

**National Energy Guarantee
Response to Draft Design
Consultation Paper
dated 15th February 2018**

8 March 2018

1 Executive Summary

Tilt Renewables thanks the Energy Security Board for the opportunity to comment on the development of the National Energy Guarantee (NEG) Draft Design Consultation Paper.

Tilt Renewables, listed on the NZX and ASX, is a leading Australasian renewable energy owner, operator and developer with a total operating asset base of 583MW across Australia and New Zealand. Currently 385MW of Tilt Renewables' operational assets, and a further 54MW under construction, are in the NEM and the company has a development pipeline including wind, solar and storage of over 2000MW. Tilt Renewables and its majority shareholder, Infratil has significant expertise as investors and advisers in design of electricity and clean energy markets in a number of other jurisdictions including the United States, New Zealand, United Kingdom, and Western Australia.

Ongoing emissions reduction mechanisms are required for the electricity sector, given the Renewable Energy Target (RET) will effectively cease to motivate further investment in renewable energy (i.e. zero or low-emission) generation in the NEM from 2020.

While significant investment is occurring currently, a lack of policy certainty over recent years has complicated forward planning for investment in new generation in the NEM. It is critical that new policy initiatives be well considered, designed and stress tested for their practicalities in the NEM, as well as achieving bi-partisan support to ensure policy stability through the typically longer timeframes of investment in this sector.

Policy makers need to be conscious that investors have choices with respect to allocating capital in a global market, and therefore it is important that Australia is perceived as having an internationally competitive and stable policy framework.

Tilt Renewables appreciates policy makers concerns with electricity prices, reliability and security given recent events. However, believes that many of the actions already taken together with current strong levels of investment – which can continue with the right policy settings – have already produced materially improved outcomes and further improvements are expected.

The NEM already has an excellent electricity market design which has operated successfully for over twenty years. Improvements are required and attention needs to be given to further emissions reductions and fostering competition, but change should build on the existing successful existing NEM design. New 'dispatchable' capacity such as Tilt Renewables recently announced Highbury Pumped Hydro Energy Storage project, illustrates how market participants are responding to market signals.

It is clear that the NEG remains in the very early stages of policy development, and whilst Tilt Renewables supports the high-level goals of the policy, it is concerned that the scheme as it is currently proposed may increase costs and risks across the NEM. Tilt Renewables is concerned that this will directly and indirectly, by reducing competition and increasing compliance and risk management costs, increase the cost of electricity to end users, without driving real emissions reductions nor improvements in the reliability of the NEM.

The proposed approach does not appear to start from a fundamental 'root cause analysis' as to why the existing framework has failed to deliver signals in the market for effective integration of intermittent generation.

The information provided to date suggests a lack of clarity and consideration of the existing market framework, including the complex structure and uncertain interactions between the existing electricity market and associated risk management markets. These matters need to be very carefully addressed to avoid reducing liquidity in contracting markets and creating barriers to entry

to both retail and generation markets, both of which would only serve to entrench the market power of existing large vertically-integrated market participants.

Under the current proposal, there is a high risk that energy prices would be driven higher without facilitating improved performance in terms of either emissions or reliability. Tilt Renewables suggests that the emissions target be increased and its mechanism made more robust, and that the reliability mechanism be reconsidered completely, given the numerous weaknesses in the proposed 'reliability guarantee'.

Specifically, the NEG should:

- Include an emissions target and review mechanism that is sufficiently ambitious and flexible for Australia to meet its overall long-term greenhouse gas emissions reduction goals and that goes beyond the pro-rata energy industry greenhouse gas emissions reduction goals;
- Be robust, transparent and efficient in the mechanisms utilised;
- Avoid unnecessary duplication and complexity by introducing forced contractual or extra-contractual linkages for new 'products' between retailers and the generation of the electricity which supplies their customer; and
- Not limit market participants access to transparent and liquid risk management products (such as standard and liquid forward market energy contracts), to ensure efficient market operation for the lowest cost energy supply to consumers.

Finally, should the NEG be implemented close to what is currently proposed, then the overall package of changes should be carefully reviewed by the appropriate authorities to assess its effects on competition, and if necessary strong and effective competition safeguards should be implemented.

Sections 2 and 3 below provide further comment on the Emissions and Reliability requirements respectively.

2 Emissions Requirement

2.1 Overall Target:

The relevance and usefulness of the NEG's emissions requirement in facilitating a reduction in Australia's greenhouse gas emissions to a level consistent with its international obligations, will obviously depend primarily on the actual target which is set and the mechanism for reviewing and amending the target over time.

The target currently stated of a 26% emissions reduction by 2030 against 2005 levels for the electricity sector is clearly inadequate. This is basically "business as usual" for the electricity sector and will not result in Australia achieving its overall emissions reductions targets, given the lack of reductions in other parts of the economy. It has been recognised that the electricity sector is capable of efficiently reducing its emissions at significantly greater rates, allowing Australia's overall targets to be met in a more efficient fashion. If the NEG is to succeed in driving changes in behaviour to meet Australia's overall emissions targets, its emissions reduction requirement needs to be set at a higher figure.

If not credibly aligned with science on requirements for emissions with respect to climate change mitigation nor with Australia's overall targets, the NEG's Emissions Requirement target will not provide investor certainty, bring new capacity to the market or assist in reducing energy prices, because investors will assume that the target will need to be significantly

ramped up in the future or an additional emissions scheme overlaid (noting that generation investments are based on timeframes significantly longer than the 5-yearly review, or even the 2030 Paris treaty emissions reduction obligation).

Specifically, Tilt Renewables recommends that:

- The sectoral emissions reductions target for 2030 be increased significantly, and to a level which enables Australia to reach or exceed its overall reduction commitments in the most economically efficient manner taking into account the relative economic cost of emissions reductions and abatements in all sectors of the economy;
- The review mechanism be institutionalised to improve long-term certainty to investors and thereby put downward pressure on electricity prices. Specifically, this mechanism should provide that:
 - The proposed 5-yearly reviews are specifically only capable of increasing targets, but not reducing them; and
 - That some flexibility be allowed for further increases (but not decreases) in the target between the scheduled 5-yearly reviews, should circumstances require.

2.2 Mechanism:

There is a clear need to have the emissions reduction element implemented in a clear, cohesive and efficient framework, to avoid adding significant costs to energy in Australia whilst ensuring emissions targets are indeed met.

The currently proposed approach of directly linking emissions requirements via existing or future contracts retailers may have with power producers for electrical energy, and/or with more generic contracts which simply act as financial hedges to the spot market for energy, does not appear workable or efficient. There is a high risk of unintended consequences and/or price increases in such a scheme. It is not at all practical to assign emissions to the financial contracts (OTC or futures) that currently trade. To attempt to force physical attributes into these contracts will remove their standard form, fungibility and, ultimately, liquidity. It is specifically noted that many generators currently sell the “green attributes” of their generation separately from the pure electricity, and it is appropriate that the flexibility for such contracting continues to exist if the market is to be liquid and efficient, and therefore minimise costs to consumers.

The NEG must recognise that the emissions intensity associated with a particular generation plant is not an implied right of the (direct or indirect) off-taker unless it explicitly states so in contracts between those parties. The mere existence of a contract for energy (or a financial instrument associated with such energy) between a retailer and generator, either directly or via other intermediaries, does not mean that any emissions costs or benefits of the underlying generation have been passed to the retailer.

With regards to the emissions component, it is recommended that to verify compliance associated with the NEG, a registry be created based on the existing NGER Scheme. The owner of each generating plant would have their emissions allocated to them in this registry, and they could then be transferred to retailers or other liable entities in a similar way to how the current REC registry functions. It is recommended that the Clean Energy Regulator administer this registry. They have experience in managing the REC registry which can be extended to cover NEG emission obligations as well, utilising data feeds from AEMO. The increased transparency will support public and industry confidence and efficient decision-making, ultimately ensuring compliance with emissions targets at the lowest cost.

It is also recommended that clarity be provided on the consequences to liable entities for not complying with emissions requirements. These should be both financial (to provide a direct business incentive to avoid non-compliance and investment signals) as well as requiring 'catch up' on the actual emissions reductions by the liable entity, to ensure the overall emissions targets are ultimately met in each rolling 12-month period. The draft design as presented appears vague and may allow for significant discretion on behalf of the regulators, which would not be necessary if the scheme is designed to provide precise measures of compliance, and clear consequences for non-compliance.

With respect to emissions-intensive trade-exposed (EITE) demand, this should be managed either by simply including them in the scheme, or if exempted then by considering the emissions intensity associated with their energy consumption, and reapportioning those emissions to the rest of the system to compensate. Otherwise the scheme will fall short of its overall emissions objectives.

Specifically, Tilt Renewables recommends:

- A registry approach be used for measuring and recording emissions associated with generation, leveraging off the existing NGER Scheme and REC registry;
- The emissions registry allow for transfer of emissions reductions from generators to liable entities for their compliance, based on contracts specific to emissions, rather than "deeming" liable entities to somehow "own" the emissions parameters associated with generation as part of their energy contracting;
- That consequences for non-compliance with emissions requirements be specified, and include financial and 'make up' elements to motivate compliance and ensure the overall targets are met; and
- EITE demand be managed to ensure the overall integrity of the emissions targets is maintained.

2.3 Interaction with Existing Schemes:

A number of policy initiatives have resulted in significant investments in the electricity sector over recent years. Such investments are typically based on investment horizons of at least 20 years, and whilst it is important that the NEG provides a suitable framework for future investment, it must be designed and implemented in such a way as to not damage prior frameworks under which investments were made in good faith. If the NEG results in value destruction of investments made under prior schemes, then investment certainty under the NEG itself will be minimal, as investors could then reasonably feel exposed to further policy changes which could subsequently undercut the NEG and investments made under it.

RET

The RET scheme has underpinned major investments in renewable generating capacity over the past 17 years. To ensure the integrity of this scheme, which is structured to continue to 2030, it is recommended that:

- The RET be closed to new participants from an appropriate point aligning with when the NEG is introduced. For example, if the NEG was to commence operation from January 2020, only those projects that had achieved Financial Close at that time would be included in the RET scheme and would ultimately be capable of creating LGCs;
- Ensure harmony between the registries of LGCs and emissions under the NEG (to avoid double-counting), and allow LGCs surrendered to meet the RET to effectively count towards satisfying the overall NEG emission obligation. However, an emission

reduction subsequently associated with the NEG could not be used to meet the RET as well; and

- Allow un-surrendered LGCs at the end of the RET scheme to be used for future NEG obligations.

GreenPower

To maintain the integrity of another existing scheme under which investments have been made in good faith, it is crucial that as part of the design of the NEG, the integrity and additionality principles of the GreenPower Program are sustained. It is therefore recommended that, where a LGC created by a GreenPower accredited generator in respect of electricity sold to a retailer under a PPA, is purchased by a GreenPower retailer for the purpose of meeting its GreenPower (audit and surrender) obligations, the emission offset/reduction associated with that electricity production goes to the end purchaser of the GreenPower and not to the retailer as part of a NEG obligation.

A similar adjustment should be made for all voluntary surrender of LGCs outside of the GreenPower program.

State-based schemes

A number of state-based schemes have been implemented under which significant investments have also been made and committed. Where these schemes have been designed to be additional to the RET, it is recommended that the same principles of additionality apply, as described above for GreenPower.

Other emissions schemes

It is important not to distort the NEG, and its goals of facilitating affordable, clean and reliable electricity supply in Australia, through the introduction of emissions credits from outside sources. Outside credits for compliance should only be allowed if at some point in the future a true national carbon trading scheme is introduced, into which the Emissions Guarantee was integrated and where the 'quality' of tradeable credits was controlled. Finally, as the NEG's emissions requirement is focussed and structured based on the specifics of the electricity sector, it is recommended that other local and international carbon offsets not be included in this scheme to avoid distortions and further investor uncertainty.

3 Reliability

The Draft Design Consultation paper recognises that the focus of the NEG is on reliability (having enough generation to supply consumers), whereas Tilt Renewables suggests that a more relevant aspect for the NEM today is "security" (the ability of the system to operate within technical limits, or 'keeping the lights on'). The paper notes that AEMO and others are already working on improving security. Significant improvements in security have already occurred, and further improvements will be achieved in the short and medium term.

The proposed approach does not appear to start from a fundamental 'root cause analysis' as to why the existing framework has failed to deliver signals in the market for effective integration of intermittent generation.

Despite an unparalleled ramp up in intermittent generation, the existing NEM mechanisms, designed to preserve reliability and security but with minimal distortion to spot prices and

price risk management product liquidity, have responded well and further incremental improvements to these existing market mechanisms offer the preferred and low risk pathway to increased confidence in outcomes. New 'dispatchable' capacity is required to maintain network stability as intermittent renewable generation continues to increase its market share over time. Investments in batteries, gas plant and pumped hydro projects, such as Tilt Renewables recently announced Highbury Pumped Hydro Energy Storage project, are examples of the market appropriately responding to this context.

In addition to arguably being unnecessary from a technical perspective, Tilt Renewables notes that the Reliability Requirement under the NEG proposes to change some fundamental principles of the current NEM, such as:

- Energy spot market signalling supply/demand balance;
- Contracts being price risk management instruments, not inputs to physical market operation; and
- AEMO managing reliability, with (inherently unreliable) centralized forecasts being at the centre of such management.

In particular, the links assumed in the NEG between risk management contracts and actual generation dispatch are unclear, given that these are unrelated in the current NEM structure and there is apparently no proposal to change this (noting that to do so would be highly complex).

Introducing such a new and complex 'reliability requirement' risks creating market distortions and unintended consequences, as well as potential 'gold-plating' of generation capacity with associated costs.

The proposed connections between contracts and actual generation dispatch, which today do not exist in the NEM, would represent a fundamental change in the market, and is one which the current draft design does not adequately explain. It seems to suggest that current contracts, which were written with different intentions and under a different framework, and which when they were struck would have involved careful consideration by both parties of the allocations of risks and obligations within them, would simply be interpreted under the NEG to also be applicable to the new emissions and reliability parameters.

Therefore, Tilt Renewables considers that seeking to impose a bilateral contract path model on the NEM will be exceptionally difficult, have very high administrative burdens, will strand derivative markets and potentially deprive new entrant and non-vertically integrated retailers of equal access to wholesale market risk management.

The use of (inherently unreliable) centralised forecasts at the centre of the scheme, as well as on the flow through to generation capacity from retailer contracting, further complicates the mechanism.

It may be reasonably expected that the existing large and vertically-integrated retailers would benefit relative to smaller market participants. This is because the large retailers are less reliant on access to external risk management markets and will be better placed to manage risk internally within their portfolio. This will likely provide a cost of capital advantage and lead to capital markets allocating capital to the large retailers and away from small players. This will reduce competition and add further pressure on prices for electricity consumers, without actually improving the ability of the system to 'keep the lights on'.

New entrant and second tier retailers (or C&I customers) should be able to manage their wholesale risk on a level playing field basis with the large vertically integrated retailers – this includes being able to access liquid transparent markets for standard products, including caps

and derivative risk management products. However, the increase in market power of the large vertically integrated retailers may lead to the collapse of liquid risk management markets to such an extent that retail price controls will need to be contemplated.

While measures to protect competition can be introduced, these will be imperfect, and will create further complexity and distortions in the market, and should be viewed as very much a second-best solution compared to preserving a fundamentally competitive market.

Competition policy questions of this nature should be subject to early ACCC engagement and review.