



# SolarCitizens

A community voice for solar

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20th September 2020

The Commissioners  
Australian Energy Market Commission  
Sydney NSW 2000

Dear Commissioners

Re: Distributed energy resources integration - updating regulatory arrangements  
(ERC0309, ERC0310, ERC0311, RRC0039)

Thanks for the opportunity to make a submission on these rule change proposals. Given the overlap between the three proposals we will be addressing all three of them together, and will reference each one by name of the proponent when addressing its distinctive features.

We have already provided to the Commission over 1700 submissions from our supporters on the proposed rule change.

We support all proposals to the extent that they recognise the importance of distributed energy resources in driving down wholesale prices, decarbonising our energy system and avoiding network costs.

We also support the change for the purposes of the networks to re-orientate their service provision to meet the needs of solar consumers and maximise export capacity. We are concerned about the imposition of export limits and a lack of transparency as to when and how these are imposed by networks. Greater transparency and oversight on export limits is needed.

We support an imposition on the networks to maximise hosting capacity for solar. We note that a number of networks have had applications for network upgrades for solar under existing rules, which have been accepted by the AER.

Our concern is that the imposition of DUOS fees, particularly in the context of rapidly lowering feed in tariffs, will discourage investment in solar, as it will inevitably extend the pay back

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periods. If investment in rooftop solar is providing a net benefit to all consumers, then it holds that reducing the amount of rooftop solar exports will negatively impact all consumers.

In summary we believe that the proposals to remove or edit 6.1.4 of the National Electricity Rules is not justified in any of the three proposals for the following reasons:

- Even without the positive decarbonisation benefits, the evidence points to solar having a positive impact on costs for all energy consumers such that its continued uptake should be encouraged, and pay back periods minimised.
- It is inequitable to charge solar owners when generators in the transmission network are not charged for accessing the network.
- The network costs of rooftop solar, which are used to justify the imposition of DUOS fees have not been quantified, and may have been overestimated.
- The imposition of DUOS fees on solar households may only have limited practical impact on the bills of vulnerable consumers.
- The imposition of fixed network charges, higher in Australia than other countries, means that households with solar PV are already paying higher per kWh than other consumers for electricity imported from the grid.
- Solar households should be rewarded for the benefits of their supply, not just the imposition of costs.
- The post 2025 market reform process contemplated by the Energy Security Board appears to overlap with this process and in the context of a separate market reform process the cost and complexity of instituting this specific rule change is not justified.

We have expanded on these points further below.

### **The positive impacts of solar**

The Victoria Energy Policy Centre analysed 48,677 Victorian power bills and found that even the relatively low penetration 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>1</sup>

Further, the research found that, ‘while residential rooftop solar pushed up network prices by \$1.30/MWh in Victoria in 2019, it pushed down wholesale prices by \$6.40/MWh. And so taking the upward, and balancing it against the downward, the net effect is that in Victoria in 2019, residential rooftop PV reduced prices for all consumers by \$217 million.’<sup>2</sup>

Energy Networks Australia, the peak body for networks across the country, has estimated that the optimisation of distributed energy such as rooftop solar could bring down network costs on bills by as much as 30% to 2050.<sup>3</sup> Rooftop solar enables households and businesses to use their power where it is generated, minimising the need for network upgrades.<sup>3</sup>

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<sup>1</sup> Bruce Mountain, Steven Percy and Kelly Burns, ‘Rooftop PV and electricity distributors: who wins and who loses?’, Victoria Energy Policy Centre

<sup>2</sup> Renew Economy, [Charging for rooftop solar exports “not needed and not fair”](#), 14th August 2020

<sup>3</sup> CSIRO and Energy Networks Australia, Electricity Network Transformation Roadmap: Final Report, (2017), p. 43

Given the benefits for all consumers of rooftop PV, the impact of any rule change on the volume of exports needs to be fully understood.

### **Costs of accommodating more rooftop solar**

Recent research commissioned for the Energy Security Board found that over voltage was an issue throughout many networks, and 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 in all NEM states... The nominal voltage standard in the NEM is 230V - more than 95% of readings were found to be higher than this.<sup>4</sup>*

One example is high voltages experienced in some networks at night - clearly not caused by rooftop solar. This research suggests firstly that networks need to be more proactive in managing voltage and can reduce voltage in order to allow for more rooftop solar.

We support the comments of the Clean Energy Council that responsibility for the regulation of voltage should be clarified before the imposition of obligations for managing export capacity are imposed on networks, 'and a pricing based approach for voltage management is introduced.'

The St Vincent's rule change request proposes limiting the imposition of DUOS fees to those who are currently export constrained. We struggle to see how this would work in practice - would the imposition of fees be limited to those specific locations where upgrades are required? Would costs be recovered via DUOS over a set period from one customer only?

Our concern is that the imposition of network limits is a cheap and easy way of managing voltage in the network, but may lead to losses for all consumers if it reduces the supply of power from rooftop solar, given that it is produced at zero marginal cost. What is most likely is that the imposition of DUOS charges will be applied to *all* solar exporters regardless of whether they have faced export constraints, and even where solar exports provide a net benefit to all consumers.

The TEC/ACOSS proposal edits rather than removes 6.1.4, limiting it to those 'prosumers' who are export limited, and so is preferable to the SAPN and St Vincent's proposals that seek to remove it entirely.

### **Impact on bills of vulnerable households**

All three rule change proposals reference a need to address an inequity in the electricity system - the view that non solar households are cross subsidising solar households. Inherent in this argument is a belief that households without solar will experience significant bill relief

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<sup>4</sup> [ESB cover note on the UNSW Voltage Report](#), p.1

as a result of this rule change. If there is no practical impact on the bills of vulnerable households, it begs the question as to why go to the expense of making this rule change.

However, to the extent that the DUOS fees positively will reduce some consumers' bills, they will impact on the bills of all households without solar, including the disproportionate number of high income households that choose not to invest in solar. As our own research has shown, non solar households are disproportionately found in the highest socioeconomic decile:

*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>5</sup>*

Far from being an equitable measure, this rule change 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 as noted by the Victoria Energy Policy Centre these are higher in Australia than in other jurisdictions overseas.

*Households with rooftop solar PV in New South Wales, Queensland, and South Australia pay slightly higher average unit (cents per kWh) prices for their grid-supplied electricity than households without PV. By comparison in Victoria, households with PV pay appreciably higher prices. This is explained by the appreciably higher fixed charges in Victoria. The fixed component of residential electricity bills in Australia generally, and in Victoria, in particular, is higher than in any other country we know of.*

<sup>6</sup>

## **Recognising financial benefits and duplication of parallel reform processes**

This week the Energy Security Board has released a consultation paper on the 2025 market reform that will potentially impact on this process. Unlike these rule change proposals, it places rewards for DER at the centre of the reform process.

We seek clarification from the AEMC on how the Energy Security Board market reforms will impact on this proposed rule change.

In conclusion, while we support aspects of the rule changes that create obligations on DNSPs and limit export limits, we do not believe that this justifies a new income stream for DNSPs.

Please contact me at any time for further information,

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<sup>5</sup> Victoria Energy Policy Centre, [Using electricity bills to shine a light on rooftop solar photovoltaics in Australia: a report for Solar Citizens](#), November 2018, page 4

<sup>6</sup> Victoria Energy Policy Centre, [Using electricity bills to shine a light on rooftop solar photovoltaics in Australia: a report for Solar Citizens](#), November 2018, page 4

A handwritten signature in black ink that reads "Ellen Roberts". The signature is written in a cursive style with a comma at the end.

Ellen Roberts  
National Director  
Solar Citizens

