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Australian Energy Regulator  
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Email: [REDACTED]

Dear Kami

### **Intention to introduce sub-threshold tariffs for the remainder of the 2019-24 regulatory period**

This letter outlines Essential Energy's intention to utilise clause 6.18.1C in the National Electricity Rules (NER) in relation to introducing sub-threshold tariffs as part of a trial project for the remainder of the 2019-24 regulatory period.

As part of the 2019-24 Tariff Structure Statement (TSS) Essential Energy committed to undertaking tariff trials to determine customers' response and the associated bill impacts. In the absence of hard evidence, the business has found it difficult to gain customer and stakeholder support for significant changes to small customer tariffs that are more cost-reflective and have the potential to be implemented on a broad-scale.

The intention is to trial at least two innovative tariffs and an export charge for small customers that were not included in the existing 2019-24 TSS. The full scope of the project is yet to be confirmed, but Essential Energy will keep the AER, retailers and customers informed of the trials through the 2021-22 and subsequent years pricing proposals and any other forms of communication that the AER determines appropriate. In addition, the business will be partnering with retailers and engaging with impacted customers in the lead up to the trials.

Essential Energy will ensure that each tariff trialled does not recover more than 0.5 percent of the annual revenue requirement and that, together, the trials do not recover more than one percent of revenue each year, in accordance with clauses 6.18.1C (a)(1) and 6.18.1C (a)(2) respectively.

### **Overview of the tariff trials project**

Essential Energy's tariff trials project will consist of four phases.

- > The first stage is close to completion and has involved working with customers and stakeholders to agree the principles for designing new tariffs and co-design acceptable tariffs to trial.
- > The second phase will involve working with retailers, technology partners, university researchers and behavioural economists to design the scope of the trials, determine the success measurements, recruit customers, install any relevant technologies and develop the business processes to bring the trials to 'go live', ideally by 1 December 2021.
- > The third phase will involve the on-going monitoring and reporting of the trials. This phase will run from the 'go live' date through to the end of the current regulatory period, 30 June 2024. It is important the trials continue for more than one year as evidence indicates that people will change their consumption behaviour in the first year but that, over time, old habits return as the novelty of the trial wears off.
- > The fourth phase entails analysing the trial data and using the results to inform tariffs for consultation with customers and stakeholders as part of the TSS for Essential Energy's 2024-29 regulatory period. This phase will begin in the second half of 2022, when consultation on the 2024-29 regulatory proposal begins.

## Tariff trial design principles

As part of Essential Energy's co-design engagement to date, the principles that should shape tariff design were devised and agreed with customers and stakeholders. These principles are shown in (in descending order of importance) in Table 1 below and will be considered in selecting the composition of the final tariffs to trial.

**Table 1: The principles that should apply to tariff design**

Principle	This means
<b>AVOID BILL SHOCK</b>	Tariffs minimise the risk of bill shock for customers (especially vulnerable customers)
<b>EASY TO UNDERSTAND</b>	Tariffs are relatively simple to interpret
<b>FAIR</b>	Customers pay their fair share of network costs (cost-reflective)
<b>FACILITATE GREEN ENERGY</b>	Tariffs accommodate changing technology, energy flows and greener customer choices
<b>EFFECTIVE</b>	Tariffs do the job - they solve network issues and do not create new ones

## The network problems we want tariffs to help solve

Before embarking on the tariff trials journey, Essential Energy determined the network problems that it hopes to use tariffs to help solve. These are shown in Table 2 below.

**Table 2: Network problems that tariffs need to solve (in order of importance)**

Network problem	How tariffs could deliver a solution	Benefit to customers
1. Manage exports into the network <ul style="list-style-type: none"> <li>Address widening of the voltage envelope</li> <li>Avoid voltage constraints</li> </ul>	<ul style="list-style-type: none"> <li>Send appropriate price signals to ensure the required supply standards (upper and lower voltage supply limits) can be achieved</li> <li>Encourage efficient use of customers' Distributed Energy Resources (DER)</li> </ul>	<ul style="list-style-type: none"> <li>Avoided power quality issues</li> <li>Limited export constraints</li> <li>DER connections continue without constraints</li> <li>DER customers benefit from new market opportunities</li> <li>Lower customer bills than would otherwise be the case, through reduction in the network costs required to accommodate DER</li> </ul>
2. Underutilised network assets <ul style="list-style-type: none"> <li>Improve utilisation</li> </ul>	<ul style="list-style-type: none"> <li>Encourage consumption away from peak time, into other times of the day</li> </ul>	<ul style="list-style-type: none"> <li>Avoided blackouts</li> <li>Improved utilisation of existing network assets</li> <li>Efficient use and improved return on customers' DER assets</li> </ul>
3. Manage peak demand <ul style="list-style-type: none"> <li>Avoid thermal constraints</li> </ul>	<ul style="list-style-type: none"> <li>Encourage efficient use of customers' Distributed Energy Resources (DER)</li> </ul>	<ul style="list-style-type: none"> <li>Lower customer bills than would otherwise be the case, through deferred (or even avoided) costly augmentation capex to meet growing peak demand</li> </ul>
4. The level of replacement expenditure that will increase the size of the RAB	<ul style="list-style-type: none"> <li>Encourage customers to spread their energy consumption</li> </ul>	<ul style="list-style-type: none"> <li>Improved utilisation of existing network assets</li> <li>Deferred replacement expenditure</li> </ul>

These problems are encompassed within the 'Effective' tariff trial design principle shown above and will inform both the final design of the tariffs taken to trial as well as their relative success measures. Trialling tariffs will allow Essential Energy to test whether providing customers the opportunity to benefit (from lower bills) delivers sufficient behavioural change to alleviate these network problems, such that investment is deferred (or even avoided).

### Scope of the tariff trials

The full scope of the trials, including locations and number of customers, is yet to be determined however, as mentioned above, the intention is to trial a minimum of two innovative tariffs and an export charge.

The level of technology overlay for customers within each trial will be varied so that the strength of behavioural change correlated with technology can be determined and the customer experience related to the level of technology assessed.

In addition, an education campaign to share simple consumption messages as to how customers can use energy to minimise network impacts (and costs) and information about interpreting appliance energy consumption and how customers can change their behaviour to lower their electricity bill will also be undertaken. The intention is to determine the level of behavioural change that can be achieved through simple messaging. The results, of which, will be measured using smart meter data via a desktop study.

### Proposed tariff structures

Given Essential Energy is still in the process of co-designing the tariffs to trial with customers and stakeholders, the final tariffs that will be trialled and their associated structures is not yet 100 percent certain. However, the round 1 engagement cycle has helped refine the tariff options that could be trialled. These options are shown in the tables on the following pages and an overview of each of these tables is provided below:

> **Table 3** outlines the form of export charge that may be trialled.

- Essential Energy is hopeful that the AEMC rule change permits networks to charge for exports.
- If the AEMC's final decision does not permit this, then the business will look to obtain a 'letter of no action' from the AER and conduct the trial within a regulatory sandbox.

The intention is to overlay the charge on both Essential Energy's existing Time of Use tariff and one of the two innovative tariff options that makes it to trial.

> **Table 4** outlines the criteria that will inform the structure of the export charge to be trialled.

> **Table 5** outlines the innovative tariff options that are currently being consulted on with the customers and stakeholders.

- For clarity, the indicative changes and triggers as to how the trials may evolve are also shown in this table, however these factors will be refined in conjunction with retailers, university researchers and behavioural economists once the trial tariffs are known and the scope and relevant success measures of each are fully defined.

The intention is to trial two innovative tariff options, one of which will also have an export charge overlay.

> **Table 6** outlines the criteria that will inform the tariff structures of the innovative tariffs to be trialled

The application of the assessment criteria outlined in Table 3 and Table 6, which place particular emphasis on the feedback from customers and stakeholders, may see the proposed tariff structures altered from what is shown in the following tables. For example, feedback may indicate a preference for a Peak Time Rebate overlaid on the Sun Soaker tariff. This would mean combining the Customer Reward component of Option 1 in Table 4 to the tariff structure shown under Option 3 in the same table. **However, Essential Energy is committed to trialling tariff structures based only on the components shown in Table 3 and Table 5 below.** i.e., no other new components will be added.

Essential Energy believes this co-design approach will deliver tariff trials that are genuinely supported by customers and stakeholders. More importantly, should the trial tariffs be successful, they already come with a built-in level of support for broad-scale adoption.

Table 3: Export charge tariffs

Form of tariff	Tariff structure
1. Time of Use export charge	<input type="checkbox"/> Network access charge: Fixed charge per day for the option to export into the network <input checked="" type="checkbox"/> Consumption charge (exports): <ul style="list-style-type: none"> <li>▪ c/kWh <b>payment to Essential Energy</b> for exports into the network between 10am and 3pm</li> <li>▪ c/kWh <b>payment from Essential Energy</b> for exports into the network between 5pm and 8pm</li> </ul> <input type="checkbox"/> Demand charge (exports)
2. kW Capacity-Based export charge	<input type="checkbox"/> Network access charge: Fixed charge per day for the option to export into the network <input type="checkbox"/> Consumption charge (exports) <input checked="" type="checkbox"/> Demand charge (exports): <ul style="list-style-type: none"> <li>▪ 'Free' export threshold<sup>1</sup> applies to exports into the network between 10am and 3pm.</li> <li>▪ \$/kW capacity payment bands apply to exports above the 'free' threshold. The charge applied will be based on the relevant band that the highest level of energy exported into the network, between 10am and 3pm, falls into.</li> </ul>
3. Green Network Contribution Not an export charge but an alternative means of recovering the costs to allow the network to adapt to a green energy future.	<input checked="" type="checkbox"/> Network access charge: Fixed charge per day for the option to export into the network <input type="checkbox"/> Consumption charge (exports) <input type="checkbox"/> Demand charge (exports)
4. kW capacity-based export charge with export payment overlay <sup>2</sup>	<input checked="" type="checkbox"/> Network access charge: Fixed charge per day for the option to export into the network <input checked="" type="checkbox"/> Consumption charge (exports): c/kWh <b>payment from Essential Energy</b> for exports into the network between 5pm and 8pm <input checked="" type="checkbox"/> Demand charge (exports): <ul style="list-style-type: none"> <li>▪ 'Free' export threshold<sup>1</sup> applies to exports into the network between 10am and 3pm.</li> <li>▪ \$/kW capacity payment bands apply to exports above the 'free' threshold. The charge applied will be based on the relevant band that the highest level of energy exported into the network, between 10am and 3pm, falls into.</li> </ul>

<sup>1</sup> The 'free' export threshold has yet to be confirmed but will likely be 5kW for urban customers and 3kW for rural customers per Essential Energy's existing connection agreement.

<sup>2</sup> Based on engagement to date, customers and stakeholders are most supportive of option 2. Whilst this fourth option is not part of the current consultation, it has been raised as a suggestion by a few stakeholders and customers in the second round of consultation and combines the features of option 1 and 2 with the addition of a network access charge for the right to export.

**Table 4: Criteria for assessing the form of export charge to trial**

Criteria	Weighting
<b>Trial dependency:</b>	
> AEMC rule change permits networks to charge for exports or a 'letter of no action' is received from the AER to allow Essential Energy to trial an export charge.	Dependency
> Customer and stakeholder feedback i.e., preference for certain components, likes and dislikes, suggestions etc.	60%
> Alignment with the tariff trial design principles	40%

**Table 5: Innovative tariff options**

Form of tariff	Tariff structure	Potential changes and triggers
1. Peak Time Rebate	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Network access charge: Fixed dollar per day charge</li> <li><input checked="" type="checkbox"/> Consumption charge: flat rate (cents per kWh) for energy consumed</li> <li><input type="checkbox"/> Demand charge</li> <li><input type="checkbox"/> Export charge</li> <li><input checked="" type="checkbox"/> Customer reward: Rebate for reducing consumption over the specified peak time hours on peak time days<sup>3</sup>, fixed amount per event<sup>4</sup></li> </ul>	<p>The appropriate level of rebate to deliver the desired change in consumption behaviour will be tested as part of any trial.</p> <ul style="list-style-type: none"> <li>&gt; Two price levels may be trialled in the first year. The level of behavioural change as well as the impacts on customer bills and the behavioural experience for customers will be assessed at the end of that year and a refined rebate and relative price level will be applied in the second year.</li> </ul>
2. Peak time rebate with export charge overlay	<ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Network access charge: Fixed dollar per day charge</li> <li><input checked="" type="checkbox"/> Consumption charge: flat rate (cents per kWh) for energy consumed</li> <li><input type="checkbox"/> Demand charge</li> <li><input checked="" type="checkbox"/> Export charge: The form of the export charge will be based on the preferred outcome from <i>Table 4: Criteria for assessing the form of export charge to trial</i> above</li> <li><input checked="" type="checkbox"/> Customer reward: Rebate for reducing consumption over the specified peak time hours on peak time days<sup>3</sup>, fixed amount per event<sup>4</sup></li> </ul>	<ul style="list-style-type: none"> <li>&gt; At the end of each subsequent year, the trial data will be reviewed to assess customer response, bill impacts and the behavioural experience for customers against the relevant success measures. The rebate and flat rate components will be adjusted as required.</li> <li>&gt; Intention is to derive the ideal level of rebate by the end of the trial period.</li> </ul>

<sup>3</sup> The indicative number of peak time events is no more than 15 days and for no more than four hours on each of those 15 days. These numbers are part of the customer and stakeholder consultation currently underway.

<sup>4</sup> The rebate component may be paid directly from Essential Energy to customers or applied as a credit on customers retail bills.

Form of tariff	Tariff structure	Potential changes and triggers
3. Sun Soaker	<input checked="" type="checkbox"/> Network access charge: Fixed dollar per day charge <input checked="" type="checkbox"/> Consumption charge: c/kWh for energy consumed over three charging windows <sup>5</sup> <ul style="list-style-type: none"> <li>▪ Peak rate over the evening peak</li> <li>▪ Daylight hours rate (off-peak) over the middle of the day</li> <li>▪ Shoulder rate at all other times</li> </ul> <input type="checkbox"/> Demand charge <input type="checkbox"/> Export charge	<p>The success of the trial in achieving the desired behavioural change as well as the impacts on customer bills and the behavioural experience for customers will be assessed at the end of each year</p> <p>&gt; If necessary, adjustments to the charging windows and their associated rates will be undertaken</p>
4. Sun Soaker with Critical Peak Pricing overlay	<input checked="" type="checkbox"/> Network access charge: Fixed dollar per day charge <input checked="" type="checkbox"/> Consumption charge: c/kWh for energy consumed over two charging windows <sup>6</sup> <ul style="list-style-type: none"> <li>▪ 'Daylight hours' rate (off-peak) over the middle of the day</li> <li>▪ 'All other times' rate</li> <li>▪ Critical peak price applies to the specified consumption level over the specified critical peak hours on the critical peak days<sup>7,8</sup></li> </ul> <input type="checkbox"/> Demand charge <input type="checkbox"/> Export charge	<p>The success of the trial in achieving the desired behavioural change as well as the impacts on customer bills and the behavioural experience for customers will be assessed at the end of each year</p> <p>&gt; If necessary, adjustments to the Critical Peak Price and the charging windows and their associated rates will be undertaken</p>
5. Existing Time of Use tariff with export charge overlay	<input checked="" type="checkbox"/> Network access charge: Fixed dollar per day charge <input checked="" type="checkbox"/> Consumption charge: c/kWh for energy consumed over three charging windows <ul style="list-style-type: none"> <li>▪ Peak rate from 5pm to 8pm on weekdays</li> <li>▪ Shoulder rate from 7am to 5pm on weekdays</li> <li>▪ Off-peak at all other times</li> </ul> <input type="checkbox"/> Demand charge <input checked="" type="checkbox"/> Export charge: The form of the export charge will be based on the preferred outcome from <i>Table 4: Criteria for assessing the form of export charge to trial above</i>	<p>The success of the trial in achieving the desired behavioural change as well as the impacts on customer bills and the behavioural experience for customers will be assessed at the end of each year.</p> <p>&gt; If appropriate the export charge components will be reassessed and altered.</p>

<sup>5</sup> The actual peak, off-peak and shoulder times will be informed by customer and stakeholder feedback and detailed analysis of network data

<sup>6</sup> The actual 'daylight hours' period will be informed by customer and stakeholder feedback and detailed analysis of network data

<sup>7</sup> The indicative number of critical peak events is no more than 15 days and for no more than four hours on each of those 15 days. These numbers are part of the customer and stakeholder consultation currently underway.

<sup>8</sup> In addition, consultation will also inform whether the critical peak pricing is only applied to 'above average' consumption i.e., low energy users would not face the critical peak price as their usage falls below the average, but high energy users would pay the critical peak price for consumption that is 'above average'.

**Table 6: Criteria for assessing the tariffs to trial**

Criteria	Weighting
<b>Trial dependency for export charge overlay:</b>	
> AEMC rule change permits networks to charge for exports or a 'letter of no action' is received from the AER to allow Essential Energy to trial an export charge.	Dependency
> Customer and stakeholder feedback that is currently taking place <ul style="list-style-type: none"> <li>▪ Tariffs, or their respective components, that receive stronger support will receive a greater weighting than those that receive less support</li> </ul>	45%
> Alignment with the tariff trial design principles	45%
> Ease of trial <ul style="list-style-type: none"> <li>▪ Tariffs that are easier to bring to trial and potentially implement on a broad scale will receive a greater weighting than those that are more difficult to bring to trial and implement more widely</li> </ul>	10%

### Partnerships, funding and knowledge sharing

Essential Energy does not have the expertise to conduct these trials alone. As just one part of the supply chain, partnering with retailers for the trials will be imperative. In addition, technology providers and the skills of university researchers and behavioural economists will be required to design robust trials and ensure the delivery of useful data and results that can inform the development of tariffs for consultation the next regulatory period.

The costs of the trials will be significant, given their scope and duration. Essential Energy intends to use a portion of its Demand Management Innovation Allowance Mechanism (DMIAM) to pay for the trials and knowledge about the trials will be shared through the associated annual DMIAM compliance report.

In addition, the business is currently overseeing the development of an industry supported Australian Renewable Energy Agency (ARENA) funding application to assist with the remainder of the costs. The ARENA application will be put forward by a consortium, including Essential Energy, retailers, technology providers and universities and have the endorsement of consumer advocacy groups and other distribution networks.

Should the ARENA funding application be successful, annual on-going findings and updates will also be provided to ARENA, as well as a final report that will be published on the websites of all consortium members. Wherever possible the consortium will raise awareness of the project and identify opportunities to share knowledge efficiently through existing events. In addition, the consortium will host at least two dedicated webinars to present the study and will attend at least two conferences within Australia to present the study.

### Alignment with TSS strategy

This tariff trials project aligns with the tariff strategy and pricing principles outlined in Essential Energy's 2019-24 TSS<sup>9</sup>. The electricity industry is undergoing rapid change driven by changes in the way customers source and use energy, the push to decarbonise energy supply, and the increased decentralisation of the energy supply chain. Tariff trials are essential to the business successfully designing and testing network charges that recognise the characteristics of both our network and our customers, now and for the foreseeable future.

In particular, Essential Energy's 2019-24 TSS specifically identified several factors to encourage the adoption of more cost-reflective network charges including the need for education, collaboration, trials and technology<sup>10</sup>, all of which feature within the proposed tariff trials.

<sup>9</sup> Attachment 1 Tariff Structure Explanatory Statement, Essential Energy, January 2019, p. 3 & 4

<sup>10</sup> Ibid p.4

Essential Energy is committed to keeping the AER, retailers and customers informed of the project's progress and is looking forward to working with the AER to progress these tariff trials. Should you have any questions about the trials or the business' intended application of clause 6.18.1C, then please do not hesitate to contact Natalie Lindsay, Head of Regulatory Affairs on [REDACTED]

Yours sincerely

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Chantelle Bramley

**General Manager Strategy, Regulation and Corporate Affairs**