

CONSUMER FAQs

Integrating distributed energy resources: requests to change the national energy rules

What are distributed energy resources?

Distributed energy resources – or DER – are devices capable of producing, storing or managing energy at homes and businesses, sometimes referred to as being ‘behind the meter’ devices. They include things like rooftop solar PV, batteries, electric vehicles and energy management systems.

What role do these resources play in the power system now and what about in future?

Distributed energy resources are growing in Australia as consumers become more active in the power system. The rapid growth of solar PV in particular has seen the number of rooftop solar installations exceed 2.2 million. Within the next decade, the Australian Energy Market Operator predicts half of all consumers in the national electricity market will be using some form of DER. Australia’s power system is undergoing a rapid and major transformation and DER will play an important role in the energy grid of the future.

What proposals is the Australian Energy Market Commission (AEMC) considering?

Four organisations – SA Power Networks, St Vincent de Paul Society Victoria, and the Australian Council of Social Services (ACOSS) jointly with the Total Environment Centre (TEC) – have submitted three requests for us to change the National Electricity Rules.

The three rule change proposals aim to unlock the benefits of DER by identifying reform options that promote greater flexibility for the Australian Energy Regulator and distribution businesses to efficiently manage each jurisdiction’s circumstances and meet consumer preferences. A summary of each of the rule change proposal can be found in Chapter 2 of our [consultation paper](#).

Because the requests deal with similar issues we are considering them concurrently.

The **TEC** and **ACOSS** have asked us to change the regulations so there is more investment in distributed energy resources and they operate better, helping the power system decarbonise faster and become more efficient for everyone. They propose doing this by:

- Encouraging power networks to make better use of their existing poles and wires and invest further where this could be shown to benefit all consumers.
- DER owners would have the option to purchase extra ‘capacity’ to allow for export of some of their energy to the grid. This would allow networks to allocate the costs of exporting energy to those DER owners who export it rather than spreading those costs across all energy consumers.

SA Power Networks is requesting that both energy consumption and energy export (injecting energy into the grid) be given the same status under the National Electricity Rules, which were set up when power only flowed one way and currently don’t officially recognise export services. The proposal would also allow pricing changes so that people could pay when they cost the network (through exporting) and be paid when they reduced network costs (such as by exporting at times of high demand). It also aims to give networks better information on where and how to invest in their networks to support distributed energy. This could mean new infrastructure but it could also mean investing in technology to improve the performance of existing poles and wires.

The **St Vincent de Paul Society Victoria** want us to remove the provision in the rules that prevents electricity distribution networks from charging users for exporting power. At the moment, the costs of exporting this power are built into existing charges that all users pay on their electricity bill. St Vincent de Paul Society Victoria want to give those who export energy a choice between paying to export it or being temporarily prevented from exporting it when there is too much energy being generated in their area of the grid. They say this will mean low-income customers who can’t afford DER and who don’t use the system to export energy no longer have to pay for this.

How are these changes considered?

We are still in the early stage of our rule making process. We have called for public submissions on these proposals and have received a large number of responses. Stakeholder submissions provide important input to our decision making process and we will consider them as we address the questions we posed in our recent [consultation paper](#). We have also formed a technical working group to help guide our thinking on the issues raised, which are many and complex. The technical work group includes representatives from a broad range of stakeholders. Under the National Electricity Law, the AEMC is able to make a rule that is different to rules that have been proposed.

Is any change necessary?

For these three rule change requests, the proponents consider that the current framework is no longer fit-for-purpose and that action needs to be taken. The current system was not designed with distributed energy resources in mind. Some parts of the distribution network are reaching their technical capacity. As more distributed energy comes into the system, the technical constraint will limit the amount of energy that can be exported to the grid and limit the ability of renewable technology to do what it was designed for – to cut carbon emissions.

The rule change requests would also help distribution network businesses adapt their business models to better support integration of distributed energy. There are different views on how all of this should be done and that is what we are now considering. The rules may need to adapt because the power system is changing dramatically. Because the current system was not designed with distributed energy resources in mind, the AEMC has been working on multiple projects aimed at helping to integrate DER. Exactly how the rules should adapt is something we are considering. Doing nothing risks eventually making the grid unstable.

Why act now?

The changing energy mix is presenting challenges now that we must address if we want all consumers to benefit from the energy transition. For example, some solar owners are currently being prevented from exporting energy so the grid can keep operating within its technical limits. These challenges will continue to increase. The rule change proponents have proposed a suite of changes that could potentially drive investment in the most efficient way – and as more batteries and other distributed energy resources come online, we need to make sure they are given the right signals and incentives to operate in a way that benefits all system users. It will take time to design a solution so planning ahead means we can prepare in an orderly way and give everyone time to adjust to any change.

What outcomes are the rule change proponents seeking to achieve?

- More new customers with distributed energy will be able to connect to the grid and existing customers can access the grid to export if they choose
- All this is done so that all energy users benefit from distributed energy – whether they have it or not

How did the requests to change the rules come about?

The requests follow AEMC calls for reform in 2019. We flagged that the rules must keep pace with the amount of distributed energy coming into the system and could better support integrating these new technologies so that all electricity system users can benefit from them – whether they own them or not. The Australian Renewable Energy Agency then set up a work package under the Distributed Energy Integration Program which involved the AEMC, consumer representatives, industry associations and other energy market bodies. There has been extensive collaboration over a nine-month period and discussion as part of that program about the issues facing the system and how we could adapt.

How are electricity distribution network charges passed on to consumers now?

Electricity bills for energy consumers have four cost components: the wholesale cost of electricity, network costs, the cost of jurisdictional schemes, for example green programs that subsidise the purchase of renewable technology such as solar panels, and retailer costs and margins. Distribution networks set their prices for the services they provide, such as maintaining poles and wires and managing their systems safely. They charge these prices to electricity retailers who then decide how to pass them on to consumers via their electricity bill.

Who decides what electricity distribution networks can charge?

The Australian Energy Regulator sets the amount of money networks can earn overall and networks apply to the regulator to re-assess the amount of revenue they require. Under the proposed changes, networks will still need to put forward their revenue proposal as well as how costs are apportioned to consumers to the Australian Energy Regulator.

Under the proposed rule changes would existing solar owners face a mandatory charge every time they export solar to the grid?

No. The proposals from the TEC and ACOSS, SA Power Networks and St Vincent de Paul Society Victoria do suggest changing the way pricing is determined but they do not mandate a charge for all users. SA Power Networks and St Vincent de Paul Society Victoria suggest removing the rule that prevents export charges from being applied. SA Power Networks says this will lead to new pricing models that charge users for some behaviours and reward them for others. They also envisage grandfathering arrangements for existing solar users. St Vincent de Paul Society Victoria says users should be given a choice of whether to pay to export or have constraints on exporting when the grid is congested.

Do large generators pay to use the distribution network (poles and wires)?

Yes. They pay larger up-front connection fees that are based on their size and the work that needs to be done to the network to be able to connect them while maintaining system strength.

Who determines existing feed in tariffs for exporting solar to the grid?

States and territories set minimum benchmarks for solar feed-in tariffs and electricity retailers operating in those jurisdictions decide whether to offer feed-in tariffs and whether to pay above this rate. Retailer tariff offers and the way they are structured can differ considerably. In some jurisdictions, different tariffs may now apply depending on the time of day. Check with your electricity retailer about what they offer and compare other offers through reputable comparison sites like the Australian Government's Energy Made Easy website.

Why are feed-in tariffs paid to solar owners for exporting electricity usually lower than what is paid for consuming electricity?

The benchmark minimum rates for feed-in tariffs represent the wholesale electricity price – or the same price retailers would pay if they bought electricity from a large generator. Wholesale prices go up and down; at some times of day they may be lower than a retailer feed-in tariff and at other times they may be higher. When wholesale prices go up or down over the longer term, jurisdictions' minimum benchmarks for feed-in tariffs will reflect the change in price. The price for consuming electricity is higher because it is a retail price. The retail price is made up of several components: network costs, the cost of jurisdictional schemes, and retailer costs and margins.

What sorts of things will the AEMC take into consideration as part of the rule change requests?

The AEMC is bound by the National Electricity Law and the National Electricity Retail Law which require us to make decisions that serve the long-term interests of consumers in terms of price, quality, safety, reliability and security of electricity supply as well as the reliability, safety and security of the national electricity system. We also have to take consumer protections into account. In seeking stakeholder views on these rule change requests we will weigh up the evidence provided to us with those legal obligations in mind.

What happens next?

We expect to publish a draft determination in November. We will take submissions on that draft determination and make a final determination in February 2021. For updates, see our website.

How will AEMC decisions on distributed energy resources fit in with other work in this area?

This work on access and pricing is one part of a broader volume of work being done to design a grid of the future where distributed energy resources are a key feature of the system. The Energy Security Board is overseeing a work program that includes looking at technical and operational challenges, market and business challenges and regulatory and planning challenges.

How can I find out more?

- You can read our [consultation paper](#) on the rule change requests or contact our policy team

- Check the AEMC project pages for each of the rule change requests on our website:
 - [TEC/ACOSS](#)
 - [St Vincent de Paul Society Victoria](#)
 - [SA Power Networks](#)
- Read about how the Energy Security Board is considering [distributed energy resources](#) as part of the work it is doing to design the national energy market for 2025 and beyond, and read the Board's [DER integration roadmap](#)