



Clean Energy Council policy paper: Industry response to calls for changes to the RET based on reduced electricity demand projections

Industry response to calls for changes to the RET based on reduced electricity demand projections

Background to the 20 per cent Renewable Energy Target (RET)

The RET was introduced by the Howard Government in 2001. This set a target for an additional 9.5 terawatt-hours (TWh) of renewable electricity to be supplied by 2010.

In 2009 the Rudd Government passed legislation, supported by the Coalition and the Greens, to increase the target to at least 20% renewable energy by 2020. It legislated that 45 TWh of additional renewable energy be supplied by 2020.

In 2010 the legislation was changed to split the RET into two separate schemes, the Large Scale Renewable Energy Target (LRET) and the Small-scale Renewable Energy Scheme (SRES). These reforms were supported by the Coalition and the Greens.

Following the amendments, the LRET is required to deliver 41 TWh of renewable electricity by 2020. There is no target for the SRES component, although it was expected to provide at least 4 TWh of renewable electricity. The combination of the two schemes would deliver the 45 TWh required to achieve the 20% target by 2020.

What changes are being called for?

A number of energy companies are now calling for significant changes to the design of the Renewable Energy Target (RET), based on revised assumptions about expected energy demand in 2020 and the roll out of household solar technologies¹.

The original 20% by 2020 target was based on expected electricity demand of 300 terawatt-hours (TWh) in 2020. This would require 60 TWh of renewable electricity to be supplied. Existing renewables, mostly hydro-electricity projects, are expected to supply 15 TWh, with 45 TWh of additional renewable generation needed to meet the 60 TWh target.

Based on analysis by The Australian Energy Market Operator (AEMO)² a number of companies are claiming that electricity demand will now be 250 TWh, or lower, in 2020. They are also forecasting that there will be close to 8 TWh from small-scale systems by 2020. Under this scenario they claim that 64 TWh of renewable electricity will be generated by 2020 equating to 25% of expected demand (250 TWh).³

Based on this analysis they are now calling for the LRET target to be reduced to around 27 TWh to ensure that only 20% renewables is delivered in 2020.

¹ See for example Origin Energy, TRU Energy, Alinta and ESAA submissions to the Climate Change Authority RET Review Issues Paper: <http://climatechangeauthority.gov.au/submissions/received>

² AEMO 2012 National Electricity Forecasting Report

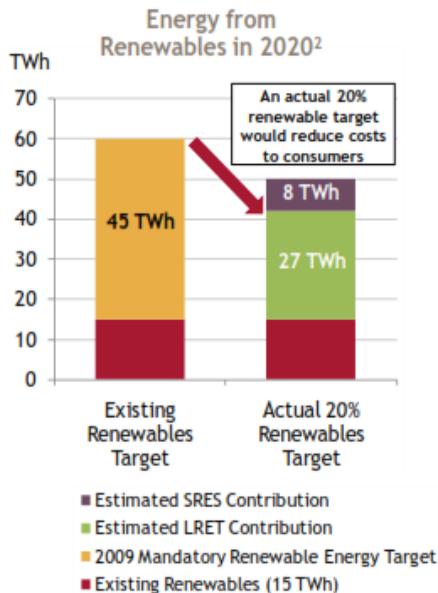
³ In their submission to the Climate Change Authority Origin Energy now assume 245 TWh as the final demand figure in 2020 and 26% of renewable energy.



Clean Energy Council policy paper: Industry response to calls for changes to the RET based on reduced electricity demand projections

These different scenarios are outlined below.

Origin Energy's proposal to change the RET (taken from May 2012 presentation)



- In 2009 the Australian Government set a Renewable Energy Target (RET) for 20% of Australia's electricity to be sourced from renewable energy by 2020
- The RET is a fixed volume target of 45 TWh (in addition to 15 TWh of existing renewable energy)
- Lower 2020 demand forecasts have meant an actual 20% target would result in an LRET¹ contribution of 27 TWh²
- An actual 20% RET would reduce costs passed on to consumers:
 - Reduced requirements for expensive renewable energy generation
 - Reduced network costs
 - Reduced requirements for peaking generation (required due to wind energy intermittency)

(1) Large-scale Renewable Energy Target

(2) Existing RET based on 2009 forecast of 2020 demand of 300 TWh (NEM and non NEM); Actual RET based on Origin's 2020 demand forecast of 250 TWh (NEM and non NEM; Statement of Opportunities latest 2020 demand forecasts is equivalent to 268 TWh when non NEM states are added); Based on forecast of 8 TWh energy contribution from SRES

	Original 2010 RET	Current forecasts	Revised RET ⁴
Expected 2030 demand (TWh)	300	250	250
RET target (TWh)	60	60	50
Existing renewables (TWh)	15	15	15
LRET (TWh)	41	41	27
SRES (TWh)	4	8	8
Total 2020 Renewables (TWh)	60	64	50
% in 2020	20	25	20

⁴Based on Origin's proposal of May 2012



Clean Energy Council policy paper: Industry response to calls for changes to the RET based on reduced electricity demand projections

CEC Response

The CEC does not support any changes to the RET. Since the 2010 reforms to split the RET into large-scale and small-scale sectors, the industry has developed on the assumption that 45 TWh of renewable energy will be needed by 2020, and that specifically 41 TWh of large-scale renewables will be required by 2020.

Over \$10 billion of investment has been made in renewables on the basis of the RET legislation and the 45 TWh target remaining in place until 2030. Any changes to this target will undermine confidence in the industry, puts these investments at risk and creates significant sovereign risk.

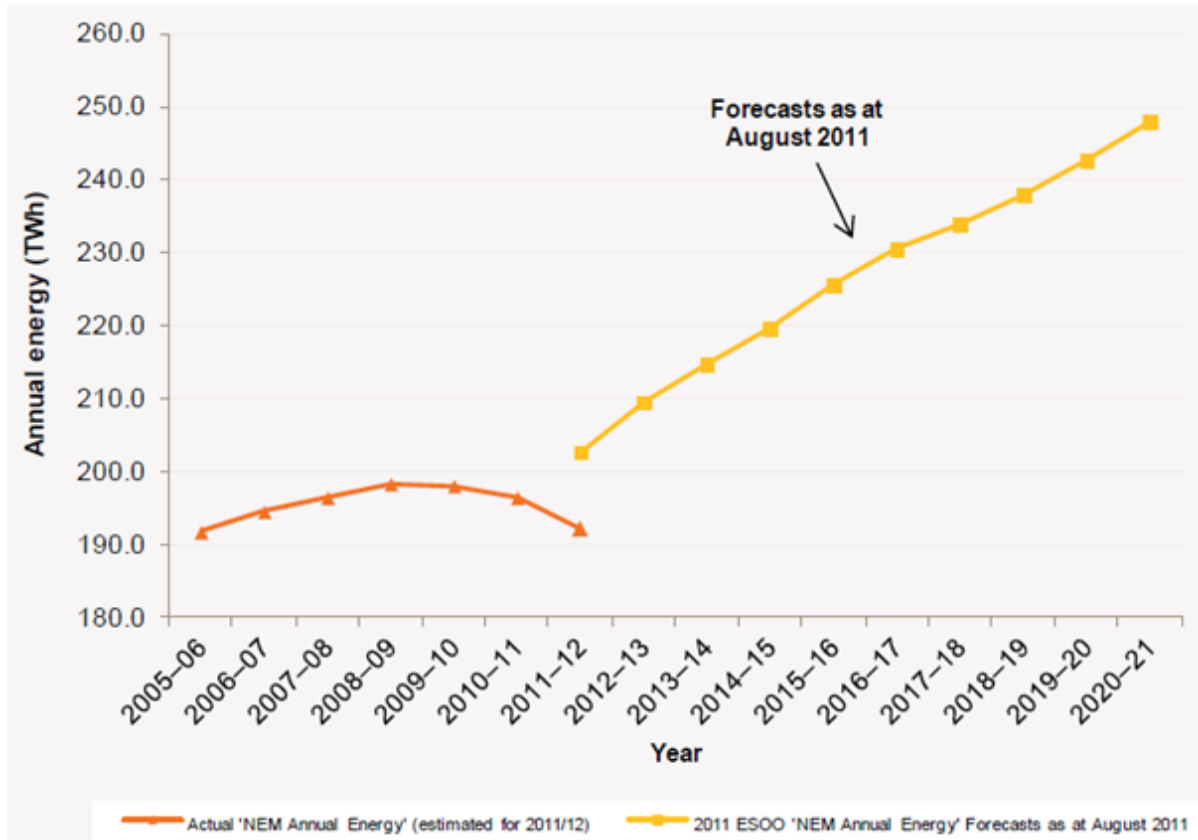
The calls to revise the RET are based on a number of forecasts and assumptions that may turn out to be incorrect.

1. **Electricity demand will be 250 TWh (or lower) in 2020.** This is consistent with recent AEMO forecasts, but these forecasts change every year. As these are only forecasts they cannot be relied upon to provide an accurate indication of demand in future years. As shown below, previous AEMO forecasts have indicated that demand today would be higher than is actually the case.



Clean Energy Council policy paper: Industry response to calls for changes to the RET based on reduced electricity demand projections

Annual Electricity Consumption in the NEM – Actual and forecast (from AEMO 2012)



In addition the recently published Energy Supply Association of Australia (ESAA) document *Electricity and Gas Australia 2012*⁵ has electricity demand in 2020 at 275 TWh. This would require 55 TWh of renewable energy by 2020 to meet a 20% target. The ESAA figure excludes off-grid demand in WA (which is included in the calculation of the RET). Including this would make final 2020 demand 277 TWh requiring around 56 TWh of renewable generation by 2020.

As various experts have noted, average and even peak demand rates in recent years have been much lower than expected, in part because of the impact of the La Nina weather patterns which have resulted in cooler and wetter summers. However, as Professor Mike Sandiford from the University of Melbourne has said, this cycle is temporary and the next few years we may again see a sharp increase in demand:

“Who knows just how many air conditioners there are out there in suburbia that have never been turned on? And that’s the rub for government and utilities. When our weather cycle breaks back into the El Nino conditions and summer temperatures start to soar, who knows what demand we will likely expect?”⁶

⁵ http://www.esaa.com.au/content/detail/electricity_gas_australia_2012

⁶ Prof. Mike Sandiford, The problem in the grid, The Conversation, 16/8/12, <http://theconversation.edu.au/the-problem-in-the-grid-8868>



Clean Energy Council policy paper: Industry response to calls for changes to the RET based on reduced electricity demand projections

It is impossible to predict with any certainty what the level of electricity demand will be in 2020. Further, it is unrealistic to expect the RET legislation to deliver the certainty required by investors if that same legislation changes with every subsequent forecast of electricity demand in the year 2020.

2. **The proposals double count the contribution of SRES.** The AEMO demand figures used to justify a reduction in the RET categorise household scale technologies as a reduction in demand. The proposals to change the RET categorise the contribution of SRES as both reduced demand and generation. Removing the contribution of SRES from the generation side results in 56 TWh of renewable generation in 2020 or 22.4%.

The impact of these changes is shown below

	Original 2010 RET	Current forecasts	Revised RET	SRES removed
Expected 2030 demand (TWh)	300	250	250	250
RET target (TWh)	60	60	50	60
Existing renewables (TWh)	15	15	15	15
LRET (TWh)	41	41	27	41
SRES (TWh)	4	8	8	
Total 2020 Renewables (TWh)	60	64	50	56
% in 2020	20%	25%	20%	22.4%

3. **The forecast that SRES will contribute 8 TWh by 2020.** This may be a feasible assumption under current policy settings, market activity and system pricing, but the household solar market is particularly volatile and has historically been incredibly difficult to forecast with any certainty.

This is indicated by the changes made to the forecast Small Technology Percentage (STP) by the Clean Energy Regulator over the last 12-18 months as the market outlook changed rapidly. These changes are indicated below⁷.

Date of Announcement	Small Technology Percentage %		
	2012	2013	2014
March 2011	6.75	10.62	
July 2011	20.87	6.25	
December 2011	23.95	7.87	
March 2012		7.94	6.10

These figures also indicate the anticipated slow-down in the creation of STCs in future years.

⁷ Clean Energy Regulator: <http://ret.cleanenergyregulator.gov.au/For-Industry/Liable-Entities/Small-scale-Technology-Percentage/stp>



Clean Energy Council policy paper: Industry response to calls for changes to the RET based on reduced electricity demand projections

With the deployment of household solar driven not just by the RET but by State based policies there is no reason to think that this volatility will change in the future and therefore it is not possible to forecast with any certainty what the level of STC creation will be in 2020.

4. Finally, it should also be noted that **the 15 TWh of existing renewables is primarily hydro-electricity generation**. In drought years the level of output from hydro power stations is likely to be lower and means that the 15 TWh from existing renewables is not guaranteed.

Conclusion

The proposals put forward to reduce the RET are based on a number of assumptions and forecasts. It is highly likely that these will turn out to be incorrect. It is therefore highly inappropriate to use these figures as evidence that significant change to the RET is required.

The electricity demand figures in particular have to be considered very carefully. It is by no means certain that electricity demand will continue to soften and stay lower than previously forecast. By 2020 electricity demand could be higher than 300 TWh, meaning more than 60 TWh of renewables would be required to meet the 20% target.