

CLIMATE CHANGE: MANAGING THE TRANSITION

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Committee for Economic Development of Australia (CEDA)

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Introduction

Thank you for inviting me to be here today.

As you know, CEDA's stated purpose is "to promote Australia's economic development in a sustainable and socially balanced way".¹ This objective is particularly germane to the topic of today's discussion, climate change and our response to it.

Achieving sustainable economic, social, and environmental outcomes is at the heart of the Government's climate change framework, with its 3 pillars of:

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

This 3 pillar framework accepts that climate change is occurring and that we need to both manage the transition to a low carbon future and adapt to a changing world. It is an approach consistent with the findings of economic modelling that suggests that modest near-term mitigation enhances global welfare in the longer term. It recognises that economic, social and environmental decisions are being made daily that have the potential to increase Australia's exposure to climate conditions in the future in ways that are substantially different to what we have experienced historically.

Calm, measured and well planned responses today will allow Australia to ride the wave of change – denying the existence of climate change will simply store up costs for future generations.

With the release of the Green Paper on the Carbon Pollution Reduction Scheme, the Government has indicated key elements of its thinking on how best to reduce Australia's own emissions as we manage the transition to a low carbon economy. The scheme proposes the development of a financial market – an emissions trading scheme – designed to deliver an environmental outcome.

The ultimate objective is not, however, the creation of the trading scheme – that is simply a tool. Rather, it is to help the world avoid dangerous climate change. The Carbon Pollution Reduction Scheme aims to do this by demonstrating that it is possible to deliver significant emissions reductions while ensuring continued

¹ Overview of CEDA's objective from CEDA website.

prosperity – in the process, it will position Australia well to reap the many opportunities that will flow from a move to a low carbon world.

Placing a price on greenhouse gas emissions – carbon pollution – is key to ensuring that strong economic growth can be sustained. The creation of a robust carbon market will provide information on the carbon price now and into the future – it will provide a powerful incentive for consumers and business to switch to lower-carbon products and production techniques, change investment patterns, and encourage greater efforts in new and innovative areas of research and development.

Using a market-based policy instrument to introduce this price will make it easier for business to plan for the future. Providing business with the tools to manage carbon risk will also ensure the policy response is sustainable over the decades ahead.

Social balance is also an important consideration in the Green Paper. If a policy is to be sustained over time, Government must take account of the impacts on the community, particularly on the most vulnerable and adversely affected members of our society.

The Carbon Pollution Reduction Scheme is the most significant economic structural reform since the 1980s. It is not surprising then that it is the subject of debate both in terms of its design and its impact on the economy. The release of the Green Paper has, however, also provided another opportunity for those who dispute the existence of climate change.

Given that the Minister for Climate Change and Water, Senator Wong has made several key speeches on the content of the Green Paper in the three weeks since its release, and that my department has made presentations in all major capital cities, with regional centres to follow in the next few weeks, I thought it might be useful today to outline:

- why climate change is a significant issue for Australia;
- why it makes sense for Australia to move now to respond to the climate challenge; and
- why the development of a well designed emissions trading mechanism is the most effective way to reduce our own emissions.

Climate change – the evidence and knowledge gaps

Last month, Professor Garnaut released the compelling draft report of his climate change review. If there is one message from Professor Garnaut's report, it is that failure on climate change is not an option – as one of the hottest and driest continents on earth, Australia's economy and environment is likely to be one of the hardest and fastest hit by climate change. Indeed, parts of our social fabric – such as the viability of farming communities in the Murray Darling Basin – is directly threatened by climate change.

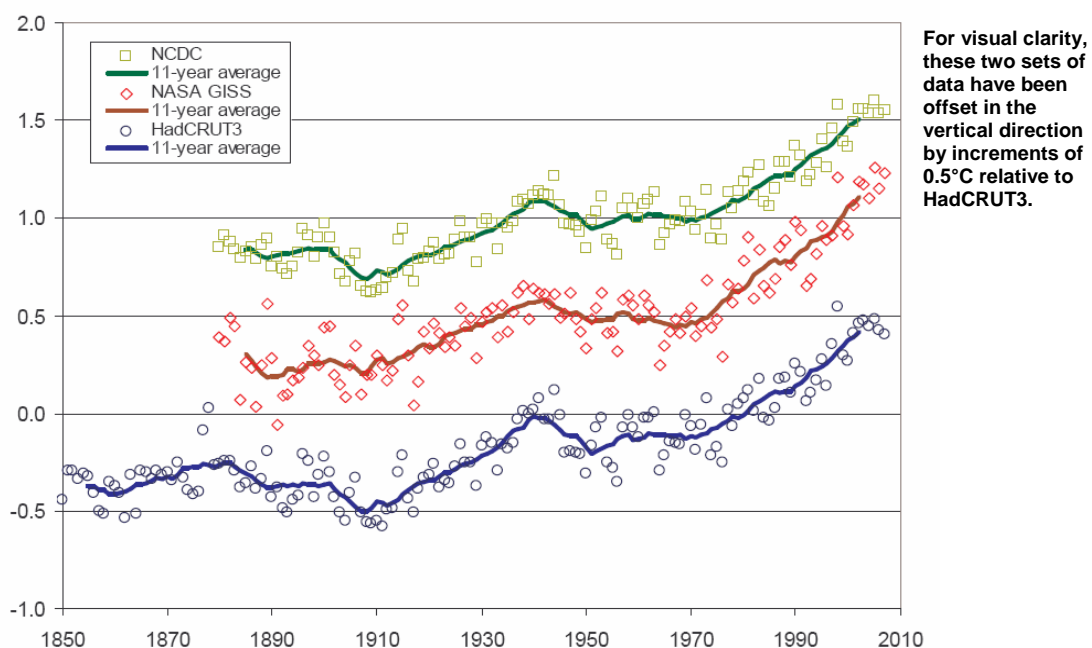
The IPCC Fourth Assessment Report, released in 2007, presents evidence of observed changes in climate patterns – for example, increased air and ocean temperatures, melting of snow and ice, and sea level rise – that, taken together, provide evidence that climate change has begun to happen. The IPCC also concludes that it is very likely that increases in greenhouse gases related to human activity have caused most of the rise in global mean temperatures since the mid-twentieth century.

More recent data and research suggests that the rate and magnitude of climate change during this century may occur at the upper end of the range estimated by the IPCC. Not only are emissions growing faster than anticipated, the science suggests that the climate response is also accelerating. Global mean temperatures and sea-level rise are tracking at the upper end of the range of projections and there is increasing concern about the stability of the ice sheets and the capacity of the oceans and forests to continue to absorb as much carbon dioxide from the atmosphere.

The climate system is complex. We have to accept that our understanding of the scale, timing and likelihood of **specific** impacts will lack precision well into the future. The balance of probability, though, points to climate change as a fact – we are faced with a global risk management problem, and we should respond accordingly.

Yet notwithstanding the weight of evidence, commentary continues about whether global warming is actually occurring or will present a real risk. The pattern of recent global temperatures measured against those in the year 1998, in particular, has led to claims that global warming is a thing of the past, if it existed at all.

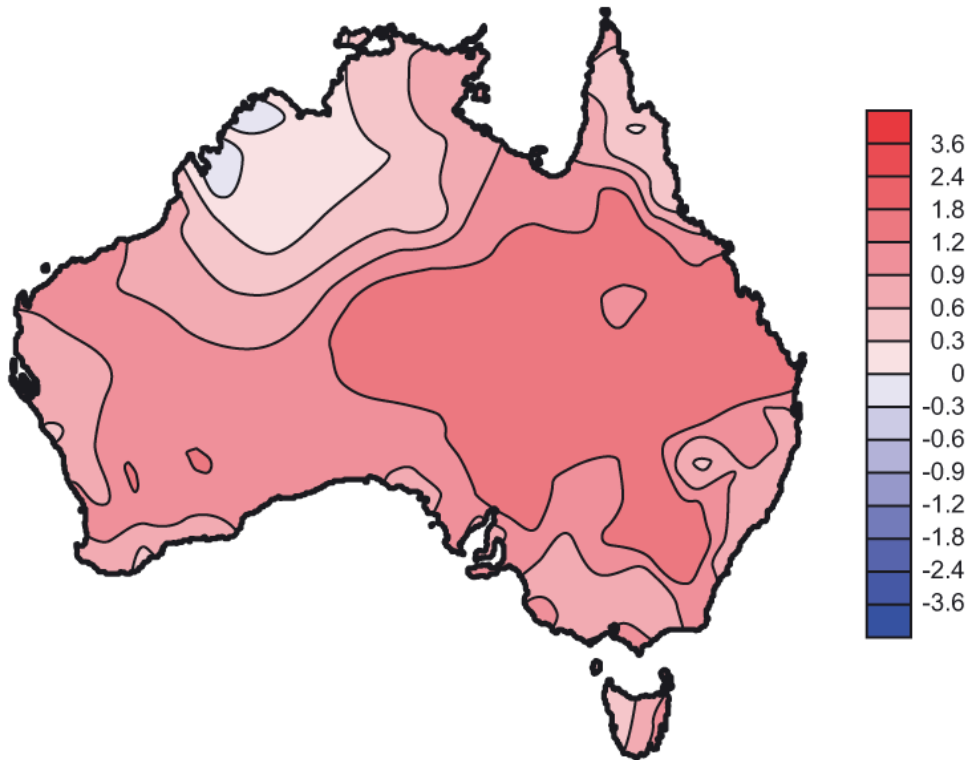
Figure 1: Global temperature anomalies – various methodologies



Source: Fawcett R. & Jones D., *Waiting for Global Cooling*, National Climate Centre Australian Bureau of Meteorology, 2008

1998 was, indeed, a very hot year. This was, in part, due to the major El Nino event which elevated global temperatures. The nature of the climate system is such that there are considerable fluctuations in global average temperatures from year to year and decade to decade. However the long term record of temperatures shows a clear underlying rise. In the combined series of land and ocean temperature observations dating back over 150 years compiled by the Hadley Centre and the University of East Anglia (HadCRUT3), for example, the warmest 10 years have all been since 1995. The same pattern of rising temperatures shows up in other independent data sets.

Figure 2: Changes in Average Temperature °C, 1950-2007

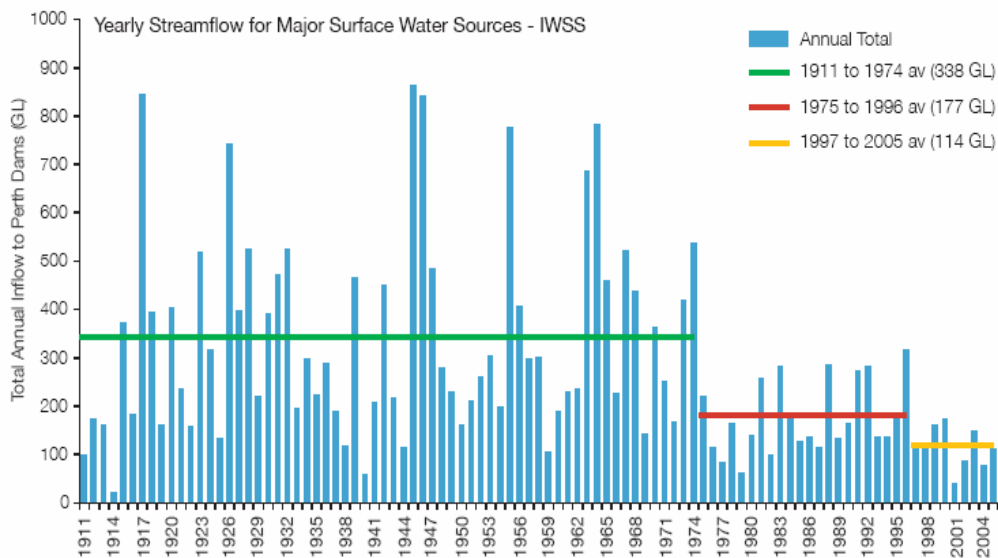


Source: Bureau of Meteorology

Changes in Australia's climate are also already observable. The annual average temperature in Australia has increased by around 0.9 degrees Celsius since 1910. The increase in temperatures has not been uniform across the country. Since 1950, average annual temperatures have recorded increases in almost all parts of Australia, with higher increases in Central Australia and parts of Queensland and New South Wales.

These increases in temperatures have combined with reductions in rainfall in many parts of the country to result in significant reductions in flows into catchments supplying water to Melbourne, Sydney, Brisbane, Adelaide and Canberra.

Figure 3: Annual Stream Flow into Perth’s Dams



Source: Western Australia Water Corporation

Information on dam inflows into Perth is particularly striking. This shows that annual dam inflows during 1976-2000 were roughly half of those between 1911-1975, and that they halved again between 2001- 2007. Even more striking is the fact that not once since 1975 have inflows, even in “good” years, reached the average level recorded in the previous period.

Climate change is likely to negatively affect most Australians, particularly as a result of increasing severity and frequency of extreme weather events. The impacts of unmitigated climate change on Australia could include significant risk within a few decades to coastal buildings from storm events and sea-level rise, leading to localised coastal and flash flooding and extreme wind damage. Around 80 per cent of Australians now live in coastal areas – and this proportion is continuing to increase.

Recent preliminary analysis by GeoScience Australia indicates that Australia-wide building assets with a value of \$33 trillion are located within 200 metres of the present day high water mark – continuing work will evaluate how much of that building stock, and also infrastructure, may be prone to future sea inundation. Inundation of areas such as St Kilda in Melbourne and the Gold Coast, as a result of higher sea levels and severe storm events, would impose significant costs on the economy.

Figure 4: Storm Surge Inundation – St Kilda, Victoria



Source: <http://www.portphillip.vic.gov.au/attachments/o23359.pdf>

In addition, by 2020, significant loss of biodiversity is projected to occur at some of our most treasured environmental sites – for example through increased coral bleaching in the Great Barrier Reef. And by 2030, changed rainfall patterns and drought are expected to intensify water security problems and reduce agriculture output in southern and eastern Australia.

While the weight of scientific evidence makes a compelling case that climate change is a fact, the precautionary principle suggests that even someone who was agnostic on the issue should rationally wish to take action now. For the agnostic, action today can be thought of as being analogous to taking out insurance or hedging one's position. It involves incurring a cost now, with the prospect (although not certainty) of gaining in the future. The wider the range of possible future outcomes – what I referred to as the lack of precision about specific events – the wider the range of options over which it is rational to hedge, and hence the greater the benefits of near term mitigation.

The combination of rapidly growing concentrations of greenhouse gases in the atmosphere, the potential for long-term perturbation of the climate system, and the time lags in economic and technological responses that lower greenhouse gas emissions, implies that a hedging strategy aimed at mitigating emissions, globally and

domestically, and adapting to climate change impacts, will pay dividends for Australia.

Sharing global leadership on mitigation

Except for the climate change deniers – who have misappropriated the term sceptic – I think we would all agree that avoiding dangerous climate change is a global challenge that requires a multilateral solution – in the absence of global action, the mitigation efforts of Australia alone will provide little, if any, benefit.

So why, then, should Australia be amongst the countries that takes early action to drive global abatement – why shouldn't we wait for others to do the heavy lifting?

First, given our natural environment and our industrial structure, Australia is unique among the developed economies in our vulnerability both to the impacts of climate change and to poorly designed policy responses implemented elsewhere. This vulnerability means that it is in our national interest to pursue both an effective global solution and to begin now the necessary domestic transformations, both through reducing our own emissions and beginning to adapt to the climate we are likely to face into the future.

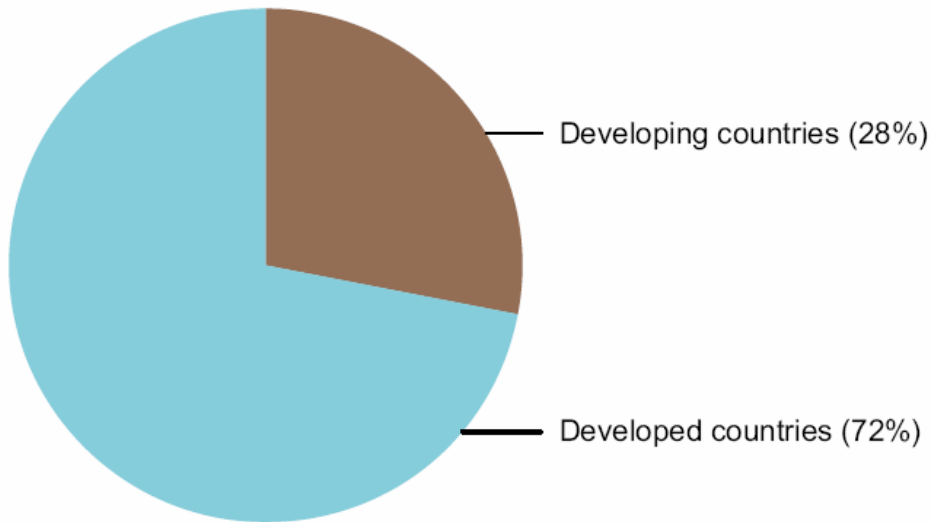
Second, it is incorrect to believe that Australia is at the head of the pack. Some 27 countries in Europe – both in the European Union and non-EU countries such as Iceland and Norway – have already moved to adopt emissions trading. The New Zealand emissions trading scheme commenced on 1 January this year, and Japan is discussing the introduction of a full-scale domestic scheme in 2010 or 2011, following earlier trials of voluntary schemes. The Canadian Federal Government in addition to some 26 US States and Canadian provinces are also working to introduce emissions trading schemes, and both Democrat and Republican US Presidential candidates have committed to introducing a cap and trade scheme should they be elected. Even China, while not adopting emissions trading, is taking efforts to reduce emissions in some sectors.

Australia has a strong interest in accelerating global action both to reduce the risks of adverse climate change impacts and to reduce the costs of our mitigation efforts. Our influence in international climate change negotiations is likely to be affected by what we do at home. Importantly, the introduction of an effective market-based carbon reduction policy in Australia provides the opportunity to demonstrate to other countries the success of policy approaches that would enhance Australia's economic welfare if they were adopted more widely.

A sustainable global solution will require actions by all major emitters, developed and developing, and Australia is committed to an international framework in which advanced economies adopt binding economy-wide emissions reduction targets with efforts comparable to ours, and where major developing countries make binding commitments on mitigation actions.

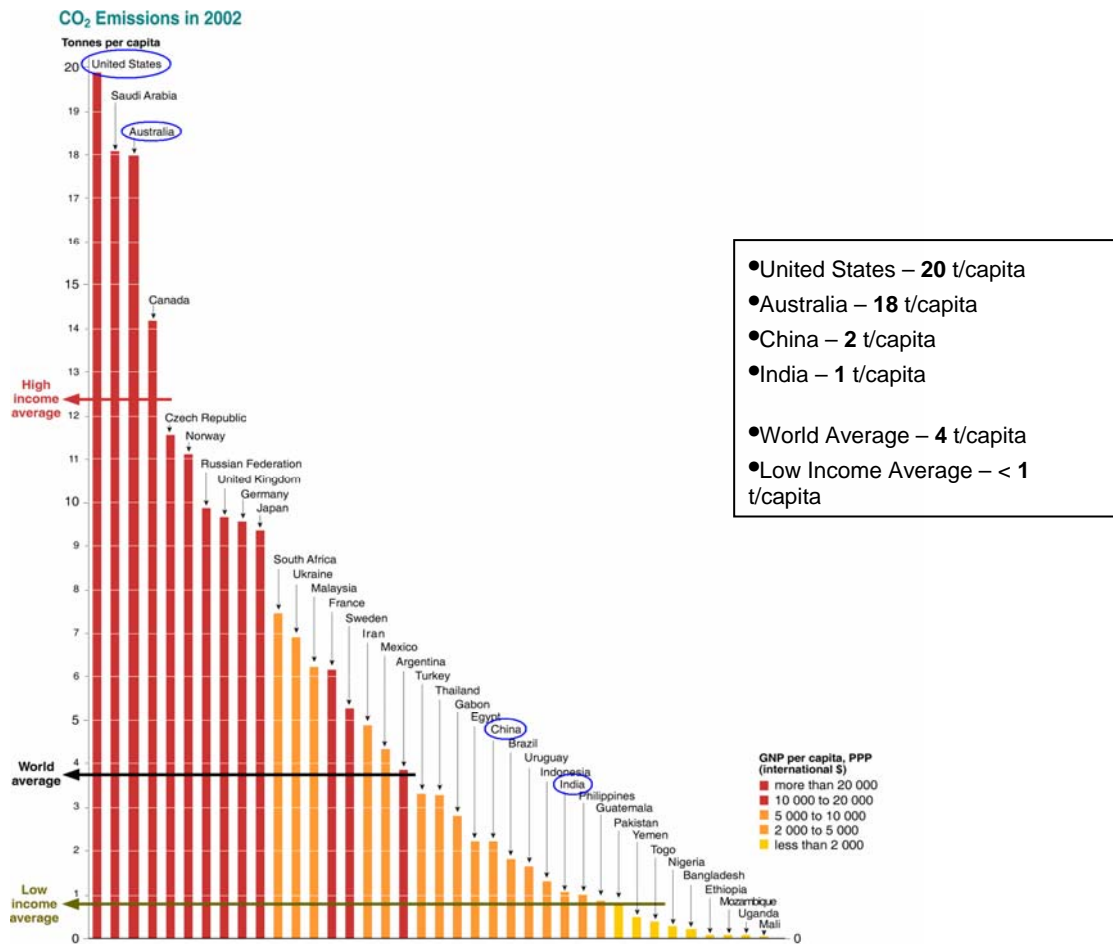
It is inevitable, however, that global agreement will require stronger action initially by the developed nations. In part this reflects the relatively higher levels of per capita emissions in developed compared with developing economies. Even amongst developed countries, Australia's per capita emissions are around the upper end of the distribution.

Figure 5: Contributions to atmospheric concentrations of greenhouse gases: 1850-2002



Source: Kevin Baumert, Timothy Herzog, Jonathan Pershing 2005, 'Navigating the numbers greenhouse gas data and international climate policy', World Resources Institute, United States of America

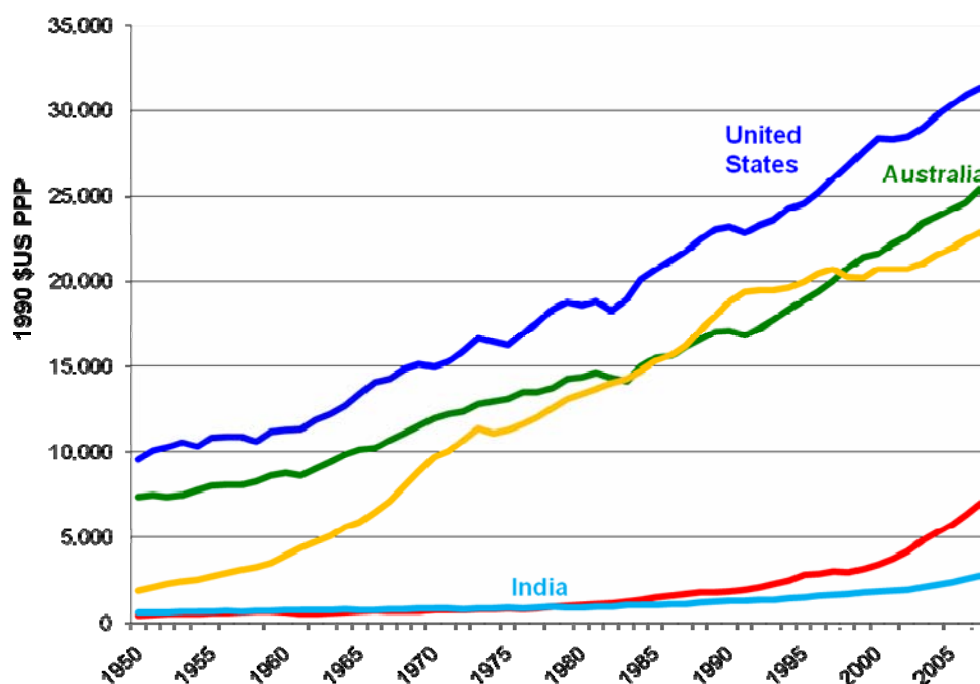
Figure 6: Emissions Per Capita



Source: World Bank, online database, 2004

Early action by developed countries also recognises the significant divergences in income levels between developed and developing economies. Relatively higher income levels in developed countries imply that these countries will be in a stronger position to implement emissions reductions policies, as they will have relatively more resources at their disposal. Any viable global solution to climate change must support the aspirations of developing countries to continue to raise their standards of living towards those of our own.

Figure 7: Income Per Capita



Source: Total Economy Database, The Conference Board & Groningen Growth and Development Centre (expressed in 1990 US dollars converted at “Geary-Khamis” purchasing power parities (PPPs))

Finally, it is in Australia’s interest to shape the emerging carbon market. While we have to be realistic about our influence on the big decisions such as emission reduction targets, a middle power can play a key role in designing the mechanics of the international system. You will only get a seat at this table if you are actively engaged in designing and successfully operating these mechanisms.

Features of an effective ETS

Even if we accept that there is a need to treat climate change as a risk management issue, and that the developed economies will need to act first, why should Australia adopt a Carbon Pollution Reduction Scheme with emissions trading at its heart? In particular, what of the claims that the introduction of the scheme will be excessively costly and threaten our economy?

First, it is not the introduction of the Carbon Pollution Reduction Scheme that imposes a cost on the economy. Climate change is already imposing costs and these will only increase over time – there are real and rising costs to inaction, including through increasing investment uncertainty.

It is true that taking action to restrain carbon emissions to help avoid these costs will involve other costs – but it is the decision to cap emissions, not the introduction of the scheme, that imposes these costs.

The decision of the previous Government to meet Australia’s Kyoto target resulted in the imposition of costs on the economy over the last decade. It was the realisation that the abatement achieved to date could not be repeated using the existing policies, except at very significant cost, that led the previous Government to support the introduction of emissions trading in mid-2007. At that time, the Task Group on Emissions Trading advised the Government that Australia should not wait for the emergence of a genuinely global agreement before acting, believing that the benefits of early adoption of an appropriate emissions constraint outweighed the costs, and that it would position Australia to contribute to the development of a truly international climate change response. The Task Group went on to argue that emissions trading would allow Australia to meet the carbon constraint at least cost.

The current Government’s judgement is that it is in Australia’s national interest to act and to act now, that the costs of inaction exceed the costs of action and, importantly, that the use of emissions trading allows us to ensure that the costs of action are minimised.

Second, it is important to keep in mind the distinction between the trajectory, or pathway, of emissions reductions and the design of the trading scheme. As Minister Wong has noted, this is analogous to the distinction between designing and building a car and the decision about how fast to drive it. Irrespective of the speed, we want a robust, effective and credible vehicle if we are to reach the destination in comfort and safety! Not surprisingly, then, I am unconvinced by claims that we cannot make decisions on the design without having already decided the trajectory.

The Government has committed to selecting an emissions trajectory that is achievable and economically responsible. It **will** be calibrated to the global effort, it **will** reflect the analysis provided by the Treasury on the relative costs of alternative trajectories, and it **will** be subject to consultation before final decisions are made.

The cost of restraining emissions will also be heavily influenced by the dynamism and flexibility of the economy. Reforms since the 1980s have delivered an economy resilient to a wide range of domestic and international shocks. This more flexible economy allows resources (both capital and labour) to move between industries based on the market’s assessment of where they would be most productively employed.

Governments in Australia have learned, often painfully, that it is better to manage the transition than to attempt to hold back the forces of change. A continuing focus on fostering a flexible, dynamic economy – and resisting the siren call of attempting to pick sectoral or technological “winners” – will be critical to ensuring the orderly transformation of Australia to a low carbon economy capable of sustained growth in employment and living standards.

Let me turn then to the design features that make for an effective and efficient trading scheme.

First and foremost, broad coverage is important. The broader the coverage of the scheme, the lower the cost of achieving any given reduction in emissions. It goes

without saying that unambiguous rules to determine liability within covered sectors should be provided with as few exceptions as possible.

Second, the scheme must be designed to link effectively with international emissions markets. This provides opportunities for gains from trade between countries that engage in emissions reductions policies, and helps cap the cost of abatement to Australian firms.

Third, a good scheme needs to recognise the risks of restraining emissions in the absence of a global agreement, and attempt to reduce the risk of carbon leakage – the risk of emissions intensive, trade exposed, activities moving offshore without any impact on the global environment.

But it is not enough to stop there – a good scheme also has to recognise that the more support provided to emissions intensive trade exposed firms, the greater is the share of the costs that are shifted onto the rest of the economy – to non-assisted trade exposed firms, to non-trade exposed businesses and to households.

There is no easy way of resolving this tension. The Government recognises that industries will wish to focus the debate on the potential for lost investment opportunities in their industry to argue for additional support. But the Government has to balance this against similar claims from other sectors - the more support provided for any one industry the greater the impact on investment and employment in other, non-assisted, industries.

Moreover, it is unrealistic to believe that these tensions can be resolved by increasing the national cap for new investments in the emissions intensive trade exposed sector. As discussed above, we are committed to an international framework that involves binding national targets or commitments for all major emitters. These sectors, more than any others, will benefit from an effective global emissions reduction framework.

Fourth, the market in which the carbon pollution permits are traded should be designed to be as well functioning as possible. The characteristics of the permit need to be clearly defined, the trading mechanisms transparent and transactions costs kept to a minimum. Getting these features right will determine the efficiency of the scheme.

Fifth, governance arrangements for the scheme need to be clearly defined. These affect the credibility of the scheme and, ultimately, its ongoing success. Thinking carefully about governance arrangements is particularly important in the early stages of establishing any policy, but particularly important in establishing a policy in which market-based instruments are used to influence long-term investments.

Finally, a well designed scheme is one that is robust to changes in scheme objectives over time. This is particularly important in an area such as climate change where there is a considerable degree of uncertainty. For the scheme to provide an effective on-going mechanism for market participants to manage their climate-change related risks, it needs to be able to be flexible enough to accommodate changes in targets and trajectories as new information emerges.

Together, these features, which relate to the “nuts and bolts” of the emission trading mechanism, will determine the integrity of the scheme and how effectively and

smoothly it works to reduce emissions. Sorting through these issues ahead of the announcement of the trajectory is crucial and is a key objective of the green paper process.

The Green Paper

To conclude, let me turn to the Green Paper.

The Green Paper is a genuine options paper.

What we have tried to do in the process of writing the paper is to identify the key issues for decision, identify competing policy objectives, carefully examine the alternative options, and to identify the Government's current preferred position on each of a very large number of issues.

The objective of providing preferred positions is to provide the community with a clear idea of the Government's current thinking in order to facilitate the further development of the policy. But these positions are just that, preferred positions. They have been formed on the basis of current information and have been informed by the previous work undertaken in this area, overseas experiences and the extensive consultations that my Department has undertaken with industry, community groups and other stakeholders over the past year.

Having said this, we are acutely aware that the public and business will have access to better information in some areas than we have used, and will be in a better position to assess how well many aspects of the proposed policy would work in practice. They may also be able to bring our attention to important issues that may not have been considered or fully explored in the Green Paper.

We welcome all feedback on the Green Paper, including ideas about alternative ways in which the **identified objectives** of the scheme can be met. Extensive consultation is a very important part of developing a well designed Carbon Pollution Reduction Scheme capable of being sustained for decades.

Conclusion

Serious reforms are always confronting because they typically involve changes to the settled way of doing things, redistribute risk and force a reassessment of economic value. The challenge for our generation is to develop effective strategies to address climate change – to manage the transition to a low carbon future - and we will be judged by future generations on our success. I look forward to a continuing productive engagement with you all through the further development of Australia's response to this challenge.