

# 1 The policy context

Dealing with the climate change challenge is critical to Australia's economic security and future prosperity. The scale of the challenge should not be underestimated. The Government is moving steadily to implement its comprehensive framework for tackling climate change in Australia. The framework is built on three pillars: reducing Australia's greenhouse gas emissions; adapting to climate change that we cannot avoid; and helping to shape a global solution.

Climate change is the greatest social, economic and environmental challenge of our time. Scientific evidence confirms that human activities, such as burning fossil fuels (coal, oil and natural gas), agriculture and land clearing, have increased the concentration of greenhouse gases in the atmosphere. As a consequence, the earth's average temperature is rising and weather patterns are changing. This is affecting rainfall patterns, water availability, sea levels, storm activity, droughts and bushfire frequency, putting at risk Australian coastal communities, health outcomes, agriculture, tourism, heritage and biodiversity for current and future generations.<sup>1</sup>

The climate is already changing, with more frequent and severe droughts, rising sea levels and more extreme weather events. Eleven of the past 12 years rank among the 12 warmest years since records began<sup>2</sup>, and Australia has experienced warmer than average mean annual temperatures for 16 of the past 18 years.<sup>3</sup> The latest report from the Intergovernmental Panel on Climate Change (IPCC), the 2007 Fourth Assessment Report, concludes that Australia has significant vulnerability to the changes in temperature and rainfall projected over the coming decades.<sup>4</sup>

The Garnaut Climate Change Review Final Report paints a bleak picture of Australia at the end of this century should greenhouse gas emissions continue unchecked. There would be major declines in agricultural production across much of the country, leading to a growing reliance on food imports. The Great Barrier Reef and other reef systems, such as Ningaloo, would be effectively destroyed, with serious ramifications for tourism industries and biodiversity. Coastal infrastructure would be at risk of damage from storm surges and flooding. Key Australian export markets would have significantly lower economic activity, feeding back into lower prices for Australian exports and poorer terms of trade.

The Garnaut Final Report suggests that emissions are tracking at the upper bounds of the scenarios modelled by the IPCC in the Fourth Assessment Report. New data and scientific understanding, unavailable for the Fourth Assessment Report, suggest 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. Trends in global mean temperature and sea-level rise are also at the upper end of the range of projections.<sup>5</sup> There is increasing concern about the stability of the Greenland and west Antarctic ice sheets, with major implications for sea-level rise.<sup>6</sup>

A response to the threat of climate change is imperative.

This chapter lays out the architecture of the Government's climate change response—a framework that will create new opportunities for Australia.

- Section 1.1 discusses the costs of action and inaction in responding to climate change.
- Section 1.2 explains the Government's policy framework and how the policies detailed in this White Paper fit within it.
- Section 1.3 outlines the structure of the White Paper.

## 1.1 The costs of inaction on climate change

The IPCC's Fourth Assessment Report suggests that, in a 'business as usual' world where world-wide economic growth continues, based on fossil fuels, the best estimate of temperature rise by the end of the century would be 4 degrees Celsius.<sup>7</sup> The report says that climate change caused by this temperature rise is very likely to have widespread and severe consequences, including significant species extinctions around the globe, real threats to food production, and severe health impacts, with dramatic increases in morbidity and mortality from heatwaves, floods and droughts.<sup>8</sup>

The environmental impacts of climate change have flow-on effects for other aspects of human society, such as the economy, security and human health. As the Stern Report stated:

The evidence shows that ignoring climate change will eventually damage economic growth. Our actions over the coming few decades could create risks of major disruption to economic and social activity, later in this century and in the next, on a scale similar to those associated with the great wars and the economic depression of the first half of the 20th century. And it will be difficult or impossible to reverse these changes. Tackling climate change is the pro-growth strategy for the longer term, and it can be done in a way that does not cap the aspirations for growth of rich or poor countries. The earlier effective action is taken, the less costly it will be.<sup>9</sup>

Referring to Australia's region, the Lowy Institute for International Policy has noted:

... even if not catastrophic in themselves, the cumulative impact of rising temperatures, sea levels and more mega droughts on agriculture, fresh water and energy could threaten the security of states in Australia's neighbourhood by reducing their carrying capacity below a minimum threshold, thereby undermining the legitimacy and response capabilities of their governments and jeopardising the security of their citizens. Where climate change coincides with other transnational challenges to security, such as terrorism or pandemic diseases, or adds to pre-existing ethnic and social tensions, then the impact will be magnified.<sup>10</sup>

While some climate change is unavoidable, the negative effects of warming can be substantially diminished by prompt and concerted action. The sooner we stabilise and then reduce atmospheric concentrations of greenhouse gases, the sooner we can reduce our impact on the climate and minimise the risk of dangerous change.

### **Box 1.1: The Intergovernmental Panel on Climate Change**

The IPCC is a scientific intergovernmental body set up by the World Meteorological Organization and the United Nations Environment Programme. The IPCC was established in 1988 to provide decision makers and others interested in climate change with an objective source of information about climate change.

The IPCC's role is to comprehensively, objectively, openly and transparently assess the latest scientific, technical and socioeconomic literature relevant to understanding the risk of human-induced climate change, its observed and projected impacts, and options for adaptation and mitigation. The information the IPCC provides in its reports is based on scientific evidence and reflects existing viewpoints within the scientific community. The comprehensiveness of the scientific content is achieved through contributions from experts in all regions of the world and all relevant disciplines.

Because of its intergovernmental nature, the IPCC is able to provide relevant policy information to decision makers, backed by reports of high scientific and technical standard that aim to reflect a range of views, expertise and wide geographical coverage. IPCC reports are prepared by teams of authors who have been selected specifically for this task based on their expertise. The reports undergo a two-stage review—a first peer-review by experts and a second by experts and governments.

In 2007 the IPCC was awarded the Nobel Peace Prize for its 'efforts to build up and disseminate greater knowledge about man-made climate change, and to lay the foundations for the measures that are needed to counteract such change'.

#### **1.1.1 Impacts of climate change on the Australian economy**

Australia is already a hot, dry country, and small variations in climate will be more damaging to us than to other developed countries. Infrastructure, towns and cities, and food production are all based on assumptions about the climate, whether those assumptions are about the frequency of storms, the height of tidal surges, or rain and temperature patterns.

Climate change will also affect Australia's neighbours. Sea-levels rising could cause major disruption in the coastal cities of Asia, a region on which Australia has increasing economic inter-dependence. Sea-level rise could also inundate parts of neighbouring countries, such as the smaller Pacific islands, Indonesia, and Papua New Guinea, and the ensuing social disruption has the potential to destabilise the region<sup>11</sup>.

Australia's economic growth in recent years has boosted domestic living standards and consumption. This growth has been supported by rapidly expanding developing economies, particularly in the Asia-Pacific region, driving international demand and higher prices for Australia's abundant mineral resources, including coal, iron ore, bauxite and alumina,<sup>12</sup> although these have declined recently from historical peaks in light of the global financial crisis. Australia is also a net energy exporter—exports from this sector have grown by almost 28 per cent between 2000-01 and 2005-06<sup>13</sup> to \$39.4 billion or 4.1 per cent of gross domestic product.

Continued growth in developing economies could be threatened by the impacts of climate change as expenditure is diverted to cope with severe weather events, food crop failures, droughts, and population displacement.<sup>14</sup>

### **Box 1.2: The Garnaut Climate Change Review**

In April 2007 the governments of the eight states and territories of Australia and the then Leader of the Opposition, Kevin Rudd, commissioned the Garnaut Climate Change Review. The Australian Government joined the review in January 2008 following the election of the current Government in November 2007. Professor Ross Garnaut was commissioned to report by 30 September 2008 on:

- the likely effect of human-induced climate change on Australia's economy, environment and water resources in the absence of effective national and international efforts to substantially cut greenhouse gas emissions
- the possible ameliorating effects of international policy reform on climate change, and the costs and benefits of various international and Australian policy interventions on Australian economic activity
- the role that Australia can play in the development and implementation of effective international policies on climate change.

In the light of these findings, the review was to recommend medium- to long-term policy options for Australia and a time path for their implementation which, taking the costs and benefits of domestic and international policies on climate change into account, would produce the best possible outcomes for Australia.

The Garnaut Final Report was presented to the Government and publicly released on 30 September 2008. The full report is available at [www.garnautreview.org.au](http://www.garnautreview.org.au).

The findings of the Garnaut Final Report suggest that, in the long term, the costs of inaction will be greater than the costs of mitigation. In addition, the aggregate costs of action are modest, and the benefits of action (and the cost of inaction) increase over time, becoming more pronounced in the second half of this century and beyond.

The Garnaut Final Report predicts that, in a world of unmitigated climate change, real wages will be 12 per cent lower by 2100 than in a world without climate change. This is due to the reduced demand for labour in the second half of the century as a result of climate change.

### **Box 1.3: Economic modelling of the costs of climate change**

Many of the projected impacts of climate change contain significant uncertainties, making it difficult to quantify economic impacts. While economic modelling results may usefully inform policy, many other factors must also be considered, particularly with a problem as complex as climate change.

The Garnaut Final Report identified four types of costs that could be used to quantify the economic costs of climate change and mitigation. However, only one of these, the so-called Type 1 costs, could be captured in a model.

- Type 1 costs are currently measurable market impacts of climate change that can be avoided by mitigation.
- Type 2 costs are market impacts that are not readily measurable, but can be estimated.
- Type 3 costs represent insurance against severe future impacts of climate change.
- Type 4 costs represent protection for those things that Australians value, but which do not have a market price, such as deterioration of environmental assets or loss of biodiversity.

Garnaut makes the point that, while we can only model Type 1 costs and estimate Type 2 costs, the benefits that derive from investment in avoiding Type 3 and Type 4 costs are likely to be very significant.<sup>15</sup> For example, a model cannot assign costs to the degradation of the Great Barrier Reef and other national environmental assets, or to the impacts on human health and the Australian way of life that would be avoided by climate change mitigation. However, those attributes have intrinsic value to the nation, and should be considered in formulating a response.

Sector-by-sector analysis in the Garnaut Final Report identified the agriculture and mining sectors as those facing the highest economic impacts from unmitigated climate change by the end of the century. Some 20 per cent of GNP losses will come from declining agricultural production, and mining sector output is predicted to decline by more than 13 per cent, with international demand for coal falling by almost 23 per cent. To put these figures in perspective, mining contributed 7 per cent of Australian GDP in 2006–07, and in a world without climate change was predicted to provide 10.2 per cent of GDP by the end of the century.<sup>16</sup>

#### **1.1.2 A clear case for action**

Analysis presented in the Garnaut Final Report builds a strong case for responding to climate change with mitigation action. The Garnaut Final Report observes that ‘the overall cost to the Australia economy is manageable and in the order of one tenth of one per cent of annual economic growth’<sup>17</sup> and concludes that ‘the costs of well-designed mitigation, substantial as they are, would not end economic growth in Australia, its developing country neighbours or the global economy; unmitigated climate change probably would’.<sup>18</sup>

### **Policy position 1.1**

The Government accepts the key findings of the Garnaut Climate Change Review Final Report that:

- a fair and effective global agreement delivering deep cuts in emissions consistent with stabilising concentrations of greenhouse gases at around 450 parts per million or lower would be in Australia's interests
- achieving global commitment to emissions reductions of this order appears unlikely in the next commitment period
- the most prospective pathway to this goal is to embark on global action that reduces the risks of dangerous climate change and builds confidence that deep cuts in emissions are compatible with continuing economic growth and improved living standards.

Economies can respond more efficiently to new circumstances when businesses and individuals have certainty about long-term direction. Starting as soon as possible on a gradual adjustment to a low-carbon economy will give them the opportunity to plan their adjustment pathways and manage changes in technology, equipment and skills requirements, and will minimise the risk of stranding existing long-lived assets<sup>19</sup>. This will help to reduce the costs of mitigation.

In contrast, a wait-and-see approach leaves the economy exposed to far more serious future adjustment costs that could leave assets stranded, workers unemployed, and households exposed to rising costs. All these risks would drive up the cost of mitigation, and might even put limits on effective mitigation as capital becomes constrained. There is a real risk that delaying action will mean bigger changes will need to be made more rapidly, and painfully, in the future.

Business cycles and economic shocks, such as the 2008 global financial crisis, can have a substantial impact on the economy in the short term. However, this does not mean Australia should delay responding to long term reform needs such as climate change. Taking measures to address climate change now, while not without costs, will place the economy in a better position over the longer term and avoid the need for large and sudden adjustments in the carbon intensity of the economy.

It is also important to remember that the Australian community stands to gain many benefits from a comprehensive response to climate change. Modelling conducted by the CSIRO suggests that taking action to reduce Australia's greenhouse gas emissions could catalyse strong jobs growth over the next 10 years, adding from 230 000 to 340 000 new jobs—in addition to normal employment turnover—in the transport, construction, agriculture, manufacturing and mining sectors.<sup>20</sup> A comparison can be drawn with the process of Australian tariff reform: while there were adjustment costs and some sectors were affected more than others (and received appropriate transitional assistance), the overall impact on the economy was positive. Tariff reform significantly contributed to Australia being able to weather the Asian financial crisis in the late 1990s much better than many other developed economies.

One of Australia's major opportunities lies in being well placed to provide the necessary financial services to support developing carbon markets in the Asia–Pacific region. Australia has significant competitive advantages as a potential hub for emissions trading and related financial services in our region. We are a regional commercial centre with world-class financial institutions, developed capital markets, a skilled workforce, high standards of corporate, financial and regulatory governance, and political stability. Australia also has a wealth of professional experience in developing and implementing trading schemes, such as the Mandatory Renewable Energy Target and the NSW Greenhouse Gas Reduction Scheme, with over 75 million tonnes of CO<sub>2</sub> equivalent being traded through the latter since 2003.<sup>21</sup> The World Bank reports that the global volume of carbon traded almost doubled from 1745 million tonnes in 2006 to 2983 million tonnes in 2007.<sup>22</sup>

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

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.

Broad-based market responses to climate change allow abatement to happen where and when it is most cost effective. By contrast, regulatory approaches alone often target highly visible (but not necessarily the most potent) sources of carbon pollution, leaving untapped more cost-effective forms of abatement. Using regulatory approaches alone would be likely to increase overall abatement costs, making it more difficult to achieve an effective global consensus. Market-based approaches are therefore clearly in Australia's long-term interests as they both minimise the cost of abatement and provide flexibility in international abatement responses.

It is likely that developed countries will be expected to collectively contribute more than any global average figure to the global emissions reduction effort. Australia's social and economic characteristics, especially our growing population and relatively emissions-intensive economy, mean that we will have higher adjustment costs than many other developed countries to reach ostensibly similar goals. Those costs will be considerations in shaping the pace of Australia's effort. Australia is ready to participate in a comprehensive agreement under which all nations commit to restrain their emissions, and is committed to making its full contribution.

The Government's climate change policy is built on three pillars—reducing Australia's carbon pollution, adapting to the impacts climate change that we cannot avoid, and helping to shape a global solution. The following three sections elaborate on these three important policy areas.

### **1.2.1 Pillar 1: Reducing Australia's carbon pollution**

Given Australia's economic circumstances and high degree of vulnerability to climate change, the Government's approach to domestic mitigation is designed to transform our economy, putting it on a low-emissions path, and to build Australia's international credibility and strengthen our ability to influence international discussions on an effective global solution.

The Government has provided leadership and clear direction for the national effort by committing to a medium-term national target range of reducing emissions by between five per cent and 15 per cent of 2000 levels by 2020, and a long-term emissions reduction target of 60 per cent below 2000 levels by 2050. The target and the trajectory towards it are discussed in Chapter 4.

Meeting the emissions reductions targets will be challenging. Australia's emissions have been growing rapidly since 1995. Monitoring and reporting of Australia's emissions by the Department of Climate Change<sup>23</sup> suggest that, while Australia is likely to meet its Kyoto Protocol target of limiting emissions in the 2008–2012 period to an average of 108 per cent of 1990 levels, emissions will increase to 120 per cent of 1990 levels by 2020 without additional policy measures.<sup>24</sup> This indicates considerable momentum in national emissions.

Substantially reducing Australia's national emissions will involve the most significant structural reform of the economy since the 1980s, although the reforms required to respond to climate change will take place over a longer timeframe. The reform process will be challenging, and will require the Government to implement responsible economic policies focused on reducing emissions at the lowest possible cost over the long term.

The Australian economy is well placed to undertake the necessary structural reform. Successive waves of microeconomic reform have increased the flexibility of the Australian economy, allowing us to respond to shocks such as the Asian financial crisis, the world economic slowdown of the start of this century, and the current global financial crisis. Australia's economy is in a much stronger position to withstand the fallout from the 2008 global financial crisis than most other countries. Past policies have provided significant monetary and fiscal policy flexibility to allow Australia to respond to deteriorating global conditions. Economic growth remains solid and compares favourably with other advanced economies that are close to, or in, recession. Australia will continue to be a major beneficiary of the growth in demand resulting from the industrialisation of emerging economies such as China and India, even if that growth temporarily slows.

The Government's economic reform agenda, including the reforms being pursued through the Council of Australian Governments agenda and Australia's Future Tax System Review, will further enhance the economy's capacity for structural reform. As in other policy areas, choosing economically inefficient options to reduce emissions will increase the economic cost, raise the burden on individuals and firms and reduce our capacity to assist industries and households through the transition.

The Government will manage the transformation to a low-carbon economy through the implementation of the Carbon Pollution Reduction Scheme, an expanded national Renewable Energy Target, investment in renewable energy technologies and in the demonstration of carbon capture and storage and action on energy efficiency. Together, these elements comprise the four arms of the Government's climate change emissions reduction strategy, and will ensure that Australia has the incentives to reduce its emissions, can develop the technologies to help reduce greenhouse gas emissions both here and abroad, and can contribute to helping the international community to reach a global solution.

## **The Carbon Pollution Reduction Scheme**

To help achieve our emissions reduction target, the Government will introduce an emissions trading scheme as the centrepiece of Australia's domestic emissions reduction strategy. Australia's Carbon Pollution Reduction Scheme (the Scheme) will set an emissions cap, which will gradually be reduced over time. This will help ensure Australia's ongoing prosperity by placing Australia on a low-emissions path in a way that best manages the economic costs of transition and provides incentives to develop and invest in low-emissions technologies. The Scheme will be the key mechanism for achieving substantial emissions mitigation in a responsible manner and at the lowest possible cost. The Scheme is a continuation of Australia's economic reform path, addressing economic and social issues by harnessing flexible market processes. Part 2 of this White Paper sets out in detail the structure and operation of the Scheme.

### **Assisting the transition to a low-carbon economy**

While the Scheme will provide the mechanism for achieving low-cost national abatement, some additional mitigation measures will still be required to assist the transition to a low-carbon economy. Complementary mitigation measures will work alongside the Scheme, and Part 3 of this White Paper discusses the support measures the Government will implement to smooth the transitional path for businesses and the broader community, as well as additional measures to support emissions reductions.

The complementary measures outlined in this White Paper are designed to assist the transition to a lower carbon economy by targeting market failures that are not adequately addressed by the Scheme, and by assisting to reduce the cost of mitigation. In some circumstances complementary measures are transitional because, although they may be necessary to address a specific failure in the short- to medium-term, they are not expected to be helpful or required in the longer term. The complementary measures will inform and educate, help drive mitigation in sectors not yet covered by the Scheme, support research, development and demonstration of new technologies, and address non-price barriers to reducing emissions.

Through the Strategic Review of Australian Government Climate Change Programs (the Wilkins Review), the Government is progressing a process to review existing climate change measures to ensure that they are consistent with the Scheme.

### **Assistance for households**

The Government is committed to protecting the poorest and most vulnerable in society, assisting households, and helping all Australians to contribute to the critical national effort to reduce greenhouse gas emissions and transition Australia to a low-carbon economy. Changes to the tax and transfer systems and the introduction of new energy efficiency measures will help alleviate increases to the cost of living arising from the Scheme.

This direct assistance will help avoid adverse income or distributional effects arising from the Scheme and will ensure the most vulnerable households in society are protected.

## **Business and Industry**

While the Scheme will deliver mitigation at the lowest possible cost and scheme costs will be modest in aggregate, the Government recognises that costs may be concentrated in certain sectors of the economy or in particular regions of Australia. As a result businesses, industries and regions may need assistance to prepare for the introduction of a carbon price and a smooth transition to a low-carbon economy.

The Government will establish the Climate Change Action Fund to assist in breaking down market barriers that may raise the cost of responding to a carbon price, and to encourage investment in low-emissions technology. The Fund will also provide targeted assistance for sectors, businesses, regions, communities and workers that may be disproportionately affected by the introduction of the Scheme because of their economic reliance on industries that are more exposed to a carbon price.

## **Energy Transformation**

The Renewable Energy Target will ensure that 20 per cent of our electricity is generated from renewable sources by 2020. The Renewable Energy Target is an important transitional measure to stimulate the deployment of renewable energy technologies, and is supported by investment through the Renewable Energy Fund and other renewable energy industry assistance measures which will facilitate the adoption of renewable energy technologies in Australia.

Carbon capture and storage (CCS) is likely to be a key component of the global solution to climate change. Coal will continue to be a major energy source for the world over coming decades. For Australia, coal will be the main source of our energy supply into the future and a major contributor to our export revenue. All major models of ways to achieve lower greenhouse gas emissions expect a significant part of the reduction to be achieved through the use of CCS. The Government has announced the Global Carbon Capture and Storage Initiative to accelerate the scaling up and deployment of CCS technology across the world.

Energy efficiency is the final piece of the emissions reduction strategy. Energy use is the key driver of emissions growth in Australia. The Renewable Energy Target and CCS will reduce the emissions produced and released in generating energy, but there is also considerable scope to increase the efficiency of energy use. Using energy more efficiently can significantly reduce the cost of greenhouse gas abatement and ease the transition to a low-carbon economy. There are several impediments to the uptake of energy efficiency measures, including gaps in the information available to households and businesses to make informed decisions. By becoming more energy efficient, households can reduce the cost impacts of the Scheme. Prior to the commencement of the Scheme, the Government will deliver household energy efficiency initiatives building on existing programs to help households do their bit to tackle climate change and reduce energy bills.

### **1.2.2 Pillar 2: Adapting to unavoidable climate change**

Even if global mitigation efforts are successful, scientific evidence indicates that some climate change is unavoidable and we will need to adapt to it. It will be crucial to harness the full capacity of our research community to gain the necessary scientific understanding of climate change impacts. Those impacts create considerable risks to assets, investments, environments,

communities and regional economies. Wise investments now to adapt to those changes can reduce costs in the future.

An effective response to the challenge of climate change will require individuals, businesses, communities and governments to take steps to adapt to climate change. Individuals and businesses are often best placed to manage the risks associated with their assets—the benefits they obtain from adapting to climate change provide an incentive for them to manage exposure to those risks.

The Government has an important role in establishing optimal conditions for adaptation action throughout Australia. Individuals and businesses need targeted information and tools to support effective adaptation decisions; sectors and regions need to understand their vulnerabilities; and planning and regulatory mechanisms need to be reviewed so that decisions can be taken today, particularly those involving long-lived assets, do not increase Australia's future vulnerability to climate change.

#### **Box 1.4: A national approach to adaptation**

The National Climate Change Adaptation Framework has been developed by the Australian Government and all State and Territory governments to build our capacity to respond effectively to climate change, and outlines action to reduce regional and sectoral vulnerability.

The Australian Government is already supporting the implementation of key actions under the framework, including:

- establishing the National Climate Change Adaptation Facility that will lead the scientific community in a national inter-disciplinary effort to generate biophysical, social and economic information needed by decision makers and the community to help manage the risks of climate change impacts
- priority research directed at the needs of decision-makers priority research, such as identifying future increased risks of vector-borne diseases arising from climate change, identifying opportunities for commercial fishers to change target species, and governance needs for the conservation of Australia's biodiversity to adapt to climate change impacts.
- establishing the CSIRO Climate Change Adaptation Flagship.

In addition, the Government is working with key sectors to address areas of vulnerability. For example, the Government has committed \$12.9 billion to fund a new 10-year plan, Water for the Future, which aims to take action to adapt to climate change, use water wisely, secure water supplies and improve environmental outcomes for Australia's water resources. Assessment of the vulnerability of coastal areas and infrastructure to climate change impacts is underway; and the Government will continue to provide support for decisions-makers through information, tools, and skills to assist with adaptation planning.

### **1.2.3 Pillar 3: Helping to shape a global solution**

The third pillar recognises that climate change is a global problem that requires a global solution. Australia has the standing and capacity to positively shape an international agreement that addresses climate change beyond the first compliance period of the Kyoto Protocol, which ends in 2012.

Australia's domestic action will affect our international credibility, and therefore our ability to help shape a global solution. The Government's long-term national emissions reduction target (60 per cent on 2000 levels by 2050) confirms Australia's place in the global effort, and our development of a comprehensive policy framework shows that Australia is serious about achieving it. This is underpinned by the Government's commitment to a 2020 target range for emissions reduction. Developing a flexible and workable emissions trading model also demonstrates to other countries that they can also take on emissions targets while maintaining robust economic growth and rising living standards.

Australia is responsible for only a relatively small proportion of global emissions, and some have used this fact to argue that we should not pursue ambitious reduction targets until there is a comprehensive global agreement. That position ignores that Australia's climate and economy are likely to be strongly affected by climate change, and that we have a strong and direct national interest in pursuing a global solution. As the Garnaut Final Report stated, what Australia does matters and when we do it matters.<sup>25</sup> Being part of the group of countries leading the global response will maintain Australia's seat at the international table and enable Australia to play a strong and constructive role in the development of the global mitigation regime. It will also reduce the economic costs and enhance the opportunities associated with moving to a low-carbon world. Earlier action also allows a more gradual transition to a low-carbon economy, allowing individuals and businesses to adjust and learn over time. The learning process will give Australia a competitive advantage over countries that persist with economic structures which exclude a price on carbon.

It is in Australia's national interest to signal our intentions to take strong mitigation measures. Doing so will improve the likelihood of obtaining a strong and effective long-term global agreement to stabilise emissions at levels consistent with avoiding dangerous climate change. Australia considers it essential that all countries, both developed and developing, can and do participate in global efforts to reduce emissions. While taking into account the circumstances of individual countries, Australia is working toward a post-2012 outcome that is comprehensive, fair, and effective.

To strengthen the multilateral response to climate change, a key objective for Australia is to broaden the number of countries willing to make commitments. While all countries should act to mitigate climate change, the top 15 emitters are responsible for around 80 per cent of global greenhouse gas emissions (Table 1.1). In order to avoid the risks of dangerous climate change, major developing economies will need to commit to actions to restrain their emissions in a post-2012 framework.

**Table 1.1: Projected share of global greenhouse gas emissions, 2005 to 2100**

| Country                                   | Proportion of global emissions (%) |      |      |
|---|------------------------------------|------|------|
|   | 2005                               | 2030 | 2100 |
| United States                             | 18.3                               | 11.1 | 5.1  |
| China                                     | 18.3                               | 33.0 | 21.2 |
| European Union                            | 12.6                               | 7.1  | 3.6  |
| Former Soviet Union                       | 8.4                                | 6.9  | 4.5  |
| India                                     | 4.6                                | 8.0  | 16.8 |
| Japan                                     | 3.5                                | 1.8  | 0.7  |
| Canada                                    | 2                                  | 1.3  | 1.0  |
| Indonesia                                 | 2                                  | 1.8  | 2.4  |
| Australia                                 | 1.5                                | 1.1  | 1.0  |
| South Africa                              | 1.3                                | 1.3  | 1.4  |
| OPEC                                      | 4.7                                | 5.4  | 7.8  |
| Other south-east and east Asian countries | 4.3                                | 2.9  | 3.3  |
| Rest of the world                         | 18.5                               | 18.2 | 31.3 |

OPEC = Organization of Petroleum Exporting Countries.

Source: R Garnaut, *The Garnaut Climate Change Review*, Cambridge University Press, 2008, p. 65.

The Bali Action Plan, agreed at the 2007 Conference of Parties to 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 they continue their economic and social development. An effective post-2012 outcome needs to reflect actions by all key countries to binding international commitments, in which countries contribute according to their respective capabilities. The Government fully expects that the nature and scale of commitments will differ, but all nations need to play their part and make nationally appropriate binding commitments to do so.

Australia is also part of several important international initiatives that are making positive practical contributions to reducing greenhouse gas emissions. Those initiatives are helping to build trust and understanding, and improve the prospects of a cooperative international agreement. For example, Australia is working through the International Forest Carbon Initiative to test possible future international approaches to emissions accounting and emissions reductions in the forestry sector. There is considerable international cooperation on clean energy technology, and the Government, its key research institutions and business participate in all significant initiatives. Carbon capture and storage, solar and geothermal technologies have been identified as strategic priorities for Australia. In the area of adaptation responses, Australia will be called upon to help vulnerable countries in the region adapt to unavoidable climate change. The Government's International Climate Change Adaptation Initiative will plan and undertake practical on-ground actions to respond to the impacts of climate change in developing countries, with a focus on the Pacific region. Assisting the region in this way will help ameliorate potential regional impacts and support sustainable development.

## **1.3 The White Paper**

This White Paper is the culmination of a long and intensive process of policy development and stakeholder consultation. It builds on work that began in 2007 through the National Emissions Trading Taskforce and the former Prime Minister's Task Group on Emissions Trading, on the Garnaut Final Report, and on economic modelling work by the Treasury. It develops and refines the scheme design presented in the Carbon Pollution Reduction Scheme Green Paper.

The Green Paper primarily presented options for the design of the Scheme. After its publication, the Government received more than 1000 submissions relating to all aspects of climate change policy. More than 2400 people attended 18 public consultation sessions and workshops held in capital cities and regional areas. More than 260 companies attended technical workshops and meetings. Six industries and non-government roundtables were held with representatives from 45 organisations. The extent of the response to the Green Paper confirms the depth of the Australian public's concern about climate change.

While emissions trading will be the primary mechanism to achieve Australia's emissions reductions goals, the Scheme will commence as part of a broader policy response. The White Paper is therefore broader in scope, outlining the science of global climate change and discussing Australia's role in a global solution, the selection of the national medium-term target and trajectory, and a range of complementary measures that will smooth the transition to a lower-carbon economy. Table 1.2, at the end of this chapter, summarises the issues covered in the Green Paper and the White Paper.

Climate change will affect every aspect of Australian society and adaptation will be an important part of Australia's response. This White Paper does not analyse adaptation in detail. The Government has developed a National Adaptation Framework in cooperation with the states and territories, and will continue to announce adaptation policies and programs in the future.

### **Reducing Australia's carbon pollution**

The White Paper sets out the context within which the Government's climate change policy has been developed. The architecture of the Government's climate change framework and a summary of the White Paper and the next steps are laid out in this chapter. Chapter 2 outlines the science of climate change and briefly touches on the Government's adaptation approach. Australia's role in global efforts to reach a global agreement to reduce greenhouse gas emissions is discussed in Chapter 3. Policies to reduce emissions rest on the foundation of the national greenhouse gas emissions reduction target. The medium-term national target and the trajectory toward it are discussed in Chapter 4.

### **The Carbon Pollution Reduction Scheme**

The White Paper is concerned with the design and operation of the Carbon Pollution Reduction Scheme. Chapter 5 covers the framework of the Scheme and describes how emissions trading works. Emissions trading will deliver mitigation at the lowest possible cost when the greatest possible proportion of the economy's greenhouse gas emissions can be covered by the Scheme. The Government recognises that full coverage may not be possible

immediately, and in Chapter 6 has set out criteria and a timetable for coverage of different sectors.

The Scheme will establish a market in carbon pollution permits, the supply of which will be governed by the Scheme cap. Permits will be auctioned each year and subsequently traded. Demand for permits will be created by participants in the Scheme, who will need to surrender permits each year to account for their emissions. Reporting and compliance are described in Chapter 7, the mechanisms of this new market are discussed in chapters, 8, 9 and 10, and trade in international markets is discussed in Chapter 11.

The Government recognises that some industries will require transitional assistance to manage impacts on competitiveness and to adjust to a carbon price. Assistance to emissions-intensive trade-exposed industries is outlined in Chapter 12, and assistance to other strongly affected industries is described in Chapter 13. Tax and accounting matters relating to the Scheme are discussed in Chapter 14, transitional issues in Chapter 15, and governance arrangements and implementation in Chapters 16.

### **Complementary and supporting measures**

The White Paper discusses complementary and supporting measures that are intended to help households and businesses move smoothly into a world that incorporates a carbon price. The Government recognises that there may be a modest rise in the cost of living as a result of the Scheme, and assistance to households through the tax and payments system to help meet those costs is described in Chapter 17. Businesses and regions will also face challenges as they adjust to the lower-carbon economy. The Government will help them meet those challenges through the Climate Change Action Fund. Chapter 18 describes the objectives and broad scope for the fund.

Chapter 19 sets out the principles agreed through the COAG Working Group on Climate Change and Water to guide the development of new programs and policies and assess existing measures.

Appendices provide supplementary information:

- Appendix A lists public submissions in response to the Green Paper
- Appendix B compares design aspects of the Scheme to those from the Green Paper, the Garnaut Final Report, and the New Zealand and European Union emissions trading schemes
- Appendix C discusses implementing the Kyoto Protocol in Australia
- Appendix D outlines possible strongly affected industries
- Appendix E has a budget summary, including measures tables
- A glossary and a table of acronyms complete the White Paper.

**Table 1.2: Summary of Green Paper and White Paper coverage**

| Policy pillar                  | Policy instruments                                      | Green Paper                                   | White Paper  | Part/Chapter                |
|--------------------------------|---|---|--|-----------------------------|
| 1. Mitigation                  | National target   | Options for target and trajectory             | Quantified 2020 target and initial trajectory            | Part 1, Chapter 4           |
|                                | Carbon Pollution Reduction Scheme                       | Scheme design options                         | Detailed design framework                                | Part 2, Chapters 5–16       |
|                                | Complementary measures:                                 |   |  |                             |
|                                | • strongly affected industries                          | Rationale and eligibility for assistance      | Detailed assistance formulas                             | Part 3, Chapter 18          |
|                                | • households  | High-level discussion                         | Assistance through the tax and payments system           | Part 3, Chapter 17          |
|                                | • other transitional issues                             | High-level discussion                         | Objectives and broad scope of Climate Change Action Fund | Part 3, Chapter 18          |
|                                | • Renewable Energy Target                               | Not discussed                                 | Key issues outlined                                      | Part 3, Chapter 19          |
|                                | • Carbon capture and storage                            | Not discussed                                 | Key issues outlined                                      | Part 3, Chapter 19          |
|                                | • Energy Efficiency                                     | Not discussed                                 | Key issues outlined                                      | Part 3, Chapter 19          |
| 2. Adaptation                  | National Climate Change Adaptation Framework            | Not discussed                                 | Key issues outlined                                      | Part 1, Chapters 1 and 2    |
| 3. International participation | Negotiation of post-2012 framework                      | Not discussed                                 | Key issues outlined                                      | Part 1, Chapters 2, 3 and 4 |
|                                | Links between domestic and international carbon markets | Options and issues for international linkages | Detailed rules for international links                   | Part 2, Chapter 11          |

### Next steps

While the White Paper is an important step forward, it is not the end point of the Australian Government's climate change policy development. Rather, it is the foundation on which an ongoing response will be built. Drafting for legislation to enact the Scheme is under way, and an exposure draft is expected to be released for public comment in early 2009. The legislation will be based on the positions outlined in Part 2 of the White Paper.

Design of the expanded national Renewable Energy Target is also well under way. Legislative and regulatory amendments to implement the design of the Renewable Energy Target are expected to be in place by mid-2009, with revised targets commencing from 2010.

Not every measure in the White Paper will require legislation before it can commence. Some complementary measures (such as the National Low Emissions Coal Initiative) are already underway. Others, such as the Climate Change Action Fund will be rolled out before the Scheme commences to better assist businesses to prepare for the onset of a carbon price. Prior to the commencement of the Scheme, the Government will deliver household energy efficiency initiatives building on existing programs to help households do their bit to tackle climate change and reduce energy bills. Additional measures will also be developed to assist the land sectors contribute to reducing emissions until such time as they are covered by the Scheme and to transition into the Scheme at a later date.

There is no single solution to the global problem of climate change. Environmental and economic costs of inaction on climate change are already beginning to be felt, and there is no case to delay any longer. The Government remains committed to reducing Australia's greenhouse gas emissions in an economically responsible manner, creating a prosperous

low-carbon economy in which Australia's environment is protected and Australian society continues to flourish.

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