



27 October 2021

NSW Department of Planning, Industry and Environment
Lodged via email: Electricity.Roadmap@dpie.nsw.gov.au

Dear Sir/Madam,

Infrastructure Safeguard (EII Act 2020 Part 6) Consultation Paper

The Clean Energy Council (CEC) welcomes the opportunity to comment on the NSW Department of Planning, Industry and Environment's Consultation Paper on the Infrastructure Safeguard (EII Act 2020 Part 6) as part of the Electricity Infrastructure Roadmap.

The CEC is the peak body for the clean energy industry in Australia. We represent and work with over 900 leading businesses operating across the renewable energy, energy storage and renewable hydrogen sectors. We are committed to accelerating Australia's clean energy transformation.

The CEC supports the ambitious agenda that the NSW Government has set out to prepare the state for the expected retirement of much of its thermal generation fleet in the coming decade, and to manage the transition to lower-cost, renewable energy generation and storage.

Below, we outline our response to a number of the key issues and design considerations for the Infrastructure Safeguard component of the NSW Roadmap, covering:

1. Guiding principles
2. Modelling and planning assumptions
3. Policy considerations for LTES Agreements and the types of LTES Agreements
4. Tendering for and recommending LTES Agreements and access rights
5. Combining tenders for LTES Agreements and REZ access rights
6. Outstanding merit criteria
7. Infrastructure Safeguard governance and controls

1. Guiding principles

We commend the NSW Government's intent in establishing guiding principles for assessing policy options relating to the Infrastructure Safeguard. While we agree with the list of principles proposed, we suggest the inclusion of an additional principle: ensuring a technology neutral approach to achieving the policy objectives.

We consider that providing incentives for innovation through a technology neutral approach is in the long-term interest of consumers. Technology neutrality recognises that different technologies provide different, and often complementarity, services for customers. Including this as a guiding principle will help to ensure that customers' needs are met, at the lowest overall cost.

Furthermore, the 'social licence' principle in its proposed form appears to be solely associated with transmission infrastructure developments. Instead of the current definition, we suggest including two principles: 1) ensuring 'social licence' by achieving local community support for infrastructure

developments; and 2) supporting the coordination of transmission and generation project infrastructure developments.

2. Modelling and planning assumptions

Modelling assumptions and inputs: Alignment with AEMO processes

The Infrastructure Investment Objectives Report (IIO Report) is intended to be analogous to AEMO's Integrated System Plan (ISP) and Energy Statement of Opportunities (ESOO) reports, with the important addition that the IIO Report would also outline new generation, long duration storage, and firming infrastructure requirements to meet the scheme objectives at the lowest cost to consumers.

The CEC considers there are benefits from aligning the processes and inputs that feed into the IIO Report and the ISP. Aligning the two could reduce duplication and help stakeholders save time and effort in engaging with the process. Ideally, both the IIO Report and the ISP would be based on the same set of inputs and scenarios, and these would be adjusted over time as new information becomes available. In the absence of a coordinated approach, stakeholders may face the task of reconciling the differences in the model assumptions and outcomes and having to identify what these differences may mean for their investment and operational decisions. Any differences should be minimised if possible, or at least clearly attributable to the additional NSW Roadmap objectives.

Currently, when making key forecasts and modelling, AEMO must follow the Australian Energy Regulator's (AER) Forecasting Best Practice Guidelines (FBPG) and it also must consult on its Forecasting Approach at least every four years. This facilitates transparency around the methodologies used and allows stakeholders to engage with the appropriateness of methods and suggest possible improvements. In addition, AEMO must also assess its forecast accuracy annually and publish a Forecast Accuracy Report which outlines planned improvements to mitigate issues found.

The CEC considers it desirable to place similar requirements on the Consumer Trustee when preparing the IIO Report. For example, the Consumer Trustee could be required to make the forecast methodology, model assumptions, and modelling results available through public consultation. Furthermore, the Consumer Trustee could be required to assess its forecast accuracy periodically, and outline improvements to its methodology if there are inaccuracies found.

Changes in technology: treatment of storage

The paper notes that the EII Act does not prescribe how any specific type of energy or capacity is treated. We consider this is in line with the guiding principle of technology neutrality proposed above.

In line with this, we consider that further guidance should be provided as to how the consumer trustee should interpret the current requirements related to long duration storage, to ensure that the capabilities of all technologies can be adequately captured to deliver consumer benefit.

Under the Act, the Consumer Trustee is required to forecast new generation, long duration storage, and firming infrastructure requirements in line with the parameters enshrined within the legislation (e.g., min 30 MW capacity, min 8 hr dispatchable storage capacity). Within these requirements, we consider that it is critical the full suite of potential solutions can be considered. This will ensure that the overall objectives of the scheme are met at lowest cost.

We welcome the recognition by the Department that pumped hydro has a critical role to play as part of the technology mix of the future. Hydro power generation has capability to assist in meeting medium to long term storage needs and will likely have a central role to play in maintaining reliability for NSW customers. It can also provide other valuable services, such as inertia, voltage control and system strength, all of which should be recognised and valued in LTESA design. However, pumped hydro has higher capital costs and requires revenue certainty for financing. Any modelling and

planning assumptions, as well as the design of the LTES Agreements, should take this into account, to the extent that it can help provide revenue certainty for proposed pumped hydro projects.

We also consider that the capabilities of Hydropower can be effectively complemented with other forms of storage, such as battery and compressed air storage. When combined with pumped hydro, these other forms of storage can help deliver an efficient mix of energy and security services, to help meet consumer needs.

For this reason, we consider that the Consumer Trustee should have scope to procure combinations of different storage technologies to meet the overall requirement for 8-hour storage capacity, where this represents the most efficient solution. We consider that this opens the door to the full suite of potential assets and services, helping to deliver lowest cost outcomes for consumers.

In general, we consider that consumer benefits may therefore be obtained from allowing the Consumer Trustee to take advantage of these complementarities, in meeting its overall objective for long duration storage.

3. Policy considerations for LTES Agreements and the types of LTES Agreements

We welcome the recognition by the Department that the mechanism will operate in a complex and rapidly changing market context and thus it is critical that the NSW Roadmap complements the National Electricity Market (NEM) arrangements and can take advantage of technology, policy, and commercial innovation over time. Below are some suggestions as to how the LTESA design may be enhanced to account for this.

Firming and long-term storage definitions

Under the current policy arrangements, the firming infrastructure is proposed to be the only resource that could contribute to achieving both the reliability standard and the Energy Security Target. Long duration storage, for example, is only considered for its ability to meet the reliability standard. Despite its crucial dual role, it is surprising that firming infrastructure faces additional hurdles relative to generation and long duration storage.

For example, the Consumer Trustee can only conduct a tender for firming LTES Agreements if it is directed by the Minister to do so, whereas no such requirement is placed on tenders for generation and long duration storage.¹ Additionally, no definition or guidance is provided in the EII Act 2020 regarding what may (or may not) constitute firming infrastructure.

The CEC therefore considers that the Department should provide further clarity regarding the requirements for firming infrastructure as part of its stakeholder consultation process. Without these details it is difficult to ascertain the investment opportunities assisted by the EII Act 2020.

Essential system services

Recent market developments revealed the importance of essential system services (ESS) that have not previously been valued by the market (e.g., system strength, inertia, primary frequency control). Over the planning horizon of the NSW Roadmap, essential system services are expected to increase in importance and value relative to bulk energy supply.

¹ For example, 47(2) of the EII Act 2020 states that "The consumer trustee must not conduct a competitive tender for LTES agreements for firming infrastructure unless directed by the Minister."

The provision of ESS will also likely become increasingly unbundled from bulk energy supply. For example, storage providers and the demand side may be able to provide frequency control services while consuming rather than providing energy. Synchronous condensers and certain energy storage technology is also able to provide inertia without bulk energy supply.

Therefore, there appears to be an opportunity to incorporate LTES Agreements for ESS in the NSW Roadmap design. This fourth type of 'ESS LTES Agreements' may be unbundled from meeting the reliability standard or Energy Security Target and could instead meet additional system security objectives. Such extension to the current menu of LTES Agreements would future proof the NSW Roadmap and would provide much needed investment signals for ESS.

4. Tendering for and recommending LTES Agreements and access rights

In our previous submission, the CEC has raised concerns that according to the current policy proposal, a project within a REZ will be required to secure an LTES Agreement, whether or not this is required or desired by the project proponent. In our view, wishing to locate within a strong area of the transmission network should not obligate a proponent to enter into an LTES Agreement with the Consumer Trustee. We continue to strongly urge the Department to consider how it can better separate the requirements for REZ access and market contracting mechanisms.

Although the details of the proposed access rights have not been published yet, we wish to note that requiring project proponents to acquire access rights without granting MLF or constraints-related protections, constitutes additional costs to the project proponents with uncertain benefits. The requirement to acquire access rights may increase the tender bid price submitted by project proponents and lead to cost increases for NSW consumers. We look forward to seeing more details about the proposed access rights arrangements through the upcoming consultation paper.

5. Combining tenders for LTES Agreements and REZ access rights

The 20-year development pathway operationalised over a 10-year tender plan reflects the ambition of the scheme and the commitment by the NSW Government to meeting its objectives of the NSW Roadmap. The CEC welcomes the policy intent of the NSW Roadmap to better coordinate the new generation and network investments.

As mentioned in the previous section, some project proponents may be willing to pursue generation investments without securing an LTES Agreement with the Customer Trustee. These project proponents may wish to acquire REZ access rights only. Crucial details are yet to be published about the Department's thinking on how the fees for access rights would be established. If the access rights fee is expected to be an outcome of competitive bidding, possibly combining LTES Agreement and REZ access right bids in the same tender, then it is important that project proponents who do not need LTES Agreements can also participate and bid for access rights only. Likewise, if the access rights fee is intended to be established through an administrative process, we consider it important that all project proponents (with and without LTES Agreements) have equal opportunity to acquire these rights.

6. Outstanding merit

The policy proposal is for the Consumer Trustee to have some discretion to recommend a generation project that is located outside a REZ if the project shows 'outstanding merit'. The Department considers that a starting point for determining whether a non-REZ project shows outstanding merit is to ensure it delivers better outcomes for consumers and communities when compared to similar projects built inside a REZ.

While the Department intends to recommend regulations that define outstanding merit, the CEC considers that enshrining the details of what constitutes outstanding merit in regulation is not necessary. Instead, the basis of the outstanding merit criteria should be set out as clearly defined

but relatively high-level principles, with sufficient flexibility for them to be adapted and develop, to reflect changing market and system conditions over time. However, we also acknowledge the importance of providing clarity wherever possible, given the long lead time of investments. To address this, as long as the criteria are set well in advance of tendering, and are transparent, objective, and whenever possible, quantified, we consider it acceptable for the merit criteria to change over time.

As it may be hard for proponents to establish whether they meet these criteria with certainty prior to tendering, we strongly suggest that the 'outstanding merit' assessment is completed prior to the LTES Agreement tendering process. Once non-REZ projects pass the 'outstanding merit' hurdle criteria, they should compete on equal terms with the REZ projects. This reduces the likelihood of a non-REZ project proponent, concerned with it being judged adversely on 'merit criteria', feels inclined to bid more competitively to increase the chances of its project being accepted. This could lead to distortions in the tendering process.

The CEC broadly supports the intent of REZ development as an approach to coordinating network and generation investment. However, we also consider that valuable investments may also occur outside of REZ areas. Regulatory framework design should therefore allow for such valuable projects to be recognised and supported, even if they exist outside of a REZ.

As an example, under the currently proposed approach, a generation investment near a load centre would only be eligible to tender for an LTES Agreement if it was located within a REZ. A non-REZ generation project would not be eligible to tender for an LTES Agreement even if it located near a load centre and it necessitated no network investment or could meet customer load with fewer losses and at lower cost. Such investment would avoid the need for network investment and avoid operational losses and thus would clearly be in the long-term interest of consumers. This appears to disadvantage some of the projects and distort the incentives to co-locate to where demand centres are.²

More generally, we consider that it is important to allow for the efficient utilisation of the entire electricity network, not just those parts of the network located within a REZ. For example, many investments have already been made across the tens of thousands of kilometres of transmission network infrastructure in NSW; only a fraction of this existing infrastructure is or will be located in a REZ. Requiring generation infrastructure projects to be located only within a REZ may distort project investment decisions.

Excluding non-REZ parts of the network from new generation investment essentially sends a signal to developers as if the network was 'saturated', or even worse, 'lacking any value'. This may be physically incorrect, as there are likely to be parts of the network with surplus capacity and, as generators exit the market, new capacity along non-REZ network are also expected to become available. The REZ locational requirement may prevent efficient investment in these parts of the network. In short, the REZ-requirement could distort the true value of the network infrastructure and could distort investment decisions.

The CEC considers that an investment located near a load centre should be considered to have 'outstanding merit' and thus be able to compete on equal grounds with projects that may not be located near load centres but are within REZs.

² For example, the NSW Government's Net Zero Industry and Innovation Program (NZIIP) contains plans for two Clean Manufacturing Precincts (CMPs), one in the Hunter and another in the Illawarra regions. The EII Act 2020 designated these areas as REZs. These two areas are envisaged to be examples of how businesses may coordinate activities to enable co-investment in low carbon energy projects and shared infrastructure. However, the current policy proposal that favours only REZ projects accessing LTESAs could mean that CMPs are artificially constrained from growing organically, as new businesses connecting within an expanding CMP (but which are not strictly located within the geographic boundary a REZ), would not be able to take advantage of LTES Agreement, even if they needed no additional network investment. This appears to disadvantage some of the projects and distort the incentives for generators locate to REZs rather than to co-locate to where demand centres are. For further details, see [NSW Government's website on Clean manufacturing precinct decarbonisation roadmaps](#).

In addition, given the increasing importance of essential system services, projects that provide a broader value stack of services beyond simply time-shifting energy (e.g., system strength, voltage support, inertia) could be considered to have outstanding merit. Such projects are likely to be capable of increasing the overall hosting capacity of the power system and will help to reduce costs for customers.

The Consumer Trustee could also consider emissions impacts of investment decisions – given NSW's target of achieving net zero by 2050. However, we consider it important that to remain objective and prudent, a shadow price for carbon is used in this assessment.

7. Infrastructure Safeguard governance and controls

As part of its role, it is envisaged that the Consumer Trustee would undertake derivatives trading with the aim to protect the financial interests of NSW electricity consumers. The CEC considers it important that the parameters within which the Consumer Trustee would carry out its activities are well defined, transparent, and are subject to periodic review.

The electricity market, including the derivatives market, is characterised by changing market conditions and exogenous impacts. The practical benefits and limitations of various parameters within which the Consumer Trustee may employ trading strategies in anticipation of short- and long-term changes in market conditions and in response to exogenous 'shocks', need careful consideration.

As part of its activities, the Consumer Trustee may need to model market outcomes and forecast earnings and risks. Requirements for the Consumer Trustee to be transparent and to consult with stakeholders about its proposed methodologies was discussed above in the context of preparing the IIO Report. Some of these requirements may also be applicable to the Consumer Trustee as it carries out its forecasting activities as a 'risk manager'.

The proposed design of the LTESA scheme will require virtually all new generating capacity in the state to enter into options contracts, administered by the Consumer Trustee. As the scheme progresses, the volume of contracts the Consumer Trustee administers will increase over time. The risks inherent in the contracts may be positively correlated; managing the financial risks may require an increasing level of participation by the Consumer Trustee in the derivatives market. The risk correlation among projects may be even more pronounced if, according to the most recent proposal, the LTES Agreements would relate to the same (or similar) fixed profile contracts. Given that the objective of the scheme is to provide a support for long-term investment in generation and storage, it is important that the Consumer Trustee's trading activity does not undermine investors' confidence in the price signals provided through derivatives prices. Also important is that the derivatives trading activity that the Consumer Trustee would be required to do to manage the risks inherent in the LTES Agreements do not impact on retailers' ability to hedge their retail contracts.

To avoid unintended outcomes, a periodic independent review may be desirable to identify and, if needed, address risks related to the Consumer Trustee's potential impact on derivatives markets. The assessment should include not only the derivatives market that exists at the time of the assessment but also any potential derivatives market that could have emerged in the absence of the Consumer Trustee's market activities or in absence of the LTES Agreements. For example, the LTES Agreements and their risk management by the Consumer Trustee may crowd out derivatives products that would have otherwise emerged organically (e.g., weather derivatives or other innovative financial products) and could have been more efficient in addressing volume and price risks.

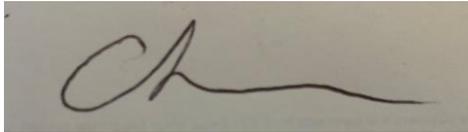
As time progresses a greater proportion of the generators and storage operators in the market will face financial incentives besides those provided through the wholesale market prices, driving their commercial interest and thus behaviour. Whether there may be any 'systemic risk' in this proposed approach also needs careful consideration.

As stated in previous submissions, the CEC remains concerned that the task of administering the scheme will be very complex. The CEC remains of the view that there are simpler approaches available, such as a guaranteed minimum price paid for the Large-scale Generation Certificates (LGC) where the LGC price is established through project developers bidding in a competitive tender. This approach could limit the cost of the scheme to consumers without the CT needing to manage these costs through participating in the derivatives market.

Finally, we reiterate from our earlier submission that an important consideration for the Department should be how the Consumer Trustee will review the efficient and effective functioning of the scheme, so that the design may be refined over time as appropriate, informed by the implementation experience. To allow for this fine-tuning, it will be important that the Consumer Trustee maintains a significant degree of flexibility in the final design of the contracting framework, so that any necessary adjustments can be made to reflect learnings and market innovation over time.

Thank you for the opportunity to comment on the Infrastructure Safeguard (Part 6) Consultation Paper, and we look forward to continuing to work with the Department to refine the design of the NSW Electricity Infrastructure Roadmap. If you would like to discuss any of the issues raised in this submission, please contact Jordan Ferrari, Policy Officer, jferrari@cleanenergycouncil.org.au or myself, as outlined below.

Yours sincerely,

A rectangular box containing a handwritten signature in dark ink. The signature is stylized, starting with a large 'C' and ending with a long horizontal flourish.

Christiaan Zuur

Policy Director – Energy Transformation