



NSW Department of Planning, Industry & Environment
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Submitted via email to: lds.review@dpie.nsw.gov.au

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To whom it may concern,

Review of Long Duration Storage Consultation Paper

ENGIE Australia & New Zealand (ENGIE) appreciates the opportunity to respond to the NSW Government Department of Planning, Industry & Environment ("the Department") Review of Long Duration Storage Consultation Paper ("the Consultation Paper").

The ENGIE Group is a global energy operator in the businesses of electricity, natural gas and energy services. In Australia, ENGIE has interests in generation, renewable energy development, green hydrogen development and energy services. ENGIE also provides electricity and gas to retail customers across Victoria, South Australia, New South Wales, Queensland, and Western Australia.

It's premature to be changing the definition of "long duration"

ENGIE considers that the initial division of long term energy services agreements (LTESA) into firming, for which short duration storage such as one and two hour batteries may be suitable and long duration storage (LDS), set at eight hours or more, remains appropriate. We recognise that the eight hour threshold is somewhat arbitrary but does a good job of reflecting the need for capacity that can keep going either through an extended period of renewable drought or multiple shorter periods with limited opportunity in between for full recharging.

There is insufficient detail presented of the AEMO Services modelling and its outcomes for stakeholders to be able to fully evaluate the results. However, even the fact that a single set of costs is presented belies the multiple dimensions of uncertainty of the energy transition. The modelling is based on the 2023 ESOO Central scenario in the 2029-30 year in NSW only and did not consider higher penetrations of renewables or earlier generator retirements than announced dates. Nor does it capture tail-risks of low coal and high variable renewable (VRE) penetration implications and does not capture long VRE lulls.

LDS is a risk management tool, and such tools are of paramount importance in the context of the multiple dimensions of uncertainty of the energy transition. Assessing the need for and the value of LDS requires consideration of multiple scenarios and a timeframe that covers the economic life of the plausible technologies that can supply LDS. Even if 4 hour storage appears better value for meeting the needs of the

2029-30 electricity system, longer duration storage may be better value over its economic life. Most LDS technologies will have an economic life of multiple decades.

Amongst the limitations of the analysis is the fact that only two storage technologies are considered – batteries of various durations and pumped hydro. This presumably reflects the generic input costs derived from CSIRO. In practice, individual projects have varying costs and the purpose of holding a tender is to discover the most cost effective. Already, one of the early LDS tenders has been a compressed air storage project, but this technology does not feature in the AEMO services analysis. The Clean Energy Council's *The future of long duration energy storage* paper¹, recently released, outlines several other technologies that are at least in demonstration phase in Australia and in deployment phase internationally.

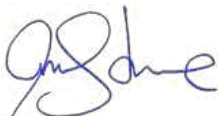
Notably, most of these technologies are synchronous technologies that can offer essential system services as well as energy storage. While in principle the LTESA tender process can take account of such benefits, it is not clear how they are weighted in the tender assessment. One worthwhile reform could be to make this more explicit in order to encourage cost effective tenders from synchronous storage providers.

ENGIE considers that the Department should not place undue weight on the necessity of meeting the 2030 targets. Such targets are a means to an end - the long term decarbonisation of the NSW economy while maintaining reliable energy supplies at affordable prices - rather than an end in themselves. Targets are a useful catalyst for action, and the Department has put in place a fairly comprehensive roadmap. Delays to the implementation of the roadmap and the deployment of the necessary infrastructure are not unexpected, and reflect the experience in much of the world, because the energy transition is more complex than models.

There is always a tension when policy settings are required to endure over the longer-term. Frequent tinkering with the settings undermines the stability that provides investor certainty, while undue rigidity means the settings cannot evolve with changing circumstances. On balance it appears premature for the Department to be changing key definitions in the LTESA process.

Should you have any queries in relation to this submission please do not hesitate to contact me on, telephone, [REDACTED]

Yours sincerely,



Jamie Lowe

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Compliance and Sustainability

¹ Clean Energy Council, [The future of long duration energy storage](#), June 2024