Australian Energy Market Commission

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Mr Dick Warburton AO LVO
Renewable Energy Target Review
Department of Prime Minister and Cabinet

By email: RETReview@pmc.gov.au

Dear Mr Warburton

Review of the Renewable Energy Target

The Australian Energy Market Commission (AEMC) welcomes the opportunity to make a submission to the Expert Panel conducting the Review of the Renewable Energy Target (RET).

The AEMC makes and amends the rules for the National Electricity Market (NEM) and elements of the gas markets. To support energy market development, we also provide advice to the Council of Australian Governments' Energy Council.

The RET is an environmental policy designed to reduce greenhouse gas emissions by encouraging investment in renewable energy generation.[1] The scheme is of interest to the AEMC as it directly influences outcomes in electricity markets, including movements in wholesale and retail prices, and resulting changes to investment incentives and risk allocation.

A key theme of this submission is that energy and environmental policies have different objectives and that it is important they are developed in a manner where any efficiency trade-offs and costs are well understood. Environmental policies that are appropriately designed and integrated can achieve their objectives and minimise costs faced by consumers in energy markets. Evidence from international markets suggests that if this does not occur, the impact on the efficacy of price mechanisms, together with uncertainty and policy risk, will likely require government intervention in otherwise well-functioning energy markets, transferring investment risk and costs onto consumers.

With respect to the current RET policy, our conclusion, which is based on analysis carried out as part of the AEMC's 2014 Retail Price Trends report, is that the target is unlikely to be met. As such, and given the extent of the shortfall payments associated with not meeting the target, we do not consider that the current policy is sustainable.

[1] We note that the RET comprises the large-scale renewable energy target (LRET) and the small-scale renewable energy scheme (SRES). This submission primarily focuses on the effects of the LRET, which is the largest component of the RET policy and directly impacts the NEM.

The overall impact of the RET includes the resource cost of renewable energy investment, the distribution of these costs between consumers and existing generators, and changes to price signals in wholesale and retail markets. The resource cost depends on the size of the RET target and does not change in response to market conditions. However, the distribution of these costs between consumers and generators is subject to changes in market conditions. For instance, when demand growth is flat or falling, more of the cost of meeting the RET falls on existing thermal generators in the form of lower wholesale prices. Conversely, when demand growth begins to rise or existing thermal generators shutdown, the cost of the scheme falls back to consumers.

The RET can also create a separation or wedge between retail prices, which rise due to the cost of the policy, and wholesale prices, which may be lower due to an oversupplied market. Over time, a properly functioning market is likely to be unsustainable when wholesale prices are not informing consumer choices in the retail market.

When contemplating the effective integration of energy and environmental policy, we consider that it is important to design a mechanism to achieve an emissions reduction objective that preserves the means of exchange and allocation of risk in energy markets. In this respect, the following factors are worth considering:

(i) The National Electricity Objective – explicitly accounting for the impact on wholesale and retail prices to reflect the underlying demand and supply conditions in the NEM, any reductions in efficiency in electricity markets and the long term impacts on consumers.

(ii) Sustainable design – investors need a level of confidence that policy objectives can be met and are sufficiently robust to adjust to changes in market conditions. Without this confidence, investment will not be forthcoming.

(iii) Flexibility to adapt – for a policy to be sustainable there needs to be a reasonable opportunity to adapt to material changes in the market and regulatory landscapes, in a predictable and consistent manner. The policy should not be predicted on one view of the future.

(iv) Technology neutral – a policy that allows the greatest number of technology options is likely to minimise costs for consumers.

Taking these into account, and subject to the Commonwealth Government's environmental policy objectives, we consider the following potential options could put the RET on a more sustainable footing:

- Moving the RET to a floating 20 per cent target in 2020, as opposed to a fixed GWh target. This would shift the allocation of demand risk away from consumers and more appropriately to investors, who are better placed to manage such risk and profit from efficient decisions; or
- Transitioning the RET to an emissions intensity based scheme for the electricity sector. Such a scheme could be designed in a number of ways, including where generators below a defined emissions intensity level create certificates that generators above the level are liable to purchase. Retailers and other liable entities under the current RET scheme would not participate directly.

  This type of approach would encourage all lower emissions technology options, not only renewable energy, and is therefore likely to meet any emissions reduction target at a lower cost. The expected cost of the policy would depend on the size of the emissions reduction target and type of low emissions technologies in the generation mix.

  If generally supported, the scheme may contribute to the policy certainty that is necessary to provide industry with confidence to continue to invest in the energy sector.

The AEMC would be happy to assist the Commonwealth Government and RET Review Panel in identifying and analysing the impact of potential policies on energy markets, if requested by the Council of Australian Governments' Energy Council.

The remainder of the submission is structured as follows:

(i) **Section 1: Incentives and risk allocation –** outlines the AEMC's views with respect to the effects of the RET on electricity markets and consumers;

(ii) **Section 2: Competition and price signals –** discusses the importance of recognising potential energy market inefficiencies and costs from environmental policies; and

(iii) **Section 3: Principles for integrating energy and climate change policy –** suggests principles to assist in more effective integration of energy and environmental policy.

If you have any questions or require further information please contact Paul Smith, Chief Executive Officer, on (02) 8296 7800.

Yours sincerely

John Pierce
Chairman

Introduction

The AEMC considers that a consistent and systematic approach to electricity market development is vital to minimising costs for consumers. When undertaking rule changes and market reviews related to the NEM, the AEMC is guided by the National Electricity Objective (NEO).[2] We also have regard to a number of high level principles, including that:

- Competition and market signals will generally lead to better outcomes than centralised planning, as energy businesses have an incentive to meet consumers' needs efficiently;
- Market and regulatory frameworks should provide firms with a clear and consistent set of rules that allow them to independently develop business strategies and adapt to changes in the market; and
- Risk allocation and the accountability for investment decisions should rest with those parties best placed to manage them.

Environmental policies that are appropriately designed and integrated can minimise the costs faced by consumers in energy markets. In this respect, support provided to specific groups should be designed in such a way to maintain appropriate price signals for investment and encourage efficient behaviour. **Box 1** is an unfolding example of how limited policy integration can result in potentially inefficient and costly outcomes for energy consumers.

The AEMC's comments in this submission have been guided by the NEO, the high level principles set out above and relevant international experience.

Box 1: Energy and environmental policy – the United Kingdom

The use of energy policy as a tool to achieve environmental policy goals has resulted in extensive government intervention in what was a competitive, liberalised energy market.

The United Kingdom (UK) has committed to an 80 per cent reduction in greenhouse gas emissions by 2050 (from 1990 levels). To achieve this target, the UK:

- participates in the European Union Emissions Trading Scheme and has legally committed to meeting 15 per cent of total energy consumption from renewables by 2020, but is aiming to achieve 30 per cent;[3]
- is subject to the European Commission Large Combustion Plant Directive,[4] which has resulted in the closure of 7,400 megawatts (MW) of thermal capacity, with a further 4,600 MW set to close before the end of 2015;[5] and
- supports renewable energy generation through a number of policies that provide an incentive for the deployment of large scale renewable energy (predominately wind).

The Department of Energy and Climate Change has estimated that £110 billion is expected to be required to upgrade and decarbonise the UK's energy infrastructure.[6] In this environment, policy and regulatory uncertainty has contributed to a lack of investment and "new challenges to security

[2] In brief, the National Electricity Objective is to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity.
[3] United Kingdom Government 2014, Department of Energy and Climate Change, Increasing the use of low carbon technologies, <https://www.gov.uk/government/policies/increasing-the-use-of-low-carbon-technologies>.
[4] The LCPD aims to reduce acidification, ground level ozone and particles throughout Europe by controlling emissions of sulphur dioxide and nitrogen oxides and dust from large combustion plants.
[5] Ofgem 2013, Great Britain and Northern Ireland National Reports to the European Commission, p. 76.
[6] Department of Energy and Climate Change 2014, Maintaining Energy Security, <https://www.gov.uk/government/policies/maintaining-uk-energy-security--2>.

of supply".[7] In the past 10 years alone there has been five energy white papers completed across three different government departments.[8]

In response, the UK Government has intervened in the market by:

- Subsidising specific generation technologies through contracts for difference. Under this policy, renewable energy generators and eligible nuclear and other technologies will be guaranteed a minimum price for their electricity, such that if pool prices fall below the minimum price, government payments will make up the difference.

  In October 2013, the UK Government agreed a minimum price of £92.50/MWh for a new nuclear project, which is around double current wholesale prices and equates to a subsidy estimated at £800 million to £1 billion per year.[9]

- Implementing a potentially costly capacity market due to short term security of supply concerns.[10] Capacity markets provide a payment to generators for maintaining the ability to generate when called on, irrespective of whether the plant produces. Due to the certainty required by the system operator, generally only thermal technologies, such as gas and coal-fired generators, can provide this service.

Given the scale of government intervention in the UK energy market, it is likely that potential investment in unsubsidised generation will be crowded out by government subsidised generators. Consequently, for the near future UK energy consumers will be exposed to any inefficient investment decisions through potentially higher than necessary electricity prices.

Section 1: Incentives and risk allocation

There are two broad effects of the RET on electricity markets:

(i) Changes in wholesale and retail prices; and

(ii) Impacts on investment incentives and risk allocation.

Changes in wholesale and retail prices

The LRET provides an incentive for investment in renewable energy technology by requiring liable entities (mostly retailers) to source a proportion of their electricity from renewable sources. Eligible generators create large-scale generation certificates (LGCs) that retailers are required to purchase. The certificate price represents a subsidy to renewable energy generators and is paid for by consumers through an additional cost on retail electricity bills. A large proportion of LGCs have been created by wind generators.

Conversely, supporting the uptake of renewable energy generation can be expected to place downward pressure on wholesale electricity prices due to the 'merit order effect'. As wind generation has low variable costs, it displaces higher cost thermal plant in the merit order of generators and effectively shifts the supply curve to the right. For a given level of demand this should place downward pressure on wholesale prices. It is important to note that the merit order effect does not decrease the total cost of the RET; it represents a transfer from existing generators, who receive lower pool prices, to consumers. In effect, a strong merit order effect means a larger cross-subsidy from existing generators to consumers/new renewables. This type of regulatory uncertainty may have implications for investment incentives and is discussed in section 2 below.

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[7] Ofgem 2012, Electricity Capacity Assessment, p. 5, <https://www.ofgem.gov.uk/ofgem-publications/40203/electricity-capacity-assessment-2012.pdf>.
[8] Lambert, R. 2013, UK energy policy restricts growth, Financial Times, <http://www.ft.com/intl/cms/s/0/cf236024-7b51-11e2-8eb3-00144feabdc0.html?siteedition=intl#axzz328N6ieWB>
[9] Dorfman, P. 2013, University College London, quoted in: <http://www.bbc.com/news/business-24604218>.
[10] Department of Energy and Climate Change 2013, Electricity Market Reform Delivery Plan, p. 13.

The two opposing effects of the RET – higher retail electricity bills due to the direct costs of the scheme and lower wholesale prices due to the merit order effect – can cause a separation or wedge between the wholesale electricity price and the retail price paid by consumers. Over time, a properly functioning market that delivers efficient outcomes for consumers is likely to be unsustainable when price signals in the upstream segment of the market are not informing choices made by consumers in the downstream segment.

Assuming no change to the behaviour of existing generators, the net impact for consumers from the RET will depend on the extent to which:

- any wholesale price decreases from the merit order effect are passed on to consumers through regulated or market retail tariffs; and
- the level of exemptions from the scheme, which are estimated at 15 per cent of total electricity consumption,[11] as the cost burden falls on a smaller number of consumers.

Recent evidence indicates that emissions intensive industries, who are exempt from contributing to the cost of the RET, are benefiting from lower wholesale prices, while residential consumers are "paying significant RET pass through costs while not necessarily benefiting from lower wholesale prices".[12]

A key assumption made when analysing the merit order effect of the RET policy is that generators continue to operate as normal. In practice, this is unlikely to be the case over the medium term in an environment of falling demand, continued investment and low wholesale prices; and there have been a number of temporary and permanent power station closures in the NEM over the past 18 months.[13] Any closures are likely to put upward pressure on wholesale prices, offsetting the merit order effect and eventually shifting the costs of the RET back to consumers.

Market modelling results

As part of the 2014 Residential Electricity Price Trends report, the AEMC engaged Frontier Economics to estimate the wholesale cost component of retail energy prices. Given the current uncertainty around the future of the RET, and in order to make the retail price trends as relevant as possible, the analysis also looked at the change in costs of potential variations of the RET policy.

Scenarios that were modelled include:

- No policy change: current LRET target of 41,000 gigawatt hours (GWh);
- RET20: a revised LRET of around 30,000 GWh based on 2013 forecasts of 20 per cent of demand in 2020;
- RET combined: RET20 target with LRET and SRES combined, which due to the contribution from the SRES, falls to around 23,000 GWh; and
- RET capped: the RET target is the level of existing production.

These scenarios were designed to provide a range of potential outcomes. No policy change and RET capped represent an upper limit and lower limit cost scenario respectively, while the RET20 case and RET combined case are two mid-range sensitivities. Assumptions around demand, fuel prices and capital costs represent Frontier Economics' current best estimate of these inputs, with which the AEMC concurs.[14] **Table 1** sets out the modelled scenarios and key inputs.

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[11] Cludis, J., et al., 2014, Distributional effects of the Australian Renewable Energy Target (RET) through wholesale and retail electricity price impacts, Energy Policy, Article in press, p. 6.
[12] *Ibid, p. 1.*
[13] For example, Wallerawang, Yallourn, Playford, Munmorah, Tarong.
[14] We would be happy to discuss these with the RET Review Panel, if requested.

Table 1: RET scenarios and key modelling assumptions

Scenario	RET	Carbon	Demand	Fuel price	Capital costs
No policy change	Current policy (41,000 GWh LRET)	Repeal from 1 July 2014	AEMO 2013 Low	Frontier Economics Base	Frontier Economics Base
RET20	Target revised down to an updated 20% LRET (~30,000 GWh)	Repeal from 1 July 2014	AEMO 2013 Low	Frontier Economics Base	Frontier Economics Base
RET combined	Target revised down to an updated 20% LRET and combined with SRES (~23,000 GWh)	Repeal from 1 July 2014	AEMO 2013 Low	Frontier Economics Base	Frontier Economics Base
RET capped	Capped at the level of existing production	Repeal from 1 July 2014	AEMO 2013 Low	Frontier Economics Base	Frontier Economics Base

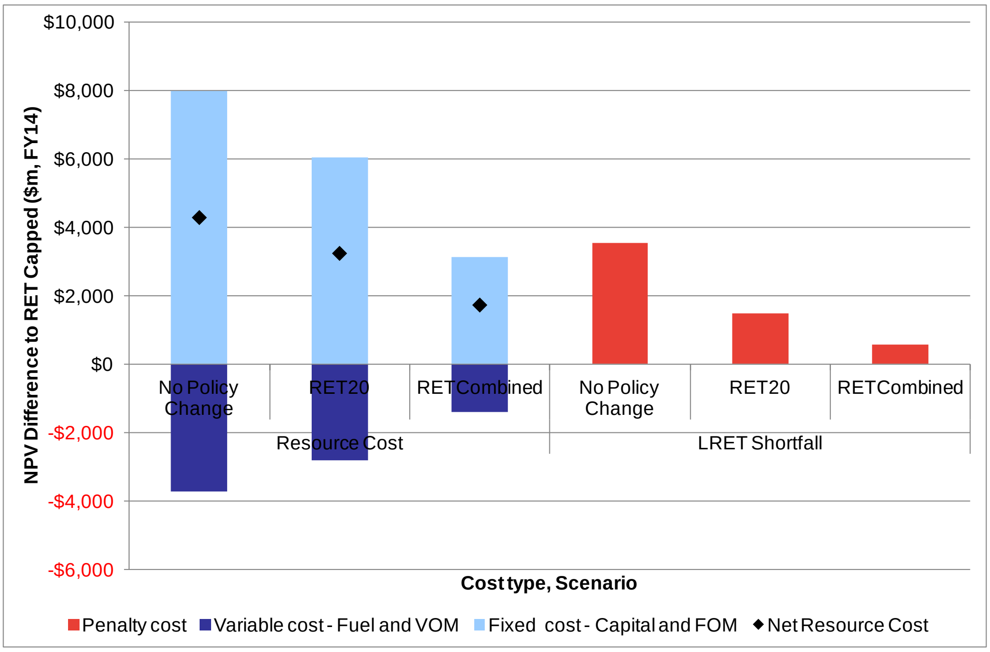
Figure 1 illustrates the incremental cost of meeting the current policy and potential RET scenarios compared to the RET capped case, where the additional cost is zero as no further investment occurs.[15] The resource cost represents the total cost of new renewable investment, less fuel cost savings from reduced output from displaced thermal generation, and including any shortfall charges. The inclusion of shortfall charges (which strictly speaking is a transfer) reflects a proxy of the minimum total costs if the target were to be met (for a true comparison of different targets).[16]

As can be seen in **Figure 1**, the cost of the RET decreases as the size of the target is reduced and less capital investment in renewable capacity is required. The light blue bars represent the total cost of new investment in renewable energy capacity, while the dark blue bars represent the variable cost savings from reduced output of displaced thermal generators, which offset the new capital costs. The black diamond indicates the net resource cost for each scenario. On the right side of the graph, the red bars represent the cost of LRET shortfall charges.

For the No policy change case (41,000 GWh), the cost of the policy in 2014 (including shortfall charges) is estimated to be $7.8 billion higher than in the RET Capped case (16,000 GWh) in net present value terms, this decreases to $4.7 billion more than the RET Capped case for the RET20 scenario (30,000 GWh) and further decreases to $2.2 billion higher than the RET Capped case for the RET combined scenario (23,000 GWh).

[15] This analysis does not take into account the costs of the existing sunk investment from the RET policy.
[16] The resource cost must be higher than the penalty level if the penalty is being incurred.

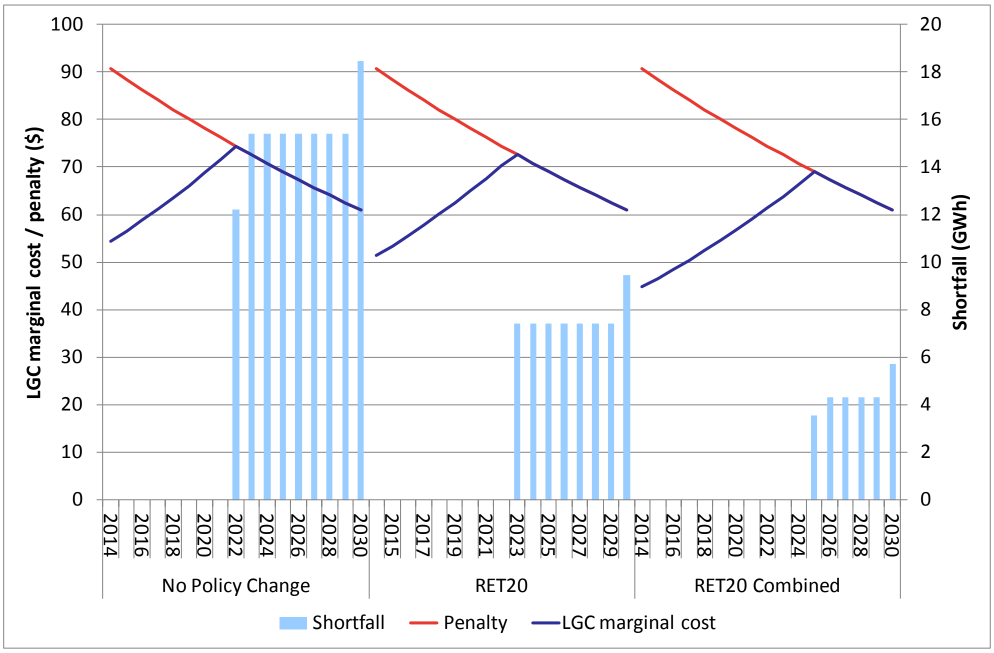
Figure 1: Change in resource cost and cost of LRET shortfall compared to RET capped[17]



The modelling results show that in all cases, other than the RET capped, the targets for renewable energy generation are not met and shortfalls exist. This is illustrated in **Figure 2**. With relatively low demand growth forecast to 2030, and the removal of the price on carbon emissions, wholesale prices fall to a point where it is cheaper for retailers and other liable entities to pay the penalty price instead of buying certificates. This means that under the No policy change, RET20 and RET20 combined scenarios, the RET is not expected to be met.

Shortfall charges paid by retailers and other liable entities to the Commonwealth Government are estimated in net present value terms in 2014 at $3.5 billion under No policy change, $1.5 billion for the RET20 case and $0.6 billion for the RET combined case (also illustrated in **Figure 1**).

Figure 2: Comparison of the level of renewable energy shortfall across the RET scenarios[18]



[17] Frontier Economics analysis.
[18] Frontier Economics analysis.

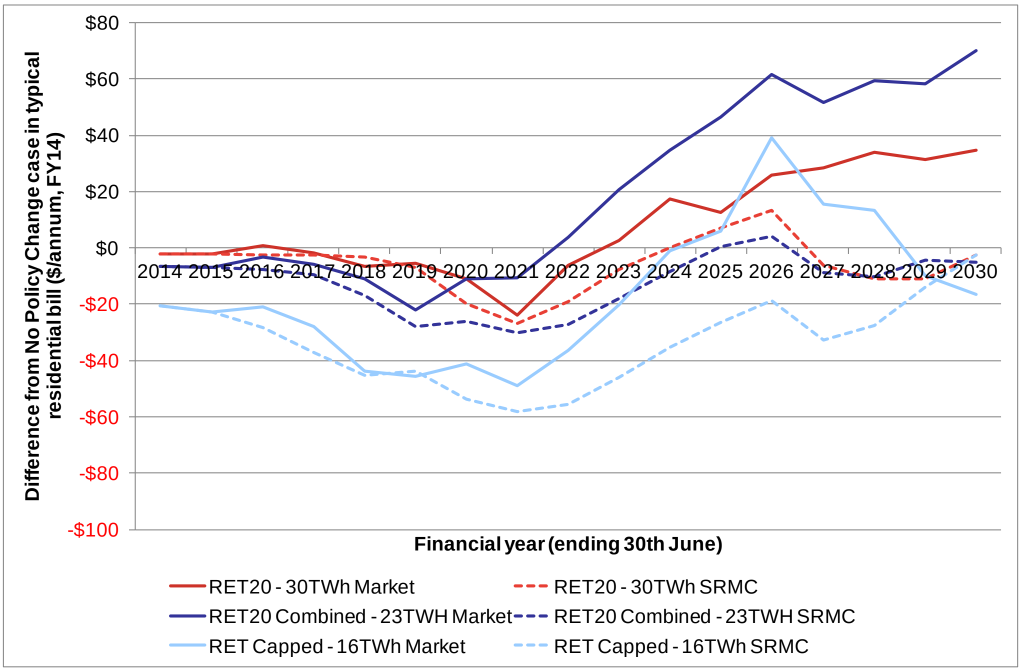
Due to the relationship between demand growth and gas prices, we would expect that in order for the 41,000 GWh target to be met, there would need to be a notable increase in forecast energy demand out to 2020 and gas prices rises at the upper end of current expectations. Higher demand growth and gas prices are likely to mean, all things being equal, that wholesale prices would be higher than in the scenarios modelled. This would bring the cost of LGCs below the penalty price, preventing any shortfall.

In this scenario, as wholesale prices would be higher, the cost burden of the RET would be expected to shift from existing generators to consumers through higher retail bills. Importantly, the resource cost of the policy plus the cost of shortfalls would not change for any given target, all that changes is who pays for the policy – existing thermal generators or consumers.

As discussed above, the net impact of the RET on retail tariffs depends on the extent of any fall in wholesale prices that may offset the direct costs of the scheme. The following analysis assumes that any fall in wholesale prices is passed through to consumers in full. However, for customers on regulated retail tariffs, this will depend on the methodology used in calculating the wholesale component.[19] Customers on market offers may also not see a reduction in wholesale prices in the short term if they have signed a 1-3 year retail market contract.

Figure 3 shows that the average residential bill in New South Wales (NSW) is likely to be lower under all scenarios involving a lower RET than under the current policy (41,000 GWh) at least until 2021-22.[20] This is because a lower LRET target reduces the liability of retailers and other entities to purchase certificates or pay the penalty price, and therefore reduces the cost to customers of meeting the target. It also demonstrates that under the current RET policy the merit order effect is not strong enough to offset the direct costs of meeting the scheme's obligations, which is likely due to the level of renewable energy shortfall.

Figure 3: Difference in a typical NSW annual residential bill from No policy change case[21]



[19] For instance, a long run marginal cost approach is likely to overestimate wholesale costs when the merit order effect is displacing existing thermal plant due to the RET.
[20] The market price is an energy cost based on forecasts of electricity spot prices, taking into account the bidding strategies of other generators. Short run marginal cost (SRMC) is an energy cost based on forecasts of SRMC of electricity, which primarily includes fuel costs.
[21] Frontier Economics analysis; the RET capped case includes grandfathering of existing renewable energy generation under the RET.

While different RET policies have different costs as demonstrated by the modelling, it is also important to consider how a policy such as the RET influences investment incentives on commercial firms and the allocation of risk between participants.

Impacts on investment incentives and risk allocation

Quantifiable changes in wholesale and retail prices are one aspect of the interaction between the RET and electricity market. The other less quantifiable, but equally important, impact is that on investment incentives and the allocation of risk when making investment decisions.

For a renewable energy generator, the certificate price associated with generating 1 megawatt hour (MWh) of electricity should represent the cost of investing in the most efficient renewable energy technology, net of the expected wholesale market price. For instance, if the cost of new entrant wind is $100/MWh and the spot/contract price is $60/MWh, then the implied price of the certificate or subsidy will be $40/MWh. If investment in renewable energy continues to be made in an already oversupplied market, the wholesale price can be expected to continue to fall. However, renewable energy investors will be largely insulated from this impact in the form of a rising certificate price or a price pre-agreed as part of a long term contract with a retailer.

In this respect, the risk of lower prices as a result of an over-supplied market is transferred to existing thermal generators, which may result in temporary or permanent closures. It is extremely difficult for investors in the electricity sector to take these kinds of regulatory risks into account when making investment decisions, as given the long lives of power stations and high level of capital involved, investors require a reasonable degree of market, policy and regulatory certainty. The greater the uncertainty, the higher the risk premium and rate of return, and therefore cost for consumers. If the risk is deemed too high, it is possible that investment may simply not occur.

In the UK and Europe, regulatory risk around government subsidies for certain technologies, and the resultant uncertainty over future prices, has raised a number of reliability concerns as investors have been unwilling to finance new plant. Centrica, a British multi-national energy company, recently opted out of investing in the UK energy sector despite the well recognised need for new capacity, and instead returned £500 million to its shareholders.[22] As outlined in **Box 1**, in response to an expected shortfall in required investment, the UK Government has been forced to intervene in the market and as a result energy consumers will be subsidising the industry for the near future.

The next section discusses the importance of a competitive wholesale electricity market in ensuring efficient investment outcomes and a competitive retail market.

Section 2: Competition and price signals

An objective of introducing competition in the wholesale electricity sector was to decentralise operational and investment decisions away from governments and regulators to commercial parties. Generation businesses may be no better at forecasting the future than were governments, however, the important difference is that equity shareholders bear the cost of overinvestment, rather than consumers. This is a very different way of allocating risk and one which provides very different incentives for efficiency.

Under competition, price signals guide participants as to how they should run their plant, when maintenance should be carried out and when and what type of technology to invest in. Profit, competition and capital market discipline provide incentives to manage risk. Under a regulatory approach, such as a capacity market or through technology subsidies, price signals are weakened and these decisions are taken by a central authority that does not have the same incentives or exposure to risk, which is allocated to consumers.

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[22] Lambert, R. 2013, UK energy policy restricts growth, Financial Times, <http://www.ft.com/intl/cms/s/0/cf236024-7b51-11e2-8eb3-00144feabdc0.html?siteedition=intl#axzz31pOdFFV3>.

In the NEM, the efficacy of the price signal is critical to market participants making efficient decisions. This is because short term dispatch and long term investment decisions are driven primarily by wholesale market prices or derivative prices in the contract market. If prices are influenced by external factors unrelated to supply and demand (e.g. subsidies that favour specific technologies), this can result in an inefficient mix of generation being dispatched. Over the longer term, it can result in an inefficient level of investment in capacity, increasing costs for consumers.

Changes to investment incentives and risk allocation can adversely impact the efficiency and sustainability of the NEM through:

- Increased price volatility and the requirement to increase the price cap to ensure that peaking generators required for reliability can recover their fixed and variable costs;
- Continued closure of thermal plant, which may result in unforeseen system security and reliability implications;
- The possibility of government intervention to ensure sufficient capacity is available due to a lack of investor confidence; and
- Greater vertical integration due to energy market risks that are too costly or unmanageable to hedge against, which may reduce competition in retail markets.

If environmental policy is not effectively integrated with energy policy, the NEM may reach a point where participants do not have the confidence to make investment decisions in response to price signals. This is likely to result in a scenario where government intervention is required, along with the consequent transfer of investment risk onto consumers and the likelihood of higher costs.

Such a scenario would be a move back to government central planning, with taxpayers bearing the risk of overinvestment or underinvestment in capacity, as described in the following extract from the AEMC's 2013 Strategic Priorities for Energy Market Development (see **Box 2** below).

Box 2: Extract from the AEMC's 2013 Strategic Priorities for Energy Market Development[23]

A difference in the way the NEM allocates risk is perhaps the defining feature distinguishing it from the vertically integrated utility industry structure of old, and from 'capacity mechanisms' such as the one found in Western Australia. In the latter, a 'central authority' plans the level of generation capacity required based on its expectations of future supply and demand and retailers are required to secure that capacity bilaterally or purchase it from the 'central authority'. By necessity the costs are passed onto consumers, as are the risks. If forecasts turn out to be inaccurate (and evidence from other jurisdictions suggests this tends to be the case), and there is overinvestment, prices rise and consumers pay for what turns out to be inefficient investment.

In the NEM design, generation businesses, in competition with one another, make these investment decisions. They may be no better at forecasting the future than were the utilities. However the important difference is that over-investment results in lower prices, and that equity shareholders bear the cost of inefficiency – a very different way of allocating risk and one which provides very different incentives for efficiency.

[23] AEMC 2013, Strategic Priorities for Energy Market Development, p. 33.

Section 3: Principles for integrating energy and climate change policies

When contemplating the design of environmental policy and its integration with energy policy, the following factors may be useful to consider:

(i) **The National Electricity Objective** – explicitly accounting for the impact on wholesale and retail prices to reflect the underlying demand and supply conditions in the NEM, any reductions in efficiency in electricity markets and the long term impacts on consumers.

(ii) **Sustainable design** – investors need a level of confidence that the objectives of any policy can be met and are sufficiently robust to adjust to changes in market conditions. Without this confidence, investment will not be forthcoming.

(iii) **Flexibility to adapt** – for a policy to be sustainable there needs to be a reasonable opportunity to adapt to changes in the market and regulatory landscapes, in a predictable and consistent manner. The policy should not be predicted on one view of the future.

(iv) **Technology neutral** – a policy that allows the greatest number of technology options is likely to minimise the costs for consumers.

With respect to the current RET policy, our conclusion, which is based on analysis carried out as part of the AEMC's 2014 Retail Price Trends report, is that the target is unlikely to be met. As such, and given the extent of the shortfall payments associated with not meeting the target, we do not consider that the current policy is sustainable.

Taking this into account, and subject to the Commonwealth Government's environmental policy objectives, we consider the following potential options could put the RET on a more sustainable footing and may be worth considering:

- Moving the RET to a floating 20 per cent target in 2020, as opposed to a fixed GWh target. This would shift the allocation of demand risk away from consumers and more appropriately to investors, who are better placed to manage such risk and profit from efficient decisions; or

- Transitioning the RET to an emissions intensity based scheme for the electricity sector. Such a scheme could be designed in a number of ways, including where generators below a defined emissions intensity level create certificates that generators above the level are liable to purchase. Retailers and other liable entities under the current RET scheme would not participate directly.

  This type of approach would encourage all lower emissions technology options, not only renewable energy, and is therefore likely to meet any emissions reduction target at a lower cost. The expected cost of the policy would depend on the size of the emissions reduction target and type of low emissions technologies in the generation mix.

  If generally supported, the scheme may contribute to the policy certainty that is necessary to provide industry with confidence to continue to invest in the energy sector.

As has been a key theme of this submission, energy and environmental policies have different objectives and it is important that they are developed in a manner where any efficiency trade-offs and costs are understood. Environmental policies that are effectively integrated with energy policy will have a greater likelihood of minimising the costs faced by consumers in energy markets.

In this respect, the AEMC would be happy to assist the Commonwealth Government and RET Review Panel in identifying and analysing the impact of potential policies on energy markets, if requested by the Council of Australian Governments' Energy Council.