



BUDGET
CLIMATE CHANGE

STATEMENT BY

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MINISTERIAL FOREWORD

Tackling the challenge of climate change is one of the Australian Government's highest priorities. The Government has committed to ambitious emissions reduction targets and is implementing a comprehensive nationwide response to climate change: reducing emissions; adapting to unavoidable climate change; and helping to shape a global response. These actions will safeguard our environment, sustain our society, and support our economy for the years ahead.

The world is currently confronting a global recession, but this does not mean we can ignore the threat that climate change poses to our environment, our society and our economy. On the contrary, it is more important than ever to secure Australia's long-term prosperity by driving investment in new technologies and creating significant job opportunities for Australians, while building a low pollution economy that protects our environment. Inaction on climate change will have greater costs and employment impacts than beginning responsible action now. We also know that Australia can make deep cuts in its carbon pollution emissions while achieving strong trend growth in incomes and employment. Action on climate change will provide certainty for new investment, which is critically needed in challenging economic conditions.

The Government is taking action to underpin Australia's future prosperity by supporting existing jobs and industries, and helping develop the jobs and industries of the future. The Government has developed a comprehensive and integrated suite of climate change policies and programs to guarantee that emissions come down, that provide incentives for action as we meet our ambitious 2020 pollution reduction targets, and which will transform our economy. This involves:

- a legislated cap on carbon pollution, through the Carbon Pollution Reduction Scheme ,which will place an explicit price on carbon;
- measures to improve energy efficiency in our homes, shops, offices and workplaces;
- measures to deploy existing low emissions technologies;
- support for the creation of new low emissions technologies and products;
- opportunities for households to engage in individual action; and
- measures to help business and community groups prepare for a low carbon future.

The Government's substantial investments in developing low carbon energy technologies, ambitious action on energy efficiency, and well-designed, limited transitional support for our emissions intensive industries will provide the long term framework and confidence required to create the new jobs and businesses of the future.

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Scientific knowledge about climate change is fundamental to protecting our environment. The Australian Government is continuing its investment in the Australian Climate Change Science Program, and developing a new Australian Climate Change Science Framework to identify future research priorities and the capabilities needed to deliver on those priorities.

In this Budget, the Government will make significant and targeted investments to prepare the economy for the introduction of a carbon price and support the transition to a low pollution future. We will play our full part in global efforts to reduce emissions, and continue support for climate change science and adaptation initiatives.

REDUCING AUSTRALIA'S EMISSIONS

The Government is strongly committed to reducing Australia's carbon pollution. The Carbon Pollution Reduction Scheme (CPRS) is the main driver to achieve this important environmental goal. When it commences on 1 July 2011, it will guarantee that Australia meets its expanded emissions reductions of as much as 25 per-cent of 2000 levels by 2020.

For the first time, the Government is putting a price on carbon. The sale and allocation of carbon pollution permits valued at around \$4.5 billion in 2011-12 and \$13 billion in 2012-13 will directly stimulate investment and jobs in the low-carbon economy of the future, and the Government has committed that every cent will be used to transition Australian households and business to a low pollution future.

If we take no action, by 2020 Australia's carbon pollution will be 20 per cent higher than in 2000, not as much as 25 per cent lower, as the Government intends. The Government's targets will require a reduction in every Australian's carbon footprint of nearly one third to one half.

Clean Energy Initiative

The stationary energy sector produces approximately 50 per cent of Australia's greenhouse gas emissions, so renewable energy will have a key role in moving Australia to the clean economy of the future. The Government is expanding the Renewable Energy Target Scheme by over four times, to increase the use of renewable energy to 20 per cent of the electricity supply by 2020.

As part of the \$4.5 billion Clean Energy Initiative, the Government is investing \$1.5 billion in the Solar Flagships Program to make Australia a world leader in solar power generation. This program will support four solar power generation projects of capacity equal to or greater than current coal fired power stations, creating an additional 1000 megawatts of solar power generation capacity – more than three times the size of the largest solar energy project operating anywhere in the world.

The Government is also establishing Renewables Australia as part of the initiative, with an overall investment of \$465 million, to support leading-edge technology research, development and demonstration projects.

Carbon capture and storage (CCS) will also play an important role in the global fight against climate change. The Government will invest \$2 billion through the Clean Energy Initiative in industrial-scale CCS projects, which may include a carbon dioxide storage hub, to ensure that Australia continues to be a world leader in the development of this technology.

Energy Efficiency

Through the Nation Building - Economic Stimulus Plan, the Government is also introducing the largest single energy efficiency measure in Australia's history – the recently announced Energy Efficient Homes Program. From 2009–10, the Government will provide new funding of almost \$4 billion for the Energy Efficient Homes Program.

The Government will also provide up to \$100 million in 2009-10 for the National Energy Efficiency Initiative to develop an innovative smart-grid energy network, which will combine broadband with intelligent grid technology and smart meters in homes to enable greater energy efficiency and better integration of renewable energy sources, such as solar and wind power.

To further support emissions reductions, the Government has introduced a range of interconnected and mutually supportive measures targeted at Australian households and the business sector, including \$75.8 million to establish the Australian Carbon Trust, and \$64.6 million for a suite of streamlined energy efficiency programs that are efficient, effective and complementary to the CPRS. This approach will reduce the burden on business while helping drive sustainable emissions reductions; increase the efficiency of program delivery; and help Australian households and firms save money and adjust to the effects of a carbon price.

ADAPTING TO CLIMATE CHANGE

The Government is committed to preparing Australia to deal with the climate change impacts that are already 'locked in' due to the greenhouse gases already in the atmosphere. It is developing a comprehensive adaptation policy to help Australia manage the serious social, economic and environmental risks from these impacts and investing in the research, tools and information needed by communities, industry and governments for effective adaptation planning.

PLAYING OUR PART IN THE GLOBAL EFFORT

These initiatives will transform Australia to a low-carbon economy. But they are also central to our contribution to global efforts to avert dangerous climate change. In this, Australia is not acting alone. This year, we are engaged in intensive negotiations under the United Nations Framework Convention on Climate Change (UNFCCC), which will conclude in Copenhagen in December 2009. Australia is working to settle a framework for global action on climate change to take effect once the first commitment period under the Kyoto Protocol expires in 2012.

Australian leadership in becoming a low carbon nation can show other countries what can be done. While Australia must act, we can only succeed in providing a safe future for our children if the whole world acts together to reduce carbon pollution. To maximise Australia's contribution to an ambitious outcome in international negotiations at Copenhagen this December the Government has announced that Australia will cut carbon pollution to 25 per cent below 2000 levels by 2020 if the world agrees to an ambitious global deal to stabilise levels of greenhouse gases in the atmosphere at 450 parts per million of carbon dioxide-equivalent (ppm CO₂e) or lower.

The Government's efforts will be supported through additional funding for the Shaping an International Solution to Climate Change measure, which will help build Australia's standing in the UNFCCC negotiations, for example through supporting developing country participation in the negotiations. The measure also supports the building of significant partnerships on climate change, with countries such as China, South Africa, the United States, the European Union and New Zealand.

As a further contribution to the global effort, Australia has put forward a proposal on how emissions reductions from the forest sector in developing countries could be included in a future international climate change agreement. Deforestation accounts for approximately 18 per cent of global greenhouse gas emissions. The Government's ongoing investment of \$197.2 million for the International Forest Carbon Initiative is a core part of our contribution to building capacity in our region in this area.

Only measured sensible actions that begin now to lower our carbon pollution will guarantee Australia's future prosperity and create the high-value jobs of the future. 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.

CHAPTER 1: BUDGET HIGHLIGHTS

Tackling the challenge of climate change is one of the Australian Government's highest priorities, and we are implementing a comprehensive, whole-of-government response. The Government has set an ambitious emissions reduction target of as much as 25 per cent of 2000 levels by 2020 (see box 1.1). This target will be achieved through a combination of targeted and complementary programs beginning in 2009-10, and through the introduction of the Carbon Pollution Reduction Scheme in 2011.

The Government provided over \$2.3 billion for programs announced in the 2008-09 Budget. Since the 2008-09 Budget we have announced over \$8 billion in additional funding. This 2009-10 Budget provides another \$4.8 billion, bringing the Government's total investment in climate change initiatives and programs to over \$15 billion. This stands in contrast to the 2007-08 budget delivered by the previous government, which contained only \$741 million for climate change programs, bringing the previous government's total investment in fighting climate change to only \$3.5 billion.

This investment will help support Australia's economy in challenging times, putting Australia on track to a low-carbon economy where our environment is protected, our society is prosperous, and our economy is strong.

Box 1.1: Australia's New Emissions Reduction Target

In the Carbon Pollution Reduction Scheme White Paper, published in December 2008, the Government set challenging targets for reducing Australia's national emissions. The ambitious target range of 5–15 per cent on 2000 levels involves reducing the carbon emissions of every Australian by at least a third over the next decade.

The Government's assessment in the White Paper was that achieving global commitment to realise emissions reductions sufficient to stabilise at 450 ppm CO₂-e (the level required to avoid dangerous climate change) appeared challenging in the near term and that the most prospective pathway to this goal would be 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.

The Government's new commitment of 25 per cent below 2000 levels by 2020 follows extensive consultation with a broad range of stakeholders, including environment advocates and business on the best way to maximise Australia's contribution to an ambitious global outcome. It also reflects that international developments since December 2008 have improved prospects for such an agreement.

The Government will adopt a 25 per cent target in the context of an ambitious international agreement involving comprehensive global action capable of stabilising greenhouse gases in the atmosphere at 450 ppm CO₂-e or lower. Achieving this will still be very tough. It will require a significant further shift in negotiating dynamics and all advanced and major developing economies to take serious action to restrain and then reduce emissions.

Full details of the new target are available at www.climatechange.gov.au.

The Government's \$4.5 billion Clean Energy Initiative will provide crucial investment and the investor certainty required for the development and deployment of low-emissions technologies. The Clean Energy Initiative includes \$1.5 billion in investment in large-scale solar generation projects, \$2 billion in investment in industrial-scale carbon capture and storage, and the establishment of Renewables Australia (\$465 million), to support leading-edge technology research, development and demonstration projects.

The Government is also delivering on its election commitment and expanding the Renewable Energy Target scheme by over four times, to increase the use of renewable energy to 20 per cent of the electricity supply by 2020. The stationary energy sector produces about 50 per cent of Australia's greenhouse gas emissions, so this additional renewable energy will have a key role in moving Australia to the clean economy of the future.

From 2009–10 the Government will provide funding of over \$4 billion for a range of energy efficiency measures that will reduce energy use and carbon pollution in homes, communities, business and industry – the biggest single investment in energy efficiency in Australia’s history.

The Carbon Pollution Reduction Scheme (CPRS) will be the major driver that guarantees emissions reductions. To give business certainty and support Australian business in challenging times, the Government will defer the introduction of mandatory obligations under the CPRS until 1 July 2011. Every cent of revenue from the Scheme will be used to transition Australian households and business to a low pollution future.

The Government’s Climate Change Action Fund, announced in the CPRS White Paper, is being augmented with an additional \$300 million in this Budget. The Fund will smooth the transition to a low-pollution economy by providing \$2.75 billion in support for businesses, industry, community organisations, workers and regions, beginning from 2009-10. Households and families will also be assisted; with the Household Assistance Package providing a package of direct cash assistance and tax offsets to a range of low and middle-income households. Motorists will also benefit from cent-for-cent reductions in fuel tax for the first three years of the Carbon Pollution Reduction Scheme.

The Government recognises the important role that household action has to play in moving to a low emissions future for Australia. In this Budget, as part of the Australian Carbon Trust, \$25.8 million is dedicated to establishing the Energy Efficiency Savings Pledge Fund, to support the uptake of energy efficiency measures by households and small businesses and enable individuals and businesses to achieve emissions reductions beyond Australia’s emissions reduction targets. The Australian Carbon Trust will also be provided with \$50 million in seed funding to promote and demonstrate innovative energy efficiency activities for commercial businesses and other organisations.

Quality scientific research is essential to underpin each pillar of the Australian Government’s comprehensive policy response to climate change. The Government is continuing to build scientific understanding of climate change through an additional \$31.2 million in funding over four years for the existing Australian Climate Change Science Program.

Australia has proposed a comprehensive and innovative approach to address emissions from the forest sector in developing countries. It shows our commitment to playing a leadership role in brokering solutions to stabilise greenhouse gas concentrations globally.

The Government will continue to focus its policy response on reducing emissions, adapting to unavoidable climate change, and playing our part in a global response to

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climate change. Together these initiatives represent an integrated and strategic response to protect our environment and support our economy.

CHAPTER 2: THE CLIMATE CHANGE CHALLENGE

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, and drought frequency, putting at risk Australian communities, people's health, agricultural production, tourism, heritage and biodiversity for current and future generations.

The climate is already changing, with more frequent and severe droughts, rising sea levels and more extreme weather events. In Australia, seventeen of the last nineteen years have been warmer than average. Australia is already experiencing the early impacts of these changes. We will face more substantial impacts in the future, including more frequent and severe weather events such as heatwaves, floods, storms and cyclones; and a further decline in rainfall across southern Australia and in water availability through increased evaporation from higher temperatures.

The Garnaut Climate Change Review Final Report (Garnaut Review) 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. The Great Barrier Reef and other reef systems, such as Western Australia's Ningaloo reef, would be effectively destroyed, with serious ramifications for tourism industries and biodiversity. Coastal infrastructure would be at risk from storm surges and flooding.

The Garnaut Review projected declines in the value of agricultural production of up to 97 per cent in the Murray Darling Basin by 2100 – where 90 000 people are currently employed in the agricultural sector. The Great Barrier Reef provides over \$4.9 billion in tourism revenues and employment for around 60 000 people. As a result, dealing with the climate change challenge is critical to Australia's economic security and future prosperity.

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New data and scientific understanding presented at the Copenhagen Climate Congress in March 2009 suggest that the rate and magnitude of climate change already observed is at the high end of the range estimated by the United Nations' Intergovernmental Panel on Climate Change (IPCC)¹ in its Fourth Assessment Report, published in 2007:

For many key parameters, the climate system is already moving beyond the patterns of natural variability within which our society and economy have developed and thrived. These parameters include global mean surface temperature, sea-level rise, ocean and ice sheet dynamics, ocean acidification, and extreme climatic events.²

The Congress concluded that there is a significant risk that many of the trends will accelerate, leading to an increasing risk of abrupt or irreversible climatic shifts. Climate change science demonstrates that there is a clear environmental imperative to take urgent and significant action. The Government believes that it is in Australia's national interest to achieve a global agreement to stabilise atmospheric greenhouse gas emissions at 450 ppm CO₂-e or lower.

Climate, ecosystems, society and the economy are closely linked. The thriving society that Australians enjoy today has developed within climate parameters that have allowed us to make the most of the abundant natural resources that our country has to offer. 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 our historic experiences of long-term climate patterns, for example, the frequency of storms, the height of tidal surges, or rain and temperature patterns. Ecosystems, the economy and ultimately Australian society are likely to be strongly affected by climate change, and analysis presented in the Garnaut Review Final Report builds a strong case for responding to climate change with mitigation action. It 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'.

The economy will 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 business, households and industry the opportunity to plan their adjustment pathways and manage changes in

¹ The IPCC is the leading scientific intergovernmental body, set up in 1988 by the World Meteorological Organization and the United Nations Environment Program. 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.

² Key Messages: Copenhagen Climate Congress, March 2009.

technology, equipment and skills requirements, and minimise the risk of stranding existing long-lived assets.

In contrast, a wait-and-see approach leaves the economy exposed to far more serious future adjustment costs and disruption, and will delay investment and damage our future growth and job prospects by prolonging uncertainty. This would drive up the cost of responding to climate change, and might even put limits on effective action 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.

Failing to put in place a comprehensive response to climate change will leave our children with an environment that is very different from that we grew up with and enjoy today. Iconic natural wonders like the Great Barrier Reef are at risk of destruction; water supplies for many of our cities and farmers are expected to diminish; the damage wreaked by cyclones and storms is forecast to increase; and our beaches and coastal properties are threatened with inundation by rising sea levels.

Business cycles and economic shocks, such as the global recession, can have a substantial impact on the economy in the short term. However, this does not mean Australia should delay putting in place the reforms that will be needed over the long term to respond to climate change. Taking action to address climate change now will assist businesses to manage the process of change to a sustainable environmental future and to weather the present economic crisis. It will also transform the economy to create the green businesses and jobs of the future, preserve our environment and place Australia on a path to a new prosperity.

The Australian economy and community stands to gain many benefits from a comprehensive response to climate change. A long term framework for action on climate change provides the confidence required for employers to take on staff and create new businesses as part of a low pollution economy. Measures such as the Government's \$1.3 billion Green Car Innovation Fund (part of the 13-year, \$6.2 billion New Car Plan for a Greener Future announced by the Government in November 2008) are supporting jobs of the future and stimulating the economy while also contributing to Australia's emissions reduction targets (see Box 2.1).

The Government's substantial investment in developing low carbon energy technologies, ambitious action on energy efficiency, and well-designed limited transitional support for our emissions intensive industries will all support existing industries and jobs, while developing the jobs and industries of the future. For example, the Government's expanded Renewable Energy Target will see a thirty-fold increase in renewable electricity by 2050³.

³ *Australia's Low Pollution Future*, Australian Treasury, 2008.

2.1 The Green Car Innovation Fund: reducing emissions, saving money, supporting jobs.

The Green Car Innovation Fund is part of the 13-year, \$6.2 billion New Car Plan for a Greener Future announced in November 2008, which will make the automotive industry more economically and environmentally sustainable by 2020.

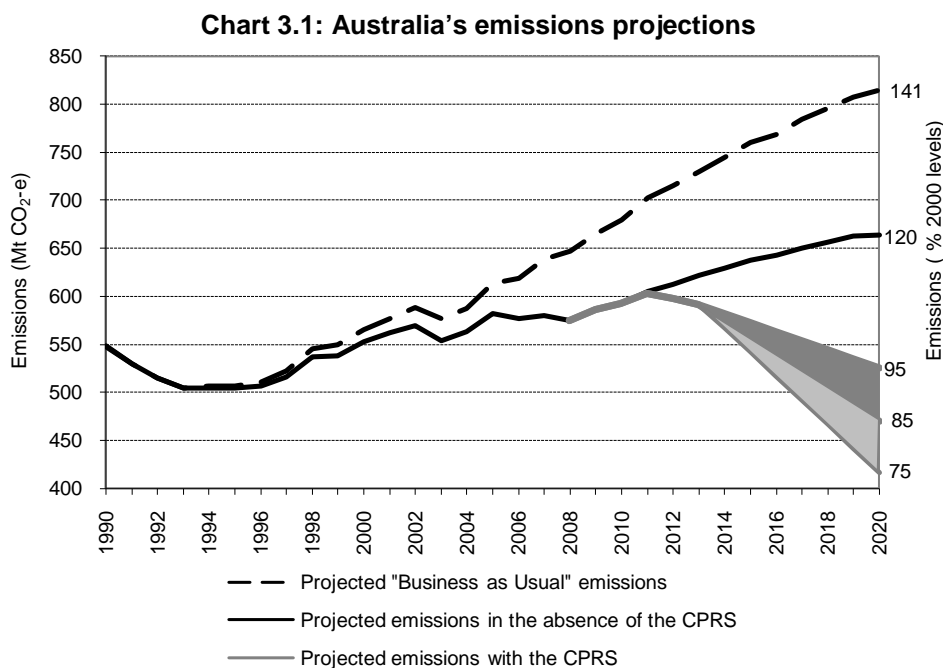
In 2008, the Government announced grants of \$35 million to Toyota to manufacture the hybrid Camry in Australia from 2010. Toyota expects that production of the hybrid Camry will result in more than \$89 million of incremental purchases throughout the Victorian and South Australian automotive components industry, resulting in new jobs within Toyota's supply chain. The Government also provided a grant of \$149 million to GM Holden to produce a new, fuel-efficient, small vehicle in Australia from 2010.

Australian families and the environment will benefit from Holden's and Toyota's projects. For example, a family travelling 20 000 kilometres per year in Holden's new small car will save almost \$500 in fuel and produce 1.7 tonnes less in carbon emissions than current larger vehicles.

CHAPTER 3: A COMPREHENSIVE APPROACH TO CLIMATE CHANGE

The Rudd Government is implementing a comprehensive response to climate change: reducing emissions, adapting to unavoidable climate change, and playing our part in a global response. These measures will safeguard our environment, sustain our society, and support our economy for the years ahead, keeping the Australia we know physically beautiful, prosperous and forward looking - for our children and our children's children.

On coming to office, the Government inherited a disparate and ad-hoc collection of climate policy measures and programs that had evolved over the past 11 years. When those measures are viewed together, it is clear that greater coherence, consistency and effectiveness would have been achieved if they had been developed within a clear policy framework. Most of these measures relied on voluntary action by motivated individuals and organisations, which has been instrumental in slowing emissions growth but which, in isolation, could never prevent further rises in Australia's emissions (see Chart 3.1).



To begin the substantial reductions required to protect the environment and the economy, a broad-based, integrated policy response is needed, one that combines significant reforms with comprehensive, integrated complementary measures to guarantee that, for the first time in Australia's history, emissions will be on a permanent downward trajectory.

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Over the past 18 months, the Rudd Government has commissioned and carried out detailed analyses of existing and proposed policy responses to climate change. The Garnaut Climate Change Review (a joint Commonwealth, States and Territories initiative) and Australia's Low Pollution Future: The Economics of Climate Change Mitigation (modelling and economic analysis carried out by the Treasury) together form a deep and thorough analysis of the economic impacts of climate change and the costs of a response. Comprehensive economic modelling also underpins the expanded Renewable Energy Target, which will help deliver the Government's commitment to 20 per cent of Australia's electricity from renewable sources by 2020.

The Government's Green Paper on the Carbon Pollution Reduction Scheme (CPRS) garnered over 1000 submissions. More than 2400 people attended 18 public consultation sessions and workshops held in capital cities and regional areas, confirming the depth of the Australian public's concern about climate change. More than 260 companies attended technical workshops and meetings. Six industry and non-government roundtables were held with representatives from 45 organisations. The White Paper on the CPRS, produced after this lengthy and widespread consultation process, set out a comprehensive framework for guaranteed substantial emissions reductions at the lowest possible cost to the economy. Since the release of the White Paper, the Government has consulted widely and listened to the feedback and concerns of environmental groups, scientists, business, industry, and the broader community. In response, on 4 May 2009 the Government announced a deferred start date for the CPRS of 1 July 2011, further refinements to the CPRS and a strengthened emissions reduction target.

The Strategic Review of Australian Government Climate Change Programs (the Wilkins Review, see box 4.3) was commissioned by the Government to ensure that its climate change programs would be appropriate once a carbon price signal was in place. The Wilkins Review complemented work being undertaken through the Council of Australian Governments to ensure that climate change programs across all jurisdictions work in support of the CPRS.

Together, these reviews and reports have brought together evidence from all facets of science, the economy and society, enabling the Government to produce an integrated policy response to climate change. The measures in this Budget do not represent end-points in the Australian Government's climate change policy development. Rather, they form the foundation on which to build an ongoing response, protecting our natural environment and supporting a strong, low carbon economy as part of a global response.

ACHIEVEMENTS: A FRAMEWORK TO REDUCE AUSTRALIA'S EMISSIONS

The Government has set credible and achievable medium and long term targets for emissions reductions, informed by detailed economic analysis and extensive public consultation. Australia will reduce its emissions by between five and fifteen per cent

below 2000 levels by 2020; and by 25 per cent below 2000 levels if an ambitious global agreement to reduce emissions is reached. This stands in stark contrast to our historic record of continuing emissions growth.

In the near term, the Government will halt the growth in Australia's emissions and then, for the first time in history, set them on a permanent downwards trajectory. The Government remains committed to our long-term target of at least a 60 per cent reduction in emissions by 2050, but has indicated it will reconsider its current 2050 target if this was necessary to ensure that we play our full and fair part in an ambitious global agreement. If this is required, the Government would seek an explicit mandate at the next election in support of a 2050 target that goes beyond the current 60 per cent reduction.

To achieve these environmental objectives at the lowest possible cost, the Government remains committed to an integrated combination of market-based solutions and complementary measures, to drive investment and economic growth, create jobs and develop new industries.

During the 2008–09 financial year, the Government has provided incentives for households, business, industry and the community to reduce their contributions to Australia's emissions and help meet Australia's emissions reduction target.

Households and Communities

The Solar Homes and Communities Plan encourages the long-term use of solar power technology to generate clean electricity from sunlight and increase the use of renewable energy in Australia. The Government's investment to December 2008 of over \$250⁴ million in this program has increased the take-up of renewable energy and provided crucial support for this important industry. It has been the major driver in demand for solar power systems in Australia, has resulted in development of standards for solar power systems and inverters, and has built an industry of installers for solar power systems supported by a range of training courses in Australian TAFEs. Since its inception, over 22 700 solar power systems have already been installed under the Solar Homes and Community Plan.

Water heating is the largest single source of greenhouse gas emissions from the average Australian home, accounting for around 28 per cent of home energy use. The Solar Hot Water Rebate Program, was enhanced as part of the Government's Energy Efficient Homes Program (EEHP), expanding the eligibility criteria to support jobs in the domestic manufacturing, distribution and installation of solar and heat pump hot

⁴ Includes \$26.4 million for 2009-10 published in Department of the Environment, Water, Heritage and the Arts Portfolio Budget Statements 2008-09 (Pg 16) that will be reflected in Budget Paper No.2 2009-10

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water systems. This program assists householders to tackle climate change by switching to clean energy technologies.

The \$480 million National Solar Schools Program is giving Australian schools a head start in tackling climate change and conserving our precious water supplies. National Solar Schools offers primary and secondary schools grants of up to \$50,000 to install solar and other renewable power systems, solar hot water systems, rainwater tanks and a range of energy efficiency measures including insulation, energy efficient lighting and ceiling fans. The program involves the whole community in a process of social learning as we move towards a cleaner energy future. There has been an enormous level of interest from schools wishing to participate in the program. Since the program was launched in 2008, over 4000 schools (over 40 per cent of all eligible schools) have registered to participate and more than \$10 million in grants has already been approved to 190 schools.

Business and Industry

A huge global market is developing in clean, green technology, and Australian industry has the creativity and drive to deliver to world markets in this area. Through Climate Ready, the Government is supporting the development and commercialisation of innovative products, processes and services that address the effects of climate change. The program is targeted at small to medium sized enterprises and offers grants from \$50,000 up to \$5 million on a matching funding basis, for research and development, proof-of-concept and early-stage commercialisation activities. In 2008-09, thirty-two successful projects were awarded \$27.78 million in Round 1 grant funding.

The Government is committed to working in partnership with Australian industry to meet the challenge of climate change through innovation. Re-tooling for Climate Change (\$75 million over 4 years) supports Australian manufacturers to improve their production processes, reduce their energy use and cut carbon emissions. In 2008-09, eleven successful grants worth \$900,000 were awarded in Round 1.

The Green Building Fund program (\$90 million over four years) assists building owners in meeting the cost of retro-fitting and retro-commissioning commercial office buildings to achieve energy efficiency gains and greenhouse gas abatement. The program aims to have funded 45 commercial office building refurbishments by the end of the 2008-09 financial year. First round applicants are currently being assessed.

Energy Efficiency

The Government in co-operation with the States and Territories has worked through the Council of Australian Governments (COAG) to make significant progress on developing a National Strategy on Energy Efficiency to assist households and business prepare for the introduction of the Carbon Pollution Reduction Scheme. A suite of measures have been introduced in this Budget that will increase the energy efficiency

requirements for new residential and commercial buildings, phase in mandatory disclosure of the energy efficiency of commercial and residential buildings at the time of sale or lease, and enhance the development of minimum energy performance standards and energy star labelling for appliances and equipment. These new measures are listed in Chapter 5.

Renewable Energy

The stationary energy sector produces about 50 per cent of Australia's greenhouse gas emissions and renewable energy will have a key role in moving Australia to the clean economy of the future. The expanded national Renewable Energy Target will assist in increasing the use of renewable energy to 20 per cent of electricity supply by 2020 and bring forward investment in renewable energy across Australia.

The Renewable Energy Target is complemented by the \$500 million Renewable Energy Fund (announced in the 2008-09 Budget), which will support development and demonstration of renewable energy technologies including geothermal energy. Ten applications for projects have been received for the Fund's \$50 million Geothermal Drilling Program, which will accelerate the development of the geothermal industry. The Renewable Energy Fund is being incorporated into the Government's \$4.5 billion Clean Energy Initiative. All existing commitments under the Renewable Energy Fund will be honoured, and the program will be gradually migrated under Renewables Australia.

The Australian Government is committed to developing a suite of cost-effective low-emission energy technologies. The \$150 million Energy Innovation Fund, announced in the 2008-09 Budget, is supporting critical clean energy technology research, including \$100 million for the Australian Solar Institute, which was launched in January 2009. The Institute will support research into solar thermal, solar photovoltaic, and other solar energy technology.

The Carbon Pollution Reduction Scheme

In 2008-09, the Government also laid out a framework to achieve its environmental objective of capping and reducing emissions, through the Carbon Pollution Reduction Scheme (CPRS). It has been designed to provide lowest cost emissions reduction while guaranteeing an overall decline in emissions. For the first time, the Government is putting a price on carbon. The sale and allocation of carbon pollution permits will directly stimulate investment and growth in the low-carbon economy of the future. The Government has committed that every cent raised from the Carbon Pollution Reduction Scheme will be used to assist Australian households and business to adjust to the low pollution economy of the future.

Consistent and comparable data on emissions is an important part of government decision making, in particular, in the development of the CPRS. The first reporting year under the *National Greenhouse and Energy Reporting Act 2007* (NGER Act) began on

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1 July 2008 and the inaugural Greenhouse and Energy Data Officer was also appointed on the same date. A number of tools were released in 2008 and 2009 to assist Australian businesses to comply with the NGER Act including:

- an Online Self Assessment Calculator;
- NGER Guidelines and NGER (Measurement) Technical Guidelines, to assist corporations understand their obligations under the NGER Act;
- a Registration Application Tool, to assist corporations to register for reporting; and
- a data input system to enable registered corporations to input information for their annual reports.

Extensive stakeholder engagement throughout 2008–09 culminated in an NGER reporting system that achieved a very high level of support by Australian business, governments and the public. This engagement is continuing, to ensure that the legislation meets government, business and other data users' needs.

Carbon Capture and Storage

Coal is likely to continue to be a major energy source for the world over the coming decades. It is the most widely distributed fossil fuel in the world, and the technology to generate electricity from coal is relatively cheap and simple. For energy security reasons, coal will remain a key part of global energy supply. The International Energy Agency forecasts that world energy demand will increase by 45 per cent between 2006 and 2030 and that despite the growing importance of renewable energy, fossil fuel use will continue to grow through this period. For Australia, coal is likely to be the main source of our energy supply into the future and a major component of our export revenue.

Carbon capture and storage (CCS) involves capturing greenhouse gases from burning coal for electricity and transporting them to a suitable site for injection deep underground or below the seabed, trapping them for long term secure storage. CCS will be a key component of the global solution to climate change and the Government is driving the development of this technology globally through its support of the Global Carbon Capture and Storage Institute, launched in April 2009 (see page 23).

The Government has established the National Low Emissions Coal Initiative (NLECI)⁵ which aims to accelerate the development and deployment of technologies that will reduce emissions from coal use. The NLECI is supported by the \$500 million National Low Emissions Coal Fund (NLECF). This Fund is designed to lever a further billion dollars in investment by other stakeholders in the research, development and

⁵ Originally announced as the Clean Coal Fund in the 2008-09 Budget

demonstration of low emissions coal technologies. This Fund is being brought under the umbrella of the \$4.5 billion Clean Energy Initiative.

The Government has also enacted legislation for the provision of access and property rights for greenhouse gas injection and storage activities in Commonwealth offshore waters. The legislation provides a management system for ensuring that storage is safe and secure, while balancing the rights of this new industry with the petroleum industry in a manner that encourages investment in both industries.

ACHIEVEMENTS: ADAPTING TO CLIMATE CHANGE

Science tells us that some damaging changes in the climate are unavoidable due to the greenhouse gases already in the atmosphere. Adapting to unavoidable climate change will involve the private sector, industry, communities, individuals and governments at all levels making decisions and taking action to minimise their risks from climate change impacts. The Australian Government is leading efforts to prepare Australia to deal with the social, economic and environmental risks of climate change impacts.

Through its \$126 million Climate Change Adaptation Program, the Government has provided \$20 million to establish a National Climate Change Adaptation Research Facility (NCCARF) and associated research networks, to lead the Australian research community in a major national effort to generate the information needed to manage climate change risks.

It has also invested \$30 million to fund research plans which will identify critical information gaps in key vulnerable sectors and regions, set research priorities and identify the science capacity that can be harnessed to conduct this priority research. The plans are being developed around eight priority themes: terrestrial biodiversity; human health; marine biodiversity and resources; water resources and freshwater biodiversity; settlements and infrastructure; social, economic and institutional dimensions; emergency management; and primary industries. CSIRO and the National Health and Medical Research Council have joined with NCCARF to provide an additional \$7 million towards research into the human health impacts of climate change.

Under its Adaptation Program, the Government is also undertaking major national vulnerability assessments, including for coastal areas and biodiversity, and climate change risk assessments for infrastructure and human settlements.

Our primary industries face unique challenges in a changing climate and could face a broad range of repercussions. There will be physical impacts (for example, changing rainfall patterns), social impacts (such as changes to farm business structures, community demographics, health and wellbeing) and economic impacts (such as changing productivity levels and markets). The Government's \$26.5 million FarmReady program assists eligible primary producers and Indigenous land managers

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to attend approved training activities, and industry grants assist eligible industry organisations, primary producer and natural resource management groups to undertake projects to enable their members to adapt to the impacts of climate change.

The \$46.2 million Climate Change Research Program is undertaking research and development in the priority areas of emissions reduction, better soil management and adaptation. The Government is working with industry groups, research bodies, universities and state departments on nationally coordinated research programs worth over \$60 million to develop and demonstrate commercially viable on-farm tools and management techniques for primary producers to manage emissions and adapt to climate change.

The Climate Change Adjustment Program will provide grants to eligible primary producers of up to \$5,500 to access targeted professional advice and training to support them in managing for the challenges of climate change and provide support of up to \$150,000 to eligible producers who may choose to leave farming.

In 2008–09 the Australian Government made available \$8 million to the forest industries to prepare for climate change, including the development of a Climate Change and Commercial Forestry Action Plan. Already, \$1.5 million has been committed to develop regional level climate predictions and scenarios in forested areas to determine where intervention is critical and necessary.

Under its existing 'Water for the Future' initiative, the Australian Government is investing \$12.9 billion over ten years on a range of initiatives to improve water planning and management practices and build adaptive capacity for managing climate change impacts communities (and ecosystems) dependent on water resources. Headline achievements over the past 18 months include:

- Completion of CSIRO's largest ever research project, which estimated climate impacts on future water availability in the Murray-Darling Basin, with further projects rolling out in Northern Australia, Tasmania and Western Australia;
- Commencement of the Commonwealth Water Act on 3 March 2008, which, among other things, establishes new governance arrangements to implement a Basin water plan. The Basin Plan is a key climate adaptation initiative and will include new and sustainable limits on water extraction;
- Acceleration of the \$3.1 billion 'Restoring the Balance in the Murray Darling Basin', for purchasing water to put back in the rivers in the Murray-Darling Basin;
- Initial projects under the \$5.8 billion 'Sustainable Rural Water Use and Infrastructure' program; and

- Ongoing investment of \$450 million through the Bureau of Meteorology to collect and publish world class water information, including the production of a National Water Account.

Through the Reef Rescue initiative (part of the Government's flagship natural resources management program, Caring for our Country), the Government has committed \$200 million over five years to address the impacts of declining water quality in the Great Barrier Reef lagoon. Reef Rescue will improve the water quality by increasing the adoption of land management practices that reduce the run-off of nutrients, pesticides and sediments from agricultural land. Reducing these pollutants flowing from land-based activities onto the reef will give the reef a chance to regain its inbuilt natural resilience and ability to cope with the impact of climate change.

Notable achievements to date include the commitment of \$1.15 million to six multi-farm projects in the Mackay Whitsunday region and in the Wet Tropics region. Terrain Natural Resource Management has negotiated 15 contracts across the Wet Tropics region with local councils, Landcare groups and River Improvement Trusts for riparian rehabilitation projects.

The tourism industry, like all industries, contributes to climate change. It is also highly susceptible to potential climate change impacts. The National Long-term Tourism Strategy (to be finalised mid-2009) will focus on building resilience and capacity in the tourism industry and maximising the industry's net economic benefit. The strategy will provide a framework for consistent policy engagement between tourism industry stakeholders and the Government. Like many other industries, tourism businesses will be subject to adjustment costs as Australia moves to a low carbon economy. The Government will assist businesses to prepare for this transition through the Climate Change Action Fund (see box 4.4).

ACHIEVEMENTS: SHAPING A GLOBAL SOLUTION

Climate change is a global problem that requires a global solution. In 2008-09, the Government continued working towards a global outcome on climate change that is comprehensive, fair and effective. The Government has three priorities in shaping a global response to climate change:

- a global goal: a clear constraint on global emissions which provides a strong incentive for countries to reduce emissions;
- specific national commitments: economy-wide emissions reduction targets by all advanced economies and measurable, reportable and verifiable commitments to action by developing countries, taking into account the specific circumstances of each country; and

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- helping the most vulnerable to adapt: effective mechanisms for funding and supporting adaptation for those countries least able to cope with climate change.

International cooperation on the development and deployment of low-carbon technologies will also be an essential component of a strong global outcome.

Deforestation is a significant global source of emissions. The Government is working closely with neighbouring countries, in particular Indonesia, to find practical ways to reduce emissions for deforestation and forest degradation (REDD) in developing countries. Australian modelling shows that including REDD in a future global agreement has the potential to reduce the global costs of climate change mitigation by around 20–25 per cent. It will also provide a significant economic development and environmental opportunity for developing countries.

In March 2009, the Australian Government submitted a proposal to the UN Framework Convention on Climate Change UNFCCC for an international forest carbon market mechanism in a post-2012 climate change agreement (see box 3.1).

3.1 Reducing Emissions from Deforestation and Forest Degradation

Australia's proposal to the UNFCCC for an international forest carbon mechanism builds on the work under Australia's \$200 million International Forest Carbon Initiative. The Initiative demonstrates that REDD can be part of an equitable and effective post-2012 global climate change agreement.

Australia proposed a market based approach that puts an economic value on activities that reduce emissions from the forest sector in developing countries. National governments would be issued with forest carbon credits for emissions reductions below an internationally agreed national forest emission level. Reductions in emissions must be monitored, reported, and independently verified to generate credits, which can then be traded on an international carbon market.

Through Australia's collaborative Forest Carbon Partnership with Indonesia, the Government has established the Kalimantan Forests and Climate Partnership (KFCP). Indonesia and Australia are developing the first large-scale demonstration activity, targeting emissions reductions by addressing the drivers of deforestation on the carbon rich peatland of Central Kalimantan.

Through the Bilateral Climate Change Partnerships Program the Australian Government has continued to deliver a series of practical projects. These projects will help achieve emission reductions and build capacity to adapt to the effects of climate change. They will also improve scientific understanding of climate change, support the development and deployment of low emission technologies and foster cooperation with industry and with partner countries. The program has also improved policy dialogue with partner countries, an example being the launch of the first

Australia-China Ministerial Dialogue on Climate Change in 2008 where Ministers shared perspectives on their respective domestic responses to climate change and agreed to share policy approaches and analysis in the future.

Carbon capture and storage (CCS) will be an important tool for reducing emissions. Developing and commercialising this technology is vital to moving towards a sustainable future. On 16 April 2009 the Prime Minister officially launched the Global Carbon Capture and Storage Institute at the first meeting of the 85 founding Institute members in Canberra. Australia will host the Institute, and the Australian Government has committed up to \$100 million each year to the Institute, which will underpin a collaborative international effort to significantly reduce the amount of carbon dioxide released into the atmosphere from the combustion of fossil fuel.

The Institute will accelerate the global deployment of CCS technologies and processes, and creation of a portfolio of integrated CCS projects, to meet the G8's stated goal of more than 20 fully integrated large-scale projects by 2020. Creating and hosting the Institute is an important step by the Australian Government to meet the global challenge of climate change and assist in adapting existing activities to improve their sustainability in a carbon-constrained world. Successful deployment of CCS on a global scale will make a significant and crucial contribution to reducing carbon pollution.

Deploying low carbon technology in developing countries will help ensure that emissions reductions are compatible with development and economic growth. The Government is providing \$100 million over three years from 2008-09 to the World Bank's Clean Technology Fund, which finances innovative approaches to the demonstration and deployment of low carbon technologies in key developing countries. The Clean Technology Fund finances investments in large-scale, high impact programs and fills a significant financing gap until post-2012 climate change financing arrangements are negotiated in the United Nations context. Australia's seat on the Clean Technology Fund's Trust Fund Committee during its first year of operation has enabled us to participate in and influence fund design in one of the most important mechanisms for supporting developing country mitigation in the near term, as the UNFCCC deliberations progress.

The Government is providing \$150 million through its International Climate Change Adaptation Initiative to meet high priority climate adaptation needs in vulnerable countries in our region. As part of this initiative, it has announced a \$20 million Pacific Climate Change Science Program to help Australia's neighbours in the Pacific and East Timor better understand how climate change will impact on them.

CHAPTER 4: CLIMATE CHANGE PRIORITIES AND NEW INITIATIVES

AUSTRALIA'S CLIMATE CHANGE STRATEGY

The world is currently suffering from a global recession, but this does not mean we can ignore the threat that climate change poses to our environment, our society and our economy. On the contrary, it is more important than ever to secure Australia's long-term prosperity by building a low pollution economy that protects our environment. Addressing the challenge of climate change is one of the Rudd Government's highest priorities. To help Australia combat climate change and prepare for its effects, the Government has implemented a three pillar policy approach: reducing Australia's carbon pollution; adapting to unavoidable climate change; and helping to shape a global solution.

4.1: Climate Change Science: the foundation of our policy response

Quality scientific research is essential to underpin all pillars of the Australian Government's comprehensive policy response to climate change. We must continue to invest in the fundamental science we need to better understand the impacts of climate change, develop effective adaptation strategies and reduce our carbon emissions.

Australian scientists are making an important, and unique, contribution to building global understanding of climate change. However, our climate change science community is facing new challenges. Calls for more detailed information on climate change impacts are increasing, and there are key needs to enhance human scientific capabilities and physical scientific infrastructure.

The Australian Government is continuing to build our scientific understanding of climate change through an additional \$31.2 million in funding over four years for its Australian Climate Change Science Program.

The Government has also adopted a new Australian Climate Change Science Framework which sets national climate change science priorities for the next decade; identifies the science capabilities, human capital and infrastructure investment needed to deliver on these priorities; and sets out ways to harness our full science capacity to address those priorities.

A high-level coordination group, chaired by Australia's Chief Scientist, will develop an implementation plan to ensure that all organisations with a significant climate change research capacity are contributing to this nationally coordinated effort to meet Australia's priority climate change science information needs.

4.1: Climate Change Science: the foundation of our policy response (continued)

The Marine and Climate Super Science Initiative (\$387.7 million over 4 years) will provide funds to address critical infrastructure needs and deliver facilities that will enhance Australia's existing research strengths in marine and climate science. These investments will underpin Australia's response to climate change and will provide an integrated national platform for marine and climate research, which is critical for sustainable development and management of Australia's terrestrial and ocean resources and the viability of our major commercial enterprises such as mineral and energy industries, aquaculture and fisheries, agriculture and tourism. Key investments include:

- a new blue-water research vessel capable of exploring Australia's vast ocean territory;
- tropical marine research facilities at the Australian Institute of Marine Science in Townsville and Darwin that will transform Australia's approach to understanding climate adaptation in marine ecosystems;
- an upgrade to Australia's peak supercomputing facility, which is essential to climate change modelling;
- a comprehensive scientific observing system for Australia's marine province, with enhanced Southern Ocean monitoring critical to climate research and extended coverage of northern Australian waters; and
- distributed infrastructure for research related to terrestrial ecosystems, groundwater depletion, sustainable energy, and water and energy use in built environments.

Reducing Australia's greenhouse gas emissions

The Government has developed an integrated policy program to reduce Australia's greenhouse gas emissions and achieve our ambitious 2020 target of a five to twenty five per cent reduction in emissions on 2000 levels, putting Australia on track for further reductions towards our 2050 target.

To guarantee that our emissions target is achieved, the Government will implement the Carbon Pollution Reduction Scheme (CPRS), and contribute to the transformation of energy supply through the Renewable Energy Target. The Government is also making significant investments in the development of new clean energy technologies for the future; and to encourage the deployment of existing climate change solutions such as energy efficiency and solar technology.

The Government has committed that every cent raised from the Carbon Pollution Reduction Scheme will be used to transition Australian households and business to a low pollution future. The Government will provide direct cash assistance and tax offsets to households to coincide with any increase to the cost-of-living flowing from the CPRS, with the most assistance flowing to low and-middle-income households.

Emissions-intensive, trade-exposed industries are important contributors to Australia's economy, and will receive assistance to support them through the transition to a low-carbon economy and to protect jobs. The Government will implement a range of measures to assist households, business, workers, regions and communities to prepare for the CPRS and the associated impacts of a carbon price.

4.2: Deferral of the Carbon Pollution Reduction Scheme

In response to the global recession, the Government has announced that mandatory obligations under the CPRS will be deferred by one year, until 1 July 2011. Liable entities will be required to meet their emissions liabilities from 2011-12, with emissions permits being surrendered for the first time in December 2012.

Assistance to emissions-intensive, trade-exposed (EITE) industries and through the Electricity Sector Adjustment Scheme (ESAS) will commence in July 2011, in line with the date for liability.

Under the EITE assessment processes already underway, the Government will now apply a Global Recession Buffer to the EITE allocation baselines to reflect the difficult circumstances currently facing many EITE industries in Australia. The buffer will be in place for the first five years of the CPRS at a cost of \$1.1 billion.

In 2011-12, as a transitional measure, an unlimited number of permits will be available at a fixed price of \$10 per tonne. These permits will not be able to be banked for future use. The market will set the price of permits dated 2012-13 onwards.

The CPRS will result in changes to a wide range of prices, but the overall increase in the cost of living will be modest. The Government will provide a package of assistance to support households as they adjust to a low pollution future.

4.2: Deferral of the Carbon Pollution Reduction Scheme (continued)

In 2011-12, household assistance will be proportionately adjusted to align the level of assistance with the lower estimated cost of living impacts resulting from an initial \$10 fixed carbon price. In 2012-13, household assistance will be provided on the basis of the estimated cost of living impacts of a flexible carbon price. Each year, the adequacy of this assistance will be reviewed in the context of the Budget.

Motorists will also benefit from cent-for-cent reductions in fuel tax for the first three years of the scheme.

The overall budgetary impact of changes to EITEs assistance, ESAS, fuel tax and the Household Assistance Package from the deferral of the CPRS will be broadly budget neutral.

Central to the implementation of the CPRS and the RET will be a dedicated agency, the Australian Climate Change Regulatory Authority (ACCRA), to oversee the operation of the CPRS, and to be responsible for the existing functions of the Office of the Renewable Energy Regulator and the Greenhouse and Energy Data Officer. This will improve regulatory outcomes, reducing risk of conflicts or gaps emerging between regulators with separate functions; and will streamline procedures for reporting and surrender, reducing the burden for businesses that would otherwise need to deal with two or three separate regulators.

ACCRA will commence operations from the time that the CPRS legislation is passed by Parliament. ACCRA will manage the issuing and auction of emissions permits (including collection of revenue); and allocate permits to eligible entities under emissions-intensive, trade-exposed (EITE) scheme and Electricity Sector Adjustment Scheme (ESAS). It will also maintain a registry to record the ownership of permits and renewable energy certificates, assess the liabilities of eligible entities for the CPRS using information provided under the NGER Act; and promote and enforce compliance with the CPRS, the RET and NGERs.

To assist decision-making around new sectors entering the CPRS in the coming years, the Government will develop the National Carbon Accounting Toolbox (NCAT). NCAT will be a cost effective, nationally consistent emissions estimation tool for forestry and agriculture. The Government will make the NCAT operational for forestry before that sector begins voluntary coverage within the CPRS from July 2010. Preliminary development of agriculture emissions estimation capability and approaches will also be undertaken to provide for trial reporting in 2011. The Government is dedicating \$16 million over four years to intensive development of the NCAT.

Clean Energy Initiative

The \$4.5 billion¹ Clean Energy Initiative will help give investors the confidence they require to back low-emissions technologies and industries to assist Australia's transition to a lower emissions path.

As part of the Clean Energy Initiative, the Government is establishing a new body, Renewables Australia, with an overall investment of \$465 million, to support leading-edge technology research, development and demonstration projects. It will help bring renewable technologies to market at acceptable cost, advise Governments and the community on the implementation of renewable energies, and support growth in skills and capacity for domestic and international markets.

Also under the Clean Energy Initiative, the Government will invest \$1.5 billion in large-scale solar power generation projects under the Solar Flagships Program. The Solar Flagships Program will set a target to create an additional 1000 megawatts of solar power generation capacity in Australia. This is three times the size of the largest solar energy project currently operating anywhere in the world. The program will help position Australia to be a world leader in solar power generation capacity. It will support four power generation projects that demonstrate both solar thermal and solar photovoltaic technologies with capacity equal to or greater than a current coal-fired power station.

The third element of the Clean Energy Initiative is the Carbon Capture and Storage (CCS) Flagships Program. The Government will invest \$2 billion in industrial-scale carbon capture and storage projects to complement the Government's National Low Emissions Coal Initiative and Global Carbon Capture and Storage Initiative. Through the CCS Flagships Program, the Government will ensure Australia continues to be a world leader in the development of this technology by supporting the demonstration of large industrial-scale projects in Australia. The program will support the demonstration of two to four large industrial-scale projects in Australia, which may include a carbon dioxide storage hub.

In addition to the Clean Energy Initiative, the Government will provide \$14.9 million to implement a three year Clean Energy Trade and Investment Strategy, to assist Australian businesses respond to the new global opportunities being created by climate change policies. Austrade will target foreign investors and promote Australia as a clean energy investment destination and assist Australian clean energy companies to access international markets through export and investment. This delivers the Government's election commitment to fund a clean energy export strategy.

¹ The Clean Energy Initiative has new funding of \$3.465 billion, and incorporates existing programs totalling \$1.025 billion.

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Households and Homes

In 2009-10, the Government is delivering the Energy Efficient Homes Package, part of its Nation Building - Economic Stimulus Plan. Funding of \$3.9 billion will improve the energy rating of Australian homes through the installation of insulation and increased rebates for solar and heat pump hot water systems. This will make Australia's homes more comfortable and help households save up to 40 per cent on their electricity bills. The package also provides help to renters, with an increased insulation rebate for landlords or tenants.

The Solar Homes and Communities Plan provides cash rebates for the installation of solar power systems on homes and community use buildings. This Budget includes funding of \$271.7² million to address the increased demand under the Solar Homes and Communities Plan. Total funding under this program is almost \$500 million, including funding for the Solar Homes and Communities Plan of \$339.7 million since the 2008-09 Budget. This initiative will transition to the Solar Credits scheme under the Government's expanded national Renewable Energy Target.

The Energy Efficient Homes Package and the Solar Homes and Communities Plan will be complemented by a reshaped Green Loans program. This program will focus on home environmental assessments as a central feature, as this supports jobs and provides real advice for households on practical environmental actions they can take at home. The reshaped program will also retain capacity for 75 000 green loans to be serviced through participating financial institutions. The increased availability of Government rebates, including through the recently announced Energy Efficient Homes program, is expected to reduce demand for low-interest loans under the program.

The Government recognises the important role that household action has to play in moving to a low emissions future for Australia. In this Budget, as part of the Australian Carbon Trust (see box 4.3), \$25.8 million is dedicated over 5 years to establishing the Energy Efficiency Savings Pledge Fund. This will support the uptake of energy efficiency measures by households and small businesses. It also provides an easily accessible means for individuals and businesses to achieve emissions reductions beyond Australia's emissions reduction targets.

Households and businesses that purchase accredited GreenPower increase the supply of renewable energy and assist in the transition to cleaner energy sources. To recognise individual action in purchasing more GreenPower, the Government will take additional GreenPower purchases, above 2009 levels, into account in setting Carbon Pollution Reduction Scheme caps. Additional GreenPower purchases will be measured

² Includes \$26.4 million for 2009-10 published in Department of the Environment, Water, Heritage and the Arts Portfolio Budget Statements 2008-09 (Pg 16) that will be reflected in Budget Paper No.2 2009-10

annually and used to set caps five years into the future, on a rolling basis. The Government remains committed to setting initial CPRS caps in 2010.

4.3 The Australian Carbon Trust: supporting emissions reductions through energy efficiency

The Government will commit \$75.8 million over 5 years to establish the Australian Carbon Trust to support households and businesses to engage on climate change, particularly through cutting energy use.

As part of the Australian Carbon Trust, the Government will allocate \$25.8 million over five years to establish the Energy Efficiency Savings Pledge Fund to help households and small businesses understand the greenhouse gas benefits and dollar savings to be gained from cutting energy use. Web-based tools provided by the Government will enable households and small businesses to calculate their energy use and the dollar savings that can be made through actions to reduce energy use such as installing energy efficient appliances. Individuals will then be able to pledge the savings, or any other amount, to the Energy Efficiency Savings Pledge Fund. The fund will buy and cancel carbon pollution permits to create additional emissions reductions. Pledges will be tax deductible.

As part of the Australian Carbon Trust, the Government will inject \$50 million into an Energy Efficiency Trust that will provide seed funding to promote and demonstrate innovative energy efficiency activities for commercial businesses and other organisations. Upfront investment in energy efficiency projects by the Trust will be repaid through energy savings, creating a revolving fund for further investment. Through engaging with business and demonstrating the potential to reduce emissions and energy use while saving money and improving business performance, the Trust will have a lead role in showcasing energy efficiency opportunities.

Energy Efficiency

Energy efficiency offers a significant opportunity to achieve low-cost reductions in emissions. From 2009-10 the Government will provide new funding of \$164.6 million for a range of energy efficiency measures that will deliver a step change in energy efficiency improvement in Australia, drive further growth in the number of highly energy efficient homes and commercial buildings across Australia, and ensure that appliance energy performance standards continue to improve.

The Government will provide up to \$100 million in 2009-10 for the National Energy Efficiency Initiative to develop an innovative smart-grid energy network. Combining broadband with intelligent grid technology and smart meters in homes, this demonstration project will enable greater energy efficiency and better integration of renewable energy sources, such as solar and wind power. Funding will be provided to a consortium of state and local government, public and private energy companies and

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other private sector investors for the large scale demonstration of integrated smart grid technologies.

The Government has also allocated an additional \$64.6 million to measures that complement the National Energy Efficiency Initiative and the Energy Efficiency Trust (see box 4.3), and include:

- implementing enhanced energy efficiency labelling, so that consumers can make better choices when purchasing new appliances – \$18.3 million over four years;
- expanding minimum energy performance standards for appliances and equipment, so that efficiency continues to improve – \$16.6 million over four years;
- new minimum energy performance requirements for residential buildings and major renovations (to be included in the Building Code of Australia), so that new homes use less energy and are cheaper to run – \$8.7 million over four years;
- mandatory disclosure of energy performance for residential buildings at the time of sale or lease, to provide incentives for improving the comfort and reducing the running costs for existing homes – \$7.8 million over four years;
- new energy efficiency performance requirements for commercial buildings and major refurbishments to be included in the Building Code of Australia – \$3.3 million over four years;
- mandatory disclosure of energy performance of commercial buildings at the time of sale or lease, to assist tenants and purchasers to make better choices – \$5.3 million over four years;
- upgrading commercial building rating tools to assist building operators to measure and manage energy use – \$2.6 million over four years; and
- a suite of new activities to reduce energy used for heating, ventilation and air conditioning systems in commercial buildings – \$2 million over four years.

In 2009-10, the \$2.75 billion Climate Change Action Fund (see box 4.4) will begin helping business, industry and community organisations prepare for the impacts of a carbon price, by providing information and capital grants.

4.4: The Climate Change Action Fund

As announced in the CPRS White Paper in December 2008, the Climate Change Action Fund (CCAF) will provide targeted assistance to businesses, community sector organisations, workers, regions and communities to smooth the transition to a carbon constrained economy. It will provide assistance by addressing both the distributional impacts of the CPRS and persistent market failures that impede the uptake of lower emission technologies and processes.

CCAF activities will include:

- providing information to businesses and community service organisations about the operation of the Scheme and how these entities can manage the expected financial impacts
- grants and incentives for businesses and community service organisations to invest in energy efficiency projects and low emissions technologies, processes and products
- structural adjustment assistance in the event workers and communities are significantly impacted by the introduction of the Scheme; and
- structural adjustment assistance for coal mines with high fugitive emissions which will be significantly impacted by the introduction of the Scheme.

To prepare business in advance of the introduction of the CPRS, the Government has allocated \$200 million in 2009–10 of the CCAF. This first tranche of CCAF funding will support business to take early action in identifying energy efficiency opportunities and to invest in energy improvements. It will also support the continuation of the Energy Efficiency Opportunities measure. The funding will allow Australian businesses to achieve savings on their energy bills and deliver significant low cost carbon pollution abatement.

The Government has allocated \$20 million in 2009-10 to a business information package that will provide advice to business on the operation of the CPRS and identify potential opportunities and impacts that may arise. It will be developed in close consultation with business groups and will proactively harness the expertise and networks of these representative bodies. It will be targeted at businesses that fall below the emissions-intensive, trade-exposed assistance package thresholds.

The Government will establish the Early-Action Energy-Efficiency Strategies for Business measure that will drive forward knowledge and investment in energy efficiency opportunities. The Government has allocated \$100 million in 2009–10 to support this initiative which will assist business and community sector organisations to identify energy efficiency opportunities.

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To further enhance early action the Government has allocated \$80 million in 2009–10 for capital energy efficiency improvements. This will allow Australian businesses to achieve savings on their energy bills and deliver significant low cost carbon pollution abatement.

The community service sector supports some of the most financially vulnerable in our society. Such organisations may experience higher operating costs as a result of putting a price on carbon, which may put pressure on their service delivery activities.

The Government will use a portion of the funding identified above to assist community service sector organisations to identify energy efficiency opportunities that may arise through the introduction of the CPRS. By helping to identify cost-effective opportunities to reduce energy use, the Government will help position these organisations to make savings on their energy bills and to minimise the impacts of moving to a low carbon future.

This new support is in addition to the Community Organisation Capital Allowance measure of the CCAF announced as part of the CPRS White Paper.

On 4 May 2009, the Government announced a funding enhancement of \$300 million for the CCAF, bringing total funding for CCAF to \$2.75 billion.

These measures demonstrate the Government's commitment to building a comprehensive approach to dealing with climate change and making our homes and communities more sustainable, and form part of the Government's response to the Strategic Review of Australian Government Climate Change Programs (the Wilkins Review, see box 4.5). The range of new initiatives, and the Government's recently announced Energy Efficient Homes Package, demonstrate the Government's commitment to a more strategic and comprehensive approach to dealing with energy efficiency within our homes and communities.

4.5 Response to the Wilkins Review

The Government established the *Strategic Review of Australian Government Climate Change Programs* (‘the Wilkins Review’) in February 2008 to determine whether existing climate change programs were efficient, effective, and complementary to the Carbon Pollution Reduction Scheme, so that climate change can be addressed at least cost to the economy.

The Wilkins Review considered 58 active climate change programs and made recommendations as to whether or not they would complement the CPRS, should be considered as transitional programs, or did not complement the CPRS.

Through the Wilkins Review, the Government has refocused climate change programs to ensure that existing and planned measures are appropriate once a carbon price signal was in place, and that they provide a comprehensive package to meet the Government’s environmental objectives and help transition Australia to a low carbon economy.

As part of its response to the Wilkins Review, the Government will implement energy efficiency measures worth \$64.6³ million; and has rationalised the delivery of some existing climate change programs to ensure that programs are more effective in combating climate change. Some existing climate change programs will no longer be required once the CPRS is introduced, and in line with the recommendations of the Wilkins Review, a number of current measures will be transitioned or will cease. Many of these programs were due to lapse on 30 June 2009. The programs that will cease are:

- Coal Mine Methane Reduction
- Greenhouse Gas Abatement Program
- Renewable Energy Equity Fund
- Low Emissions Technology and Abatement
- Greenhouse Challenge Plus⁴
- Greenhouse Action in Regional Australia
- Local Greenhouse Action⁴
- Small Business and Household Action Initiative
- Wind Energy Forecasting Capability
- Low Emissions Technology Demonstration Fund
- Renewable Energy Development Initiative
- Advanced Electricity Storage Technologies
- National Climate Change Adaptation Program

The Wilkins Review final report can be found at www.finance.gov.au and the Government’s response to the Wilkins Review, including treatment of programs, at www.climatechange.gov.au.

³ See page 32 for a breakdown of this figure by measure

⁴ The information provision component of these programs will continue through the Climate Change Action Fund

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Business, Industry and Government

Australian industry accounts for almost half of Australia's energy end use and around two thirds of stationary energy use. Australia has one of the more energy-intensive industrial sectors amongst developed countries (reflecting Australia's relatively low energy prices and high levels of energy-intensive raw material production). There is significant potential for energy efficiency improvements both in the industrial sector and in small and medium enterprises.

As part of the \$2.75 billion Climate Change Action Fund, the Government will provide assistance to business and industry to improve energy efficiency and prepare for the impacts of the CPRS (see box 4.4).

The Government will commit \$26.9 million over four years to progress the 2020 Summit idea that by 2020, Australia should be the world's leading green and sustainable economy, making a major contribution to a comprehensive global response to climate change. Skills for the Carbon Challenge will drive the development and trial of qualifications and training resources that incorporate sustainability principles, green skills and responsive educational approaches in a number of key industries.

The Government will also work to improve energy efficiency and energy performance in its own operations. As outlined in 2008–09 Additional Estimates, the Australian Government will provide funding of \$1.2 million over four years to improve energy efficiency in Government workplaces. The Department of the Environment, Water, Heritage and the Arts, in partnership with the Department of Finance and Deregulation, is developing a Whole of Government Information, Communication and Technology plan. The plan will identify ways of improving environmental performance across government departments, particularly energy efficiency.

The Department of Climate Change will also renovate the 20 year-old offices it currently occupies, to reduce the average office energy load to no more than 75 per cent of its original rating and to achieve a 5-star National Australian Built Environment Rating System rating. The completed project will showcase a number of environmental initiatives as a way of encouraging the modification of existing buildings to improve energy performance.

Research and Development

The Government is investing in the development of new technologies that will be needed in the future to further reduce emissions.

The Green Car Innovation Fund (\$1.3 billion over ten years from 2009, part of the \$6.2 billion New Car Plan for a Greener Future) will enhance research and development and the commercialisation of Australian technologies that significantly reduce fuel consumption and/or greenhouse gas emissions of passenger motor vehicles.

The Government will also encourage innovation through the Climate Change Action Fund (see box 4.4), providing grants for low emissions technologies, process and products, and high-energy saving projects.

Adapting to Climate Change

The Australian Government is developing a comprehensive adaptation policy to prepare Australia to deal with the social, economic and environmental risks of climate change impacts.

It is also continuing to invest in the research needed by all Australians to inform good policy making through continuing the \$126 million Climate Change Adaptation Program. It has provided \$20 million from existing funding to establish its National Climate Change Adaptation Program, and it is investing \$30 million to fund research plans across eight priority areas.

The Government is also continuing to support the CSIRO's \$44 million Climate Adaptation Flagship which is making a vital contribution to adaptation research across a range of areas, from urban coastal vulnerability to national reserves, health impacts and primary industries.

This important suite of research measures will enable Australia to adapt more effectively to the impacts of climate change and variability and informing national planning, regulation and investment decisions.

Helping Shape a Global Solution

In his address to the 13th Conference of the Parties to the Kyoto Protocol in Bali in December 2007, the Prime Minister committed Australia to contributing effectively to multilateral efforts within the United Nations and in other fora where climate change objectives were being progressed, and engaging with key countries bilaterally.

Australia's domestic climate change efforts depend for their effectiveness on strong global action to reduce emissions. Through the \$12 million program, *Shaping an International Solution to Climate Change*, Australia will strengthen its efforts to shape and influence the international climate change agenda. Australia will meet its obligatory financial contributions as a Party to the UN Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol and the Intergovernmental Panel on Climate Change and support voluntary activities under the UNFCCC which help improve prospects for a successful outcome to the UNFCCC negotiations. The program will also deliver outcomes under the Bilateral Climate Change Partnerships Program, which builds key bilateral relationships through discrete project activities to help garner support for Australia's international climate change objectives. Formal Partnerships are in place with China, South Africa, the United Kingdom, the European Union, New Zealand, the United States and Japan.

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The Government will also continue support for the global Carbon Capture and Storage Institute. Key activities include establishing the early project work of the Institute and developing a commitment to the longer term program to support fully integrated large scale CCS projects globally by 2010. Sharing the knowledge generated by the Institute's activities will be critical to enable broad deployment of CCS by 2020. This initiative will be complemented by the Government's Clean Energy Initiative investment of \$2 billion in the CCS Flagships Program, playing our part in achieving the G8's target of 20 industrial-scale CCS projects operating around the world by 2020.

APPENDIX 1: BUDGET TABLES

Agency	Initiative	2008-09 \$m	2009-10 \$m	2010-11 \$m	2011-12 \$m	2012-13 \$m	Total \$m
	Australia's Climate Change Strategy						
DEWHA	Strategic National Response - termination	-	-1.2	-1.2	-1.2	-1.2	-4.7
DCC	Department of Climate Change - accommodation fit-out	-	13.4	-	-	-	13.4
DCC	Department of Climate Change - base departmental funding ^a	-	-1.7	-0.7	-0.3	4.7	2.0
	Total	-	10.5	-1.8	-1.4	3.5	10.7
	Reducing Australia's Greenhouse Gas Emissions						
DCC	Greenhouse Action in Regional Australia - termination	-	-3.9	-3.9	-3.9	-3.9	-15.4
DEWHA	Action on Energy Efficiency - termination	-	-6.9	-6.9	-6.0	-6.0	-25.8
DEWHA	Energy Efficiency of Electrical Appliances - termination	-	-4.1	-4.0	-3.9	-	-12.0
DEWHA	Green Loans - reduction in funding	-8.5	-20.9	-39.8	-39.8	-16.7	-125.7
DEWHA	Greenhouse Challenge Plus - termination	-	-2.9	-2.9	-2.9	-2.9	-11.7
DEWHA	Local Greenhouse Action - termination	-	-3.4	-3.4	-3.0	-3.0	-12.9
DEWHA	Low Emissions Technology and Abatement - termination	-	-5.0	-2.0	-	-	-7.0
DEWHA	Phase-Out Incandescent Light Bulbs - termination	-	-2.0	-1.9	-0.5	-	-4.4
DEWHA	Small Business and Household Initiative - termination	-	-5.9	-0.5	-0.4	-	-6.8
DCC	Australian Carbon Trust ^b	-	28.8	37.5	6.9	1.8	75.0
DCC	Carbon Pollution Reduction Scheme						
DCC	<i>Climate Change Action Fund - additional funding and rephasing^c</i>	1.0	200.0	-	-	-	201.0
DCC	<i>Deferral^d</i>						
DCC	<i>Global Recession Buffer^e</i>						
	<i>National Carbon Accounting Toolbox</i>	-	4.0	4.0	4.0	4.0	16.1

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Agency	Initiative	2008-09 \$m	2009-10 \$m	2010-11 \$m	2011-12 \$m	2012-13 \$m	Total \$m
DEWHA	National Energy Efficiency Initiative	-	100.0	-	-	-	100.0
DEWHA	National Strategy on Energy Efficiency	-	-	-	-	-	-
	<i>Building Code of Australia Requirements for Commercial Buildings - enhancement</i>	-	1.5	0.8	0.5	0.5	3.3
	<i>Commercial Building Energy Efficiency - mandatory disclosure</i>	-	1.5	1.5	1.3	1.1	5.3
	<i>Commercial Building Rating Tools - enhancement</i>	-	0.7	0.7	0.6	0.5	2.6
	<i>Energy Efficiency Labelling - enhancement</i>	-	4.2	4.7	4.8	4.6	18.3
	<i>Requirements for Residential Buildings - enhancement</i>	-	2.9	2.0	1.7	2.1	8.7
	<i>Energy Performance for Residential Buildings - mandatory disclosure</i>	-	2.4	1.9	1.6	1.8	7.8
	<i>Heating, Ventilation and Air Conditioning High Efficiency Systems Strategy - contribution</i>	-	0.7	0.7	0.7	-	2.0
	<i>Minimum Performance Standards for Appliances and Equipment - expansion</i>	-	4.1	4.1	4.2	4.2	16.6
	<i>Solar Homes and Communities Plan - additional funding</i>	-	26.4	-	-	-	26.4
	<i>Solar Homes and Communities Plan - additional funding</i>	-	245.3	-	-	-	245.3
DIISR	Super Science Initiative - Marine and Climate Science	8.0	77.8	121.7	112.8	67.4	387.7
DIISR	Clean Energy Initiative ^f	-	100.0	100.0	100.0	100.0	400.0
DRET		-	300.0	200.0	200.0	200.0	900.0
	Total	0.5	1045.3	414.2	378.7	355.7	2194.4

A Comprehensive Approach to Climate Change

Agency	Initiative	2008-09 \$m	2009-10 \$m	2010-11 \$m	2011-12 \$m	2012-13 \$m	Total \$m
	Adapting to Climate Change we Cannot Avoid						
DEEWR	Skills for the Carbon Challenge	-	8.3	7.0	5.6	6.0	26.9
	Total	-	8.3	7.0	5.6	6.0	26.9
	Helping to Shape a Global Solution						
Austrade	Clean Energy Trade and Investment Strategy	-	4.9	5.0	5.0	-	14.9
	Total	-	4.9	5.0	5.0	-	14.9
	TOTAL	0.5	1069.1	424.4	387.8	365.2	2246.9

- Funding is \$55.5 million per annum outturned and already included in the forward estimates.
- Does not include additional funding of \$0.8 million in 2013-14.
- Provision for funding in 2010-11 and subsequent years has been made in the Contingency Reserve (against 2010-11 and 2011-12 figures).
- Provision for this funding has been made in the Contingency Reserve.
- Provision for this funding has been made in the Contingency Reserve.
- The funding amounts form part of the Government's \$4.5 billion commitment under the Clean Energy Initiative, with a fiscal impact of \$3.5 billion.

APPENDIX 2: CONTACT DETAILS OF DEPARTMENTS AND AGENCIES

Acronym	Division/ Agency	Website/ Contact
ATO	Australian Taxation Office	www.ato.gov.au (02) 6216 1111
AusAID	Australian Agency for International Development	www.ausaid.gov.au (02) 6206 4000
Austrade	Australian Trade Commission	www.austrade.gov.au 13 28 78
DAFF	Department of Agriculture, Fisheries and Forestry	www.daff.gov.au (02) 6272 3933
DCC	Department of Climate Change	www.climatechange.gov.au (02) 6159 7000
Defence	Department of Defence	www.defence.gov.au (02) 6265 9111
DEWHA	Department of the Environment, Water, Heritage and the Arts	www.environment.gov.au (02) 6274 1111
DIISR	Department of Innovation, Industry, Science and Resources	www.innovation.gov.au (02) 6213 6000
DoFA	Department of Finance and Administration	www.finance.gov.au (02) 6215 2222
FaHCSIA	Department of Families, Housing, Community Services and Indigenous Affairs	www.fahcsia.gov.au 1300 653 227 1300 653 227 1300 653 227
ORER	Office of the Renewable Energy Regulator	www.orer.gov.au (02) 6159 7700
PM&C	Department of the Prime Minister and Cabinet	www.dpmc.gov.au (02) 6271 5111
RET	Department of Resources, Energy and Tourism	www.ret.gov.au (02) 6276 1000
Treasury	The Treasury	www.treasury.gov.au (02) 6263 2111