



Ausgrid Submission

AEMC Distributed Energy Resources – Updating Regulatory Arrangements Consultation Paper

September 2020



10 September 2020

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Dear Mr Singh,

Ausgrid is pleased to provide this submission to the Australian Energy Market Commission's (AEMC) *Distributed Energy Resources – Updating Regulatory Arrangements* consultation paper. We welcome recommendations that lead to improved customer outcomes, particularly those that enable transformation of the energy system and a transition to a low carbon future.

Successful and sustainable integration of distributed energy resources (DER) is a key issue for the future of the National Electricity Market. The proposed rule change is forward looking, enabling new technologies and potentially new markets for services that customers value. The change is in the long-term interests of consumers who would receive more certain returns on their investment in new distributed energy resources and who would be rewarded for behaviour that lowers network costs.

With exports recognised as distribution services, our network costs would be shared equitably by all users. This reform is required to improve outcomes for all network users and to achieve a faster decarbonisation of the grid while maintaining safety, affordability and reliability of network services.

In addition to the comments above, our submission provides views on the questions raised in the AEMC's consultation paper. Should the AEMC have any questions in relation to this submission, please contact Alexandra Sidorenko, Network Pricing Manager, on 02 9269 4360 or alexandra.sidorenko@ausgrid.com.au.

Yours sincerely

A handwritten signature in black ink, appearing to be "R. Lewis", written over a horizontal line.

Rob Amphlett Lewis
Chief Customer Officer

Consultation Paper Questions

1 Approach to rule change assessment

1.1 Is the assessment framework, specifically the criteria outlined above, appropriate for considering the proposed rule changes?

We are supportive of the proposed assessment framework, with assessment criteria being regulatory clarity and certainty, efficient provision of electricity services, efficient pricing, regulatory burden, and robustness to climate change mitigation and adaptation risks.

1.2 Are there any other relevant considerations that should be included in the assessment framework?

We note that 'equity' or 'fairness' are not part of the formal assessment criteria. As a normative policy consideration, fairness is explicitly outside the AEMC's mandate.¹ However, fairness is an important consideration for customers and in our view should be factored in the AEMC's decision making. We consider that the assessment framework should promote the National Energy Retail Objective (NERO), by ensuring that the rule is compatible with the development and application of consumer protection for small customers.

2 Definitional issues

2.1 Should export services be recognised as part of the network services provided by DNSPs to customers?

Our customers are increasingly demanding provision of export services to make energy more affordable and sustainable. Symmetrical treatment of consumption and export services as electricity distribution services would reflect customer preferences as they evolve and allow bringing export services into network planning and investment decisions.

While export services are not available to some customers (e.g. apartment dwellers), customers with DER capability demand these services. By recognising export services as distribution services and creating charging mechanism to allocate the costs of these services to impactors (causers), we would achieve a more efficient network utilisation and increase customer choice. This is particularly important amid the rapid growth of micro-generation in the generation mix. We consider that making the proposed change is in the long-term interests of consumers, including those with and without DER. Consumers should have options in the way they use energy, including access to DER. Price signals should elicit desirable behaviours and lead to efficient outcomes.

2.2 Are the proposed definition changes necessary and appropriate to enable export services to be recognised as part of the services provided by DNSPs to customers?

Without making the proposed changes to the definition of distribution services, a growing segment of services provided over the distribution network remains outside the regulatory framework. Customers expect those services to be delivered. The need for definition

¹ AEMC (2019), *Applying the Energy Market Objectives*, July 2019.

changes is driven by the changes in technology, increased accessibility of DER and customer expectations about services that networks should be able to provide. There is no clear obligation on the DNSPs under the current regulatory framework to accommodate the growth in DER.

We are supportive of service definitions being updated to include export services as distribution services. Symmetrical treatment of consumption and exports also allows to extend existing pricing and regulatory instruments to export services. This approach increases certainty and minimises regulatory burden.

We are supportive of changes in the definitions of a distribution system, a network and a retail customer, to recognise the service of conveyancing, and controlling the conveyance of, electricity to and from customers. A definition of a network element might also need to be amended to include network assets associated with the function or operation of a distribution system in its role of supporting exports from customers, remaining technologically neutral. This is consistent with the Energy Security Board's work on the design of a two-sided market that moves away from defining specific technologies and assets in the rules towards a technology-neutral approach that attaches obligations to services. The term 'usage' might need to be replaced by 'usage and exports' or 'services', to allow for the symmetrical application of concepts.

It might also be desirable to retain flexibility in the definition of the distribution services, to ensure that the regulatory framework can accommodate future distribution services as they evolve (e.g. voltage control or reactive power).

2.3 Are there any unintended consequences that could arise from SAPN's proposed amendments to definitions?

We do not foresee any unintended consequences that could arise from SAPN's proposed amendments. SAPN's proposed amendments reduce uncertainty by extending the existing regulatory framework.

2.4 Are there more appropriate approaches to enable export services to be recognised under the framework that are not considered above?

We consider SAPN's proposed approach strikes an appropriate balance between regulatory certainty, simplicity and economic efficiency.

2.5 Are there any other issues related to definitions that the Commission should consider?

The rapid transformation of the energy sector means that changes to service definition will continue. The AEMC could consider adding flexibility to the definitions to include 'other services' that can emerge in future. This would enable the AER to add to the list of new distribution services and avoid future rule change when new technologies emerge. Potential examples are voltage or reactive power where customers could be charged or rewarded if there is a demand for these services.

3 Proposed changes to definitions

3.1 *Are the proposed approaches to the classification of export services necessary and appropriate?*

Generally, the NER does not prescribe service classification – rather the AER determines this through each regulatory determination. We are supportive of the flexibility for the AER to determine service classification for export services as part of the Framework and Approach (F&A) process.

We recognise that the proposed rule change opens new markets for services that could be provided competitively in the future. It is important not to be overly prescriptive in the Rules. We support leaving the service classification process to the AER where there may be mechanisms that can respond better to market developments and technological change.

We also consider that there are benefits in treating consumption and export services as being delivered from a joint regulatory asset base (RAB). This is because the same assets will be used to provide both services, and the allocation of the asset to a particular service would be challenging to determine and can also change over time. Cost-reflectivity should be delivered via the Tariff Structure Statement and the annual price setting process.

If both these services are classified as standard control services, customers could face pricing signals that capture both charges *and* rewards, with charges applying to behaviours that drive future network costs, and rewards applying to behaviours that save future network costs.

3.2 *Are there more appropriate approaches to enable DNSP expenditure on export services to be economically regulated that are not discussed above?*

Symmetrical treatment of consumption and exports would allow application of the existing regulatory framework to both consumption and export services with minimal amendments. In our view, this is the least burdensome and the most appropriate way to create a mandate for distributors to undertake expenditure on export services in line with what their customers demand and are willing to pay for.

3.3 *Are there any other issues related to service classification that the Commission should consider?*

It would be beneficial to provide flexibility for including new services in the definition of distribution services in the future.

4 Obligations on DNSPs

4.1 *Should the NER be amended to impose obligations on DNSPs to provide export services as proposed?*

We note that regulatory clarity and certainty should extend to the network's obligations and incentives to undertake efficient investment to support customer demand for DER services. There should also be clear funding mechanisms to support this investment. Both such obligations and mechanisms are missing from the current regulatory framework.

We support SAPN's proposal to change the definition of distribution services to include export services and to incorporate export services into planning and investment decisions, subject to an appropriate cost-reflective funding mechanism. We note that without an appropriate cost-reflective funding mechanism, more cross-subsidies from customers without DER to those with DER may arise.

With the symmetrical treatment of consumption and export services in the NER, we support using our Distribution Annual Planning Report (DAPR) and expenditure plans in our 5-yearly regulatory proposal to outline our approach for enabling export services. With this in mind, we consider TEC/ACOSS's proposed 5-yearly DER Integration Strategy (DERIS) may be unnecessary and overly burdensome.

4.2 *Would it be appropriate to impose obligations on DNSPs to consider network planning solutions in relation to DER integration?*

We support SAPN's proposal that would extend the regulatory investment test for distribution (RIT-D) to apply to export services.

4.2.a *Is there a need for the introduction of specific arrangements to guide network planning and investment decisions around additional DER hosting capacity?*

The AER would need to develop values of customer reliability (VCR) for exports, to support the application of RIT-D and service target incentive performance scheme (STPIS) to exports. We consider that no specific arrangements would be required outside the proposed change in definitions.

4.2.b *Do you consider that a net market benefit test is a useful way to guide DNSP network planning and investment for export services?*

We do not support application of the market benefit test above what is already allowed under the RIT-D. Under the current regulatory framework distributors are using probabilistic network planning based on the forecast maximum demand. Network planning requirements in the NER are not explicit on the need to consider wider market benefits. We consider that current provisions are sufficient to accommodate export services subject to the proposed change of definitions.

We note that market benefit test can be applied too widely and may result in accepting investment projects not maximising the value to our customers. Market benefits might accrue

to parties other than the network and its customers. Distribution of net benefits is a matter of public policy.

We also do not support removing the current materiality threshold for the application of RIT-D as it would be cost prohibitive and burdensome to apply the test to relatively small projects. A full cost benefit assessment should be undertaken before any such change is contemplated and additional costs borne by customers.

4.3 Should a principle for the allocation of export capacity in the NER be introduced? If so, what principle should be included?

With the symmetrical treatment of consumption and exports supported by pricing, new rules on allocation of hosting capacity in the NER are not needed. The current rules are based on principles of economic efficiency that should equally apply to export pricing.

Without the symmetrical treatment of consumption and exports supported by pricing, an alternative approach would be to mandate a certain level of DER hosting capacity, or to establish tradeable property rights over hosting capacity. Both approaches require extensive changes to the regulations (and potentially legislation), are expensive to implement and administer, and overall are not as efficient as the proposed rule change that would see the definition of distribution services extended to include exports.

Total Environment Centre (TEC) and Australian Council on Social Services (ACOSS)'s proposal to establish rules on allocation of hosting capacity becomes unnecessary if consumption and export services are treated symmetrically and are supported by pricing.

We also note that because of the nature of the services, an opt-in model to purchase hosting capacity is challenged by the free-rider problem. It would potentially be cost prohibitive to exclude certain users from getting the benefits of the enhanced hosting capacity funded by other users, resulting in under-provision of hosting capacity via opt-in schemes. This needs to be balanced against consumer choice considerations.

5 Efficiency incentives

5.1 If 'distribution services' expressly include export services, are there any regulatory barriers to adapting existing incentive schemes to export services?

We consider that existing incentive schemes such as efficiency benefit sharing scheme (EBSS), capital expenditure sharing scheme (CESS), demand management incentive scheme (DMIS), demand management innovation allowance mechanism (DMIAM) and the STPIS can be adapted to cover export services. As discussed below, the AER would need to engage closely with distributors on measures and data requirements for the STPIS scheme (see section 5.3 of our response).

5.2 Should the STPIS be extended to export services or is a new incentive scheme required?

We consider that extending the STPIS to export services provides a minimum cost regulatory change, and an alternative scheme for export services is not required. We agree that the AER would need to develop values of customer reliability for exports to support application of STIPS or any standard for exports.

Implementation of the STPIS scheme should be phased in to allow performance measures to develop and mature. Jurisdictional flexibility that currently applies to the setting of standards for consumption services should be extended to export services.

We consider that it is not necessary to set service standards for export services in the NER. The current flexibility for standards to be defined either by jurisdictions or the AER should extend to export services.

5.3 If the STPIS or a new incentive scheme is to apply to export services:

5.3.a What are the practical challenges of designing relevant performance measures and collecting robust data? Can these challenges be overcome over time?

The major challenge would be to develop metrics of export performance for setting the service targets or standards. Currently we either do not collect, or do not have access to, the data on the curtailment or cut-off of customer's generation equipment.

To distinguish between distributor-caused curtailment versus other causes of reduced exports would require visibility of a variety of factors, including:

- the amount of curtailed export
- network voltage at the connection point
- customer voltage
- customer self-consumption
- inverter settings, inverter readings
- weather data.

The visibility of both the low voltage network and customer's installations would need to improve significantly. This requires time and additional expenditure that needs to be supported by our customers and approved by the AER. It also requires consideration of more cost-effective ways of obtaining this data. For example, with customer consent, inverter manufacturers and/or third part providers could be required to capture and provide this information to the distributors and the regulator.

An alternative performance measure that could be applied to an incentive scheme for export services is voltage which could be used as a proxy for inverter performance. When voltages are too high, inverters will respond by curtailing or cutting off generation. Network voltages are also a measure that a distributor have more direct control over, and improvements could benefit all customers.

The practical challenge of using voltage measurement is that voltage varies continuously, including at different points along a feeder or distributor. There is currently limited visibility of voltage performance on the LV network beyond the transformer terminals of the distribution substation. The voltages experienced by customers may be different to that at the transformer terminals.

Another practical challenge is that the point of connection where distributors are required to measure voltages for compliance is not the same location where a customer inverter is located. We may not actually be providing suitable voltage at the customers' point of supply due to voltage rise/drop in the service mains (which we do not have control over) due to load and solar export.

Voltage is one of the potential export performance measures parameters. Other measures supportive of system strength could also be considered for the STPIS for exports.

If the number of customer complaints related to DER constraints is used as a performance measure, changes to our customer management system would be required to collect this data. We consider that DER curtailments caused by faults on the customer side of the connection point would need to be reported separately, to distinguish from the distributor-led constraints.

We would also need to build systems to collect data on the level of operating and capital expenditure that is primarily for the purpose of addressing network constraints on DER exports, should this indicator be used as a performance metric.

5.3.b Should the details of the scheme be prescribed in the NER or is it appropriate for the AER to design the scheme?

We consider it appropriate for the AER to extend the existing STPIS scheme in collaboration with industry and customers. Defining the scheme in the NER would be overly prescriptive and not flexible enough to respond to the market developments and technological change. Further to this, extending the scheme to exports would be simpler than developing an entire new scheme with a different S factor and different reporting requirements and timeframes.

5.3.c Are there any additional factors the AER should be required to take into account (eg, under NER clause 6.6.2 relating to the STPIS)?

There needs to be flexibility in any export services incentive scheme to account for additional system services to support broader DER hosting capacity (for example distributor provided system strength services). Any changes to the scheme should also consider any additional appropriate exclusion mechanisms to ensure that DNSPs are not unfairly penalised for factors outside their control.

5.3.d Do export service standards (to meet customer expectations) need to be established to set a performance 'baseline' for the incentive scheme?

Export service standards would need to be established to form a baseline for any incentive scheme for export services. Interactions between the AER and jurisdictional incentive

schemes need to be considered (for example, average performance and worst served customers). It is recommended that a 'paper' scheme is established first, to collect data and establish the appropriate metrics. Starting from the current lower levels of monitoring, it will be important to distinguish between genuine changes in performance versus changes in the performance measure purely due to the improved measurement. This contrasts with reliability measures for consumption where we have exhaustive history to set benchmarks.

Should the export service standard be established and supported by the Guaranteed Service Level (GSL) payment to the customer, we agree with the SAPN's view that the GSL should only be an inconvenience payment for service levels well outside the reasonable range for this type of customer. We do not support the GSL payment for export to include any deeper costs such as the loss of feed-in-tariff revenue or of the wholesale market benefit. This would lead to the GSL for exports not being commensurate with the standard for consumption. It would also make GSLs subject to disputes between customers and distributor with no supporting administrative framework, as the wholesale market benefit would be difficult to establish.

6 Pricing arrangements

6.1 *Should DNSPs have the option to propose to the AER charges for export services?*

We support St Vincent de Paul (SVDP)'s and SAPN's proposals to remove clause 6.1.4 of the NER that prohibits distribution use of system charges for exporters. This would allow distributors to:

- engage with customers and the AER on appropriate mechanisms to facilitate efficient integration of DER
- reduce future network costs, leveraging behavioural response by customers or measures taken by retailers in response to price signals.

6.2 *What are the potential benefits and costs of enabling export charges?*

Enabling export charges and establishing an obligation on distributors to provide export services increases certainty of return on DER investment by DER customers. It also prevents new and reduces existing cross-subsidies from non-DER to DER customers. Together with the drive towards cost-reflective consumption tariffs, export tariffs will complement optimal pricing solutions with the effect reducing the need for future network augmentation costs and placing downward pressure on network prices for all customers.

Classification of export services as distribution services enables future provision of value-adding services in a two-sided market, including potential creation of new services, entry of innovative market players, increased competition and consumer choice. Creation of new markets that operate over the shared network will improve the efficiency of network utilisation and provide additional value to new users who would share in the total efficient network costs. These dynamic efficiency effects of the proposed rule change are in the long-term interests of consumers.

We note that TEC/ACOSS's preferred approach is to not introduce export charges, while SVDP and SAPN's proposals do not envisage an immediate introduction of charges. The latter proposals recognise that customers should have a passive option of not paying the charge and being potentially constrained. This could create a market for innovative service solutions and products (eg community battery storage).

SVSP's and SAPN's proposals result in a more efficient allocation of risks. Currently DER investment risks lie with DER customers who may not be able to receive the return on their investment in DER if they are constrained. With the rule change, the risks will be shared between distributors and DER customers. If exports become a distribution service that distributors are required to accommodate, causers (who are also direct beneficiaries) will be able to signal their willingness to pay for the service. Networks would be making the investment decisions based on the identified need and customer's willingness to pay and will be facing an incentive scheme to ensure that the service is delivered to an appropriate standard. The risks of the DER customer's investment decision not delivering the expected return would be shared between the customer and the distributor, via performance incentive schemes. This would allocate the risk to the parties that are better suited to manage the risk, leading to more efficient outcomes.

Extension of pricing principles under clause 6.18.5 to export services is reasonably straightforward. We are supportive of a two-way tariff framework that could include negative tariffs to reward customers for network services their DER provides (eg, for exports during peak load times) – noting that this can also be done through network support payments and that the rules need to retain the flexibility to allow both options.

We support application of the LRMC based prices for consumption and exports (within their own peak periods). We agree with SVDP's view that locational signals are important to ensure efficient integration of DER. We also consider that future tariff structures could include tariffs for the local use of network, for the flows that are exchanged and traded within the local distribution area. All these opportunities can be addressed under the current pricing principles provided the symmetry of consumption and export charges.

The costs of enabling export charges relate to the costs of customer engagement and consultation, communications, and implementation of changes to distributors and retailers billing systems. Market systems (eg MSATS, B2B) would also need to change. There could also be costs to the existing customers with DER if they were to be exposed to the new charges. As with any changes to tariffs, appropriate transitional arrangements should be considered and is required under the existing provisions in the NER. Appropriate transitional arrangements should be considered and can already be provided for under the existing provisions in the NER.

6.3 If customers can already negotiate 'deeper' connection agreements, is a 'supplementary' connection arrangement required to allocate DER-related costs – as proposed by TEC/ACOSS?

TEC/ACOSS's proposal envisages recovery of hosting capacity via charges similar to connection charges, applied to DER customers on an opt-in basis. The proposal would also require creating new rules to allocate hosting capacity between new and existing customers. We consider that connection charges are a blunt instrument not capable of sending a time varying price signal that influences behaviour at the margin.

The alternative proposal for symmetrical treatment of consumption and exports services and appropriate pricing can place a charge on behaviours that cause network costs, reward behaviours that help avoid network costs and result in more efficient use of DER. We do not consider that a supplementary connection agreement is required.

6.4 If NER clause 6.1.4 is removed, and DNSPs are able to develop tariffs for export services:

6.4.a What are the implementation issues?

The costs of implementing export charges in distributors' and retailers' billing systems as well as the associated market systems could be substantial. Ample lead time needs to be allowed between proposing the new tariffs and implementing them in the respective systems. Extensive engagement with customers and retailers is required. Retailers need to develop the products that fully reward customers under the two-way pricing system.

We consider that with the proposed rule change consumer benefits substantially outweigh the implementation costs. Distributors would establish the point in time when the cost benefit analysis would support proposing and implementing export tariffs, and when the customers would support the change. Removal of clause 6.1.4 will allow this to occur in the future.

Some additional challenges are associated with tariffs for the local use of network (both consumption and export) that might eventuate as a result of two-way pricing, including accounting for and settlement of local energy flows.

There will be additional data transfer (communications) costs. Provision of data by third parties (eg inverter data and meter data) would need to be ensured to implement incentive schemes for export tariffs and potentially for pricing of innovative dynamic network tariffs.

The proposed rule change needs to align with the ESB Post 2025 Market Design review. It should remain technology neutral. The proposed new services and obligations would need to be supported by technical standards (eg, for smart inverters to be mandatory for new connections) and potentially leverage the ESB Governance of DER Technical Standards work and Australian Standard on inverters.

As has been the case with smart meters enabling cost reflective consumption tariffs, smart inverters are essential to support cost reflective export tariffs that can reward customers for

their behaviour that saves network costs. Remote communications standards for inverters would need to be able to support the data requirements for the new tariffs.

6.4.b Should the existing tariff structure statement process and pricing principles apply? For example, is a principle required to guide DNSP decisions on cost allocation between consumption and export services – as proposed by SAPN?

We consider that the Tariff Structure Statement (TSS) consultation process should apply to export tariffs. Export services classified as standard control services would become part of the TSS.

We consider that distributors should engage with customers and jurisdictional governments on export tariffs as part of developing their TSS, to be approved by the AER. If classified as standard control services, exports tariffs will become part of the total tariff table, and the revenue from these tariffs will contribute to the total revenue cap.

In line with the symmetry between consumption and export services, pricing principles in the NER (clause 6.18.5) should also apply to export services. With the introduction of export charges, tariff structures and tariffs are likely to become more complex. It may be necessary to review the NER requirement that “the structure of each tariff must be reasonably capable of being understood by retail customers that are assigned to the tariff”. With the two-way pricing and potentially more complex tariffs, pricing signals would be sent to retailers/aggregators who can repackage them into retail products for their customer, differentiated by customer preferences. Customer representative views will be particularly important on this question.

We are supportive of causer/impactor pays principle of allocating costs across customer classes. This contributes to overall efficiency and cost reflectiveness of our tariffs.

With the distribution network becoming a multi-product firm, it is important to maintain principles of cost allocation across the basket of services. We consider that impactor pays principle should be used to allocate costs across users, and that marginal cost pricing should apply to guide customer decisions at the margin, to ensure efficiency. Consultative engagement with customers can be used to set priorities/weights of interests of consumers and exporters when a conflict arises.

6.4.c Are transitional or 'grandfathering' arrangements needed and, if so, should they be prescribed in the NER?

We consider that the existing requirement in the NER pricing principles to consider customer impacts provides a sufficient mechanism to address the transition towards cost reflective tariffs both for consumption and export. We do not consider that this should be explicitly prescribed in the NER.

6.5 Should the regulatory framework better recognise the benefits DER services provide to DNSPs? For example, does SAPN's proposal to allow for negative prices address the issue?

Network pricing should recognise this symmetry by charging users when they impose costs on the network and rewarding customers when they avoid network costs. This enables all customers to play a role in reducing network costs for everyone.

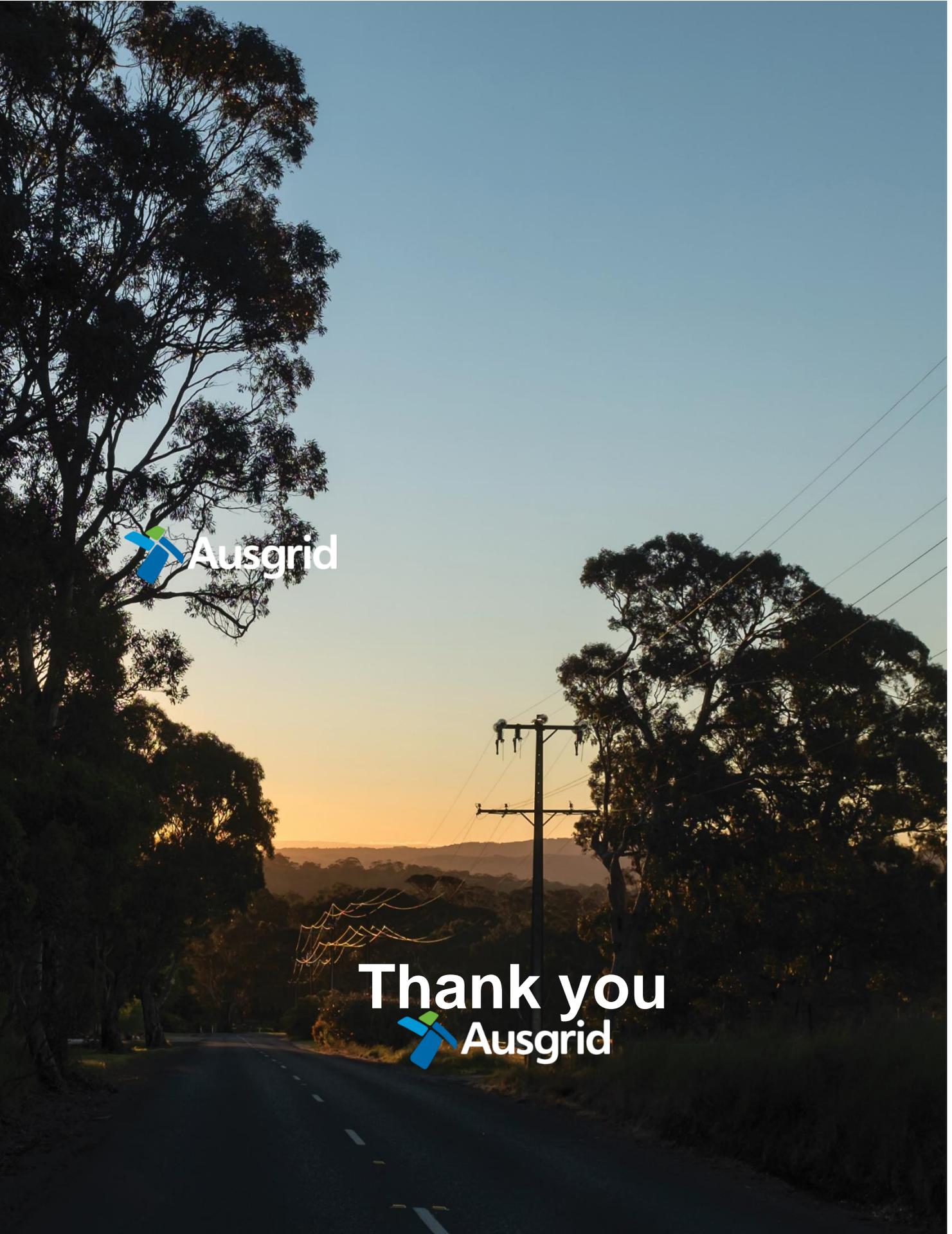
For instance, a customer exporting during a peak export event may increase network costs, but another customer could assist in avoiding those costs by increasing their demand. Rewarding the second customer could be accomplished if negative prices are allowed, or if reward payments are provided by other means. The value of the reward would be based on the LRMC of the corresponding service - consumption or export - within their own peak periods.

There might also be local variations of the rewards and costs (note that locational pricing is provided for under the current NER). SVDP's proposal puts forward locational pricing. SAPN does not propose locational pricing but suggests consideration be given to locations of network constraint. We consider that the flexibility of the principle should be maintained, to enable distributors to propose the best structures that suit their network needs, comply with jurisdictional and Rule requirements and are supported by customers.

6.6 Should these reforms only apply to small customers?

We consider there are merits in the SAPN's proposal to exempt large stand-alone generators from the application of DUOS charges, to maintain competitive neutrality with transmission. Charges to the stand-alone market generators (primary generators) connected to the distribution network should not prevent the efficient entry of generation and should not put them at competitive disadvantage to transmission connected generators.

We consider it would be desirable not to exempt large customers with embedded generation from the potential application of DUOS charges. This would maintain symmetry with consumption, where large customers fund their connection via a combination of connection charges and tariffs.



 Ausgrid

Thank you
 Ausgrid