carbon will be passed through to producers and consumers, providing an incentive to reduce emissions. Where the price is above zero, emissions will be reduced compared with what they would otherwise have been. The scheme has been designed so that it can link to international markets. Over time, as restrictions on linking are removed, it is expected that the domestic carbon price will align with the international price. The international price for Kyoto units is expected to remain above zero. This means that all domestic abatement that can be achieved at or below that price is expected to be undertaken.

Various other measures will deliver domestic abatement before the scheme begins, and they are expected to continue to do so afterwards. Those measures include the National Renewable Energy Target, energy efficiency measures and land clearing regulations.

As an Annex I country, Australia must provide information to demonstrate compliance with the supplementarity principle in its national communications (see Section 1.1.3).

Establishing and maintaining a national registry

The Kyoto Protocol requires each Annex I country to establish a national registry to ensure accurate accounting of the issuance, holding, transfer, acquisition, cancellation, retirement and carry over of Kyoto units. The Government will establish Australia's national registry by the end of 2008.

Before the passage of legislation enacting the scheme, the Department of Climate Change will operate and maintain the national registry as the registry administrator under the Kyoto Protocol. After the legislation is passed, the scheme regulator will take on that role as one of its statutory responsibilities. In key matters, such as decisions about the management of Kyoto units in Australia's holding account, the regulator will act on the direction of the responsible minister. The Government will be responsible for managing Australia's allocation of Kyoto units through a national holding account in the registry and, at the end of the first commitment period, for retiring sufficient Kyoto units to meet Australia's obligations under the Kyoto Protocol.

As required by the Kyoto Protocol, Australia's national registry will be in the form of a standardised electronic database and will enable the:

- issuance of AAUs, RMUs and ERUs
- holding, transfer, acquisition, cancellation and retirement of ERUs, CERs, AAUs and RMUs
- carry over of ERUs, CERs and AAUs.

Each account in the national registry will have a unique account number. The registry will contain the following account types:

- at least one holding account for Australia

- at least one holding account for each legal entity authorised by Australia to hold Kyoto units
- a retirement account for each commitment period into which Australia will transfer Kyoto units to comply with its emission reduction target
- four cancellation accounts:
 - a net source cancellation account for cancelling Kyoto units due to net emissions in Australia from Article 3.3 land use, land-use change and forestry activities
 - a non-compliance cancellation account for cancelling Kyoto units following any determination by the Kyoto Protocol Compliance Committee that Australia is not in compliance with its emission reduction target
 - a voluntary cancellation account for voluntary cancellation of units not required by the Kyoto Protocol
 - a mandatory cancellation account for cancellation of invalid units (for example, tCERs that have expired in a holding account)
- replacement accounts for the purposes of replacing tCERs and ICERs.

From mid-2009, private entities will be able to apply to the Government to open accounts in the national registry (see Chapter 7). Once an entity has opened an account, there will generally be little limitation on the number or types of Kyoto units that it can acquire or hold. However, the transfer of Kyoto units from entities' holding accounts will be limited by provisions in the Kyoto Protocol, such as the commitment period reserve (see Section 1.6) and the carry over restrictions (see Section 1.7). Furthermore, private entities will only be able to use the national registry to receive and transfer Kyoto units when Australia is eligible to participate in international emissions trading (see Section 1.5.1).

Expired tCERs or ICERs (see Section 0) held in an entity's holding account will immediately be transferred by the scheme regulator to the cancellation account. Where ICERs require replacement due to a reversal of carbon storage or a certification report not being provided, the regulator will transfer those ICERs to the cancellation account if the holding entity does not comply with the replacement obligation (to replace ICERs, an equivalent number of AAUs, CERs, ERUs, RMUs or ICERs from the same project activity must be transferred to the ICER replacement account within 30 days of notification by the international transaction log) within 20 days of notification by the international transaction log. Cancelled units cannot be used for compliance purposes or transferred to another account.

International emissions trading under the Kyoto Protocol is underpinned by a computerised system of electronically linked national registries, which are intended to keep track of national and international transactions in Kyoto units. An international transaction log, operated by the UNFCCC Secretariat, verifies the validity of transactions proposed by national registries—including the issuance, transfer and carry over of Kyoto units—and their conformity with the Kyoto Protocol and the Data Exchange Standards.¹⁴ A transaction cannot go ahead if the international transaction log has notified the national registry of a discrepancy with the transaction—for example, in cases where the commitment period reserve would be breached

by the transaction. As required under the Kyoto Protocol, Australia's national registry will be connected to the international transaction log.

The Kyoto Protocol also requires the national registry to make certain information publicly available, and to provide a publicly accessible user interface through the internet that allows people to query and view the information. Publicly available information will include:

- the holder of each account
- the type of each account (holding, cancellation or retirement)
- the commitment period with which a cancellation or retirement account is associated
- the representatives of account holders
- the full name, mailing address, phone number, fax number and email address of each account holder representative.

As discussed in Chapter 7, the voluntary cancellation of Kyoto units will be facilitated through Australia's national registry. Should entities choose to voluntarily surrender Kyoto units, the units will be cancelled in the national registry.

Policy position C.8

The national registry will conform to the technical standards and rules made pursuant to the Kyoto Protocol.

Despite the qualitative restrictions placed on the use of Kyoto units for compliance under the scheme, all Kyoto units will be allowed to be held in Australia's national registry. However, the Government retains the right to exclude any type of Kyoto unit from being transferred into and held in the registry. Any such exclusion will not apply to units that are already held in the registry.

The scheme regulator will be required to cancel tCERs or ICERs which require replacement (for any reason) if the entity holding those units does not comply with the replacement obligations within 20 days of notification by the international transaction log. Expired temporary CERs or long-term CERs held in an entity's holding account will immediately be transferred by the regulator to a cancellation account.

Where an entity voluntarily surrenders a Kyoto unit, that unit will be cancelled and not used by the Government to meet its Kyoto Protocol emission reduction target.

1 'Annex I country' is used in this appendix to refer to a party included in Annex I to the UNFCCC with a commitment inscribed in Annex B to the Kyoto Protocol.

2 <http://www.climatechange.gov.au/inventory/publications/unfccc-report.html>.

3 <http://www.climatechange.gov.au/inventory>.

4 <http://www.climatechange.gov.au/international/publications/fourth-comm.html>.

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- 5 Annex I countries' annual reports for 2012 will be submitted in 2014. Once all the reports have gone through the international review and compliance procedures, the true-up period will begin. The specific date for the true-up period will be determined before 2014 by the Conference of the Parties to the UNFCCC serving as the Meeting of the Parties to the Kyoto Protocol.
 - 6 United Nations Framework Convention on Climate Change, Decision 13/CMP.1.
 - 7 <http://cdm.unfccc.int>.
 - 8 United Nations Framework Convention on Climate Change, Decision 17/CP.7.
 - 9 United Nations Framework Convention on Climate Change, Decision 3/CMP.1.
 - 10 <http://ji.unfccc.int>.
 - 11 United Nations Framework Convention on Climate Change, Decision 9/CMP.1.
 - 12 UNFCCC Secretariat, *Kyoto Protocol reference manual on accounting of emissions and assigned amounts*, February 2007, available at http://unfccc.int/files/national_reports/accounting_reporting_and_review_under_the_kyoto_protocol/application/pdf/rm_final.pdf.
 - 13 The Marrakesh Accords are the aggregate decisions of the Conference of the Parties to the UNFCCC (COP) from Decision 2/CP.7 through to Decision 24/CP.7, inclusive, in its seventh session, held at Marrakesh, Morocco from 29 October to 10 November 2001. Those decisions were adopted by the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol at its first meeting in Montreal in November 2005.
 - 14 Data Exchange Standards for Registry Systems under the Kyoto Protocol, Technical Specifications (Version 1.1), 29 November 2006.

Appendix D: Possible strongly affected industries

D.1 Gas-fired and diesel-fired electricity generators

The Northern Territory Government argued in its Green Paper submission that the Territory's gas- and diesel-fired electricity generators have an overall emissions intensity similar to that of coal-fired electricity generators, and so face a 'significant exposure' to a carbon price (Submission 782, p. 12).

The Australian Government considers that, regardless of its emissions intensity, the structure of electricity supply in the Northern Territory is such that generators in that market are not exposed to significant competition from alternative generation sources. The vertically integrated, government-owned supplier of electricity in the territory is unlikely to be economically constrained in its ability to pass on the costs of the scheme to consumers, and so will not be exposed to significant losses of asset value.

In a similar vein, KPMG argued that some off-grid gas-fired generators may be strongly affected by the scheme because of contractual impediments to carbon cost pass-through, or because of the discontinuation of the NSW Greenhouse Gas Abatement Scheme (GGAS) (Submission 545, p. 10).

As noted in Section 13.1.1, the Government does not consider that strongly affected industry assistance is an appropriate way to address contractual impediments to carbon cost pass-through. This issue is considered in more detail in Chapter 15, which also outlines an assistance package to address the particular circumstances of some GGAS participants, including landfill gas generators and waste coal mine methane generators.

In the light of Policy positions 13.1 and 15.2, the Government will not provide strongly affected industry assistance to gas- or diesel-fired electricity generators.

D.2 Pumped storage hydro-electric generators

Tarong Energy Corporation argued that Wivenhoe Power Station, and similar 'pumped storage' hydro-electric generators, should receive assistance as a strongly affected industry.

Pumped storage hydro-electric generators use low-cost 'off-peak' energy to pump water uphill for storage, enabling the generation of electricity during higher-priced 'peak' periods.

Tarong Energy's argument for assistance relies on the assumption that there will be a material difference between the rate of carbon cost pass-through to electricity prices in peak and off-peak times due to the higher emissions intensity of coal-fired electricity generators, which provide the bulk of off-peak generation.

The impact of the scheme on pumped hydro-electric generators is unlikely to be material. Pumped storage hydro-electric generators do not create energy, but simply provide a

mechanism for storing energy generated in off-peak times when it is less valuable so that it can be provided in peak times when it is more highly valued. Accordingly, they exist largely to supply peaking portions of the market, and their revenue is highly dependent on the competitive dynamics in that portion of the market and the general extent of price volatility in the market.

The Government considers that the profitability of such generators is driven primarily by the significant revenue available from supplying electricity during peak periods, rather than by changes in the cost of generating that electricity (that is, the cost of pumping water). The significant premium paid by energy consumers to manage the risk of price volatility in the market reflects the value of electricity at peak times. It is unlikely that pumped storage hydro-electric generators will not be able to pass on the majority of their additional costs under the scheme through the premiums they are able to charge.

There is no strong case that the scheme will materially affect the ability of pumped storage hydro-electric generators to pass through to consumers the carbon costs incurred in pumping water.

D.3 ‘Captured’ coal mines

Several submissions from the coal-mining industry argued that ‘captured’ coal mines should receive assistance as a strongly affected industry. Those stakeholders included the Australian Coal Association, the Minerals Council of Australia, the New South Wales Minerals Council, Centennial Coal, Xstrata Coal and Wesfarmers Limited.

The Government acknowledges that the relative emissions intensity of coal-fired electricity generators has the potential to cause impacts in the generation sector that translate through to the mines that supply coal to those generators. However, the particular circumstances of those coal mines might not justify assistance measures.

Even though coal-fired electricity generators’ profitability might reduce under the scheme, that loss will not affect coal mines supplying them unless the generators materially reduce the volume of coal they use. The Government’s modelling of the electricity generation sector indicates that the majority of coal-fired electricity generators are able to maintain their market share during the first decade of the scheme.

Those generators that might lose volume or close during the first decade of the scheme are generally those of relatively lower efficiency and therefore higher emissions intensity, and may be vulnerable to losing market share in the absence of the scheme. Offering assistance to a coal mine that supplies such a generator would require the Government to assess the likelihood that the generator would not have lost market share in the absence of the scheme.

Furthermore, providing assistance on this basis requires the assumption that, in the event of the closure of a given generator, the coal mine would be physically unable to supply another generator in the domestic or export markets. This requires an assessment of the physical circumstances of a mine, such as access to railway or port facilities, as well as the likelihood that a new facility would be constructed to use the coal at that source, such as a generator using carbon capture and storage or coal gasification technologies.

Because of these material uncertainties, the Government will not provide strongly affected industry assistance to ‘captured’ coal mines.

However, the Government recognises the significant exposure of particularly emissions-intensive underground coal mines under the scheme, and has proposed a transitional assistance package to this class of coal mines through the Climate Change Action Fund (see Section 18.2.1).

D.4 Gas transmission pipelines

The Australian Pipeline Industry Association and Dampier–Bunbury Natural Gas Pipeline argued that some gas transmission pipelines should receive assistance as a strongly affected industry because they will be unable to pass the cost of the scheme on to users of pipeline services under existing contractual arrangements.

As noted in Section 13.1.1, the Government does not consider that strongly affected industry assistance is an appropriate method for addressing contractual impediments to cost pass-through but, as outlined in Chapter 15, it recognises the importance of this transitional issue.

The gas transmission pipeline industry has not provided evidence that, in the absence of contractual impediments to carbon cost pass-through, the scheme would prevent pipeline operators from passing on a material portion of their carbon costs and so cause a significant loss of asset value. Therefore, the Government will not provide strongly affected industry assistance to gas transmission pipelines.

D.5 Landfill waste and wastewater facilities

The Transpacific Industries Group and the Australian Local Government Association argued that the landfill waste industry should be regarded as a strongly affected industry because of the potential for competitive distortions to occur between landfills with different emissions profiles. The Sunshine Coast Regional Council and Brisbane City Council argued that waste facilities should be treated as a strongly affected industry, but only when those facilities are operated by a local government.

The particular issues associated with covering the landfill waste sector are dealt with in more detail in Chapter 6. The proposal for delayed coverage of ‘legacy emissions’ from the landfill waste sector significantly addresses the issue of competitive distortions between landfill facilities.

The Victorian Water Industry Association argued that the wastewater industry is likely to be strongly affected, on the basis that the industry is ‘concerned about the social implications of passing on costs to our customers as a consequence of regulation—being an essential service provider’ (Submission 858, p. 2).

The submission does not indicate that costs are not able to be passed on within the wastewater industry. Given this, the Government considers that direct assistance to households, rather than strongly affected industry assistance to wastewater facilities, is the best mechanism to

ensure that individuals will be able to cope with any increase in the cost of water supply services due to the carbon costs associated with wastewater facilities.

D.6 Landfill gas electricity generators

The landfill gas industry is a separate industry from the landfill waste industry, involving the capture of landfill gas from waste facilities by an independent entity that is not the operator of the waste facility.

LMS Generation argued that the landfill gas industry should receive assistance as a strongly affected industry because of the removal of the revenue stream received by some operators in this industry due to the expected cessation of the NSW GGAS. Furthermore, LMS Generation argued that some industry operators face contractual impediments to recovering the lost revenue through accessing higher electricity prices that might arise under the scheme, or higher Renewable Energy Certificate prices that might arise under the expanded national Renewable Energy Target.

Chapter 15 outlines an assistance package for particular GGAS participants, including some landfill gas generators. The Government recognises that some landfill gas generators may be unable to capture comparable benefits under the scheme as would be available to them if GGAS continued.

Furthermore, the Government does not consider that contractual impediments to accessing higher electricity prices that might be prevalent under the scheme justify assistance as a strongly affected industry. Finally, the Government notes that landfill gas is treated as a biofuel under the scheme, and so generators incur no liability for emissions from combusting landfill gas.

On this basis, the landfill gas industry cannot be considered to demonstrate the strongly affected industry characteristic of emissions intensity. Therefore, the Government will not provide strongly affected industry assistance to landfill gas electricity generators.

D.7 Aviation and tourism

Skywest Airlines, the Regional Aviation Association, Virgin Blue and Qantas argued that domestic aviation should be regarded as a strongly affected industry. The National Tourism Council, the Queensland Tourism Industry Council and the Australian Services Union also supported assistance for the domestic aviation industry to offset the impact of the scheme on the aviation and tourism industries.

Aviation industry submissions did not consistently argue that the industry would be unable to pass costs through to consumers:

Skywest will have no choice but to pass the cost increases [of the scheme] directly on to the travelling public, resource companies and the airfreight industry. (Skywest Airlines, Submission 216, p. 2)

The impact of the recent fuel price spike on airlines throughout the world has demonstrated the limited ability of airlines to pass on increased costs to consumers. (Virgin Blue, Submission 461, p. 3)

The Government considers that the emissions intensities of competitors in the aviation industry are sufficiently similar that firms in the industry will be able to pass on a large portion of the costs of the scheme to consumers.

Furthermore, the extent of increases in the price of air travel is unlikely to be sufficient to materially reduce demand for these services. Virgin Blue estimates the emissions intensity of aviation to be around 800 tonnes of CO₂-e per million dollars of revenue (Submission 461, p. 2). At a carbon price of \$25 per tonne of CO₂-e, this represents approximately a 2 per cent increase in the cost of air travel, which is broadly similar to the general level of inflation in the consumer price index in any given year.

Qantas and Virgin Blue both argued that domestic aviation was a trade-exposed industry because of the potential for substitution by travel overseas (through either lost inbound tourism or increased international travel by Australians).

It is relevant to note that international aviation will not be covered by the scheme. The arguments of Qantas and Virgin Blue suggest that the scheme creates potential distortions to arise through substitution between domestic aviation, which is covered by the scheme, and international aviation, which is not.

However, many factors impact on demand for tourism in Australia, particularly the exchange rate. Given that the cost of air travel is only a small component of the cost of a holiday it is very unlikely that cost increases on Australian aviation will result in a significant reduction in tourism levels or demand for domestic air travel for recreational purposes.

With respect to the demand for air travel for business purposes, the nature of the service provided by the aviation industry, such as a flight from Sydney to Melbourne, is such that it cannot be easily substituted with an equivalent service that is not covered by the scheme. Whilst travellers could combine two international flights to reach their destination, such as flying from Sydney to Melbourne via Auckland, it is highly unlikely that it would cost-effective to do so, especially considering the extra time involved.

This suggests that consumers of air travel for business purposes are even less likely than recreational travellers to materially reduce their demand for these services in response to the likely increase in the cost of flights.

The Government considers that the aviation industry will have some capacity to pass-through the carbon cost it faces, implying that it would not be eligible for EITE or strongly affected industry assistance.

D.8 Community services

Aged and Community Services Australia and the Australia Institute argued that providers of community services will face a significant cost impost from the scheme and will be unable to pass on those costs to users of their services.

Preliminary analysis conducted for the Government by the Centre for Integrated Sustainability Analysis at the University of Sydney indicates that the emissions intensity of the community services sector is around 99 tonnes of CO₂-e per million dollars of revenue (see Appendix D of the Green Paper). This is well below the threshold of emissions intensity established for the provision of assistance to firms that undertake EITE activities (1,000 tonnes of CO₂-e per million dollars of revenue, or 3,000 tonnes of CO₂-e per million dollars of value added).

Given the low emissions intensity of the community services sector, the Government considers that direct assistance to households, in particular low-income households, is the best mechanism to ensure that individuals will be able to contribute to any higher costs for community services associated with the introduction of the scheme. Chapter 17 outlines the Government's commitments to providing assistance to households.

Furthermore, the Government will provide funds for capital improvements in the community services sector to allow energy efficiency improvements through the Climate Change Action Fund, reducing the impact of the scheme on this sector.

D.9 Government administration

The South East Queensland Council of Mayors, the Western Sydney Regional Organisation of Councils, the Local Government Association of Tasmania, the Shoalhaven City Council and the Australia Institute argued that local government should be treated as a strongly affected industry, or otherwise provided with 'compensation' to adapt to the scheme. The concerns of these stakeholders related primarily to the cost impost on local governments resulting from the coverage of the waste sector, as well as from electricity and petrol use.

The Australia Institute also argued that state and territory governments, as well as individual Australian Government agencies, would face a cost impost and would need increased funding to maintain services.

Government administration is not emissions-intensive. Preliminary analysis conducted for the Government by the Centre for Integrated Sustainability Analysis indicates that the emissions intensity of the government administration sector is around 70 tonnes of CO₂-e per million dollars of revenue—well below the 1,000-tonne threshold for the provision of assistance to businesses that undertake EITE activities.

Furthermore, the Government's policy positions on the coverage of the waste sector, and its commitment to initially offset the impact of the scheme on road transport, largely address some key concerns of these stakeholders.

Local governments are also able to access assistance through the Government's Climate Change Action Fund to support capital investment in innovative low emissions technologies,

supply chain improvements or products and energy saving projects with long pay-back periods.

D.10 Public transport

The Sunshine Coast Regional Council argued that ‘sustainably focused’ local government activities, such as public transport, should be considered for assistance similar to that proposed for strongly affected industries.

In the first year of the scheme, the Government will offset the cost of the scheme for heavy vehicles through providing a ‘CPRS fuel credit’. Over the longer term, the relative position of public transport will improve as the effects of the scheme flow through the transport sector.

Given this, and the high degree of public subsidy prevalent in this industry, the Government does not consider that public transport operators will be strongly affected by the scheme.

Appendix E: Budget summary

The introduction of the Carbon Pollution Reduction Scheme (the Scheme) will for the first time place a limit, or cap on the amount of carbon pollution an industry can emit. It will require affected businesses to buy a pollution permit for each tonne of carbon they contribute to the atmosphere. This will create a significant new source of revenue which the Government has committed to use to help Australian households and businesses adjust to the Scheme and invest in clean energy options.

E.1 Impact of the Scheme on the Fiscal Balance

The Australian Government will use every cent it receives from the sale of pollution permits to help Australian households and businesses adjust to the Scheme and invest in clean energy options. The net impact on budget, taking into account assistance provided, will be neutral over the forward estimates — therefore meeting the Government's commitment.

Table E.1: Impact on Fiscal Balance of the Carbon Pollution Reduction Scheme and Related Measures

	2008-09 \$b	2009-10 \$b	2010-11 \$b	2011-12 \$b
Revenue from the issuing of permits	-	-	11.5	12.0
Households Assistance Measures				
Assistance for Low and Middle Income Households	-	-	-3.9	-6.0
Fuel Tax Adjustment	-	-	-2.4	-2.0
Industry Assistance Measures				
Assistance to Emissions Intensive Trade Exposed Industries	-	-	-2.9	-3.1
Assistance to Strongly Affected Industries	-	-	-0.7	-0.7
Climate Change Action Fund		-0.3	-0.7	-0.7
Transitional assistance to firms participating in the Greenhouse Gas Reduction Scheme (GGAS)	*	*	*	*
Net Impact of Revenue and Assistance Measures	-	-0.3	0.8	-0.5
Implementation Measures	2008-09 \$m	2009-10 \$m	2010-11 \$m	2011-12 \$m
Establishing the Regulatory Environment	*	*	*	*
Detailed Design and Implementation of the Scheme	*	-	-	-
Total	*	*	*	*

* Final costs will be published in the 2009-10 Budget.

The impacts on the underlying cash balance and fiscal balance are not the same for the Scheme revenue and many of the expenditures.

The budget will recognise cash receipts from permits as they are sold, while the accrual treatment will recognise revenue when firms' emissions are confirmed. This difference in budget accounting treatment means that cash receipts and accrual revenue streams will vary. For example, cash receipts will be recorded for the sale of permits that will be auctioned in early 2010 before the Scheme starts, creating a one-off timing difference between revenue and assistance measures in cash terms in 2009-10.

Similarly, expenditure will be recorded differently in cash and accrual terms, consistent with long standing budget practices. Administrative allocations of permits will be recognised as an expense reducing the fiscal balance, with no cash payment impact on the underlying cash balance. This is because the administrative allocation of permits does not change the amount of the emitters' obligations under the Scheme (which is the basis for the accrual revenue estimates) but does result in the Government not collecting cash receipts for those permits.

The underlying cash balance net impacts of the Scheme are shown in Table E.2.

Table E.2: Impact on Underlying Cash Balance of the Carbon Pollution Scheme and Related Measures

	2008-09 \$b	2009-10 \$b	2010-11 \$b	2011-12 \$b
Revenue from the sale of permits	-	2.9	7.4	8.1
Households Assistance Measures				
Assistance for Low and Middle Income Households	-	-	-3.6	-6.0
Fuel Tax Adjustment	-	-	-2.4	-2.0
Industry Assistance Measures				
Assistance to Emissions Intensive Trade Exposed Industries	-	-	0.0	0.0
Assistance to Strongly Affected Industries	-	-	0.0	0.0
Climate Change Action Fund	-	-0.3	-0.7	-0.7
Transitional assistance to firms participating in the Greenhouse Gas Reduction Scheme (GGAS)	*	*	*	*
Net Impact of Revenue and Assistance Measures	-	2.6	0.5	-0.6
Implementation Measures				
Establishing the Regulatory Environment	*	*	*	*
Detailed Design and Implementation of the Scheme	*			
Total	*	*	*	*

* Final costs will be published in the 2009-10 Budget.

E.2 Specific Measures

Table E.3: Revenue—Sale of Carbon Pollution Reduction Scheme Permits

	2008-09 \$b	2009-10 \$b	2010-11 \$b	2011-12 \$b
Impact on Fiscal Balance	-	-	11.5	12.0

Actual revenue received in each year will depend on the carbon price, which will be determined by the market. Therefore, the White Paper assumes that the price is \$25 (in 2010 nominal terms), which is consistent with Treasury modelling.

For industry, should the carbon price be lower or higher, the vast majority of assistance will move with the carbon price automatically since it is provided through an administrative allocation of permits. To give households confidence that they will be properly compensated for the price impacts resulting from the Scheme, the compensation will not be scaled back should the permit price be lower. Should the permit price be higher the Government has made it clear that it will review the adequacy of household compensation at Budget each year.

Table E.4: Assistance for Low and Middle Income Households

	2008-09 \$b	2009-10 \$b	2010-11 \$b	2011-12 \$b
Impact on Fiscal Balance	-	-	-3.9	-6.0

The Government will provide financial assistance to certain households to assist them with cost of living increases flowing from the Scheme, with effect from 1 July 2010. The measure has an ongoing cost to revenue of \$4.2 billion over the forward estimates period. The measure is also expected to increase Government expenditure by \$5.7 billion over this period.

To deliver on its commitments to households (see Chapter 17), from 1 July 2010, the Government will increase a range of payments and reduce certain taxes. This includes increasing all income support payments, maximum rates of Family Tax Benefit Part A and Part B by 2.5 per cent (including upfront indexation), and the Low Income Tax Offset by \$390. The measure affects other government support programs such as Seniors Concession Allowance and the Dependency Tax Offsets will also be changed. A one-off transitional payment will be available to some low-income households.

The measure will provide above automatic indexation for income support recipients and meet the cost of living increase for low-income households. The measures help meet the cost of living increase for middle-income households. Final costs will be published in the 2009-10 Budget.

Table E.5: Fuel Tax Adjustment

	2008-09 \$b	2009-10 \$b	2010-11 \$b	2011-12 \$b
Impact on Fiscal Balance	-	-	-2.4	-2.0

The Government will make an across the board cut to fuel tax on 1 July 2010 for all fuels currently subject to the general rate of 38.143 cents/litre. The tax cut will be based on the

impact of emissions pricing on diesel prices. The adequacy of the fuel tax cut(s) will be automatically assessed every six months on 30 June and 31 December through a legislated process for three years. After 1 July 2013, the Government will make a final assessment and, if needed, a final fuel tax cut will take effect from 1 August 2013.

The Government will provide transitional assistance to the agriculture, fishing and heavy on road transport industries through a new ‘CPRS fuel credit’ scheme. The CPRS fuel credit will be equal to the fuel tax cuts. It will be payable to agriculture and fishing businesses for three years and heavy on-road transport for one year. The Government will review these measures at the time that each measure is due to cease.

LPG, LNG and CNG are substitutes for petrol and diesel and lie outside the fuel tax system. To ensure that the CPRS tax arrangements maintain neutrality between these fuels and petrol and diesel the Government will provide a CPRS fuel credit to LPG for three years and to CNG and LNG, which are predominantly used by heavy vehicle road users, for one year. The credit will vary between fuels and will be less than the fuel tax cuts because these fuels have substantially lower carbon emissions than petrol or diesel. The Government will review these measures at the time that each measure is due to cease. Final costs will be published in the 2009-10 Budget.

Table E.6: Assistance to Emissions-Intensive Trade-Exposed Industries

	2008-09 \$b	2009-10 \$b	2010-11 \$b	2011-12 \$b
Impact on Fiscal Balance	-	-	-2.9	-3.1

The Government has decided to provide assistance to Emissions Intensive Trade Exposed (EITEs) firms to guard against the risk of carbon leakage and provide some transitional assistance, while also encouraging these industries to make a contribution to Australia’s emissions reductions. This assistance will be in the form of an administrative allocation of permits.

This assistance is designed to target activities within the Australian economy that have the most significant exposure to a carbon price and would be unable to pass through cost increases due to international trade.

The extent of EITE assistance provided to each firm will be determined using an allocation mechanism based on a function of output (or production levels) of individual entities. The level of assistance provided per unit of output to eligible entities will gradually decline over time. The structure of the assistance will ensure that business have incentives to adopt low carbon technologies. Final costs will be published in the 2009-10 Budget.

Table E.7: Assistance to Strongly Affected Industries

	2008-09 \$b	2009-10 \$b	2010-11 \$b	2011-12 \$b
Impact on Fiscal Balance	-	-	-0.7	-0.7

The Government has decided to provide assistance to some existing coal-fired generators to ameliorate the risk of adversely affecting the investment environment. This assistance will be provided through the Electricity Sector Adjustment Scheme (ESAS).

Assistance in the form of an administrative allocation of permits will be provided over 5 years to generation assets that were either planned or in operation on 3 June 2007, based on a 'once and for all' upfront assessment subject to a windfall gain review after 3 years.

Units will be issued by the Scheme regulator on the basis of emissions intensity and historical energy output. This provides a simple and transparent method of delivering assistance. Final costs will be published in the 2009-10 Budget.

Table E.8: Climate Change Action Fund

	2008-09 \$b	2009-10 \$b	2010-11 \$b	2011-12 \$b
Impact on Fiscal Balance	-	-0.3	-0.7	-0.7

The Government has decided to establish the Climate Change Action Fund (CCAF). This fund will assist in smoothing the transition for businesses, community sector organisations, workers, regions and communities to an operating environment that includes a price on carbon.

The CCAF will provide assistance through a variety of measures including:

1. providing information to business and community service organisations about the Scheme and how they can minimise the expected financial impacts;
2. providing financial assistance to small business and community organisations to invest in energy efficiency equipment that meets established energy saving criteria and providing competitive grants funding for low emissions technologies, production methods, supply chain improvements and high energy savings projects with long pay back periods;
3. structural adjustment assistance to underground coal mining operations with high fugitive emissions; and
4. general structural adjustment assistance to affected communities.

Detailed scope, program guidelines and eligibility criteria for assistance will be developed in the first half of 2009 following consultation with stakeholders. Final costs will be published in the 2009-10 Budget.

Table E.9: Transitional assistance to firms participating in the Greenhouse Gas Reduction Scheme (GGAS)

	2008-09 \$b	2009-10 \$b	2010-11 \$b	2011-12 \$b
Impact on Fiscal Balance	*	*	*	*

The Government will consider providing some limited assistance to the NSW Government to allow them to assist participants in the termination of the Greenhouse Gas Reduction Scheme (GGAS). These schemes, while providing significant greenhouse abatement, are inconsistent with the introduction of the Scheme.

Any assistance offered will ensure that businesses and holders of unused New South Wales Greenhouse Gas Abatement Certificates that will be adversely affected by the cessation of GGAS and introduction of the Carbon Pollution Reduction Scheme are appropriately compensated and encouraged to continue emissions abatement for the original life of GGAS.

The Government will work cooperatively with the NSW and ACT Governments to assist in their development of appropriate transitional arrangements. The value of any assistance provided under this measure will be determined by the Government in the context of other policy priorities and in agreement with the NSW Government. Funding will be included in the budget estimates. Final costs will be published in the 2009-10 Budget.

E.3 Implementation Measures

Table E.10: Establishing the Regulatory Environment

	2008-09 \$m	2009-10 \$m	2010-11 \$m	2011-12 \$m
Impact on Fiscal Balance	*	*	*	*

The Government will establish a new agency, the Australian Climate Change Regulatory Authority (ACCRA), which will be responsible for the oversight and administration of the Scheme. Additionally, the functions and resources of the Greenhouse and Energy Data Officer (GEDO) and the Renewable Energy Regulator (RER) will also be merged with ACCRA to reduce the regulatory burden on business.

The ACCRA will be responsible for:

- Managing the auction or allocation of other permits (including the collection of revenue);
- Maintaining a registry to record the ownership of emissions permits;
- Assessing the liabilities of eligible entities using information provided under the National Greenhouse and Energy Reporting (NGER) Act 2007;
- Promoting and enforcing compliance with the Scheme.
- Providing public education about the Scheme; and
- Calculating and allocating permits to eligible entities under Emissions Intensive Trade Exposed (EITE) and Electricity Sector Adjustment Scheme (ESAS).

The Department of Climate Change will be responsible for establishing supporting infrastructure prior to ACCRA being established through the passage of the Scheme's enabling legislation. Final costs will be published in the 2009-10 Budget.

Table E.11: Detailed Design and Implementation of the Scheme

	2008-09 \$m	2009-10 \$m	2010-11 \$m	2011-12 \$m
Impact on Fiscal Balance	*	-	-	-

The Government will provide additional funding to the Department of Climate Change to undertake detailed design activities supporting the Scheme's implementation and to make consequential amendments to the National Greenhouse and Energy Reporting regime.

This work will allow participants to plan within a certain environment in advance of the Scheme commencing. Final costs will be published in the 2009-10 Budget.

Glossary

Abate	Reduction of greenhouse gas emissions, or removal of greenhouse gas from the atmosphere by sinks.
Activity	The chemical or physical transformation of inputs to a given set of outputs.
Adaptation	An adjustment in natural or human social or economic systems in response to actual or expected climate change that moderates harm or exploits beneficial opportunities.
Adaptation Research Facility	A facility established by the Australian Government at Griffith University to lead the research community in a national inter-disciplinary effort to generate the biophysical, social and economic information needed by decision makers in government and in vulnerable sectors and communities to manage the risks of climate change impacts.
Adaptation Research Networks	Networks in specific thematic or sectoral areas, established as part of the Adaptation Research Facility and hosted by research institutions, to help harness research capacity and build a collaborative environment supporting creative, inter-disciplinary research that aims to bridge gaps between fundamental and applied science and advance priority sectoral research.
Additionality	A requirement that a project or activity provide abatement that is additional to any that would occur in the absence of the project or activity.
Advance auction	Occurs when permits are auctioned in advance of their vintage financial year; that is, the permits purchased are only available for use in a subsequent financial year to the one in which they are issued.
Afforestation	Planting of new forests on lands not recently forested. Under the Kyoto Protocol, afforestation is defined as the direct human-induced conversion to forested land of land that has not contained a forest for at least 50 years.
Allocative baselines	A measure of the emissions generated per unit of production for an EITE activity
Allocative efficiency	The market's capacity to channel resources—in this case, carbon pollution permits—to their highest value uses across the economy and through time at low cost and minimal risk.

That is, emissions are reduced by those best placed to abate, in the period that costs them least. A market that achieves these objectives is said to be allocatively efficient.

Annex B to the Kyoto Protocol	A list of those Annex I countries that have agreed to a commitment to limit their greenhouse gas emissions in the period 2008–12.
Annex I country	Countries listed in Annex I to the UNFCCC, including all developed (OECD) countries and the countries in transition in central and eastern Europe (including Russia and Ukraine). In the context of the Kyoto Protocol, ‘Annex I country’ is used to refer to a party included in Annex I to the UNFCCC with a commitment inscribed in Annex B to the Kyoto Protocol.
Asia–Pacific Partnership on Clean Development and Climate	Launched in January 2006, the APP is an international non-legally binding partnership between Australia, Canada, India, Japan, the People’s Republic of China, South Korea, and the United States, to address the challenges of climate change, energy security and air pollution in a way that encourages economic development and reduces poverty.
Assigned amount unit (AAU)	A Kyoto unit corresponding to one metric tonne of carbon dioxide equivalent emissions, and issued up to the level of a Kyoto party’s initial assigned amount. The initial assigned amount is equal to a Kyoto party’s 1990 emissions, multiplied by its target (expressed as a percentage), multiplied by five.
Auctioning	A method of allocating units in which government releases units into the market through an auction process.
Australian Competition and Consumer Commission (ACCC)	An independent Commonwealth statutory authority which regulates national infrastructure services and ensures that individuals and businesses comply with the Commonwealth competition and consumer protection laws.
Australian emissions unit	The term used in legislation to refer to a carbon pollution permit.
Australian Energy Market Commission (AEMC)	An independent national body responsible for rule-making, market development and policy advice concerning the National Electricity Market (NEM) and access to natural gas pipelines, services and elements of the broader natural gas markets.
Australian Energy Regulator (AER)	A separate legal entity and a constituent part of the ACCC which regulates the wholesale electricity market and is responsible for the economic regulation of the electricity transmission and distribution networks in the NEM. The AER is also responsible for the economic regulation of gas transmission and distribution networks and enforcing the

national gas law and national gas rules in all jurisdictions except Western Australia.

Australian Greenhouse Emissions Information System

The Department of Climate Change compiles Australia's greenhouse gas inventory using the Australian Greenhouse Emissions Information System (AGEIS). The AGEIS centralises emissions estimation, inventory compilation, reporting and data storage processes into a single system. It has been used to consolidate Australia's emissions estimation methodologies and fully integrated quality control procedures into the compilation process.

Bali Action Plan

The 13th Conference of Parties to the UNFCCC in Bali, Indonesia, in December 2007 culminated in the adoption of the Bali Action Plan – a package of decisions that launched broad negotiations for a new post-2012 international climate change agreement, due to conclude at the 15th Conference of Parties in Copenhagen, Denmark, in December 2009.

Banking

The ability of liable entities to use permits issued or created in one compliance period in a future compliance period under an emissions trading scheme. Banking allows emitters to better manage annual variations in their emissions profiles. These variations may arise, for example, due to cyclical economic activity or disruptions to production.

Baseline

A projected level of future emissions against which reductions by project activities could be determined, or the emissions that would occur without policy intervention.

See also 'emissions intensity baseline'.

Benchmarking

A system of allocating permits based on an individual firm's emissions performance against a sector- or industry-wide yardstick. The yardstick can be forward-looking (that is, a target) or based on historical performance. Typical benchmarks include emissions per unit of output, value add or other relevant unit of measurement.

Bilateral (two way) linking

The mutual acceptance of units between two emissions trading schemes. Where governments responsible for different schemes agree to accept units from each other's scheme for compliance purposes in their own scheme.

Border adjustments

Adjustments made to the prices of traded products to remove the carbon price from exported goods and add a carbon price to imported goods.

Borrowing

The ability of liable entities to bring forward units from future compliance periods to meet current obligations in an emissions trading scheme. Borrowing can be short term

(borrowing only from the subsequent year) or long term (borrowing from two or more years in advance).

Bunker fuels	Fuels used for international aviation and marine transport.
Business as usual	An estimate of the future pattern of greenhouse gas emissions which assumes that there will be no major changes in attitudes and priorities of governments, business and the community.
Cap	See 'scheme cap'.
Cap and trade scheme	An emissions trading regime in which a limit (or cap) is placed on the total emissions allowable from the activities or sources of emissions covered under the scheme. Tradeable emissions units are issued up to an amount equal to the cap.
Capacity factor	The ratio between the actual electrical energy produced by a generating unit for a given period of time and the theoretical electrical energy that could have been produced at continuous full power operation during the same period.
Carbon	Carbon is used in the report to generally refer to the six major greenhouse gases.
Carbon budget	The total national emissions allowed under internationally agreed targets.
Carbon capture and storage (CCS)	Technology to capture and store greenhouse gas emissions from energy production or industrial processes. Captured greenhouse gases have the potential to be stored in a variety of geological or ocean sites.
Carbon cost	See 'carbon price'.
Carbon dioxide (CO ₂)	A naturally occurring gas; it is also a by-product of burning fossil fuels and biomass, as well as land-use changes and other industrial processes. It is the principal anthropogenic greenhouse gas that affects the earth's temperature.
Carbon dioxide equivalent (CO ₂ -e)	A standard measure that takes account of the different global warming potential of different greenhouse gases and expresses the cumulative effect in a common unit.
Carbon footprint	A measure of the amount of carbon dioxide equivalents emitted through the combustion of fossil fuels; it is commonly used at an individual, household or business level.
Carbon intensity	See 'emissions intensity'.
Carbon leakage	The effect when a firm facing increased costs in one country due to an emissions price chooses to reduce, close or relocate production or to close or relocate production to a country with

less stringent climate change policies.

Carbon market	A generic term for a trading system in which countries or private organisations may buy or sell emission units in an effort to meet limits on emissions.
Carbon offset	Carbon offsets represent reductions in greenhouse gases relative to a business-as-usual baseline. They are tradeable and often used to negate (or offset) all or part of another entity's emissions. Emissions trading schemes can only recognise carbon offsets from abatement projects that reduce emissions from sources that are not covered by the scheme.
Carbon offset standard	A standard applying to offsets sold in the voluntary carbon market. It is intended to provide consumers with a degree of confidence in the quality of offset products they purchase and includes principles and minimum standards in areas such as measurement and verification.
Carbon pollution permit	The domestic unit of compliance under the scheme. Each one of corresponds to one tonne of carbon dioxide equivalent. Permits will be tradeable (except those accessed under the price cap arrangements) and treated as personal property. They will be referred to in legislation as 'Australian emissions units'.
Carbon price	The cost of emitting carbon into the atmosphere. It can be a tax imposed by government, the outcome of an emission trading market or a hybrid of taxes and permit prices. The various ways of creating a carbon price can have different effects on the economy. Also referred to as the cost of carbon emissions.
Carbon price path	See 'forward price curve'.
Carbon productivity contribution	The rate at which rates of assistance are reduced each year to ensure that EITE activities share in the national improvement in carbon productivity
Carbon sequestration	The long-term storage of carbon dioxide in the forests, soils, oceans or underground in depleted oil and gas reservoirs, coal seams and saline aquifers. Examples include: the separation and disposal of carbon dioxide from flue gases or processing fossil fuels to produce hydrogen and carbon-rich fractions; and the direct removal of carbon dioxide from the atmosphere through land-use change, reforestation, ocean fertilization and agricultural practices to enhance soil carbon.
Carbon sinks	Natural or man-made systems that absorb and store carbon dioxide from the atmosphere, including trees, plants and the

	oceans.
Carbon tax	A surcharge on the carbon content of products.
Certified emission reduction (CER)	A Kyoto unit corresponding to one metric tonne of carbon dioxide equivalent emissions, and issued for verified emission reductions or removals achieved by projects approved under the clean development mechanism.
Chlorofluorocarbons (CFCs)	Greenhouse gases covered under the 1987 Montreal Protocol on Substances That Deplete the Ozone Layer and used for refrigeration, air-conditioning, packaging, insulation, solvents or aerosol propellants. Since they are not destroyed in the lower atmosphere, CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are being replaced by other compounds, including hydrochlorofluorocarbons and hydrofluorocarbons, which are greenhouse gases covered under the Kyoto Protocol.
Clean development mechanism (CDM)	A mechanism under the Kyoto Protocol through which Annex I countries may undertake greenhouse gas emissions reduction or removal projects in developing countries, and receive credits for doing so, which they may apply towards meeting their mandatory emissions targets.
Climate change	As defined by the UNFCCC, a change of climate that is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and that is in addition to natural climate variability over comparable time periods.
Climate Change Action Fund	Established to provide targeted assistance to businesses, community sector organisations, workers, regions and communities to smooth the transition to a carbon constrained economy. It will provide assistance by addressing both the distributional impacts of the scheme and persistent market failures that impede the uptake of lower emission technologies and processes.
Climate Change Adaptation Plan for Australia's World Heritage and Iconic Areas	The Australian Government's election commitment to develop a Climate Change Adaptation Plan for World Heritage and Iconic Areas.
Cogeneration	The simultaneous production of electricity and heat using a single fuel, such as natural gas. The heat produced from the electricity generating process is captured and utilised to produce steam.
Commitment period	Generally refers to the time frame in which Annex I countries are required to meet their emission reduction obligations

under the Kyoto Protocol. The Kyoto Protocol's first commitment period is from 2008 to 2012.

Commitment period reserve	The minimum level of Kyoto units required to be held in an Annex I country's national registry under the Kyoto Protocol. This is calculated as the lower of (a) 90 per cent of the country's initial assigned amount and (b) the level of national emissions indicated in the country's most recent national inventory (multiplied by five).
Compliance period	<p>A recurrent period with defined start and finish dates, during which liable entities are required to comply with the relevant scheme requirements.</p> <p>The period of time over which emissions must be monitored to determine entities' obligations under the scheme.</p>
Computable general equilibrium model	A whole-of-economy model that captures the interactions between different sectors of the economy.
Coverage	The scope of an emissions trading scheme. Sources of emissions covered under the scheme are liable for their emissions.
Covered emissions	Emissions that are covered by the emissions trading scheme and attract an obligation to surrender a carbon pollution permit or eligible international unit.
Deforestation	The conversion of forested land to an alternative, non-forest use.
Early crediting	An allocation of carbon pollution permits in recognition of abatement undertaken prior to the commencement of the scheme.
Efficient price discovery	Where the carbon price reflects all available market information.
Electricity Sector Adjustment Scheme	The assistance package for coal-fired electricity generators outlined in Chapter 13.
Eligible compliance permits	<p>The types of units that will be accepted to meet an entity's obligations under the scheme. At the commencement of the scheme, eligible compliance permits will include:</p> <ul style="list-style-type: none">• carbon pollution permits (or Australian emissions units)• eligible international units
Eligible international units	The types of international units which an entity may surrender to meet its obligations under the scheme. At the commencement of the scheme, eligible international units will

include:

- certified emission reductions (except temporary certified emission reductions and long-term certified emission reductions)
- emission reduction units
- removal units.

Emission reduction unit (ERU)	A Kyoto unit corresponding to one metric tonne of carbon dioxide equivalent emissions, and issued for emission reductions and removals generated from joint implementation projects.
Emissions	The release of greenhouse gases into the atmosphere.
Emissions cap	See 'scheme cap'.
Emissions trading	A market-based approach to reducing emissions that allows entities with excess emissions units to trade those emissions units with other entities. In general, trading can occur at the domestic, international and intra-company levels. International emissions trading constitutes one of the Kyoto flexibility mechanisms.
Emissions-intensive trade-exposed industries (EITE industries)	Industries that are assessed to have an emissions intensity above a defined threshold and are trade exposed.
Emissions-intensive trade-exposed (EITE) activity	An activity assessed as eligible for the EITE assistance program.
Emissions-intensive trade-exposed (EITE) assistance program	A program to be established in regulations for the allocation of permits in respect of production from EITE activities.
Energy intensity	The ratio of energy consumption per a specified unit of economic output, such as GDP, sales revenue or goods produced.
European Union Emissions Trading Scheme (EU ETS)	The EU ETS commenced in 2005 and is currently in its second phase (2008-2012). It is a mandatory cap and trade emissions trading scheme covering 27 European countries, and is linked to Norway, Iceland, Liechtenstein and Switzerland. European Union Allowances (EUAs) are the main unit of trade. The European Commission is currently finalising the design of phase III (2013-2020).
Exemption	Where emissions from particular sources are excluded from scheme coverage.

Forward price curve	A forecast or estimate of what the price of carbon permits will be at different points in the future.
Free allocation	A method of allocating emissions units where government releases units directly to entities at no cost.
Fuel switching	The substitution of one type of fuel for another, for example coal to natural gas. Fuel switching changes the emissions intensity of energy production because all fuels have a different carbon-content.
Fugitive emissions	Greenhouse gases that are released in the course of oil and gas extraction and processing, through leaks from gas pipelines, and as waste methane from black coal mining.
G Cubed model	A computable general equilibrium model of the global economy developed by Warwick McKibbin and Peter Wilcoxon. The model's design makes it especially useful for analysing international environmental and trade policy questions.
Gateway	A range within which future scheme caps would be set under an emissions trading scheme.
Generated electricity	The amount of energy an electricity generator produces, including internal consumption of electricity (compared to 'sent out electricity').
Geosequestration	A technology that aims to store liquefied carbon dioxide in deep underground rock structures (see 'carbon sequestration').
Gigawatt (GW)	A unit of power equal to one billion watts.
Global Carbon Capture and Storage Initiative	An initiative to establish a Global Institute to speed up the development of carbon capture and storage technology. The Government is offering to host the Institute in Australia and would continue to contribute up to \$100 million per annum towards its operation. The Institute will aim to accelerate carbon projects through facilitating demonstration projects and identifying and supporting necessary research—including regulatory settings and regulatory frameworks.
Global Integrated Assessment Model	An interlinked model of both the world's economy and the climate system.
Global Trade and Environment Model	A computable general equilibrium model of the global economy developed by the Australian Bureau of Agricultural and Resource Economics to examine policy questions with long-term, global dimensions.

Global warming potential	A system of multipliers devised to enable warming effects of different gases to be compared. For example, over the next 100 years, a gram of methane in the atmosphere is currently estimated as having 21 times the warming effect as a gram of carbon dioxide; methane's 100-year global warming potential is thus 21.
Gold Standard	<p>An independent best-practice benchmark for clean development mechanism and joint implementation projects.</p> <p>The Gold Standard label is applicable to both the projects (upon completion of validation) as well as credits produced by Gold Standard labelled projects (upon verification). The standard applies criteria that aim to preserve environmental integrity, bring lower delivery and reputational risks to buyers and developers, and help host countries assess projects' contribution to sustainable development.</p>
Grandfathering	Grandfathering provides a free allocation of permits to existing emitters based on their historical emissions profile (either for a single year or a multi-year average).
Green Paper position	The Government's thinking at the time of the Green Paper on key aspects of the architecture of the scheme. Preferred positions should not be interpreted as statements of the Government's final policy intent, but as preferences based on the available information at the time.
Greenhouse effect	The trapping of heat by naturally occurring heat-retaining atmospheric gases (water vapour, carbon dioxide, nitrous oxide, methane and ozone) that keeps the earth about 30°C warmer than if these gases did not exist.
Greenhouse gases (GHGs)	The atmospheric gases responsible for causing global warming and climate change. The major GHGs are carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF ₆).
Gross domestic product (GDP)	The total market value of all goods and services produced in an economy.
Gross national product (GNP)	GDP adjusted for international transfers of income. GNP measures what an economy can afford to buy.
Hydrochlorofluorocarbons (HCFCs)	Compounds containing hydrogen, fluorine, chlorine and carbon atoms. Although they are ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs.

Hydrofluorocarbons (HFCs)	Compounds containing only hydrogen, fluorine and carbon atoms. They were introduced as alternatives to ozone-depleting substances in serving many industrial, commercial and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing.
Indicative national emissions trajectory	Broad guidance over the pathway of future national emissions.
Informational efficiency	See ‘efficient price discovery’.
Intensity targets	Policies that specify emissions reductions relative to productivity or economic output, for instance, tonnes of CO ₂ -e per million dollars GDP.
Intergovernmental Panel on Climate Change (IPCC)	Established in 1988, the IPCC surveys worldwide scientific and technical literature and publishes assessment reports that are widely recognised as the most credible existing sources of information on climate change. The IPCC also works on methodologies and responds to specific requests from the UNFCCC’s subsidiary bodies.
International Carbon Action Partnership	The International Carbon Action Partnership (ICAP) is made up of countries and regions that have implemented or are actively pursuing the implementation of carbon markets through mandatory cap and trade systems. The partnership provides a forum to share experiences and knowledge
International Forest Carbon Initiative	A \$200 million initiative that is part of Australia’s international leadership on reducing emissions from deforestation and forest degradation in developing countries (REDD). It aims to support international efforts on REDD through the UNFCCC and demonstrate that REDD can be part of future global outcomes on climate change. A central element of the Initiative is practical action on REDD with Indonesia and Papua New Guinea.
Joint implementation	A mechanism under the Kyoto Protocol through which Annex I countries may undertake greenhouse gas emissions reduction or removal projects in other Annex I countries, and receive credits for doing so, which they may apply towards meeting their mandatory emissions targets.
Kyoto flexibility mechanisms	Three processes established under the Kyoto Protocol to increase flexibility and enable the global community to reduce emissions where it is the most cost-effective: the clean development mechanism, which provides an incentive for Annex I countries to invest in greenhouse gas-reducing projects in developing countries; international emissions trading, which provides for the transfer of Kyoto units between countries and entities; and joint implementation,

which provides an incentive for Annex I countries to invest in greenhouse gas-reducing projects in other Annex I countries.

Kyoto Protocol	An international treaty created under the UNFCCC in 1997. It entered into force in 2005. Among other things, the Kyoto Protocol sets binding targets for the reduction of greenhouse gas emissions by developed countries. It includes individual emission reduction targets for Annex I countries to be met within the first commitment period of 2008-12.
Kyoto units	Units issued under the Kyoto Protocol, namely: assigned amount units, emission reduction units, certified emission reductions, and removal units.
Land use, land-use change and forestry (LULUCF)	Land use and land-use changes can result in emissions or increase carbon sequestration. Emissions from land use are those that result from cropping and livestock production. Land-use change refers to the conversion of land to alternative uses, such as from forest to crop land or from grazing land to forest.
Landfill gas	Gas generated by the natural degradation and decomposition of solid waste by anaerobic micro-organisms in sanitary landfills.
Large direct emitters	Entities with facilities that emit 25,000 tonnes of carbon dioxide equivalent in a year or more.
Large User Abatement Certificate	A non-tradeable certificate created under the New South Wales Greenhouse Gas Reduction Scheme for abatement activity by large electricity users that is not directly related to electricity production or consumption.
Leakage	See 'carbon leakage'.
Legal person	An entity with legal rights and existence including the ability to sue and be sued, to enter into contracts, and generally, other powers incidental to the full expression of an independent entity in law. In general this will include human beings and corporations treated as having the rights and obligations of a person.
Liable entity	An entity that has an obligation under the scheme.
Liquid market	A market whose essential characteristic is that there are ready and willing buyers and sellers at all times.
Low-emissions technology	Technology which produces a product with minimal greenhouse gas emissions. The term is commonly used to refer to power generation technologies (such as renewable, nuclear and 'clean coal' generation), but applies equally to

	other sectors, including transport and agriculture.
Make-good	A form of penalty whereby scheme participants are required to purchase permits to make up any permit shortfall for a compliance year, in addition to paying a financial penalty.
Marginal cost of abatement	The cost of reducing emissions by one additional unit.
Megawatt (MW)	A unit of power equal to one million watts.
Mitigation	A human intervention to reduce the sources of, or enhance the sinks for, greenhouse gases.
Monash Multi Regional Forecasting model	A computable general equilibrium model of the Australian economy developed by the Centre of Policy Studies at Monash University. The model has a detailed industry structure and provides results for each state and territory.
National Adaptation Research Plans	Research plans in identified priority thematic or sectoral areas which will identify critical gaps in the information needed by sectoral decision-makers, set research priorities based on these gaps, and identify capacity that could be harnessed to conduct priority research. The plans will be developed by the Adaptation Research Facility in collaboration with the Department of Climate Change and in consultation with stakeholders, researchers and state and territory governments.
National Climate Change Adaptation Framework	A framework endorsed by the Council of Australian Governments in April 2007 which outlines the future agenda of collaboration between governments to address key demands from decision makers and the community for targeted information on climate change impacts, and to fill critical knowledge gaps which currently inhibit effective adaptation.
National Electricity Market (NEM)	Wholesale market for the supply of electricity to retailers and end-users in the interconnected regions of Queensland, New South Wales, the Australian Capital Territory, Victoria and South Australia. It began operating in December 1998. Tasmania joined in 2005.
National Electricity Rules	The statutory rules made under the National Electricity Law which govern the operation of the National Electricity Market (NEM).
National Greenhouse Gas Inventory	An inventory of Australia's greenhouse gas emissions, prepared as part of Australia's National Greenhouse Accounts and used by the Australian Government to meet its international reporting obligations.
National Low Emissions	A \$500 million program to accelerate the development and

Coal Initiative	deployment of technologies that will reduce emissions from coal use. It includes funding for research and to support the trial of different technologies.
Net out	To accurately calculate and exclude fuel supplied to large users. Netting-out arrangements are needed under the scheme to fairly and efficiently allocate obligations for emissions from fuel combustion between fuel suppliers and large direct emitters (see ‘large direct emitters’).
NGER legislation	Includes the <i>National Greenhouse and Energy Reporting Act 2007</i> , the <i>National Greenhouse and Energy Reporting Regulations 2008</i> , and the National Greenhouse and Energy Reporting (Measurement) Determination 2008.
NSW Greenhouse Gas Abatement Certificates	A tradeable certificate created under the New South Wales Greenhouse Gas Reduction Scheme representing one tonne of carbon dioxide equivalent of greenhouse gas emissions, the release of which into the atmosphere was avoided, or which was removed from the atmosphere by the activity in respect of which it was created.
Offsets	See ‘carbon offsets’.
Pass through	Where the additional cost to liable entities under the scheme is passed through the production chain and reflected in the final price for a product.
Perfluorocarbons (PFCs)	A group of artificial chemicals comprising only carbon and fluorine. These chemicals (predominantly CF ₄ and C ₂ F ₆) were introduced as alternatives, along with hydrofluorocarbons, to the ozone-depleting substances. PFCs are also emitted as by-products of industrial processes and are also used in manufacturing.
Price cap	A mechanism for setting the maximum cost of compliance under the scheme.
Price floor	A mechanism for setting the minimum cost of compliance under the scheme.
Price signal	See ‘carbon price’.
Primary market	The allocation of units by the Government.
Production leakage	The loss of economic activity from Australia to another country as a result of increases in costs caused by government intervention (for example, through a carbon cost).
Rate of assistance	The level of support provided to each entity conducting an eligible EITE activity which is expressed as a percentage of

	the allocative baseline for that EITE activity.
Reforestation	Conversion of land used for purposes other than forestry to forested land. Under the Kyoto Protocol, afforestation is defined as the direct human-induced conversion to forested land of land that did not contain forest on 31 December 1989.
Removal unit (RMU)	A Kyoto unit corresponding to one metric tonne of carbon dioxide equivalent, and issued for the removal of carbon dioxide from the atmosphere by eligible land use, land-use change and forestry activities undertaken in an Annex I country.
Renewable Energy Target	A national Renewable Energy Target scheme places a legal obligation on parties who buy wholesale electricity (retailers and large users) to source a certain percentage of their electricity purchases from renewables-based generation. The annual targets are legislated in gigawatt-hours of electricity. Liable parties can demonstrate compliance with the scheme by acquiring and surrendering to the scheme regulator tradeable renewable energy certificates created by accredited renewable energy generators.
Rent seeking	A behaviour attributed to an individual, organisation or firm that seeks to make money by manipulating the economic environment rather than by making a profit through trade and the production of wealth.
Safety valve	See ‘price cap’.
Scheme cap	The scheme cap determines the number of carbon pollution permits that will be issued by the Government. Allowable emissions from sources covered by the scheme will be able to exceed the cap only if the excess is matched by the surrender of eligible international units, additional domestic permits issued as a result of forestry activities, additional permits issued under the price cap mechanism or, if allowed, scheme offsets.
Secondary market	A generic term for a trading system in which countries or private entities may buy or sell emissions units in an effort to meet their national limits on emissions following the Government’s allocation of units.
Sent out electricity	The amount of energy transmitted from electricity generating plant (compared to ‘generated electricity’).
Sequestration	The removal of atmospheric carbon dioxide, either through biological processes (for example, photosynthesis in plants and trees), or geological processes (for example, storage of

carbon dioxide in underground reservoirs).

Sinks	See 'carbon sinks'.
Sovereign risk	The risk borne by business caused by changes to government policy (that is, the risk associated with changing the 'rules of the game').
Spot market	A market in which goods (for example, permits) are sold for cash and delivered immediately. Contracts bought and sold on these markets are immediately effective.
Stationary energy emissions	Includes emissions from fuel consumption for electricity generation, fuels consumed in the manufacturing, construction and commercial sectors, and other sources such as domestic heating.
Sunk costs/investment	Costs that have already been incurred and that cannot be recovered to any significant degree.
Terms of trade	The ratio of the price of a country's exports to the price of its imports. The terms of trade are said to improve if that ratio rises.
Trade exposed	Industries that are constrained in their ability to pass through carbon costs due to actual or potential international competition.
Trajectory	See indicative national emissions trajectory.
True-up period	The period following each Kyoto commitment period during which Kyoto units from the relevant commitment period can be transferred and acquired for the purposes of meeting Annex I countries' emission reduction targets.
Unilateral linking	The linking of a domestic emissions trading scheme to an overseas scheme that provides for permits under the overseas scheme to be surrendered against emissions liabilities in the domestic scheme, but that does not allow domestic scheme permits to be used in the overseas scheme.
United Nations Framework Convention on Climate Change (UNFCCC)	An international treaty, adopted in 1992, aimed at achieving the stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.
Vintage	The financial year in which a permit becomes available for use in acquitting a liability under the scheme. The sum of the permits in each vintage year is equal to the scheme cap for the respective year.

Water for the Future	A 10-year, \$12.9 billion plan to secure the long-term water supply of all Australians, addressing both rural and urban water and supporting healthy rivers.
Watt hour (Wh)	A unit of energy, especially electrical energy, equal to the work done by one watt acting for one hour and equivalent to 3,600 joules.
Wholesale Electricity Market (WEM)	A mechanism for industry participants to trade electricity in the South West Interconnected System in Western Australia.