Export tariff guidelines for distribution network export tariffs

Consultation Paper

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AUSTRALIAN
ENERGY
REGULATOR

Inquiries about this publication should be addressed to:

Australian Energy Regulator
GPO Box 520
Melbourne VIC 3001

Tel: 1300 585 165

Email: tariffguideline@aer.gov.au.

AER Reference:

Request for submissions

Interested parties are invited to make submissions to the Australian Energy Regulator (AER) regarding this Consultation Paper by close of business, 4 November 2021.

Submissions should be sent electronically to: tariffguideline@aer.gov.au.

Alternatively, submissions can be mailed to:

Warwick Anderson, General Manager, Network Pricing
Australian Energy Regulator
GPO Box 3131
Canberra ACT 2601

We have set out our preliminary views, issues and questions for consideration. These questions may guide your submission, however we encourage you to address any other matters of relevance. In providing responses, please explain your reasons, including supporting evidence and data where possible. You do not need to comment on all issues in your feedback, only those relevant to you.

We prefer that all submissions are in Microsoft Word or another text readable document format, and that all submissions be publicly available. This is to facilitate an informed and transparent consultative process. Submissions will be treated as public documents unless otherwise requested.

Stakeholders wishing to submit confidential information should:

- clearly identify the information that is the subject of the confidentiality claim
- provide a non-confidential version of the submission in a form suitable for publication. All non-confidential submissions will be placed on our website.

All non-confidential submissions will be placed on the AER's website at www.aer.gov.au. For further information regarding the AER's use and disclosure of information provided to it, see the ACCC/AER Information Policy, June 2014 available on the AER's website.

Enquiries about this paper, or about lodging submissions, should be directed to tariffguideline@aer.gov.au.

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1 Introduction

1.1 Context for the Guidelines

On 12 August 2021 the Australian Energy Market Commission (AEMC) published its final decision on the *Access, pricing and incentive arrangements for distributed energy resources rule change* (the rule change).[1] The AEMC's rule change aims to integrate distributed energy resources (DER), such as small-scale rooftop solar and batteries, more efficiently into the electricity grid. Previously, under the rules, distribution services have involved one-way flows of electricity imported from the grid for consumption. The AEMC's rule change updates the National Electricity Rules to clarify that distribution services can be two-way. That is, they include both the "import" of energy from the grid for consumption and the "export" of energy, such as rooftop solar, to the grid.

What are distributed energy resources (DER)

Distributed energy resources (DER) is the name given to renewable energy units or systems that are commonly located at houses or businesses to provide them with power. Another name for DER is 'behind the meter' because the electricity is generated or managed 'behind' the electricity meter in the home or business.

Common examples of DER include rooftop solar PV units, battery storage, thermal energy storage, electric vehicles and chargers, smart meters, and home energy management technologies.[2]

DER is changing the way Australia produces and manages electricity. Rather than electricity being generated by big, centralised power stations, it is now starting to come from many places including millions of homes and businesses.

The updated National Electricity Rules removes a provision that prohibited distribution use of system charges for the export of electricity. This means that Distribution Network Service Providers (distributors, distribution networks, or networks) may design and implement two-way pricing (i.e. pricing options for both the import / consumption of energy and the export of energy, including negative pricing / incentives) to match two-way energy flows on the distribution networks.

The AEMC's rule change requires us, the Australian Energy Regulatory (AER), to develop and publish Export Tariff Guidelines (the Guidelines).[3] We are also required to develop guidelines about methodologies for determining basic export levels and related matters.[4] The Guidelines will assist distributors in introducing potential two-way pricing options. Two-way pricing is explained further in Section 1.2 below.

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1 AEMC, Access, pricing and incentive arrangements for distributed energy resources, Rule determination, 12 August 2021.

2 Solar PV means solar photovoltaic. Solar PV cells convert sunlight directly into energy.

3 NER, cl. 11.141.5.

4 NER, cl. 11.141.14.

By allowing two-way pricing under the National Electricity Rules, distributors will be able to signal to consumers when it is better to consume their own rooftop generated solar electricity, and when it is better to export it. This will help reduce overall network costs and keep prices lower for all customers. It will also allow networks to recover the cost of any asset upgrades from the customers who most benefit from that network investment.

It is important to note that enabling two-way pricing does not mean rooftop solar owners will be forced to pay to export solar at all times or indeed, at all. We envisage that, in order to obtain our approval for two-way pricing options, distributors will need to demonstrate that supporting additional solar exports is increasing the costs of operating the network. Under this approach, consumers would pay export charges only if their exports (either generally or at particular times of the day) would contribute to increased network costs. The rule change has also built in a number of protections for customers, including the following:

- **Any export tariffs must be approved by the AER**. This will be done at the time of the five-year regulatory reset process with the distributor, through the Tariff Structure Statement (TSS) process. The TSS process has strong stakeholder participation. We expect distributors to engage with stakeholders when they are developing their proposed TSS. For example, as part of its TSS consultation, we expect distributors to seek stakeholder feedback on: their ongoing customer and stakeholder engagement approach; proposed export tariffs; any tariff trials for export services to inform their TSS proposals, and; transitional measures to progress implementation of cost reflective pricing and manage change. Stakeholders are also encouraged to engage with us during the regulatory reset through responding to distributors' proposed TSS and our draft decisions made in response to distributors' proposals. The TSS process is discussed further at section 2.1.1 below.
- **New rules for distributors**:
    - Distributors must specify their **basic export levels** for a 10-year period – this is the amount of electricity that a customer will be able to **export to the grid at no extra charge**.
    - Distributors must submit an **export tariff transition strategy** as part of their TSS, to provide transparency about their long-term intentions and to assist consumers thinking about investing in solar.
- **Existing customers will not face export tariffs until 1 July 2025 at the earliest**, unless they elect to participate earlier, such as through technology or tariff trials.

What is an export tariff?

An export tariff is one that includes a charge for exporting electricity into the grid.[5] Distributors will have flexibility to decide how an export tariff may look, if introduced. For example, a distributor may choose to introduce a new export tariff or may introduce a new charge for the export of electricity as part of an existing tariff. Alternatively, a distributor may simply design a surcharge to apply to existing tariffs and only for those customers exporting to the network.

What is a basic export level?

The basic export level will allow customers on an export tariff to export up to a certain level of kilowatts (kW) / power to the grid without charge.[6] Basic export levels will apply for the next two upcoming regulatory control periods (10 years in total).

What is an export tariff transition strategy?

The AEMC's rule change requires each distributor to include, in its TSS, the export tariff transition strategy it has adopted for the introduction of export tariffs. Distributors are required to submit this to us even if they do not intend to introduce two-way tariffs in the short term, so that stakeholders have clarity on each distributor's long-term plans. A distributor's transition strategy should clearly show how the distributor has taken into account the impact on customers of phasing in any proposed two-way pricing options.

The rule change and requirement for the AER to create Guidelines result from a nine month consultation process conducted by ARENA's Distributed Energy Integration Program (DEIP).

DEIP is a collaboration of government agencies, market authorities, industry and consumer associations aimed at maximising the value of customers' DER for all energy users. This consultation informed rule change requests received from SA Power Networks (SAPN), St Vincent de Paul Society Victoria and Total Environment Centre (TEC) together with the Australian Council of Social Services (ACOSS).

AEMC consultation occurred in the period after the original rule changes were submitted. It took almost two years before the final rule was published.

5 NER Chapter 10. The NER defines 'export tariffs' as: a tariff for distribution services that includes a charging parameter relating to supply from embedded generating units into the distribution network. Embedded generators are generators connected to a distribution network, and include solar panels, gas generators and wind turbines.

6 NER, cl 11.141.1. The NER defines a 'basic export level' as: a threshold (calculated by reference to capacity, energy or other measure permitted in a distribution determination) specified in the applicable tariff structure statement.

A full list of the amendments to the National Electricity Rules arising from the rule change, and when they commence, can be found in Table 2.1 of the AEMC's final determination.[7]

1.2 What is two-way pricing?

The rule change recognises that networks designed for one-way energy flow have an inherent, albeit finite, capacity to also deliver export services. When take-up of rooftop solar and other DER such as batteries and electric vehicles was relatively low, networks could accommodate additional DER at low or zero cost. However, the ability of electricity networks to support solar exports is being eroded because of the rapid uptake of rooftop solar.

By seeing appropriate price signals from their local network provider, consumers will be better informed about their consumption, export and investment decisions. For example, two-way pricing provides signals to consumers on how best to use the energy they generate themselves. Consumers may choose to use their own solar generated electricity in the middle of the day, when there is a lot of solar exported energy on the grid. They may then export in the evening peak and be rewarded for providing energy when there is higher demand for energy. Where it is introduced, two-way pricing will provide signals to consumers to divert energy to storage such as batteries.

Failure to establish appropriate price signals to accommodate two-way energy flows could result in:

- unnecessary network investment to support more solar exports, leading to higher network costs for all consumers and inequity across customers with and without rooftop solar or other DER
- no or fewer rewards for customers who can respond to price signals by exporting solar energy when there is high demand for energy, such as in the early evening
- customers with rooftop solar being constrained off the grid (for instance, having their solar panels switched off by the distributor) and, in some situations, wasting solar energy.

Providing the option for two-way pricing will allow distributors to better manage the network by:

- better facilitating the integration of more solar, and other DER
- creating more equitable, cost-reflective tariff options that reward customers for exporting when there is higher demand for electricity, or for consuming energy

[7] AEMC, Access, pricing and incentive arrangements for distributed energy resources, Rule determination, 12 August 2021.

when there is a lot of solar on the grid (minimum demand for energy or solar overload).

1.3 Purpose of our Consultation Paper

This Consultation Paper sets out our preliminary views on the structure and content of the Guidelines and signposts where we seek stakeholder feedback to help us develop the Guidelines. It also sets out how the Guidelines may interact with our existing regulatory process.

Feedback on the Consultation Paper, through submissions and participation in an online forum, will be instrumental in assisting us to develop the Guidelines.

In particular, we are seeking feedback on the following questions. Background to these questions is discussed in detail in the following sections.

Table 1 Summary of questions

Section 3.1 Stakeholder engagement in relation to proposed export tariffs	
1	Are there additional steps distributors can take or consider when engaging with their customers on export tariffs? Please explain them.
Section 3.3 The AER's approach to applying the network pricing objective and pricing principles in relation to export tariffs	
2	What are the drivers of the costs of expanding network export capacity?
3	Is the efficient cost of providing an export service different to the efficient cost of a consumption service? If yes, how are these costs different?
4	What can distributors do in practice to demonstrate they have considered customer impact analysis when setting tariffs? For instance, how should distributors explain or quantify a negative customer impact analysis? Please give examples.
Section 3.5 Other Matters	
5	Are there other matters not listed in this section that stakeholders think should be included in the Guidelines? Please list them in order of importance, and explain why they should be included in the Guidelines.
Section 3.6 Provision of basic export level and export level guidelines	
6	How should distributors define basic export level thresholds? What matters should be taken into account when defining basic export level thresholds?

1.4 What is the timing for the Guidelines?

We intend to publish the final Guidelines in May 2022. Table 2 below sets out our key milestones for developing the Guidelines.

Table 2 Key dates for the non-binding distribution network export tariff Guidelines

Task	Date
AEMC publishes final Access, Pricing and Incentive Arrangements for Distributed Energy Resources	12 August 2021
AER publishes Consultation Paper	23 September 2021
AER to hold an online public forum	5 October 2021
Submissions on Consultation Paper sought from stakeholders	4 November 2021
AER to publish draft non-binding Guidelines	19 January 2022
Submissions on draft Guidelines sought from stakeholders	8 March 2022
AER to publish final non-binding Guidelines	80 business days after the draft Guidelines are published - 16 May 2022

2 Objectives and scope of the Guidelines

2.1 Objectives of the Guidelines

The objective of the Guidelines is to provide information and guidance to distributors, distribution service end users (consumers/households), retailers, Market Small Generation Aggregators and other stakeholders about the process for development and approval of export tariffs.[8]

2.1.1 The relationship between the Guidelines and tariff structure statements

The Guidelines will inform and shape any export tariffs that distributors may introduce in their tariff structure statement (TSS) proposals.

What is a TSS proposal?

Distributors are required to submit TSS proposals to us every five years. A TSS proposal describes the tariff classes and structures, policies and procedures for assigning customers to tariffs and charging parameters.

A TSS proposal is only approved by the AER if the distributor has demonstrated significant stakeholder engagement, customer impact modelling and compliance with a number of requirements in the National Electricity Rules.

The AER's decision to approve or not approve a TSS proposal is binding.

The only way a distributor can introduce two-way pricing options, if it chooses to do so, is through the TSS process and subject to the AER's approval. Once the AER makes a decision on a distributor's TSS proposal, the TSS is set for the next five years and can only be changed in specific circumstances. The goal is that with each TSS proposal, a distributors' tariffs become more cost reflective (that is, that they more accurately reflect the network and customer usage).

The Guidelines are intended to provide additional safeguards to customers beyond the existing safeguards in the TSS process.

We consider that the Guidelines will:

- aid transparency and increase stakeholder engagement, including through a public forum and multiple rounds of submissions
- establish additional customer safeguards to aid the smooth and equitable introduction of two-way pricing

[8] NER cl. 6.8.1B. Please note this clause commences on 1 July 2022.

- provide guidance to distributors on how to meet the new requirements of the National Electricity Rules and how to design and assign two-way pricing.

2.2 Scope of the Guidelines

Our intention is the Guidelines will provide guidance on the design and implementation of any two-way pricing proposals, rather than being prescriptive. We consider that this approach matches the intention of the AEMC's rule change and is appropriate for an energy sector in transition.

Our proposed approach will allow tariff structures and values to be engaged on, and considered in detail at the start of each regulatory period through our TSS processes, while enabling tariffs that reflect the needs and circumstances of the energy sector at the time.

Neither the Guidelines nor this Consultation Paper mandate the introduction of export tariffs. As noted above, distributors can only introduce potential two-way pricing options through the TSS process.

The Guidelines will also provide guidance on export tariff trials that distributors may want to introduce to inform future TSS proposals, create new and innovative tariff options and engage with their customers.[9]

[9] These are referred to as 'sub-threshold' tariffs, NER cl. 6.18.1C.

3 Proposed content of the Guidelines

This section sets out the AER's preliminary views on the content and structure of the Guidelines. Stakeholder feedback on these preliminary views will be taken into account as we develop the draft Guidelines.

The new provisions in the National Electricity Rules note that the Guidelines may include information and guidance about:[10]

- stakeholder engagement in relation to proposed two-way pricing
- the provision of information about stakeholder concerns and how they have been taken into account
- the AER's approach to applying the network pricing objective and pricing principles in relation to two-way pricing, including worked examples
- the development of two-way pricing tariff transition strategies
- the provision of information about eligibility and other conditions applicable to export tariffs
- setting the basic export level
- any other matters the AER considers relevant.

In addition, the Guidelines are required to include specific guidance on methodologies for determining basic export levels.[11] We have also included our preliminary views on eligibility and other conditions applicable to export tariffs, and how the Guidelines may interact with the overview paper distributors are required to submit under the rule change.[12]

We discuss our initial thoughts and questions on the content of the Guidelines below.

3.1 Stakeholder engagement in relation to proposed export tariffs

We consider the Guidelines should put significant weight on distributors conducting stakeholder engagement to reflect customer preferences to develop customer-centric two-way pricing options. Stakeholder engagement will help drive considered tariff options that reward customers providing tariff choice and flexibility.

We do not intend for the Guidelines to prescribe a particular form or model of stakeholder engagement, as stakeholder engagement should be tailored to suit the

[10] NER cl. 6.8.1B(c). Please note this clause commences on 1 July 2022.
[11] NER cl. 11.141.13.
[12] NER cl. 6.8.2(c1).

needs of stakeholders. However, we consider the Guidelines should reflect the desired outcomes from stakeholder engagement as published in the AER's *Better resets handbook − towards consumer centric network proposals* (the Handbook).[13]

The Handbook sets out our expectations of distributors' regulatory proposals on a range of matters, including stakeholder engagement. This section sets out how we consider the Guidelines should reflect the following stakeholder engagement principles from the Handbook.

3.1.1 The nature of engagement

The nature of engagement is about how networks engage with their stakeholders, including consumers. We expect networks to sincerely partner with consumers and retailers to develop tariff options that reward customers.

Two-way pricing is a significant change to how electricity is currently priced, and we consider distributors should engage on two-way pricing in detail. Distributors should be able to demonstrate they have engaged on areas including, the need for two-way pricing, the pace of transition to two-way pricing, the levels of cost-reflectivity of two-way prices, and cost-allocation between consumption and export charges.

3.1.2 The breadth and depth of engagement

We consider that distributors should consult with a broad range of stakeholders when developing two-way pricing to ensure that as many views are captured as possible. This may include retailers, other intermediaries such as aggregators[14], community groups, customers with and without rooftop solar PV, customers with other DER such as electric vehicles, and customers who live in apartments / high density housing.

We also consider that distributors should demonstrate multiple channels of stakeholder engagement on two-way pricing options, tailored to each stakeholder and context.

3.1.3 Clearly evidenced impact

We expect that the Guidelines will provide guidance on how distributors should demonstrate they have considered and reflected stakeholder views in their two-way pricing proposals.

We consider that any two-way pricing proposals should evidence a clear link between the tariff and stakeholder engagement. For instance, distributors could demonstrate they have considered feedback and other relevant evidence from tariff trials in creating any two-way pricing options.

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[13] The draft version was published on the AER website on 21 September 2021.

[14] An aggregator is a new type of energy service provider which can increase or moderate the electricity consumption of a group of consumers according to total electricity demand on the grid.

Question	
1	Are there additional steps distributors can take or consider when engaging with their customers on export tariffs? Please explain them.

3.2 The provision of information about stakeholder concerns and how they have been taken into account

We propose the Guidelines should set out our expectations of distributors regarding the information they provide to us about stakeholder concerns, and how they have taken the feedback into account in developing any two-way pricing options.

We consider the Guidelines could include the following requirements for distributors to set out their two-way pricing proposals:

- an explanation of how the distributor engaged with stakeholders (approach and objectives)
- the range of customers engaged with and how the customers were selected
- the timing, frequency and location of stakeholder engagements
- details of the proposals put to stakeholders on the structure, charging components, design and implementation of two-way pricing
- details of proposals put to stakeholders on transition periods
- details of proposals put to stakeholders on basic export levels
- identification of any concerns raised by stakeholders in response to the proposals
- report on how stakeholder concerns were considered and how the concerns informed the design of two-way pricing, transition periods and basic export levels.

We consider distributors would include information about stakeholder concerns and how they have been taken into account as part of their TSS proposals.

3.3 The AER's approach to applying the network pricing objective and pricing principles in relation to export tariffs

Two-way pricing options will be required to comply with the network pricing objective[15] and the pricing principles in the National Electricity Rules. Distributors will have to demonstrate this compliance through their TSS proposals.

It is important to note that the tariffs distributors set (network tariffs) are not directly seen by the end user. Rather, network tariffs are aimed at retailers who then package the tariffs into a retail offer for the end user. Application of the pricing principles to network tariffs can be complex, and we therefore want to make sure that distributors engage with stakeholders on how the pricing principles apply to their two-way pricing proposal.

We do not propose to use the Guidelines to set detailed price structures for distributors to follow, as we consider any two-way pricing will have to be justified to reflect specific network circumstances and may differ across distributors. A principles-based approach will provide distributors flexibility for their tariff options. In this section we set out the information provided in the Guidelines on how the pricing principles should apply to two-way pricing.

What are the pricing principles?

The pricing principles are set out under clause 6.18.5 of the National Electricity Rules. They require the following:

- **Each tariff must be based on the long run marginal cost (costs of providing additional capacity) of providing the service to which the tariff relates.**
- **The revenue expected to be recovered from each tariff must reflect the Distribution Network Service Provider's (distributor's) total efficient costs of serving the retail customers that are assigned to that tariff.**
- **A Distribution Network Service Provider must consider the impact on retail customers of changes in tariffs from the previous regulatory year.**
- **The structure of each tariff must be reasonably capable of: being understood by retail customers that are, or may be assigned, to that tariff (including in relation to how decisions about usage of services or controls may affect the amounts paid by those customers); or being directly or indirectly incorporated by retailers or Market Small Generation Aggregators in contract terms offered to those customers.**

[15] NER cl 6.18.5(a) states that: The network pricing objective is that the tariffs that a distributor charges in respect of its provision of direct control services to a retail customer should reflect the distributor's efficient costs of providing those services to the retail customer.

3.3.1 The structure of two-way pricing must be reasonably capable of being understood or being incorporated

The introduction of two-way pricing may lead to new pricing options that may be harder for customers to understand. The rule change has broadened the scope of pricing principle 6.18.5(i) to allow for more complex pricing options that are still sufficiently clear as to be capable of flowing through to customer contracts. Under this provision, distributors are required to demonstrate that any tariffs are reasonably capable of being:

- understood by customers, or
- directly or indirectly incorporated by retailers or by Market Small Generation Aggregators, in contract terms offered to those customers.

Given the possibility of increased complexity following the introduction of two-way pricing, we consider distributors should clearly demonstrate how they tested customers' understanding of two-way pricing proposals and how customer understanding influenced any proposed export tariff.

We expect distributors to consult with retailers about their explanation of any complex tariffs, to facilitate customer understanding.

3.3.2 Two-way pricing should reflect the long run marginal cost of providing the service

Pricing principle 6.18.5(f) sets out that tariffs must reflect long run marginal cost (LRMC) - that is, the costs associated with providing the additional service capacity to which the tariffs relate. Costs for additional capacity are responsive to changes in network use.[16] Network tariffs based on these costs send consumers signals about how their use of the network contributes to the costs of operating and maintaining the network. By sending these signals, consumers will be better informed about their network use and be encouraged to make decisions that contribute to more efficient network use.

In calculating costs, distributors must now consider the implications of two-way energy flows. Historically, costs for additional network capacity have been driven largely by network investment to meet growth in electricity consumption. Now, however, increased rooftop solar presents different future investment issues, arising from changing patterns of network usage. For example, large volumes of solar exports in

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[16] The NER defines LRMC as “the cost of an incremental change in demand for direct control services provided by a Distribution Network Service Provider over a period of time in which all factors of production required to provide those direct control services can be varied.”

the middle of the day may lead to voltages on the network being too high. Distributors will have to consider these issues when determining costs to reflect in export charges.

Distributors may have different costs for export service capacity expansions compared to consumption services. When distributors calculate export service costs for capacity growth, relevant drivers of costs might include:

- voltage constraints - evidence that solar exports are driving voltage levels up, and that investment is required to bring voltage levels into an acceptable range
- thermal constraints - evidence that low energy load on the network and high export levels are causing thermal limits in transformers to exceed safe levels, and that investment is required to increase flexibility of the transformers
- low voltage visibility needs - evidence to show that investment is required in order to identify areas where excess solar is causing problems on the network.

Distributors may need to consider whether there is any overlap between cost drivers when calculating costs to reflect in export charges and for consumption charges. Any such overlap could constitute a form of double counting so should be avoided.

Furthermore, we consider that there is little scope for export charges to reflect the cost of providing intrinsic hosting capacity for export. 'Intrinsic hosting capacity' is the total power from DER that can be accommodated on a network without additional investment.

We consider export charges should predominantly, or solely, reflect only the incremental cost of providing additional export capacity. This means export charges will not be used to recover network costs associated with consumption services.

A number of different methods to calculate forward looking costs for capacity growth are available.[17] Distributors may use the method most appropriate to their circumstances.

Question	
2	What are the drivers of costs of expanding network export capacity?

3.3.3 Two-way pricing should reflect the efficient cost of providing the service

Under pricing principle 6.18.5(g), tariffs should reflect the efficient cost of providing the service to which the tariff relates. We consider distributors need to demonstrate that

[17] For a discussion on the relative merits of these methods, see NERA Economic Consulting, *Economic Concepts for Pricing Electricity Network Services*, A Report for the Australian Energy Market Commission, 21 July 2014, pp. 14–16.

any proposed two-way pricing will not recover more revenue than the total efficient cost of servicing customers who have the two-way pricing options.

We propose that in considering whether tariffs reflect efficient costs they should be set in a way that does not distort a customer's ability to respond to the cost reflective components of the tariff. That is, we expect tariffs to be set so that customers derive a benefit from responding to the cost reflective components of the tariff.

The efficient cost of providing an export service might look different to the efficient cost of providing a purely consumption-based service. We are interested in stakeholder views on how two-way pricing should reflect the efficient cost of providing the export service.

We consider that distributors should provide:

- evidence of current and future network investment requirements to warrant the introduction of two-way pricing
- evidence of no-cost or low-cost solutions, to address issues created by exports, that have been implemented or considered before proposing export tariffs.

Question	
3	Is the efficient cost of providing an export service different to the efficient cost of a consumption service? If yes, how are these costs different?

3.3.4 Consider the impact on customers of changes in tariffs

Pricing principle 6.18.5(i) requires distributors to consider the impact on customers when they make changes to tariffs.

In considering the impact on customers of changes in tariffs, distributors will now need to consider how two-way pricing impacts customers.

We propose that distributors be required to undertake customer impact analysis – in the context of developing their export tariff transition strategies, and in the context of developing specific two-way pricing tariff structures. The results of this analysis would be submitted to the AER as part of a distributor's TSS proposal. Such obligations would formalise and reflect what already happens in practice, during TSS assessment processes, in relation to consumption tariffs. Customer impact assessments are central to the development, proposal and assessment of tariff structures through the existing TSS process.

An example of how customer impact might be measured, in the context of two-way pricing, is through a comparison of the cost to the customer of being curtailed from exporting excess solar electricity versus paying a two-way tariff without curtailment. Such analysis might also include a cost benefit analysis of using a battery in response to two-way pricing.

Customer impact could also be measured by examining the impact of export tariff transition strategies or specific tariff proposals on customers without rooftop solar PV or other DER. Introduction of export charges should result in lower consumption charges for customers without DER, which the customer impact analysis quantifies.

Question	
4.	What can distributors do in practice to demonstrate they have considered customer impact analysis when setting tariffs? For instance, how should distributors explain or quantify a negative customer impact analysis? Please give examples.

3.4 Transition to two-way pricing

As noted above, the AEMC's rule change requires each distributor to include, in its TSS, the export tariff transition strategy it has adopted for the introduction of export tariffs.[18] Distributors are required to submit this to us even if they do not intend to introduce two-way tariffs in the short term, so that stakeholders have clarity on each distributor's long-term plans.

These transition strategies will be considered by the AER as part of the approval process for the distributors' TSS proposals. Distributors are required to include a description of the export tariff strategy in the plain language overview paper that accompanies its regulatory proposal.

We consider that a distributor's transition strategy should clearly show how the distributor has taken into account the impact on customers of phasing in any proposed two-way pricing options.

At this stage we think tariff transition strategies may include:

- evidence that two-way pricing promotes customers' interests
- evidence of how the distributor has taken into account the impact of its proposed two-way pricing on customers, as per pricing principle 6.18.5(h)[19]

18 NER cl. 6.18.1A(2A).

19 Corresponding to NER cl 6.18.5(h), a DNSP must consider the impact on customers of changes in tariffs from the previous regulatory year and may only vary tariffs if they have regard to a number of factors, such as the extent to which a customer can choose the tariff they are assigned to.

- assignment policies and transitional measures to phase-in two-way pricing over time, bearing in mind that distributors cannot mandatorily assign customers to two-way pricing until at least 2025
- the distributor's ongoing customer engagement approach, including possible future tariff trials.

We understand that network investment needs are constantly evolving, which means that a distributor's transition strategy may be subject to change.

3.5 Other matters

3.5.1 How two-way pricing interacts with non-network circumstances

Distributors are already required to take non-network options into account when considering network investment. The Guidelines may include guidance on how distributors should provide information on the interaction between non-network options and export tariffs. For instance, the interaction between:

- two-way pricing and DER-related expenditure
- two-way pricing and the proposed connection policy and capital expenditure or operating expenditure
- two-way pricing and demand management
- two-way pricing and any jurisdictional policy on two-way pricing.

We consider these interrelationships should form part of the justification for a proposed TSS and would be included in the TSS explanatory document. This will allow stakeholders to better understand these interrelationships and the context for the introduction of two-way tariffs.

3.5.2 How two-way pricing will be presented in the overview paper

Distributors are required to submit a plain language overview paper with their regulatory proposals which includes a summary of the TSS and two-way pricing transition strategy and the interrelationships between different aspects of the regulatory proposal and the TSS. We are interested in stakeholder views on whether the Guidelines should provide guidance and information on how distributors might present this information in the overview paper. We consider the overview paper will include a summary or description of:

- the proposed TSS, including the export tariff transition strategy

- the interrelationship between the proposed TSS and relevant elements of the regulatory proposal, including the proposed connection policy and capital expenditure or operating expenditure
- how the distributor has engaged with retail customers and other key stakeholders, including consumer groups, retailers, aggregators and jurisdictional governments in developing both the proposed TSS and transition strategy
- the relevant concerns identified as a result of that engagement
- how the DNSP has sought to address the concerns identified in the engagement
- the key risks and benefits of the proposed TSS, including the export tariff transition strategy
- the distributors' approach to identifying demand for, and where relevant providing for, distribution services for supply from micro embedded generators and non-registered embedded generators.

Question	
5	Are there other matters not listed in this section that stakeholders think should be included in the Guidelines? Please list them in order of importance, and explain why they should be included in the Guidelines.

3.6 Provision of a basic export level and export level guidelines

The AEMC's rule change requires distributors to provide a 'basic export level'[20] (i.e. free export up to certain level) for all export tariffs for all customers, and to set out those basic export levels, or the manner in which those basic export levels will be determined, in their TSSs.

This basic export level will be a threshold below which a customer will not pay to export to the distribution network. A customer would only be required to pay to export solar energy if they export above the basic export level. The threshold will reflect the ability of the network or part of the network to host solar and other DER, or its 'intrinsic hosting capacity'[21]. Importantly, we would not expect distributors to charge customers to export if the network can host it without requiring further investment.

[20] NER cl. 11.141.13(a).

[21] As noted in section 3.3.2, intrinsic hosting capacity is the total power from DER that can be accommodated on a network without additional investment.

We expect the basic export level to differ across distributors, as distributors have different constraints, capacity, investment requirements and customer bases. We also acknowledge that the basic export level may differ across different tariffs proposed by a distributor. It may also differ across different geographic areas serviced by a single distributor.

The AER must develop guidelines about methodologies to determine basic export levels and related matters.[22] To allow for flexibility, we do not intend to set rigid parameters for basic export levels in the Guidelines. Rather, we consider the Guidelines should provide guidance and/or options for distributors to choose from in determining basic export levels that best suit their customers and network circumstances. In developing basic export level guidelines we will have regard to:

- historical and geographical differences between networks
- different levels of demand between networks for distribution services relating to supply from embedded generating units[23]
- inter-jurisdictional differences related to regulatory control of prices, classification of services and other relevant matters
- fairness and equity for consumers
- the network pricing objective and the pricing principles
- different connection types
- whether the basic export level would be based on the network's feeder type[24] with the lowest hosting capacity, an average of hosting capacity across feeder types, or another methodology that reflects the variability of hosting capacity across different network locations.

Question	
6	How should distributors define basic export level thresholds? What matters should be taken into account when defining basic export level thresholds?

3.7 Eligibility and other conditions applicable to export tariffs

[22] NER cl. 11.141.14.
[23] An embedded generator is any type of individual electricity generation unit that is connected to the electricity distribution network, and includes solar, wind turbines and electric vehicles.
[24] Feeders are the power lines which supply and host energy. Feeder type may refer to a low or high voltage feeder.

Distributors are required to include, in their TSSs, the eligibility conditions applicable to each proposed export tariff.[25] We propose that the Guidelines include information and guidance on eligibility and other conditions applicable to two-way tariffs. There are various existing types of eligibility criteria for tariffs generally, such as the nature of a customer's connection, the nature of their electricity use, and their metering type.

We consider these and other criteria may also be relevant to determining basic export levels or two-way pricing more generally. They may also include the volume of customer exports.

[25] NER cl. 11.141.13(a)(2).

4 Next steps

We are seeking submissions on this Consultation Paper to help form our draft Guidelines. Submissions will close on 4 November 2021.

We will also host an online public forum on 5 October 2021 to discuss this Consultation Paper and hear initial stakeholder feedback. This forum will feature some presentations and direct stakeholders to areas of the Consultation Paper we seek feedback on.

After the forum and close of submissions, we will publish our draft Guidelines and seek further submissions on the draft. We expect to publish the final Guidelines in May 2022.

Shortened forms

Shortened Form	Extended Form
ACCC	Australian Competition and Consumer Commission
ACOSS	Australian Council of Social Services
AEMC	Australian Energy Market Commission
AER	Australian Energy Regulator
AMI	Advanced Metering Infrastructure
ARENA	Australian Renewable Energy Agency
Augex	augmentation expenditure
Capex	capital expenditure
DEIP	Distributed Energy Integration Program
DER	distributed energy resources
Distributor / DNSP / network	Distribution Network Service Provider
EV	electric vehicle
DUoS	Distribution use of system
ENA	Energy Networks Australia
FCAS	Frequency Control Ancillary Services
LRMC	long run marginal cost
NEL	National Electricity Law
NEM	National Electricity Market
NER	National Electricity Rules
NSP	network service provider
Repex	replacement expenditure
SAPN	South Australia Power Networks

PV	photovoltaics
TEC	Total Environment Centre
ToU	time of use
TSS	tariff structure statement