

## **Australia's emissions reduction ambition**

### **Submission to the Climate Change Authority's Caps and Targets Review**

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#### **Australia's contribution to global climate action**

Australia's interest is in strong global climate change mitigation, owing to Australia's vulnerability to climate change. This was established in policy deliberations over preceding years, and sensibly forms a starting point for the Authority's Review.

To further this interest, Australia will need to make a proportionate contribution to the global effort. By scaling the national contribution to the collective effort made by other countries, Australia can set a positive example internationally and help encourage steps towards positive reinforcement of individual national commitments. The currently adopted target range for 2020 (a 5% to 25% reduction in national emissions relative to year 2000 levels) is a useful starting point but should not constrain the Authority's analysis and recommendations.

#### **The 2050 target may need to be stronger than 80%**

As argued by the Garnaut Review, a useful guiding principle for establishing proportionate contributions is a convergence to equal per capita entitlements to greenhouse gas emissions. Depending on assumptions, this may mean an 80% reduction in absolute national emissions at 2050 relative to 2000 levels for a global effort consistent with stabilisation at 550ppm, and a reduction of around 90% for a strong global effort consistent with the internationally agreed goal of limiting global warming to two degrees (Garnaut 2008).

An 80% reduction target is current government policy. The 2050 target has an important signalling effect about where Australia's net national emissions may need to head to be compatible with a global effort to reduce emissions. However, different 2050 reduction targets will be appropriate depending on the ethical perspective taken to the issue, different approaches to effort sharing, different assumptions about Australia's future population and economic growth, and different trajectories for global emissions.

A number of circumstances or perspectives would support a stronger reduction target than 80%, among them if global mitigation were in fact strong; if historical contributions to emissions levels were taken into account as called for by many developing countries; if levels of wealth were taken into account in determining effort sharing between nations; and if Australia's population growth until 2050 were lower than currently expected. Conversely, it would be difficult to justify a less than 80% reduction in the context of meaningful global mitigation.

The Authority in its Issues Paper calls the 80% reduction target for 2050 a “given” and a “starting point”. This is unnecessarily restrictive for the Authority’s Review. *For its draft and final report, it would be desirable for the Authority to move away from the presumption of an 80% target, and instead explore a range of possible long-term targets and emissions levels.* This could usefully take the form of exploration of alternative effort sharing arrangements; and analysis of the implications for longer term emissions levels if a “carbon budget” approach was implemented, limiting the cumulative emissions over time and leaving the trajectory open.

### **The 2020 target: a significantly stronger reduction than 5% is in order**

All major countries have made pledges to reduce or limit emissions at 2020, in conjunction with the 2009 Copenhagen climate conference. Analysis of the pledges by the largest countries indicates that both the targets for developed and for most large developing countries require a significant effort (see for example McKibbin et al 2011, Jotzo 2010). It is difficult to establish what the implied reductions are relative to a counterfactual business-as-usual scenario, and uncertainty is larger still about the economic costs of mitigation in different countries. However it is notable that most large nations are explicitly or implicitly pledging significant decarbonisation of their economies: the rate of reductions in emissions intensity between 2005 and 2020 is similar across the majority of the largest nations (Jotzo 2010).

Direct observation of policy effort and emissions trajectories provides an even clearer indication of international climate policy effort.

- Both the EU and the United States appear on track to meeting their Copenhagen targets. In the EU, there has been a strong policy effort to increase energy efficiency and deploy renewable energy (notwithstanding some contrary trends such as increased use of coal-fired electricity in Germany). The emissions trading scheme has also contributed to emissions reductions, though its role has been diminished in recent times as the recession reduces the remaining mitigation task towards the EU emissions target, resulting in low permit prices. The EU is on a course of steady reductions in absolute emissions levels, from a per capita basis much lower than Australia’s.
- US emissions are being dampened through a shift from coal to new and relatively low cost sources of natural gas. Policy plays a role in this shift, through Federal regulations that preclude the construction of new coal fired power stations; regulatory hurdles to exporting gas to international markets that keep the US domestic gas price low; energy efficiency standards; and public funding for development and deployment of renewable energy.
- China has re-iterated its determination to reduce emissions intensity by 40 to 45% from 2005 to 2020, and has put in place a raft of policies aimed at curbing the growth in coal use, supporting investment in renewable and nuclear power, and increasing energy efficiency throughout the economy. Complex policy reforms are in train, including pilot schemes for emissions trading and preparations for national emissions pricing, alongside many regulatory interventions.

For China to implement such policies while the process of economic modernisation is still in full swing is more significant than any other current development in global climate policy. It is also essential for China to do so for the world to keep open the option of limiting global

emissions to levels indicated by scientific assessment and called for by the majority of governments.

- Many other developing and industrialising countries are taking steps to curb emissions growth or even reduce absolute emissions levels, including through comprehensive policy measures such as emissions pricing (eg South Korea, South Africa) and significant changes to large sources of emissions such as deforestation (eg Brazil, Indonesia).

It is also important to consider that Australia is now one of the richest middle-sized to large countries in the world, and among the highest per capita emitters in the world. Together with the fact that Australia stands to benefit a great deal from limiting the risk of severe climate change, this puts a special onus on Australia to at least not lag in its climate targets.

Though it is impossible to reliably judge in advance what influence Australia's commitments will have on other countries, it is clear that Australia's actions and commitments are highly visible on the world stage. They may thus carry a disproportionate chance of influencing the decisions of other, larger emitters.

In light of these facts Australia should move beyond the agreed minimum commitment of a 5% reduction at 2020 relative to 2000. If staying within the framework of the existing target range, a move to a 15% reduction target relative to the year 2000 is fully justifiable.

Other reference points are of course possible and may be equally plausible. For example, Australia could match the US pledge of a 17% reduction relative to 2005; or Australia could match the average targets of developed countries. There is no single level of ambition that is easily identified as the right one. What is clear is that a significant strengthening relative to the existing 5% target is in order.

### **The cost of achieving a given target will be lower than previously thought**

It is likely that the effort and economic cost of any given short-term national emissions target will be much lower than thought at the time that the national emissions target of 5%, and the target range of up to 15% or 25%, was set. This in itself is a strong argument for strengthening Australia's mitigation ambition.

Several factors unambiguously point to lower required effort and lower costs than previously assessed. The first set of factors relates to the magnitude of the abatement task, the second to the carbon prices that are likely to apply if international emissions trading is used at the margin to achieve the target.

*Domestic electricity demand is stagnating.* Assumptions of continued strong growth in power demand underlay the modelling analyses of the Garnaut Review and the Treasury in 2008 and the Treasury's 2011 modelling. In reality, electricity demand has not increased for a number of years. As a result, there is currently no need for significant additions to power generation capacity in addition to the increase in renewables driven by the Renewable Electricity Target. In addition, the carbon price has resulted in a significant reduction in carbon intensity through a change in the merit order (increasing the variable cost of running more emissions intensive power plants) which has resulted in less use and even retirement or mothballing of high carbon power plants. Increases in energy use and emissions from resource extraction projects, in particular LNG, appear unlikely to outweigh the likely reductions in emissions from the power sector.

*The land use change and forestry sector is contributing substantially to emissions savings, under Australia's accounting rules.* Including deforestation and forest management is likely to yield a significant "windfall" in emissions reductions (Macintosh 2011). Furthermore, Australia may be able to use some of the surplus emissions units accumulated during the first Kyoto period (2008-12) to further reduce the required emissions reductions until 2020. Together these factors imply a significantly lower abatement task than assumed in previous analyses to meet any given national target at 2020.

*International carbon prices are much lower than previously assumed.* If Australia fulfils its national target with the help of imported international emissions units as anticipated under current policy, both the marginal cost of domestic emissions reductions and the amount of money spent for the import of overseas emissions reductions units is likely to be much lower than previously expected.

Modelling undertaken by Monash University Centre of Policy Studies for a report by Vivid Economics (Vivid Economics 2013) indicates that moving from a 5% to a 25% target carries only a minimal additional cost of under current policy settings; that a 25% target would come at a fraction of the economic costs projected by Treasury's 2008 and 2011 analyses; and that even if more than half of overall emissions reductions towards a 25% target were achieved domestically, the cost would be much lower than previously thought.

### **Domestic mitigation is necessary for credible action, and needs to be balanced with international emissions trading**

The Authority in its Issues Paper proposes to "consider how Australia might meet its trajectory, budget, target and caps, including how different sectors contribute to emissions reductions, and the role of international emissions trading", alongside recommendations on trajectories, targets and caps.

*It is essential that the question of how to achieve the target be given a prominent role in the Authority's report.* While the national headline target is the ultimate measure of Australia's contribution to the global mitigation effort, the way in which the target is achieved is crucial for how Australia positions itself for a lower-carbon future, for Australia's contribution to global efforts to find the best way to de-carbonize economies, and also to perceptions of Australia's action internationally and in the Australian community.

The key questions are the relative contributions of domestic action and supporting mitigation in other countries; the choice of policy instruments for domestic reductions; and the success or otherwise in positioning Australia for a lower carbon world economy.

If a carbon price is to be the mainstay of mitigation effort in Australia, then it needs to be considered whether a link to the EU ETS provides an adequate level of investment incentives in Australia. As I have argued elsewhere (Jotzo 2013), under present circumstances this is unlikely to be the case. It would be desirable from a policy perspective to introduce measures that maintain the Australian carbon price at or above a minimum level well above the prices currently prevailing in the EU ETS, whether through a price floor (Jotzo 2011, Wood and Jotzo 2009) or other measures.

As indicated by the Vivid Economics modelling, even in scenarios where additional mitigation is achieved domestically at higher prices than prevailing in the EU, the economic costs would now be

expected to be significantly lower than was expected for any standard scenarios in 2011. In other words, greater domestic action than what would occur under a low carbon price is affordable.

The current prices for emissions units in the EU ETS are below the marginal cost of abatement in Europe, below the marginal cost that would be necessary in Australia for a meaningful mitigation effort, and below most estimates of the marginal benefit in terms of avoided climate change damages. Hence EU ETS prices should not determine the level of effort within Australia.

If Australia links its domestic carbon price to the EU ETS price and this remains low, then Australia will predominantly rely on international emissions purchases rather than domestic change towards a lower-carbon economy. The alternative then is to achieve domestic mitigation predominantly through non-pricing approaches which carry the risk of additional costs and administrative failure.

Being part of an integrated system of international emissions trading when it exists will be in Australia's longer term interest. This would allow greatest possible cost-effectiveness of mitigation, and trading could cover emissions from the production of energy and emissions intensive commodities for export, under consumption based emissions accounting system for national targets. At the same time, emissions reductions at home must not be crowded out by access to cheap international units in the situation where international markets remain fragmented and do not represent the full level of mitigation effort.

The Authority has an important role in further analysis of these factors, and in explaining the choices to the Australian community.

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