

ENERGETIC COMMUNITIES SUBMISSION

DISTRIBUTED ENERGY RESOURCES INTEGRATION – UPDATING REGULATORY ARRANGEMENTS

INTRODUCTION

Energetic Communities strongly advocates for a rapid transition to a zero-carbon energy system by 2030. Distributed energy resources (DER) including rooftop solar, batteries, electric vehicles and other smart technologies such as digital communication tools, can accelerate the decarbonisation of the grid, improve grid reliability and help make energy more affordable for everyone. The electricity system is already transforming in response to new technology, market developments and climate change concerns. Households and small businesses who can are increasingly investing in DER. Rooftop solar is now the largest generator in the NEM, and entirely zero carbon.

However, if we don't value and plan for DER, we can only expect perverse outcomes, such as inefficient investment, wasted zero carbon energy, slower decarbonisation of the grid and exacerbated inequalities in recovering the costs of the electricity network. DER households are increasingly being export limited by distribution network service providers (DNSPs). We support the right of all DER households, new and existing, to be able to export back to the grid. Curtailment of this will only increase if the energy system and regulations are not updated to the new reality of increased DER.

On the other hand, currently not all consumers can access the financial and environmental benefits of DER. Energy is an essential service and needs to be affordable and accessible to all. We need energy policy and regulation that is fair and encourages DER uptake and utilisation in a way that enables access and benefits for all consumers and communities. We must avoid punitive measures for both prosumers or consumers and ensure DER integration does not come at a cost to other energy users, especially low-income, vulnerable and locked out households.

In July 2020, the Australian Energy Market Commission (AEMC) received three rule change requests that aim to better facilitate the efficient integration of distributed energy resources (DER) for the grid of the future. The three requests are from:

- SA Power Networks (SAPN)
- St Vincent de Paul Society Victoria (SVDP), and the
- Australian Council of Social Service (ACOSS) along with Total Environment Centre (TEC).

These rule change requests seek to amend the National Electricity Rules (NER) relating to the economic regulation of DNSPs in the National Electricity Market (NEM). They aim to unlock the benefits of DER by identifying reform options that promote greater flexibility for the Australian Energy Regulator (AER) and DNSPs to efficiently manage each jurisdictions' circumstances and meet consumer preferences.

Energetic Communities has reviewed the proposals. Our position is strongly aligned to the proposal by ACOSS and the TEC to place the onus onto networks to optimise and invest in additional DER hosting capacity, improve access to the grid and allocate costs more fairly. Without some of the proposed changes, we will continue to see clean energy being wasted, inefficient investment of networks and ongoing inequity in cost recovery.

About Energetic Communities Association

Energetic Communities Association is a state-wide association that aims to represent the interests of households, communities, and not for profit organisations working in the social, environment and community sectors, and to promote and develop community owned renewable energy. We aim to be a leading force in building social change and economic wellbeing for all household and not-for-profit energy consumers. We bring experience of engaging with complex regulatory processes, and we have excellent connections with other Queensland based consumer advocates.

THE CURRENT REGULATORY ENVIRONMENT

Energetic Communities agrees with all three proponents that with changing technologies and increasing integration of DER, the current regulatory framework and market rules are increasingly less fit for purpose. DNSPs are neither explicitly required to invest in DER integration, nor prevented from doing so. It is up to their discretion, but they cannot currently recover costs through DER export charges due to NER 6.1.4, which we believe is a blunt tool leading to perverse outcomes, including less DER utilisation, inefficient investment and inequitable cost recovery.

While we need to increase the integration of renewable energy and DER, and we are moving to a two-way grid that can include generation, consumption, exporting, sharing and trading, DNSPs are choosing to limit installations or DER export to manage grid services, leading to inefficient infrastructure investment and lost opportunities. This is only expected to get worse as the uptake of DER is expected to continue, with AEMO predicting the amount of DER to double or even triple by 2040 (AEMO 2020a). Consumer expectations have changed with the increased DER uptake and changed customer preferences in the use of DER, so that consumers now expect DNSPs to actively facilitate the two-way flow of energy.

The AEMC's 2019 *Electricity network economic regulatory framework review* (ENERF) (AEMC 2019) found that the framework for distributed energy is no longer suitable to promote efficient investment in, and operation and use of, energy services and called for reforms to take advantage of the benefits of distributed energy and to deliver benefits to all electricity system users.

QUESTION 1: APPROACH TO RULE CHANGE ASSESSMENT

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

An extra criteria could include customer impact analysis, including consumer support or willingness to pay. As with reliability, consumers may enjoy extra reliability or extra DER export services, but are they willing to pay, and could this criteria analyse if the cost of export services is material to consumers on most cases (similar to Value of DER (ValDER)) to ensure DNSPs maximise DER. While recognising consumer willingness to

pay is likely to be assessed within the existing criteria of the proposed framework, a stand-alone criteria would allow affordability of essential energy and access to zero carbon supply to be considered more emphatically. A stand-alone criteria would further allow deeper assessment of the willingness of prosumers to pay for export, both with and without broader market benefits, as well as non-DER consumers' willingness to pay in the absence of prosumers covering the costs of export when there is no broader market benefit. This might also allow assessment of whether prosumers willingness to pay or not considers the benefit or disbenefit of other consumers, especially low-income households and small business.

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

The final criteria in the assessment framework, ***Robustness to climate change mitigation and adaptation risks***, would be easier to embed in regulation and policy if the NEO was updated to reflect such consumer interests and needs of the modern energy system. Energetic Communities Association supports the notion of updating the National Electricity Objective (NEO) to specifically list sustainability and decarbonisation of the electricity sector as a long-term interest of consumers. As regulators consider this rule change proposal (and broader rule changes and post 2025 market design), we question if the NEO itself continues to be fit for purpose regarding sustainability and decarbonisation. In particular, we support the notion that sustainability must be aligned with affordability, security and reliability in an integrated manner, which continues to be a missing piece of the regulatory puzzle. For further discussion, we refer the AEMC to the Group submission to the 2017 Independent Review into the Future Security (Total Environment Centre, Queensland Conservation Council and Greenpeace *et al.* 2017).

A further consideration might be to invite suggestions or comments on alternative considerations for cost recovery. Recognising that if there are network costs to allow for higher export services, someone has to pay. Some stakeholders may have new or innovative ideas for cost recovery that negates the need for charging prosumers. Linked to this is a clarification of the do-nothing scenario. That is, in the event of rejecting all three proposals, what are the likely customer impacts and inefficient investment into DER continues.

QUESTION 2: DEFINITIONAL ISSUES

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

New and increased DER and the need for decarbonisation has meant that customer expectations and the role of DNSPs have changed and continue to do so. The lack of regulatory certainty of how DNSPs are to treat export services for DER has meant that some DNSPs are putting export limits on prosumers, thereby wasting an opportunity for both network services and decarbonisation. Prosumers should be rewarded when their exports lead to broader market benefits for all consumers. As such, export services need to be explicitly recognised in the regulations. We support SAPN's suggestion that the term "distribution service" explicitly recognise that the distribution network not only conveys electricity to customers but conveys electricity from customers, and that these are supported by new obligations discussed in Question 4 below.

Recognising export services could require a number of metrics based on what network services are needed in that part of the grid. These shouldn't be rigid as they also need to allow flexibility in terms of technologies, business model innovation and different forms of

ownership, such as community owned models. Export services (e.g. frequency control and ancillary services) and not just energy (e.g. kWh exported) needs to be explicitly recognised.

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?

By amending definitions to recognise export services, such as through broadening the definition of “distribution services” to include export and not just consumption, DNSPs will be mandated to recognise any distribution or market benefits DER may have, including ensuring the correct control and pricing mechanisms can be applied. DNSPs can further satisfy increased customer demand and expectations for export services (even as these change with changing technologies, businesses and innovation), and deliver a standard of service consistent with customers’ willingness to pay. This will lead to increased investment into hosting capacity to avoid reaching the intrinsic hosting capacity limit through under investment. Without these changes, new and existing prosumers will continue to face potential export limits. This creates an ongoing inequity with existing prosumers and represents a lost opportunity, as limiting participation means prosumers cannot offer wholesale market benefits or ancillary services, which will in turn raise costs for all end-users. Customers can also be given the opportunity of dynamic exports (as proposed in the recent SAPN’s recent 2020-2025 expenditure plan¹), thereby reducing the exports at the time when they present a cost to networks. Such dynamic exports could reduce overall network costs. DER owners should receive reward for the value their DER exports and export services provide.

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

Another issue may be that while there is a definition for retail customer, there is no definition of prosumer or a similar term. Any incentives for retail customers are therefore not automatically able to be applied to exports. Box 3 of the consultation paper refers to retail customer definitions, including NER (Chapter 5A) that recognises micro-embedded generators in relation to retail customers. A concern here is that other forms of DER, such as batteries, EVs and smart technologies may be excluded from the definition, and therefore ineligible to receive incentives that refer to that definition.

QUESTION 3: PROPOSED CHANGES TO DEFINITIONS

No response.

¹ <https://www.solarquotes.com.au/blog/dynamic-solar-exports-sa/>

QUESTION 4: OBLIGATIONS ON DNSPs

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

Many households currently have export limits, some even losing self-consumption with new inverters able to be remotely turned off, presenting a missed opportunity for both the households and potentially other consumers (through market benefits). Energetic Communities supports imposing obligations on DNSPs to provide export services as proposed by TEC/ACOSS. We are agnostic as to whether this occurs by amending the service target performance incentive scheme (STPIS) of the NER to include exports or a new scheme, but it is likely to require the NER be amended to include such an obligation to ensure DNSPs provide export services. This will require a detailed design process as identified by CEPA (2020a). DNSPs should be obligated to consider and promote decarbonisation and wholesale market impacts (where they occur) when providing export services.

Having regulated obligations could also assist the AER in assessing DER export related expenditure proposals if criteria to be met were included in the regulations. Obligations should nonetheless be flexible enough to allow for innovation, to ensure existing capacity is utilised and that the level of DER is increased. Export services should not be constrained if there are broader market benefits, and should be imposed fairly (e.g. not on the basis of first come-first served, willingness or ability to pay).

While we agree that any obligations would need to be optimised against the NEO to require that many net benefits are included, and thereby potentially protecting all end users from asymmetrical cost recovery and underutilised assets, it is here where an appropriately expanded NEO including sustainability and decarbonisation would lead to all benefits been included and integrated.

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

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

We strongly support the notion that networks complete a DER Integration Strategy (DERIS) (or similar) as proposed by ACOSS and the TEC. Developing a strategic vision through a DERIS would facilitate DNSPs to improve DER integration through identifying locationally specific barriers and opportunities, such as broader DER management to reduce minimum grid demand. As such, DERIS could be a tool to enable and implement opportunities from the Electricity Statement of Opportunities (ESOO) (AEMO 2020b) for example, and assist in options such as aggregation, community storage and virtual power plants. DERIS may further clarify opportunities to improve export capacity and thereby reduce the need for emergency PV shedding. We would expect that a DERIS would become part of the Reset process, but as a separate document for transparency.

DERIS would also offer an educational opportunity to provide clarity and the opportunity for engagement, building confidence and trust with consumer advocates and other stakeholders. DNSPs could provide updates within the 5-year DERIS timeframe, updating stakeholders on pricing and expenditure on different export services and actions within the strategy. The DERIS could also be used by stakeholders to develop innovative marketable ideas of integrating DER. Pending any outcomes of the ESB post

2025 market development, DERIS could assist in achieving consumer outcomes with respect to two-sided markets and broader DER integration.

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

A market benefit test may be one option to know whether there is a market benefit and therefore guide DNSPs. However, we understand that modelling market benefits of DER is difficult, and may not necessarily be reliable. There may also be questions around how complete this at a NEM-wide, jurisdictional, or distribution network area scale, especially where the constraints and network impacts are occurring, what the impact is between network areas or jurisdictions, and the cost of doing such tests.

Increased DER can have a net market benefit, but there may be times when the benefit is only for the DER household. If the DER household is causing a market benefit to other consumers, they should be rewarded. As both prosumer and other end users see the benefit, cost recovery should be spread equally across all consumers.

If the DER export is not leading to broader market benefits, equity principles mean that a prosumer household should still have the option of exporting their surplus (as other households can), but that they pay for the service (not other end-users who aren't seeing any benefit). The prosumer would likely still come out positive through a feed-in tariff ancillary services payment.

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

Setting principles in the allocation of export capacity can provide understanding to the intent of any obligations, guidance and certainty to DNSPs in implementing those obligations. This will further allow consumer advocates and other stakeholders to clearly provide feedback to DNSPs and the AER as to the success of those obligations, and improve stakeholder support and faith in the market.

Principles will also reduce disparity between prosumers in different areas. As there are no set principles to follow, DNSPs are dealing with export capacity in different ways. Having principles will mean prosumers and consumers are been treated equally no matter who their DNSP is, where they are located or when they install their DER.

Energetic Communities supports a principles-based approach to policy and regulation. We would like the NER to include principles for export capacity based on fairness and equity. These include equity regardless of when and where you connect your DER in comparison to existing and future customers and avoid penalty for those with less capacity to pay. A key principle is also the right of DER owners to receive a reward if their export or grid services lead to market benefits.

While we also agree that the DNSP should only be influenced by what it has control over, the principle should nonetheless consider impacts installation have on other installations as far as practical. For example, increased headroom could reduce potential impacts between installations. CEPA (2020b) suggests that while the AER (with some alterations) accepted SA Power Networks' proposal to provide extra headroom, there is uncertainty as to how the AER will assess other and future proposals, indicating that including these principles in the NER could increase certainty as to how the AER will consider future DNSP proposals.

Another principle is one of transitioning to a sustainable and zero carbon electricity system. This would suggest increasing export capacity where possible, quickly and fairly

(a fast and fair transition). An appropriate NEO would increase the likelihood of amending the NER. However, as discussed, the NEO is still not fit for purpose for decarbonising the grid, nor integrating decarbonisation with security, reliability and affordability. Reputational incentives with strong metrics around sustainability may be the next most appropriate mechanism, but only regulation will ensure decarbonisation will occur fairly and as rapidly as science-based targets demand.

QUESTION 5: EFFICIENCY INCENTIVES

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

Energetic Communities is agnostic as to whether the rules rely on an amended STPIS or a new incentive scheme to apply to export services. If a concern of networks in the current regime is that export capacity comes at a cost, amending 6.6.2 would allow for cost recovery, providing it is less than a value of customer reliability (VCR) for exports or other rewards (CEPA 2020a).

QUESTION 6: PRICING ARRANGEMENTS

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

There are overall market benefits of DER export, not to mention self-consumption when it reduces peak demand, leading to lower wholesale prices, network costs and cheaper bills to all end users. Nonetheless, current pricing arrangements, including asymmetric price recovery, are leading to economically inefficient investment, reduced deployment of DER and penalising those without, especially low-income households and renters locked out of DER. Cost recovery needs to occur so that the networks can provide export capacity efficiently (not over or under investment), but this cost recovery must occur fairly. By the same token, prosumers must also be rewarded when their exports lead to benefits for all end users. We do not support charges for export services to existing customers who have made their investments into DER in good faith.

As mentioned, prosumers benefit through feed-in tariffs or potentially ancillary payments, while both prosumers and all end-users benefit through reduced costs if exports lead to market benefits. Under these circumstances, we'd support charges for export services, as long as all consumers are charged fairly. This is likely to mean export charges when the export delivers market benefits, with non-DER customers also been charged for the export services component.

Nonetheless, we support the ACROSS/TEC position of charging for additional exports over a base amount if and only when there are no broader market benefits. As these are network charges, and may not be visible to the account holder through their retail tariffs, the process must be transparent. It should be made clear that prosumers have the option to go with the status quo and not pay for exports (over and above the base level), but this would likely mean that the DNSP will manage this with zero or limited exports (over the base level).

As indicated in the previous paragraph, but may be unclear, we also support the idea of a base level of exports being available for all prosumers (i.e. no zero exports). This is based on the fairness principle that everyone should be able to export some of their excess regardless of their location and timing of installation. Where this comes at a cost to the distribution network, prosumers should be given an opt-in payment option. If the

intrinsic hosting capacity is being reached, it needs to be examined if it is more cost effective for the network to increase hosting capacity for the area, recovering costs from all customers, thereby reducing negative costs of the increased exports by building in headroom.

As a side note, the conclusion paper in note 64 suggests *“that there is a base level of DER export capacity that all networks already provide, because network assets constructed to supply load have an inherent capacity to support reverse power flow without any additional investment”*. This is at the network level rather than the prosumer level, and therefore doesn’t in itself address issues of fair allocation of export service between prosumers.

A key point here, is that DNSPs need to minimise export constraints while managing distribution services, such as reducing over-voltage. The TEC/ACOSS proposal in particular expresses some doubt as to DER driving the overvoltage. We support the suggestion that it should also be up to the DNSP to demonstrate if it is in fact caused by the DER (through the DERIS). If DNSPs were to be able to charge for new export services, they could then minimise export limits or inverter control. In most cases, the prosumer will still see an overall return if the reward for the export is greater than the cost of providing the network services.

Another consideration is the role of retailers. For cost reflective network tariffs to work effectively, retailers may need to reflect these in their retail tariffs, and have full transparency on what costs go where in the retail tariffs. In its distribution market model review, the AEMC (2017) suggested that pass through of network costs would have perverse outcomes for consumers as it would interfere with competitive offerings of retailers. However, this is clearly not relevant for non-competitive markets, such as regional Queensland. It is also well established that rooftop solar puts downward pressure on electricity prices and even pushing out fossil fuel generation during the daytime generation peaks. This needs to be considered in the big picture. Another consideration is that electricity retailers pay a fraction for the clean electricity they get from prosumers. Perhaps there is scope for retailers, who are significant beneficiaries (through re-selling the DER generated electricity at a greater rate), to contribute to network charges without those costs being passed through to customers in full (and especially not through the variable charge).

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

A key equity issue with DER is that cost recovery (whether for the DER itself or building export capacity) is often through a cross-subsidy. Cross subsidies can be positive if they lead to a broader benefit to all consumers, including those paying the cross subsidy and if the overall benefit is positive (i.e. if the cross subsidy is less than the benefit), or if it redresses an existing imbalance (e.g. the Community Service Obligation). An issue with DER nonetheless is that the cross subsidy can be disproportionately paid for by non-DER households if recovered through the variable charge of the customer bill. While non-DER households may see market benefits from increased DER exports, the actual cost of enabling the DER exports should be spread equally and equitably to all beneficiaries, and therefore not just through a variable component, which is only reduced for the DER household who can reduce their grid electricity demand through the solar and other DER. State governments have the power to pay these FiT costs more progressively through internal revenue, as the Queensland government did until recently in the case of the mandatory regional feed in tariff. A similar mechanism could be used. An alternative would be to use the daily charge to recover costs, thereby spreading them across all grid connected consumers who get the market benefits of the DER.

An export charge may also lead to a price point being reached where other forms of DER, demand management and two-sided markets become more attractive, which will also lead to cost reductions for all end-users, as well as potentially open up markets for those DER options.

It should also be noted that for prosumers and non-DER consumers alike, a significant benefit of individual consumers installing and utilising DER is to meet their own consumption needs, and reduce imports from the grid, which reduces cost for all end-users through reducing wholesale costs when the generation and self-consumption reduces peak grid demand. Self-consumption also leads to shorter payback periods. This should not be lost in the discussion of charging for exports.

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

a. What are the implementation issues?

Energetic Communities does not support simply removing clause 6.1.4. This would be a blunt approach and would leave it open for DNSPs to either over or under recover costs, leading to economic inefficiencies. We agree with TEC/ACOSS that equity principles would demand that in the case of there being market benefits, cost recovery should be borne by all consumers. This could be in the daily service charge, not the variable component of the bill. As with much of tariff reform, there is still no visibility of how retail tariffs reflect network tariffs.

A major issue is also around climate change. There are many voices contributing to working out the best way forward on charging for export services. Some see it as a right to export, others see many pros and cons. If there is a perceived or real injustice for new prosumers, some may decide not to install or to leave the grid, which is a dis-benefit to everyone. Implementation must ensure zero carbon energy is increased. This speaks to the importance of communication and education, and the principle that the structure of each tariff must be reasonably capable of being understood by retail customers. If the rule change is to include opt-in purchasing of additional capacity, it should be clear this is only for those who want it. It needs to be clear that the rule change is essentially business as usual for existing customers. This should also not be left to retailers, as they will have their own marketing, offers and retail tariffs. The overall picture, including reasoning, disadvantages and advantages for prosumers and other end users should be made clear. This should include information and context such as what component is for cost recovery for export services, who pays for it, additional income still available to prosumers, overall network benefits, and when these don't apply. That is, communication and education should keep all consumers informed, not be a marketing exercise and clearly demonstrate exactly how these reforms will increase DER and charge prosumers and other end-users fairly.

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?

Energetic Communities supports DERIS being developed as part of the RESET process and in parallel to the setting of the TSS.

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

Energetic Communities recognises the need for transitional arrangements to ensure those who invested in DER under then current market conditions are not penalised. New export charging tariffs should only be mandatory for new DER installations.

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?

Energetic Communities supports the regulatory framework recognising the benefits DER services provide to DNSPs and believes that this should be explicit and enforced through the TSS process. For example, Energy Queensland are proposing to trial capacity tariffs as a cost reflective network tariff. The TSS must demonstrate that such a tariff structure takes into account the benefits DER services provide as well as the costs.

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