

# Export limit guidance note

October 2024

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## Shortened forms

Shortened form	Extended form
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
BAU	Business as usual
CECV	Customer export curtailment value
CER	Consumer energy resources
CER Roadmap	National Consumer Energy Resources Roadmap
DEECCW	Department of Climate Change, Energy, the Environment and Water
DEIP	Distribution Energy Integration Program
DER	Distributed energy resources
DNSP	Distribution network service provider
NEM	National Electricity Market
NEO	National Electricity Objective
NER	National Electricity Rules
NERR	National Energy Retail Rules
VPPs	Virtual power plants

# 1 Introduction

Australia's energy landscape is transforming at a rapid pace. Over recent years, we have observed an increase in distribution network service providers (DNSPs) proposing and undertaking expenditure to dynamically manage their network to support the efficient integration of consumer energy resources (CER). This has been driven by the continued growth of rooftop PV and other CER devices such as batteries and electric vehicles, which is expected to further accelerate over coming years.

Under the Australian Energy Market Operator (AEMO) 2024 Integrated System Plan, CER are forecast to be 5 times the current levels by 2050 and will play a major role in Australia's transition to a net zero energy future. Specifically, rooftop solar capacity is forecasted to reach 72GW, while 97% of all vehicles are expected to be electric.<sup>1</sup> AEMO forecasts the potential for CER capacity to reach almost half the National Electricity Market's (NEM's) capacity by 2050, and could help avoid up to \$4.1 billion in additional grid-scale investment in the NEM.<sup>2</sup>

Flexible export limits play an important role in realising the full potential of CER. Flexible export limits offer an alternative to static export limits, to manage network constraints caused by electricity exports from CER (such as from rooftop PV and batteries) to the grid. It allows signals to be sent to the consumer's inverter to dynamically adjust exports in response to the prevailing network conditions, improving the use of existing network hosting capacity and maximising asset utilisation.

Owners of CER devices benefit from flexible export limits by being able to export more electricity to the network than under static export limits (subject to available hosting capacity and prevailing network conditions), allowing them to access greater value from their investment. Flexible export limits benefit all consumers because they allow DNSPs to defer the need for costly network investment by better utilising existing network hosting capacity, thereby reducing future network costs to deliver savings to consumers.

## 1.1 Purpose and scope

This final guidance note on export limits covers the AER's expectations relating to export limits – both flexible and static – but does not cover flexible import limits because this is still a formative area requiring further analysis.

The guidance note is a non-binding document aimed at providing guidance to DNSPs to support the efficient implementation of flexible export limits. We have adopted an outcomes-based approach in this guidance note to allow DNSPs to continue adapting and evolving the way flexible export limits and export tariffs are used. We consider this approach to be appropriate given that flexible export limits is an emerging area, with DNSPs at different stages in terms of their system capability, access to smart meter data and readiness to

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<sup>1</sup> AEMO, Integrated System Plan for the National Electricity Market, Australian Energy Market Operator, 26 June 2024, pp. 50–51.

<sup>2</sup> Ibid, p. 2 and p. 50.

implement flexible export limits.<sup>3</sup> We understand that most DNSPs will be accelerating the rollout of flexible export limits in the next few years, but the pace at which this rollout occurs is likely to be varied due to differences in jurisdictional policy settings, DNSP operating circumstances and customer preferences.

To accommodate these differences, we have sought to develop outcomes-based guidance to:

- provide clarity on policy objectives and design principles for DNSPs when implementing and using flexible export limits as a tool for managing network congestion and increasing available hosting capacity
- provide clarity to DNSPs on AER expectations to support the development of expenditures to implement and use flexible export limits
- establish 'guard rails' for the development and use of flexible export limits to protect consumers and enable owners of CER to maximise the value from their investments in a manner that delivers benefits to all consumers.

A range of challenges and barriers related to the integration of CER are beyond the scope of our work on export limits and are instead being progressed by other related workstreams. These challenges include technical compliance, responsibilities of parties accessing CER (such as installers, traders and third parties), weaknesses in the connection agreement framework, consumer protections for new energy services, smart meter data access, and regulatory arrangements for providing flexible import limits. Several of these issues are being progressed through workstreams under the national CER Roadmap. The CER Roadmap sets national reform priorities to build consistency and support a harmonised approach to unleashing the full potential of CER.<sup>4</sup>

Our accompanying explanatory statement details the AER's rationale for positions taken in this final guidance note in response to stakeholder consultation, how the guidance note interacts with other AER guidance and related CER reforms.

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<sup>3</sup> AER, [Flexible Export Limits: Final response and proposed actions](#), Australian Energy Regulator, July 2023, p. 25.

<sup>4</sup> Energy and Climate Change Ministerial Council, [National Consumer Energy Resources Roadmap: Powering Decarbonised Homes and Communities](#), 19 July 2024.

## 2 Intended use

This final guidance note provides non-binding guidance on export limit practices. It establishes guidance on key areas relating to the implementation and use of export limits:

- **Hosting capacity and capacity allocation:** provides guidance on hosting capacity assessments and capacity allocation principles that apply to static and flexible export limits. It also provides practical guidance on how DNSPs can seek to demonstrate compliance with the capacity allocation principles in developing their capacity allocation methodologies.
- **Revenue determinations:** provides guidance on matters that DNSPs should seek to address in developing capital and operating expenditure proposals to implement flexible export limits, CER integration strategy and connection policy.
- **Key considerations in implementing and using flexible export limits:** sets out guidance on matters DNSPs should consider when offering flexible export limits to consumers, areas where DNSPs need to raise consumer and industry engagement and awareness, compliance and conformance, and expectations on complaint and dispute handling processes.
- **Reporting:** sets out guidance on areas where DNSPs can seek to enhance data and information gathering on export services and self-reporting to promote greater confidence in the operation of flexible export limits.

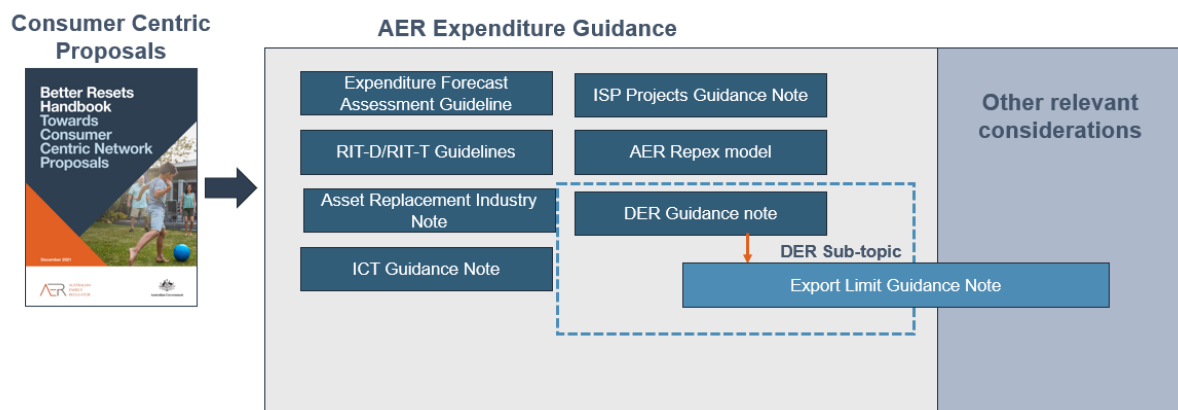
Guidance provided by this guidance note is outcomes-based, in that it:

- defines the policy objective that the AER would like DNSPs to achieve
- seeks to provide practical guidance on how DNSPs can meet the AER's stated policy objective and position
- provides flexibility for DNSPs to innovate and tailor their approach to maximise consumer benefits and achieve the AER's stated policy objectives.

This provides an opportunity for DNSPs to continue to adapt and evolve export service designs, hosting capacity assessments, and use of export tariff arrangements as their capability and understanding in these areas matures.

DNSPs should refer to this final guidance note when applying and maintaining export limits (flexible and static). Figure 1 illustrates where this final guidance note fits within the existing architecture of AER expenditure guidance, with the Better Resets Handbook setting out AER's core expectations for consumer-centric expenditure proposals. Figure 1 also shows how this guidance note is intended to supplement the AER's Distributed Energy Resources (DER) integration expenditure guidance, while also addressing broader considerations for implementing flexible exports (such as consumer equity considerations for connection arrangements) relevant to developing expenditure proposals. To the greatest extent possible, this guidance note has been designed to align with other related policy reforms being progressed by the Energy Advisory Panel, AEMC and AEMO.

**Figure 1 Role of the guidance note on export limits within the existing architecture of AER expenditure guidance**



We intend to continue to monitor the progress of DNSPs' implementation of flexible export limits to determine whether non-binding guidance has been effective in driving DNSP practices and behaviours and mitigating the risk of consumer harm. This will help inform the AER's views on what aspects of the guidance note might need to be revised or might need to be codified in the National Electricity Rules.

## 2.1 Guiding principles

Our expectation is for DNSPs to have regard to the guidance note in the design, implementation and use of export limits. DNSPs should tailor their approach as required to reflect their unique circumstances, jurisdictional arrangements and the outcomes of any related policy and regulatory reforms.

To assist DNSPs in implementing our guidance, we have developed guiding principles to help inform the way DNSPs tailor their approach:

- **Outcomes for consumers:** the approach taken by DNSPs should seek to support consumers in managing their energy costs, and allow them to consume, generate and trade energy according to their preferences and needs.
- **Efficient market operation, innovation and system security:** the approach taken by DNSPs should enable the development of new market products and service offerings, while minimising the potential for adverse system security impacts. This includes ensuring that limits are communicated with sufficient notice and can be monitored.
- **Promote efficient outcomes:** the implementation approach taken by DNSPs should be proportionate to their circumstances and capabilities, avoid complexity and seek to maximise consumer benefits at the least cost.



## 3 Hosting capacity and capacity allocation

### 3.1 Hosting capacity

#### **Problem statement**

There is a lack of visibility on how DNSPs calculate available network hosting capacity. There is a need for hosting capacity assessments to be more transparent and robust to avoid DNSPs taking an overly conservative approach to setting export limits and underutilising available network capacity.

#### **Policy outcome**

DNSPs improve network hosting capacity assessments and communicate outcomes to consumers and third parties.

#### **AER position**

Hosting capacity refers to the ability of a power system to accept energy generated by CER without adversely impacting power quality such that the network continues to operate within defined operational limits (without experiencing voltage or thermal violations). Hosting capacity varies by location and time due to changes in consumption and the level of CER penetration.

Distribution networks have an intrinsic level of capacity to host a certain level of CER exports within operational limits. This is because network assets constructed for consumption services have the capacity to support some reverse power flow without additional investment.

It is important that DNSPs outline their approach and methodologies for:

- assessing available network hosting capacity
- assessing the extent to which CER exports are being curtailed due to a lack of available hosting capacity
- how the proposed investment (informed by the hosting capacity assessment) has been used to derive the forecast 'alleviation profile' (the amount and timing of additional electricity that can be exported to the grid because of the proposed investment).<sup>5</sup>

This information is fundamental to enabling flexible exports and rationalising network expenditures. It could also help inform third parties (such as retailers, aggregators and VPPs) where there are market opportunities to provide non-network solutions to assist in addressing identified capacity constraints.

The amount of export that can be accommodated in each part of the network will be limited by the capacity of the local network and available controls. This amount varies based on the

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<sup>5</sup> AER, [DER integration expenditure guidance note](#), Australian Energy Regulator, June 2022, p. 27.

amount of electricity that is exported and other aspects of the electrical environment in the area at any one time, such as voltage levels and physical network constraints.

We note that hosting capacity can be determined in a variety of ways (probabilistic or deterministic) using a range of modelling and analytical methods. Observations from recent determinations show that these assessments can be data intensive. Without this data, DNSPs are required to assume customer behaviour (for example, load and export profile, and response to tariffs) and impact on the network. DNSPs should seek to improve their hosting capacity assessments by developing investment strategies to access relevant data in an efficient manner. Improving the accuracy and robustness of hosting capacity assessments will mitigate the risk of export limits being set conservatively low and underutilising available network hosting capacity.

### **Our expectations**

Improving visibility and understanding of low-voltage networks' and hosting capacity will be a key enabler for efficiently integrating CER and improving network utilisation. DNSPs should build a more accurate understanding of their networks' capability to accommodate CER. This will help to unlock additional hosting capacity because understanding network limitations will reduce conservatism in how export limits are set and how much exports can be accommodated. This also helps to avoid the need for augmentation to address potential adverse impacts on safety, reliability and quality of supply.

The matters that the AER will have regard to when considering whether DNSPs have demonstrated a proper understanding of their network hosting capacity are outlined in the AER's DER integration expenditure guidance note.<sup>6</sup> DNSPs should also consider the capacity allocation principles set out in section 3.2.1.

## **3.2 Capacity allocation**

### **3.2.1 Capacity allocation principles**

#### **Problem statement**

How DNSPs allocate available network hosting capacity can affect the value that consumers can derive from their investment in CER. Unless DNSPs calculate and allocate available network hosting capacity transparently and consistently, consumers may not be able to understand the value and payback periods for investing in CER.

#### **Policy outcome**

Promote greater transparency and consistency in the allocation of available network hosting capacity, while affording DNSPs flexibility to develop approaches that are reflective of their operating circumstances and customer preferences.

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<sup>6</sup> AER, [DER integration expenditure guidance note](#), Australian Energy Regulator, June 2022, p. 13.

## AER position

We have leveraged the significant work undertaken by the Distributed Energy Integration Program<sup>7</sup> (DEIP) to develop guiding principles for allocating available network hosting capacity and how this should be applied in setting export limits (both static and flexible).

### DNISP capacity allocation principles

1. DNISPs are responsible for setting export limits with the calculation methodology used to determine the limits being transparent, accessible, and subject to stakeholder consultation.
2. Export limits should be set based on the outcome of network hosting capacity assessments, with static export limits not set unreasonably low.
3. Hosting capacity assessments and capacity allocation should reflect the impact of related measures, such as two-way pricing, voltage management and enhancing inverter technical compliance.
4. Allocation should seek to maximise the use of network export hosting capacity while balancing customer expectations of transparency, cost and equity. Allocation should also seek to balance accuracy with the need to minimise complexity to support the development of new market offerings.
5. Capacity should only be reserved to make good on legacy static limit connection agreements, with customers incentivised to transition to flexible export limits over time.

### Our expectations

The capacity allocation principles are intended to be applied flexibly to accommodate differences in DNISPs' network operating circumstances, network visibility, differences in system capability and maturity, and differences in customer preferences.

In seeking to demonstrate compliance with principle 2, DNISPs should seek to demonstrate how hosting capacity assessment results have informed how they have set static export limits. Where DNISPs set static export limits lower than historical levels, the AER expects DNISPs to be able to set out their rationale for why this is appropriate.

Where network hosting capacity analysis indicates there are constraints in the level of CER exports that can be accommodated in the network, we expect DNISPs to be able to demonstrate coherence in their proposed strategy to unlock further hosting capacity. This can involve implementing complimentary measures such as two-way pricing, voltage management and enhancing technical compliance with inverter requirements.

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<sup>7</sup> DEIP is a collaboration of government agencies, market authorities, industry and consumer associations aimed at maximising the value of consumers energy resources for all energy users. Led by a steering group, the forum is driven by the premise that exchanging information and collaborating on CER issues will more efficiently identify knowledge gaps and priorities, as well as accelerate reforms in the interest of customers.

Our expectation is for DNSPs to manage the inherent tension between different considerations in principle 4 by considering the following:

- Identifying the most efficient approach for achieving the considerations in principle 4. This should form the starting point for consulting on different capacity allocation approaches with consumers and interested stakeholders (such as jurisdictional regulators and policy makers, retailers, aggregators, VPPs and original equipment manufacturers).
- Having identified the efficient approach, DNSPs should then seek to develop and test alternative approaches with consumers and interested stakeholders based on how they promote different equity<sup>8</sup> and market outcomes (such as system security and market participation) and highlight any trade-offs in costs and complexity between different approaches.
- How far a DNSP moves away from the efficient approach should be reflective of preferences expressed by consumers and stakeholders through the consultation process.
- In balancing accuracy and complexity considerations, DNSPs should consider factors such as compliance, reliability, timeliness, and spatial and temporal resolutions from visibility, forecast and control perspectives.

Further guidance on how DNSPs can demonstrate compliance with the capacity allocation principles is set out in sections 3.2.2, 4 and 5.

### 3.2.2 Capacity allocation methodology

#### **Problem statement**

Unless the methodology for calculating and allocating available network hosting capacity is transparent and accessible, it is difficult to ascertain whether the calculations are being done accurately and in sufficient detail. This gives rise to the risk of inaccurate export curtailment forecasts and higher levels of network expenditure than necessary.

#### **Policy outcome**

There is greater transparency and understanding in the way DNSPs have applied the capacity allocation principles in allocating available network hosting capacity to promote public confidence in the implementation and operation of export limits.

#### **AER position**

DNSPs should develop their capacity allocation methodology in a manner that is consistent with the capacity allocation principles. Our view is that DNSPs should:

- describe their capacity allocation methodology as part of their CER integration strategy and demonstrate how their methodology is consistent with the capacity allocation principles

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<sup>8</sup> Further guidance on how DNSPs can seek to compare different capacity allocation approach outcomes based on equity is provided in section 3.2.2 in relation to the work under Project Edge on modelling objective functions in relation to fairness.

- describe how their capacity allocation methodology has been reflected in their connection policies and connection agreements
- demonstrate how their capacity allocation methodology has been informed by consumer and stakeholder feedback
- publish their capacity allocation methodology on their website.

This strikes an appropriate balance between promoting greater transparency and consumer understanding, while providing flexibility for DNSPs to develop methodologies based on their individual network characteristics, technical capabilities and consumer preferences.

In assessing the prudence and efficiency of DNSPs' expenditure proposals for implementing and maintaining flexible export limits, the AER will consider the extent to which DNSPs have demonstrated consistency with the capacity allocation principles and have consulted on their capacity allocation methodology. We will also ensure that DNSPs' approach for calculating and allocating available network hosting capacity, as outlined in their capacity allocation methodologies, is reflected in their pricing approach.

Amendments to a DNSP's capacity allocation methodology may be required from time to time. Our view is that amendments should only be made where there is evidence to substantiate the need for change and DNSPs provide evidence of consultation with industry stakeholders (such as aggregators, original equipment manufacturers and retailers), regulators and consumer groups. DNSPs should communicate to stakeholders in a transparent, accessible, way on how they have addressed stakeholder concerns, and make publicly available the outcomes of any changes.

### **Our expectations**

In developing their capacity allocation methodology for setting export limits, the AER expects that DNSPs will consult with consumers and affected industry stakeholders on:

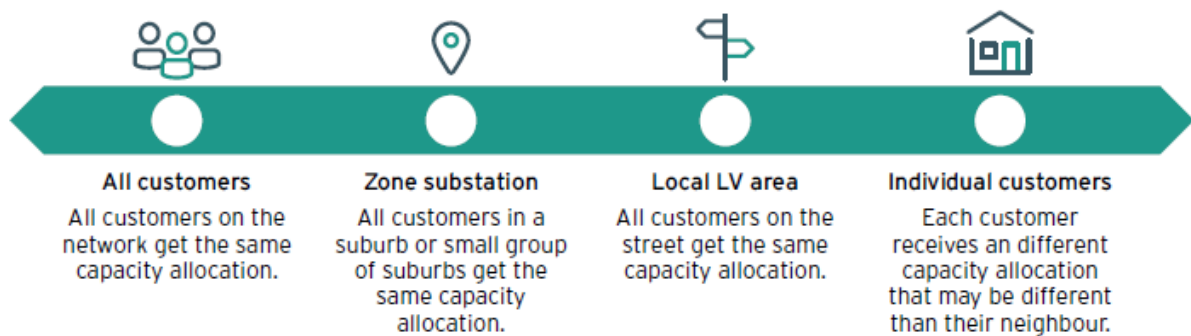
- the level at which capacity allocation is to be set
- the allocation model that the DNSP proposes to use
- the trade-offs between different options in terms of efficiency, complexity, market and equity outcomes.

#### **Allocation level**

We expect DNSPs to consult with consumers and industry on the allocation level at which export limits will be set. The DEIP Dynamic Operating Envelope Outcomes Report<sup>9</sup> found 4 different types of allocation levels at which network capacity could be set, as shown by Figure 2.

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<sup>9</sup> DEIP, [Dynamic Operating Envelopes Workstream: Allocation Principles Workshop Summary](#), Distributed Energy Integration Program, Australian Renewable Energy Agency, July 2021.

**Figure 2 Options for allocation levels<sup>10</sup>**

The appropriateness of allocating capacity at different network levels will be heavily influenced by each DNSP's unique circumstances in terms of network need and level of network visibility. Findings from DEIP's report indicated that no single allocation level was ideal, and that pros and cons existed with each approach.<sup>11</sup>

DNSPs should consult with consumers and industry stakeholders on the pros and cons of different allocation level approaches to identify a preferred approach. This may result in DNSPs adopting a hybrid approach to strike the optimal balance between network need, equity, and cost outcomes. DNSPs may want to apply different allocation approaches for residential customers, or commercial and industrial customers.

#### Capacity allocation models

The AER expects that DNSPs will consult with consumers and industry stakeholders on the model they intend on using for allocating network capacity. We note that there are several capacity allocation models that could be used by DNSPs to allocate network capacity including:

1. Equal allocation – all customers receive the same capacity.
2. Proportional allocation – customers are constrained by a proportion of their system size (i.e. larger systems receive greater allocation).
3. Value-based allocation – customers receive capacity based off the value of their exports (for example, VPPs participants receive priority access).
4. Pay-for-more allocation – customers can purchase rights for additional shares of the hosting capacity.
5. Maximise total generation – limits are set to maximise the total amount of energy exported on each segment of the network.

The AER anticipates that DNSP use of capacity allocation models will likely evolve and become more sophisticated as DNSPs and industry knowledge and expertise in this area matures and access to smart meter data improves. Recent findings from Project EDGE and Symphony on capacity allocation methods have shown that equal allocation methods can result in poor overall outcomes for consumers and the electricity system, relative to

<sup>10</sup> DEIP, [Dynamic Operating Envelopes Workstream: Allocation Principles Workshop Summary](#), July 2021, p. 4.

<sup>11</sup> Ibid.

outcomes that allocate capacity in ‘unequal ways,’ with differences in outcomes becoming more pronounced in high penetration scenarios where networks are constrained more often.<sup>12</sup>

While DNSPs are likely to use simpler methods, like equal allocation, during the early implementation of flexible export limits, over time the AER expects DNSPs to incrementally increase the sophistication of allocation levels and methods based on:

- the desirability expressed by consumers and stakeholders
- access to smart meter data and improved network visibility
- the DNSP’s ability to demonstrate benefits from moving towards a more sophisticated approach balanced against the associated costs.

### Objective functions and metrics for comparing different option outcomes

Objective functions refer to the outcomes that modelling aims to achieve. Project EDGE<sup>13</sup> has developed objective functions for achieving a range of capacity allocation objectives, and provides a useful framework that DNSPs could adopt for calculating and assigning export limits, including the:

- different approaches for how fairness might be considered in DNSPs’ capacity allocation methodologies and the different outcomes that can arise depending on the perspective of ‘fairness’ that is adopted
- assessment metrics that can be used to assess different options against considerations of technical efficacy, economic performance, and fairness.

The 6 objective functions considered by Project EDGE and summary of different outcomes are outlined in Table 1.

**Table 1 Project EDGE objective functions<sup>14</sup>**

Objective Function	Fairness approach	Outcomes
Maximise export	Fairness is considered from a whole-of-consumer and system’ perspective, not the individual CER owner’s perspective	Some sites receive greater export capacity than others to maximise the total export and overall benefit to all consumers, including those without CER.
Policy outcome	Fairness to all consumers is considered from a policy perspective.	Each CER weighting is considered by integrating policy factors such as emission reduction.
Fixed percentage	Fairness is achieved by applying same percentage portion of a participating CER’s rated capacity.	Consumers are allocated the same percentage of their CER asset size, with those with larger CER systems allocated more kW capacity.

<sup>12</sup> DEIP, DER Market Integration Trial – Summary Report, December 2023, p. 19.

<sup>13</sup> Project EDGE (Energy Demand and Generation Exchange) was a multi-year project collaboration project between AEMO, AusNet and Mondo to demonstrate an off-market, proof-of-concept of a CER marketplace.

<sup>14</sup> For further details see, Project EDGE, ‘[Fairness in Dynamic Operating Envelope Objective Functions](#)’ – a report by the University of Melbourne, Version 1, April 2023.



Objective Function	Fairness approach	Outcomes
Equal kW reduction	Fairness is achieved by the equal reduction of CER exports by the same number of kW.	Could result in less total exports across the National Electricity Market. Imposes absolute capacity limits instead of equal percentages to equalise financial impacts to owners of CER. Those with larger CER systems receive more capacity.
Level network sharing	Aims to achieve fairness by sharing equal network capacity across CER consumers with some reallocation of capacity that cannot be used.	Could result in less total exports across the National Electricity Market with a diminished benefit to non-CER consumers.
Flat access	Aims to achieve fairness by allocating the same network capacity among CER consumers even if they cannot use it.	Could result in the lowest total export across the National Electricity Market relative to other options, with a diminished benefit to non-CER consumers due to some allocation that cannot be used.

Project EDGE further considers several metrics for assessing objective function approaches and provides guidance on how impacts can be quantified. These metrics include:

- **Technical metrics** – network utilisation, CER capacity utilisation and renewable utilisation have been proposed as metrics for capturing different aspects of the technical operation of the network.
- **Economic metrics** – Relative social welfare is the metric proposed for measuring the economic value that can be obtained by participating customers (or their aggregator) from participating in the wholesale market.
- **Fairness metrics** – quality of service, quality of experience and minimum-maximum fairness have been proposed as useful metrics for measuring something that is generally viewed as being subjective.<sup>15</sup>

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<sup>15</sup> Project EDGE, [Fairness in Dynamic Operating Envelope Objective Functions](#) – a report by the University of Melbourne, Version 1, April 2023, pp. 14–18.



## 4 DNSP revenue determination process

### 4.1 CER integration strategy

#### Problem statement

A particular area of stakeholder concern regarding DNSP's expenditure planning is the way two-way pricing arrangements interact with export limits. Providing clarity on this interaction can drive greater consistency and understanding for DNSPs, market participants (e.g. aggregators, installers etc.), and consumers, leading to more informed decision-making.

Stakeholders also noted the need for greater transparency over how DNSPs calculate and allocate network hosting capacity and that it would be appropriate for DNSPs to provide these details as part of their CER integration strategy.

#### Policy outcome

DNSPs raise awareness and understanding of their capacity allocation methodologies and the relationship between export limits and two-way pricing, where they seek to implement both tools. Specifically, DNSPs clearly communicate any differences in service levels between static and flexible export limits and how export limits relate to two-way pricing.

#### AER position

The AER's DER integration expenditure guidance note outlines the expectation for DNSPs to develop a CER integration strategy which demonstrates foresight in planning for the continued uptake of CER and its impact on network operation. As part of their regulatory proposals, DNSPs should justify their proposed approach to export-related planning and investment. They should also present information specifically relating to how CER integration is managed through different elements of their regulatory proposals (i.e. connection services, pricing, and expenditure) and discuss how the proposal is appropriate for meeting expected consumer outcomes.<sup>16</sup>

This section provides supplementary information for DNSPs on developing their CER integration strategy relating to emerging issues on the implementation of flexible export limits.

DNSPs should include commentary, as part of their CER integration strategy, on how their capacity allocation methodology reflects the capacity allocation principles and how it has been shaped by consumer and stakeholder feedback. The commentary should address the following:

- a holistic overview of the different initiatives that the DNSP is seeking to take for efficiently integrating CER, and a summary of the identified CER integration problem that different initiatives are aimed at addressing. It should explain how the impact of complementary measures (such as two-way pricing, voltage management, network

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<sup>16</sup> AER, [DER integration guidance note](#), Australian Energy Regulator, June 2022, pp. 10–11.

visibility and use of export limits) have been taken into account in determining the DNSP's proposed expenditure

- how benefits have been apportioned to each program or project, where an investment is likely to deliver multiple benefits to different programs or projects
- the DNSP's approach and rationale for setting export limits (zero, static, and flexible) and how this relates to, and is consistent with, the results of DNSP hosting capacity assessments and capacity allocation methodology
- how the DNSP has considered the use of other related tools, such as two-way pricing, in developing export limits.

### **Our expectations**

DNSPs have taken different approaches in the use of two-way pricing and how this relates to the use of export limits.

Flexible export limits operate by setting a variable, physical, limit on the amount of energy that can be exported from a customer's connection point at any point in time based on network conditions. In contrast, two-way pricing seeks to influence consumer energy consumption behaviour through discounts (or additional charges) to network tariffs to help manage network constraints. Two-way pricing provides a monetary reward (or penalty) for changes (or lack of changes) in consumer energy usage, whereas flexible (and static) export limits physically constrain the customer's ability to export energy back to the grid.

DNSPs may choose to use export limits as a complementary measure with two-way pricing to recover the costs of providing flexible export limits from export customers. Or they may choose to assign customers to alternative tariffs depending on whether a customer takes up a static or flexible export limit.

Our expectations are that tariffs should be cost reflective. Export charges, where applicable, should be based on the long run marginal cost of providing the export service. It may also include 'other' (residual) costs associated with export required to provide export services, such as administration and ICT costs but may not include historic costs already recovered through consumption tariffs. The costs associated with exports could include the costs of implementing export limits. The relative costs (or benefits) of different export controls, including flexible or static export limits, could be considered in export tariff design (charges/rewards) and assignment.

Regardless of the approach adopted, the CER integration strategy should contain explicit commentary that addresses the relationship between flexible export limits and two-way pricing to provide greater visibility and stakeholder understanding over how these two mechanisms are being used. AER is developing a fact sheet to provide further guidance on the types of considerations that should be addressed in DNSP commentary on the relationship between two-way pricing and export limits.

## 4.2 Developing flexible export limits business case

### Problem statement

DNSPs should demonstrate the prudence in investing and implementing flexible export limits relative to other investment options for managing network capacity and integrating CER. There are potential difficulties for some DNSPs to substantiate business cases to implement flexible export limits given current limitations with low voltage visibility and ability to access smart meter data. Access to this information influences the accuracy in which DNSPs assess hosting capacity and export limits.

### Policy outcome

DNSPs have clarity on the AER's expectations in assessing expenditure related to applying and maintaining flexible export limits. This information is aimed at assisting DNSPs to prepare business cases for flexible export limits that are based on credible assumptions and are consistent with DNSPs' capacity allocation methodologies.

### AER position

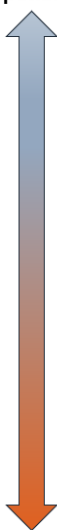






Our DER integration expenditure guidance note outlines our expectations for how DNSPs should develop business cases and quantify benefits associated with network investments that increase network hosting capacity. DNSPs should detail plans for the implementation of flexible export limits, which may include the timing of trials, methods for capacity allocation and findings from consumer engagement and research.

Flexible export limits allow DNSPs to maximise existing hosting capacity. However, it is one of several tools that can be used to support the efficient integration of CER. We expect DNSPs business proposals to demonstrate coherence in the proposed strategies for managing and unlocking network capacity.

Potential options for managing network capacity (from least cost to most costly, generally speaking) are summarised in Figure 3 – noting that some options are also key enablers for the successful implementation of flexible export limits. For example, implementing flexible export limits requires network visibility and certainty that CER are compliant with technical standards. Therefore, these activities may be complementary to flexible export limits rather than substitutes for managing network capacity.

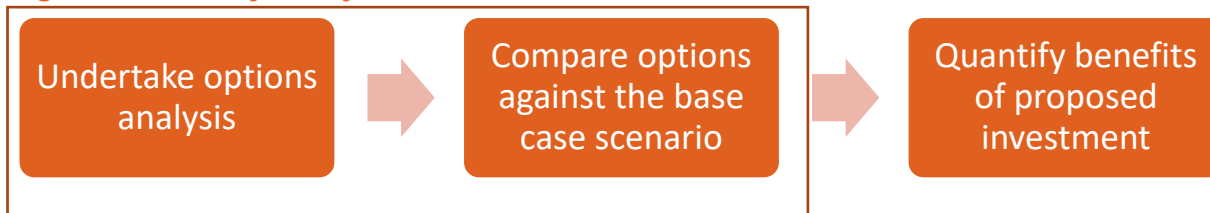
DNSPs in Australia generally have poor visibility of customer voltage, except in Victoria where there is a high penetration of smart meters and access to smart meter data. Our observation from the 2024–29 revenue proposals, and more recently from the 2025–30 revenue proposals, is that low voltage network visibility and understanding of hosting capacity vary across distribution networks. Most DNSPs have historically relied on simple measures such as customer complaints (in response to quality of supply issues) to understand whether customers are experiencing voltage-related curtailment. More recently, and in response to these complaints, DNSPs have invested in low voltage monitoring programs to estimate network hosting capacity and the impacts of voltage-related curtailment.

**Figure 3 Summary of potential options for managing network capacity**

	Tool	Description
<p>Least expensive</p>  <p>Most expensive</p>	<p>Cost reflective prices</p> 	<p>Export tariffs signal to customers the additional network costs associated with relieving export constraints. If customers respond by self-consuming or investing in energy storage, future augmentation costs can be avoided or deferred.</p>
	<p>Compliance and awareness</p> 	<p>Many solar PV inverters are non-compliant with technical standards, which may require DNSPs to set conservative static export limits. Compliance activities, such as introducing commissioning sheets, are relatively low cost and will help to ensure that new or replacement solar PV inverters are compliant with technical standards. Better inverter compliance with technical standards will reduce the need for conservative static export limits and is a key enabler for the successful implementation of flexible export limits.</p>
	<p>Voltage management</p> 	<p>Adjusting transformer tap settings, phase balancing and dynamic voltage management are examples of activities to manage voltage and reduce voltage-related export curtailment.</p>
	<p>Network visibility</p> 	<p>Network visibility provides better knowledge about hosting capacity. Over the coming years, DNSPs are likely to get improved access to smart meter data following recent recommendations from the AEMC's smart metering review. This allows DNSPs to rely less on estimation and better target network investments, allowing them to offer higher static export limits which reflect the true state of the network.</p>
	<p>Flexible export limits</p> 	<p>-Allows DNSPs to maximise existing hosting capacity. They may be simple (feeder level) or sophisticated (household level) and are generally preferable to augmenting the network to increase hosting capacity (dependent on network visibility and the level of investment in ICT that is necessary).</p>
	<p>Network augmentation</p> 	<p>Investments to increase network hosting capacity may be justified if they provide net economic benefits and other credible investment options have been considered.</p>

Our guidance supplements existing guidance relating to key elements of DNSPs' business cases (Figure 4) and focuses on providing additional guidance to assist DNSPs in undertaking their options analysis and comparison against the base case.

**Figure 4 Summary of key elements of a business case**



**Our expectations**

**Options analysis**

We expect that the option put forward for flexible export limits is the credible investment option that maximises net economic benefits across the NEM.

DNSPs should demonstrate how they have considered other least cost measures. DNSPs should provide commentary on how other tools for improving network hosting capacity have been considered and reflected in the quantum of expenditure being proposed. The AER expects to see evidence in DNSPs' business cases of:

- how the program and level of expenditure is reflective of and proportionate to the identified network need and the DNSP's operating circumstances
- the flexible export limit service level that will be achieved and how this has been informed by, and reflects, stakeholder and consumer feedback
- credible options which meet customer preferences (in terms of service levels and level of curtailment expected) and maximise net benefits across the National Electricity Market

- mitigating measures to address low levels of consumer awareness and understanding which can negatively impact uptake and reduce the quantum of benefits from using flexible export limits
- the level of network visibility necessary to implement flexible export limits, including the potential need for real time or near-real time data
- a breakdown of expenditure being proposed and documentation of key assumptions underlying the DNSP's cost benefit modelling.

### **Case study: South Australian Power Network's CER Integration business case**

In its CER integration business case, SAPN noted that while flexible exports had the ability to substantially reduce the need for investment in additional export capacity, targeted investments would still likely be required to mitigate against declining export service levels experienced by customers in congested areas of the network.

To understand the future demand for export service, SAPN undertook willingness to pay studies and consumer engagement to understand what consumers were willing to pay for on an ongoing basis having regard to potential bill impacts from different levels of investment to provide different service levels. From this engagement process SAPN identified a consumer preference for SAPN to maintain export service levels at 95% for 95% of consumers, or expressed differently SAPN's customer preferences were to be not curtailed for more than 5% of solar hours (9 am – 5 pm) during the year.

### **Base case scenario**

The regulatory investment test for distribution (RIT-D) guidelines define the business-as-usual (BAU) base case as a standard base case where the RIT-D proponent does not implement a credible option to meet the identified need, but rather continues its BAU activities. BAU activities are ongoing, economically prudent activities that occur in the absence of a credible option being implemented.

The base case scenario should comprise of BAU expenditure associated with voltage management, which may include managing distribution transformer tap settings and rebalancing across phases. It could also include BAU expenditure associated with operating a dynamic voltage management system, where these have been deployed.

The benefits provided by the proposed investment will be driven by the forecast increase in CER exports that flexible export limits will provide (relative to the level of CER exports under the base case scenario, where static export limits are likely to be imposed). In our existing guidance we refer to this as the 'alleviation profile'.<sup>17</sup> It should reflect some time differentiation, whether it be by season, time of day, or broader supply/demand conditions, and changes over time as penetration of CER increases. Although DNSPs may assume a static export limit (above zero) in their base case scenario, they should demonstrate that this limit is not unreasonably low and has been developed based on the results of hosting capacity analysis.

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<sup>17</sup> AER, [DER integration expenditure guidance note](#), June 2022, p 27

DNSPs should clearly articulate the results of their hosting capacity analysis and how they were used to derive their forecast alleviation profile, as this informs the estimated volume and timing of export curtailment in the base case scenario.

DNSPs should also articulate how forecasts of CER uptake in their networks will impact the alleviation profile over time. For example, increasing levels of rooftop PV may lead to more conservative static export limits in the base case scenario, whereas increasing levels of battery storage may reduce the need for such conservative limits.

The AER will be reviewing the base case scenario carefully to ensure that the base case investment level is not overstated to justify the preferred alternative option.

#### **Benefits of flexible export limits**

DNSPs should quantify the benefits associated with flexible export limits in line with our existing guidance in the DER integration expenditure guidance note. That is, the same benefit streams apply when increasing hosting capacity, the difference being that hosting capacity is increased for a finite period and location. DNSPs should also use our published customer export curtailment values (CECVs) methodology to measure wholesale market benefits and emissions intensity profiles to value emission reductions based on the intensity of avoided generation.

#### **Implementation approach**

We consider that a phased approach towards the implementation of flexible export limits is likely to result in the best outcome for customers. This is given varying levels of DNSP capabilities and expertise in implementing flexible export limits, varying levels of compliance with CER inverter technical standards, and consumer understanding and awareness. As DNSPs build up capabilities, network visibility improves, and consumer confidence and technical compliance increase, DNSPs will be better placed to pick up pace and substantiate a broader scale rollout which reflects market demand. Doing so would ensure DNSPs adopt an efficient investment approach to implementing flexible export limits in a proportionate manner and avoid bringing forward network investments in the NEM unnecessarily.

Our expectation is that DNSPs should seek to invest efficiently to improve network visibility and hosting capacity assessment capabilities. This establishes the foundation for DNSPs to transition to enabling platforms and expand export service offerings. We expect most DNSPs, particularly those that have limited access to smart meter data, will likely start with a basic offering and over time, with improved knowledge and expertise, offer more advanced and sophisticated offerings where such an approach can be justified based on cost benefit analysis and stakeholder feedback.

## **4.3 Connection policy**

### **Problem statement**

Connection policies set out the basis for DNSP connection charges for different types of connection services and outline the circumstances in which DNSPs may impose zero static export limits on a customer connection. There is a lack of transparency from DNSPs over the way export limits for consumer connections are set, and the circumstances in which different export limits (static and flexible) will be offered. Regulatory oversight may be required to mitigate against the risk of DNSPs setting static export limits unreasonably low.



## **Policy outcome**

Greater transparency and understanding in the way export limits are calculated, eligibility requirements, and factors that can affect the consumer export levels will help promote greater confidence in how flexible exports operate and support consumer uptake.

## **AER position**

DNSPs should clearly set out in their connection policies:

- the circumstances in which static export limits will be offered and their approach for setting static export limits
- their approach for apportioning available network hosting capacity between static and flexible export limits
- the circumstances in which flexible export limits will be offered and eligibility requirements
- the general circumstances in which consumers will have their flexible export limit reverted to static export limits or have their exports curtailed.

## **Our expectations**

DNSPs should articulate in their connection policies the general circumstances in which a static export limit (or fixed export limit) will be offered, describe how the static export limit is set, and whether there is the option available for the consumer to install a suitable dynamic response system or upgrade their inverter to avoid having a static export limit applied.

The connection policy should set out eligibility requirements for flexible export limits and highlight whether this option is only available to new connection customers. It should state if it is possible for customers on existing static connection agreements to switch to a flexible connection offering and outline any technical requirements that must be met.

DNSPs should include a general description of the circumstances which may trigger the need for flexible capacity to be reduced or exports to be curtailed in their connection policies. This could include, but is not limited to, where the export limit is reduced or unavailable during times of network constraint, network abnormality or heightened risk of system security, emergency curtailment, and planned and unplanned network outages.

We expect DNSPs to leverage off consumer and stakeholder engagement activities as part of their distribution determination process, to improve awareness and understanding of the connection policies in terms of their purpose, relationship to Model Standing Offers, and consumer connection agreements. This is important given low levels of awareness and comprehension of these instruments. Further guidance on this issue is provided in section 5.1 and 5.3.

# 5 Key considerations in designing and implementing flexible export limits

## 5.1 Industry engagement

### Problem statement

Improved engagement with industry stakeholders (e.g. aggregators, original equipment manufacturers etc.) during the design and implementation of flexible export limits is required to support the uptake of flexible export limits and mitigate against the risk of poor consumer outcomes and experience.

### Policy outcome

DNSPs engage effectively and meaningfully with industry stakeholders throughout the implementation of flexible export limits to ensure that the operation of flexible export limits delivers improved consumer outcomes and supports efficient market operation and ongoing development.

### AER position

DNSPs should engage with industry stakeholders on the design, implementation, and operation of flexible export limits across a broad range of topics. This ensures that the rollout of flexible export limits supports efficient market operation in terms of system security and reliability, is compatible with market product and service offerings, and delivers improved consumer outcomes. Stakeholders include, but are not limited to, retailers, original equipment manufacturers, installers, traders / aggregators, AEMO, and jurisdictional regulators.

DNBP engagement with relevant industry stakeholders will result in more productive relationships between parties, leading to more appropriately tailored product and services for consumers, including flexible export limit offerings.

### Our expectations

Our expectation is that DNSPs will undertake appropriate stakeholder analysis and mapping to identify key stakeholders, understand differences in stakeholders' interests, level of involvement, and information needs in designing and implementing flexible export limits.

We expect DNBP engagement with industry to go beyond advising and informing. For DNSPs' industry engagement to be genuine and effective, consultation should be primarily based on principles such as ideation, co-design, collaboration, knowledge sharing and two-way communication. DNSPs should seek long-term continuity and knowledge of businesses and customers, and undertake a co-design approach that is cohesive and genuinely allows for, and draws on, industry and consumer experiences. An example of genuine engagement is SAPN's DER Integration Working Group, which provides a good basis to explore effective engagement practices. The establishment of Working Groups should seek to promote a cross-section of expertise and experience, creating genuinely collaborative workspaces.



The AER expects DNSPs to engage with relevant industry stakeholders on topics outlined in Table 2, to support the uptake and efficient operation of flexible export limits and the development of new consumer product and service offerings.

**Table 2 Overview of industry engagement topics<sup>18</sup>**

Topic	Expectation
Where and how industry can locate relevant network information	DNSPs should assist retailers, installers and any other relevant stakeholders, such as aggregators and customer agents, to obtain knowledge of local network constraints, hosting capacity, or planned investments in the areas they are servicing.
Network hosting capacity and capacity allocation methodology	DNSPs should liaise with industry, particularly solar retailers, aggregators and traders, on their approach for assessing network hosting capacity, and approach for allocating available hosting capacity.
<b>Design elements of flexible export limits</b>	
Application point for flexible export limit	DNSPs should consult with industry on the application point for the flexible export limit and consider how the export limit is to be communicated in situations where there are multiple devices and the need to distinguish between passive and flexible loads. In reaching a position, DNSPs should ensure that their approach is consistent with the AER's ring-fencing guideline and outcomes from the AEMC's unlocking CER benefits rule change.
Communication protocol	DNSPs should consult with industry stakeholders on the communications protocol that is used to communicate the dynamic limit. DNSPs should have regard to the CER Roadmap reforms which includes a workstream to develop an initial set of technical standards for CER interoperability and flexibility. <sup>19</sup>
Provision of forecasting information	DNSPs should consult with industry and AEMO on how it will forecast constraints on the network, the interval in which forecast dynamic operating envelopes will be set, and the timeframes in which dynamic operating limits will be communicated to market participants and AEMO. This information will help inform relevant industry stakeholders, such as traders and aggregators, on how to develop their offerings to consumers. It can also have implications on market dispatch and the ability for AEMO to maintain power system security and reliability.
Notifications	DNSPs should engage with industry on how consumers will receive information about when their flexible export limit is reverted to static export limits or will not be able to export, or has been identified as non-compliant with export limit or technical requirements. See also discussion on curtailment in section 5.3 and conformance monitoring in section 5.4.
Data exchange model	Building upon Project EDGE and international experience in the United Kingdom, AEMO will co-design the CER Data Exchange with the input of industry through a series of workshops. The purpose is to understand industry needs and requirements, explore industry perspectives on data governance and operating models, and seek input on a preferred option. This work can be used for references to appropriate models for data exchange between many

<sup>18</sup> The topics outlined are not intended to be exhaustive but are intended to establish a baseline of topics that DNSPs should engage with industry on based on stakeholder feedback received during our review of flexible export limits and the development of this guidance note.

<sup>19</sup> Refer to DCCEE's [National Consumer Energy Resources Roadmap](#) p. 16 for an overview of National Reform Priorities.

Topic	Expectation
	participants in the operation of a flexible export limit and the provision of services by third parties within those limits.
Service co-optimisation	DNSPs should consult with industry in designing export limits to support opportunities for delivering multiple services (i.e. energy arbitrage, frequency control ancillary services and local network services) to maximise consumer benefits.
Hierarchy	DNSPs should engage with industry around the prioritisation for who gets to export first or more. This also feeds into the equity and efficiency concepts outlined in section 3.2.1 and 3.2.2.
Service level	DNSPs should consult with industry on the service level that is to apply to export limits, as this may impact on the ability of consumers to participate in market offerings and access additional value streams from their CER investment.
Performance	DNSPs should explain how the flexible export limit is likely to perform and outline factors that may affect performance. DNSPs and industry stakeholders should provide materials to consumers that highlight factors that can affect the performance of a flexible export limit at consumers' premises, such as internet connectivity and software updates.
<b>Implementation elements of flexible export limits</b>	
Connection agreements and policies	DNSPs should provide consumers and industry participants with targeted information that helps them understand differences in the operation of static and flexible export limits and highlight any differences in requirements, responsibilities, and service outcomes between the two arrangements.
Technical compliance	DNSPs should engage with industry on the development of their commissioning process to ensure compliance with any applicable standards, including device level and communication standards (i.e. AS/NZS4777.2:2020) at the time of connection.
Conformance monitoring	DNSPs should collaborate with industry to develop approaches for monitoring ongoing adherence to assigned export limits. See section 5.4.2 for further details.

## 5.2 Consumer understanding and interest

### Problem statement

Consumers are not always provided with accurate and accessible information at key stages of their decision-making process. This can negatively affect the benefits consumers derive from their CER investment and erode consumer trust. Consumers also do not always have visibility of their energy usage and energy exported, making it difficult for consumers to adjust their energy behaviour and understand service performance levels.

### Policy outcome

Consumers are provided with consistent messaging that is accessible and transparent and are provided with visibility of export limit performance. This will support informed consumer decision-making and foster consumer uptake and trust in the use of flexible export limits.

## AER position

The DEIP identified that flexible export limits represent a significant change to the way customers understand solar exports and connect to the electricity grid. Consequently, consumer awareness, understanding, and interest will be vital for the successful implementation and operation of flexible export limits.

DNSPs should engage more with consumers to improve their awareness across a range of topics including:

- the roles of DNSPs and other participants in the electricity supply chain
- the role of distribution networks in supporting the energy sector's transition to renewables and why new service offerings such as two-way pricing and export limits are needed
- why residential CER systems may be limited in size and may not always be able to export
- information about consumer rights and responsibilities when exporting to the grid.

Creating greater awareness of these topics will help in building consumer acceptance and trust. Further guidance on how DNSPs can seek to promote greater consumer awareness and understanding of connection arrangements is outlined in section 5.3 below.

In raising consumer awareness and understanding of export limits services, DNSPs should seek to use strategies based on the following:

- **Clear messaging** – Consumers should receive consistent and clear messaging about the potential impacts of making decisions to use flexible export limits. This clarity helps consumers understand the trade-offs and benefits associated with their choices. A good example of this is the [BankWest one-pager](#) on terms and conditions which provided clear, visual information to consumers.
- **Accessible and relevant information** – Consumers vary widely in their requirements and preferences when it comes to energy, each facing unique opportunities and obstacles when making decisions that impact their energy costs and supply. Consumers should have accessible and relevant information that is easily comprehensible. This ensures that consumers of varying backgrounds and levels of expertise can easily engage with the information effectively.
- **Collaboration with stakeholders** – Effective communication also depends on understanding the consumer CER journey<sup>20</sup> when dealing with flexible export limits. This requires consideration of the following questions:
  - At what point are consumers likely to encounter details about flexible export limits, and with whom does this interaction take place?
  - What specific messages are essential to facilitate an informed decision?
  - In what manner are these messages effectively delivered?

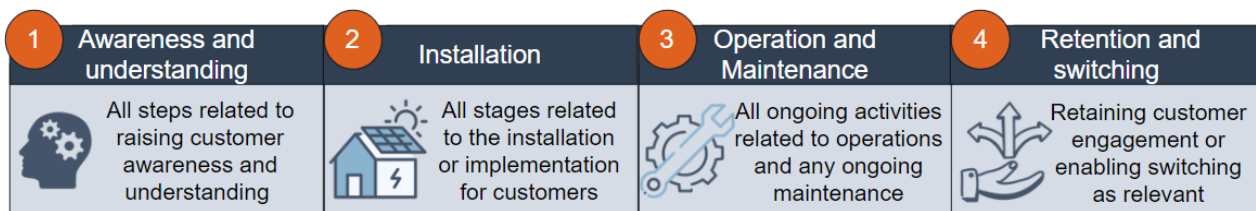
In addition to engaging directly with consumers, DNSPs should also seek to build stronger working relationships with key industry stakeholders to promote consistency in consumer

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<sup>20</sup> Refer to p 14 of SA Power Networks' [SAPN response to AER consultant on flexible export limits](#) for an overview of the flexible export limits customer journey.

messaging to foster consumer trust and confidence in adopting flexible export limits. We encourage DNSPs to consider consumer information needs throughout the different stages of the consumer CER journey to identify what DNSP information (if any) is required to help support informed consumer decision-making and the intermediary consumers are most likely to engage with to obtain information.

**Figure 55 Consumer CER journey map<sup>21</sup>**



### Supporting consistency in consumer messaging

DNSPs should work with industry to raise consumer awareness and understanding across a range of key topics, particularly connection agreements, to support informed consumer decision-making throughout the consumer CER journey.

While we recognise that DNSPs are often not the key interface with consumers the decisions they make regarding how they manage their network, technical requirements and conditions imposed under connection agreements, network tariff offerings and assignment policies can significantly impact consumer benefits derived from purchasing CER. For example, these have the potential to affect CER payback periods (negatively or positively), timing of device operation, and consumer’s ability to access other revenue streams.

Our expectations are that DNSPs should play a more active role in supporting industry intermediaries with their interactions with consumers by providing relevant and digestible information that helps support consumer agency, particularly at the point of purchase.

This information could be presented in the form of simple fact sheets or one-page summary documents that can be used by industry participants to communicate key information to consumers at a point where it is most impactful to their decision-making. Key information includes: how the size of the CER installation may impact connection costs; technical requirements and standards for connecting CER; the pros and cons of different connection arrangements (static vs flexible); how they operate in practice; and the impact of different network tariff arrangements.

DNSPs should also seek to provide information on any relevant jurisdictional arrangements that have the potential to impact on the consumer’s connection arrangements, such as the operation of emergency backstop mechanisms, and the circumstances in which these may be triggered.

Clear and easily understandable information about anticipated and actual service outcomes is needed to gain public acceptance and encourage consumers to consider flexible export

<sup>21</sup> Image adapted from [Energy Security Board, Consumer Insights Workshop: Customer Journey and Insights Workshop Report](#), 24 November 2022, p 9.

limits. Findings from the flexible exports trial conducted by SAPN demonstrate the significance of informing customers about expected service standards and providing customers with the ability to access information on current and historical performance levels of export services.<sup>22</sup>

## Our expectations

DNSPs should actively explore ways to improve customer visibility of their energy usage and export limit performance. Appendix A provides two examples of DNSP platforms by United Energy and SAPN aimed at providing consumers with better visibility of their export performance. Information provided through customer portals is likely to differ based on DNSP access to smart meter data. We encourage DNSPs to develop customer portals, or alternatively to work with industry stakeholders, to develop platforms that provide consumers with visibility of their energy usage and export. Providing this information will allow consumers to:

- make more informed choices on how they use and consume energy
- respond to network signals and be rewarded for changes in energy behaviour that helps improve network utilisation
- understand whether they are receiving the level of export service that is reflective of their connection agreement
- seek further information from DNSPs if their export limit is not meeting their performance expectations.

Over time we expect consumers to be able to access information about their export limit performance, including explanations on why the consumer's exports were curtailed. This could include, but is not limited to, prevailing weather conditions at the time, network outages (planned and unplanned), network constraints or abnormalities, or emergency curtailment.

DNSPs need to understand the consumer journey and decision points, including the parties that consumers engage with. This will enable DNSPs to engage with the relevant industry stakeholders that have direct contact with consumers and provide them with tailored information to use when engaging with diverse consumers with varying backgrounds and level of expertise. Some networks are already demonstrating this – for example, SAPN has taken this approach and has identified energy retailers that offer solar and solar installers to be key touchpoints with consumers. As a result, SAPN has provided fact sheets and briefing sessions to these parties to ensure they are providing the right information to consumers about flexible export limits in South Australia.

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<sup>22</sup> Refer to SA Power Networks' "Lessons learnt from the Flexible Exports trial" for further information and SAPN SmartView customer visibility platform.

## 5.3 Connection agreements and consumer participation

### Problem statement

A customer connection agreement is the contract between a customer and the DNSP based on the Model Standing Offer. In general, consumers have low levels of understanding and awareness of how connection agreements operate. This makes them vulnerable to entering into agreements that can have adverse financial impacts and affect their ability to maximise the value from their investment in CER.

### Policy outcome

Providing greater clarity and certainty about how connection arrangements operate will ensure appropriate consumer protections and support consumer confidence and uptake of flexible export limits.

### AER position

We understand that some jurisdictions, through jurisdictional regulations and policies, may seek to mandate the implementation of flexible export limits to accelerate their state/territory's transition to renewables. In the absence of any jurisdictional requirements or policies, this guidance note is intended to provide a baseline approach for implementing flexible export limits to promote consistency and provide 'guard rails' for consumers.

The AER's views on the baseline approach that should be taken for implementing flexible export limits is outlined below.

- An opt-in approach for implementing flexible export limits for residential customers is likely to be the most appropriate given current low levels of consumer awareness, understanding and trust.
- Eligible customers should be offered a choice between opting into a flexible export limit or choosing a static export limit based on their individual circumstances and preferences.
- DNSPs seeking to implement and use flexible export limits should seek AER approval for amendments to their Model Standing Offers to provide greater clarity and certainty of contractual obligations under static and dynamic connection arrangements.
- DNSPs should provide consumers and industry participants with targeted information that helps them understand differences in the operation of static and flexible export limits and highlight any differences in requirements, responsibilities, and service outcomes between the two arrangements.
- DNSPs should seek to highlight the implications of any relevant regulatory or jurisdictional arrangements that can affect the operation of the consumer's connection, such as emergency backstop mechanisms.

Our expectation is that DNSPs should tailor the design and implementation of flexible export limits, as appropriate, to reflect jurisdictional arrangements and feedback from consumers and industry stakeholders.

We envisage these changes will help in establishing ‘guard rails’ to protect consumers and enable CER owners to maximise the value from their investment. DNSPs need to take an active role in engaging with energy supply chain partners (for example energy and solar retailers, retailers and aggregators, and original equipment manufacturers), to promote better consumer outcomes and improve consumer knowledge and understanding. Our position on this issue is discussed in section 5.2.

## Our expectations

### Model Standing Offers

When offering an opt-in flexible export limit for consumers covered by a Model Standing Offer, each DNSP should cover both flexible and static limit options for the consumer, clearly laying out the differences between them and presenting these on equal footing.

The terms and conditions that should be included in DNSPs’ Model Standing Offers are outlined in Table 3.<sup>23</sup>

**Table 3 Recommended terms and conditions relating to flexible export limits**

Issue	Expectation
Service offering	DNSPs should clearly set out the anticipated amount of export that customers can expect to receive by signing up to flexible export limits and associated costs. Our view is that during early implementation, the export limit assigned to consumers should be linked to the duration of the connection agreement and should only be subject to change when the connection agreement is amended or varied. Over time this approach may evolve as DNSPs capabilities mature and become more sophisticated, which may allow consumers to seek a review of their export limit after a set period.
Reversion to static export limits	DNSPs should describe the general circumstances that would give rise to consumers being reverted to static export limits and specify the static export limit that will apply.
Access to information about export limit performance	DNSPs should describe how consumers can access information regarding how much energy and the level of exports they have received relative to their assigned export limit.
Curtailment	DNSPs should clearly set out the circumstances in which consumers may experience their exports being curtailed or restricted and how consumers will be notified of interruptions to their ability to export.
Non-compliance with the flexible export limit	DNSPs should clearly set out requirements that must be met for consumers to be eligible to receive the flexible export limit, what happens if these conditions are not met, and the circumstances governing move-in arrangements. DNSPs should set out their approach for notifying consumers when an equipment fault is leading to consumer non-compliance with the flexible export limit, and for ensuring customer consent is obtained before making remote changes to inverter settings (via the original equipment manufacturer) to rectify non-compliance.
Customer enquiries, complaints, and disputes	DNSPs should set out:

<sup>23</sup> Amendments to Model Standing Offers (such as including new terms and conditions) need to be approved by the AER – see clause 5A.B.6 of the National Electricity Rules.



Issue	Expectation
	<ul style="list-style-type: none"> <li>• the process that should be followed when a consumer has a query about their flexible export limit or a concern around how much they have been able to export;</li> <li>• the process consumers can follow to make a complaint and the escalation process for resolving disputes, including advising of services offered by state / territory governments and access to relevant energy ombudsman schemes (see section 5.5 for further details)</li> </ul>

### Information to help support informed consumer decision-making about opting-in to flexible export limit arrangements

DNSPs should provide pertinent details to assist consumers to make informed choices about which connection arrangement best suits their circumstances. Connection agreements are difficult for consumers to understand, with many not even aware of the existence of such agreements. This gives rise to the risk of consumers not receiving adequate information regarding the implications of different connection arrangements, which can undermine their ability to select a connection arrangement that best meets their preferences around how they use and consume energy. See section 5.2 on building consumer understanding and interest.

DNSPs should clearly set out, in material that is separate from connection agreements, information that will assist consumers in making an informed decision about whether to opt-in to flexible export limits and understand key implications surrounding their ongoing operation. DNSPs should also prepare information that explains how the introduction of flexible export limits may impact existing customers, compared to future customers who get a different connection agreement due to either the introduction of flexible export limits or evolution in the DNSP's flexible export limit service offering.

Key areas where we consider DNSPs should seek to raise consumer awareness and understanding to support more informed decision-making on the connection arrangements that best suits their circumstances are outlined in Table 4.

**Table 4 - Key areas requiring improvement in consumer awareness**

Area	Expectation
Differences between static and flexible export limits	<p>DNSPs should provide relevant material that enables consumers to understand the differences between static and flexible connection arrangements that includes what they are, how they operate, and key benefits they provide. In explaining the differences between these types of connection arrangements, DNSPs should:</p> <ul style="list-style-type: none"> <li>• set out the pros and cons of the different arrangements;</li> <li>• provide worked examples of the benefits a consumer could expect to receive under different static and flexible export arrangements based on common CER connection requests;</li> <li>• indicate which arrangements would likely suit different types of customers based on consumer energy usage patterns.</li> </ul>
Connection charges and tariff offerings	<p>DNSPs should provide consumers with relevant and easily digestible material that explains the nature of connection charges under different connection arrangements in plain English and highlight how a consumer's choice of connection arrangement may affect the network tariff they are assigned or choice of network tariff. DNSPs should seek to supplement this information by providing easily digestible material that explains how network tariffs operate, the different types of network tariffs DNSPs charge, how DNSPs assign</p>



Area	Expectation
	customers to different network tariffs, and how customers benefit under different tariff arrangements.
Factors that can affect performance	DNSPs should provide consumers with material that helps them understand the different factors that might affect export levels and the consumer's ability to receive the level of export that they have signed up to at the agreed service level. For example, explaining any factors that might impact on a consumer's ability to receive 10kW of export limit 95% of the time. DNSPs should also set out how consumers can check their export level performance against their service offerings.
Rights and responsibilities	<p>DNSPs should provide a fact sheet to consumers setting out their rights and responsibilities in relation to flexible export limits. This should include information on:</p> <ul style="list-style-type: none"> <li>• how consumers can check what service they are entitled to receive under their agreement;</li> <li>• what requirements consumers must comply with to ensure they are able to export at the agreed export level and within the service levels outlined in their agreement and steps that consumers can take to check that they are complying</li> <li>• how consumers can check and monitor what export level they are receiving</li> <li>• guidance on what factors can affect the level of export service consumers receive</li> <li>• how consumers can make enquiries or complaints about the level of service they are receiving.</li> </ul>
Non-compliance	DNSPs should have clear processes for handling consumer complaints and resolving disputes relating to the implementation and operation of flexible export limits and provide general guidance on common causes for customer non-compliance with flexible export limit requirements. This information should include a description of the actions DNSPs may take in the event of a non-compliance being identified.

The above information should be published on DNSPs' websites in a manner that can be regularly updated by DNSPs, to reflect the dynamic nature of this information. It should be presented in an easily digestible and accessible format. DNSPs may choose to convey this messaging using a combination of different mediums such as fact sheets, infographics or short animation videos to promote greater consumer awareness and understanding. DNSPs should work with industry stakeholders in developing some of the messaging and best communication medium. This is likely to have a trickle-down effect in raising awareness throughout the industry supply chain.

## 5.4 Compliance and monitoring

### 5.4.1 Compliance with technical standards

#### Problem statement

Improving compliance with technical standards is critical to enable the efficient and effective implementation of flexible export limits. If there is a lack of confidence in CER devices operating in accordance with technical standards, this can lead to DNSPs adopting a conservative approach in setting export limits to mitigate the risk of adverse network impacts.

## **Policy outcome**

Improved levels of compliance with CER technical standards will assist in unlocking additional network hosting capacity, improving network utilisation, and system security.

## **AER position**

DNSPs should take practical steps to improve compliance with relevant CER technical standards to improve network hosting capacity and support system security. In doing this, DNSPs should consider jurisdictional arrangements and key recommendations from the AEMC's review into CER technical standards<sup>24</sup> in developing their compliance and monitoring approach. Doing so would improve network visibility and better management of system flows, thereby avoiding the need for additional capital expenditure to accommodate non-compliance on their networks.

## **Our expectations**

DNSPs should take practical steps aimed at improving consumer compliance with relevant CER technical standards. This includes but is not limited to ensuring that consumer devices are correctly configured to AS4777.2:2020 and reflect the parameters of the flexible export limit outlined in their connection agreement.

Installers need clear information about installation and commissioning procedures to ensure accurate and appropriate installation practices take place. This minimises risks to consumers of configuration errors, as installers need to establish the correct settings on devices and also establish the communication channel between the consumer device and DNSP server. DNSPs should engage with installers, original equipment manufacturers and traders / aggregators on required installation procedures for solar and battery systems to facilitate correctly commissioned inverters to maximise the benefits of flexible export limits. (See box below.)

## **Example – effective working relationships between industry players to ensure compliance**

There was a non-compliance event whereby an inverter original equipment manufacturer inadvertently 'wiped' the export limit register on inverters through a regular firmware update.

After the original equipment manufacturer self-reported the issue, the DNSP collaborated with the original equipment manufacturer to identify affected sites and provide the appropriate export limit to be reinstated as per the connection agreement.

The AER considers such transparent and quick communication, where the original equipment manufacturer communicated with the DNSP and worked quickly to fix the issue without formal direction, evidence of good practice. This highlights the benefits that can be achieved from fostering strong working relationships with industry. This is noting that, while self-reporting can enhance compliance with export limits, it is insufficient to be relied upon as the sole mechanism for identifying non-compliance with export limits. DNSPs should work with AEMO and industry to explore other approaches in addition to self-reporting.

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<sup>24</sup> AEMC, [Review into consumer energy resources technical standards](#), Final report, 21 September 2023.

Some jurisdictions are already undertaking actions aimed at improving rates of compliance of CER with technical standards. For example, Solar Victoria has developed installation safety technical guidance sheets to help installers maintain technical standards. In South Australia, SA Power Networks has introduced a portal for solar retailers and installers to keep track of standards applied at the point of installation (see box below).

#### **Example – SA Power Networks’ technical compliance strategy**

In South Australia, following the recent implementation of the ‘Smarter Homes’ regulations, SAPN has developed a compliance strategy and roadmap, and transformed an existing team into one that oversees operational compliance, provides industry support and administers the connections process for CER systems less than 30kVA.

SAPN have also established an industry outreach program to raise awareness and build industry understanding of compliance obligations and roles and responsibilities across channels. These channels include training programs, online materials, in-person industry events and road shows, webinars, and a new online portal for the CER approvals process. This portal supports self-service life cycle management of applications, allows instant approvals with all regulations and requirements built into the portal, includes new close-out and commissioning steps, and has automated detection capabilities that allows retailers and installers to self-manage their compliance levels in real time.

SAPN’s website pages are specifically designed for installers, which outlines installation requirements step-by-step, in easily understandable language, and with external links embedded where needed.

The AER supports the work that AEMO has been undertaking to improve compliance with AS/NZS4777.2:2020. We encourage DNSPs to look at the recommendations and initiatives outlined in Table 4 of AEMO’s ‘Compliance of Distributed Energy Resources with Technical Settings: Update’ report, to determine whether there are any additional compliance actions that could be adopted to assist in improving CER technical compliance.<sup>25</sup>

In their expenditure proposals, DNSPs should demonstrate any steps they have taken to improve compliance for new CER connections. This includes setting aside expenditure for engagement and awareness with consumers and industry as this is a key enabler for improving compliance.

### **5.4.2 Conformance monitoring framework**

#### **Problem statement**

It is important that frameworks are in place for monitoring conformance with operationally assigned export limits to ensure customer connections operate within allowable limits. Failure to monitor conformance with export limits has the potential to undermine efficient market operations and put system security at risk. It may also result in DNSPs withholding network

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<sup>25</sup> AEMO, Compliance of Distributed Energy Resources with Technical Settings: Update, December 2023, see pages 24-25, and 42.

capacity to account for non-conformance, resulting in lower export limits and underutilisation of available network hosting capacity.

### **Policy outcome**

DNSPs to work with the AER, market bodies and industry stakeholders to develop frameworks for monitoring ongoing conformance with operationally assigned export limits. This will help ensure that benefits from flexible export limits are realised, improve network utilisation, promote efficient market operations, and ensure system security is able to be maintained.

### **AER position**

Conformance with, and monitoring adherence to, operationally assigned export limits are key components of an effective flexible export framework.<sup>26</sup> Conformance monitoring is distinct from ensuring ongoing consumer compliance with the technical requirements of their connection agreement (which sets the lower and upper bounds of energy that can be exported from the customer's connection point). Conformance is instead aimed at ensuring adherence to DNSP operationally assigned export limits, which means exports from a site<sup>27</sup> remain within the upper and lower bounds that the DNSP allocates to it (which can vary dynamically on an interval basis). This ensures CER operation remains within safe network limits at all times based on network conditions.

For example, a customer who has signed onto flexible connection arrangements comprising of a lower limit of 3kW and an upper limit of 10kW will be able to export solar within these upper and lower parameters as defined by their connection contract. The export limits operationally assigned to a customer's connection point can fluctuate daily within the boundaries of their connection agreement and on an interval basis (every 30 or 5 minutes), based on network conditions. The DNSP calculates and forecasts the export limits that are operationally assigned to a customer's connection, and provides this information to AEMO and market participants for market dispatch.

Conformance monitoring is aimed at ensuring that processes and frameworks are in place for ensuring the export limits operationally assigned by DNSPs are adhered to. Conformance is achieved where inverters respond accurately to dispatch signals, remain within the site's export limits, and where market participants (retailers and aggregators/traders) adhere to the DNSP assigned export limits.

Further work on developing an appropriate conformance monitoring framework is needed to mitigate against the risk of widespread non-conformance. Left unaddressed, this has the potential to undermine efficient market operations and negatively impact both network and system security. It can also result in DNSPs setting more conservative hosting capacity limits to manage the risk of 'breaches',<sup>28</sup> leading to an underutilisation of available network hosting

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<sup>26</sup> The conformance monitoring framework described in this section is drawn from AEMO (2023), Project EDGE Final Report, version 2, October 2023.

<sup>27</sup> Conformance monitoring is applicable to the point of flexible export limit allocation as per the allocation point in the capacity allocation design (AEMO, pers. Comm., 25 July 2024.).

<sup>28</sup> Project EDGE defines a breach as performance that did not exactly match the dynamic operating envelope (DOE) allocated to a particular site. References to a 'breach' in this section refers to this definition.

capacity. Project EDGE, led by AEMO, provides useful insights on DNSP forecast capabilities and DNSP timeframes for communicating export limits to support efficient market operations (in terms of bidding and re-bidding behaviour), and the implications of this on conformance.<sup>29</sup>

We encourage DNSPs to consider these insights and to consult with AEMO, AER and market participants in developing approaches and processes for monitoring and ensuring ongoing adherence to operationally assigned export limits. In doing this, DNSPs should have regard to current reforms being progressed in the CER Roadmap,<sup>30</sup> including extending consumer protections for CER, redefining roles for market operations and redefining roles for power system operations. These workstreams will likely provide further clarity on roles and responsibilities and will assist in the development of effective conformance monitoring arrangements.

### Our expectations

DNSPs have an incentive to rectify non-conformance as export limit breaches can affect network security and export service performance.

As part of their responsibilities for calculating and communicating operationally assigned export limits, DNSPs have a role in day-to-day conformance monitoring and assessment to ensure the connected consumer assets remain within safe network limits. For example, identifying changes to settings (e.g. software updates) or changes to operation which can influence the ability for a site to conform with operationally assigned export limits. This would require DNSPs to develop investment strategies to undertake conformance monitoring and assessment in an efficient manner, which includes access to data, that is justified by the scale of network security risks and flexible exports uptake across the network.

DNSPs should work with installers and market participants to minimise the risk of non-conformance upfront, which could be reduced significantly if steps are taken during the initial installation phase to ensure the inverter is correctly configured.

We also expect DNSPs to notify consumers of any identified non-compliance upon reasonably becoming aware of the installation not adhering to the requirements of the flexible connection agreement, and to assist them with rectifying the cause of the breach. Doing so would enable consumers to pursue corrective action and ensure that they continue to receive the benefits from opting into flexible export limit arrangements.

Further work to develop a conformance monitoring framework will be needed. Findings from Project EDGE identify three distinct roles necessary for an effective conformance monitoring framework.<sup>31</sup> These include:

- **Conformance monitoring:** process of collecting information/data to identify when a flexible export limit breach occurs based on predefined rules.

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<sup>29</sup> AEMO (2023), Project EDGE Final Report, version 2, October 2023, see sections 5.3.2.1 and 5.3.2.2.

<sup>30</sup> Energy and Climate Change Ministerial Council (2024), [National Consumer Energy Resources Roadmap](#), July 2024.

<sup>31</sup> AEMO (2023), Project EDGE Final Report, version 2, October 2023, see section 8.3.3.

- **Conformance assessment:** using conformance monitoring results as an input with information about what is permitted behaviour to assess whether the behaviour observed constitutes non-conformance that should be referred for corrective action.
- **Compliance enforcement:** process for correcting a flexible export limit breaches.

The AER expects DNSPs to work collaboratively with the AER, AEMO, AEMC and market participants to clarify the appropriate allocation of roles and responsibilities under such a framework.

## 5.5 Complaint handling and dispute resolution

### Problem statement

Disputes between customers and DNSPs about the application of flexible export limits are potentially significant. A lack of clarity for consumers around resolving concerns or disputes can erode consumer trust and lead to minimal uptake of flexible export limits.

### Policy outcome

Clear processes are established for DNSPs and consumers to follow to address complaints and disputes about the implementation and operation of flexible export limits.

### AER position

DNSPs should establish clear processes for handling consumer complaints and resolving disputes relating to the implementation and operation of flexible export limits. This should encompass:

- establishing processes for capturing relevant data that would assist in resolving consumer complaints and enquiries relating to their export service
- processes for tracking and closing out complaints and disputes
- processes for reviewing and analysing complaints and disputes to identify areas of improvement
- establishing an (ideally, independent) dispute resolution mechanism.

Establishing these processes is important for building and maintaining consumer trust in the uptake and operation of flexible export limits. The AER encourages DNSPs to work with consumer advocates, jurisdictional Ombudsmen, and market participants in developing these processes.

In developing complaint and dispute resolution processes DNSPs should have regard to work being progressed in the CER roadmap under the extending consumer protections for CER national reform priority which aims to strengthen consumer protections and provide clarity on roles and responsibilities relating to CER.

### Our expectations

We expect DNSPs to develop and implement a standard approach for resolving complaints and disputes regarding the implementation or operation of flexible export limits. DNSPs should inform customers of their ability to pursue dispute resolution regarding the terms and

conditions of their connection service under Chapter 5A, Part G of the National Electricity Rules.

Once a dispute resolution mechanism is established, we expect that DNSPs, as part of the connection process, will provide information on how issues and disputes about flexible export limits can be raised and resolved.

DNSPs should establish arrangements to collect suitable information to be able to respond to customer queries and enable them to work through a complaint or dispute with customers. This would include information about flexible export service performance thresholds, and verification processes to help determine whether the underlying cause of the complaint is DNSP related or the responsibility of another party.

Where a customer's complaint relates to curtailment, or receiving prolonged levels of lower exports relative to the service level that was conveyed to them, DNSPs should be able to demonstrate what was happening in the network at the time to necessitate curtailment or lower levels of exports being assigned to the customer. Additionally, customers should have the ability to access their energy data and service performance information, empowering them to lodge complaints if export service levels are not being met.

DNSPs should have clear information regarding the pathways available to consumers in the event a dispute cannot be resolved by the DNSP, including relevant information gathered and considered by the DNSP (e.g. details of solar system and inverter model, feeder information, network outage information). These pathways may vary between jurisdictions – for example, Energy Ombudsmen may be limited in their ability to address disputes about flexible export limits in some jurisdictions with consumers instead having to rely on general protections provided under Australian Consumer Law.

## 5.6 Reporting

### 5.6.1 DNSP reporting

#### **Problem statement**

Industry stakeholders need relevant information about network constraints and issues to help inform where they should seek to target product offerings and services that might offset the need for network investment. DNSPs should report flexible export limit metrics as part of their distribution annual planning report to enable stakeholders to participate more fully in flexible export limits.

#### **Policy outcome**

Provide greater clarity on the role of DNSP self-reporting and areas where this can be further improved to promote confidence and uptake in flexible export limits.

#### **AER position**

DNSPs have a significant role in creating an inclusive environment for stakeholders to have access to export service data. This guidance aims to promote reliable and robust information sharing that can enable greater participation from consumers, facilitate uptake of flexible export limits and offset future network investments.



The AER considers that where DNSPs are offering flexible export limits, they should also include relevant details and more granular reporting metrics as part of their distribution annual planning report. We consider that DNSPs benefit from a higher level of data availability as they will be able to provide more information to industry stakeholders to inform potential consumers about the benefit of flexible export limits and about how they differ from static limits.

DNSPs should develop a data management strategy that improves data quality, data consistency and access<sup>32</sup>. Further work is required by DNSPs to ensure that they have in place processes for identifying and capturing issues identified with export services, monitoring the effectiveness of rectification strategies, and capturing relevant information relating to export service complaints.

### **Our expectations**

We encourage DNSPs to have regard to AEMO's work (in partnership with AusNet) in co-designing a CER Data Exchange with industry,<sup>33</sup> and findings from the RACE 2030 Report, for guidance on metrics DNSPs could include in distribution annual planning reports on flexible export limit performance.

We anticipate over time, as smart meter penetration increases and DNSPs gain access to basic power quality data, that this will allow for improved reporting metrics to be developed.

## **5.6.2 AER reporting**

### **Problem statement**

Transparency in DNSPs' export service performance is critical to promote consumer confidence and to assess the effectiveness of flexible export limits as a tool for addressing network capacity constraints. Further work is required to agree on key definitions and improve DNSP data capture and reporting to enhance the effectiveness of the AER's export service network performance report.

### **Policy outcome**

Explanation of the AER's intended reporting approach for monitoring DNSP export service performance.

### **AER position**

For it to be widely adopted, consumers need access to trusted information on export service performance to build confidence in flexible exports services.

The AER's annual export services network performance report is aimed at bridging this gap by promoting greater transparency of DNSP performance in providing services for embedded

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<sup>32</sup> Refer to RACE for 2030's "[Measuring and communicating network export service quality report](#)" for further information.

<sup>33</sup> For more information, see AEMO, [CER Data Exchange Industry Co-Design](#), Australian Energy Market Operator.



generators, such as residential solar, batteries, and electric vehicles to export energy onto distribution networks.<sup>34</sup>

Various export service metrics such as CER consumer capacity, data on static and flexible export limits, export capacity, compliance with export limits, and results of flexible export limit trials have been considered as part of the AER's first export services network performance report. The objective of these measures is to provide insights on the impacts on network performance and inform stakeholders on delivery of projected service levels.

### **Our expectations**

There are discrete and segregated sources of data on customer numbers, export capacity, CER expenditure, and static and flexible export limits. However, as expected with a new data set, the variation in definitions and interpretation of data across the DNSPs is currently limiting the usefulness of this information. The AER will continue to work closely with DNSPs and other stakeholders to improve and evolve reporting metrics used in our export services network performance report.

From 2025, information collected from DNSPs will be standardised through the AER's regulatory information orders.<sup>35</sup> In addition to standardising the core measures collected from networks, regulatory information orders will have independent assurance requirements compared with the voluntary information requests that were collected for the 2023 and 2024 report.

Future export services network performance reports may include additional metrics such as estimates of total CER generation and total energy curtailment and how they compare to generation and curtailment in the overall system. Other metrics that may be incorporated into our report include DNSP reporting against export limit service levels, as defined in their regulatory business cases, number of customer complaints and referrals to Energy Ombudsmen or other jurisdictional bodies.

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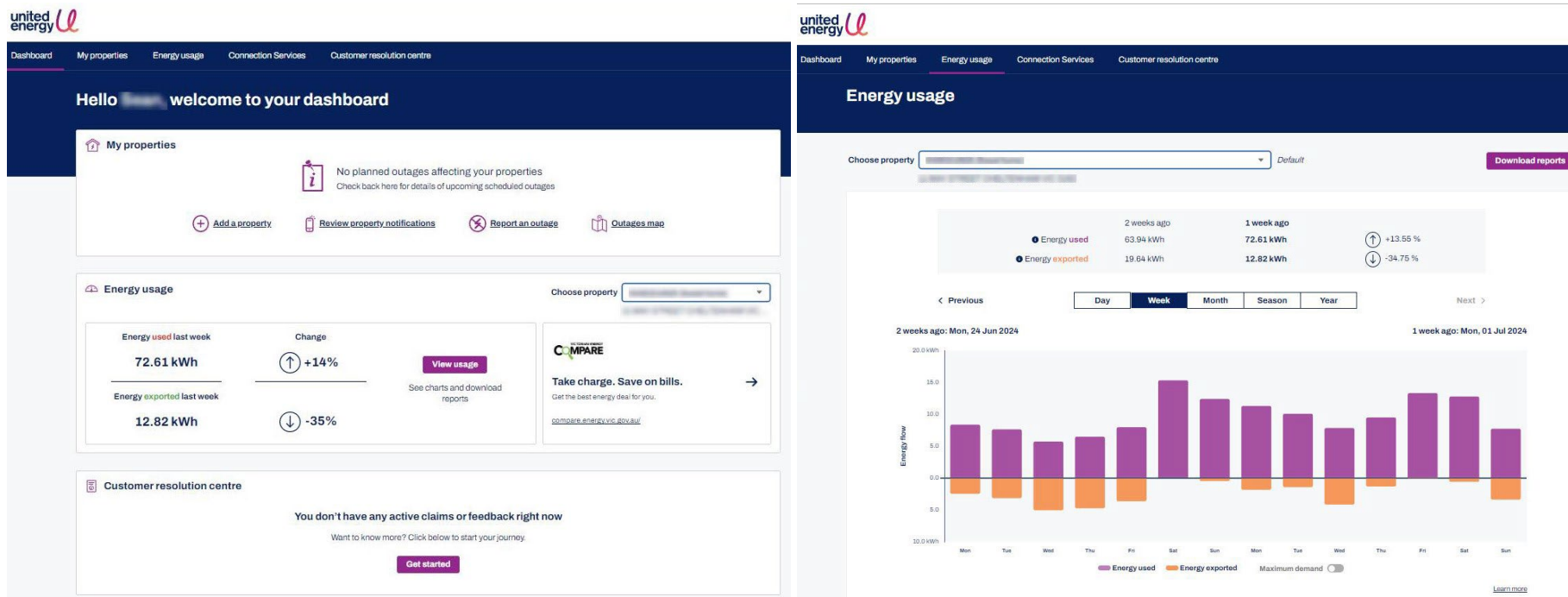
<sup>34</sup> AER, [Export services network performance reports 2023](#), Australian Energy Regulator, December 2023.

<sup>35</sup> AER, [Networks information requirements review](#), Australian Energy Regulator, 5 April 2024.

## Appendix A – Customer portal examples

### United Energy Example<sup>36</sup>

Below is an example of a DNSP customer portal, showing the nature of information that can be provided where DNSPs have access to smart metering data.



<sup>36</sup> Image provided by United Energy.

### SA Power Networks Example<sup>37</sup>

Below is an example of DNSPs presenting aggregate information to consumers on their export limit performance.



<sup>37</sup> SAPN, [Flexible Exports Eligibility](#), SA Power Networks, accessed September 2024.