50 Camberwell Road Hawthorn East VIC 3123

Clean Energy Investor Group

10 September 2021

Ms. Baharak Sahebekhtiari
Director, Commercial Capabilities
NSW Department of Planning, Industry and Environment
By email: Electricity.Roadmap@dpie.nsw.gov.au

Dear Ms Sahebekhtiari,

Response to Consultation Paper – Long-Term Energy Service Agreement Design

The Clean Energy Investor Group (CEIG) welcomes the opportunity to provide feedback on the NSW Department of Planning, Industry and Environment (DPIE)'s consultation paper on *Long-Term Energy Service Agreement (LTESA) Design* published on 10 August 2021 and commends the NSW Government for its extensive consultation program with industry.

CEIG represents domestic and global renewable energy developers and investors, with more than 11GW of installed renewable energy capacity across more than 70 power stations and a combined portfolio value of around $24 billion. CEIG members' project pipeline is estimated to be more than 18GW. CEIG strongly advocates for an efficient transition to a clean energy system from the perspective of the stakeholders who will provide the low-cost capital needed to achieve it.

KEY POINTS

- Overall, CEIG supports the NSW Government's proposed LTESA contract design as it has the potential to deliver improved revenue certainty and improved bankability for new projects.

- CEIG supports:
  - a long-term schedule of LTESA auctions that will deliver certainty around the expected pipeline of investment in NSW;
  - the use of auctions to select LTESA participants to maximise competitive tension and lower costs; and
  - the use of merit criteria that incentivise long-term and broad benefits.

- LTESA design could be amended to add more flexibility around option structure and notice periods (e.g. 1-year options with 3-month notice period).

- The use of a 'fixed shape fixed volume' model will increase LTESA bid prices as individual wind or solar projects will be unable to guarantee a firm generation profile at competitive prices:
  - To lower the cost of capital on LTES projects, the Scheme Financial Vehicle (SFV) should consider taking shape and volume risks; and
  - The SFV can mitigate those risks at portfolio level and will also benefit from increased competition and a higher number of new entrants in the market.

- If the NSW Government chooses to retain the proposed 'fixed shape' model, CEIG makes a number of recommendations including using an average calculation method (seasonal) to avoid the daily volatility associated with wind generation outputs and accounting for periods of curtailment, non-fault outages and negative prices.

- Support for 12GW of new generation through the NSW Roadmap will likely cause wholesale prices to drop significantly and a majority of LTESA projects might choose to exercise their options in most periods.

- Although low prices are beneficial for consumers, sustained low wholesale prices:
  - could limit incentives and opportunities for projects to participate in the wholesale contract market;
  - could limit investment such that the LTESA scheme is the only investment incentive in NSW; and
  - could have negative impacts on the viability of existing projects at the times they need to roll over existing contracts.

- In taking into account those unintended market consequences in its decision making, the Consumer Trustee could consider using Large-scale Generation Certificates to incentivise new investment and limit unintended consequences.

- CEIG proposes some amendments to the proposed treatment of negative price periods and to some key legal clauses.

- Overall, LTESA design should not be overly complicated to maximise opportunities to attract global capital pools.

- Sufficient and timely investment in the transmission network is critical to ensuring that the NSW Roadmap benefits can be delivered.

- CEIG supports competitive frameworks for the financing, procurement and delivery of transmission infrastructure.

SUPPORT FOR PROPOSED LTESA DESIGN

Overall support for proposed LTESA design

Overall, CEIG supports the NSW Government's proposed LTESA design as it has the potential to deliver improved revenue certainty and improved bankability for new projects.

CEIG agrees with the NSW Government that the LTESA design objectives need to enable the broader transformation of the NSW energy system and need to go beyond purely delivering value-for-money for NSW consumers.

CEIG is also pleased that the proposed LTESA design is well-aligned to a number of our Clean Energy Investor Principles[1]:

- *Investor Principles (IP) 1 - Align NEM development with global markets*
  The NSW Roadmap provides an effective mechanism to plan for the retirement of thermal generation in NSW.

- *IP 3 - Improve revenue certainty*
  The LTESA design paper seeks to unlock low-cost capital by improving revenue certainty for investors, for the ultimate benefit of NSW consumers.

- *IP 4 - Allocate risk effectively*
  The LTESA design paper is rightly framed around the need to allocate risk to the party(ies) best placed to manage, mitigate or price that risk.

Support for schedule of LTESA auctions

CEIG supports the announcement of a long-term schedule of LTESA auctions as it will deliver certainty to industry around the expected pipeline of investment in NSW over the next decade.

CEIG supports the use of auctions to select LTESA participants. When well-designed and communicated effectively (preferably by outlining consistent rules, being based on regular schedules and being transparent about assessment criteria), auctions help to maximise competitive tension and lower costs.

CEIG also supports a broad range of assessment criteria being in place, beyond value-for-money in recognition that the transformation of the energy system needs to achieve a number of broad economic, social and environmental objectives.

Beyond value-for-money, CEIG would also support the inclusion of merit criteria that support long-term project success such as:

- promotion of social licence and effective engagement with local communities and Traditional Owners;
- promotion of benefit sharing programs with relevant local communities;

[1] CEIG *Clean Energy Investor Principles – Unlocking low-cost capital for clean energy investment*, Aug-21 (www.ceig.org.au/investor-principles)

- promotion of projects with strong technical and financial capabilities.

FEEDBACK ON LTESA DETAILED DESIGN

Governance

CEIG understands that the NSW Government is currently structuring the various bodies that will support the administration of the LTESAs and the Roadmap more generally.

CEIG also understands that the Australian Energy Market Operator (AEMO) will be a majority member of AEMO Services Ltd – the entity appointed as the NSW Consumer Trustee. It is critical that the governance arrangements underpinning AEMO Services Ltd put in place strong ring-fencing with AEMO, particularly around the independence of its Board to avoid any conflict of interests (perceived or real).

Finally, from an investor perspective, the entity that acts as a counterparty in an LTESA needs to be a bankruptcy-remote entity, with sovereign-level credit quality to limit credit risk. CEIG looks forward to further consultation on this issue.

Generation LTESA contract shape

CEIG expects that allocating shape and volume risks to individual projects will lead to an increase in LTESA bid prices as individual wind or solar projects will be unable to guarantee a firm generation profile at a competitive price.

One of the LTESA design objective is to achieve an efficient risk allocation for investors to provide low-cost capital to fund projects, ultimately delivering low-cost electricity to NSW consumers.

To best meet this objective, the NSW Government should consider taking shape and volume risks. The Scheme Financial Vehicle (SFV) will support projects across NSW so it will be able to mitigate those risks at portfolio level (rather than leaving those risks with each project). As a result, it could then expect to receive more competitive LTESA bid prices. The SFV would also benefit from increased competition and a higher number of new entrants in the market, in turn providing consumers with access to a broader pool of capital and avoiding the concentration of market power.

Recommendations if NSW Government chooses a ‘fixed shape fixed volume’ model

If the NSW Government chooses to retain the proposed ‘fixed shape fixed volume’ model, CEIG makes the following recommendations:

- an average calculation method (seasonal) should be used to avoid the daily volatility associated with wind generation outputs;
- as noted in the LTESA paper, it would be beneficial for projects to have the ability to “tailor the fixed shape profile to suit each LTES operator and include seasonal and/or long-term adjustments, such as for annual plant degradation”;

- the requirements for a 'fixed shape fixed volume' should account for periods of curtailment and negative prices as those elements add to the risk of a project not being able to reach its volume target.
    - The LTESA paper notes that "marginal loss factor risk is expected to be managed by the LTES operator". If LTESA compensation is based on "dispatch volume x MLF" rather than dispatch volume alone, the risk of MLF volatility will also make meeting LTESA volume targets more difficult.
- Projects should not be expected to compensate the SFV for shortfall volumes during periods of non-fault outages as those periods are outside the project's control.
    - Should this exclusion not be granted, it would expose a project to the risk of high Regional Reference Prices (RRPs) and this would be reflected in LTESA bid prices.
    - The current proposal assumes that a project would have to pay the total of 'shortfall volume x RRP'. This creates a risk when the RRP can spike to more than $14,000/MWh.

Fixed shape and wind projects:
Wind farm outputs can vary across day and night-time. Without the ability to average forecast errors over time, this difficulty in "matching" the fixed shape each day would generate risks that investors cannot easily manage at an individual project level.

For the purpose of settlements, CEIG suggests that the shape of wind projects be measured as a seasonal average (with a period of not less than 3 months) rather than as a daily calculation which is too volatile.

The SFV could expect the averaging method to deliver the following benefits**:**
- it would lower the cost of capital by limiting a project's exposure to the risks of "unders and overs" each day; and
- the SFV would still receive benefits from supporting each LTESA project, with those benefits averaged over the period.

This issue is less relevant for solar projects which by definition generate at more predictable times of day.

How projects might manage fixed shape risk
If fixed shape risk remains with investors, each project is likely to manage the risk through one or more of:
- Purchase of firming product:
    - This would likely increase LTESA bid prices to recoup those costs;
    - This would be unlikely to be cost-effective with a daily calculation as a prohibitive amount of generation would need to be firmed to guarantee a specific shape.
- Diversify through own portfolio of projects (only available to larger proponents, may limit number of new entrants);
- Overbuild the LTESA project:

- NSW Government should consider implications for REZs' capacity and access regimes;
- This would only be effective with a seasonal average (not daily) calculation.

- Use battery storage: due to the current relatively high costs, this is unlikely to be an economically viable option, but it would likely change in time for later LTESA auctions.

Intended option exercising behaviour

CEIG agrees that a project's option exercising behaviour will be influenced by:

- whether the bulk of a project's revenue will come from a PPA or exposure to the wholesale market; and
- in the case of merchant exposure, whether the project expects wholesale revenues to be sufficiently higher than the LTESA bid price during the option period.

The NSW Government should also be cognisant that support for 12GW of new generation through the NSW *Electricity Infrastructure Roadmap* (NSW Roadmap) will likely cause wholesale prices to drop significantly and that a majority of LTESA projects might choose to exercise their options in most periods.

LTESA scheme and unintended market consequences

Although low prices are beneficial for consumers, sustained low wholesale prices would also limit incentives and opportunities for projects to participate in the wholesale contract market and could limit investment such that the LTESA scheme is the only investment incentive in NSW.

This could also have negative impacts on the viability of existing projects at the times they need to roll over existing contracts.

To effectively work towards its goal of achieving least costs for NSW electricity consumers, it will be important for the Consumer Trustee to take into account the unintended market consequences of the LTESA scheme in its decision making.

The Consumer Trustee could also consider using Large-scale Generation Certificates and other emission offsets to incentivise new investment and limit unintended consequences in the NSW energy market.

Participation in wholesale contract market

Flexibility and optionality

CEIG welcomes the proposed LTESA contract term of "up to 20 years" for generation LTESAs and "up to 14 years for chemical batteries or up to 40 years for pumped hydro" for long duration storage LTESAs as it will work to improve revenue certainty and bankability for new clean energy projects in NSW.

CEIG welcomes the suite of biddable LTESA items noted on page 15 as they provide a number of opportunities for projects to unlock value that can be passed on to consumers through competitive bids.

As a general rule, providing more flexibility delivers more value and the NSW Government could improve its LTESA design by offering more flexibility or optionality:

- option period: 1-year period (rather than 2-year)
  → to provide more granular options for projects to benefit from changes in wholesale price expectations and contracting opportunities;

- option period start date: 'floating' start date (rather than start at 1 July)
  → to be more aligned to each project's asset life and improve revenue certainty and bankability;

- option notice period: 3-month period (rather than 6-month)
  → to better match current lenders' expectations around debt service reserve account periods.

Need for simplicity

Flexibility and optionality also need to be balanced against the need for simplicity.

Investors with global pools of capital are considering investments across a number of booming clean energy markets worldwide. Australia is considered a more risky and more expensive market, which makes investing in Australia a more difficult proposition. It is therefore crucial for the NSW Government to propose an LTESA design that is not overly complicated and does not excessively diverge from global practice.

Negative pricing

Negative prices can materially impact on a project as they reduce its revenue stream. Investors can only partly manage this risk and allocating it solely to investors is likely to generate a risk premium. CEIG believes the risk of negative pricing should be shared with the SFV in ways that retain sufficient incentives for projects to be responsive to wholesale prices.

CEIG suggests an alternative approach that would improve revenue certainty whereby:

- a project ceases to receive revenue from its LTESA contract after a small number of consecutive negative price periods (for example after 4 consecutive hours); and
- the duration of unpaid negative price periods is added back at the end of the LTESA contract to provide a project with a 'true' 20-year contract.

This approach is implemented in Germany's *Renewable Energies Act – EEG 2021*[2] where a project no longer receives payments when the wholesale market price is negative for

[2] Act for the expansion of renewable energies (*Renewable Energies Act - EEG 2021*), sections 51 and 51a. Available from: https://www.gesetze-im-internet.de/eeg_2014/__51.html

four consecutive hours. Hourly reports are also available[3] from the German Transmission System Operator and provide transparency around which intervals have been eligible for payments. This approach balances the need to provide a project with sufficient revenue certainty while retaining a project's incentive to react to extended negative price periods.

Other legal terms and clauses

Key legal clauses	CEIG position
1. NSW entitled to green rights	Support (noting it will be reflected in the LTESA bid price)
2. NSW entitled to new revenues from future 'black' products	Support (noting it will be reflected in the LTESA bid price)
3. No escalation to LTESA bid price	Support (noting it will be reflected in the LTESA bid price)
4. Pre-financial close interim milestones	Support
5. Conditions precedent: a. reaching financial close; b. notice to proceed under EPC contract;	Support
6. Bonding requirements	Support
7. Cost reduction sharing between signing and financial close	CEIG supports the provision of long sunset dates as a mechanism to reduce the construction risk premium. However, CEIG believes that the cost reduction benefits described in the paper are more likely to materialise over longer periods of time (e.g. a few years) rather than in this relatively short period. CEIG believes that a risk sharing provision should be added to the LTESAs to cover a limited number of potential cost increases that cannot be fully managed or hedged by investors: • foreign exchange; and • price of major manufacturing components (e.g. steel).

[3] https://www.netztransparenz.de/EEG/Marktpraemie/EEG-negative-Preise

	Should the NSW Government wish to retain this clause as described in the paper, CEIG would be interested in understanding at what level that cost reduction sharing would be applied, and whether a uniform approach would be applied (vs. individual negotiations with proponents). A regime that dictated excessive cost reduction sharing would negatively impact on LTESA bid prices.
8. Upside sharing/ earnout structure	CEIG notes that this concept may act as a disincentive to some developers and investors from participating in the NSW market compared to other markets where no such upside sharing mechanism exists. Regardless of any change of ownership, the NSW Government would retain the protection of the repayment mechanism and as such should not require additional rights/repayments to accrue on a change of control.
9. Scheme Financial Vehicle termination for convenience	CEIG recommends removing this clause as it would undermine revenue certainty and bankability for the project, and the additional risk taken by investors would be reflected through higher LTESA bid prices. Should the NSW Government wish to retain this clause, it should ensure that the compensation scheme allows investors to be 'made whole' by paying out the present value of expected future revenues.
10. Change of law and market disruption events	'Change in general law': the SFV should take on this risk (rather than the proposed risk sharing approach) as investors cannot control or mitigate this risk and the NSW Government has arguably more power than individual projects to influence this risk. Support proposed approach for 'Changes in NSW law impacting the Roadmap' and 'Market disruption events'.

BROADER REFORM IS NECESSARY TO ENSURE THE ROADMAP'S SUCCESS

Need for investment in transmission network to deliver NSW Roadmap benefits

The development of sufficient transmission infrastructure is critical to unlocking low-cost renewable energy ahead of NSW coal plant closures and to the success of the NSW Roadmap.

If the delivery of transmission infrastructure is slow or delayed, projects will struggle to connect to the grid and the NEM could see repeats of the issues seen in the Western Murray Zone. Without sufficient transmission investment, there is also a strong risk of congestion increasing in NSW.

CEIG is also supportive of mechanisms that increase competition in the financing and delivery of transmission infrastructure and encourages the NSW Government to make use of the competitive procurement frameworks it has put in place to enable the NSW Roadmap.

Our *Clean Energy Investor Principles Report* has pointed out that over the last 20 years, the transmission companies have largely focused on maintaining a large existing electricity grid, not on building complex infrastructure projects, and that they may also lack incentives for efficient scoping and procurement since the regulatory framework guarantees their return based on the size of their regulated asset base.

In contrast, private investors have greater capacity and capability to deliver the large scale of transmission investment required:

- investors have deep experience in delivering large infrastructure projects;
- they are used to managing complex risks;
- they have gained valuable experience gained in other sectors and/or other countries; and
- they can leverage larger pools of capital at lower cost for the ultimate benefits of consumers.

Need for modernisation of open access regime

Grid congestion is a key risk faced by investors, in NSW and in the broader NEM. Although this is strictly beyond the scope of this paper, the NSW Government should aim to limit the risk of congestion in the shared network to avoid reducing the benefits that its REZ policies will deliver such as firm access within a REZ.

To accommodate the scale of clean energy investment required in the NEM, access to the grid will need to be more closely facilitated. CEIG encourages governments and market bodies to work together to modernise the open access regime currently in place in the NEM.

CEIG supports the definition of an 'outstanding' project category that would make projects outside REZs eligible to compete for LTESAs where those projects have the potential to deliver valuable benefits for the SFV. This category should however be defined in a way that protects the integrity of the REZ framework and its benefits.

CEIG thanks the NSW DPIE for the opportunity to provide feedback on its proposed LTESA Design consultation paper and looks forward to continued engagement with the NSW DPIE on this issue. Our Policy Director Ms. Marilyne Crestias can be contacted at marilyne.crestias@ceig.org.au if you would like to further discuss any elements of this submission.

Yours sincerely,

Simon Corbell

Chief Executive Officer and Chairperson
Clean Energy Investor Group Ltd
w: www.ceig.org.au