

31 October 2024

Gavin Fox, General Manager
Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601
Email: energyqueensland2025@aer.gov.au

Dear Mr Fox,

RE: Submission on draft decision for Ergon Energy 2025-2030 revenue proposal

Thank you for the opportunity to provide a submission in relation to the Australian Energy Regulator's (AER) draft decision for Ergon Energy's 2025-2030 revenue proposal. We are submitting primarily in support of Ergon Energy's dynamic network (storage) tariffs ('storage tariffs') proposal, contained within 'Attachment 19 - Tariff structure statement'.

About Lighthouse Infrastructure and Emerald BESS

Lighthouse Infrastructure ('Lighthouse' or 'We') is a private sector boutique investment manager that invests institutional capital into Key Worker Affordable Housing, Specialist Disability Accommodation ('SDA') and Renewable Energy.

As it relates to renewable energy investment, we established the Lighthouse Energy Alternatives Fund ('LEAF') as the continuation fund of Lighthouse Solar Fund ('LSF'). LSF was established to provide long-term stable returns to investors through investments in solar assets. LEAF expanded its mandate to invest more broadly in renewables, including solar, wind and storage. The fund is supported by leading institutional investors.¹

We are currently seeking to connect our Emerald Solar Farm co-located 60MW Battery Energy Storage System ('Emerald BESS') to the Ergon Energy Network. The Emerald BESS will be co-located with our existing operational Emerald Solar Farm and is a 60MW, 66kV, AC-coupled, grid forming BESS. We are seeking connection to Ergon Energy's 66kV Network in the West Zone.

The introduction of the Emerald BESS is expected to enhance network stability on the Ergon Energy Network, while also providing technical and commercial advantages. This will be achieved through:

- **Supporting grid stability and reliability**, traditionally delivered by conventional synchronous generators. This will help maintain stable and reliable operations by regulating voltage and frequency. Ergon Energy has previously highlighted the necessity for storage for demand response and has reflected this in its BESS tariff trials;²
- **Enhancing system strength**, by utilisation of grid-forming technology, which contributes to improved overall system strength available within the network compared to addition of new grid-following inverters;

¹ See Annexures 1 and 2.

² Ergon Energy - Demand Management Plan 2024-25 (2024).

- Quickly responding to dynamic service requests; and
- Providing cost efficiency benefits, through reducing the need for additional transmission assets.

Position on current Ergon Energy network tariffs

We understand the importance of cost reflective pricing, and the need for tariffs to signal cost and usage of the network. We accept that Ergon Energy is responsible for recovering the reasonable costs of the network from consumers.³

We do not believe that Ergon Energy's current network tariffs include a fit-for-purpose option for grid-scale storage on the distribution network. Storage customers (of relative size compared to Emerald BESS) are sometimes charged an Individually Calculated Customer (ICC) tariff based on consumption and anytime maximum demand, with no regard for network benefits when discharging.⁴ Assignment to this tariff class is at the discretion of Ergon Energy.

Ergon Energy's ICC tariff also includes Transmission Use of System ('TUOS'), recovered via designated pricing proposal charges. At a principles-level we do not consider that BESS generation should be charged as load, and instead believe there should be consideration of BESS as a generator (and ultimately removing TUOS charges).⁵ This will account for the benefits that BESS provides to the grid (highlighted above) and remove any risk of storage assets being double charged (upon import and export).

Summary of comments on the AER's draft decision for Ergon Energy's tariff structure statement

Our comments on the AER's draft decision with regards to Ergon Energy's tariff structure statement are as follows:

1. We are supportive in principle of elements of Ergon Energy's tariff structure statement, particularly the introduction of storage tariffs – being 'dynamic flex' and 'dynamic price' (and additional options from July 2025). However, we believe these concepts, and the level of flexibility provided, should apply to all BESS across the network regardless, particularly those on ICC tariffs – especially where storage assets have been assigned to the ICC tariff class at the discretion of Ergon Energy;
2. We are concerned with the AER's preference to lock technical and operational arrangements within the tariff structure statement, limiting innovation and placing strategic investment at risk; and

In addition to our comments on the draft decision – at a principles-level we do not believe that Ergon Energy's network tariffs should include TUOS charges, where it can be proved that BESS is more so generation than load, taking account of the benefits it provides the network. We believe current arrangements are creating further barriers to BESS connecting to the distribution network.

1: We are supportive in principle of particular elements of Ergon Energy's tariff structure statement and proposed approach to storage tariffs, and are pleased with the AER's agreement in principle. However, we believe these concepts should also apply to BESS currently on ICC tariffs.

To recap, Ergon Energy is proposing two storage tariffs, being 'dynamic flex' and 'dynamic price'. Both options are discretionary, and feature location-based critical event pricing. Dynamic flex focusses on dynamic control of import and export with a notional fixed charge. This includes a rebate price mechanism, exercised at the discretion of Ergon Energy.⁶ Dynamic price focusses on the locational and time specific

³ As approved by the AER – for Ergon Energy's East, West and Mount Isa regions.

⁴ Ergon Energy – Tariff Structure Statement (January 2024).

⁵ Further discussed in item 3.

⁶ Ergon Energy – Tariff Structure Statement (January 2024), p22

signal for export or import at times of constraint, in a way that encourages avoidance of import or export at the time of the critical event. This will include critical event charges or rebates (still yet to be decided).⁷

We are supportive of some elements of the position provided by Ergon Energy in its tariff structure statement, containing the approach for the introduction of storage tariffs. The intention of which is to incentivise storage assets to import during periods of low network demand and export during periods of peak demand.⁸ We expect this will bring Ergon Energy somewhat closer in alignment with other Distribution Network Service Providers ('DNSPs'), discussed further below.

We are also pleased with the AER's general support in principle for the introduction of storage tariffs. We align with Ergon Energy and the AER in believing that, with the right network price signals to indicate when battery operation drives costs or benefits to the network, storage assets have the potential to reduce long-run network costs for all customers by improving network utilisation.⁹ Without such price signals, storage assets may be operated in ways which trigger network augmentation and ultimately increase costs further down the value chain. We are disappointed in the lack of flexibility considered by the AER. We urge the AER to consider an appropriate level of flexibility for all BESS, when making a decision on any revised proposal.

Unfortunately, we were not able to partake in Ergon Energy's High Voltage Time of Use Trial ('tariff trial'). We were initially advised by Ergon in September 2023 of the existence of these trials. We are of the position that we may have been eligible to partake in this trial under the CAC tariff class, given the Emerald BESS 66kV network coupling, and installed capacity of 60 MW. Currently, we are assigned to the ICC tariff class at the direction of Ergon Energy.

If able, we would have provided more detail to this argument in our application for the tariff trial.

Regardless of tariff class, we believe these overriding concepts, regardless of any approval of network storage tariff, should be reflected in the ICC tariffs for grid-scale assets such as Emerald BESS, or other options proposed by Ergon Energy. As mentioned, current ICC tariff components do not reflect the benefit that grid-scale storage provides to the network when discharging. We urge Ergon Energy to either reconsider the Emerald BESS tariff class assignment, extend the eligibility criteria for its storage tariff proposal, or if possible, reflect similar principles in its ICC tariff structure.

We do also acknowledge the AER's reasoning for its initial rejection of the proposed storage tariffs and support the suggested course of action:¹⁰

'Our draft decision is to not accept Ergon Energy and Energex's proposed grid-scale storage tariffs because they are not compliant with the pricing principles. Our view is that their tariff structure statements do not include sufficient information on the charging parameters or specificity on how their tariffs would be implemented. Because of the lack of information, the tariffs are not capable of being understood by customers or able to be incorporated into retail offers.

...

The further specificity Ergon Energy and Energex could add in revised proposals include: how the locational element of tariffs will be implemented, what criteria would qualify storage for access to the tariffs and to rewards, how customers may be notified of critical peak events, whether there is a minimum/maximum number of each type of critical peak event.'

⁷ Ergon Energy – Tariff Structure Statement (January 2024), p23

⁸ AER – Draft Decision: Ergon Energy and Energex Electricity Distribution Determinations 2025 to 2030 (2024), p43.

⁹ AER – Draft Decision: Ergon Energy and Energex Electricity Distribution Determinations 2025 to 2030 (2024), p43.

¹⁰ AER – Draft Decision: Ergon Energy and Energex Electricity Distribution Determinations 2025 to 2030 (2024), p43-44.

We would like to affirm that storage assets are inherently multi-functional and provide a range of different services traditionally provided by synchronous generation. We understand the AER may be uncertain as to the level of prescription to be embedded into the tariff structure statement and be concerned with the risk of creating overly prescriptive obligations on the network such that it creates static terms and conditions. We agree in principle that some storage assets (ultimately dependent on facility) are large enough to enter into negotiated arrangements for connection and make appropriate business decisions based on these arrangements. We hope any revised proposal balances the need for flexibility, , we hope the AER considers the need for flexibility, and urge Ergon Energy to strike the right balance in charging parameters.

Where able, we will support Ergon Energy in developing any further detail required – to ensure time-of-day charges are efficient for grid-scale BESS.

2: Without the implementation of appropriate dynamic network tariffs for grid-scale storage in the next regulatory period, we are concerned that innovation may be limited

In QLD, government initiatives place considerable strategic importance on storage capacity through the Queensland Energy and Jobs Plan, the Queensland Battery Industry Strategy, and Queensland SuperGrid Infrastructure Blueprint. Overall, ~3,000MW of grid-scale storage is required to meet targets.¹¹ To support this, ~\$200m has already been invested by Energy Queensland (Ergon Energy included) in grid-scale batteries, with an additional ~\$500m committed by the Queensland Government through the Queensland Renewable Energy and Hydrogen Jobs fund.¹² Ensuring the commercial viability of these investments and initiatives through adequate supporting arrangements are critical to meeting QLD's targets, and supporting reliability and security of supply through the energy transition.

As you are aware, across other jurisdictions DNSPs have begun acknowledging the benefits of connecting grid-scale battery storage through customised storage tariffs.

- Ausgrid offers storage import and export tariffs which include a daily charge, peak and off-peak usage charges, and a demand charge. These also include reward payments, differentiated between critical peak and off-peak. Eligibility extends to sub-transmission, high voltage, and a low voltage tariff classes.
- Evoenergy offers a stand-alone battery network tariff which includes a net import charge and a capacity charge. It also includes critical peak reward payments. This is part of a high voltage large scale battery tariff class.
- Most other DNSPs provide postage stamp rebates that allow batteries access to a reward payment, irrespective of location.

Our own internal modelling suggests that the total tariff charges for the Emerald BESS on an ICC tariff within the Ergon Energy network, compared to the above Ausgrid and Evoenergy offers, are more expensive. We do, however, acknowledge that Ergon Energy have recently provided a significantly reduced network tariff estimate for the Emerald BESS within the ICC tariff class, compared to earlier estimates.

Regardless, we remain concerned that a further lack of action in implementing appropriate storage tariffs, or suitable options more broadly for all BESS under the ICC tariff class, may stifle innovation in QLD – placing strategic investment in BESS projects at risk and creating an environment that does not adequately acknowledge the benefits of connecting BESS through customised tariffs (as compared to other DNSPs).

¹¹ Queensland Government - Queensland Battery Industry Strategy 2024-2029 (2024).

¹² Queensland Government - Queensland Energy and Jobs Plan (2022); Queensland Government - Queensland Battery Industry Strategy 2024-2029 (2024).

We urge both Ergon Energy and the AER to reach a suitable decision.

Supplementary comment: Within the changing regulatory environment, we do not agree that network tariffs should include TUOS charges where it can be proved that BESS is more so generation than load. Current arrangements impose an additional barrier for BESS on the distribution network, highlighting the importance and need for flexibility in storage tariffs.

Due to the sub-transmission location of the Emerald BESS, we have been advised by Ergon Energy that TUOS charges will apply to the asset, in the form of a fixed TUOS charge per annum - that is specified by Powerlink and passed through by Ergon in the form of a fixed charge item in the existing network charges as part of the ICC tariff.

However, it is noted that utility-scale BESS are notionally sought to be exempt from TUOS charges under the AEMC *Integrating Energy Storage Systems* Rule Change, and we understand based on separate discussions with Powerlink that this exemption from prescribed services (including TUOS) would be applicable in the case where the BESS is registered as a scheduled load / scheduled bidirectional unit. Under this rule there is an opportunity for the registration and participation of this type of asset in the NEM under a single registration category – being an Integrated Resource Provider ('IRP').¹³ Our position is that the Emerald BESS will be classified as an IRP – treating it as a generation resource rather than as a load. Importantly, these amendments will enable an IRP to negotiate TUOS charges on the transmission network. In some instances, this may be reduced to zero.

TUOS charges are intended to sit with customers which passively use the network to receive a service or benefit (i.e. load customers). Compared to load, generators (on the transmission network) instead provide connection payments for network services due to differing levels of firm access at a connection point. We believe it is reasonable to expect that, in principle, any tariff applied to BESS on the Ergon Energy network, equivalent to generators on the transmission network, should not contain a TUOS charge as it is not guaranteed dispatch and does not enjoy an implied access 'right' (as equivalent to load). We do, however, understand that this is not the current reality.

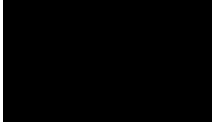
Ergon Energy's ICC tariff includes TUOS amounts, recovered via designated pricing proposal charges. As a direct control service tariff is currently not available within the Ergon Energy Network for storage assets, a negotiation of the ICC tariff remains necessary (and is possible) to achieve similar outcomes to these arrangements. We are currently seeking to confirm with Powerlink if the TUOS charges that would be passed through to Emerald BESS via the Ergon Energy network charges would similarly be exempt and thus considered to be nil. We understand this is beyond the realm of Ergon's control due to the direct pass-through nature of the TUOS charges.

As it stands, we would like it to be noted by both the AER and Ergon Energy that current arrangements are creating further barriers for BESS connecting to the distribution network, and that current ICC tariff components often do not reflect the benefit that grid-scale storage provides to the network when discharging. This highlights the need for additional flexibility in Ergon Energy's storage tariff options. We do, however, appreciate Ergon Energy's most recent reduction for the Emerald BESS network tariff estimate.

The AEMC has recognised this topic as an area of potential future reform. We will continue to take considerable interest in any further reviews and rule change processes which consider the network pricing model for flexible, price-responsive loads that can respond to dynamic price signals and be controlled to support the management of network congestion.

¹³ AEMO is currently in the process of operationalising these reforms (i.e. undertaking registrations).

Yours sincerely,



Mitchell King
Managing Director
Lighthouse Infrastructure Management Limited

Attached:

- Annexure 1 – Introduction to Lighthouse Infrastructure
- Annexure 2 – Lighthouse Infrastructure managed funds
- Annexure 3 – Further detail on Emerald BESS

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Annexure 1: Introduction to Lighthouse Infrastructure

Lighthouse Infrastructure is a specialist investor and manager of infrastructure and alternative assets.

The senior executives of the Lighthouse Infrastructure team have significant investment and infrastructure funds management experience, including renewables experience both internationally and in Australia.

The Lighthouse Infrastructure team has relevant investment experience with organisations such as Hastings Funds Management, Macquarie Capital, IFM, Willis Towers Watson, Tilt Renewables, MaxCap Group, 3i and KPMG.

This experience provides Lighthouse Infrastructure with meaningful access to capital as well as a comprehensive understanding of relevant investment processes, particularly in the renewable energy sector.

Lighthouse Infrastructure Management Limited holds an Australian Financial Services Licence.

Further details on Lighthouse Infrastructure and the team can be found at:

www.lighthouseinfrastructure.com.

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Annexure 2: Lighthouse Infrastructure managed funds

Australian Disability Accommodation Property Trust (ADAPT2)

ADAPT2 is an open-ended investment fund which invests in Specialist Disability Accommodation assets. The Fund is supported by leading Australian institutional investors.

Lighthouse Energy Alternatives Fund

In 2022, Lighthouse established the Lighthouse Energy Alternatives Fund as the continuation fund of Lighthouse Solar Fund (LSF).

LSF was established to provide long-term stable returns to investors through investments in solar assets. LEAF expanded its mandate to invest in more broadly in renewables, including solar, wind and storage. The fund is supported by leading institutional investors.

Lighthouse Infrastructure Fund Trust

The Lighthouse Infrastructure Fund Trust is an investment fund which has successfully invested in Specialist Disability Accommodation and affordable accommodation assets and is now soft closed. The Fund is supported by leading Australian institutional investors.

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Annexure 3: Further detail on Emerald BESS

We have been developing a BESS augmentation to the existing 72MWac Emerald Solar Farm (ESF) since 2023. The intention is to deploy a 60MW/2hr AC-coupled BTM BESS to provide a physical hedge (via capture of spilled solar energy) and commercial hedge (via potential consolidated offtake or complementary merchant risk profile of the PV+BESS portions of a hybrid asset) for the remaining asset life of ESF.

We were initially advised by Ergon in September 2023 of the existence of HV network trial tariffs that may be applicable to BESS to reflect the nature of a storage load (via ability and general commercial behaviour to charge during periods of low demand in the system, i.e. during the day in periods of negative pricing) being substantially different to a standard load (such as a large C&I customer).

[Additional detail to be added if needed / useful]

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