

Chapter 5

Modelling the impact of the RET

5.1 There has been a range of modelling exercises about the RET. As with most modelling of contentious issues that affect costs facing those who commission the modelling, there are conflicting conclusions.

Comparing the RET and the CPRS

5.2 An area where there appears to be a broad consensus from the modelling is that if policymakers were choosing between an emissions trading scheme and the RET as the sole approach to reducing emissions, then the trading scheme would be the less costly approach.

5.3 Some industry groups have quoted some Treasury modelling on the RET:
...as the Treasury modelling shows, the RET achieves potential emission savings at around three times the cost of the CPRS, thereby failing the least cost requirement.¹

5.4 Along similar lines, the Energy Users Association of Australia commissioned some modelling from Access Economics which concluded:

The cost of this abatement [under the RET] is roughly twice the cost of abatement under the CPRS.²

5.5 The Australian Petroleum Production and Exploration Association reported that:

...economic modelling commissioned by APPEA in 2007 showed that the combination of an emissions trading scheme with a 20 per cent renewable energy target is significantly less efficient than an emissions trading scheme in achieving a given level of emissions abatement.³

5.6 There is also some modelling suggesting that the RET is redundant in the presence of the CPRS, as the CPRS, even if it only targets a 5 per cent reduction in emissions, will itself drive the share of renewable energy to 20 per cent by 2020.⁴

¹ Australian Industry Greenhouse Network, *Submission 59*, p 2. A similar statement appears in Business Council of Australia, *Submission 122*, p 3.

² Energy Users Association of Australia, *Submission 67*, p 5.

³ APPEA, *Submission 66*, p 4.

⁴ Dr Helal Ahammad, Branch Manager, Climate Change, Department of Agriculture, Fisheries and Forestry, *Select Committee on Climate Policy Hansard*, 16 April 2009, p 119.

Impact on electricity prices

5.7 A more contentious issue is the projected impact of the RET on electricity prices. The Select Committee on Climate Policy had recommended that:

...the Government consider in detail different claims made about the probable expense of the expanded Renewable Energy Target. Analysis of the different cost estimates should be included in the Regulatory Impact Statement...⁵

5.8 The Department of Climate Change told the committee, drawing on modelling it commissioned from McLennan Magasanik Associates (MMA):

The RET is expected to have a modest impact on electricity prices. ...retail prices are expected to increase on average ... around 3½ per cent above the business-as-usual scenario [in the period 2010 to 2020].⁶

5.9 MMA project that the RET will initially increase wholesale prices, by an average of 3½ per cent over the first five years, but thereafter wholesale prices will be lower than otherwise due to the RET.⁷

5.10 The MMA work is consistent with modelling by Treasury which suggested that a RET could add 2 to 4 per cent to retail electricity prices.⁸

5.11 The Clean Energy Council also give an estimate of an initial increase of around 3 per cent in electricity prices but emphasise that the impact should phase out over time:

...as a carbon price moves in the cost of black energy increases and the value of RECs decreases, so the cost of the scheme decreases. So by 2020, if not earlier, it is quite conceivable that the value of RECs may be zero and the scheme will cost nothing.⁹

5.12 There are also a number of private sector modellers who estimate that the RET will make wholesale electricity prices lower than they otherwise would be. For example, Port Jackson Partners, in a study for the Business Council of Australia, conclude:

⁵ Select Committee on Climate Policy, *Report*, 2009, Recommendation 5, pp 137-8.

⁶ Mr Blair Comley, Department of Climate Change, *Proof Committee Hansard*, 5 August 2009, p 5. The original source is McLennan Magasanik Associates, 'Benefits and costs of the expanded renewable energy target', January 2009, p 6.

⁷ McLennan Magasanik Associates, 'Benefits and costs of the expanded renewable energy target', January 2009, p 39.

⁸ Ms Meghan Quinn, Treasury, *Proof Select Committee on Climate Policy Hansard*, 30 April 2009, p 11.

⁹ Mr Matthew Warren, Chief Executive Officer, *Proof Committee Hansard*, 5 August 2009, p 68.

Although retail prices are higher under the RET scheme (due to the obligation on retailers to surrender RECs), wholesale prices are lower, as...renewable generators typically have low marginal costs, and also because they receive a REC revenue “subsidy” that lowers the revenue they require from the energy market to justify their investment.¹⁰

5.13 This study has particular credibility because it was commissioned by an opponent rather than a supporter of the RET.

5.14 Roam Consulting reach a similar conclusion, and again they are not RET advocates:

Increasing REC generation will depress pool prices below base case levels...the reduction in pool prices will be offset by the cost of RECs to the retailers (due to the necessity of meeting the expanded MRET).¹¹

5.15 A similar conclusion was also reported as being reached in an unreleased study by CRA for the National Generators Forum.¹²

5.16 Mr Upson of Infigen Energy supported these results in his explanation of how the electricity market works:

The electricity price changes every five minutes in the wholesale market. Generators tend to bid to their short-run marginal costs, their incremental costs of generating the next kilowatt hour of electricity. This is the real advantage of renewable energies: the short-run marginal costs are near zero because basically you are just paying for the maintenance of the wind turbine, for example, and the fuel is free. So when you build this new renewable energy-generating plant—and the renewable energy target will facilitate building a lot of electricity-generating facilities—the result is that you have these low-cost, incremental-cost generators bidding very low into the market. Every market is a supply and demand market and if you add to the supply and you keep the demand the same between the two cases, the inevitable outcome is that you are going to reduce the cost. In the case of the wholesale electricity market where you have peak price events, these renewable generators will shave the peak off these peak events and that is why it even magnifies the reduction in pool pricing.¹³

¹⁰ Port Jackson Partners, 'Bringing specific company economic perspectives to bear on the ETS design', in Business Council of Australia, *Modelling Success: Designing an ETS that Works -- How Emissions Trading Can Work for the Environment and the Economy*, p 133. <http://www.bca.com.au/Content/101485.aspx>

¹¹ Roam Consulting, *Roam Insight*, Issue 11, p 38. http://www.roamconsulting.com.au/downloads/ROAMInsight_Issue11FullReport.pdf.

¹² 'An independent study by consultants CRA International last year for the National Generators Forum concluded electricity pool prices would be reduced by 5 per cent if "low cost, short run marginal cost renewables are forced into the generation mix" '; *Herald-Sun*, 13 February 2009.

¹³ Mr Jonathan Upson, Infigen Energy, *Proof Committee Hansard*, 6 August 2009, p 60.

5.17 Other modellers have higher estimates. The Energy Users Association of Australia commissioned some modelling from Access Economics on wholesale prices which concluded:

The RET will cause average energy costs to rise by \$12/MWh by 2020. This is around 26% of the average wholesale electricity price between 2004 and 2008.¹⁴

5.18 Another high estimate is provided by the Institute of Public Affairs, who assert that the RET would increase the average cost of electricity by 10 per cent.¹⁵

5.19 Many of the studies finding larger impacts tend to be from individuals and organisations with less modelling expertise and are also 'worst case' scenarios, as they assume companies are either unwilling or unable to reduce their use of electricity if its price increases and that the cost of RECs is fully passed on from electricity suppliers to their customers.

Impact of exemptions

5.20 Asked about the impact of exempting some industries from the RET, Treasury's Ms Quinn commented:

It is the case with all analysis with CGE models that if you restrict coverage of a particular component, whether it be what part of the economy is faced with an emission price or which elements of the economy are covered by a particular scheme, we find typically that narrowing the scope on which the policy acts increases the economic costs to the economy in aggregate. It obviously has different impacts at the sector level, but narrowing the focus on a particular component tends to raise the aggregate economic costs of any policy.¹⁶

5.21 The Energy Users Association of Australia commissioned some modelling from Access Economics which compared the costs to those companies receiving assistance and those not. As the EUAA note:

These are clearly very stark differences and illustrate the extent to which exemptions have the effect of increasing the costs of the scheme to non-exempt industries...Exemptions – to the extent that any are appropriate – need to take account of the evidence of the impact of those exemptions on the beneficiaries and the payees. It also needs to take account of the fundamental rationale for the RET scheme, and deeper considerations of fairness and efficiency...¹⁷

¹⁴ EUAA, *Submission 67*, p 4.

¹⁵ Alan Moran, Institute of Public Affairs, *Submission 16*, p 3.

¹⁶ Ms Meghan Quinn, Treasury, *Select Committee on Climate Policy Hansard*, 30 April 2009, p 15.

¹⁷ EUAA, *Submission 67*, p 8.

Impact on investment and GDP

5.22 The Department of Climate Change referred to modelling it had commissioned from McLennan Magasanik and Associates:

...the modelling shows that implementation of the expanded RET will, together with the CPRS, drive around \$19 billion in investment in the renewable energy sector in the period to 2020. The modelling also shows that the major impact of the expanded RET will be to bring forward investment in renewable energy generation. In the absence of the RET scheme, the same level of investment in renewable energy generation achieved by 2020 would not occur until 2035 in the reference scenario, which includes the CPRS.¹⁸

The economic cost of the RET above the CPRS is estimated to be small, at around 0.01 per cent of gross national product from 2010 to 2030.¹⁹

5.23 A plausibility check on these results came from a company called to the hearing at short notice because it said it would be heavily affected. Murray Goulburn gave evidence that the RET would cost it about \$2 million a year by 2020, which represents less than 0.1 per cent of its annual turnover.²⁰ It could pass this cost on to its customers for its milk sales. Presumably it will also benefit from the abolition of the Victorian government's VRET. It is hard to imagine the remaining impact which it will need to absorb, offset with efficiencies and abatement or pass back to the supplying farmers would have a significant impact on its overall activity.

Committee view

5.24 As usual with economic modelling, different modellers reach different conclusions based on differing assumptions. In this case, some modellers estimate that the RET scheme will lower electricity prices, some that it will result in modest increases and a few project significant increases. In making an assessment of these results, the Committee has taken into account the professional expertise of the modelling teams; the extent to which their work appears to have been influenced by vested interests; and the extent to which their procedures are transparent and supported by clear economic arguments. On these criteria, the Committee finds most convincing the work suggesting that the RET will not lead to large increases in electricity prices. In turn a modest increase in the relative price of electricity is unlikely to have a significant impact on overall economic growth.

5.25 It is important to remember that the above discussion is about the *impact* of the RET on electricity prices, not about a *forecast* of electricity prices. Electricity

¹⁸ Mr Blair Comley, Department of Climate Change, *Proof Committee Hansard*, 5 August 2009, p 5.

¹⁹ Mr Blair Comley, Department of Climate Change, *Proof Committee Hansard*, 5 August 2009, p 5.

²⁰ Mr Robert Poole, Murray Goulburn, *Proof Committee Hansard*, 6 August 2009, p 5.

prices may well be much higher (or lower) in 2020 than now, due to a range of domestic and global factors that have nothing to do with the RET. Indeed the modelling suggests that other factors are likely to swamp the impact of the RET.