

SUBMISSION TO REVIEW OF RENEWABLE ENERGY TARGET SCHEME

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My views on climate change mitigation policies in general were set out in the 2008 Garnaut Climate Change Review and the 2011 Climate Change Review Update. My views on the Mandatory Renewable Energy Target in particular were set out in the 2008 Review pp. 353-56. I confirmed my support for the views presented in the 2008 Review in Update Paper 8 for the 2011 Review, pp. 14-17. The central policy recommendation was to leave the target (now the Renewable Energy Target) in place as legislated, but allow it to become redundant as the carbon price rose over time. These views remain relevant.

Subsequent Commonwealth Treasury modelling of the 2011 Clean Energy policy package suggested that the Renewable Energy Target would be likely to be made redundant by a rising carbon price in the mid-2020s.

It is a matter of high importance to the welfare of Australians living in future that the rate of release of greenhouse gases into the atmosphere in the world as a whole be reduced by half or more by the middle of this century. This will require major contributions to mitigation from all countries. The rate of reduction from current levels will need to be much greater from countries that currently have per capita emissions that are well above the world average—by about 90 percent in the currently developed countries including Australia. I note that Australia's greenhouse gas emissions per person are the highest in the developed world, and that the total greenhouse gas emissions are falling quite rapidly in the rest of the developed world.

It is important for the success of the global mitigation effort that each substantial country contributes its fair share to the reduction of global emissions. The Climate Change Authority will examine the question of what constitutes Australia's fair share when it prepares to make recommendations on the emissions reduction target for 2020.

What matters for the global mitigation effort is the extent of emissions reductions, and not the means through which the reductions are achieved. It is important for the welfare of Australians that Australia secure its fair share of the global reduction in emissions at the lowest possible cost. Efficiency in reducing emissions will become increasingly important to welfare as the required reductions in emissions become larger in the years ahead.

As demonstrated by the Productivity Commission's report to the Multi-Party Climate Change Committee in 2011, both developed and developing countries have adopted a large numbers of mitigation policies with varying effectiveness in reducing emissions and varying costs per unit of abatement. Economy-wide carbon pricing is the lowest cost means of achieving a specified reduction in emissions, if it is combined with public support for research, development and commercialisation of new low-emissions technologies to the extent that is necessary to compensate investors for the benefits of innovation deriving from their private investments that leak out to other firms. A carbon price can take one of two forms: a fixed tax on

carbon dioxide-equivalent emissions; or an emissions trading system. The economically efficient form of an emissions trading system would provide for the sale of permits to emit greenhouse gases through an auction process. My own modelling for the 2008 Review suggested then that the appropriate carbon price in the dollars of those days within a global effort to hold the temperature increase to about 2 degrees Celsius would have been in the vicinity of \$40 per tonne of carbon dioxide equivalent, rising over time at an appropriate interest rate.

A substantial and growing number of countries and states, provinces or regions within countries have introduced broadly based carbon pricing, and all countries have introduced regulatory and fiscal policies on particular activities that can be described as “direct intervention”. None relies only on carbon pricing and support for innovation in low-emissions technologies. Almost none relies mainly on the ideal set of policies. The nearest to the ideal are probably British Columbia, with a carbon tax currently at the rate of \$C30 per tonne of carbon dioxide, and Australia.

Amongst countries covered in the Productivity Commission report in 2011, even countries within the well established European emissions trading system imposed higher costs on their citizens through direct intervention than through carbon pricing.

One consequence of the universality of combining carbon pricing with “direct intervention” is that a country would be making less mitigation effort than others if it relied only on a carbon price (plus support for innovation) that was set near the carbon price applied elsewhere—even, in current circumstances, at the highest of prices applied elsewhere. Australia’s current policies are likely to see the price settle from 2015 at around 5 percent below the price in the European Emissions Trading System, because of their more generous limits on use of credits from the Clean Development Mechanism (12.5 percent compared with about 7 percent).

The costs of mitigation per unit of abatement are lower the smaller the proportion of costs of mitigation imposed by direct intervention and the higher the proportion carried by broadly based carbon pricing. Costs would be lowest if the whole burden were carried by the combination of carbon pricing and support for innovation. This ideal has not been favoured politically in Australia or anywhere else. Recent experience in Australia demonstrates that it is particularly difficult for one country to approach the ideal of economically efficient abatement while the rest of the world is a long way away from the ideal. That is not to say that Australia should not seek the lowest cost means of doing its fair share in the abatement of greenhouse gas emissions; but we do need to recognise that we are not there now and will not be there for a number of years into the future.

While direct intervention in general and in each of its forms is more costly than carbon pricing per unit of abatement, there are immense differences in costs per unit of abatement amongst different instruments of direct intervention. In this context, Renewable Energy Targets with opportunities for trade amongst enterprises represent a relatively low cost form of direct intervention.

In my Climate Change Review 2008, confirmed in Climate Change Review Update Paper 8 2011, I recommended that following the introduction of a carbon price with the recommended parameters, the Renewable Energy Target should be

retained with established parameters, and that the Renewable Energy Target should gradually be made redundant by a rising carbon price. It remains my view that if there were certainty about the retention of economy-wide carbon pricing at economically and environmentally rational prices, it would be advisable to retain the Renewable Energy Target and to allow it gradually to be made redundant by a rising carbon price. In this set of circumstances, for reasons of business certainty, it would be wise to retain the Renewable Energy Target with the legislated parameters. Many business decisions have been made on the basis of current legislation and changes in the law increase uncertainty about the stability of future policies. Uncertainty raises the supply price of investment and the costs of electricity to users. Change in the law should not be contemplated without compelling policy reasons.

With uncertainty about the future of carbon pricing, the Renewable Energy Target has to play a more central role in the reduction of emissions in the Australian electricity sector. The acceptance of the Renewable Energy Target by both sides of partisan politics in Australia means that it can now provide a more secure basis than politically contested carbon pricing for emissions-reducing investments in the electricity sector. We can look forward to the day when carbon pricing is politically secure in Australia, but the reality now is that no Australian business will take investment decisions on the basis that it is certain to continue, let alone continue with a carbon price that gives comparable incentives for abatement to the current carbon pricing arrangements.

The Authority would be wise to confirm the current legislated quantitative targets, and further to reduce uncertainty by announcing limitations on the range of circumstances under which it would recommend change to the legislated quantitative target in future.

I conclude with a few thoughts on how the legislated target will work over time in reducing emissions.

The general context of the Renewable Energy Target now includes much slower growth in demand for wholesale electricity than had been the experience in Australia before recent years. I discussed the reasons for the deceleration of growth in demand in Update Paper 8 and in Chapter 11 of my 2011 Climate Change Review Update. The largest contribution to reducing demand growth comes from the increase in the price to users of electricity associated with the new approach to Australian regulation of transmission, distribution and retail services that was introduced in 2006. Prices from transmission, distribution and retail services can be expected to continue to rise in the absence of regulatory reform. The increases from transmission, distribution and retail were modestly augmented by carbon pricing in July 2011.

In addition to the reductions in demand induced by higher power prices, demand for wholesale power also fell to some extent as a result of increased investments in insulation of housing and in household photovoltaic systems. Some contribution to reductions in wholesale electricity demand was also made by changes in industrial structure forced by the resources boom and the associated high real exchange rate.

The reductions in demand that follow increases in electricity prices grow over time. In the analysis of economists, the demand for electricity is more elastic in relation

to price in the long run than it is in the short run. As a result, past price increases will have a dampening effect on demand for a number of years into the future even though the continuation of carbon pricing is likely to put some modest downward pressure on prices over the next few years, and even though it is possible that regulatory reform may soon end or even partially reverse the price increases associated with the cost of transmission, distribution and retail services.

There is good reason to hold the view that continued commitment to carbon pricing in Australia and to reduction in greenhouse gas emissions in the world as a whole will lead into a new era of strong growth in demand for electricity in Australia. At some time in the future, the continuation and extension of carbon pricing would be likely to boost demand for electricity through electrification of transport. At some time in the future, the global mitigation effort is likely to lead to renewed investment in energy-intensive industries in Australia as a result of our high potential for generating large amounts of low-emissions electricity at relatively low cost. But these developments are for later years: the immediate prospect is for a number of years of low growth in Australian wholesale electricity demand.

The legislated Renewable Energy Target will ensure that the amount of zero-emissions electricity supplied to the wholesale market continues to grow at a substantial rate when total wholesale electricity demand is growing only slowly. This will keep wholesale prices of electricity lower than they would be without a Renewable Energy Target or with a weaker target. The difference is potentially large over the next half dozen years, before low prices force contraction of some established coal-based generation. This will confer a benefit to consumers in low wholesale electricity prices that has been overlooked in most popular discussion of the effect of the Renewable Energy Target on consumers.

The low wholesale prices will force contraction of relatively high cost fossil fuel power generation. We can see these forces at work in the recent retreat into intermittent generation of one of the high-emissions coal-based generators in South Australia. If carbon pricing remains in place, the contraction of coal-based generation will be biased towards fossil fuel production that is relatively emissions-intensive—coal in general and high-emissions coal in particular. If carbon pricing is withdrawn, there will be no such bias towards withdrawal of more emissions-intensive sources of fossil energy.

The combined effect of the Renewable Energy Target and slow demand growth can now be expected to reduce emissions from the electricity sector at a substantial rate in the period to 2020. The rate of reduction will be faster still if the retention of carbon pricing encourages more rapid contraction of use of lower-emissions than of higher-emissions fossil fuels.

Unlike carbon pricing, the Renewable Energy Target does not favour lower-emissions over higher-emissions fossil fuels.

It does not favour the use of natural and coal seam gas over coal. This represents one reason in principle why a carbon price alone can be expected to achieve a given reduction of emissions at lower cost than a Renewable Energy Target alone. However, in the particular circumstances of Australia in the years to 2020, this reason in principle may be of small practical importance. The large increases in gas

prices that are accompanying the development of a gas export capacity in eastern Australia are greatly increasing the prices offered and the future prices expected of gas for power generation. In these circumstances, the carbon price that is likely to apply is unlikely to be high enough to make a substantial replacement of coal by gas commercially feasible. It is even unlikely that a higher carbon price corresponding to what would meet a global objective of holding temperature increases to around 2 degrees Celsius, would see coal replaced by gas. The rise of Australian gas prices with the emergence of an eastern Australian gas export industry is likely to create circumstances in which a carbon price alone gives rise to a similar three-way division of electricity generation among renewable, gas, and coal, to the three-way division that would arise from a Renewable Energy Target combined with carbon pricing, or to the three-way division that would arise from a Renewable Energy Target alone.

The retention of carbon pricing alongside the Renewable Energy Target is likely to be more important in practice for discriminating in favour of relatively low-emissions coal over relatively high emissions coal.

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