

Take the pressure down

Sorting scare and substance in the renewable energy target debate

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Summary

A Renewable Energy Target (RET) of 50 per cent by 2030 is likely to put downward pressure on electricity prices. There is a large body of research, using a number of different methods, that has looked at the effect of the RET's 2020 target on electricity prices. They have broadly come to same conclusion. Higher rates of renewable energy will not lead to significant rises in electricity prices. In fact almost all the studies looked at in this paper show electricity prices are likely to fall under higher renewable targets. A smaller body of research shows that higher 2030 targets will continue the effect.

The conclusion that the RET will push down electricity prices was reached by the government's own review, led by self confessed climate sceptic Dick Warburton. The government's mounting rhetoric that the RET will push up electricity prices is simply not supported by the available evidence.

It would also seem that the government's rhetoric on the RET is not having an impact on the public. New research shows that increasing renewable energy beyond its current level is very popular in Australia. Polling by The Australia Institute before the Labor Party announced its 50 per cent target, shows that 52 per cent of poll respondents wanted a 50 per cent target or more. A further 34 per cent wanted a target of 30 per cent and only 14 per cent supported no increase to the target.

There was also little support for the government's position that the RET needed to be cut in order to stop electricity prices from rising. Only 17 per cent agreed with the government that a reduction in the RET would decrease electricity prices. Almost half (49 per cent) thought it would increase electricity prices.

There is some research that shows that higher targets for renewable energy by 2030 are also associated with lower electricity prices, including the government's own Warburton review. A University of NSW report shows electricity prices continue to fall even beyond a target of 50 per cent.

This paper looks at 11 studies that looked at the RET's effect on electricity prices. The studies come from many different organisations including Australia's most respected energy modelling firms. Using different models and methods they all reach the same broad conclusion. 10 of the studies found that the RET will decrease electricity prices over time with the remaining one showing increased prices of less than a dollar a week.

The RET is having two distinct impacts on electricity prices;

- It is putting upward pressure on electricity prices because of the requirement for electricity retailers to buy Renewable Energy Certificates (RECs) from renewable generators
- It is putting downward pressure on electricity prices because the new renewable generators entering the market are increasing the supply of electricity in a market with constrained demand

This means while electricity retailers (who most households and businesses buy electricity from) have an increased cost because they have to buy RECs, at the same time they are buying electricity more cheaply from an increasing number of electricity generators.

The final effect on electricity prices is determined by which effect is larger. The modelling indicates that over the next few years it is the downward pressure that will dominate. The cost of the RET is therefore being born by fossil fuel generators, not by electricity consumers.

On renewable energy policy it seems the government is out of step with community expectations and its insistence that the RET will cause significant price rises is at odds with the evidence. Renewable energy and the RET offer an opportunity for Australia to diversify its energy mix and at the same time put downward pressure on electricity prices.

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Introduction

The announcement by the Labor Party at their national conference that if elected they would extend the Renewable Energy Target (RET) to 50 per cent by 2030 has sparked another debate about the effect of the RET on electricity prices.

The Abbott government has blamed the RET for pushing up power prices for households and industry. While such a claim makes superficial sense, the evidence of the RET's effect on electricity prices is very different.

Although the cost of Renewable Energy Certificates (RECs) is passed through to consumers, the RET also pushes down wholesale electricity prices. This is because it increases supply of electricity, when demand is falling. Moreover, renewables have no fuel input costs and therefore run at marginal costs lower than existing fossil fuel generators.

This means that the RET is effecting electricity prices in two different ways, with each of the effects pushing prices in opposite directions. One is pushing prices up (pass through of the cost of RECs) and the other is pushing it down (increasing supply in a contracting market). The final result will depend on which effect is stronger.

The net result, according to many recent studies of the RET, is that it is putting downward pressure on electricity prices for households and industry. Even the government's own RET Review found the RET would likely push down electricity prices.

There have been many studies and modelling exercises done that examine the effect of the RET on electricity prices in recent years. While they use different models and methods they have come to similar conclusions. These conclusions are that the RET will reduce electricity prices over the coming years and that higher targets are consistent with lower electricity prices. They have also found that reducing the target or scrapping the RET will increase electricity prices. This paper will look at those studies.

Senior members of the government including the Prime Minister have made their dislike of renewable energy very clear. After passing legislation through parliament to reduce the RET the Prime Minister went on the radio and said

When I've been up close to these things, not only are they visually awful, but they make a lot of noise¹

He went on to say "I would frankly have liked to reduce the number a lot more but we got the best deal we could out of the Senate."²

Despite this, renewable energy is very popular among the Australian public. An Australia Institute survey in March 2014 found that 86 per cent of people wanted more renewable energy and 79 per cent think the government should support an expansion in renewable energy.³ A July 2015 poll conducted before the Labor Party's 50 per cent RET announcement found that people wanted the 2020 target increased. They wanted a stronger 2030 target and they thought that scrapping the RET would push up electricity prices.

¹ Phillips (2015) *Tony Abbott wants fewer 'visually awful' wind farms, wishes Howard government never implemented Renewable Energy Target*

² Phillips (2015)

³ Grudnoff (2014) *Fighting Dirty on Clean Energy*

Abbott blames RET for increased power prices

In December 2013 Prime Minister Tony Abbott said

We support sensible use of renewable energy and as you know it was the former Howard government which initially gave us the RET, and at the time it was important because we made very little if any use of renewable energy. We've got to accept though, that in the changed circumstances of today, the renewable energy target is causing pretty significant price pressure in the system.⁴

In other words, Tony Abbott thinks having too much renewable energy leads to unacceptably high electricity prices; renewable energy is acceptable only when it remains a small part of the power sector, because then it won't impact on electricity prices. At the same press conference, Minister for Industry Ian McFarlane said the government's 'RET Review' would look at "the cost of energy". "Businesses are facing electricity prices that are more than double" what they were five years before and this "is an issue that has to be addressed."⁵

The government continues to make these arguments. On 4 May 2015, Tony Abbott said

our focus will always be how do we keep power prices down and how do we protect jobs. That's got to be the focus – keeping power prices down and protecting jobs.⁶

Commenting on the Labor Party's 50 per cent RET by 2030, Tony Abbott said

The truly bizarre decision ... constitutes a massive absolutely massive hit on consumers and on jobs because to move to 50 per cent renewables by 2030 will mean a massive bill, perhaps \$60 billion or more, that will have to be carried by the consumers of Australia.⁷

It is important to note at this point that electricity prices have risen dramatically in recent years. This has been mainly due to increases in the distributional costs of electricity, the poles and wires. Distributional costs now make up about half of households electricity bills while generation costs make up between 20 and 25 per cent. While politicians might hope that people will link the recent large increase in electricity prices to the RET, in reality electricity prices have increased for reasons unrelated to the RET.

The popularity of the RET

Despite the government's rhetoric on electricity prices, renewable energy is still very popular. A recent Australia Institute poll found that about 50 per cent of people thought that the 2020 target, which the government had recently reduced, should be increased. When asked about a 2030 target a third thought it should be 30 per cent and another third thought it should be 50 per cent. Only 14 per cent didn't want a 2030 target.

The polling also seems to show that the public has rejected the government's rhetoric that watering down the RET was to help electricity prices. About 50 per cent said that if the RET was scrapped this would push up electricity prices.

In early July 2015, The Australia Institute ran a nationally representative survey of 1408 people about renewable energy. It began with a short explanation of how the RET works and

⁴ Abbott (2013) *Joint Press Conference – Transcript*

⁵ McFarlane (2013) *Joint Press Conference – Transcript*

⁶ Abbott (2015) *Joint Press Conference*

⁷ Owens (2015) *Tony Abbott warns wind farm overbuild will follow Labor's RET*

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then asked about whether it should be changed and what they think this would mean for electricity prices (see Table 1 and 2).

There was strong support for keeping or increasing the RET and little support for cutting it

- Only 1 in 7 thought the RET should be decreased
- 1 in 5 thought it should stay the same
- 1 in 2 thought it should be increased

In other words, people want more renewable energy, not less. They wanted a stronger target not a weaker one.

Table 1 - Increase or decrease the 2020 RET?

In your view should the Renewable Energy Target for 2020 be reduced, kept the same or increased?	
Reduced	14 %
Kept the same	21 %
Increased	47 %
Not sure/Don't know	17 %

Source: TAI (2015) The Australia Institute July Survey – See Appendix 1

The polling also showed that people don't believe the government's claims about the need to cut the renewable energy target to stop it pushing up electricity prices.

- 1 in 2 think cutting the RET means higher prices.
- 1 in 6 think prices will stay the same.
- Only 1 in 6 think cutting the RET will mean lower electricity prices.

In other words, people don't just disagree with the government, but most of them believe the opposite.

Table 2 - How will cutting the RET impact prices?

What impact do you think a reduction in the renewable energy target will have on electricity prices?	
Prices will increase	49 %
Prices will decrease	17 %
Prices will remain the same	16 %
Not sure/Don't know	18 %

Source: TAI (2015) The Australia Institute July Survey – See Appendix 1

This is consistent with previous polling by Essential Media that suggests strong support for the idea that renewables are 'better' for electricity costs than fossil fuels, as shown in Table 3.⁸ More people think renewables are better than fossil fuels for the environment, the economy, jobs and electricity costs.

Table 3 - Essential Poll on renewables vs fossil fuels

	Renewable energy better	Fossil fuels better	No difference	Don't know	Sep 2014 Renewable better	Sep 2014 Fossil fuels better
The environment	69%	5%	9%	17%	77%	5%
Electricity costs	47%	18%	11%	24%	45%	19%
The economy	42%	20%	11%	26%	39%	29%
Jobs	37%	20%	16%	27%	36%	25%

Source: Essential Media (2015)

There is strong economic support for the view held by the public. A number of studies, including for the Government's own RET Review, show how building more renewable energy supply puts downward pressure on wholesale electricity prices.

The Australia Institute poll also asked people about what the 2030 target should be.

- Only 1 in 7 said the target should not be increase to 2030.
- 1 in 3 said it should be 30%.
- 1 in 3 said it should be 50%.
- Almost 1 in 5 said it should be 70% or higher.

Table 4 - What should the RET be in 2030?

The current renewable energy target is around 25% by 2020. Would you support an increase in the renewable energy target by 2030?	
Yes, I think the target should be 30% of renewable energy by 2030	34 %
Yes, I think the target should be 50% of renewable energy by 2030	34 %
Yes, I think the target should be 70% of renewable energy by 2030	10 %
Yes, I think the target should be 90% of renewable energy by 2030	2 %
Yes, I think the target should be 100% of renewable energy by 2030	6 %
No, I do not support an increase in the renewable energy target	14 %

Source: TAI (2015) The Australia Institute July Survey – See Appendix 1

⁸ Essential Media (2015) *Renewables vs fossil fuels*

Since the poll was conducted, Labor has announced a renewable energy target of 50% by 2030. The polling results show that most people support meeting Labor's target or going higher. In fact a majority of people (52 per cent) want a 50 per cent target or higher. Very few support leaving the target at its current level out to 2030.

The RET's effect on electricity prices

The Abbott government has misled the public about the impact of the RET on power prices. The RET has had two main impacts on electricity prices:

- upward pressure from the cost to retailers of buying RECs
- downwards pressure on wholesale prices from the increase in supply from new renewable energy sources

The cost to retailers of buying RECs, as required under the RET,⁹ is currently around three per cent of their costs. More than half of the cost of retail electricity, and most of the recent increases, is due to costs from transmission and distribution – the 'poles and wires'.¹⁰

Less widely understood is that increased renewable energy puts downward pressure on wholesale prices. The Climate Change Authority explained this well in the 2012 review of the RET:

The RET can be expected to exert downward pressure on wholesale electricity prices for two reasons. First, the RET can result in additional supply entering the market earlier than would otherwise have been required to meet demand. Secondly, this extra capacity is likely to be characterised by low marginal costs of production – it sits at the bottom of the supply curve, and means that the dispatch of generators with higher short run supply costs is sometimes avoided.¹¹

The overall impact is the result of both the upward pressure from RECs and the downward pressure on wholesale prices. Numerous recent models have shown the reduction in wholesale prices is likely to be greater than the cost of the RECs over the longer term. That means the RET in fact reduces retail power prices. This was the result of the government's own modelling for the RET Review.

2014 RET Review – the 'Warburton Review'

The Abbott Government set up a review of the RET in 2014, run by a hand picked panel headed by Dick Warburton. The panel commissioned modelling from ACIL Allen. While the government justified this RET Review by saying the RET was pushing up power prices, this was not what the Review itself found.

According to the modelling commissioned for the RET Review, the RET puts downwards pressure on retail prices. It leads to small increases in power prices in the first few years, followed by decades of reduced prices, with a net reduction in prices over time. The Review notes similar results from other modelling exercises.¹²

⁹ Under the RET, retailers are required to surrender a certain number of RECs each year. Renewable energy generators receive RECs when they generate renewable energy. The demand for RECs drives renewables investment. The cost of buying the RECs is passed on to consumers.

¹⁰ AEMC (2014) *AEMC 2014 Price Trends Report*

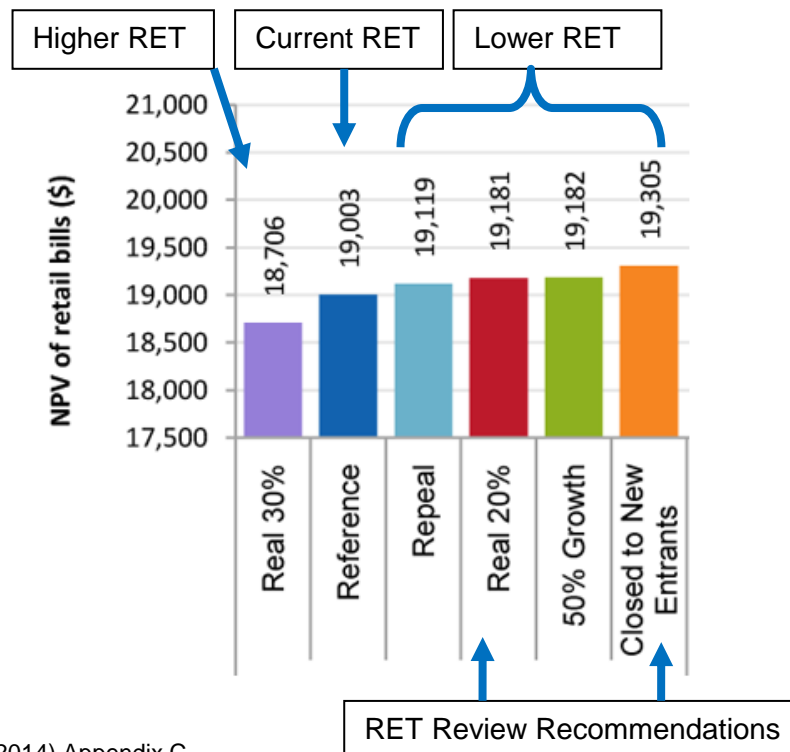
¹¹ Climate Change Authority (2012) *Chapter 2: Performance of the Renewable Energy Target*

¹² RET Review (2014) *Electricity Prices*

In fact, the modelling found that *increasing* the RET would *decrease* power prices, while *decreasing* the RET would *increase* power prices. Yet the RET Review recommended reducing the RET.

The results are shown most clearly in a graph from the end of Appendix C in the report, presented in 1. This shows retail electricity bills for the average household between 2015-2040 under different RET scenarios.¹³

Figure 1 -“NPV¹⁴ of average household total expenditure on electricity (2015-2040)”



As figure 1 shows the lowest prices came from the ‘Real 30%’ scenario. This involved a lower target in 2020 but a higher target in 2030.¹⁵ (There is currently no target for increased renewables to 2030.) The scenarios with the next lowest prices were in the ‘Reference’ or current RET scenario (which at the time was the 41,000 MWh target). The Review recommended changing the RET to a ‘Real 20%’ target or making it ‘Closed to New Entrants’. Both of these scenarios involve a lower RET, meaning less renewable energy, and yet both are projected to push up prices compared to the 41,000 MWh target.

RET is good for renewables and consumers; bad for coal

The RET Review report argues that under the RET, “wealth transfers are occurring from existing generators to both new renewable energy projects and consumers.”¹⁶

In other words, the *RET provides benefits to renewable energy and to consumers, but costs existing coal and gas generators.*

¹³ RET Review (2014) *Appendix C: Executive summary from ACIL Allen modelling report*

¹⁴ ‘NPV’ is ‘Net Present Value’, representing future costs and benefits in one value. The graph shown is for ‘core’ modelling cases. The full graph shows the same RET scenarios modelled assuming other conditions, but the relationship between the RET and power prices is the same in most scenarios.

¹⁵ RET Review (2014) *Options for Reforming the LRET*

¹⁶ RET Review (2014) *Appendix C*

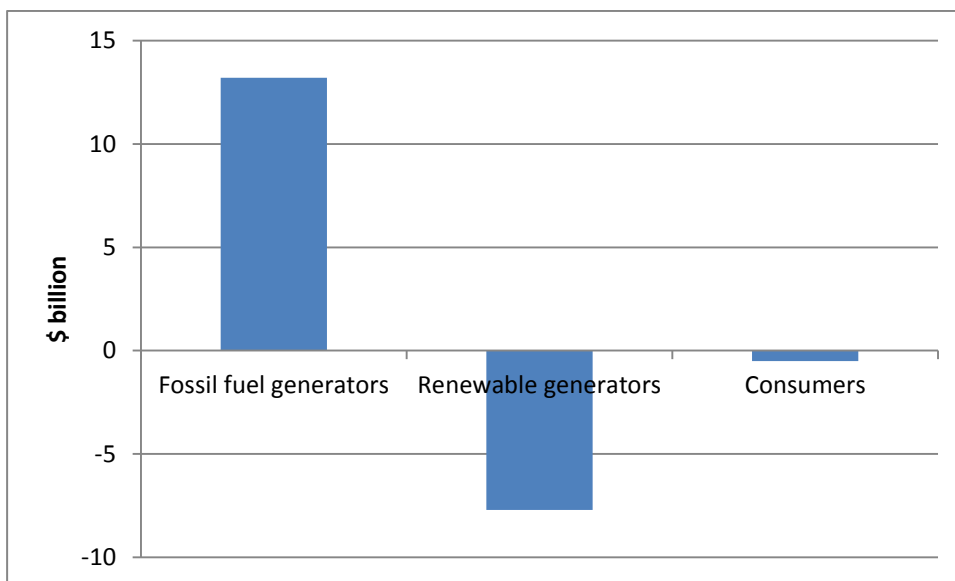
The Warburton review justified recommending changes to the RET that would increase electricity prices for consumers by arguing that fossil fuel generators would be better off. But when the government has spoken about the cost of the RET, they have focused on the cost to consumers, not to generators.

Many other studies of the effect of the RET on electricity prices have come to the same conclusion. This has included Intelligent Electricity Systemes (IES) modelling of the effect on electricity prices if the RET was scrapped.¹⁷ IES found that the biggest winner from scrapping the RET would be fossil fuel power generators. Over 10 years they would gain \$13.2 billion. This is not surprising since the RET is currently forcing down the price electricity generators are getting for their electricity. Scrapping the RET will increase wholesale electricity prices.

The biggest loser from scrapping the RET would be renewable electricity generators. They would lose \$7.7 billion over 10 years. This is also not surprising. Without the income from RECs renewable electricity generators will be receiving less revenue.

The other loser from scrapping the RET will be consumers. They will lose \$500 million over 10 years. This occurs because the scrapping of the RET will reduce competition in the electricity market and increase wholesale electricity prices which will then be passed onto electricity consumers. The results of this are shown in Figure 2.

Figure 2 - NPV over 10 years if the LRET was scrapped



Source: Bannister (2014)

Modelling of 2030 targets

There is extensive modelling on the effects of the original 41,000 MWh RET which will be discussed below. There is some modelling of 2030 targets including by the Centre for Energy and Environmental Markets (CEEM) at the University of NSW.¹⁸

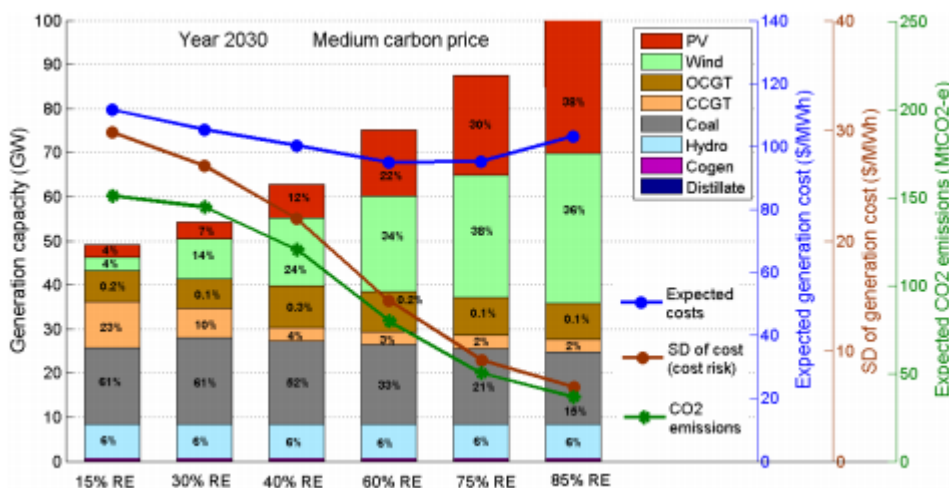
¹⁷ Bannister (2014) *Who Wins and Who Loses from Changing the LRET?*

¹⁸ Vithayasrichareon et al (2014) *Using Renewables to Hedge against Future Electricity Industry Uncertainties – An Australian Case Study*

Their modelling confirmed that electricity prices are likely to fall as renewable energy increases. They modelled 2030 targets of 15 per cent, 30 per cent, 40 per cent, 60 per cent, 75 per cent and 85 per cent.

The results showed that the cost of electricity fell as the 2030 target increased up to a 60 to 75 per cent target. After this point the cost of producing electricity rose. These results are shown in figure 3.

Figure 3 - Installed capacity, expected costs, standard deviation (SD) of generation costs (cost risk) and CO2 emissions of the least cost portfolio in each renewable penetration scenario for 2030



Source: Vithayasrichareon et al (2014)

While the CEEM didn't model a 50 per cent target by 2030 it did show that the cost of electricity with a 40 per cent target was higher than with a 60 per cent target. Both of these were higher than a 15 and 30 per cent target. We can reasonably assume then that the Labor Party's 50 per cent target is likely to put downward pressure on electricity prices.

The CEEM paper did assume a carbon price in 2030. While many consider carbon pricing to be a politically divisive issue at the moment, even the current government is committed to introducing a safeguard mechanism under its direct action plan. This safeguard mechanism is an effective carbon price.

Polling done by the Australian National University of business people found that 79 per cent expect there to be a carbon price by 2020 and 81 per cent by 2025.¹⁹ Any serious efforts to reduce carbon emissions will require some kind of carbon price and it is reasonable to expect that by 2030 Australia will have one in place.

This modelling is also confirmed by the Warburton reviews findings that a 30 per cent target by 2030 would lower electricity costs more than a 20 per cent target by 2020.

Climate Change Authority Reviews

The Climate Change Authority (CCA) is a federal independent statutory body with a legal mandate to review climate change and clean energy policy and provide recommendations to government. By law it must review the RET every two years.

¹⁹ Jotzo et al (2012) *Policy uncertainty about Australia's carbon price: expert survey results and implications for investment*

2012 CCA Review

The CCA first reviewed the RET in 2012. It commissioned modelling from SKM MMA for the review. The modelling showed the RET had increased retail prices by between one and four per cent.²⁰

However, reducing the target going forward – an ‘updated 20%’ target - would reduce renewable energy but with almost no impact on retail prices compared to the existing RET.²¹

2014 CCA Review

The CCA was required by law to review the RET again in 2014. The government commissioned a separate RET Review, run by Dick Warburton. The CCA released its own RET review in late 2014, after the Senate voted against abolishing the CCA.

The CCA noted the Warburton Report’s conclusion that the RET pushes down retail electricity prices. The CCA also noted

Almost a dozen modelling exercises have been conducted on the RET in recent years. While there are differences in approach and input assumptions, they are more notable for their overall similarity than their differences.

The review summarised a range of models:

All exercises show that reducing the LRET improves revenue for fossil fuel generators and that overall impacts on retail electricity prices are modest. Some project retail prices would be slightly lower, and some slightly higher with the abolition of LRET.²²

Deloitte Economics report

As an example of modelling projecting increases to prices from the RET, the CCA cited a 2014 Deloitte Economics study.²³ This report was commissioned by the Business Council of Australia, the Minerals Council of Australia and the Australian Chamber of Commerce and Industry.

The study estimated an average increase of household bills of around \$49 per year or less than a dollar a week. The CCA point out this is an increase of 3 per cent on the typical household bill.²⁴

Giles Parkinson, clean energy commentator and ex-Deputy Editor of the Australian Financial Review, said despite claims that this modelling was going to be “devastating”, the report “produced a damp squib”. He said if the commissioning groups were really concerned about power prices, they would be applying “their modelling and their economic gobbledygook to much greater threats to household bills, soaring gas prices and rising network costs.”²⁵

²⁰ CCA (2012), Renewable Energy Target Review, p.48

²¹ CCA (2012), *Renewable Energy Target Review*, p.156

²² CCA (2014), *RET Review*, p.29

²³ Deloitte Economics (2014) *Assessing the Impact of the Renewable Energy Target*

²⁴ CCA (2014) *RET Review* p.29

²⁵ Parkinson (2014) *The full renewable energy catastrophe: \$1 per home per week*

The Deloitte study was also questioned over the high costs it assumed for renewable energy, and the assumption that renewables would not continue to get cheaper.²⁶ There have been steep reductions in costs in recent years, which many analysts claim will continue.²⁷

Clean Energy Council reports

Analysis of RET Review

The Clean Energy Council (CEC) analysed the ACIL Allen modelling from the RET Review. It confirmed the Review's two recommendations would in fact increase electricity prices:

Any scenario in which the RET is reduced would result in higher power prices for consumers.²⁸

This makes [the review panel's recommendations] at odds with the core focus of the RET review. Based on the panel's own analysis [the current RET policy] should be left alone for the benefit of consumers, investors and the renewable energy industry.²⁹

ROAM Consulting Report 2014

In April 2014, before the RET Review was released, the Clean Energy Council released a report on the RET it commissioned from ROAM consulting. The ROAM report found:

Each Australian household will pay over \$50 more for electricity in 2020 if the Renewable Energy Target is dispensed with. The total cost would be half a billion dollars extra for electricity in 2020 and up to \$1.4 billion extra each year beyond that if the policy is removed. ...

Removing the Renewable Energy Target means more of Australia's electricity will come from coal and increasingly expensive gas-fired power, forcing up both power prices and emissions.³⁰

SKM MMA Report 2012

In 2012, the Clean Energy Council commissioned SKM to review the impact of the RET.

SKM conducted a regression analysis on historical data and found "Retail prices have decreased slightly as a result of the RET".³¹

In addition, SKM modelling showed that in the years to 2030, "retail prices for residential customers will be \$3/MWh lower on average than without the RET."³²

²⁶ McConnell (2014) *How Does The Renewable Energy Target affect your power bills?*

²⁷ Clark (2015) *Renewables ride wave of success as prices fall and spending jumps*

²⁸ CEC (2014a) *Briefing paper: The impact of the RET Review Panel's recommendations on retail power prices*

²⁹ CEC (2014a)

³⁰ CEC (2014b) *New Study shows power prices will be lower with Renewable Energy Target*

³¹ SKM MMA (2012) *Benefit of the Renewable Energy Target to Australia's Energy Markets and Economy - Report to the Clean Energy Council*, p.31

³² SKM MMA (2012) *Benefit of the Renewable Energy Target*, p.5

Other Non-Government Reports

Schneider Electric Report

Schneider Electric is a company that manufactures electricity distribution and management equipment. In 2014, Schneider Electric released analysis of the Large Scale Renewable Energy Target (LRET³³) which found that:

The influence of the LRET is forecast to reduce long-term electricity prices. ...

The scenarios investigated under the LRET in its current form result in lower prices than do the scenarios with a reduced version of or a repeal of the LRET.³⁴

The report also found that “The LRET acts as a hedge against increasing natural gas prices.”³⁵ Domestic gas prices are projected to become more expensive as domestic markets link up with international markets, where gas prices are higher. More renewables means less reliance on gas power.

The report also said “The LRET acts as a hedge against carbon emissions costs and may keep carbon prices lower in the long run.”³⁶ While there is currently no carbon price, a higher RET will reduce the cost of reintroducing such a price down the track.

Intelligent Energy Systems Report 2014

In June 2014, Intelligent Energy Systems published modelling by Hugh Bannister, addressing “Who Wins and Who Loses from Changing the LRET?”³⁷ Bannister notes “the LRET clearly imposes a short and medium term economic cost”.³⁸ However, this does not mean consumers bear all of this cost.

Figure 2 shows modelled impacts of the LRET on the average NSW power bill. Without the LRET, bills are slightly lower in the first few years, but a fair bit higher in later years.

³³ This is the component of the RET currently under debate. The LRET drives investment in large projects, rather than small scale rooftop solar, which is driven by the Small-scale Renewable Energy Scheme (SRES).

³⁴ Noort et al (2014) *Australia's Large-scale Renewable Energy Target: Three Consumer Benefits*

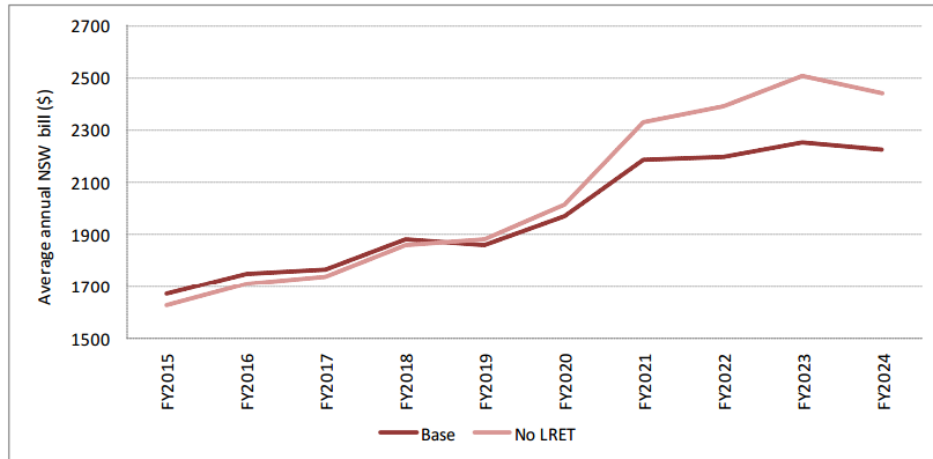
³⁵ Noort et al (2014) *Australia's Large-scale Renewable Energy Target*, p.2

³⁶ Noort et al (2014) *Australia's Large-scale Renewable Energy Target*, p.2

³⁷ Bannister (2014) *Who Wins and Who Loses from Changing the LRET?*

³⁸ Bannister (2014) *Who Wins and Who Loses*, p.3

Figure 2 - Impact of RET on average NSW power bill



Source: Bannister (2014) p.6

Figure 3 shows repealing the LRET would greatly benefit existing thermal coal and gas power stations while costing renewables and over time also consumers.

The '10 Year NPV' column shows the net benefit to different groups over those 10 years. Repealing the LRET would provide almost \$12.8 billion to existing coal and gas generators, but it would cost \$3 billion to existing renewables and prevent \$4.7 in revenue to new renewables.

Yet without the LRET, 'end-users' are also worse off over this period, by half a billion dollars. Costs to consumers rise towards the end of the decade, reaching to \$1.9 billion in 2024-25.

Figure 3 - Revenue to different groups if LRET repealed (\$billion)

Participant Class	FY2015	FY2019	FY2024	10 Year NPV
Existing Thermal	-0.0	2.6	3.9	12.8
Existing Renewable	-0.7	-0.5	-0.1	-3.0
New Thermal	0.0	0.0	0.1	0.4
New Renewable	-0.2	-0.8	-1.3	-4.7
End-users	1.3	-0.3	-1.9	-0.5
Net Impact	0.4	0.9	0.8	5.0

Source: Bannister (2014) p.6

Jacobs Report

In August 2014, the Climate Institute, Australian Conservation Foundation and WWF Australia released a report by Jacobs, modelling the impact of reducing the RET. It looked at two scenarios for cutting the RET. The current LRET is set at 41TWh (41,000GWh) of large scale renewable energy in 2020; Jacobs modelled reductions to 27TWh and to 16TWh. Both resulted in higher retail prices over the coming 15 years. "Retail tariffs generally increase with the lower renewable target due to the impact of wholesale costs outweighing the impact of reduced certificate prices".³⁹ Figure 4 summarises the results.

³⁹ Gerardi (2014) *Impact of Changes to the LRET on Market Participants*, p.25

Figure 4 - Impact on retail prices from reducing RET

	2015 - 2020	2021 - 2025	2026 - 2030
Change in price, \$/MWh			
41 to 27 TWh	2.2	5.9	8.2
41 to 16 TWh	4.7	15.3	18.3
% Change			
41 to 27 TWh	1.0%	2.7%	3.7%
41 to 16 TWh	2.1%	7.0%	8.3%

Source: Gerardi (2014) p.27

SKM Report

In June 2013, SKM released modelling showing

*customers in Australia are on average likely to have a price reduction over the period to 2020 as a result of the LRET, albeit that there may be a modest increase in prices from sometime after 2020.*⁴⁰

The results, summarised in Figure 5, show a range of impacts on electricity prices in different states over various periods.

Figure 5 - Impact of RET on retail prices, SKM Report (\$/MWh, real dollars mid-2012)

Period	With Carbon			Without carbon		
	2011-2015	2016-2020	2021-2025	2011-2015	2016-2020	2021-2025
South Australia	-3.20	-9.74	-4.40	-2.77	-9.16	-7.31
Victoria	-1.34	-7.67	-5.99	-0.05	-7.76	-7.49
NSW	-0.31	1.98	6.30	1.09	2.27	2.68
Queensland	0.00	2.84	5.41	1.48	3.62	3.08
Weighted Average	-0.83	-1.87	1.32	0.46	-1.54	-3.07

Note: negative numbers indicate savings to consumers.

Source: Gerardi et al (2013)

The analysis included 'with carbon price' and 'without carbon price' calculations. Without a carbon price, the RET was projected to reduce retail prices. This is consistent with subsequent models, post-carbon price.

Conclusion

The government has blamed the RET for pushing up power prices and has used this argument in their attempts to cut the RET, saying a cut to the RET will stop it from increasing power prices too much. . The government's argument is that a little renewable energy is ok, but too much renewable energy is too expensive for consumers.

This conclusion is not supported by the evidence. The government's own modelling, and many other models and studies, show that the RET is likely to push down power prices.

It seems the government is more concerned about profits to fossil fuel generators than it is about increasing renewable energy while putting downward pressure on prices.

⁴⁰ Gerardi et al (2013) *Estimating the Impact of the RET on Retail Prices*, p.1

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Appendix 1 – July polling questions on the RET

The Renewable Energy Target drives investment in renewable energy by requiring electricity companies to buy a certain amount of renewable energy each year, with levels increasing over time.

The Government and Opposition recently agreed to reduce the Renewable Energy Target. Under the new reduced target, renewable energy will grow more slowly and Australia will have less renewable energy in 2020.

Q1. In your view should the Renewable Energy Target for 2020 be reduced, kept the same or increased?

1. Reduced
2. Kept the same
3. Increased
4. Not sure/Don't know

Q2. What impact do you think a reduction in the renewable energy target will have on electricity prices?

1. Electricity prices will increase
2. Electricity prices will decrease
3. Electricity prices will remain the same
4. Not sure/Don't know

Q3. Apart from renewable energy companies, who do you think should contribute the funds needed to build extra renewable energy?

1. The government
2. Consumers
3. Businesses that use lots of power
4. Coal fired power generators

Q4. State governments can create their own renewable energy targets to drive extra renewable energy in their own state. Do you support an increased renewable energy target in your own state?

1. Strongly support
2. Support
3. Neutral
4. Oppose
5. Strongly oppose

Q5. The current renewable energy target is around 25% by 2020. Would you support an increase in the renewable energy target by 2030?

1. Yes, I think the target should be 30% of renewable energy by 2030

2. Yes, I think the target should be 50% of renewable energy by 2030
3. Yes, I think the target should be 70% of renewable energy by 2030
4. Yes, I think the target should be 90% of renewable energy by 2030
5. Yes, I think the target should be 100% of renewable energy by 2030
6. No, I do not support an increase in the renewable energy target