



# SolarCitizens

A community voice for cleaner energy and transport

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12 May 2023  
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The Australian Energy Regulator

## **Solar Citizens' submission on the AER's Endeavour Energy, Ausgrid and Essential Energy Electricity Distribution Determination Issues Papers.**

Solar Citizens is grateful for the opportunity to make a submission to the AER's NSW Electricity Distribution Determination processes, this submission is jointly to the three Issues Papers currently under consultation.

Solar Citizens is an independent, community-based organisation working to grow renewable energy and clean electric transport in Australia. Since our launch in 2013, we have gathered support from over 170,000 Australians right across the country.

Many of our 100,000+ supporters across the country have installed rooftop solar to slash their electricity bills and do their bit to cut Australia's carbon emissions. Their personal investment in clean energy technology has helped lower the wholesale price of electricity, reduced network costs, and provided health benefits to the community by lowering pollution.

This submission focuses on the solar export charges, as applicable to each of the three DNSP proposals.

Our work to date on this issue has included advocacy and campaigns against changes to the National Energy Rules to enable solar export charges in 2013 and 2017, as well as the 2020-21 Australian Energy Market Commission (AEMC) rule review process that was ultimately successful. Solar Citizens' report outlining our reasoning for opposing the AEMC's rule change process is attached to this submission.

Solar Citizens remains concerned that the issues that have driven our opposition to the introduction of solar export charges remain unaddressed in the DNSP proposals currently under consideration by the AER. Solar Citizens supporters remain highly motivated about the impacts of these proposals, and we are aware of over 435 submissions to this current consultation process

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by Solar Citizens supporters.

Solar Citizens contends that the solar export charges proposed by each of the DNSPs and included in the associated Issues Papers should be excised from the AER's final determination for the following reasons:

- The DNSPs have not adequately demonstrated the need for solar export charges during this regulatory period. Alternative technological responses today are likely to be cheaper by the time that network congestion issues actually emerge, and accompanied by further technological options that should be assessed for viability at that time.
- There is no publicly available information detailing issues present in the network that would justify solar owners being asked to pay additional charges, and the cost savings suggested for non-solar households are trivial in the context of energy cost movements.
- The DNSP have not demonstrated that technology like flexible export limits would not solve future network congestion when it arises for a relatively low cost – but is instead moving straight to charging households..
- There is a lack of evidence that households will respond to the proposed price signals as suggested. Real consumer behaviour is likely to vary, some consumers will be aware of the benefits of load shifting and will be able to do so, many others are likely to be low-information consumers or otherwise unable to load shift. This will depend on household composition, energy usage patterns, appliance profile and tenure type (for those few social and private renters that currently have access to solar panels). History has shown that network companies pocket super profits through flawed AER regulatory processes. Research has shown that consumers paid \$10 billion more than they needed to over the last decade.<sup>1</sup>

Solar Citizens believes that solar export charges, as proposed, fail to comply with the National Electricity Objective as contained in the National Electricity Law. In enabling export tariffs that disincentivise further household solar installations, the proposed new tariffs limit the longer-term network benefits to the energy grid that would otherwise be available in absence of the new charges. In the near future, the electricity grid will look very different to today, including technological responses to network congestion that are available today, but will be overlooked by network providers in favour of charging customers that do not comply with theoretical behaviour models.

The AER is further risking decision-making counter to the intention of the current Commonwealth Minister for Energy, who recently stated the need for 60 million additional household solar panel installations over the next seven years, a scale previously achieved over the last ten years.<sup>2</sup> The

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<https://ieefa.org/articles/energy-consumers-paid-10-billion-too-much-electricity-energy-network-providers-pocketing>

<sup>2</sup> Comments at Smart Energy Council Conference 3 May

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Minister's comments are backed by modelling produced by the Australian Energy Market Operator (AEMO).<sup>3</sup> The costs of conflicting policies impacting investment in our energy system will ultimately be borne by energy consumers, to their detriment. Network capacity issues must be resolved through means that do not disincentivise household solar installations.

Faced with a lack of evidence or justification for the introduction of new charges for household solar panels supporting the National Energy Market, the proposed solar export charges should be excised from the AER's final determination. The Australian Energy Regulator shouldn't allow solar export charging when the proposals put to them don't stand up to scrutiny and there are better solutions available.

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<sup>3</sup> AEMO Hydrogen Superpower Scenario

<https://aemo.com.au/-/media/files/major-publications/isp/2022/2022-documents/2022-integrated-system-plan-isp.pdf> (pg31)

# Don't Tax the Sun

A Report on Rooftop Solar Export Charges



SolarCitizens





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# ABOUT SOLAR CITIZENS

Solar Citizens is an independent, community-based organisation working to protect and grow renewable energy in Australia.

We believe that when Australia's millions of solar owners and supporters stand together, we're powerful. We run campaigns that use people power to put pressure on decision makers and bring about a renewable future for all Australians: where the rights of solar owners are protected and everyone has access to cheap, clean energy.



# WHAT'S PROPOSED?

**The Australian Energy Market Commission (AEMC) is currently considering whether to allow electricity networks to charge solar households for exporting their power to the grid for the first time. This is in response to requests from the SA Power Networks, the St Vincent de Paul Society Victoria, and the Total Environment Centre together with the Australian Council of Social Service.**

Under these new rules, solar households would still receive a feed-in tariff for exporting their power, but would also be charged a fee for accessing the network in order to export. It's not clear at this stage how high the charges would be, or whether all solar households would be subject to it.

This is part of a broad package of reforms looking at how rooftop solar, and other forms of distributed energy, have changed our electricity system from being a one way flow of power – from large coal fired power stations to homes and businesses – to a more dynamic and two-way system.

This is not the first time that the AEMC has considered proposals for charging for solar exports. Solar Citizens first advocated on this issue in 2013, and then again in 2017<sup>1</sup>, and in both instances the proposals were dropped.

**Rooftop solar panel owners could be getting charged fees to sell energy back to the grid**

ABC, 16 July 2020





# SOLAR CITIZENS' CONCERNS

**We strongly support any reforms that recognise the importance of rooftop solar and other distributed energy resources in driving down wholesale power prices, decarbonising our energy system, and avoiding network costs.**

We also support networks modernising to meet the needs of solar consumers and maximising how much clean energy they can export. However, we are concerned that charging for solar exports, particularly in the context of rapidly lowering feed-in tariffs, will discourage investment in solar, as it will inevitably extend the pay back periods for solar installations.

Rooftop solar provides a net benefit to all consumers, so reducing the amount of rooftop solar exports will therefore negatively impact all consumers.

**Our position is that solar households should not be charged for exporting their power to the grid because:**

- Solar lowers the costs of energy for all consumers. This means that the continued uptake of solar should be encouraged, including by minimising payback periods for solar installations. It is inequitable to charge solar owners to export the clean energy they generate when large generators in the transmission network are not charged for exporting to the network.
- The impacts of rooftop solar on the network have not been quantified, and may have been overestimated. For example, voltage rises that require network upgrades have been attributed to rooftop solar, but recent evidence shows that rooftop solar is not to blame.
- Solar households already contribute significantly to network costs via fixed fees in their power bills.
- Solar households should be rewarded for the environmental, economic, health and social benefits of their export supply, not just charged for the assumed network costs.

We have expanded on these points in the following pages.

# THE POSITIVE IMPACTS OF SOLAR

The Victoria Energy Policy Centre analysed 48,677 Victorian power bills and found that even the relatively lower uptake of rooftop solar in that state led to a saving of \$6.4/MWh, or 8% off the wholesale price of electricity in 2019.<sup>2</sup>

Further, the research found that, even though rooftop solar pushed up network prices by \$1.30/MWh in Victoria in 2019, it pushed down wholesale prices by \$6.40/MWh. Therefore the overall effect was that in Victoria in 2019, rooftop solar reduced prices for all consumers by \$217 million.<sup>3</sup>

Energy Networks Australia, the peak body for power networks across the country, has estimated that if networks reduced transmission costs by purchasing more energy from distributed energy sources like rooftop solar, it could bring down network costs on bills by as much as 30% to 2050. Rooftop solar enables households and businesses to use their power where it is generated, minimising the need for network upgrades.<sup>4</sup>

**Given that rooftop solar benefits all consumers, any changes that impact the volume of solar exports need to be fully understood.**

# COSTS OF ACCOMMODATING MORE ROOFTOP SOLAR

Some networks are arguing that the export of power from rooftop solar in the middle of the day is overloading the system, and causing high voltage levels in the distribution network.<sup>5</sup> This then requires upgrades to the networks to accommodate more solar power. However recent research commissioned for the Energy Security Board found many networks in the National Electricity Market (NEM) had high voltage issues, and they were not necessarily attributable to rooftop solar.

***The key finding of the paper is that, even in the absence of solar PV, there is a significant level of high voltage across all DNSPs [Distribution Network Service Providers] in all NEM states.***<sup>6</sup>

An example is some networks experiencing high voltages at night – clearly not caused by rooftop solar.

Our concern is that export charges are an oversimplified response to managing voltage in the network, which will likely increase costs for all consumers if it reduces rooftop solar exports, given that solar is a very low cost form of energy, which can be distributed cheaply between neighbours.

Export charges will likely be imposed on all solar exporters regardless of whether they have export constraints, and even where solar exports provide a net benefit to all consumers.



# ADDRESSING INEQUITY IN NETWORK CHARGING

The proposal to charge solar households for exports has been justified as addressing an inequity in the electricity system. The argument is that non-solar households are subsidising solar households via consumption based network charges. Networks recover their costs from consumers in two ways:

- Via fixed fees that all electricity consumers pay, regardless of whether they have solar.
- Via a consumption charge according to how much electricity is consumed. Solar households pay less of these consumption based network charges, as they consume less power from the grid.

Charging solar households for exporting would mean that their network charges would go up, extending pay back periods for rooftop solar and potentially discouraging some people from installing it. Our own research has shown that lower to middle income households are more likely to install solar, whereas high income earners, who generally experience less electricity bill stress, are much less likely to:

***Rooftop solar PV uptake is proportionately more common in households in the middle and lower socio-economic deciles than in the higher socio-economic deciles. Rooftop solar PV uptake is proportionately the highest in the lowest socio-economic decile and lowest in the highest socioeconomic decile.***<sup>7</sup>

Far from being an equitable measure, charging for solar exports could have the perverse effect of rewarding high income consumers without solar, and penalising lower income households with solar.

We note further that significant networks costs are recovered from solar owners via fixed charges and, according to the Victoria Energy Policy Centre, these are higher in Australia than in other jurisdictions overseas.<sup>8</sup>





# THE VOICE OF ROOFTOP SOLAR OWNERS

## Anna Strempel, Melbourne

*As the owner of a rooftop solar system and a passionate supporter of effective action to reduce greenhouse gas emissions, I strongly oppose the proposals to charge solar owners for exporting energy to the grid.*

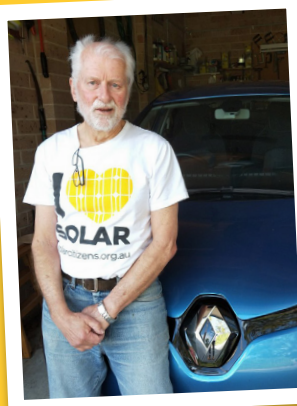
*Rooftop solar owners are already disadvantaged by the very low rates paid for the energy we export to the grid, even though we are delivering significant benefits to society by producing this renewable, clean energy.*



## Peter Youll, Sydney

*I live in a duplex townhouse, one of 16. Our home has a 5kW solar system, a battery and we drive a small electric car. I want to reduce my greenhouse gas emissions as much as possible. My main motivation is my five grandchildren, I want to minimise the impact of my life on their future.*

*Given where I live, I don't understand why I would be charged for exporting solar power when all of my excess is consumed by my immediate neighbours - my impact on the grid is negligible.*



## Jenny Smith, Hobart

*I was devastated by the bushfires in Tasmania in the summer of 2019 – it really brought home the need to drastically reduce our carbon emissions, but coal and gas fired power stations don't pay a cost for this.*

*I got my first solar system in 2010 after calculating a payback period of six years, including interest on the loan that I took out to pay for it. I am building a new place now, and am keen for solar but I won't get it if the payback period isn't short enough for it to make sense.*



## Pauline Gardner, Elsternwick

*About eight to nine years ago my husband and I were planning for our retirement and we chose to go solar as a way of managing our electricity costs. After five years with solar panels, our feed-in tariff was dropped to 10c per kWh, set by our electricity retailer. Since then, particularly in winter, we make very little from our electricity exports. For example in our last bill we got \$20 off. If a sun tax is introduced then having solar will be of little benefit to us financially.*

*There needs to be a balance between the profits of energy companies and how much the solar owners are making. From our point of view we're only getting a marginal benefit from it. We need to look at consumers and big business and look at what's fairer for both.*



## Anna Harrison, Adelaide

*I, like many informed and concerned Australians, borrowed money to put rooftop solar in place as soon as it became available to the general public. We are now retired pensioners who not only rely on the feedback tariff to reduce our ridiculously high energy bills, which we can barely cover, but who have been servicing the interest charged on money borrowed in good faith many years ago.*

*We have lost money and continue to do so without any further tax imposition. We have lost our faith in government decision-making and policy direction and we despair for our children's and grandchildren's future as current government policy erodes their futures.*



## Straughan Briggs, Kenmore

*We put solar panels on our roof for two reasons: financial – to cut our household expenses so that we could spend the money on our children’s growing needs for schooling etc., even though we had to borrow some of the up-front purchase costs. And for our children’s future – lowering the need for more large-scale electricity generation plants would save all of us the economic costs of building those plants, and would reduce the carbon footprint required, hopefully slowing the climate change that our children will have to deal with.*

*To now say to those of us who took these steps, that we should pay more, seems to us to be failing to move forward and adequately plan for our future, and our children’s future, as it will likely stop the export of renewable electricity, requiring governments (us) to pay for and build expensive centralised generation plants.*



## Jan McNicol, West End

*I had a 3 kw photovoltaic rooftop solar array installed in May 2013.*

*I am passionate about solar energy because renewable energy is the best hope we have for preventing climate collapse, while protecting our democracy from “corporate donations” and improving our lives with cleaner, cheaper electricity.*

*An export tax on my electricity production, would alter the economics of owning a battery, in direct proportion to the size of the tax.*



## REFERENCES

1. To check out our previous campaigns see: [https://www.solarcitizens.org.au/solar\\_swindle](https://www.solarcitizens.org.au/solar_swindle)
2. Bruce Mountain, Steven Percy and Kelly Burns, 'Rooftop PV and electricity distributors: who wins and who loses?', Victoria Energy Policy Centre
3. Renew Economy, Charging for rooftop solar exports "not needed and not fair", 14th August 2020
4. CSIRO and Energy Networks Australia, Electricity Network Transformation Roadmap: Final Report, (2017), p.43
5. Renew Economy, SAPN flags potential to "ramp down" rooftop solar with new network upgrades, 31 August, 2020
6. ESB cover note on the UNSW Voltage Report, p.1
7. Victoria Energy Policy Centre, Using electricity bills to shine a light on rooftop solar photovoltaics in Australia: a report for Solar Citizens, November 2018, p.4
8. Victoria Energy Policy Centre, Using electricity bills to shine a light on rooftop solar photovoltaics in Australia: a report for Solar Citizens, November 2018, p.4







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