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Renewable Energy Target Review
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Dear Authority Members,

EnergyAustralia's comments on the Climate Change Authority's RET Review Discussion Paper

We welcome the opportunity to comment on the Renewable Energy Target (RET) Review – Discussion Paper published by the Climate Change Authority (the Authority).

EnergyAustralia is one of Australia's largest energy companies, providing gas and electricity supply to over 2.7 million household and business customers. EnergyAustralia owns and operates a multi-billion dollar portfolio of energy generation and storage facilities across Australia including coal, gas and wind assets.

Introduction

EnergyAustralia is one of Australia's largest and most committed investors in renewable energy generation, directly and indirectly. The launch of our Climate Change Strategy in July 2007 continues to be underpinned by four key business activities, one of which is 'investing in low and zero emission technology'. The overriding goal of our Climate Change Strategy is to reduce our greenhouse gas emissions by 60 percent by 2050.

Achievement of our Climate Change Strategy is not possible without continued investment in renewable energy generation, which to date has been underpinned by the RET policy framework. It is from this perspective that we have adopted a 'real 20% by 2020' RET policy position.

In EnergyAustralia's view the Authority's modelling actually builds a compelling case for recalibrating of the target, as opposed to maintaining the current RET.

Policy certainty is unquantified

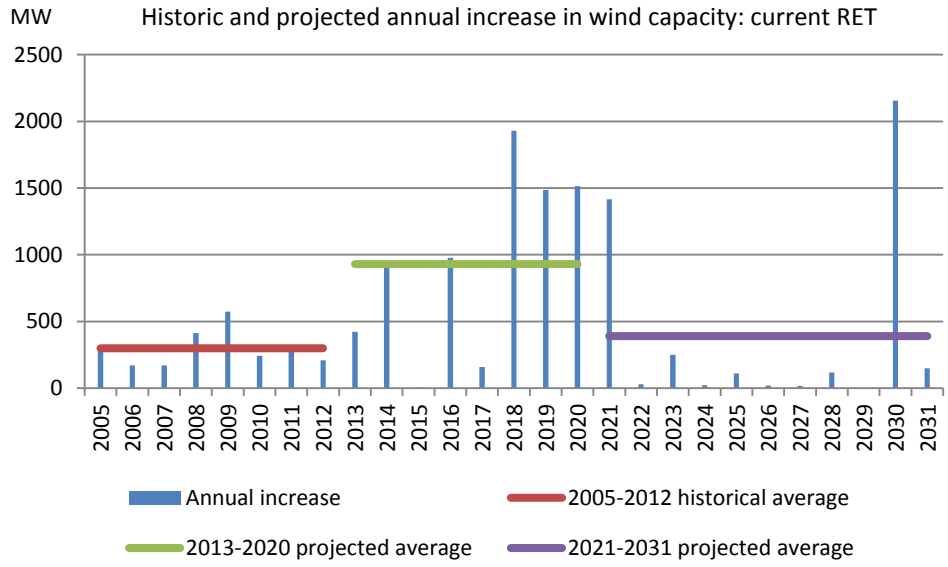
The Authority's position to maintain the current RET is premised on the view that "the expected benefits associated with reducing the target … do not outweigh the costs of heightened perceptions of regulatory risk and associated project risk premiums". While the expected benefits associated with reducing the target have been modelled, the costs of policy uncertainty have not. This amounts to an assertion that the potential costs of policy uncertainty are larger than the potential cost savings from a recalibrated target (which are modelled to be $4.4b in real terms).

The other aspect of policy uncertainty that is not addressed is the extent to which the current RET is unsustainable as a workable policy framework. If reducing the target reduces the risk of policy failure then more radical policy adjustments required to address such failures (including scheme abolition) may also be avoided. In this sense a recalibration lowers overall policy uncertainty by enhancing the actual and perceived sustainability of the RET policy framework.

A recalibrated target achieves the policy goal at lower cost and at a more sustainable pace

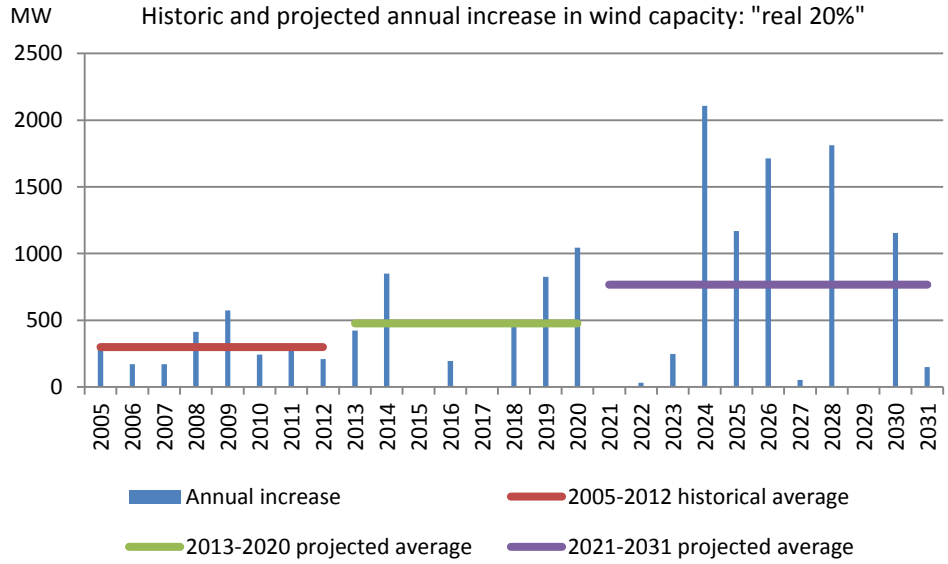
The Authority's modelling literally shows that a recalibrated target would deliver a slighter larger renewable energy sector by 2030 than the current RET would. It also shows that this could be achieved at lower cost to energy consumers and at a pace which is more practical and therefore sustainable.

The pace at which the renewable energy sector is mandated to grow is critical to policy success. Current rates of wind installation in Australia are already testing the limits of community acceptance (at an average of 300MW per year). To achieve the current RET the new build rate for large-scale renewables would have to ramp-up to more than 3 times the current rate (to 930MW per year). The chart below illustrates the dramatic ramp-up required under the current RET from 2013 to 2020 (indicated by the green line).



Source: AEMO and other sources for historical wind. Projections from SKM-MMA Modelling Results spreadsheet, available at http://climatechangeauthority.gov.au/ret

The risk of policy failure is high under such a rapid acceleration in project deployment. If large-scale renewable generation projects fail to be installed quickly enough to satisfy annual RET requirements, the scheme will trigger its legislated penalty. The RET's entire viability will come into question if energy consumers are forced to pay the penalty without delivery of additional renewable energy. Renewable project investors will also be adversely impacted by scheme failure and their confidence in the scheme damaged, perhaps irreparably. The chart below illustrates the more gradual ramp-up in the new build rate required under a recalibrated target (from 300 to 475MW per year).



Source: AEMO and other sources for historical wind. Projections from SKM-MMA Modelling Results spreadsheet, available at http://climatechangeauthority.gov.au/ret

The comparatively smooth ramp-up required under a recalibrated target clearly serves energy customers, renewable investors and policy-makers when the unnecessary risks of policy failure associated with the current RET are considered.

A recalibrated target is more sustainable for the national energy market

An overly ambitious RET has broader implications for the National Energy Market (NEM) sustainability. While the respective designs of the RET and the NEM serve their particular objectives efficiently, an inherent incompatibility between the two becomes problematic as the RET becomes a larger proportion of the NEM. In order to maintain a high level of system reliability, non-firm generation capacity such as wind requires reliable generation capacity such as coal and gas to be available simultaneously (especially in periods of peak demand). An obvious tension arises between the two market designs as the RET's proportion grows, because reliable generation capacity is not explicitly rewarded in an energy-only market and is heavily penalised by a mandated market for renewables.

Conclusion

In EnergyAustralia's view deployment of renewable energy in the NEM should not be a 'race' but rather a well calibrated policy framework capable of contributing to a sustainable broader energy sector in Australia. It is important to stress that having a larger renewable energy sector earlier does not mean that Australia's national emission caps will be any tighter or be met any earlier overall. The design of the Commonwealth Government's Clean Energy Plan's ensures that Australia's contribution to emission abatement will be the same under the current RET and a recalibrated target.

If one accepts the Authority's modelling results as being a basis for policy evaluation, the critical question becomes; why should the community pay more for a policy outcome that could be achieved at lower cost and at lower risk to all stakeholders, including the broader energy market? If the modelling results are rejected, because it is believed that they understate the costs and practical limits associated with achieving the current RET, then these concerns can also be effectively hedged by adopting the 'real 20% by 2020' RET.

It is EnergyAustralia's strong contention that, whether or not the modelling is to be relied upon, pursing a 'real 20% by 2020' RET is unequivocally a better way forward for Australia's energy market. On this basis we urge the Authority to reconsider its draft position, in favour of a recalibrated target.

We thank the Authority for the opportunity to respond to the Discussion Paper. Attached to this letter is our response to specific aspects of the modelling and recommendations in the Discussion Paper. For any questions regarding this submission, please contact Mr Steven Wright, Carbon Regulation Manager, at EnergyAustralia on 03 8628 1183.

Yours sincerely

Signed for email

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Attachment

Comments on the modelling

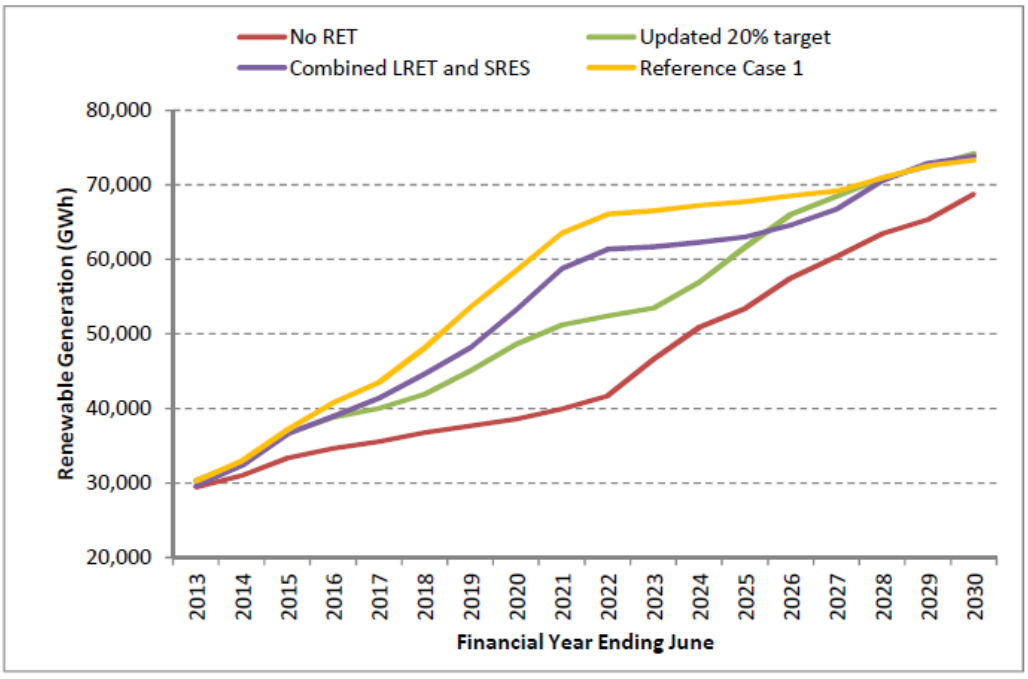
The Authority commissioned electricity market modelling to inform its analysis in the Discussion Paper. EnergyAustralia has several areas of concern regarding the modelling and the extent to which conclusions in the Discussion Paper are unduly underpinned by it.

Our specific objections in relation to the modelling are outlined below.

1. *A fundamental inconsistency arises between the policy implications of the modelling on the one hand and what the Authority is advocating on the other.*

Figure 1 in the modelling report shows a renewable energy sector of about 70,000 GWh in 2030 under each of the scenarios modelled (including the 'No RET' case). The inescapable question then becomes; how can high RETs be preferred to lower RETs given that the resource cost savings from lower RET cases are substantial in the modelling (ranging from $4.4b to $7.8b)? If the modelling is taken literally, the community is best served by having a zero RET from 2013 simply because there will be a similar sized renewable energy sector by 2030 irrespective of the RET.

- **Figure 1 Change in renewable generation development under the various RET cases**



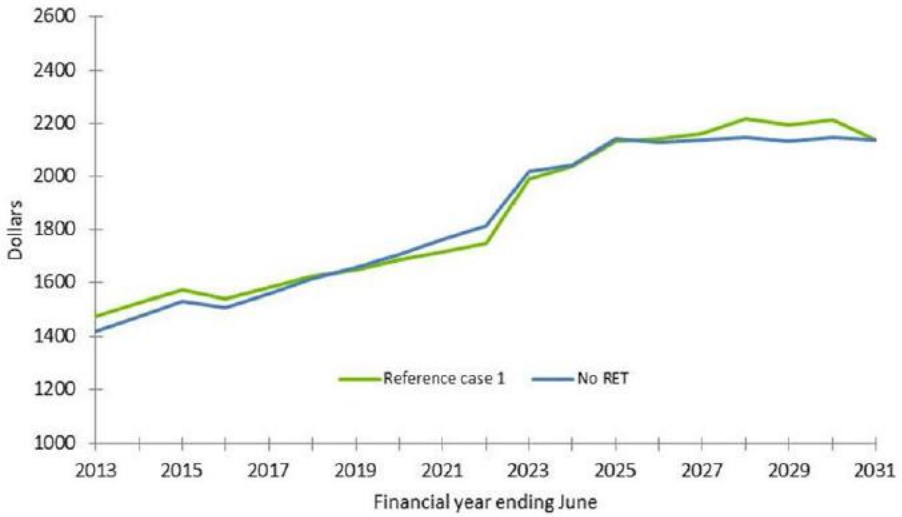
2. *The negligible household bill impact creates the false impression of a 'free lunch' for consumers with regard to deploying additional renewable energy generation capacity.*

Figure 27 in the corrigenda to the modelling shows a household bill impact of a $170 real from 2013 to 2030.[1] The modelling itself does not challenge the fact that the economics of large-scale renewable energy generation technology remain substantially uncompetitive compared to non-renewable energy generation technologies over the period of the analysis. In reality the underlying cost differential (or resource cost) will ultimately be borne by energy consumers notwithstanding the various ways in which these costs can be distributed to existing producers in

[1] ACIL modelling of RET policy options commissioned by EnergyAustralia resulted in a household bill impact 3.5 times larger ($587 real).

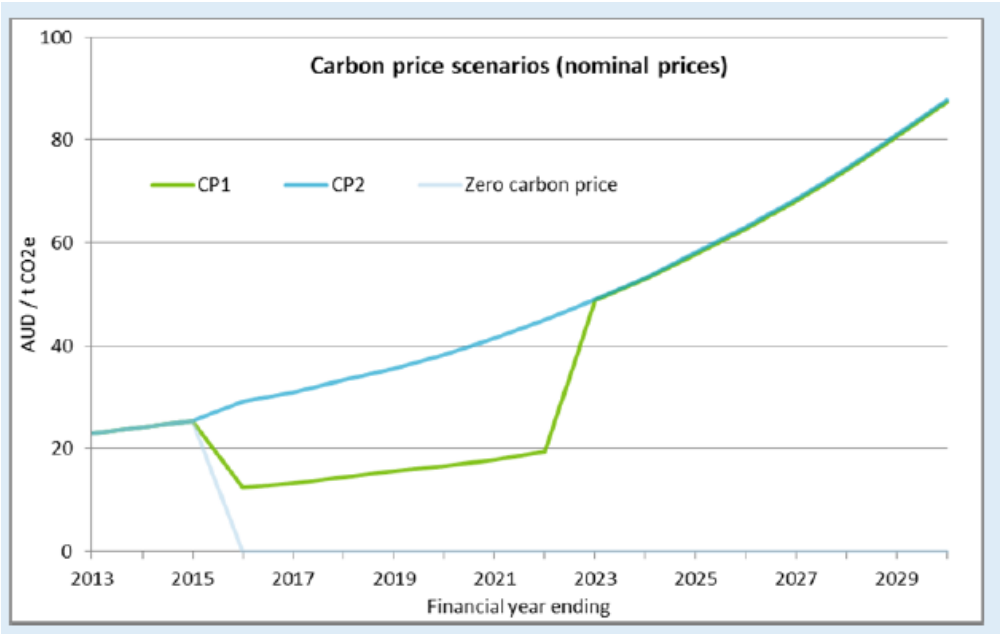
the short term. If consumers don't pay for the cost differential via higher electricity prices initially, then they are likely to face the costs of suboptimal investment and poorer levels of system reliability in the future, as a result.

Figure 27 Household bills under the reference case 1 and no RET scenarios



3. *The relatively high carbon price trajectory from 2022 to 2030 has not been adequately tested against alternative carbon scenarios in terms of its impact on RET policy outcomes.*

Box 6 of the Discussion Paper shows the nominal carbon price more than doubling in one year from $19/tCO2 in 2021-22 to $49/tCO2 in 2022-23 (and exceeding $80/tCO2 in 2030). Using a more gradual and realistic carbon price trajectory between 2020 and 2030 may have yielded a materially different set of RET policy outcomes. For example modelling a lower carbon price would necessarily result in a higher RET subsidy. The maximum LGC price resulting from the modelling was $62 in 2020-21 (safely under the scheme's legislated tax effective penalty in 2020-21). However the modelling is unlikely to avoid triggering the scheme's penalty under a more gradual and realistic carbon price trajectory (higher LGC prices).



4. *Very ambitious volumes of renewable generation capacity are deployed without limitation in the modelling.*

Table 2 in the Discussion Paper shows that 13,636 MW of new renewable generation capacity is required to be built from 2012-13 and 2020-21. It is important to put this new build requirement into perspective with the historical new build rate. Since 2004 about 300 MW of wind generation per year has been deployed and not without considerable community resistance and construction deliverability constraints in some cases. It is heroic, to say the least, to assume a such dramatic increases in new build rates for renewable generation without also factoring in potential technical and policy constraints. Technical constraints would represent the market's ability to build enough renewable generation in time to meet annual targets. Subsequent policy constraints arise in the form of triggering the scheme's penalty and failing to meet the RET target.

5. *Existing coal generation capacity is stable over the period despite substantial deterioration in returns to capital expenditure requirements.*

Figure 20 of the modelling report shows zero reduction in coal generation capacity over the period of analysis despite massive reductions in coal generation output (16.4 per cent for brown coal and 12.7 per cent for black coal by 2022). Moreover the current RET results in wholesale price suppression of $18.8/MWh by 2022. This raises the prospect of existing generation asset owners earning insufficient pool revenue to cover the ongoing capital expenditure requirements. That is to maintain the reliability of their plant (which includes efficiency upgrades etc). System reliability is the likely casualty in an energy system with a growing proportion of non-firm capacity (and consequent pool price suppression) and therefore a greater requirement for firm generation capacity to be available (including ancillary services).

6. *It is not clear how the relationship between: increasing levels of wind penetration; wind generation dispatch correlation; and average electricity spot prices received by wind generators have been modelled.*

The modelling report does not reveal the extent to which average electricity spot prices received by wind generators has been adjusted for the effect of correlation in wind generation dispatch. Wind generators in the NEM receive a discount to the time weighted average spot price (currently in the order of 10 to 15 per cent in South Australia). IES and others have estimated the size of this discount to grow as additional wind farms are added to the system.[2]

Currently there are around 1,200MW of wind generation in South Australia which is about one tenth of the new build requirement under the existing RET (2012-13 and 2020-21). The new build is likely to be concentrated in Victoria and New South Wales, given that: Queensland has limited wind resources; Tasmania has limited demand and constrained export to the mainland; and South Australia is already close to saturation. Concentrating a large volume of highly correlated wind generation in Victoria, which in itself has highly correlated wind generation to South Australia, can only exaggerate the discounting effect. New South Wales has potentially more ability to absorb wind generation but the quantum required can only result in a similar situation there. All regions have highly correlated prices and so even geographic separation will do little to dampen the discount.

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[2] http://www.iesys.com/LinkClick.aspx?fileticket=dvQRguUt6i4%3d&tabid=72
IES, *Insider - 10 December 2010 Issue 011, Wind Energy - Penetration and Spot Revenue,* By Stephen Weston and Yannick Godin.

If the modelling has ignored or under-estimated this discount then pool price returns to wind have been over estimated. Likely consequences for the modelling results are as follows:

- LGC prices (and costs) are too low to finance the new wind build requirement;
- the possibility of triggering the penalty in any given year of analysis is higher;
- the household bill impacts of the RET is understated, especially for larger targets;
- the savings available from moving from the current RET to a 'real' 20 per cent RET are understated (because the effect of correlation in wind generation dispatch is generally less severe lower under smaller targets).

Comments on specific draft recommendations

<u>The large-scale renewable energy target (LRET)</u>

Draft recommendation 1 … that the frequency of scheduled scheme reviews be amended from every two years to every four years, so that the next review would be in 2016.

In general we support less frequent policy review periods and if a "real 20% by 2020" target was adopted then a review in 2016 would be appropriate. We note that providing four years of policy certainty (until 2016) is broadly consistent with EnergyAustralia's preferred approach to achieving a "real 20% by 2020" which is based on providing at least 3 forward years of fixed gigawatt hour targets at any point in the RET's operation.

However if the current RET is maintained then the next review ought to occur in 2 years time to assess any further changes to electricity demand, scheme costs and deliverability of the target.

Draft recommendation 2 … the form of the target should continue to be expressed in legislation in terms of a fixed gigawatt hour level.

A fixed gigawatt hour level target is particularly perverse in what is otherwise a market-based energy system. In the case of the RET it means that when demand falls, signalling the requirement for less capacity, the proportion of high cost generation capacity actually increases.

While the respective designs of the RET and the NEM serve their particular objectives efficiently, an inherent incompatibility between the two becomes more problematic as the RET becomes a larger proportion of the NEM. In order to maintain a high level of system reliability, non-firm generation such as wind requires reliable generation capacity such as coal and gas to be available simultaneously (especially in periods of peak demand). An obvious tension arises between the two market designs as the RET's proportion grows, simply because reliable generation capacity is not explicitly rewarded in an energy-only market and is heavily penalised by a mandated market for renewables.

When forecasts of total energy demand diverge significantly as they have begun to do recently, this potential distortion is amplified to the detriment of non-mandatory generation capacity which by definition incurs lower returns.

Draft recommendation 3 … that the existing large-scale renewable target of 41GWh and interim targets should be maintained in their current form.

The Authority's position to maintain the current RET is premised on the view that "the expected benefits associated with reducing the target … do not outweigh the costs of heightened perceptions of regulatory risk and associated project risk premiums". While the expected benefits

associated with reducing the target have been modelled, the costs of policy uncertainty have not. It amounts to an assertion that the potential costs of policy uncertainty are larger than the potential cost savings from a recalibrated target (which are modelled to be $4.4b in real terms over the period of analysis).

The other aspect of policy uncertainty that is not addressed is the extent to which the current RET is unsustainable. If reducing the target reduces the risk of policy failure in the future then more radical policy adjustments to address the failure (including scheme abolition) may also be avoided. In this sense a recalibrated target lowers overall policy uncertainty by enhancing the actual and perceived sustainability of the RET policy framework.

The Authority's modelling literally shows that a recalibrate target would deliver a slighter larger renewable energy sector by 2030, than the current RET would. It also shows that this could be achieved at lower cost to energy consumers and at a pace which is more sustainable.

The pace at which the renewable energy sector is mandated to grow is critical to policy success. Current rates of wind installation in Australia are already testing the limits of community acceptance (at an average of 300MW per year). The modelling shows that to achieve the current RET the new build rate for large-scale renewables would have to ramp-up to more than 3 times the current rate (to 930MW per year).

The policy risk arising from such an acceleration is that large-scale renewable generation projects could not physically be installed quickly enough to satisfy annual RET requirements. The RET's entire viability will come into question if energy consumers are forced to pay the scheme's penalty without delivery of additional renewable energy. Renewable project investors will also be adversely impacted by scheme failure and their confidence in the scheme damaged, perhaps irreparably. The chart below illustrates the more gradual ramp-up in the new build rate under a recalibrated target (from 300 to 475MW per year on average).

The comparatively ramp-up required under a calibrated target clearly serves customers, investors and policy makers when the risks of policy failure are considered.

Draft recommendation 4 … that the Renewable Energy Target Review in 2016 is an appropriate time to consider adjusting the targets beyond 2020 in light of the policy and economic conditions prevailing at the time

We note that this approach exposes investors to greater "regulatory risk and associated project risk premiums" than EnergyAustralia's preferred approach to achieving a "real 20% by 2020". The 'gateway' approach outlined in EnergyAustralia's previous submission exposes investors to annual adjustments beyond three years of fixed targets, which is designed to protect projects in the investment 'pipeline' (which has about a three year lead time).

The approach being proposed in the Discussion Paper exposes investors to a potentially abrupt and cumulative target adjustment after 3 or 4 years of changes in total energy demand without any protection of the 'pipeline of investments'.

<u>The small-scale renewable energy target (LRET)</u>

Draft recommendation 5 … that the Small-scale Renewable Energy Scheme should remain separate to the Large-scale Renewable Energy Target.

It is important to emphasise that, in the absence of network tariff imbalances that currently exist in favour of small scale technologies, it becomes difficult to justify maintaining the separation of SRES and LRET.

Under current network tariff arrangements the majority of small users face retail prices where the variable network component does not accurately reflect the avoidable costs associated with the energy displaced from the grid by output from solar PV. Consequently without the restructure of retail pricing small customers are afforded an implicit subsidy that favours small scale PV over large scale systems.

If this distortion were to be eliminated, combining SRES and LRET and allowing the least cost mix of renewable energy technologies to be deployed would clearly be desirable.

Draft recommendation 7 … that the price cap remain fixed at $40, to be reassessed once there is some experience of the scheme's operation in the absence of the multiplier.

For reasons of investment certainty, if the price cap were to be adjusted, it is important that market participants are given advanced notice of any adjustment of at least one compliance year.

Draft recommendation 8 … that discounting of the number of certificates to be created in respect of each megawatt hour be provided to allow the Minister to control the cost of the SRES and ensure the subsidy level is appropriate.

For reasons of investment certainty it is important that market participants are given advanced notice of any discounting to the multiplier of at least one compliance year.

Draft recommendation 10 … that the clearing house should be amended to a 'deficit sales facility' whereby new certificates may only be placed on the transfer list when the clearing house is in deficit.

The pre-existing stock of listed certificates would need to be addressed as a part of any transition from current clearing house arrangements to the proposed deficit sales facility approach. One way to address this issue is to ensure that pre-existing certificates are effectively cleared from the 'clearing house' before the 'deficit sales facility' is operational.

<u>Liability and exemption framework</u>

Draft recommendation 12 … that large electricity consumers should be able to opt in to assume direct liability for Renewable Energy Target Obligations. The Authority will consult further with participants and the Clean Energy Regulator on a workable model for opt-in arrangements.

Consultation on what constitutes a workable model for opt-in arrangements necessarily includes addressing issues faced by both the energy consumers and retailers. Of particular importance will be a set of administrative arrangements that enables a smooth transition of liability from one party to another. For example, large consumers electing to 'opt-in' will need to be able to ascertain their RET liability parameter before the relevant compliance year commences. A situation where contracting parties are forced to rely on liability parameter 'estimates' (as opposed to 'actual' parameters) due to regulatory timetables that are poorly aligned with compliance years, would be administratively inefficient.

Draft recommendation 14 … that the renewable power percentage and small-scale technology percentage be required to be set prior to a compliance year, and preferably by 1 December of the preceding year.

EnergyAustralia strongly supports setting the renewable power percentage and small-scale technology percentage by 1 December of the previous year, at the very latest. This avoids unnecessary (and inevitable) estimation errors and associated costs due to regulatory parameter setting cycles that fail to align optimally with the compliance year.

Draft recommendation 18 … that Partial Exemption Certificates should be tradeable and made usable by any entity to reduce liable electricity acquisitions.

Again it is important that regulatory parameter setting cycles are aligned optimally with the compliance year. Ideally energy retailer/EITE contracting activity for a given compliance year will factor in the expected value of PECs and the party best able to acquit the RET obligation will accept the liability etc. However uncertainty around the number of PECs to be received will make this process less efficient. Under the current arrangements EITE businesses are only issued (have certainty over) their allocation PECs in October of the given compliance year to which the PECs apply. For efficient trading of PECs EITEs require certainty of their allocation of PECs prior to the compliance year in which they are to apply. December 1 of the previous year would allow energy retailers/EITEs to value and trade PECs optimally.