Public Interest Advocacy Centre

Review of regulatory framework for flexible export limit implementation

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About the Public Interest Advocacy Centre

The Public Interest Advocacy Centre (PIAC) is leading social justice law and policy centre. Established in 1982, we are an independent, non-profit organisation that works with people and communities who are marginalised and facing disadvantage.

PIAC builds a fairer, stronger society by helping to change laws, policies and practices that cause injustice and inequality. Our work combines:

- legal advice and representation, specialising in test cases and strategic casework;
- research, analysis and policy development; and
- advocacy for systems change and public interest outcomes.

Energy and Water Consumers' Advocacy Program

The Energy and Water Consumers' Advocacy Program works for better regulatory and policy outcomes so people's needs are met by clean, resilient and efficient energy and water systems. We ensure consumer protections and assistance limit disadvantage, and people can make meaningful choices in effective markets without experiencing detriment if they cannot participate. PIAC receives input from a community-based reference group whose members include:

- Affiliated Residential Park Residents Association NSW;
- Anglicare;
- Combined Pensioners and Superannuants Association of NSW;
- Energy and Water Ombudsman NSW;
- Ethnic Communities Council NSW;
- Financial Counsellors Association of NSW;
- NSW Council of Social Service;
- Physical Disability Council of NSW;
- St Vincent de Paul Society of NSW;
- Salvation Army;
- Tenants Union NSW; and
- The Sydney Alliance.

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Public Interest Advocacy Centre

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The Public Interest Advocacy Centre office is located on the land of the Gadigal of the Eora Nation.

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This submission is supported by the Total Environment Centre (TEC). TEC is funded by Energy Consumer Australia to advocate for the role of distributed energy resources in the equitable decarbonisation of the National Energy Market.

1. Introduction

The Public Interest Advocacy Centre (PIAC) welcomes the opportunity to respond to the Australian Energy Regulator's (AER) review of the regulatory framework for flexible export limits.

In contrast to static or fixed export limits, flexible export limits (FEL) may vary over time and location based on the available capacity of the local network. This would allow Distribution Network Service Providers (DNSPs) to set the export limits for given circumstances in a given area of the network, allowing consumer energy resources (CER) to operate within the defined limits and assist in efficiently managing network congestion. The ability to export more from locations that have spare capacity at particular times throughout the day may also enable consumers to earn more from their exports.

FELs can foster the uptake of CER, reduce curtailment of rooftop solar, and promote more efficient use of the existing shared network hosting capacity. If appropriately implemented, FELs could enable consumers to access cheaper electricity, improve electricity network reliability, and allow consumers that have invested in renewable generation and storage to maximise the value of their investments.

We support the AER's effort to establish policy objectives and 'guard rails' to facilitate the implementation of FELs and to ensure associated governance frameworks are fit for purpose. Accordingly, this review should ensure the regulatory framework supports the further rollout of FELs in a manner that protects and promotes the long-term interests of consumers.

2. Immediate actions

We support the use of a principles-based approach to guide the implementation of FELs. The AER considers a principles-based approach appropriate as it provides flexibility for DNSPs in terms of integrating FEL functionality with their existing capability, systems, and infrastructure.

The AER notes that an overly prescriptive approach may bring forward investment unnecessarily and stifle innovation through the implementation process. While we acknowledge these risks, this should not rule out the use of mandates where they promote either prudent and efficient investment or the long-term interests of consumers.

Given DNSPs are already at various stages of planning for FELs, we accept that the question of whether or when to implement FELs should be left to their individual discretion. The regulatory framework should accordingly accommodate DNSPs pursuing an accelerated or more ambitious implementation of FELs as well as those seeking to delay implementation in favour of other efficient means to manage network congestion.

We agree that FEL implementation should be predicated on consumers entering into a dynamic connection agreement with their DNSP. In addition to investing in the infrastructure required to implement FELs, DNSPs have a key role to play in delivering relevant information and education campaigns to help consumers decide whether a dynamic connection agreement is appropriate for them.

2.1 Capacity allocation principles

We support developing national allocation principles to guide DNSPs in the design and implementation of dynamic operating envelopes (DOEs). The application of such principles should contribute to a nationally consistent approach which helps facilitate the development of additional products and services benefiting consumers. It will also help provide assurance to consumers that FELs are being implemented equitably and transparently.

The proposed export hosting capacity allocation principles are as follows:

1. DNSPs are responsible for setting flexible export limits, with the calculation methodology used to determine the limits being transparent and subject to stakeholder consultation
2. Allocation should seek to maximise the use of network export hosting capacity while balancing customer expectations regarding transparency, cost, and fairness
3. Capacity allocation can initially be based on net exports and measured at the customer's point of connection to the network
4. Capacity should be allocated to small customers irrespective of the size or type of customer technology (e.g., solar or batteries) at the customer premises
5. In the near term, flexible export limits should be offered on an opt-in basis with capacity reserved only to make good on legacy static limit connection agreements, with efficient incentives provided for customers to transition to flexible export limits over time.

We consider the proposed principles broadly appropriate bar our view that FELs should be offered on an opt-out rather than opt-in basis (the reasons for which are outlined in section 2.3).

We understand that the implementation of FELs will likely evolve and agree that further stakeholder and consumer engagement is needed to inform how these principles are put into practice. In particular, the AER should clarify how this framework effects capacity allocation for legacy CER systems and for consumers replacing or upgrading existing CER systems. Likewise, it would be helpful for the AER to outline how it expects DNSPs to calculate unused capacity for allocation.

We support making the capacity allocation principles binding and subject to independent audits. This would ensure DNSP compliance and provide transparency to consumers on matters of cost and fairness. We encourage the AER to develop and enforce a similar set of principles for static export limits.

Notwithstanding areas for further clarification discussed above, we consider existing AER guidance material sufficient to guide DNSP planning for FELs. There is however a need for additional guidance material outlining the rights and responsibilities of consumers exporting to the grid.

2.2 Capacity allocation methodology

We acknowledge that DNSPs are likely to take different technical approaches to allocating available hosting capacity based on their specific circumstances and how they interpret the interests and preferences of their consumers. DNSPs should accordingly be required to clearly outline the trade-offs considered in setting their allocation methodology for FEL and how these

reflect the preferences of the community. This methodology should be published as part of their CER integration strategy as outlined in the AER's DER Integration Expenditure guidance note.

The AER should have oversight of DNSP capacity allocation methodologies to ensure they align with allocation principles and reflect consumer interests and preferences. This could be done as part of the AER's expenditure assessment duties under the regulatory reset process.

2.3 Consumer participation

Consumers require transparent and accessible information to decide if they want to their connection agreement to be subject to FELs. We support making FELs the default connection offer and allowing consumers to opt-out to a fixed alternative. We consider this approach preferable to the AER's preliminary position of maintaining static export limits as the default connection option and requiring consumers to opt-in to FELs.

As outlined in the issues paper, FELs have significant advantages over static export limits in managing two-way energy flows, promoting more efficient network utilisation, and enabling higher CER uptake. Making opt-out the default connection offer would ensure maximum benefit to consumers as the effectiveness of FELs increases with greater adoption. Given that people tend to stay with the default option rather than actively opting-in[1] we are concerned that the proposed approach will attract fewer participants and result in fewer benefits being realised.

Where DNSPs choose to implement FEL connections, they should also offer consumers the choice of a static export connection, even where that static limit may be lower than the traditional static export limit. We support updating the model standing offer to both reflect this expectation and ensure consumers are made aware of these options if/when they become available.

We acknowledge concerns that adopting an opt-out approach to FELs amplifies the need for social licence and consumer buy-in. However, these challenges can be addressed by providing accessible information to consumers on the purpose of flexible export limits, and how they are being designed and managed over time. Consumer advocates can assist DNSPs, retailers, and installers in developing and delivering education campaigns to this end. It is important to note that DNSP implementation of FEL is only an (important) part of the solution. They will need to be accompanied by appropriate network tariffs, and the development of services and products by retailers and other entities, which can utilise FELs and network tariffs to demonstrate and provide value to consumers.

2.4 Governance of traders and CER

Consumer protections should be central to the review of governance arrangements for traders. These arrangements should affirm the consumer's right to free local access to near real-time data from their smart meter and guarantee the privacy of this data. It must be recognised that the data is first and foremost the property of the consumer. It is crucial that trader's access to data from the smart meter or behind-the-meter devices be made contingent on the genuine informed consent of the consumer.

[1] See Environmental Defense Fund (EDF), To Opt-In or Opt-Out: What Works for Time-Variant Pricing, 2014.

The AER should provide further guidance clarifying the roles and responsibilities of traders in complying with FELs. This effort should aim to safeguard consumers against the risk of traders not acting in their best interest and ensure that DNSPs maintain an adequate level of responsibility for managing and optimising CER. To this end, regulations should require traders and others operating services utilising FELs to operate and deliver outcomes that are in the consumer interest. These matters should be explored in the current AER process considering consumer protections for future energy services.

2.5 Connection agreement

We consider the current connection agreement framework the most appropriate existing mechanism to set out the terms and conditions, as well as performance expectations for FELs for both the consumer and DNSP.

As such, DNSPs should be required to set out expectations of FEL operation within the connection agreement where there is no trader, or third-party involved in the operation. We acknowledge that this may require expanding connection agreements or exploring alternative governance arrangements.

To establish sufficient consumer protections that apply consistently across the NEM, the AER proposes the following information be set out and specified in connection agreements:

- Operating parameters, such as the length of the interval, notification period and how often the limit will be changed, expectations of performance (e.g., 10kW export limit 95 per cent of the time)
- Conditions for the revision of the flexible export limit, including the options for the consumer to change to a static export limit (i.e., there is more than one connection agreement option available)
- Communication processes for changes to the flexible export limits
- Consumers' compliance obligations, including DNSPs' approaches to identifying non-compliant devices
- Related commercial implications, including direct compensation or rebates on network charges, if service levels are not achieved

We support the inclusion of the rights and obligations outlined above, noting that compliance and enforcement obligations should be informed by recommendations from the AEMC Review into consumer energy resources technical standards.

2.6 Governance arrangements for flexible export limits

In the scenario where a consumer has engaged a third-party such as a trader or technology provider to control their energy resources, the third-party (not the consumer) should be responsible for adhering to the FEL set by the DNSP.

The AER should further clarify how this responsibility is shared between various parties and across different stages of the CER lifecycle. For instance, it may be appropriate for the trader to be responsible for compliance with the FEL during the operational stage of a CER system whereas the technology provider may be better placed to ensure compliance with technical standards during the installation and commissioning stages.

We consider it appropriate for technology providers/OEMs to be held responsible for devices that do not conform to the export limit set by the DNSP. However, as noted above, the appropriate party to carry responsibility for compliance of systems with product, installation, and operating standards is likely to differ across the CER lifecycle. As such, the AER should seek input from relevant parties on how to best delineate responsibility in this space.

The DNSP should carry responsibility for verifying that systems connecting to its network are able to respond to FELs and other instructions. DNSPs should also be responsible for issuing FELs (either directly to capable devices or via traders) and identifying non-compliance with these instructions.

Technology providers and installers should be responsible for ensuring that the installed CER responds appropriately to signals from the DNSP, and where a trader is not involved, should be responsible for rectifying issues with device performance.

Traders should be responsible for ensuring that the CER fleet under its management responds according to the signals from the DNSP.

Where there is no trader, the customer should be responsible for ensuring their site maintains a stable internet connection and responds appropriately to signals from the DNSP. If the system stops responding appropriately to signals from the DNSP, it should default to an agreed low static export limit.

We do not consider it reasonable to impose formal penalties on consumers for non-conformance of their energy resources with FELs. Instead, non-conforming systems should revert to a low static export limit, defined by a DNSP in its dynamic connection agreement. This approach provides transparency to consumers and does not burden them with risks they are ill-placed to manage.

We support standardising the approach to enforcement for CER such that the responsibility for rectification is subject to the agreement between the trader and the consumer. If notified by the DNSP of an issue with device conformance and no trader is involved, it is appropriate for the responsibility of rectification to rest with the consumer.

2.7 Notification period for a dynamic limit

The issue of a framework for providing forecast information on expected dynamic limits does not need to be considered in the short-term given that traders are not critical to the implementation of FELs. The AER should instead focus its efforts on clarifying the roles and responsibilities of relevant parties in complying with and enforcing FELs.

These efforts should consider recommendations from the ESB's interoperability, Schedule Lite, and data strategy network transparency workstreams.

3. Gaps that can leverage existing workstreams

We encourage the AER to build on work underway under the CER Implementation Plan to progress the following outcomes:

- Consumers have access to secure, reliable, affordable and sustainable energy no matter how they participate in the energy market
- All consumers can realise the value of their flexible demand and energy resources
- Fit-for-purpose protections frameworks improve the experience for all consumers.

The imperative for optimised integration and utilisation of CER is particularly urgent given current circumstances of high energy prices and future costs associated with the development of new generation and transmission infrastructure as part of the energy system transition.

3.1 Monitoring export limit performance and information provision

The export services review should also measure progress toward development and implementation of a smart meter data access regime. These efforts should aim to provide consumers with visibility and control of their electricity consumption and costs and enable DNSPs to make efficient investment and operational decisions that support more CER connections and delay or remove the need for network augmentation.

We support extending the AER's existing monitoring and reporting processes for DNSPs to cover the calculation and application of FELs, as well as data around trials undertaken. The AER should publish this data to check the appropriateness of DNSPs' implementation and build trust in flexible export capability.

The AER should provide more clarity on its interim measures for export service performance and outline a long-term plan to realise a more robust service performance metric that is consistent across the NEM.

3.2 Device capability to respond to flexible export limits

We support introducing a minimum interoperability standard at the lowest level (device level) which provides interoperability with the DNSP's utility server without impeding the device-to-device interoperability that consumers will need for a home energy management system (HEMS) and other functions. As such, we recommend the interoperability workstream focus on the level of implementation rather than the standard itself.

The DNSPs connection agreement should not limit device options to CSIP-Aus only. Even if a CSIP-Aus cloud platform or CSIP-Aus gateway client is available, every inverter should be required to have a minimum communications protocol requirement. For example, in California Rule 21 there are multiple options available at the device level being DNP3, SunSpec Modbus, and IEEE 2030.5 and at least one of these must be available on the device even if there is a CSIP cloud service.

If CSIP-Aus is mandated on the basis that technology providers can choose the level at which the standard is implemented, it may create cyber-security risks and management overheads related to reliance on unregulated OEM cloud infrastructure. Should the CER implementation review conclude that a CSIP-Aus mandate is desirable, it should ensure this standard is implemented at the lowest level (device level).

3.3 Interval length

We share the AER's view that it is not currently necessary to mandate a particular interval period given the differences across DNSPs in approaches to network operation. While we agree DNSPs are best placed to determine the interval length of FEL operation, we encourage the AER to promote a transition towards a five-minute interval as recommend in the DEIP outcomes report.

3.4 Demonstrating investment need

DNSPs must demonstrate any expenditure that they intend to recover under the regulatory framework aligns with the objectives outlined in the NER. This includes demonstrating that they have considered FELs as a viable alternative to network augmentation to manage network congestion in their option analyses.

We acknowledge the high-level guidance provided in existing frameworks and standalone documents for expenditure relating to major investments, large-scale and continuous replacement programs, and new technologies to manage electricity networks.

Considering the importance of smart meter data for enabling CER integration and interoperability (including implementation of FELs), we are of the view that DNSPs require more information than is currently available to demonstrate investment need for FELs. As such, the AER should provide further clarity on whether DNSPs will be given access to power quality data from smart meters and whether and how much they will be required to pay to obtain visibility of their low voltage (LV) networks.

3.5 Consumer protections

We consider it important that consumer protection frameworks ensure effective compliance with standards is not dependent on consumer understanding or action.

To this end, we encourage the AER to draw on recommendations arising from the Review of Consumer Protections for Future Energy Services to assess the adequacy of the current framework in the context of a transitioning energy system.

We share the view that a key risk with the implementation of FELs is consumers not being able to make an informed choice to opt-in or opt-out due to inconsistent messaging and information about the potential impacts of the decision. A lack of appropriate communication could lead to sub-optimal or slower uptake of FELs resulting in missed benefits such as greater financial returns from CER, higher penetration of renewable energy, and lower wholesale electricity prices.

For this reason, in addition to the points outlined in section 2.3, we consider that making FELs the default connection offer with the ability to opt-out best aligns responsibility with the parties with the greatest incentive to act in accordance with the best interests of the consumers.

3.6 Data protection and privacy

The privacy framework should make it clear that DNSPs have access to data at the connection point and should not have access to data from devices behind the meter. Only the customer should have access to data from devices behind the meter, unless they consent to providing the data to an authorised agent or service provider.

We support leveraging the existing ring-fencing framework to set expectations around consumer data protection. These efforts should focus on developing a data access framework that provides DNSPs with power quality data and enables customers, or their authorised agents, to access near real-time data from the smart meter.

This data access framework should be developed as part of the AEMC review of the regulatory framework for metering services. Metering service providers should be required to provide data to customers and DNSPs according to the terms of the data access framework.

3.7 Consumer understanding and interest

It is critical that the benefits flowing from FELs are not contingent on consumer understanding or action. While consumers must have access to sufficient and fit-for-purpose information to enable them to make an informed decision whether to opt-in or opt-out where FEL connection agreements are available, it should not be assumed that they have the bandwidth to engage with their energy services any more than they already do.

We encourage the AER to set expectations about DNSP engagement with solar retailers/traders and consumers or other market participants to provide ongoing information about FELs. This information should include a clear explanation of FELs (and how they compare to static export limits), their potential benefits and drawbacks, and the mechanisms in place to ensure the security and privacy of their personal data. A priority consideration in the formulation of this information should be clarifying the interaction between network export limits and tariffs, and retail prices and consumer outcomes.

The Customer Insights Collaboration (CIC) workstream should be leveraged to improve consumer understanding of FELs and consider their impact on consumers and consumer sentiment. We encourage the AER to draw on the findings of CIC workstream to ensure a coordinated and consistent approach by the sector.

3.8 Integration with export pricing

There is a critical knowledge gap in how feed-in tariffs, export tariffs, and FELs interact to create efficient incentives and outcomes for consumers. More work is needed to understand how these tools can best be utilised to recover costs related to exports more efficiently and fairly and provide a platform for the most efficient integration and use/export of CER.

Efforts to integrate pricing and incentive arrangements for CER must be careful to avoid treating price signals or FELs primarily as tools to directly influence consumer behaviour. This is not their purpose.

The role of network tariffs is two-fold. First and foremost, they should accurately reflect costs such that they are recovered from consumers that either contribute to their creation or benefit from the associated service. Second, they should provide the foundation for the creation of retail products and services enabling consumer choice (including behavioural change) that facilitates the long-term interest of consumers through efficient network use.

FELs and export tariffs should encourage self-consumption and/or export at times that are of most benefit to the system (and all consumers). As the uptake of FELs increases it may be

necessary to reconsider the role of export tariffs as FELs may be a more effective tool for managing network congestion.

The purpose of export tariffs could shift to increasingly focus on cost recovery, for example by applying export tariffs selectively to those causing the most network congestion i.e., customers in certain areas and/or those who have not 'opted in' to FELs.

Alternatively, export tariffs could be adjusted to offer consumers a choice of export service levels with a corresponding range of charges. For example, consumers could be given the option of paying a higher charge linked to a higher service level for exports. Any moves to implement this need to carefully consider the implications and ensure that the choices of wealthy consumers do not impact the interests of other consumers or reduce the access of lower income consumers to efficient export capacity.

Price signals and FELs must also be sensitive to differences in network constraints. For example, it may be more appropriate to alleviate distribution network constraints by using dynamic, location specific tariffs and FELs, whereas market and transmission-related constraints may be more fairly and efficiently recovered through 'postage stamp' tariffs and FELs. It will be important not to conflate these different types of constraints, costs, and appropriate responses.

3.9 Compliance and enforcement of technical standards that facilitate flexible export limits

Existing FEL workstreams should take into account recommendations arising from the AEMC review of the regulatory framework for metering services. Access to near real-time data from the smart meter is needed to enable coordination of devices behind the meter in conformance with dynamic export limits and, in future, dynamic operating envelopes.

As outlined in section 3.6, this review should include a data access framework that provides DNSPs with power quality data and enables customers, or their authorised agents, to access near real-time data from the smart meter. We consider it essential that this framework guarantee DNSPs have efficient access to data required to monitor and manage local network efficiently in the interests of consumers, and also ensure direct consumer access to smart meter data.

The AER should not focus on CSIP-Aus to the exclusion of other open interoperability communication protocols. The emphasis should be on a policy of open interoperability. CSIP-Aus may be one means to that goal, but it should not be regulated as the only means allowed.

What is important is that there is a minimum interoperability standard at the lowest level (the device level) and that this should provide interoperability with the utility server but not impeded device-to-device interoperability that customers will need for a home energy management system (HEMS) and other functions.

4. Further Engagement

PIAC welcomes the opportunity to discuss these matters further with the AER and other stakeholders.