



Energy Security Board

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Submission to Energy Security Board on the Draft Detailed Design Consultation Paper on the National Energy Guarantee (15 June 2018)

The REC Agents Association (RAA) is a national industry body representing companies that create and trade in renewable energy certificates.

We are extremely concerned in the manner that the detailed National Energy Guarantee (NEG) has been developed. We believe that the choices that the ESB has made in the way the emissions component of the guarantee are to be implemented are not in the public interest.

We believe that the NEG as proposed is discriminatory, anti-competitive, lacks transparency and just locks in many of the poor practices that the recent ACCC report on Electricity Pricing has uncovered. We have outlined our concerns in the attached detailed response and believe that these can be readily rectified.

We believe that it is extremely important that the ESB achieves community and stakeholder support for the NEG (other than just current industry incumbents and the commonwealth government) in order to deliver long term on its potential.

We would like to particularly draw the ESB's attention to the analysis that we have undertaken on how the NEG emissions targets are to be met (Attachment 1 of our submission). Given the significant level of large-scale renewable energy projects that are under construction, are contracted or subject to tendering initiatives the level of emissions from the NEM will be significantly lower than the proposed target over the next 2 to 8 years. This has major ramifications for the design of the initiative and the level of windfall gains that the ESB might unwittingly bestow on a small range of market participants.

We have been keen to support the NEG as a means break the toxic policy deadlock in the electricity sector. Unfortunately if the NEG is implemented as your detailed design suggests it will not be worthy of support as it will ensure that any greenhouse reduction outcome delivered is worse than doing nothing.

We are happy to further discuss our proposed changes with your team as you see fit

Yours sincerely

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A summary of the REC Agents Association's concerns and suggested solutions are set out below:

1. **ISSUE: Abatement from roof-top solar is expropriated** - the emission reductions flowing from producing your own power from rooftop solar PV are assumed not to exist and if they do, they belong to your electricity retailer;

The current NEG design, has changed its treatment of roof-top solar and now proposes:

Rooftop and other small-scale solar PV will be captured by adding the net exports from PV installations to the relevant market customer's load, and will also be automatically allocated to that market customer in the registry as zero emissions generation.

The way that the NEG, as now proposed, will work is that the portion of solar PV generation that is self-consumed by the owner of the system will be for all intents ignored by the NEG as worthy of being recognised and rewarded for its abatement. Meanwhile the abatement delivered by the exported electricity will be automatically bestowed to the electricity retailer and the system owner will not be allowed to sell this to someone else who may offer a better price, or home owner may in fact want to voluntarily surrender the abatement.

The ESB is discriminating against "behind the meter" generation and failing to recognise the contribution that households and businesses are making when they install solar and reduce emissions. Contrast this to the same solar panels that might be installed in a paddock, the emission reductions will be generated and able to be unbundled from the electricity and sold separately.

The impact of this approach is to dis-enfranchise residential and business consumers. In addition, Rooftop solar PV installed behind the consumer's meter is one of the lowest cost options to meet any government emission reduction target.

At present residential consumers are estimated to self-consume approximately 25% of their generation, although if batteries or electric vehicles become commonplace this could rise dramatically. For commercial installations, which represent about 30% of capacity and growing, they often consume all the generation. Indeed in many cases businesses are not allowed to export solar generation by the electricity network.

At present roof-top solar systems less than 100kW qualify for STCs. Behind the meter solar systems greater than 100kW must register as power stations and create LGCs, as do larger solar systems installed in paddocks.

A summary of how different solar installations are treated are set out in the Table below.

	Number of Systems	Capacity MW	Capacity Post 1997 MW	Current Scheme	Eligible for NEG MW
SOLAR PV					
Rooftop systems (<100kW)	1,880,871	6,993	6,993	SRES / STCs	no
Small Power Stations (<5MW)	410	145	145	LRES/ LGCs	no
Utility Scale Power Stations (>5MW)	20	797	797	LRES/ LGCs	797
Total Solar	1,881,301	7,935	7,935		797

Note: nearly all of the small power stations are “behind the meter” and are not eligible to participate in the NEG. There are however a very small number of small power stations (less than 5 MW in size) that are in-front of the meter and would be eligible to participate in the NEG (less than 15 MW in total).

Some may point out that behind the meter solar are eligible for financial incentives via LGCs or STCs. LGCs will be worthless soon after the NEG commences due to double dipping which is expanded upon under point 5 below. STCs decline every year and over time will be worthless. The NEG is purported to be the primary policy mechanism to drive emission reductions from electricity generation beyond 2030 when the Renewable Energy Target ceases. To avoid double counting the owner of the system should be able to opt in to the NEG and if they do then they should cease to be eligible for creating STCs or LGCs. There should be no discrimination based on either size or connection characteristics.

To improve customer outcomes and encourage their participation in the market, system owners should not be corralled into contracting with Electricity Retailers only. The recent ACCC report on Electricity Pricing has highlighted a number uncompetitive and confusing practices of Retailers. To provide a robust and competitive market there should be no impediment to unbundling of the electricity and abatement services that are provided by renewable generation and there should be no impediment to the ability of other Market Players to contract for and carry forward abatement.

Proposed change:

To be technology neutral the NEG needs to recognise low emission generation even if it is small-scale. Solar panels reduce emissions just as effectively when installed on a residential or small business roof as when installed in a paddock.

Any participant should be able to register the abatement, it should not be limited to only retailers. This participant (just as we do with LGC generation from behind the meter installations) will use approved metering technology (just as the Clean Energy Regulator already specifies) to measure the gross generation of behind the meter generating systems and the NMI data to measure the exported generation. They will submit to the regulator the amount of generation from the solar system in its entirety for registration in the registry with the regulator then making the participant the owner of this generation in the registry. In addition, the NMI measure of the exports will be deducted from the gross generation to also record a NEG emissions liable load for that same participant.

Given the small size of these systems it need not be mandatory for all of them to participate in the NEG, instead it would be handled on a voluntary opt in basis.

Generators that are contracting their generation through the NEG should not then be able to also generate STCs or LGCs. This ensures that there is no “double dipping” and

that the NEG only supports new investment. Electricity Retailers would be able to use the LGCs that they surrender (if the generators are in the NEM) to meet their emissions liability under the NEG.

This will also go some way towards addressing AEMO's problems over lack of visibility of embedded generation.

- 2. ISSUE: Independent Renewable generators are discriminated against** – Under the ESB's proposed design if a renewable generator does not wish to sell its low emission generation to a retailer by the end of the year then it will be fined and have the low emission abatement entitlements associated with that electricity confiscated and handed to retailers free of charge.

Due to the proposed NEG design to have the liability tied to matching up load with generation, it is not possible for generators or anyone else to bank emission generation in the registry from one year to the next. As an example, if a solar farm were unhappy with the price retailers were willing to pay to get the abatement benefit from your generation in a year and wanted to hold onto it to wait for a better price in a year's time it would have to become an electricity retailer.

While that itself is a significant (and in fact unnecessary) administrative burden it still doesn't get you out of the of being forced to sell your generation abatement benefit even if the price is unsatisfactory.

The ESB paper states,

In the event that a market customer has an over-allocation of generation against its load after the compliance year it would be assigned a deemed emissions intensity for the over-allocated amount. The deemed emissions intensity will be set at the level of the highest emissions intensity generator in the NEM. In addition, the market customer would face a civil penalty.

"Overallocation" essentially means that at the end of the year you are holding more megawatt-hours in the NEG registry than your liable electricity consumption for the year. So if you went through the hassle of becoming a retailer, unless you simultaneously capture some customer load as large as the amount of your generation, you'll find yourself with left over generation in the registry. At which point you won't just have that low emission generation forcibly taken away from you to help other retailers comply with their emission obligations, you'll also be fined to boot.

This clearly acts to hand power away from independent renewable energy generators to large vertically integrated retailers.

These big retailers can then snap up your abatement at a discount and then they will be allowed to bank any excess emission credits they might accumulate to use or even sell to someone else later at a higher price if they please.

We do not understand what possible benefit there may be in making this so restrictive? Why can't anyone, not just retailers convert their low emission generation into a bankable emission credit in this market?

Under the proposed design the ESB is gifting Retailers massive windfall gains as they can bank emissions – particularly in the early years when the actual NEM Emissions are significantly below the Target (refer to Attachment 1).

Proposed change:

Anyone, not just generators or retailers, should be able to register as a NEG registry participant. This gives them the right to purchase and trade MWh in the registry and also overachievement CO2 abatement. Rather than having to sell any registry MWh they may have at the end of the compliance year they can transfer this generation to the regulator and convert it into a bankable abatement right in the registry just like retailers will be able to register abatement overachievement for use in future years. The bankable abatement right will be calculated as follows: $tCO_2 = \text{emissions intensity target in that year} - \text{emissions intensity of the MWh being transferred}$.

The MWh that has been transferred to the regulator (if we stick with forcing generators to transfer generation to a market customer or be fined) will then be assigned the emissions intensity of the target for that given year and so will neither assist nor hinder retailers in achieving the emissions intensity target. Also the MWh will be transferred by the regulator into an uncontracted pool which deducts from the total amount of MWh market customers need to acquire to balance against their load.

3. **ISSUE: No transparency on how the NEM institutions are overseeing emission reductions** - You either have to be an electricity generator or electricity retailer to obtain direct access to information about allocation and transfer of electricity emissions within the NEG information registry. This is even though under the Renewable Energy Target - which operates a similar registry system – anyone can gain complete free access and transparency;

The ESB's recent paper states,

The registry will only be accessible to market customers and generators. Some information will be made public at given intervals.

This represents a complete about face from what exists for the Renewable Energy Target where anyone at all can access the entire transaction history of every MWh in its registry.

What's extraordinary is that the ESB provides not one single justification for this lack of transparency. We all know that sunlight is the best disinfectant against government incompetence, dishonesty and, potentially at extremes, corruption.

It is also well accepted that the free flow of market information acts to maximise market efficiency and avoid situations of sudden abrupt movements in price and market manipulation. Freely available information about the scheme also acts to support potential new entrants and competition by levelling the scales against dominant incumbents. This is because dominant incumbents by virtue of their experience being involved in large volumes of trades gather extensive information that is not accessible to outsiders or smaller players in the natural course of events.

The default should be full transparency of the registry, just as what occurs now under the Renewable Energy Target registry. If the ESB thinks this isn't a wise idea then we expect them to provide an incredibly thorough justification for such a restrictive and anti-competitive approach – particularly in line of the ACCC's recent report on Electricity Pricing.

Proposed change:

Ensure allocation and transfer of electricity emissions within the NEG information is freely and openly available to the public.

Registry transparency - This is very simple – mimic the REC registry. Presumably each day or perhaps every fortnight AEMO will update the registry with (transmission loss adjusted) MWh that came from each registered generator. The ownership of those MWh will initially sit against the registered owner of that generator until such time as the generator transfers ownership to someone else. Ultimately that MWh will be transferred to someone else or used by the generator-owner if they are also a market customer to comply with the emission obligation at which point the registry MWh's status will change to "surrendered" and will no longer be available for compliance. Just as in the REC registry any member of the public will be able to see all the MWhs that have been added to the registry and the history of transfers of ownership and the dates at which transfers took place and dates of change in status.

In addition the registry should record a record each tonne of CO2 overachievement and the history of transfers of ownership of the overachievement CO2 unit. At regular intervals AEMO should update the registry with the amount of liable load each Market Customer had accrued in MWhs. At the end of a compliance year anyone could access the registry to see which generation MWh and CO2 overachievement units were retired by the Market Customer to meet its obligation.

4. **ISSUE: Independent Voluntary action prohibited** - If you wish to make voluntary efforts to reduce emissions that go beyond what your electricity company is obligated to do then you'll have to do this with the co-operation of your electricity retailer or buy foreign carbon credits.

The current design of the NEG is highly problematic as it doesn't appear to accommodate the numerous activities that currently occur through what is termed Voluntary Action. These are activities and transactions which occur outside of government mandated targets and can be driven by personal or community desire for a better environment, altruism, environmental branding of products to either meet internal corporate philosophy or external customer requirements.

Worldwide convention currently allows for the environmental attribute of electricity to be recognised and traded separately from the power attribute. In Australia, Renewable Energy Certificates (RECs) are the instrument used to trade the environmental attribute. These RECs can be either coupled to or uncoupled from the electricity supply contracts to meet a consumers mandatory or voluntary environmental targets.

The national GreenPower® program which has existed for two decades administers the voluntary scheme. Increasingly over the life of the program, large consumers such as property trusts, government authorities and large infrastructure projects have found it more convenient and more economical to purchase these attributes as separate transactions (decoupled).

Under the current functionality of the Renewable Energy Target registry consumers are free to purchase renewable energy independent of their electricity retailer which they can then retire from being used by anyone else to meet legal obligations. This is via the voluntary surrender function within the registry. This is important because retailers

charge excessive premiums for renewable energy under the Greenpower scheme that are far higher than the price you can get if you contract directly with a renewable energy generator. In addition voluntary surrender of renewable energy is used by a number of entities to meet emission abatement commitments outside of the electricity they consume, such offsets under the NABERS green buildings scheme.

Just as under point 2 there is a need to allow parties other than retailers to be granted the abatement rights to their low emission generation by the regulator so they can be free to do with it what they wish. This includes voluntarily extinguishing it so that retailers have to make extra efforts to reduce emissions.

Proposed change:

The simple solution to this problem is that voluntary action that involves a de-coupled transaction with a renewable or low emission generator should be registered to the contracting party and not be included in the unallocated pool to be used by other retailers to meet their emission obligations.

Provided anyone is allowed to obtain a registry account to obtain ownership of generation MWhs and transfer them to the regulator to convert them into "overachievement CO2 units" all you need to do is then allow those people the function to voluntarily surrender those overachievement units in the registry so they can't be used for future compliance by market customers.

5. **ISSUE: Double counting of LGCs** - If you've elected to contract several years in advance to purchase renewable energy rights known as LGCs to reduce emissions, you'll find these emission reductions will be allowed to be sold twice, and your good intentions and money will count for nought as far as the environment is concerned. In addition, there is a similar sixth concern about Penalties for non-compliance.

All the big electricity retailers get most of the renewable energy to comply with the Renewable Energy Target by contracting directly with large wind and solar farms and hydro generators. However, for small retailers or those individuals or companies that wish to buy renewable energy either to comply with RET or to make a voluntary contribution to reducing emissions the amount they need typically isn't big enough to justify a direct, bespoke contract with a renewable energy generator. Instead these smaller players will typically need to engage in what is often called the secondary market that provides standardised contracts that simply acquires the LGC (which represents a MWh from a renewable energy generator).

In some cases people have elected to lock-in purchases of these LGCs for several years into the future in order to lock in prices. Unfortunately for these people, particularly those that bought them to reduce emissions, they are about to find the designers of the NEG have decided that the renewable energy and the associated abatement they thought they bought can be sold twice.

While the Government is saying that they won't actually be unwinding the Renewable Energy Target and will be leaving it in place, the design of the NEG will make the Renewable Energy Target largely meaningless. Under the NEG retailers will be able to purchase MWhs in the registry from renewable energy power plants that may have also

used that same MWh to also produce an LGC. Now for all the big retailers this isn't much of a problem because their bespoke contracts with the wind and solar farms entitle them to both the LGC and any other abatement entitlement. It's just all those other bunnies that are left in the lurch.

There is a solution and in fact it came from the AEMC. Back a few years ago the AEMC suggested that the Government put in place an emissions intensity scheme where renewable energy generators would be allowed to produce either an LGC or an emissions credit flowing from a MWh of generation but they couldn't create both. The LGCs and the emission credits would both be counted towards the overarching electricity emissions target. Such an approach would leave both the retailers that have direct contracts with generators and those that bought LGCs on level pegging. In particular it would ensure those that have contracted LGCs in future years to achieve voluntary abatement goals will not have the rug pulled from underneath them. And at the same time such a change will make precisely no difference to end consumer bills.

Proposed change:

No double counting of LGCs - The NEG and the REC registry need to be interlinked (or united into one registry). A MWh from a renewable energy generator is added to the registry (ideally by AEMO's systems on automatic basis). The owner of the registry MWh can either register it as an LGC or leave it as a plain NEG registry MWh but the MWh can't have both statuses. The LGCs that are surrendered by market customers to meet their RET liability in a given year will also count towards their NEG obligation (the mismatch in compliance between calendar and financial year doesn't matter because a retailer could be allowed to surrender an LGC at half year if they wished as partial compliance towards the RET obligation which could be also used towards NEG compliance). However any renewable energy MWh surrendered to meet the NEG obligation would not be allowed to be subsequently converted to an LGC.

6. **ISSUE: No penalties for non-compliance with emission reduction guarantee** – Failure to comply with the emission reductions obligation do not incur any penalties per se. Failure to comply with the Reliability component of the guarantee, however does incur penalties (page 44) – “A liable entity found to be non-compliant will be charged a predetermined proportionate cost per MW of non-compliance to refund a proportionate cost of the Procurer of Last Resort cost to consumers”

Proposed change:

Penalties should be levied on failure to comply with emission reductions.

Failure to comply with the emission reductions obligation should incur penalties in a similar manner to that proposed for the Reliability component of the Guarantee. The level of the penalty should be set at the “proportionate cost” of acquiring the low emission generation to meet the obligation.

Meeting the NEG Target

Given the significant level of large-scale renewable energy projects that are under construction, are contracted or subject to tendering initiatives the level of emissions from the NEM will be significantly lower than the proposed target over the next 2 to 8 years. This has major ramifications for the design of the initiative and the level of windfall gains that the ESB might unwittingly bestow on a small range of market participants. In addition, it highlights the fact that the NEG as currently designed will lead to a worse outcome on greenhouse emissions than doing nothing. But in implementing it the ESB is imposing costs and complexities on the electricity sector with no net benefits.

We have broadly utilised the ESB Modelling report (ESB Advice, 20 November 2017) to determine the NEG Target (Figure 1 of the report). Based on a 26% reduction in 2005 NEM emissions the targeted emission level for 2030 is estimated to be 131.1 million tonnes. We have not included the impact of GreenPower and Voluntary Surrender as it is not clear how the NEG will treat these. Depending on the design of the NEG there may well be a flight away from GreenPower and other Voluntary action as it will not be seen as additional abatement. We have also utilised AEMOs' latest projections of electricity consumption to 2030.

The modelling that was undertaken by the ESB (20 November 2017 Report) significantly underestimated the level of renewable projects that had been contracted and were expected to proceed under a "business as usual" approach. Refer to Tristan Edis's analysis published in Renew Economy- <https://reneweconomy.com.au/how-australia-will-get-to-33-renewable-electricity-by-2020-2030/>. Once we account for the level projects that are currently under construction, are currently contracted or are to be committed under various contracting initiatives we will likely get to 40% renewables by 2030 (36% under the ESB modelling). This is then factored into a revised "business as usual" (BAU) estimate (Green line in chart).

In our analysis we have assumed that tenders from AGL (500 MW) and Snowy (800 MW) proceed. We have assumed that the starting point for the Target will be 142 million tonnes (as per ESB modelling) and then assumed a straight-line reduction to achieve the 2030 target of 131.9 million tonnes.

BAU emissions from the NEM are expected to remain below the target level over the period to 2030.

