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# Consumer FAQs: How the AEMC proposes making room on the grid for more solar and new-tech energy

## 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 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 reach more than 2.6 million. In 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.

## How are we proposing to integrate these resources into the power system?

Today's draft determination addresses the problem of 'traffic jams' on the electricity network, which are occurring now and will get worse as more solar connects because the grid infrastructure was built when power only flowed one way. Blocking power exports because the grid is under strain will cost us all more, because it means less renewable, cheaper energy gets into the system. Our package to make room for more solar includes:

- **Changing distribution networks' existing incentives to provide services that help people send power back into the grid.** Gives networks a stronger reason to deliver quality export services that customers value. At the moment, there are no financial penalties for poor network export service and no rewards for good service. We also propose recognising energy export as a service to the power system in the energy rules to give consumers more influence over what export services networks deliver and how efficiently they deliver them
- **Letting networks offer two-way pricing to better manage the poles and wires**. Gives networks pricing options they don't have now, like rewarding solar and battery owners for sending power to the grid when its needed and charging for sending power when it's not. New incentives will give customers more reason to buy batteries or consume the power they generate at busy times on the grid
- **Flexible pricing solutions at the network level**. Allows each network to design a menu of price options to suit their capability, customer preferences and government policies. Customers could choose things like free export up to a limit or paid premium services that guarantee export during busy times. Networks might offer grandfathering for existing solar owners or choose community batteries.

## Does this mean existing solar owners face a mandatory charge every time they export solar to the grid?

No. The proposal does not mandate default charges for exporting power. What it does is give the networks the ability to develop new pricing structures. These could be very different depending on the capacity of the network now, how much solar demand there is in that area, and what the preferences of different state or territory governments are.

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## How will consumers get a say on these pricing plans and be sure they are appropriate?

There will be extra safeguards included in the energy rules to ensure existing and new solar customers – and non-solar customers – are protected in the area of price and given options that work for them. If a network business wanted to introduce export charging, they would need to consult extensively with customers and have a transition plan in plain English detailing exactly what they are proposing approved by the Australian Energy Regulator. The Regulator will make the final decision on whether these pricing structures are in the interests of consumers.

## If my network did decide to charge for exports, what impact would that have on what I can earn from my solar?

It's important to remember that some people are already facing costs from being blocked from exporting and these costs are going to increase and affect more people as the congestion on the grid increases. We have done some modelling that shows for the 20% of electricity customers with solar, there could be a range of export charge impacts, depending on system size. There could be a marginal reduction in the amount of solar earnings. But the impact on your solar earnings of being blocked from exporting to the grid will be worse. We think both solar and non-solar owners will be better off as a result of these changes – which will also help the electricity sector decarbonise faster as more solar will be able to connect.

## How will changing the way network services are priced create more rewards for exporting energy at peak demand times?

One of the things networks could offer is paying you to export to the grid when there is high demand for electricity – like at 6pm in the evening. This would be easier to do if you had a home battery or an electric vehicle. But the other thing you could do is change your energy usage patterns and use more of the energy you generate when the grid doesn't need it. This means you pay less for consuming energy from the grid at peak times and don't send energy to grid when it doesn't help the grid. Our package of reforms allow networks to devise a series of options for consumers and each network will be free to come up with its own plan – though there are safeguards – this will have to involve consumers and the energy regulator will have to approve any plan.

## Why are we proposing these changes to the power system?

Change is coming fast to the power system. Within a decade, half of all energy users will be using some form of home energy option like solar. The system wasn't designed for power flowing both to – and from – consumers. Power networks aren't incentivised at the moment to help customers get their solar back to the grid. We want to change that. Also, not everyone can export their solar energy because of daytime 'traffic jams' on the network. This problem doesn't affect all solar owners yet, but it's getting worse. If we don't act, the system will reach its technical limits. Then, power networks will have to severely limit power exports or build costly new poles and wires to cope with the new solar on its way. Either way, we will all pay, so we need a smarter, cheaper way to use the grid. The sun is free, but poles and wires are not, so planning ahead will avoid costly over investment.

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## Why act now?

It will take time to design a solution so planning ahead means we can prepare in an orderly way and give everyone time to have their input, adjust to any change and make sure transition plans are in place. We want to avoid paying more for crisis solutions further down the track.

## What are you expecting the result to be?

Over time, 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 will be done so that all energy users benefit from distributed energy resources – whether they have those systems 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. 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.

## Will these networks earn more money if they are allowed to charge for export services?

No. The existing caps on what power networks can earn still apply. What this does is give the network businesses incentives to move some of that money they already earn from investing in poles and wires to investing in new ways to accommodate more solar PV. Exactly what the networks spend their money on depends on their own circumstances, and what you as a customer want. Our proposal requires the networks to work with customers to develop their investment plan so that you have a clearer idea of what the money would go towards.

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### What do you mean when you say networks should deliver high-quality export services on distributed energy? What does a high-quality export service look like?

A high-quality export service is essentially one that supports people to export their power and that can take advantage of technology to do that. An example might be the power network equivalent of a smart home energy management system like a Google Nest – that gives networks the information they need to see what's happening with the power flow and manage the system so that more solar energy can come in, and so they can let people know when its most advantageous to take from the system in charging their electric vehicles and other batteries and when they should give back to the system by exporting their stored power. This technology already exists – our reform package gives networks incentives to make it part of the way they do business.

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

Yes. Large generators like coal and gas plants or large-scale solar have to pay to use the grid too – they just pay differently. The big generators that use the transmission lines have to pay significant up-front costs to connect as well as fees to make sure that they don't do anything to impede the reliability and security of the system. Any larger generators that use the distribution lines (poles and wires to your house) – like big factories for example – will all be subject to the same rules as homes and smaller businesses under this draft package of reforms.

### Who determines existing feed-in tariffs paid to solar owners 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.

**The AEMC is bound by national electricity laws, 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**

### How will retailers be involved with these proposals and how will they reflect changes to network pricing? Will I have to change if I want to avoid export charges?

We are expecting network businesses and retailers to work together because your energy retailer will need to consider how to incorporate these new pricing structures into the retail bills they offer. This does not necessarily mean you will need to change retailers. The best response then for consumers is to keep monitoring their retail energy deal, via comparison websites like the Australian Government's Energy Made Easy website and shop around for a better deal if you find yourself unhappy with the options your retailer is offering you. Remember that distribution network businesses will have to come up with their pricing structure in consultation with its customers under this new system. Then, the Australian Energy Regulator will have to approve it.

### How will my energy bill look different as a result of all this?

It's not possible to say as this will depend on too many factors. But it is certainly going to be possible for solar customers to save money on their bill depending on the rewards and incentives on offer. And it would mean that non-solar customers would see the network portion of their energy bills drop as well.

### If, as a result of this change, more solar owners buy batteries and use all their own energy rather than export it, will that cause problems for the grid?

If customers choose to buy batteries, they would likely be financially better off if their network decides to reward them for exporting energy when it is of most value to the power system. Consuming the energy you generate rather than exporting it is also going to be an option for consumers to be rewarded better in how they use the system. Both of these things are good for the grid – they will help us all be smarter about using the poles and wires we have already got and hopefully minimise expensive network upgrades. This will be important as more electric vehicles come into the system. By the mid-2030s electric vehicles are forecast to become the primary driver of increased energy consumption in Australia. We are going to need a system where supply and demand is smoothed out across the day rather than high peaks and low troughs of minimum demand.

### What sorts of things did 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 proposals we will weigh up the evidence provided to us with those legal obligations in mind.

### What happens next?

First, we will give people an opportunity to respond to this draft determination and we will then hand a final determination down in June this year. Then, when reforms are introduced, states and territories will have at least two years to develop their plans with consumers before they need to submit them to the Australian Energy Regulator. They might start consulting at different times, depending on when their proposals are due. The regulator will make a final decision on NSW, ACT, NT and Tasmanian proposals in 2024. Qld and SA proposals will be decided on in 2025. And in Victoria the decision will come in 2026.

### How can I find out more?

There are a range of materials for you to view:

- Draft determination
- Infographic
- Media release
- Summary information sheet

You can also visit our website to make a submission at aemc.gov.au

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