



Australian Government



CARBON POLLUTION  
REDUCTION SCHEME  
**Green Paper**

**JULY 2008**

SUMMARY

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# **Carbon Pollution Reduction Scheme**

## **Green Paper**

### **SUMMARY**

**July 2008**

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# Acting on Climate Change: Towards an Australian Carbon Pollution Reduction Scheme

## Why we need to act

Carbon pollution is causing climate change, resulting in higher temperatures, more droughts, rising sea levels and more extreme weather.

The 12 hottest years in history have all been in the last 13 years and IPCC scenarios project temperature rises between 1 and 6.4 degrees over the next century relative to 1980–99.

Without action, scientists predict up to 20 per cent more drought months over most of Australia by 2030, more intense and damaging cyclones and rising sea levels with serious impacts on:

- coastal property in Australia
- low lying Asian mega cities
- the Pacific Islands.

With one of the hottest and driest continents on earth, Australia's economy and environment will be one of the hardest and fastest hit by climate change if we don't act now.

It threatens Australia's food production, agriculture, water supplies, as well as icons like the Great Barrier Reef, the Kakadu wetlands and the big tourism industries they support.

Today we are already beginning to feel the economic and environmental costs of inaction on climate change. But if we delay action any longer, these costs will be felt even more by not only our generation, but also our children and grandchildren.

## How we should act

There is no single solution to winning the fight against climate change. But the economically responsible approach is to reduce Australia's carbon pollution while building long-term economic prosperity in a lower carbon economy.

The Government's climate change strategy is based on three pillars:

- reducing Australia's greenhouse gas emissions
- adapting to climate change that we cannot avoid
- helping to shape a global solution.

## **Reducing carbon pollution**

Fundamental to the Government's climate change strategy is a Carbon Pollution Reduction Scheme. It is the best way to reduce carbon pollution while minimising the impact on business and households.

The Government's Carbon Pollution Reduction Scheme will, for the first time, place a limit, or cap, on the amount of carbon pollution industry can emit.

It will require affected businesses and industry to buy a 'pollution permit' for each tonne of carbon they contribute to the atmosphere, giving them a strong incentive to reduce pollution.

Because the carbon pollution reduction scheme will concentrate on the biggest polluters, it will place obligations on around 1000 Australian companies in total – those that produce more than 25000 tonnes of carbon pollution each year. This represents less than one per cent of Australian businesses – there are 7.6 million registered businesses in Australia, the vast bulk of whom will not have scheme obligations.

The Government will use every cent raised by the sale of pollution permits to help Australian households and businesses adjust to the scheme and invest in clean energy options.

## **Support for households and business**

The Government recognises that there will be adjustment costs for Australian households arising from the Carbon Pollution Reduction Scheme.

The Government will cut fuel taxes on a cent for cent basis to offset the initial price impact on fuel associated with the introduction of the Carbon Pollution Reduction Scheme. The Government will periodically assess the adequacy of this measure for three years and adjust this offset accordingly. At the end of the three year period the Government will review this adjustment mechanism.

The Government is also offering a range of additional assistance measures, in particular for low and middle income households, to help with adjustment costs and improve household energy efficiency.

The Government also recognises that there will be adjustment costs for businesses as they move to a low carbon economy. That is why the green paper outlines programs to assist these businesses in the transition period. This assistance involves providing free permits to the most emissions intensive trade exposed activities, some direct assistance to coal-fired electricity generators, and the creation of two specific industry adjustment funds, the Climate Change Action Fund and the Electricity Sector Adjustment Scheme.

## **Adapting to climate change**

Climate change from carbon pollution is already underway, so we must prepare ourselves for the inevitable changes already built into the climate system. This will involve far reaching impacts on our economy, community and our environment.

The Government is working with industry, state, territory and local governments and scientists to develop the tools to enable all Australians to better prepare for the changes ahead.

## **Acting with the rest of the world**

Climate change is a global problem requiring a global solution. That's why the first act of the new Australian Government was to ratify the Kyoto Protocol.

Australia is heavily engaged in the next phase of international negotiations. We need to proceed with well-considered domestic action if our nation is to play a constructive role in shaping a global system where all countries play their proper role.

By adopting emissions trading, Australia will join other developed nations in the fight to reduce carbon pollution. Schemes are already operating in 27 European countries. Twenty-eight states and provinces in the US and Canada are introducing emissions trading to reduce carbon pollution, as is New Zealand. Japan is considering introducing a scheme. And in the US both Presidential candidates are committed to introducing schemes to reduce carbon pollution.

These schemes are a critical part of global leadership on climate change. Leadership from the developed world encourages other countries to join the global fight.

The Government will take account of the evolving state of international negotiations in determining the path we set to meet our target of reducing Australia's carbon pollution by 60 per cent below 2000 levels by 2050.

## **Acting responsibly, in our nation's long-term interests**

Reducing carbon pollution requires a substantial transformation of our economy. Like all significant economic reforms, it will not be easy, and it will require hard decisions. But the longer these decisions are delayed, the harder they become.

The Australian economy is well placed to respond to climate change. The Government will ensure the Carbon Pollution Reduction Scheme and accompanying household and business support is consistent with our fiscal strategy and focus on expanding the productive capacity of the economy while restraining inflation.

The Government plans to commence the scheme in 2010. We recognise the need to ensure business is ready to implement the scheme by this time and will consult with the community and business over the coming months.

We urge everyone to participate in this consultation process – all Australians have a stake in tackling climate change, for ourselves and for those who follow us.



A handwritten signature in black ink, appearing to read 'Kevin Rudd'.

The Hon Kevin Rudd  
Prime Minister

A handwritten signature in black ink, appearing to read 'Wayne Swan'.

The Hon Wayne Swan  
Treasurer

A handwritten signature in black ink, appearing to read 'Penny Wong'.

Senator the Hon Penny Wong  
Minister for Climate Change  
and Water

# Green paper – summary report

The green paper outlines the Australian Government's approach to the design of a national emissions trading scheme – Australia's Carbon Pollution Reduction Scheme. The paper identifies the key design decisions that are required, discusses alternative approaches to dealing with the key questions to be resolved, and indicates preferences among options.

In preparing the green paper, the Government has drawn on work undertaken by the former Government's Task Group on Emissions Trading (TGET), the states and territories' National Emissions Trading Taskforce (NETT) and the Garnaut Climate Change Review. Lessons learned from the establishment of the European Union Emissions Trading Scheme and other schemes have helped shape the approaches proposed in this green paper. Importantly, the development of options has been heavily influenced by extensive consultations with industry, community groups and other stakeholders over the past year.

Stakeholder feedback is now sought on all elements of the green paper and this feedback will inform the Government's decisions on final scheme design. The Government's intention is that a white paper incorporating those decisions and an exposure draft of legislation for Australia's Carbon Pollution Reduction Scheme will be released by the end of 2008.

## **Addressing the climate change challenge**

Addressing climate change is one of the key economic and environmental challenges facing Australia and the rest of the world.

An effective global and domestic response to climate change is one of the highest priorities of the Australian Government. Indeed, the Government's first official act was to ratify the Kyoto Protocol, committing Australia to play its part in addressing climate change.

Climate change involves profound challenges. It has the potential to fundamentally re-shape our social, environmental and economic landscapes – particularly affecting water supply, agricultural industries, coastal zones and our natural heritage.

Climate change is a by-product of industrialisation. Environmental damage is caused by greenhouse gas emissions which are predominantly carbon-based. The emissions constitute carbon pollution yet those who generate the pollution are not held accountable for the costs they impose on us all. The resulting environmental degradation is not currently reflected in the costs of business or the price of goods and services. Because firms face no cost from increasing emissions, the level of emissions is too high. Unless businesses and individuals over time bear the responsibility for their consumption and production decisions, the level of carbon pollution will remain at unsustainable levels. Emissions trading schemes are designed to redress this market failure. Emissions trading schemes are simply a mechanism to achieve an objective. That objective is to reduce carbon pollution, and to do so efficiently, by putting a cap on emissions. The Government is therefore referring to the measure as the Carbon Pollution Reduction Scheme.

Addressing this market failure will involve significant economic reform. Tackling climate change will not be easy and there will be adjustment costs. However, this is not a choice between a no-cost option and an option with costs. It is a choice between taking responsible action now – or neglecting to act and facing much higher costs later. The Carbon Pollution Reduction Scheme is the best way to reduce emissions while continuing to build long-term economic prosperity.

## **Climate change risks for Australia**

*The Inter Governmental Panel on Climate Change (IPCC) makes an unequivocal case to begin to address climate change. This is critical for Australia, which is already one of the hottest and driest nations and more at risk than other developed countries.*

The science of climate change presented in the IPCC Fourth Assessment Report in 2007 paints a clear picture. Warming of the climate system is unequivocal, as evident from a wide range of measurements. Numerous other changes have been observed in changes to wind patterns, rainfall, sea ice, ice sheets, and in aspects of extreme weather. It is very likely that greenhouse gas increases related to human activity have caused most of the rise in global mean temperature since the mid-20th century.<sup>1</sup>

New data and scientific understanding, unavailable in time for last year's IPCC report, are starting to paint an even more worrying picture of climate change and its future impact, if left unaddressed.

The Garnaut Review's Draft Report of June 2008 suggests that emissions are tracking at the upper bounds of the scenarios modelled by the IPCC. Recent research suggests that the rate and magnitude of climate change over the next century may be at the high end of the range estimated by the IPCC. Global mean temperature and sea-level rise are tracking at the upper end of the range of projections.<sup>2</sup> There is also increasing concern about the stability of the Greenland and West Antarctic ice sheets, with implications for sea-level rise.<sup>3</sup>

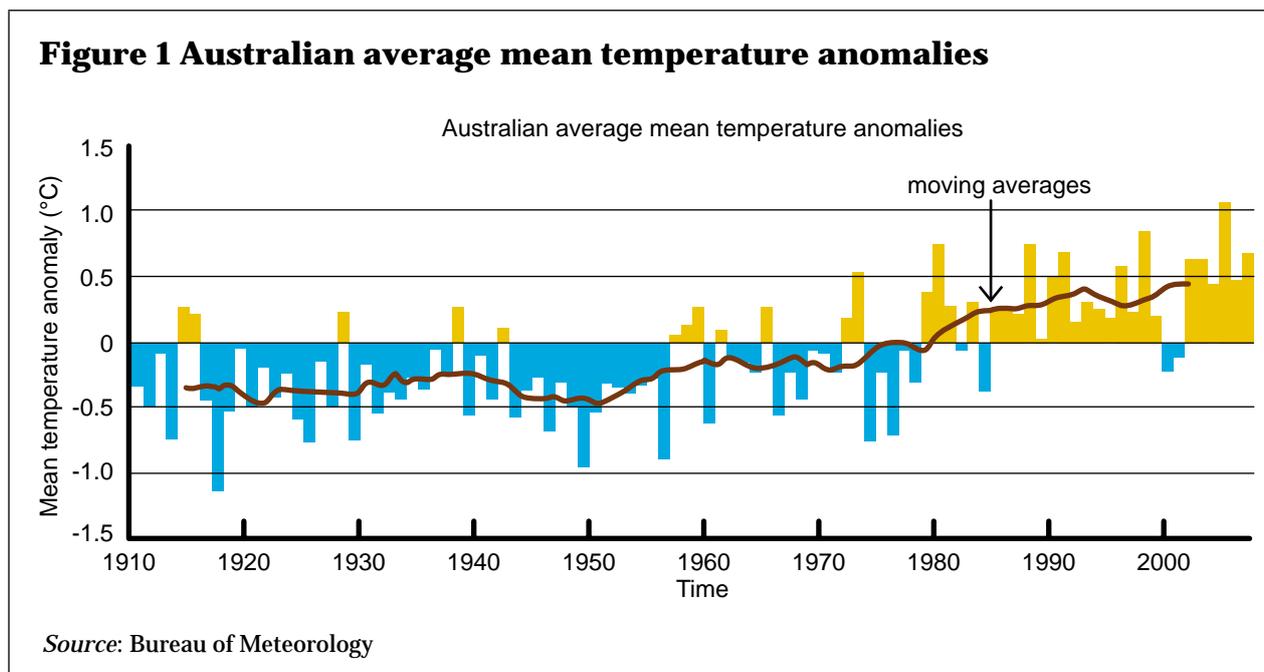
If emissions continue to increase at the current rate, the concentration or stock of greenhouse gases in the atmosphere will be around 1000 part per million (ppm) of carbon dioxide equivalent (CO<sub>2</sub>-e) in the second half of the century compared to 384 ppm in 2005 and 280 ppm in pre-industrial times.<sup>4</sup> Such a concentration is expected to have severe impacts on our environment.

Under a high emissions scenario, average temperatures across Australia are expected to rise by up to 5 degrees by 2070. The IPCC concluded that Australia's water resources, coastal communities, natural ecosystems, energy security, health, agriculture and tourism would all be vulnerable to climate change impacts if global temperatures rise by 3 degrees or more.<sup>5</sup>

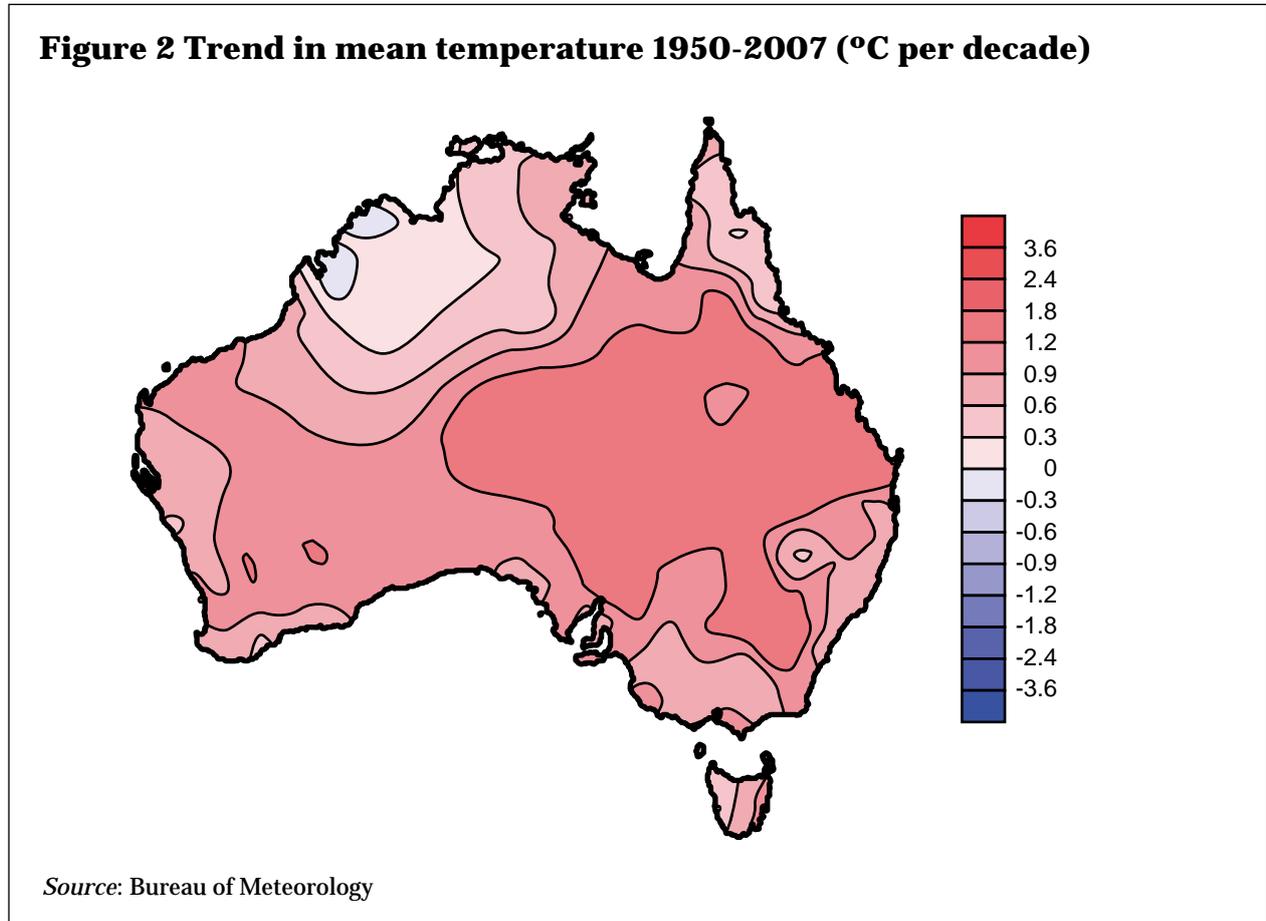
While climate change is usually thought of as involving incremental change, in reality for many locations the main risk from climate change will be an increase in damage from specific events, such as severe storms, heatwaves, intense cyclones, drought and fire.<sup>6</sup>

Climate change impacts are not necessarily linear or predictable. For a number of environmental systems there are thresholds above which consequences quickly become critical or the damage becomes exponential; for example coral bleaching when surface sea warming exceeds a coping threshold, and toxic algal blooms when temperatures increase in waterways.<sup>7</sup> In our built environment, a 25 per cent increase in wind gust speed can lead to a 550 per cent increase in damage costs for buildings, with risks to human safety, largely because building or engineering standards have been exceeded.<sup>8</sup>

Changes in Australia's climate and effects on human and natural systems are observable already, and the magnitude of impacts will grow as the climate continues to change in decades ahead. Annual average temperature in Australia has increased by 0.9°C since 1910 – see Figure 1. The black line shows the 10-year trailing average.



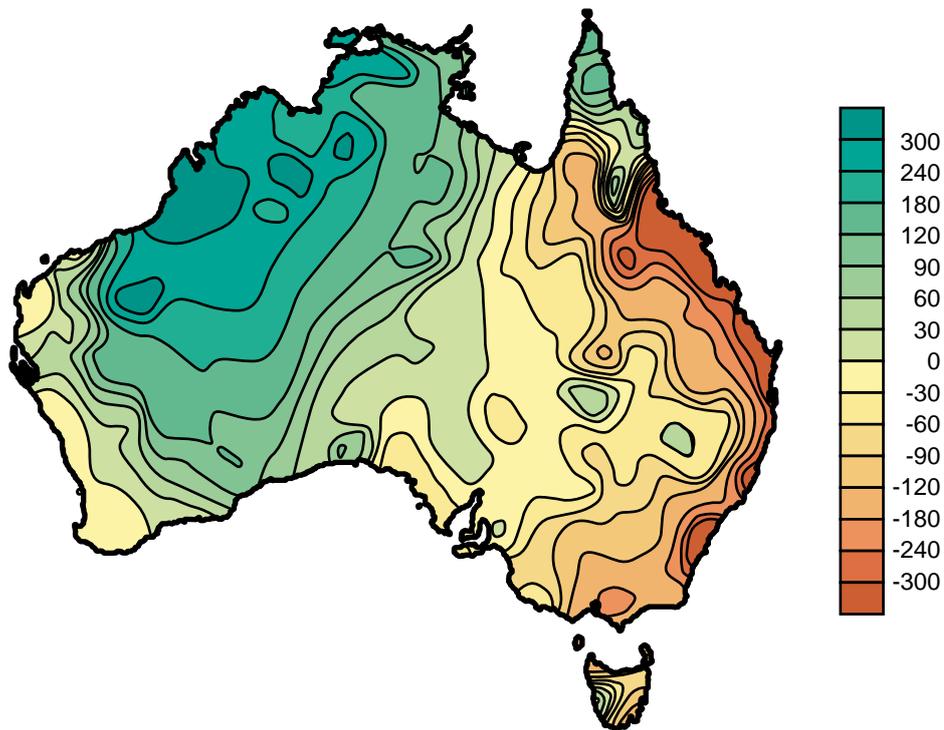
The increase in temperature has not been uniform across Australia. For example, average annual temperatures have increased by 1.2 C in Queensland. Figure 2 shows regional trends in annual average temperatures since the 1950s.



A recent study undertaken by the Bureau of Meteorology and the Commonwealth CSIRO into exceptional climatic events for the Department of Agriculture, Fisheries and Forestry found a strong tendency for more exceptionally hot years, which are projected to occur once every 1–2 years by 2010–2040 compared to once every 22 years in the period 1900–2007.

Significant changes in rainfall patterns have also been observed. Figure 3 below shows changes in rainfall patterns across Australia. Since the 1950s, most of eastern and southwestern Australia has become drier, while the north east of Australia has become wetter. This drying is marked by both an increase in exceptionally dry years and a near absence of very wet years, giving rise to drier soils and lower dam inflows.

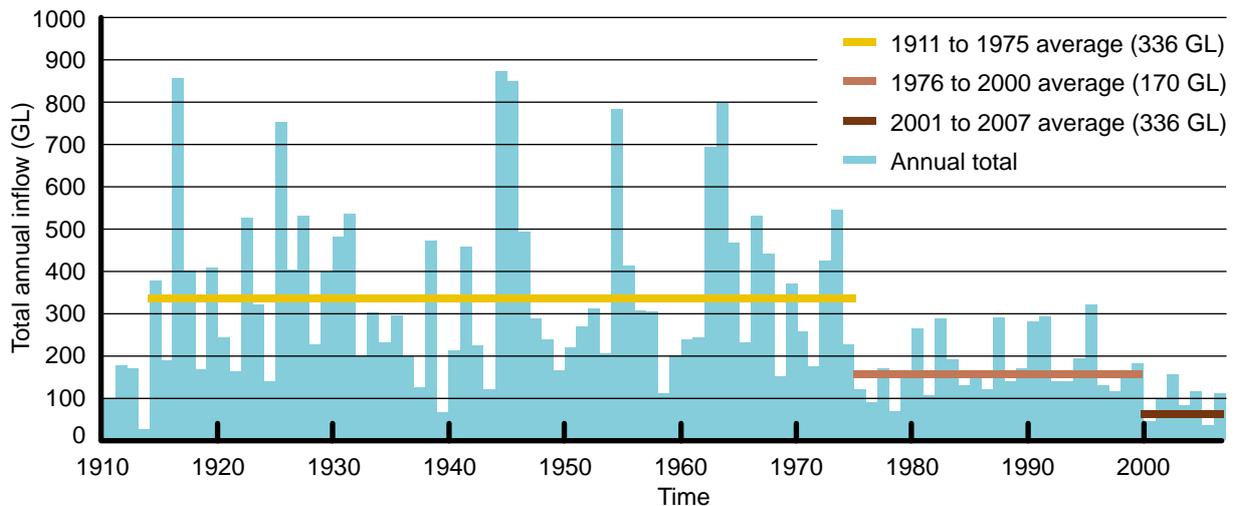
**Figure 3 Trend in Annual Total Rainfall 1950-2007 (mm per decade)**



*Source:* Bureau of Meteorology

Reductions in rainfall result in proportionately larger declines in the amount of water flowing into rivers and dams ('streamflow'). This effect is exacerbated by higher temperatures. In the Murray Darling Basin, a 10 per cent change in rainfall has already resulted in a 35 per cent reduction in streamflows. Over the last decade, the average streamflows supplying water to Melbourne, Sydney, Brisbane, Adelaide and Canberra have fallen, with recent streamflows 40 to 60 per cent below the one hundred year average. For Perth, annual dam inflows in 1975 to 1996 were about half the average for 1911–1974. For 2001–2007 inflows were about a quarter of the longer term average. See Figure 4 below.

**Figure 4 Annual streamflow into Perth's dams**



*Notes:* Values represent totals for May-April

*Source:* Western Australia Water Corporation

Water security is already a major challenge in southern parts of the continent and the costs of meeting this challenge will be significant. The cost of water in Melbourne is expected to double over the next five years, reflecting the cost of providing new water supplies. A desalination plant to supplement Perth's water supply in 2006 cost \$387 million.

Streamflows in the Murray-Darling Basin could fall by nearly 50 per cent by the end of the century. This would severely limit production from cropping and irrigated systems, and threaten aquatic ecosystems and the viability of towns and farming communities throughout the Basin. To help adapt to reduced water availability, the Australian Government is already investing \$12.9 billion in a long term Water for the Future plan.

The draft report of the Garnaut Review concludes that the costs of climate change for Australia will be relatively greater than for other developed countries. We are already a hot and dry continent. We live in a region of developing countries which are in weaker positions to adapt to climate change than wealthy countries with robust political and economic institutions.

The draft report of the Garnaut Review stated that by 2100 the impacts of unmitigated climate change on Australia could include:

- A 92 per cent decline in irrigated agricultural production in the Murray-Darling Basin, affecting dairy, fruit, vegetables, grains.
- Up to a 35 per cent increase in the cost of supplying urban water, due largely to extensive supplementation of urban water systems with alternative water sources.
- Significant risk to coastal buildings from storms and sea-level rise, leading to localised coastal and flash flooding and extreme wind damage.
- Catastrophic destruction of the Great Barrier Reef, with the reef no longer dominated by corals.
- An increase in heat-related deaths in Queensland each year and a rise in the number of Australians exposed to Dengue virus.<sup>9</sup>

As the IPCC points out, Australia's diverse natural systems, including those underpinning agriculture and fisheries, are highly exposed to long-term climate changes, with limited capacity to adapt. Areas particularly at risk include the Wet Tropics and Kakadu wetlands, alpine areas, and tropical and deep-sea coral reefs including the Great Barrier Reef.<sup>10</sup> However, Australia's scientific research base can help us adjust to some degree of climate change. Recent Australian Bureau of Agriculture and Resource Economics (ABARE) research highlights that the 'adaptive capacity' of our agricultural industries can aid the adjustment and reduce the potential vulnerability to climate change.

## **Impact of policy responses to climate change**

Australia's economic growth has benefited from the rapidly expanding developing economies, particularly in the Asia-Pacific region, driving international demand for our abundant mineral resources, including coal, iron ore, bauxite, alumina, and uranium. Australia is a net energy exporter, with the sector growing by an average 5 per cent a year in real terms over the past two decades, to \$38 billion in 2006–07 representing 3.8 per cent of GDP. In 2005–06, coal accounted for 62 per cent of total energy export value, with liquefied natural gas contributing 11 per cent and uranium one per cent.<sup>11</sup>

Australia's economic growth has boosted domestic living standards and consumption, including the consumption of energy. Australia is the world's ninth largest consumer of energy on a per capita basis, and this consumption is projected to grow by an average of 1.6 per cent per annum until 2030.<sup>12</sup> Australia is heavily reliant on brown and black coal for energy. In 2005–06, black and brown coal accounted for 42 per cent of primary energy consumption (and, according to ABARE, 75.6 per cent of electricity generation), while renewable energy sources represented five per cent.<sup>13</sup>

Australia's strong reliance on emissions intensive energy resources means that we could also be vulnerable to poorly targeted mitigation responses by other countries, such as protectionist responses that impose tariffs on Australia's emissions intensive exports. Australia has a strong interest in promoting broad-based, market responses to climate change because these allow abatement to happen where and when it is most cost effective, for example through improving overall energy efficiency.

In contrast, purely regulatory approaches often target the more obvious causes of climate change, leaving untapped more cost-effective forms of abatement. Such approaches could have a disproportionate effect on a country such as Australia which has major fossil fuel reserves. Regulatory approaches alone are likely to increase overall abatement costs, making it more difficult to achieve an effective global response to climate change.

Australia should also seek an international climate change framework which accounts for our particular national circumstances. It is likely that developed countries will be expected to collectively contribute more than any global average figure to the global emissions reduction effort. Our national, social and economic characteristics, especially our growing population, the transport needs of our vast continent and our relatively emissions-intensive economy, mean that we will have higher adjustment costs than

many other countries to reach ostensibly similar goals. These costs should be considered in shaping the pace of Australia's effort.

## **The Government's climate change strategy**

*The Government's three pillar climate change strategy seeks to reduce Australia's greenhouse gas emissions, adapt to the climate change we cannot avoid, and help shape a global solution.*

Given the risks that climate change poses to Australia, it is in our national interest to help forge an effective global response to climate change and to begin the transformation that will deliver a safe society, a strong economy, high living standards and growing job opportunities into the future.

The Government's climate change policy is built on three pillars:

- reducing Australia's greenhouse gas emissions
- adapting to climate change that we cannot avoid
- helping to shape a global solution that both protects the planet and advances Australia's long-term interests.

The first pillar is marked by the Government's commitment to reducing Australia's greenhouse gas emissions by 60 per cent below 2000 levels by 2050. There are important links between Australia's domestic and international climate change strategies. Australia's determination to make the transition to an economy with lower emissions, while maintaining high standards of living, helps sustain the international argument for stronger global action to reduce emissions.

The second pillar is a consequence of the fact that the science tells us that some degree of climate change is now unavoidable. Even if global mitigation efforts are successful, there is already substantial change built into the global climate system to which we will need to adapt.<sup>14</sup> The impacts of these changes represent considerable risk to assets, investment, environments, communities and regional economies. The costs of inaction from damage or asset loss are highly likely to exceed the costs of adaptation. Policy responses such as the \$200 million Great Barrier Reef Rescue Plan and the long term \$12.9 billion Water for the Future plan have been important first steps.

The third pillar reflects the fact that Australia has the capacity to influence the post-2012 outcome. In the current global negotiations on climate change, a key Australian objective for the post-2012 outcome is to achieve mitigation actions by all major economies, noting that the nature of individual commitments would differ according to national circumstances. In seeking a more robust multilateral response, the critical objective for Australia is to broaden the number of countries willing to take commitments. While all countries should act to mitigate climate change, the top 15 emitters are responsible for nearly three-quarters of global greenhouse gas emissions. The participation of these countries in a post-2012 outcome on mitigation is critical. Developed countries will be required to take the lead on reducing greenhouse gas emissions, as they have contributed

the bulk of the existing stock of human-caused, or so called anthropogenic, greenhouse gases already in the atmosphere. However, the rapid growth in the emissions of developing countries means that their participation will also be necessary to deliver any effective global solution.

The Bali Road Map agreed at the 2007 Conference of the Parties of the United Nations Framework Convention on Climate Change (UNFCCC) envisages that Australia and other advanced countries will adopt economy-wide targets. Developing countries also need to take action to slow the growth of their emissions, while at the same time continuing their economic and social development. An effective post-2012 outcome needs to reflect actions by all key countries, in binding international commitments which are consistent with our global agreement to common but differentiated responsibilities and respective capabilities. The Government expects that the nature and scale of commitments will differ but all nations of the world need to play their part and make binding commitments to do this.

Being part of the group of countries acting on climate change will enhance our seat at the international negotiating table. It will also reduce the economic costs and enhance the opportunities associated with moving to a low carbon world. Earlier action allows a more gradual transition to a low carbon economy, allowing individuals and businesses to adjust and learn over time. This learning process will give us a competitive advantage compared with countries that persist with economic structures based on carbon prices that are not sustainable.

Furthermore, by participating in a lower carbon economy through the global negotiating process, we enable Australian businesses to more fully participate in a new growing global market for renewable energy technology. Moving to a low carbon economy will create opportunities to develop expertise in expanding markets for clean technologies.

## **Developing a Carbon Pollution Reduction Scheme**

*The Carbon Pollution Reduction Scheme is a market based approach and is more flexible and lower cost than regulation alone. The Australian economy is well placed to handle the introduction of the scheme while securing our long-term prosperity.*

This green paper sets out a proposed approach for a Carbon Pollution Reduction Scheme. It identifies a range of options, carefully assesses their merit, identifies remaining information gaps and, in doing so, outlines dispositions and preferred policy positions as a basis for further public consultation. The positions outlined in this document represent the Government's current thinking based on available information. Preferred positions and dispositions should not be interpreted as statements of the Government's final policy intent. Stakeholder feedback is invited on all aspects of this green paper in order to inform the Government's final decisions on scheme design. The Government intends to reflect its final decisions in a white paper, accompanied by exposure draft legislation, to be released in December 2008.

The Government recognises that the introduction of emissions trading is a major and far-reaching reform. Accordingly, it intends to take a methodical, careful and consultative approach to developing and implementing this critical reform. It will not be rushed into precipitate decision making – all Australians have an interest in developing an effective and sustainable emissions trading scheme.

The Government's overriding objective is to get the design right.

Getting the design right requires that the scheme complement the Government's integrated economic policy framework. In particular, the scheme design, and accompanying schemes for household and business support, need to be consistent with the Government's fiscal strategy and the focus on expanding the productive capacity of the economy while restraining inflation.

This requires care and caution in both design and implementation, to ensure the scheme is capable of delivering ongoing emissions reductions over the long term while safeguarding our hard-earned macroeconomic stability and securing our long-term competitiveness and prosperity.

The Government's intention is to implement the Carbon Pollution Reduction Scheme in 2010. The nature of the problem requires action, and it is in Australia's national interest to develop a comprehensive scheme suited to our national circumstances in parallel with international discussions. Emissions trading design has been canvassed extensively in recent years and there is value in putting in place a clear legislative framework with which businesses and consumers can plan for the future. Excessive delay would prolong a period of investment uncertainty.

The longer we wait to take action on climate change, the sharper the adjustment to the economy will be when we are forced to act. Taking earlier action will allow an orderly, gradual transition to a low-carbon economy. Delaying action would require sharper, more rapid – and thus more costly – adjustments later.

Substantially reducing Australia's national emissions will involve the most significant structural reform of the economy since the 1980s. This reform process will not be easy and involves significant challenges. Meeting these challenges will require the Government to implement responsible economic policies focused on reducing emissions at the lowest possible cost in the context of a complex and challenging macroeconomic environment.

The Australian economy is well placed to face the challenge of responding to climate change. Wide-ranging reforms over the past quarter century have resulted in the flexible, prosperous economy Australia enjoys today. Combined with Australia's recent terms of trade, these reforms have underpinned strong, sustained economic growth and higher living standards. Reforms being progressed by the Government to enhance productivity and participation across the economy – including through the COAG National Reform Agenda and the Australia's Future Tax System Review – are designed to further strengthen Australia's economy. A measured and deliberative transition to a low carbon economy will form part of the Government's long-term economic reform agenda.

Structural reform of the economy will be required, regardless of the particular policies that are used to reduce emissions. Choosing economically inefficient options will not remove the need for structural reform, but will increase the cost, raise the burden and reduce our capacity to assist industries and households through the transition period.

For example, relying on regulation alone would require the Government to know exactly which emissions in which individual firms should be reduced and to implement specific targeted restrictions in specific sectors and sub-sectors of the economy. No government has sufficient information to implement this comprehensively across the economy. Businesses and households are much better placed to know where they can reduce emissions at low cost. The scheme provides the incentives for these reductions to occur.

Emissions trading will be the key mechanism for achieving substantial emissions mitigation in a responsible and flexible manner and at the lowest possible cost. The Carbon Pollution Reduction Scheme represents a continuation of Australia's economic reform path, addressing economic and social matters by harnessing flexible market processes.

In preparing this green paper, the Government has been informed by the Garnaut Climate Change Review. It has also built on the work of the previous Government's Task Group on Emissions Trading and the states and territories' National Emissions Trading Taskforce. It has engaged with state and territory governments through the Council of Australian Governments process. Extensive discussions have been held with industry and non-government organisations through formal consultative roundtables and in smaller meetings.

The green paper is intended to stimulate informed public debate. Further extensive consultation over coming months will ensure that Australia is well placed to implement such a critical national reform.

## **How does a cap and trade scheme work?**

*A cap and trade scheme provides a strong incentive for business to cut carbon pollution.*

Consistent with international developments, the Government has made a commitment to introduce a Carbon Pollution Reduction Scheme based on a cap and trade scheme. A cap and trade scheme is a way of limiting greenhouse gas pollution, giving individuals and businesses incentives to reduce their emissions.

The Government will need to first set a cap on carbon pollution, which is consistent with the Government's longer term goal of reducing national emissions by 60 per cent compared with 2000 levels by 2050.

The mechanics of a cap and trade scheme are set out in Box 1 below.

## **Box 1**

### **Mechanics of a cap and trade emissions trading scheme**

Step 1: Significant emitters of greenhouse gases need to acquire a 'carbon pollution permit' for every tonne of greenhouse gas that they emit.

Step 2: The quantity of emissions produced by firms will be monitored and audited.

Step 3: At the end of each year, each liable firm would need to surrender a 'carbon pollution permit' for every tonne of emissions that they produced in that year.

The number of 'carbon pollution permits' issued by the Government in each year will be limited to the total carbon cap for the Australian economy.

Step 4: Firms compete to purchase the number of 'carbon pollution permits' that they require. Firms that value carbon permits most highly will be prepared to pay most for them, either at auction, or on a secondary trading market. For other firms it will be cheaper to reduce emissions than to buy 'permits'.

Certain categories of firms might receive some 'permits' for free, as a transitional assistance measure. These firms could use these or sell them.

There are two distinct elements of a cap and trade scheme—the cap itself, and the ability to trade. The cap achieves the environmental outcome of reducing greenhouse gas pollution. The act of capping emissions creates a carbon price. The ability to trade ensures that emissions are reduced at the lowest possible cost.

The cap is the limit on greenhouse gas emissions imposed by the Carbon Pollution Reduction Scheme. The green paper does not address the *level* of scheme caps (the limit on emissions) that will be applied through the Carbon Pollution Reduction Scheme. The Government's intention is to release the medium-term emissions trajectories in the context of the white paper, taking into account a range of factors, including the work of the Garnaut Climate Change Review and modelling undertaken by the Treasury. The Treasury modelling is expected to be released in October 2008. Final decisions on how the cap on national emissions will evolve (the national emissions trajectory) will be made after that work has been published and there has been sufficient opportunity for public scrutiny.

The emissions subject to the cap are referred to as the 'covered' sectors. The Government specifies which emissions sources will give rise to obligations under the Carbon Pollution Reduction Scheme.

After setting the cap, the Government then issues 'permits' equal to that cap. The number of permits gives effect to the cap: for example, if the cap were to limit emissions to 100 million tonnes of CO<sub>2</sub>-e in a particular year, 100 million 'permits' would be issued for that year.

Firms responsible for emissions covered by the Carbon Pollution Reduction Scheme will be obliged to acquire and surrender a permit for each tonne of CO<sub>2</sub>-e that they have emitted during the compliance year. No limits or caps are imposed on individual

emitters or sectors, so long as they acquire sufficient permits to surrender in respect of those emissions.

The cap will be effective, and the environmental objective met, as long as the compliance and enforcement mechanisms ensure emissions are consistent with the cap. The Government is confident that the compliance and enforcement mechanisms proposed will be effective, as the scheme has been designed to cover a high proportion of national emissions with a relatively small number of liable parties. The scheme is estimated to place obligations on around 1,000 liable firms, covering the bulk of national emissions. More than 99 per cent of all firms in Australia will not need to be directly involved in the regulation of emissions or be required to purchase permits.

Setting a limit means that the right to emit greenhouse gases becomes scarce—and scarcity entails a price. The Carbon Pollution Reduction Scheme will put a price on carbon in a systematic way throughout the economy.

The effects of putting a price on carbon will be profound. Indeed, in its ability to change the economy over time, the Carbon Pollution Reduction Scheme is likely to be on par with past economic reforms such as the reduction in tariffs or deregulation of the financial system. Placing a limit and a price on emissions will change the things we produce, the way we produce them, and the things we buy.

The price on emissions resulting from the Carbon Pollution Reduction Scheme will increase the cost of those goods and services that are most emissions intensive; that is, those goods and services that have the most emissions associated with their production or use. This will change the relative prices of goods and services across the economy, making emissions-intensive goods and services more expensive relative to goods and services with low emissions intensity—providing businesses and consumers with incentives to adjust their behaviour, invest in low-emissions technologies and help Australia reduce emissions.

The Carbon Pollution Reduction Scheme will not result in all sectors reducing emissions by the same proportion or quantity. Generally, sectors with few abatement opportunities will reduce emissions less than those with greater abatement opportunities, but the price faced by all sectors for their emissions will be identical.

The cap will only achieve the desired environmental objectives if it is enforced. This means that firms responsible for emissions covered by the Carbon Pollution Reduction Scheme must monitor their emissions and report to government. Arrangements for the assurance of reported emissions data are required. To create an incentive to comply, penalties for non-compliance are also required.

The second essential element of a cap and trade scheme is the ability to trade. Since carbon pollution permits will be tradeable, the price of permits will be determined by the market.

If a firm can undertake abatement more cheaply than the permit price, it will reduce its emissions, limiting its need to buy permits. Conversely, companies will be willing to pay for permits if it will cost them more to change the way they operate and reduce their emissions.

By trading among themselves, firms achieve the scheme cap at least cost to the economy. Trading allows permits to be purchased by the firms that value them most highly.

Permits can be issued either by auction or by free allocation. As long as the cap remains unchanged, the total abatement outcomes will remain the same.

All measures to reduce emissions will entail a cost. Adopting the Carbon Pollution Reduction Scheme minimises that cost, hence it is a key way of reducing the impacts on households and businesses as they deal with the challenge of climate change.

## **The objective of the Australian Carbon Pollution Reduction Scheme**

There are many choices involved in the design of the Carbon Pollution Reduction Scheme. In reaching preferred positions, the Government has been guided by the objective of the scheme. The objective of the Carbon Pollution Reduction 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 to the most affected households and firms.

The first part of the objective recognises that it is desirable for emissions reduction targets to be achieved in the most cost-effective way, regardless of where those targets are achieved. The second part of the objective recognises that it is in Australia's national interest to act in partnership with the rest of the world to achieve a global solution. Like other nations, Australia must rely on international cooperation to achieve the necessary reductions in global greenhouse gas emissions. Therefore, it is vital that Australia's mitigation efforts, including the Carbon Pollution Reduction Scheme, are designed to support an effective global response. The third part of the scheme objective recognises that households and firms have made a range of decisions on the basis of current carbon prices and will need time and assistance to adjust.

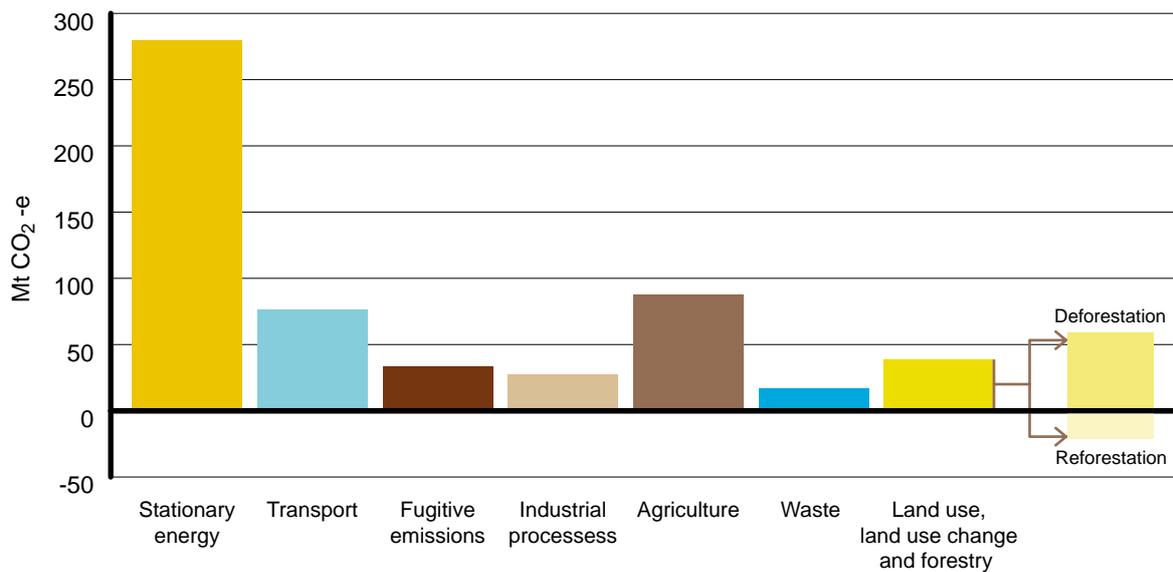
## **Australia's emissions profile**

*The bulk of Australia's emissions come from electricity generation, transport and agriculture.*

In 2006, Australia's net greenhouse gas emissions using the Kyoto accounting provisions were 576.0 million tonnes of CO<sub>2</sub>-equivalent (Mt CO<sub>2</sub>-e). The sectoral breakdown of these emissions is shown in Figure 5 below.<sup>15</sup>

The energy sector was the largest source of greenhouse gas emissions, contributing 69.6% (400.9Mt CO<sub>2</sub>-e) of emissions (Figure 1). This proportion is less than in many countries, due to the relatively large contribution from the agriculture (15.6%) and land use, land-use change and forestry sectors (6.9%) to Australia's greenhouse inventory. The industrial processes (4.9%) and waste (2.9%) sectors make smaller contributions to this overall national inventory.<sup>16</sup>

**Figure 5 Australia's national emissions profile in 2006**



Source: National Greenhouse Gas Inventory 2006, Department of Climate Change

## Coverage proposals including transport, forests and agriculture

*Broad coverage reduces the costs of cutting pollution—the scheme will cover the bulk of Australia's emissions. The Government will ensure a measured transition with policies tailored to the particular circumstances of transport and agriculture.*

The Government has announced that the Carbon Pollution Reduction Scheme should have maximal practical coverage of greenhouse gas emissions and sectors. Broad scheme coverage is a key element in reducing the overall cost to the Australian economy of achieving emissions reductions. Broad coverage will increase opportunities for low-cost emissions reductions and ensure that the cost of achieving those reductions is shared as equitably as possible across the economy. Broad coverage will also ensure that competing firms and sectors operate within equivalent market conditions.

The Government proposes to cover the stationary energy, transport, fugitive emissions, industrial processes, waste and forestry sectors, and all six greenhouse gases counted under the Kyoto Protocol from the time the Carbon Pollution Reduction Scheme begins.

The Government proposes to cover these sources and sectors via a combination of direct obligations on facilities with large emissions, and obligations on upstream fuel suppliers for the emissions resulting from the combustion of fuel. Synthetic greenhouse gases are proposed to be covered by making bulk importers of synthetic greenhouse gases, large importers of equipment containing synthetic gases, and domestic synthetic greenhouse gas manufacturers (of which there is currently none) liable for emissions resulting from the use of these gases.

## Transport

The Government proposes to include the transport sector in the Carbon Pollution Reduction Scheme to ensure ongoing incentives for carbon reduction over time. The Government does not believe that excluding transport from the Carbon Pollution Reduction Scheme is, over the long term, economically responsible. The more sectors excluded from the scheme, the higher the cost faced by the included sectors and, ultimately, by consumers. Excluding petrol on a permanent basis would not lead to lower costs for households—to the contrary, any abatement that would otherwise have come from the transport sector will have to occur elsewhere and at higher cost. For example, if petrol is permanently excluded, other energy costs faced by households will go up further because the overall scheme will still need to meet the Australia's overall carbon cap.

It is often claimed that transport is unresponsive to changes in prices. The evidence indicates that people respond slowly to price changes when making their transport decisions, but that over time price changes affect their decisions. The results of international studies vary, but show that a ten per cent increase in price leads to a fall in transport fuel use in the longer term of up to seven per cent. Australian studies have come up with lower figures, but those studies have all been conducted in periods with more stable and much lower prices. The key is to encourage consumers to adopt greater fuel and energy efficiency measures over time.

The largest fall in oil demand among developed countries since 1983 occurred in 2007. It is also reflected in the pattern of car purchases, which has seen a sharp reduction in the market share of large cars both in Australia and in the United States. New vehicle sales data in Australia shows an increase in sales of small and medium size vehicles and a decrease in sales of large vehicles over the past few years.<sup>17</sup>

The Government also recognises that fuels, unlike other sources of emissions, are currently subject to their own tax regime.

The Government will introduce the Carbon Pollution Reduction Scheme in a measured and responsible way which is mindful of the adjustment costs facing Australian households and businesses. In order to give households time to adjust to the scheme, the Government will make an offsetting cut in fuel taxes with the introduction of the Carbon Pollution Reduction Scheme as part of a broader ongoing policy response to the rising costs of transport fuel which continue to strongly affect Australian households and transport businesses.

The Government will cut fuel taxes on a cent for cent basis to offset the initial price impact on fuel associated with the introduction of the Carbon Pollution Reduction Scheme. The Government will periodically assess the adequacy of this measure for three years and adjust this offset accordingly. At the end of the three year period the Government will review this adjustment mechanism.

The Government's proposal to cut fuel taxes for the first three years of the Carbon Pollution Reduction Scheme on a cent for cent basis to offset the price impact on fuel will allow motorists five years to plan for potentially higher fuel prices. Over this period many people will have the opportunity to make decisions – for example, over the purchase of

a new car – informed by the longer term implications of the Carbon Pollution Reduction Scheme, with consequential impacts on their future demand for fuel.

As the carbon price changes over the first three years of the Carbon Pollution Reduction Scheme, the Government will periodically assess the adequacy of this adjustment mechanism and adjust fuel taxes accordingly.

After three years, the adjustment mechanism will be subject to review.

To assist rural and regional areas, the Government will provide an equivalent rebate to businesses in the agricultural and fishing industries for three years. This is necessary as the excise system effectively does not apply to this sector.

For heavy vehicle road users, fuel taxes will be cut on a cent-for-cent basis to offset the initial price impact on fuel associated with the impact of the Carbon Pollution Reduction Scheme. The Government will review this measure after one year.

## **Forestry**

The Government proposes to include forestry on an ‘opt-in’ basis from scheme start. A voluntary approach is possible for forestry because, unlike other sectors of the economy, forests are likely to store more carbon than they emit. Forest landholders therefore have an incentive to voluntarily include their forests in the scheme. Forest landholders would be issued carbon pollution permits which are additional to the cap for the increased net quantity of CO<sub>2</sub> that is stored in the forest. For those that have opted in to the scheme a liability would be imposed for net reductions in stored CO<sub>2</sub>, consistent with Kyoto Protocol accounting rules.

The Government proposes that only forestry activities that are recognised in Australia’s Kyoto Protocol accounts will be eligible for inclusion in the Carbon Pollution Reduction Scheme. If the scheme’s definition of forestry was different from the international definition, either the Government would have to purchase international units to ensure that our international obligations are met or the scheme cap would need to be tighter, transferring a larger burden to other sectors. The Kyoto rules exclude forests established prior to 1990 and treat the carbon stored in felled trees as if it had all been released into the atmosphere at that time. The Government believes these accounting rules are not an appropriate reflection of reality—carbon stored in wood products should be recognised in international agreements. Australia will, therefore, increase its efforts to influence changes to the international climate change framework in ways that reflect Australia’s particular circumstances, are based on science and provide appropriate incentives to reduce emissions.

The inclusion of forestry on an opt-in basis will provide an incentive for forest landholders, including indigenous land managers, to establish additional forests, or carbon sinks (forests planted for the purpose of permanently storing carbon). This raises other questions regarding potential shifts in land use from agriculture and other environmental impacts such as on water systems and biodiversity. The incentive will be greatest for carbon sinks that are planted with no intention of cutting the trees down. The incentive will be weaker for forests that have been planted for the purpose of felling

as forest landholders will need to take account the possibility of a liability at the point of felling. The Government is aware of these complex land use policy challenges and believes that they are best addressed directly through water policy and natural resource management policy.

The strength of the incentives will depend on the precise accounting and reporting arrangements adopted and the extent to which forest managers can adopt management practices to reduce liability (for example, by managing a portfolio of expanding forests). The Government will consult further on these arrangements.

After careful deliberation the Government does not propose to include deforestation in the Carbon Pollution Reduction Scheme. Australian deforestation emissions have reduced markedly since 1990, largely due to increased protections against land clearing. Although deforestation is heavily regulated, some forests can still legally be cleared, posing a challenge, not least the risk of pre-emptive land clearing if coverage was in prospect. In addition, a significant proportion of Australia's remaining emissions from land clearing occurs on small landholdings, which poses special challenges in relation reporting and compliance. The Government believes, however, that deforestation emissions need to be reduced further and it will explore how incentive-based measures might be used to further encourage reductions in deforestation.

## **Agriculture**

The Government does not consider that it is practical at this stage to include agriculture emissions in the trading scheme at commencement. However, for the reasons noted above, it is desirable to have maximal coverage. While the Government is disposed to eventually include agriculture, it recognises that considerable consultation and joint effort with the industry are still required to identify practical methods for inclusion, and to develop reliable and cost-effective methods of emissions estimation and reporting. Accordingly, the Government has decided that the earliest that agriculture should enter the Carbon Pollution Reduction Scheme would be 2015, with a final decision on inclusion or exclusion to be made in 2013 in the light of progress in overcoming practical difficulties and after extensive consultation with the industry.

## **Overall coverage**

The Government notes that when the Task Group on Emissions Trading report was released in 2007, the previous government committed Australia to developing the most comprehensive emissions trading scheme in the world. If the proposals canvassed in this green paper for scheme coverage are adopted, Australia would have one of the most broad based emissions trading schemes in the world.

## **Offsets**

The broad coverage proposed for the Carbon Pollution Trading Scheme creates limited scope for activities to create offset credits. Offset credits are rewards for reductions in emissions measured against an assumed baseline. Offset schemes are administratively complex and require considerable judgment to determine baselines—‘what would have happened in the absence of a particular decision’. Determining these baselines is inherently subjective, increasing the risk that schemes do not promote genuine abatement.

Offsets also do not increase national abatement, as the provision of credits into an emissions trading system allows additional emissions in the covered sector.

Since the scheme already creates an incentive to reduce emissions in covered sectors, it makes sense for offsets to be considered only in uncovered sectors. However, if a sector may be covered in future—for example, if agriculture is to be included in the scheme in 2015—it makes little sense to develop offset methodologies and install the required administrative arrangements for such a short period, particularly given the questions raised above regarding baselines and the lack of additional abatement. Accordingly, the Government is not proposing to establish an offset scheme for the agriculture sector prior to a final decision being made in consultation with the industry on final inclusion of agriculture in the proposed Carbon Pollution Trading Scheme (in 2013).

Some particular sources of emissions (or sub-sets of agriculture) are unlikely ever to be included in the scheme, such as emissions from uncontrolled burning of savannah in the tropical north of Australia, which can be reduced through controlled burning management practices. The Government will consult with indigenous land managers on this matter.

## **Implications of coverage for implementation**

The Government’s coverage proposals will be carefully designed to reduce implementation risks. Subject to final coverage decisions, the Government estimates that there will be around 1,000 firms compulsorily covered by the Carbon Pollution Reduction Scheme, out of 7.6 million registered businesses in Australia (based on a baseline for inclusion of 25,000 tonnes of carbon per year). Compared with the implementation of the Goods and Services Tax (GST), where around 2 million entities were registered for GST on introduction, very few companies need to prepare themselves to manage direct compliance obligations. Also, most liable parties will already be participating in the scheme’s administrative foundation – the National Greenhouse and Energy Reporting System (NGERS) – which commenced on 1 July 2008, well before the scheme’s start.

As stated earlier, the Government’s intention is that the Carbon Pollution Reduction Scheme will commence in 2010. The Government also recognises the need to ensure that business is ready to implement the scheme by this time. For this reason, we will be consulting over the coming months with business and other stakeholders on the specific implementation arrangements for business.

## Creating a robust carbon market

*Credibility of the scheme and associated financial markets is critical to reducing carbon pollution at lowest cost.*

The Carbon Pollution Reduction Scheme involves creating a new financial market to meet an environmental objective. In so doing, it provides Australia with opportunities for new industries and new jobs. This market needs to be credible over a long period to drive the investment in abatement and low-emission technologies required to deliver the environmental and economic benefits.

If a credible market exists, financial markets are likely to have greater confidence in estimating prices at future dates and are likely to establish traded financial instruments that reflect these estimates. These are known as forward prices. Forward prices allow investors to make decisions with a higher degree of certainty about the prices that will prevail over the life of their investment. A range of proposed design features are intended to provide transparency and medium-term certainty for market participants.

The Government proposes to issue carbon pollution permits as the units of trade under the Carbon Pollution Reduction Scheme. The Government proposes to auction the majority of permits, generating revenue that will be used to assist households and business with the adjustment to the scheme. Over the long term the Government proposes moving to 100 per cent auctioning.

The cap for the scheme will depend on the national emissions trajectory. The Government's intention is to indicate a medium term target range in the white paper process. A target range may be required given the need to take into account the uncertain and evolving state of international negotiations on global action on greenhouse gas reductions.

The Government's intention is that the trajectory of the scheme, taken together with other key design elements, assists with smoother, gradual and measured implementation of the Carbon Pollution Reduction Scheme. The Government's decisions related to the trajectory, banking and borrowing, the price cap and the extent of international linking are particularly important for ensuring a measured start to the scheme.

The Government intends to outline an indicative national emissions trajectory in the shorter term for the purposes of setting scheme caps necessary for the overall operation of the scheme.

The Government proposes that the carbon pollution permits would be personal property and that the legislation implementing the scheme would not provide any power to extinguish them without compensation. Each permit would represent one tonne of CO<sub>2</sub>-e. Permits would be 'date stamped' with the cap year to which they belong. Essentially no barriers are proposed as to who could purchase or hold these permits, to increase the liquidity of the permit market. Ownership of permits would be tracked in a national registry.

The Government proposes that carbon pollution permits could be used in any year from or after their year of issue (this is commonly referred to as unlimited banking).

For example, a 2010 carbon pollution permit would be valid for use in 2010 and in any subsequent year. Unlimited banking contributes to a measured start to the scheme by reducing price volatility that can be associated with having the particular circumstances of a single year as a determinant of the price. Unlimited banking also signals the Government's long-term commitment to the future operation of the market.

The Government proposes to allow a limited degree of borrowing from future scheme caps to increase flexibility for liable firms. This could be achieved by allowing liable firms to meet a small percentage of their obligations using permits from the following year. For example, in 2010, a liable firm could surrender some 2011 carbon pollution permits and have them counted towards compliance. The Government will decide the percentage limit on borrowing in the context of the final design decisions. Limited borrowing will contribute to a measured start by providing a more flexible supply of carbon pollution permits, particularly around the time when liable businesses must surrender permits.

The Government also proposes that there be a cap on the price that businesses would be required to pay for permits from the period 2010–11 to 2014–15. This would act to cap not only the costs of individual firms but also the costs of the scheme overall. The Government intends to set the price cap at a level that is above the estimated market price of permits. The intention is that this cap on compliance costs only be used in exceptional circumstances, but it would exist to counter circumstances that would not be consistent with a measured start to the scheme. The price cap would be reviewed at the first review point for the scheme.

## **Emissions targets and scheme caps**

*The Government will provide an indication for at least 10 years of the limits on carbon pollution. The Government will take account of international developments when setting the pollution limits.*

The annual limit on scheme emissions—the cap—is the central element of a cap and trade scheme. The cap defines the total number of Australian carbon pollution permits that would be issued in respect of that year, and is the principal determinant of the environmental contribution of the scheme. The scheme cap will be a primary determinant of Australian carbon prices so long as there are some limits on the extent to which the Australian scheme is linked to international schemes.

The Government's commitment to reduce emissions by 60 per cent from 2000 levels by 2050 provides a longer term anchor for the emissions trajectory. Shorter term decisions will need to ensure a path to this longer term target that is consistent with a measured start to the scheme.

So long as the scheme has less than 100 per cent coverage of national emissions, there will be a difference between targets for national emissions and the scheme cap. Although scheme caps need to be consistent with national emissions targets, they are not the same thing. The Government will need to estimate the emissions in the uncovered sectors and deduct this estimate from the national emissions target to determine the scheme cap. This highlights the need to separately consider the contribution made by the uncovered

sectors to emissions reduction goals, to ensure equity with those sectors covered by the scheme.

A cap and trade scheme requires the emissions cap to be specified for some period into the future. There is a need to balance the provision of certainty in the market (to help promote an economically efficient response) with the need to maintain policy flexibility. Flexibility is needed to respond to evolving science, as well as the pace and content of international negotiations.

The Government proposes that scheme caps could be set for five years in advance, or longer in the event that international obligations extend beyond this. Scheme caps would be extended by one year, every year, to maintain a constant five-year cap horizon.

The Government proposes that beyond the five-year period of scheme caps it will identify a range within which future scheme caps will be set—a 'gateway'. As the Government extends caps, it must choose figures that lie within the gateway. Gateways are proposed to extend for 10 years beyond the scheme caps, and to be extended by another five years, every five years. Regular independent reviews of the scheme's operation would provide advice to the Government on the appropriate gateways. The combination of cap and gateway arrangements mean that, at any point in time, market participants will know what the caps will be for the next five years, followed by a range within which future caps will be set that would extend a further 5 to 10 years.

At the scheme's proposed commencement in 2010, the Government's intention is that there would be scheme caps for each year up to 2015, followed by a gateway at 2020 and a gateway at 2025. In 2013 there will scheme caps for each year up to 2018, with a gateway at 2020 and 2025. The 2030 gateway would be set for the first time following a review in 2015.

In order to transition to this approach, the Government's intention is to provide an indicative national emissions trajectory for the period 2010–11 to 2012–13 in the white paper process. The Government will take into consideration the state of international negotiations when determining the indicative trajectory as well as the breadth of the proposed target range at 2020.

In 2010 the Government will announce a further two years of the trajectory up to and including 2014–15, or to the end of any new international commitment period, whichever is longer. In 2010 the Government will be able to take account of the evolving state of international negotiations, including the outcome of the Conference of the Parties in Copenhagen, as well as the commitments of the world's major emitters.

In 2008, the Government proposes to announce a methodology for setting scheme caps for the period 2010–11 to 2014–15, consistent with the national emissions trajectory. In early 2010, the Government will announce the finalised scheme caps for the first five years of the scheme (2010–11 to 2014–15) based on the decision rule.

## Reporting and compliance

*Effective reporting and compliance arrangements will be critical – the scheme builds on the existing National Greenhouse and Energy Reporting System.*

Effective reporting and compliance arrangements will be critical to underpinning the environmental integrity and economic efficiency of the scheme.

As part of meeting their obligations under the scheme, liable firms will be required to monitor and report their annual emissions, keep adequate records to enable the assurance of reported emissions and surrender eligible emissions permits equal to their annual emissions.

The *National Greenhouse and Energy Reporting Act 2007* (NGER Act) introduces a single national reporting framework for the reporting and assurance of information related to greenhouse gas emissions, greenhouse gas projects, energy consumption and energy production. The NGER Act states that one of its key objectives is to underpin the introduction of emissions trading, and the Act has been widely supported by industry and community groups.

Where practical, the National Greenhouse and Energy Reporting System (NGERS) will be used as the basis for monitoring, reporting and assurance of emissions under the scheme. However, in some areas, NGERS will need to be strengthened to support the special financial importance attached to emissions reported under the scheme. A staged approach to improvements in measurement methodologies is proposed. The Government will take account of compliance costs and the wider goals of NGERS for improving the collection of energy and emissions data when considering any potential changes. The Government proposes that a single report prepared annually by each liable entity should satisfy requirements under NGERS and the Carbon Pollution Reduction Scheme.

An assurance regime will be required to ensure that emissions are reported accurately, according to approved methodologies. In order to ensure that the data reported under the scheme is robust, it is proposed that large emitters be required to have their emissions reports assured by a third party.

## International linking

*The scheme will be designed to link with other schemes overseas to contribute to a global solution and to ensure that Australian businesses can access low-cost pollution reduction.*

The ratification of the Kyoto Protocol, and the existence of emissions trading schemes elsewhere in the world, creates opportunities to link with international carbon markets. Under the Kyoto Protocol, national emissions targets are calculated taking account of the flexibility mechanisms that allow for the transfer of Kyoto units between parties.

Linking to other schemes broadens the range of available abatement options, reducing the overall cost of meeting an emissions target. If abatement costs are lower overseas, it would be more cost effective to purchase the abatement abroad rather than reduce emissions in Australia, and the global environmental outcome will be unchanged. The purchase of international units will tend to lower the price of carbon pollution permits in Australia.

However, any decision to link would be a decision to recognise the veracity of the regulatory system, including the reliability of the monitoring, reporting and verification systems, of another country. This is true for linking with both cap and trade systems and for offset systems based on a business-as-usual baseline. In the latter case there must also be confidence in the methodologies associated with establishing the baseline, which is inherently more challenging than establishing actual emissions estimates.

In the longer term, the Government has a preference for open linking within the context of an effective global emissions constraint. Because international linkages will assist in building an effective and least-cost global approach to emissions reductions, an open approach to linking is strongly in Australia's national interest. In the short term, principally to minimise implementation risks, the Government proposes that there will be limits on the number of international offset credits that liable firms can surrender for compliance. The Government's intention is to announce these limits in the context of the white paper process. International units that would be accepted, subject to this limit, would be certified emission reductions (CERs) created under the Kyoto Protocol's clean development mechanism, emission reduction units (ERUs) created under the joint implementation mechanism and removal units (RMUs) created in respect of land use, land use change and forestry activities.

In the initial years of the scheme the Government proposes not to allow the export of Australia's own Kyoto Protocol compliance units. Export of units would place upward pressure on the domestic emissions permit price and could be a source of unnecessary volatility while the scheme is bedded down, which would be counter to the goal of seeking a smooth introduction. The Government intends to make final decisions on whether to allow the export of international offset credits created in Australia through the Kyoto Protocol's joint implementation mechanism in 2013 in the context of decisions on domestic offsets.

## **Assistance for households**

*Every cent raised by the scheme will be used to help households and business adjust. The revenue raised allows the Government to assist households – particularly low-income households – and business adjust to the impact of the scheme.*

The introduction of the Carbon Pollution Reduction Scheme will result in changes to a wide range of prices, although the overall increase in the cost of living is expected to be modest. Nonetheless, the Government recognises that even a modest increase in the cost of living impacts on household budgets.

As the scheme is intended to deliver abatement, and not to adversely affect the distribution of income and wealth, the Government will provide 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.

The Government will cut fuel taxes on a cent for cent basis to offset the initial price impact on fuel associated with the introduction of the Carbon Pollution Reduction Scheme. The Government will periodically assess the adequacy of this measure for three years and adjust this offset accordingly. At the end of the three year period the Government will review this adjustment mechanism.

The revenue provided by the auctioning of the carbon pollution permits provides the Government with the capacity to assist households, particularly low-income households, to meet increases in costs associated with the scheme.

Every cent raised for the Australian Government from the Carbon Pollution Reduction Scheme will be used to help Australians – households and business – adjust to the scheme and to invest in clean energy options.

The Government commits to:

- Increase payments, above automatic indexation, to people in receipt of pensioner, carer, senior and allowance benefits and to 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, noting that these payments are automatically indexed to reflect changes in the cost of living.
- Provide additional support through the introduction of energy efficiency measures and consumer information to help households take practical action to reduce energy use and save on energy bills so that all can make a contribution.

The Government has indicated in the terms of reference for Australia's Future Tax System Review that it is to consider the interrelationship between the tax and transfer payment systems and the Carbon Pollution Reduction Scheme.

The Government's commitments to households are part of a broader approach to managing the transition to a low emissions economy.

As long as support to households takes the form of cash, rather than subsidies linked to actual consumption of specific products (for example, a subsidy for every kilowatt hour of electricity consumed), this assistance should not blunt the incentive to change behaviours in ways that result in lower emissions. These changed incentives

for households will also stimulate businesses to provide goods and services that are produced with fewer emissions, thereby reducing emissions and giving households greater choice. In the case of petrol, the Government's policy will maintain the long-run incentives to use fuel more efficiently, and give motorists time to plan for potentially higher fuel prices.

More generally, the impact on households will depend critically on their capacity to change behaviour and to pursue energy efficiency enhancements. For households, this centres on improving the efficiency of housing, household appliances and transportation. Households can take a range of actions to reduce their carbon footprint and the Government will expand support programs as well as provide information, education and advice to the community on how energy efficiency can best be increased.

The Government will consider new energy efficiency initiatives with the intention that implementation begin prior to the commencement of the scheme. The Government acknowledges that low-income households often face restrictions on their capacity to take up energy efficiency measures, due to insufficient access to capital as well as a lack of information. These matters will be taken into account in designing the measures.

Together, these policies will protect the poorest and most vulnerable in society, assist working families, and allow all Australians to contribute to the critical national challenge of managing the transition to a less emissions intensive economy.

## **Assistance for business, regions and workers**

*The Government will establish a Climate Change Action Fund to assist business to transition to a cleaner economy.*

The challenge of adjusting to a lower emissions environment will be broadly shared across the economy.

The Government proposes to establish the Climate Change Action Fund (CCAF). The purpose of the fund is to assist business transition to a cleaner economy, by providing in partnership funding for a range of activities, including:

- Capital investment in innovative new low emissions processes
- Industrial energy efficiency projects with long payback periods
- Dissemination of best and innovative practice among small to medium sized enterprises.

The Government proposes to settle funding arrangements for the fund in the context of final design decisions for the Carbon Pollution Reduction Scheme. The Government will take into account the outcomes of the Wilkins Review and the COAG assessment of complementary measures in setting the final design for the Fund.

The regional impacts of adjustment may be concentrated. While structural adjustment measures already in existence provide a means to assist affected workers and regions, the Government will provide additional support.

## Emissions-intensive trade-exposed industries

*The Government proposes to provide assistance to the most heavily emissions-intensive trade-exposed activities.*

The extent of cost increases for businesses arising from the cap on emissions will depend on the emissions intensity of their activities—the more emissions they produce per unit of output, the higher the relative cost.

Many businesses will be little affected by the scheme, as they face the same cost increases as their competitors. However, trade-exposed industries may not be able to pass on the costs as they face prices set in international markets, and compete against firms that do not at this stage have comparable carbon constraints.

In the absence of assistance, if constraints on emissions are placed on activities in Australia but not elsewhere, there is a possibility that some emissions-intensive trade-exposed activities (EITEs) may choose to leave Australia (or new investment could be discouraged). If these EITEs choose to relocate elsewhere, with no consequent global reduction in emissions, it results in what is called ‘carbon leakage’.

The Government proposes to address the problem of potential carbon leakage by providing a share of free permits to the most emissions-intensive trade-exposed activities.

The Government proposes to assist those firms that have a sufficiently material impact on their cost structures as a result of the scheme. The Government proposes using a measure based on emissions intensity per unit of revenue rather than one based on emissions per unit of value add as this is a more transparent and comparable indicator. Value add measures could also lead to firms with very small emissions liabilities but small value add being eligible for assistance. Measures based on value add can be highly volatile and very sensitive to the particular estimation method. In contrast revenue is an easily observed and well understood measure.

Determining the allocation of free carbon pollution permits involves a balance between the competitive position of emissions-intensive trade-exposed industries and the rest of the economy. On the one hand, if assistance is not provided these industries may be disadvantaged relative to their international competitors. On the other hand, the provision to these firms of free carbon pollution permits based on their ongoing production will impose a greater adjustment burden on the rest of the economy. That is, the non-assisted industries and firms will have to reduce their emissions even further. For this reason, assistance must be confined to those industries most at risk of carbon leakage—the most significantly emissions-intensive trade exposed sectors.

The Government proposes to allocate a share of free carbon pollution permits to the most emissions-intensive trade-exposed activities. The Government also proposes to take into account the likely allocation that would need to be provided to parts of the agriculture sector were it to be included in the scheme after 2015, given the emissions intensity and trade exposure of major agricultural industries.

The Government proposes to allocate permits on the basis of the most emissions intensive activities that lead to the production of trade-exposed products, rather than on the basis of a firm or industry level. Ultimately, it is these activities, rather than firms or industries (which may include a mixture of high- and low-emissions intensity processes), that are at the greatest risk of carbon leakage. If a firm ceased to operate these activities in Australia, its supply of free permits would also cease.

The Government proposes to provide free permits for a high proportion of the emissions of the most emissions-intensive trade-exposed activities while providing significant, but lower, levels of assistance to a class of activities that are moderately emissions intensive and trade-exposed. The Government proposes to establish a list of activities that would fall into these two categories. The list of activities would then be included in regulations and the scheme regulator would issue permits according to a formula related to the output associated with those activities. Such an approach would ensure that all industries incur some of the costs of emitting, with scaled assistance for those facing significantly more material costs than other firms.

Based on currently available information, the Government's preferred position is to allocate up to around 30 per cent of carbon pollution permits to emissions-intensive trade-exposed activities.

The Government proposes that activities with:

- an emissions intensity above 2,000 t CO<sub>2</sub>-e/\$ million revenue would have the initial assistance level set at around 90 per cent of industry average emissions per unit of output
- emissions intensities between about 1,500 and 2,000t CO<sub>2</sub>-e/\$ million revenue would have the initial assistance level set at around 60 per cent.

The Government proposes to provide assistance on the basis of industry average activity emission intensities rather than the intensity of a particular firm or facility. This approach will ensure that businesses have an incentive to reduce their emissions leading up to the introduction of the scheme and would reward those firms that have already taken action to reduce their carbon footprint.

The Government also proposes that the rate of assistance per unit of output given to these firms should be gradually reduced over time at a pre-announced rate to ensure that all parts of the economy contribute to the objective of reducing emissions. If the rate of assistance did not decline, the share of permits provided free would rise as the sector grew and the national cap declined, shifting an ever increasing burden onto the rest of the economy.

The Government also proposes to assist new EITE investments in these activities in a manner comparable to the way in which it treats existing investments.

While the Government's preferred position is to allocate up to around 30 per cent of carbon pollution permits to EITE industries, the precise threshold figures, proposed rates of assistance, the structure of assistance and the preliminary list of activities that would be covered (outlined in the body of the green paper) are indicative only. Further,

if subsequent information indicated that the parameters listed above would result in an allocation of carbon pollution permits above or below 30 per cent of national emissions, then the Government would need to recalibrate the parameters.

The green paper consultation process is intended to provide an opportunity for stakeholders to place information on emissions and production levels before the Government. The Government strongly encourages stakeholders to provide any relevant information to inform the final decision, being mindful of the Government's overall disposition that these sectors should contribute, along with all other sectors and households, to the national abatement task. Information provided through the consultation process will be taken into account when the Government makes final decisions on thresholds and shares. The Government intends to ensure that an appropriate degree of support is provided to emissions intensive trade exposed firms taking account of both the risk of carbon leakage and the efforts required of the rest of the economy.

## **Strongly affected industries**

*The Government proposes to provide a limited amount of direct assistance to existing coal-fired electricity generators.*

Based on information available to date, the Government considers that the firms most likely to be considered strongly affected are coal-fired electricity generators. Such generators could potentially face reductions in their asset values as a result of the scheme.

The Government has come to this conclusion on the basis that they are highly emissions intensive, unable to fully pass on their carbon costs, owners of significant long-lived assets with limited alternative uses and able to access few, if any, financially viable abatement options.

These considerations highlight the potential benefits from developing new clean coal technologies, in particular the development of commercially viable carbon capture and storage (CCS) technology. Commercially viable CCS would assist current coal-dependent regions to grow and prosper. However, the imperative to develop clean coal options is not purely domestic. Coal is the most plentiful and broadly distributed energy source on the planet. Countries such as India and China will have strong incentives to use coal for many reasons, including energy security and hence CCS will necessarily be a critical part of any global solution. As a major coal exporter, Australia has a key interest in supporting the development of CCS to enable coal to be used in a way that does not compromise the global climate change objective.

The Government has provided significant funding to CCS via its \$500 million Clean Coal Fund – success in this area will help ensure the long-term viability of domestic coal-fired electricity generation and of our coal-producing regions.

The fact that existing coal-fired generators are likely to be strongly adversely affected by the scheme does not, of itself, justify the provision of additional assistance. Among other

considerations there is a question as to whether investors have factored in the possibility of a carbon constraint given the longstanding debate around climate change.

In addition, every carbon pollution permit provided to an electricity generator is one less permit that could have been sold, and less revenue that is available to assist households or other industry groups.

However, there are broader economic factors that are worthy of consideration. If the change in regulatory arrangements was unanticipated and implemented without compensation, and investors viewed this as evidence that the Government was likely to change the regulatory regime in future in an unpredictable way, then investors might regard Australia's electricity market as a riskier investment proposition. An increased perception of risk would increase the expected returns required by investors before they would invest, potentially delaying new investments in the generation sector. The extent of this risk is unquantifiable as it is based on the subjective views that investors may have held in the past and the view that they may take of the stability of the new investment environment in electricity.

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 Government has a disposition to deliver this assistance, in part, through a new mechanism called the Electricity Sector Adjustment Scheme (ESAS).

To ensure a simple system that does not require detailed knowledge of individual asset characteristics, any assistance would be determined on the basis of the generator's capacity, and whether it uses black or brown coal. The Government proposes to determine the level of assistance to be allocated to generators following further consultation with the sector and after decisions on the medium-term emissions targets. This assistance would be subject to review to minimise any prospect of windfall gains for generators.

The Government has a disposition to deliver this assistance, in part, through a new mechanism called the Electricity Sector Adjustment Scheme (ESAS).

An integrated strategy, with ESAS operating alongside the Government's existing programs such as the National Clean Coal Initiative, would deliver support to strongly affected industries and workers and communities by:

- underpinning investor confidence in the electricity generation sector
- facilitating structural adjustment for individual firms, workers and regions
- ensuring security of energy supply – including through measures which facilitate adaptation to low emissions production (eg. clean coal technology, and through research and development into energy efficient production systems).

Different delivery mechanisms may be required for various elements of the ESAS, and the Government will discuss the appropriate form of support with stakeholders, including possible options for conditional support that would be consistent with the

economic and environmental objectives of the scheme. These elements could include the provision of free permits.

## **Scheme governance**

*The Government proposes to establish an independent scheme regulator and to conduct independent reviews of the scheme every five years.*

The Government proposes to establish an independent scheme regulator, whose primary responsibilities will be to monitor and enforce compliance, run auctions for permits, allocate free permits according to clearly specified rules, and maintain the national emissions registry.

The Government proposes that the Executive and the Parliament retain responsibility for decision-making on matters where political accountability is paramount. The Government will set and extend scheme caps and gateways, decide the nature and extent of international links, and decide when allocations of free permits to emissions-intensive trade-exposed industries should cease.

Independent public reviews are proposed every five years to ensure the scheme is achieving its objectives and performing as required.

## **The role of complementary measures and transitional matters**

*Complementary measures can supplement the Carbon Pollution Reduction Scheme and assist Australia reduce carbon pollution at even lower cost. The Government is reviewing existing programs to ensure they remain relevant.*

While the Carbon Pollution Reduction Scheme will be the primary measure to achieve Australia's emissions reductions 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.

However, the presence of the Carbon Pollution Reduction Scheme is likely to mean that some other measures may no longer be required (for example, measures that are currently justified on the basis that no effective carbon price exists or that were introduced prior to a commitment to introduce the scheme). Continuing to use such measures will not lead to an increase in emissions abatement – within a fixed cap, reductions in emissions in one part of the economy simply result in more emissions elsewhere. Therefore, those measures can be justified only if they lead to a lower cost for the given level of abatement or are of a transitional nature such that they change the capacity of the economy to respond, thereby allowing the Government to set a more demanding cap in the future.

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 existing policy measures are genuinely complementary. The Commonwealth is currently reviewing its own programs to assess whether they meet those criteria. COAG recently noted that all jurisdictions are reviewing the complementarity of their existing climate measures. State and territory governments are also considering the ongoing role of the Greenhouse Gas Reduction Scheme and the Queensland Gas Scheme, with the introduction of the Carbon Pollution Reduction 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.

There are also a number of other abatement and other regulatory matters arising prior to the proposed introduction of the scheme. The broader matter of retail price regulation for electricity and gas consumers is currently being progressed through the work of the Ministerial Council on Energy. The Government supports the principle of this market reform agenda.

## **Next steps: engagement in the process and final decisions**

*Submissions are invited in response to the green paper and widespread consultation will occur over coming months.*

Submissions are invited in response to the green paper. The Government will take stakeholder feedback into account when preparing a white paper and accompanying exposure draft legislation.

The Government's intention is to provide an indication of medium-term targets in the white paper process.

Following feedback on the exposure draft, the Government intends to introduce the Carbon Pollution Reduction Scheme legislation into Parliament in 2009, aiming to achieve passage of the Bill by mid-2009. During 2009, consultation on the emissions trading regulations will be undertaken.

The Act is proposed to come into force later in 2009. At that time, the scheme regulator will be established. It is intended that arrangements to prepare for the formal establishment of the regulator will be undertaken before then to assist in the smooth commencement of the scheme.

It is the Government's intention that the Carbon Pollution Reduction Scheme will commence in 2010. The Government recognises the need to ensure that business is ready to implement the scheme by this time and will consult with the community and business over the coming months. As discussed above, the fact that the scheme will have only around 1000 firms as compulsory liable parties and that the NGERs system is already collecting emissions data means that a 2010 start date is administratively feasible.

## Making a submission

Stakeholders are encouraged to engage fully in the consultation process and consider carefully the options canvassed in this report. The Government invites interested parties to register their interest and make a written submission.

Stakeholders may comment on any matter they consider relevant to the design of the Carbon Pollution Reduction Scheme. In particular, they may wish to comment on the design options canvassed in this report, with a focus on the Government's preferred positions.

Stakeholders can be assured that submissions made to previous processes of the Task Group on Emissions Trading, the National Emissions Trading Taskforce and the Garnaut Climate Change Review will be taken into account. However, stakeholders can re-submit part or all of the submissions made to those bodies if they so wish.

Each submission, unless it is made in confidence, will be published on the Department of Climate Change's website, at which time it will become a publicly available document. This will occur soon after the submission is received, unless it is accompanied by a request to delay release for a short period. Submissions will remain on the department's website indefinitely. Copyright resides with the author(s), not with the Government.

Submissions are due on or by 10 September 2008.

Submissions can be forwarded to:

Postal: Carbon Pollution Reduction Scheme Green Paper Submission  
Department of Climate Change  
GPO Box 854  
Canberra ACT 2601  
Australia

Email: [emissionstrading@climatechange.gov.au](mailto:emissionstrading@climatechange.gov.au)

A cover sheet for submissions is available at [www.climatechange.gov.au](http://www.climatechange.gov.au) or can be requested from the Department of Climate Change on 1800 057 590.

**Important:** Please indicate clearly if you want your submission to be treated as confidential or anonymous.

Confidentiality statement: All submissions will be treated as public documents, unless the author of the submission clearly indicates the contrary by marking all or part of the submission as 'confidential'. Public submissions may be published in full on the website, including any personal information of authors and/or other third parties contained in the submission. If your submission contains the personal information of any third party individuals, please indicate on the cover of your submission if they have not consented to the publication of their information. A request made under the *Freedom of Information Act 1982* for access to a submission marked confidential will be determined in accordance with that Act.

## Endnotes

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- 15 Department of Climate Change, *National Greenhouse Gas Inventory*, 2006.
- 16 Department of Climate Change, *National Greenhouse Gas Inventory*, 2006.
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# Summary of Preferred Positions

## 1. Framework

- 1.1 The objective of the Carbon Pollution Reduction 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.
- 1.2 Design options are to be assessed against the following assessment criteria:
  - 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.

## 2. Coverage

- 2.1 All greenhouse gases included under the Kyoto Protocol—carbon dioxide, methane, nitrous oxide, sulphur hexafluoride, hydrofluorocarbons and perfluorocarbons—would be covered from scheme commencement.
- 2.2 In general, the emissions threshold for direct obligations under the scheme would apply to entities with facilities which have direct emissions of 25,000 tonnes of carbon dioxide equivalent a year or more. Different thresholds may be required for the waste sector and synthetic greenhouse gases.
- 2.3 Stationary energy emissions would be covered from scheme commencement by applying scheme obligations both to facilities with direct emissions of 25,000 tonnes of carbon dioxide equivalent a year or more and to suppliers of fuel to small energy users.
- 2.4 Transport emissions would be covered from scheme commencement, with scheme obligations applied to upstream fuel suppliers.

The Government would work with the fuel supply industry to develop administrative arrangements to enable fuel that is exported, used for international transport, sequestered in plastics and supplied to visiting defence forces and consular vehicles to be excluded from obligations under the scheme.

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 introduction of the Carbon Pollution Reduction Scheme. The Government will periodically assess the adequacy of this measure for three years and adjust this offset accordingly. At the end of the three year period the Government will review this adjustment mechanism.

To assist rural and regional areas, the Government has committed to provide an equivalent rebate to businesses in the agricultural and fishing industries for three years.

The Government has committed that for heavy vehicle road users, fuel taxes will be cut on a cent-for-cent basis to offset the initial price impact on fuel associated with the impact of the Carbon Pollution Reduction Scheme. The Government will review this measure after one year.

- 2.5 Fugitive emissions would be covered from scheme commencement by applying scheme obligations to facilities with direct emissions of 25,000 tonnes of carbon dioxide equivalent a year or more.
- 2.6 Emissions from industrial processes would be covered from scheme commencement by applying scheme obligations to facilities with direct emissions of 25,000 tonnes of carbon dioxide equivalent a year or more.
- 2.7 Synthetic greenhouse gas emissions would be covered from scheme commencement by applying scheme obligations to bulk importers of synthetic greenhouse gases, large importers of equipment containing synthetic greenhouse gases, and domestic synthetic greenhouse gas manufacturers (of which there are currently none), with a threshold to be determined.
- 2.8 Emissions from the waste sector would be covered from scheme commencement, with the precise scope of coverage, thresholds and other detailed design issues to be determined.
- 2.9 Carbon that is transferred to carbon capture and storage (CCS) facilities would be netted out of the originating entity's gross emissions. Scheme obligations for fugitive emissions—from transport of the carbon and from the CCS facility—would be imposed on the operator of the CCS facility.
- 2.10 Scheme obligations for emissions from fuel combustion would be applied to all fuel excise and customs duty remitters for all liquid fuels currently subject to fuel excise and excise-equivalent customs duty, with thresholds to exclude smaller customs duty remitters to be determined.
- 2.11 Scheme obligations for emissions from synthetic liquid fuels would be applied to fuel excise and customs duty remitters.
- 2.12 Scheme obligations for emissions from liquefied petroleum gas would be applied to producers, marketers, distributors and importers of liquefied petroleum gas supplied to energy users.

- 2.13 Scheme obligations for emissions from domestic combustion of liquefied natural gas and compressed natural gas would be applied to producers of those fuels.
- 2.14 Scheme obligations for emissions from natural gas combustion would be applied to entities with facilities which have direct emissions of 25,000 tonnes of carbon dioxide equivalent a year or more, and to natural gas retailers for emissions from gas supplied to small emitters, or to gas producers where they supply directly to small emitters.
- 2.15 Scheme obligations for emissions from black coal combustion would be applied:
- to facilities with direct emissions of 25,000 tonnes of carbon dioxide equivalent a year or more
  - to all coal mines, distributors, washeries, and producers of coke and coal by-products for emissions from small emitters.
- 2.16 Scheme obligations for emissions from brown coal combustion would be applied:
- to facilities with direct emissions of 25,000 tonnes of carbon dioxide equivalent a year or more
  - on manufacturers of brown coal briquettes and other brown coal by-products for emissions from small emitters.
- 2.17 Scheme obligations would not apply to emissions from combustion of biofuels and biomass for energy; they would receive a 'zero rating'.
- 2.18 The scheme would cover only domestic emissions sources and sinks that are counted in Australia's Kyoto Protocol emissions account.
- 2.19 The Government is disposed to include agriculture emissions in the scheme by 2015 and to make a final decision on this in 2013.

Given the compliance costs that would be involved if scheme obligations were to apply at farm-level, the Government seeks stakeholder views on the merits of an approach to coverage that would apply obligations generally off-farm, at some other point in the supply chain (for example, on fertiliser suppliers, abattoirs, dairies and beef exporters). The Government recognises that any approach will also need to provide appropriate incentives for on-farm abatement.

- 2.20 All reforestation (as defined for the first commitment period of the Kyoto Protocol) would be included, on a voluntary basis, from scheme commencement in 2010, with design details to be determined.
- 2.21 After careful deliberation the Government does not propose to include deforestation in the Carbon Pollution Reduction Scheme. Australian deforestation emissions have reduced markedly since 1990, largely due to increased protections against land clearing.
- 2.22 The scheme would not include domestic offsets from agriculture emissions in the period prior to coverage of these emissions.

The Government would consider the scope for offsets from emissions sources that cannot be included in the scheme in 2013, following final decisions on coverage of agriculture emissions.

The Government is committed to facilitating the participation of Indigenous land managers in carbon markets and will consult with Indigenous Australians on the potential for offsets from reductions in emissions from savanna burning and forestry opportunities under the scheme.

### **3. Carbon Markets**

- 3.1 A carbon pollution permit (which will be referred to in legislation as an Australian emissions unit) would be an entitlement composed of various 'rights' contained in the carbon pollution reduction legislation. The main rights would be the right to surrender the permit and to transfer it.

The scheme regulator would issue only one type of domestic permit, called an Australian emissions unit (referred to in this green paper as a carbon pollution permit).

The carbon pollution permits would be personal property.

Each permit could be surrendered to discharge scheme obligations relating to the emission of one tonne of carbon dioxide equivalent of greenhouse gas.

Each permit could be surrendered under the scheme only once.

There would not be power to extinguish permits without compensation, unless there had been misrepresentation or fraud by the holder against the Australian Government or the scheme regulator in the creation or issue of the permits.

Permits would be transferable.

Permit holders would only be entitled to surrender permits that they hold on the national registry. Legal title would be transferred only by entry in the registry.

The creation of equitable interests in permits would be permitted, as would taking security over them.

Each permit would have a unique identification number and be marked with the first year in which it could validly be surrendered (its 'vintage'). It would not have an expiry date.

The permit would be uncertificated; that is, it would be represented by an electronic entry in the registry rather than by a paper certificate.

- 3.2 A permit could be held and traded by any legal or natural person (subject to verification of identity and measures to prevent criminal activity).

There would be no restriction on foreign ownership of permits, apart from any that might apply under a law other than the scheme legislation.

3.3 The permit would be a financial product for the purposes of the *Corporations Act 2001*, but some adjustment to that regime may be required to fit the characteristics of permits.

3.4 Unlimited banking of permits would be allowed under the scheme.

3.5. The scheme would permit a limited amount of short-term borrowing by allowing liable entities to discharge up to a certain percentage (less than 5 per cent) of their obligations by surrendering carbon pollution permits dated from the following year.

The exact percentage should be subject to further investigation and should be considered in conjunction with decisions about the level of the initial scheme caps.

3.6 The scheme would have a compliance period of one year. Further consultation with industry will be needed for reporting and compliance periods for reforestation.

3.7 The scheme would have a price cap for the period 2010–11 to 2014–15.

The price cap would be set high enough above the expected permit price to ensure a very low probability of use. The precise level would be set taking into account all information about scheme design and the expected abatement costs in the economy.

The price cap would be reviewed at the first review point, taking into consideration banking and borrowing arrangements, limits on the surrender of international permits for compliance, the maturity of the market and future international linking commitments.

## **4. Emissions targets and scheme caps**

4.1 At the end of 2008, in the context of the white paper, the Government would announce a medium-term national target range for 2020 that provides upper and lower bounds to give investors and market participants information on directions and retains sufficient flexibility for the Government.

4.2 The Government would announce an indicative national emissions trajectory to provide broad guidance on the pathway towards the medium-term target range.

4.3 The Government would announce a minimum of five years of the indicative national emissions trajectory, to be extended by one year, every year as required to maintain a minimum of five years of guidance at all times after commencement of the scheme.

4.4 The difference between the scheme cap and the national target would be explicitly and transparently reconciled through notional allocation (and retirement) of permits for sources of emissions not covered by the scheme.

4.5 Scheme caps would be set and announced for a minimum period of five years in advance at any one time.

In the event that Australia's international commitment period extends beyond five years, scheme caps would be extended to the end of the commitment period.

- 4.6 Scheme caps would be extended by one year, each year, as required to maintain a minimum five year certainty period. Should the international commitment period (and therefore scheme caps) already extend beyond five years, an annual extension would become optional.
- 4.7 By using gateways, the Government would provide guidance over future scheme caps beyond the period of fixed scheme caps.
- 4.8 The Government would 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.
- 4.9 The initial length of the gateway would be 10 years beyond the minimum five years of scheme caps.
- 4.10 Gateways would be extended by five years, every five years, as part of a strategic review of international conditions and Australia's likely future international commitments.
- 4.11 The scheme cap would not be adjusted in the event that it is incompatible with internationally negotiated national targets and, if necessary, the Government would make up any shortfall in internationally agreed targets by purchasing international emissions units.
- 4.12 The Government would announce an approach in early 2010 for expanding the cap to accommodate increases in scheme coverage that provided a smooth scheme price path.
- 4.13 At the end of 2008, in the context of the white paper, the Government would announce the indicative national emissions trajectory for the period 2010–11 to 2012–13, and in 2010 the Government would announce a further two years of the trajectory up to and including 2014–15, or to the end of any international commitment period, whichever is longer.
- 4.14 At the end of 2008, in the context of the white paper, the Government would announce an approach for setting scheme caps for the period 2010–11 to 2014–15, consistent with the national emissions trajectory.

In early 2010, the Government would announce the finalised scheme caps for the first five years of the scheme (2010–11 to 2014–15) and 10 years of gateways beyond this period.

## 5. Reporting and Compliance

- 5.1 NGERs would be the starting framework for monitoring, reporting and assurance under the scheme, and elements of that system would be strengthened to support the scheme.

Where practical, the scheme would also seek to utilise related provisions in other Australian Government schemes, such as the fuel excise and customs duty arrangements for liquid fuels, to minimise additional compliance burdens.

- 5.2 In general, entities with operational control over covered facilities or activities would be liable for emissions obligations arising from those facilities or activities under the scheme.

- 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.
- Unincorporated entities would also be liable under the scheme if they have operational control over a covered facility or activity.

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 (for example, to align scheme obligations with fuel excise and customs duty liability).

- 5.3 Emissions estimation methodologies under the scheme would be those available under the National Greenhouse and Energy Reporting System.

- 5.4 Noting the four classes of methodologies available for NGERs, where Method 2 (see Box 5.1) or above is already in widespread use for a source, those methodologies would be imposed as the minimum to be used from the commencement of the scheme.

The following sources would have minimum standards for emissions estimation methodologies imposed from the commencement of the scheme:

- electricity sector emissions (as required for the National Greenhouse and Energy Reporting Scheme and the Generator Efficiency Standards program)
- perfluorocarbon emissions (from aluminium production, as is current business practice and used for the National Greenhouse Accounts)
- fugitive emissions from underground coal mines (as currently mandated by state safety regulations for the large majority of mines).

Staged increases in the accuracy of emissions estimates over time would be pursued by imposing increasing minimum standards for estimation methodologies, where this is cost effective for the scheme overall.

Additional sources would be investigated for the possible imposition of minimum standards for emissions estimation methodologies soon after the commencement of the scheme, but not in the first two years of the scheme. Sources that may warrant investigation include:

- emissions from coal use (non-electricity, such as steel production)
- waste sector emissions
- natural gas combustion emissions (non-electricity)
- fugitive emissions from open-cut coal mines.

5.5 Further consultation and analysis would be undertaken to establish appropriate reporting requirements and emissions estimation methodologies relating to the obligations of upstream fuel suppliers under the scheme.

5.6 Consistent with adjustments to the scheme trajectory, five years notice would be given before major revisions of emissions estimation methodologies that affect the majority of stakeholders.

Consultation would be undertaken and appropriate notice would be given before imposing or increasing minimum standards for emissions estimation methodologies.

5.7 Noting the four classes of methodologies available for NGRS, where an entity has elected to use Method 2 (see Box 5.1) or above for a particular source, that methodology would be the minimum standard for that entity for a period of four years.

The scheme regulator may grant exceptions to this rule in some circumstances.

5.8 Provisions relating to documentation and record keeping under the scheme would be based on those set out for the National Greenhouse and Energy Reporting System.

5.9 A single report would be sufficient to satisfy an entity's obligations under both the National Greenhouse and Energy Reporting System and the Carbon Pollution Reduction Scheme, with reports to be submitted by 31 October each year.

Emissions obligations under the scheme, the types of assessment methodologies used and any uncertainty estimates reported by liable entities would be published by the Government on the internet as soon as is feasible after reports are submitted.

5.10 Large emitters (those with obligations under the scheme of 125,000 tonnes of carbon dioxide equivalent or more) would be required to have their annual emissions reports assured by an independent accredited third party prior to their submission. The Government would consider the need to extend this requirement on the basis of initial experience, developments relating to international linking and the compliance burdens likely to be placed on small entities.

The scheme regulator would have powers to conduct assurance audits using a risk-based approach for all emissions reports submitted under the scheme, as is the current approach under the National Greenhouse and Energy Reporting System.

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.

The Government would investigate further the scope to align financial and emissions reporting and verification systems.

- 5.11 Assurance under the Carbon Pollution Reduction Scheme would be carried out in accordance with guidelines made under the *National Greenhouse and Energy Reporting Act 2007* and standards produced by the Australian Government's Auditing and Assurance Standards Board.

All third-party assurance providers would be accredited to ensure the development of a pool of properly trained and qualified providers. The form and nature of accreditation (including whether it is conducted by the Government or a non-government body) would be determined after further consultation, with a view to minimising compliance costs.

- 5.12 The scheme would operate on a financial-year basis.

- 5.13 The final date for the annual surrender of permits would be a fixed time after the final date for emissions reporting. At scheme commencement, this period would be six weeks.

- 5.14 Liable entities would be allowed to surrender permits at any time before the annual surrender deadline to meet their end-of-year obligations (any permits surrendered would not be available for future compliance periods).

Any entity or individual would be allowed to voluntarily surrender permits regardless of whether they have obligations under the scheme.

- 5.15 The regulator would be given a range of compliance, investigative and enforcement powers, and a broad range of mechanisms to respond proportionately to non-compliance under the scheme.

The emissions trading regulator would be able to exchange information with relevant Australian Government, state and territory governments, and international regulators.

Compliance and enforcement provisions, including penalties, would be finalised over the remainder of 2008.

## **6. Linking the scheme to international markets**

- 6.1 The scheme would be designed so that it can link with international markets and schemes, with a preference for open trade within an effective global emissions constraint.

All targets for the scheme, as well as the commitment to reduce national emissions by 60 per cent below 2000 levels by 2050, will be defined in terms of net national

emissions that is, imported units would be counted towards our national target, and exported units would be excluded from the national target.

Any restrictions placed on linking would be to ensure:

- the stability and ongoing credibility of the scheme
- the environmental integrity and effectiveness of the scheme
- the scheme's consistency with international objectives and obligations.

6.2 A carbon pollution permit (which would be referred to in the legislation as an Australian emissions unit) would be created for the scheme, and it would be distinct from Australia's international (Kyoto Protocol) units.

6.3 Subject to restrictions, the scheme would link internationally via the Kyoto Protocol's flexibility mechanisms in the early years of operation.

6.4 The Government believes the short-term priority is to minimise implementation risk while the scheme is being established. This includes promoting price stability and predictability in the early years of the scheme.

Liable entities would be able to meet their obligations by using eligible Kyoto units for compliance in the scheme, limited to a maximum percentage of each entity's obligation (for the period 2010–11 to 2012–13).

6.5 No assigned amount units would be accepted for compliance in the scheme (for the period 2010–11 to 2012–13). This position would be reviewed in the light of international developments.

6.6 Emission reduction units created under the Kyoto Protocol's joint implementation mechanism would be recognised for compliance purposes in the scheme (for the period 2010–11 to 2012–13).

6.7 Removal units would be recognised for compliance purposes in the scheme (for the period 2010–11 to 2012–13).

6.8 Certified emission reductions generated by the Kyoto Protocol clean development mechanism would be accepted (for the period 2010–11 to 2012–13), with the exception of those that have associated contingent obligations and high administrative costs: currently, temporary certified emission reductions and long-term certified emission reductions from forestry-based projects.

6.9 Certified emission reductions and emission reduction units generated in the first Kyoto Protocol commitment period would be recognised for compliance in the scheme in 2012–13 and in subsequent years, in accordance with the rules set out in the protocol and any restrictions that apply to the use of international units set out in the Australian scheme.

Certified emission reductions generated through abatement from 2013 onwards by projects established in the first commitment period would be recognised for compliance in the scheme in 2012–13 and subsequent years, in accordance with the rules set out in the protocol and subject to any restrictions that apply to the use of international units set out in the Australian scheme.

6.10 International non-Kyoto units would not be accepted for compliance in the scheme. This position would be reviewed for the post-2012–13 period in the light of future developments in international negotiations.

Australia would continue to support the development of robust internationally accepted methodologies for reductions from deforestation and forest degradation in developing countries, noting that these are currently not recognised under the clean development mechanism.

6.11 In order to facilitate a smooth start to the scheme and to minimise implementation risks, the Government would not allow Australian permits to be converted into Kyoto units for sale in and transfer to international markets in the early years of the scheme.

6.12 Australia would not host joint implementation projects in sectors that are covered by the scheme.

Decisions on joint implementation projects for uncovered activities would be aligned with decisions on domestic offsets.

The scheme would not include domestic offsets (and therefore joint implementation) from agricultural emissions during the period before decisions relating to coverage of that sector's emissions.

In 2013, the Government would consider the scope for offsets (and joint implementation) in sectors that cannot be included in the scheme.

Australia would not host joint implementation projects before the start of the scheme.

6.13 The Government would provide the maximum feasible level of certainty about future linking arrangements, consistent with retaining enough flexibility to respond to changing international arrangements.

The Government would:

- at the end of 2008, in the context of the white paper, determine and announce the quantitative limits on the use of Kyoto units by liable entities for the period from 2010–11 to 2012–13, in conjunction with decisions on the national trajectory and scheme cap
- in early 2010 confirm quantitative limits that might apply to the use of Kyoto units for five years up to and including 2014–15
- extend the certainty over quantitative limits that might apply on the use of Kyoto units thereafter by one year, every year
- at the end of 2008, in the context of the white paper, confirm the types of Kyoto units that will be recognised for compliance in the scheme for the period 2010–11 to 2012–13
- in early 2010 confirm the types of Kyoto units that will be recognised for compliance in the scheme for five years up to and including 2014–15

- extend the certainty on the types of Kyoto units that will be recognised for compliance thereafter by one year, every year
- at the end of 2008, in the context of the white paper, confirm restrictions on the conversion of Australian permits into Kyoto units for sale and transfer to other countries for the period 2010–11 to 2012–13
- in early 2010 announce any provisions and relevant restrictions that might apply to the conversion, sale and transfer of units to other countries for the period 2012–13 to 2014–15
- extend the certainty on provisions and relevant restrictions that might apply to the conversion, sale and transfer of units to other countries thereafter by one year, every year. The Government would provide the maximum feasible level of certainty about future linking arrangements, consistent with retaining enough flexibility to respond to changing international arrangements.

6.14 Linking arrangements would be subject to review in the light of ongoing international negotiations and market development, with a clear preference for relaxing restrictions on linking with credible schemes and mechanisms as the Australian scheme matures.

The Government would investigate on a case-by-case basis more direct bilateral linking opportunities (including mutual recognition of compliance units and harmonisation) with the schemes of other countries, after the scheme has been established.

## **7. Auctioning of Australian carbon pollution permits**

7.1 Allocations would, over the longer term, progressively move towards 100 per cent auctioning as the scheme matures, subject to the provision of transitional assistance for emissions intensive trade-exposed industries and strongly affected industries.

7.2 The relevant minister would direct the regulator in the early phase of the scheme.

The scheme regulator would later assume all auction policy responsibilities.

The responsibilities of the scheme regulator, auction design, and the relevant minister's power of direction would be reviewed at the five-year review.

7.3 Four auctions would be held each financial year, one in each quarter. The Government seeks stakeholder feedback on the relative risks of alternative models, such as annual or weekly auctions.

7.4 At least one auction of the relevant year's vintage would be held after the end of the financial year in the lead-up to the relevant surrender date. A suggested date would be within one month prior to the acquittal date.

- 7.5 The first auction would take place as early as is feasible in 2010, prior to the start of the scheme.
- 7.6 Four years of vintages would be auctioned (current vintage plus advance auction of three future vintages).
- 7.7 The advance auction of future year vintages would occur once each year.
- 7.8 Subject to the lodgement of any required security deposit, universal participation would be permitted at auctions.
- 7.9 Ascending clock auctions would be used for single vintage auctions, and simultaneous ascending clock auctions would be used for multiple vintage auctions.
- 7.10 Only those entities that receive free permit allocations would be allowed to sell them through double-sided auctions in the early phase of the scheme.

## **8. Household assistance measures**

- 8.1 The Government has committed that every cent raised for the Australian Government from the Carbon Pollution Reduction Scheme will be used to help Australians – households and business – adjust to the scheme and to invest in clean energy options.
- 8.2 The Government is also 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:
- 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, noting that these payments are automatically indexed to reflect changes in the cost of living.
  - Provide additional support through the introduction of energy efficiency measures and consumer information to help households take practical action to reduce energy use and save on energy bills so that all can make a contribution.

- 8.3 The Government has 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.

## **9. Assistance for emissions-intensive trade-exposed industries**

- 9.1 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 Government's support for EITE industries would be balanced against its objectives for non-assisted sectors and households.

EITE assistance would be adjusted over time to ensure that all parts of the economy contribute to the objective of reducing emissions.

The EITE assistance policy would be reviewed at each five-year 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.

- 9.2 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.
- 9.3 The proposed emissions-intensive trade-exposed 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.
- 9.4 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 EITE assistance.

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.

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

- 9.6 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.

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 (CO<sub>2</sub>-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 CO<sub>2</sub>-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 CO<sub>2</sub>-e per million dollars of revenue.

These thresholds and rates of assistance may be reconsidered on the basis of further information provided through the consultation process to ensure that the total quantum of EITE assistance would be limited to around 30 per cent of permits (inclusive of agricultural emissions).

- 9.7 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 emissions-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 electricity-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.

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.

- 9.8 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.

## 9.9 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 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
- assistance would be continued as proposed in the absence of broadly comparable carbon constraints or acceptable international action.

## 10. Assistance for strongly affected industries

### 10.1 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 industries)
- be emissions-intensive (exceeding the threshold for eligibility proposed for emissions-intensive trade-exposed industries)
- include some entities that are emissions-intensive compared to their competitors, such that they cannot fully 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.

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

### 10.3 The Australian Government has made significant contributions to progress the commercial deployment of carbon capture and storage (CCS). These contributions, and any further support, should recognise the technical and institutional hurdles to the development and deployment of carbon capture and storage technologies, and reflect Australia's significant domestic and international interests in the development of this technology.

### 10.4 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 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.
- 10.5 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.
- 10.6 Final decisions on an appropriate quantum of the proposed direct assistance for coal-fired electricity generators would be made after the medium-term national target range is established.
- 10.7 Eligibility for the proposed direct assistance for coal-fired electricity generators would be limited to those assets that were ‘in existence’ as of 3 June 2007, that is, assets that:
- were in operation
- or
- satisfied the National Electricity Rules criteria for a ‘committed project’.
- 10.8 The proposed direct assistance for coal-fired electricity generators would be allocated to individual recipients using a simple asset-by-asset method.
- 10.9 The proposed 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.
- 10.10 The quantum of the proposed direct assistance for coal-fired electricity generators would be determined ‘up front’—that is, before the scheme begins. However potential recipients will need to submit to a review process to minimise any prospect of windfall gains.
- 10.11 The proposed direct assistance for coal-fired electricity generators would be provided on a ‘once and for all’ basis—that is, further allocations of assistance would not be provided after the scheme begins.
- 10.12 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.

## 11. Tax and accounting issues

- 11.1 Discrete provisions of the income tax law would be developed. Such provisions would provide generally the same tax treatment to permits purchased by taxpayers who are carrying on a business or other income-earning activity as would occur under existing legislation, but would provide increased certainty and reduced complexity.

The provisions would allow a deduction for expenditure incurred on the purchase of a permit and include any proceeds from the sale of a permit in assessable income.

- 11.2 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.

- 11.3 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.

- 11.4 The value of free permits would be included in the taxpayer's assessable income in the year the permits are received.

- 11.5 The value of a cash grant given to a liable entity as assistance under the scheme would be included in their assessable income in the income year it is received.

- 11.6 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 free.

## **12. Transitional issues**

- 12.1 To assist business more generally, the Government proposes to establish the Climate Change Action Fund. This Fund will focus predominantly on those industries not receiving free permit allocation, but which nevertheless need assistance to adjust to the carbon price.
- 12.2 State and territory governments are encouraged to discontinue their market-based programs once the Carbon Pollution Reduction 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.
- 12.3 A program for allocating early action credits would not be established.

## **13. Governance arrangements and implementation**

- 13.1 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.

- 13.2 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.

- 13.3 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.

- 13.4 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 noncompliance.
- 13.5 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.
- 13.6 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.
- 13.7 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.
- 13.8 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.
- 13.9 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.
- 13.10 The Government will assess the potential for consolidating the Greenhouse and Energy Data Officer, the Renewable Energy Regulator and the proposed scheme regulator.

# Glossary

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Abatement	Reduction of greenhouse gas emissions, or enhancement of greenhouse gas removal from the atmosphere by sinks.
Adaptation	Adjustment in natural or human social or economic systems in response to actual or expected climate change that moderates harm or exploits beneficial opportunities.
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.
Afforestation	Planting of new forests on lands not recently forested.
Allocation	Distribution of permits.
Allocative efficiency	Allocative efficiency refers to the market’s capacity to channel resources—in this case, permits—to their highest value uses across the economy and through time at low cost and minimal risk.
Annex I Party	Under the terms of the United Nations Framework Convention on Climate Change, Annex I countries include all developed countries and the countries in transition in central and eastern Europe, including Russia and Ukraine.
Annex B Party	Annex B of the Kyoto Protocol lists those developed countries that have agreed to a commitment to limit their greenhouse gas emissions in the period 2008–12.
Assigned Amount Unit	A Kyoto unit corresponding to one metric tonne of carbon dioxide equivalent emissions, and issued up to the level of a Kyoto party’s assigned amount. The 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.

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<b>Australian emissions unit</b>	A unit corresponding to one metric tonne of carbon dioxide equivalent emissions and issued by the regulator of the emissions trading scheme. A liable entity will be required to surrender one pollution permit or eligible Kyoto unit for each tonne of covered emissions that the entity releases to the atmosphere.
<b>Australia's National Greenhouse Accounts</b>	A comprehensive set of reports outlining Australia's greenhouse gas emissions - as a nation, by state, and by industry. Further information is available at: <a href="http://www.greenhouse.gov.au/inventory/">http://www.greenhouse.gov.au/inventory/</a>
<b>Banking</b>	The ability of hold permits created in one compliance period for use in a future compliance period.
<b>Baseline</b>	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'.
<b>Benchmarking</b>	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 could include emissions per unit of output, value add or other relevant unit of measurement.
<b>Bilateral (two way) linking</b>	Arrangement whereby two governments agree to accept units from each other's schemes for compliance purposes.
<b>Biosequestration</b>	The removal of atmospheric carbon dioxide through biological processes, for example, photosynthesis in plants and trees.
<b>Border adjustments</b>	Adjustments made to the prices of traded products to remove the carbon price from exported goods and add a carbon price to imported goods.
<b>Borrowing</b>	The use of permits created for a future compliance period to meet current obligations under the scheme.  Borrowing can be short term (borrowing only from the subsequent year) or long term (borrowing two or more years in advance).

<b>Bunker fuels</b>	Fuels used for international aviation and marine transport.
<b>Business as usual</b>	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.
<b>Cap</b>	See 'scheme cap'.
<b>'Cap and trade' scheme</b>	An emissions trading regime in which a limit (or cap) is placed on the total emissions allowable from the activities or sectors covered under the scheme. Tradeable emissions units are issued up to an amount equal to the cap.
<b>Carbon Capture and Storage (CCS)</b>	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 sites.
<b>Carbon</b>	Carbon is used in the report to generally refer to the six major greenhouse gases.
<b>Carbon budget</b>	The total allowable emissions under the scheme over some set number of years. That is, the sum of the scheme caps for that period.
<b>Carbon cost</b>	See 'carbon price'.
<b>Carbon dioxide (CO<sub>2</sub>)</b>	A naturally occurring gas; it is also a by-product of burning fossil fuels and biomass, other industrial processes and land-use changes. It is the principal anthropogenic greenhouse gas that affects the earth's temperature.
<b>Carbon dioxide equivalent (CO<sub>2</sub>-e)</b>	A standard measure that takes account of the different global warming potentials of greenhouse gases and expresses the cumulative effect in a common unit.
<b>Carbon footprint</b>	A measure of the greenhouse gas emissions attributable to an activity; it is commonly used at an individual, household or business level.
<b>Carbon intensity</b>	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 to a country with less stringent climate change policies.
Carbon market	A generic term for a trading system in which countries, organisations and individuals buy or sell units of greenhouse gas emissions in an effort to meet limits on emissions.
Carbon offset	Carbon offsets represent reductions in greenhouse gases relative to a business-as-usual baseline. Carbon offsets are tradeable and often used to negate (or offset) all or part of another entities emissions.
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 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 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.

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.
Certified Emission Reduction	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.
Clean Development Mechanism (CDM)	A mechanism under the Kyoto Protocol through which developed 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. See 'Kyoto mechanisms'.
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.
Cogeneration	The production of two useful forms of energy such as high temperature heat (for hot water or space heating) and electricity from the same process. Also known as combined heat and power.
Commitment period	Generally refers to the time frame in which Kyoto Protocol parties are required to meet their emissions reduction obligations. The Protocol's first commitment period is from 2008 to 2012.
Compliance period	A recurrent period (for example a financial year) over which emissions must be monitored to determine entities' obligations under the scheme.
Coverage	The scope of an emissions trading scheme. Covered sectors are liable for their emissions under the scheme.

Covered emissions	Emissions that are covered by the emissions trading scheme and attract an obligation to surrender an Australian emissions unit or eligible Kyoto unit.
Customs duty	An entity required under the <i>Customs Tariff Act 1995</i> to pay customs duty (equivalent to fuel excise).
Deforestation	The conversion of forested land to an alternative, non-forest use.
Direct Emissions	Direct emissions are produced from sources within the boundary of an organisation, such as industrial processes.
Direct obligation (also indirect obligation):	An entity's obligation to surrender permits for its own greenhouse gas emissions (where these have not been accounted for elsewhere in the supply chain, for example upstream). An indirect obligation is where an entity is obliged to surrender units for emissions upstream or downstream of itself.
Downstream	A point in the supply chain below the direct source of emissions. For example, food processors, such as abattoirs, dairies and mills, are said to be 'downstream' from the farm, which is the source of emissions.
Early Action Credits	Credits allocated in recognition of abatement undertaken prior to the commencement of the scheme.
Early crediting	An allocation of permits in recognition of abatement undertaken prior to the commencement of the scheme.
Electricity intensity	The ratio of electricity to output.
Emissions	The release of greenhouse gases into the atmosphere.
Emissions cap	See 'scheme cap'.
Emissions intensity	The ratio of emissions to output.
Emissions intensity baseline	A measure of the level of emissions per a specified unit of output at a point in time used to calculate assistance.
Emissions-intensive, trade exposed industries	Industries that either are exporters or compete against imports (trade exposed) and produce significant emissions in their production of goods (emissions intensive).

Emissions 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.
Energy intensity	The ratio of energy consumption to output.
European Union Emissions Trading Scheme (EU ETS)	The scheme was launched on 1 January 2005 with an initial phase from 2005–07 to be followed by a second phase (2008–12). Key features include: emissions allowances are allocated on an annual basis to entities; and coverage includes large combustion installations from all sectors plus oil refineries, coke ovens, iron and steel, cement, lime, glass, ceramics, and pulp and paper.
Forward price curve	A forecast or estimate of what the future price of carbon permits will be at different points in the future.
Free allocation	A method of allocating units where government releases units directly to entities at no cost.
Fuel excise remitter	An entity required under the <i>Excise Tariff Act 1921</i> to pay excise on fuel manufactured or distributed throughout the economy.
Fuel switching	The substitution of one type of fuel for another, for example the use of natural gas instead of coal. 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.
Gateway	A potential range within which future scheme caps may be set under the scheme.
Geosequestration	The process of storing liquefied carbon dioxide in deep underground geological structures (see 'carbon sequestration').
Gigawatt (GW)	A unit of power equal to one billion watts.

<b>Global warming potential</b>	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 nitrous oxide in the atmosphere is currently estimated as having 310 times the warming effect as a gram of carbon dioxide.
<b>Grandfathering</b>	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).
<b>Greenhouse effect</b>	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 (60°F) warmer than if these gases did not exist.
<b>Greenhouse gases (GHGs)</b>	Gases that cause global warming and climate change. The major GHGs are carbon dioxide (CO <sub>2</sub> ), methane (CH <sub>4</sub> ), nitrous oxide (N <sub>2</sub> O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF <sub>6</sub> ).
<b>Government disposition</b>	The Government has indicated a disposition towards policy positions where it does not have sufficient information to arrive at a preferred position (see 'preferred position').
<b>Hydrochlorofluorocarbons (HCFCs)</b>	Compounds containing hydrogen, chlorine, fluorine and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs.
<b>Hydrofluorocarbons (HFCs)</b>	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.
<b>Indicative national emissions trajectory</b>	Broad guidance over the pathway of future national emissions.

Indirect emissions	Indirect emissions are emissions generated in the wider economy as a consequence of an organisation's activities (particularly from its demand for goods and services), but which are physically produced by the activities of another organisation. Example include electricity production, 'upstream' emissions generated in the production of goods purchased or processed by the entity and 'downstream' emissions associated with transporting and disposing of products sold by the entity.
Informational efficiency	See efficient price discovery.
Intensity targets	Policies that specify emissions reductions relative to productivity or economic output, for instance, tonnes of CO <sub>2</sub> -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 decision-making bodies.
Joint Implementation	See 'Kyoto mechanisms'.
Kyoto flexibility mechanisms	<p>Three processes established under the Kyoto Protocol to increase the flexibility and reduce the costs of making greenhouse gas emissions cuts. The mechanisms allow Parties to acquire Kyoto units from other countries and count them towards their emissions targets. The mechanisms include:</p> <ul style="list-style-type: none"> <li>• emissions trading, which allows Annex I countries to transfer Kyoto units and use them to meet their targets</li> <li>• the Clean Development Mechanism, which allows countries with an obligation to implement emission reduction projects in developing countries to receive a certified emissions reduction that can be used to meet their emissions target</li> <li>• Joint Implementation, which allows a country with an obligation to undertake an emissions reduction project in another country that has an obligation and use the emissions reduction unit towards meeting their emissions target.</li> </ul>

<b>Kyoto Protocol</b>	An international treaty negotiated under the auspices of the UNFCCC. It entered into force in 2005. Among other things, the Protocol sets binding targets for the reduction of greenhouse gas emissions by individual developed countries to be met within the first commitment period of 2008–12.
<b>Kyoto units</b>	Any unit issued under the Kyoto Protocol, namely assigned amount units, emission reduction units, certified emission reductions, and removal units.
<b>Land Use, Land-Use Change and Forestry (LULUCF)</b>	A reporting category under the Kyoto Protocol comprising agriculture emissions (land-use), and emissions from deforestation (land-use change) and carbon sequestered through reforestation (forestry).
<b>Landfill gas</b>	Gas generated by the natural degradation and decomposition of solid waste by anaerobic micro-organisms in sanitary landfills.
<b>Large direct emitters</b>	Entities with facilities that emit 25,000 tonnes of carbon dioxide equivalent a year or more.
<b>Leakage</b>	See ‘carbon leakage’.
<b>Liable entity</b>	An entity that has an obligation under the emissions trading scheme.
<b>Liquid market</b>	A market whose essential characteristic is that there are ready and willing buyers and sellers at all times.
<b>Low-emissions technology</b>	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.
<b>Marginal cost of abatement</b>	The cost of reducing emissions by one additional unit.

Market failure	A situation where the market is not able to provide an efficient level of production and consumption of goods and services, including natural resources or ecosystem services. In the climate change context, this means that while greenhouse gas emissions impose a cost on society through environmental degradation, this cost is not currently reflected in the price of goods and services. As a result, emissions will be greater than is desirable because individuals and businesses do not face the full cost of their consumption and production decisions.
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.
National Electricity Market (NEM)	Wholesale market for the supply of electricity to retailers and end-users in the interconnected regions of Queensland, NSW, the ACT, Victoria and South Australia. Began operating in December 1998. Tasmania joined in 2005.
National Greenhouse and Energy Reporting System (NGERS)	The National Greenhouse and Energy Reporting System is based on the <i>National Greenhouse and Energy Reporting Act 2007</i> , which was passed on 29 September 2007. The Act establishes a mandatory reporting system for corporate greenhouse gas emissions and energy production and consumption. The Act commences on 1 July 2008. Further information is available at: <a href="http://www.greenhouse.gov.au/reporting/index.html">http://www.greenhouse.gov.au/reporting/index.html</a>
Net out	To accurately calculate and exclude fuel supplied to large users. Netting-out arrangements are needed under the emissions trading scheme to fairly and efficiently allocate obligations for emissions from fuel combustion between fuel suppliers and large direct emitters (see 'large direct emitters').
Offsets	See 'carbon offsets'.
Perfluorocarbons (PFCs)	A group of artificial chemicals comprising only carbon and fluorine. These chemicals (predominantly CF <sub>4</sub> and C <sub>2</sub> F <sub>6</sub> ) 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.

<b>Point of obligation</b>	The point in the supply chain where scheme obligations are applied. The point of obligation could be the facility that directly emits greenhouse gases or another point along the supply chain, upstream or downstream from the point of emissions. See also 'direct obligation' and 'indirect obligation'.
<b>Preferred position</b>	Preferred positions represent the Government's current thinking 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.
<b>Price cap</b>	A price cap is a mechanism for setting the maximum cost of compliance under the scheme.
<b>Price floor</b>	A price floor is a mechanism for setting the minimum cost of compliance under the scheme.
<b>Price signal</b>	See 'carbon price'.
<b>Primary market</b>	The allocation of units by the Government.
<b>Production leakage</b>	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).
<b>Reforestation</b>	Conversion of land used for purposes other than forestry to forested land.
<b>Removal unit (RMU)</b>	A Kyoto unit corresponding to one metric tonne of carbon dioxide, and issued for removals of carbon dioxide from the atmosphere by eligible land use, land-use change and forestry activities undertaken in a Kyoto party.
<b>Rent seeking</b>	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 production of wealth.
<b>Safety valve</b>	See 'price cap'.
<b>Scheme Cap</b>	A mandated restraint, in a scheduled time frame, that puts a 'ceiling' on the total amount of anthropogenic greenhouse gas emissions.

Secondary market	A generic term for a trading system in which countries or private organisations may buy or sell units of greenhouse gas emissions in an effort to meet their national limits on emissions following Government's allocation of units.
Sectoral agreement	Where countries enter into agreements targeted at a common sector among them. Actions and commitments under these agreements can vary, including imposing performance standards, absolute or intensity targets and technology finance mechanisms.
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 currently export or compete against imports, or which at feasible relative prices, would do so.
Trajectory	See 'indicative national emissions trajectory'.

True up	An option for the free allocation of emissions units where allocations are based on an entity's forecast production levels. The true-up would adjust the entity's allocation for the next period to take account of deviations between actual and projected output in the previous year.
True-up period	The period after the end of the Kyoto first commitment period, in which Parties can continue to undertake transactions of Kyoto units. Before the end of the true-up period each Party with a commitment must retire units equal to or greater than its commitment.
UNFCCC	United Nations Framework Convention on Climate Change. An international treaty adopted after the Rio Earth Summit in 1992 and 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.
Unilateral linking	Arrangement whereby a government recognises units from another scheme but this recognition is not reciprocated.
Upstream	A point in the supply chain above the direct source of emissions. For example, obligations for emissions from fuel consumption may be placed on the fuel supplier, rather than the fuel user.
Vintage	The year to which the permit pertains.





