

The Commissioners  
Australian Energy Market Commission  
Sydney NSW 2000

14 September 2020

L1 Endeavour House  
1 Franklin Street  
Manuka ACT 2603

+61 2 6130 0530  
mail@tai.org.au  
tai.org.au

ABN 90 061 969 284  
ACN 061 969 284



Dear Commissioners

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

We welcome the opportunity to make the attached submission in response to the *Distributed energy resources integration - updating regulatory arrangements* rule change consultation.

Rooftop solar PV accounts for almost all distributed energy resources (DER) in the NEM and is one of the great success stories in energy and climate in Australia. We encourage the Commission to look carefully at the evidence presented in support of a rule change and also how it integrates into other reforms leading up to the Post 2025 Market Redesign project (P2025) being driven by the Energy Security Board.

We would be happy to expand on this submission in writing or in person. Please feel free to contact us at [danc@tai.org.au](mailto:danc@tai.org.au) and [ceo@smartenergy.org.au](mailto:ceo@smartenergy.org.au).

Yours sincerely

A handwritten signature in blue ink that reads 'Dan Cass'.

Dan Cass  
Energy Policy and Regulatory Lead  
The Australia Institute

A handwritten signature in black ink that reads 'John Grimes'.

John Grimes  
CEO  
Smart Energy Council

# Fairness for solar PV consumers

## Regulation of household PV needs to be done carefully

---

*The rise of solar PV has been one of the great success stories in the Australian energy sector. Solar and other distributed energy resources should be fairly regulated on the basis of their benefits and costs to the NEM*

Submission to Australian Energy Market Commission *Distributed energy resources integration - updating regulatory arrangements* (ERC0309, ERC0310, ERC0311, RRC0039)

Dan Cass

September 2020

## **ABOUT THE AUSTRALIA INSTITUTE**

The Australia Institute is an independent public policy think tank based in Canberra. It is funded by donations from philanthropic trusts and individuals and commissioned research. We barrack for ideas, not political parties or candidates. Since its launch in 1994, the Institute has carried out highly influential research on a broad range of economic, social and environmental issues.

## **OUR PHILOSOPHY**

As we begin the 21st century, new dilemmas confront our society and our planet. Unprecedented levels of consumption co-exist with extreme poverty. Through new technology we are more connected than we have ever been, yet civic engagement is declining. Environmental neglect continues despite heightened ecological awareness. A better balance is urgently needed.

The Australia Institute's directors, staff and supporters represent a broad range of views and priorities. What unites us is a belief that through a combination of research and creativity we can promote new solutions and ways of thinking.

## **OUR PURPOSE - 'RESEARCH THAT MATTERS'**

The Institute publishes research that contributes to a more just, sustainable and peaceful society. Our goal is to gather, interpret and communicate evidence in order to both diagnose the problems we face and propose new solutions to tackle them.

The Institute is wholly independent and not affiliated with any other organisation. Donations to its Research Fund are tax deductible for the donor. Anyone wishing to donate can do so via the website at <https://www.tai.org.au> or by calling the Institute on 02 6130 0530. Our secure and user-friendly website allows donors to make either one-off or regular monthly donations and we encourage everyone who can to donate in this way as it assists our research in the most significant manner.

Level 1, Endeavour House, 1 Franklin St  
Canberra, ACT 2601  
Tel: (02) 61300530  
Email: [mail@tai.org.au](mailto:mail@tai.org.au)  
Website: [www.tai.org.au](http://www.tai.org.au)  
ISSN: 1836-9014

# Introduction

The Australian Energy Market Commission (AEMC) has received three related rule changes which propose to change the National Electricity Market (NEM) by allowing distribution networks to charge the households with solar PV for the energy they export.

We will respond in general terms to the three rule change proposals from SA Power Networks (SAPN), the St Vincent de Paul Society Victoria (SVDP), and Total Environment Centre (TEC) with the Australian Council of Social Service (ACOSS).

Our concern with these rule change proposals is that they seem to fragment the regulatory process leading to the major reform effort in the NEM, which is the Post 2025 Market Redesign project (P2025) being driven by the Energy Security Board.

We understand the need for distribution networks to be modernised to accommodate the rise of distributed energy resources (DER) including household PV and for this to be supported by an appropriate market design. In 2020 the AEMC made a major step towards a two sided market which would fully utilise DER, with the Wholesale Demand Response rule change, which we co-sponsored.

The problem with a proposal to charge DER for exports is that this is not a fair and complete market reform like WDR was, but a fragmentary one. WDR only opened up the NEM to demand response from large consumers, but those consumers were treated fairly by the rule designed by the AEMC.

A new system of charges to cover the supposed costs of DER must not be brought in before DER can also earn fair revenue for the benefits it generates. A rule change for DER charges at this time seems to be doing part of the job of P2025 with regard to DER pricing. It risks doing this partial task in a way that is potentially expensive, complicated and may not establish a regulatory process that is fair for solar / battery households or 'prosumers'.

The system and market design of the NEM has to keep up with the trend away from centralised coal to (mostly clean) DER. A great deal of valuable work has been done to map out this transition, by the AEMC and AEMO, Energy Networks Australia, ARENA, energy innovators and the Energy Security Board and others. We would endorse many of the arguments made by those agencies and market participants and in the three rule change proposals. For example we echo SAPN's discussion about the importance of supporting consumer choice.

However, household solar has a great success story in the Australian energy sector and it would be unwise to rush to regulate for cost recovery now.

# The issues

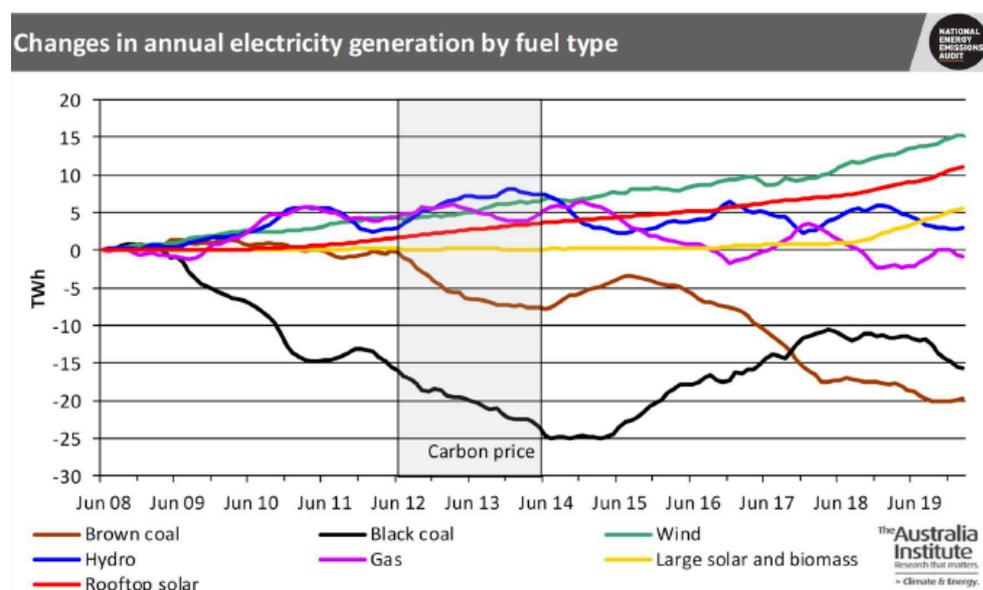
## *Solar growth consistent historical trend*

Rooftop solar accounts for almost all distributed energy resources (DER) in the NEM. Australia has become a world leader in household PV, which has brought benefits to households with lower bills, more control over their energy costs and reduced emissions. All consumers benefit from the reduction in wholesale prices.

Solar power is the most popular energy source in Australia. The 2019 Climate of the Nation survey found that 76% of Australians rank solar power in their top three preferred energy sources, making it by far the most popular energy source.<sup>1</sup> Household solar has been supported by Liberal-National, Labor and Labor-Green governments.

For more than a decade rooftop solar has grown consistently in Australia. Figure 1 shows that the rooftop solar generation growth has been the steadiest major trend on the supply side of the NEM since at least 2008. Any sense of urgency in 2020 to regulate distributed energy resources (DER) can not be attributed to any sudden change in the rate of rooftop solar adoption, but is because networks are seeking to make investments to adapt to this trend. The proximate issue is solar PV but the ultimate problem is really the policy and governance of the clean energy transition in Australia, which has not kept up with what is a steady and positive trend.

**Figure 1: Changes in annual electricity generation 2008 - 2020**



Source: Saddler (2020) *National Energy Emissions Audit Report : March 2020*, The Australia Institute, p.6

<sup>1</sup> Merzian, Quicke, Bennett, Campbell, & Swann (2019) *Climate of the Nation 2019*, The Australia Institute, p.1.

### *Need to integrate with P2025 and implement a two sided solution*

In 2020 the NEM market bodies have collaborated on a joint prioritisation framework for regulatory work, to streamline reform. This is a difficult task because of the number of rule changes and reviews, the technical complexity of the underlying issues and the pressing need to adapt to the retirement of coal-fired generators.

The priority piece of the regulatory effort is the ESB's Post 2025 Market Redesign project. The Australia Institute supports a fundamental redesign of the NEM and has engaged with the P2025 work. It is not clear to us how the current rule change fits the prioritisation framework.

Any step towards a two-sided market must deliver both sides. That means charges for costs and revenue for energy and services. There is a fundamental issue of principle at stake here. The rule changes fail to give the full two-sided solution to the problem they seek to address.

It is also not clear why a rule change should be made now given that it would not lead to a change in the market for some years. The rule change would affect future cycles of AER determinations, perhaps not until after the P2025 reforms. Why rush a half-solution now that would likely be better and more implemented and potentially much earlier in the P2025 project?

### *Is solar over-voltage over-stated?*

We are not clear that the network problem has been accurately defined. Ostensibly the driver for a rule change is to provide an equitable source of revenue for distribution networks to invest in new technology to safely accommodate reverse power flows and prevent over-voltage.

According to research commissioned for the ESB, 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>2</sup>

The Commission will need to satisfy itself that the technical problem these rule changes seek to address has been characterised accurately.

### *Costs and benefits*

The costs and benefits of a rule change would need to be well understood. A study of Victorian households and networks calculated that the net effect of rooftop solar in in 2019

---

<sup>2</sup> Energy Security Board (2020) *ESB cover note on UNSW Voltage Report*, p.1.

was to reduce prices for all consumers by \$217 million.<sup>3</sup> This net figure takes into account network cost increases, which were less than the wholesale price decreases caused by household solar.

The future network and other benefits of DER could be very significant and this needs to be fully understood before levying charges for costs caused by DER. According to Energy Networks Australia, if DER is used to provide network services, that would obviate the need for \$16.2 billion in network investment by 2050.<sup>4</sup> This translates into a reduction in the network component of consumer bills by around 30% compared to today.

There must be an understanding of both total costs and benefits and also the distribution of those costs and benefits.

### *Need for consistent principles*

Charging the emerging class of DER generators for their use of the network would not be consistent with how legacy generators are treated. Large generators connected to the transmission network do not pay to use it. The SAPN proposal would not see large embedded generators charged either.<sup>5</sup>

This inconsistency is a significant weakness in the rule change proposals. It would be inequitable to charge solar households when other generators are not charged for accessing the network. This benefits the incumbents and the expense of innovation.

At the very least, if the Commission wishes to create charges for DER generators, a fair principle would be that the DER households should be rewarded for the benefits of their energy and services at the same time as they are made to pay for any net costs they create for networks and thus other consumers.

We suggest that the simplest way to achieve this consistency of principles would be to defer this rule change and place it within the P2025 DER workstream. That would allow DER charges to be dealt with comprehensively at the same time as payments and related DER integration challenges such as technical standards.

### *Fairness of decision making process for DER households*

It is a fundamental principle of good administration that decision makers must make decisions fairly and provide reasons. The Commission would need to turn its mind to how this principle would be implemented through this rule change and any regulatory processes it creates.

---

<sup>3</sup> Mountain, Percy, & Burns (2020) *Rooftop PV and electricity distributors: who wins and who loses?*, Victoria Energy Policy Centre, Victoria University, p.1.

<sup>4</sup> CSIRO & Energy Networks Australia (2017) *Electricity Network Transformation Roadmap, Final Report*, p.43.

<sup>5</sup> Australian Energy Market Commission (2020) *DER Integration – updating regulatory arrangements: Consultation paper*, p.43.

Most energy consumers are likely to be unaware of the prodigious volume of regulatory work done on their behalf, which ultimately affects their supply of electricity and the price they pay for it. Rules change and energy costs change and the relationship between them remains a mystery to most consumers.

This rule change appears like it will be a very different kind of decision. Millions of households will be directly affected at the hip-pocket. We suspect that solar consumers take the view that they have a 'right' to export the energy they generate. Whether or not this view is correct, they have a moral right to have their views heard in the regulatory process. Consultation with these stakeholders thus far has not been sufficient in our view.

Solar households, like all electricity consumers, find retail contracts and billing confusing, let alone the 'solar coaster' of changing state and federal incentives and on top of this, the potential for a whole new regulatory process.

We can envisage a large number of solar consumers being unhappy with what they might perceive as a confusing and unfair 'solar tax'. There may be three points at which DER households would potentially need to have fair access to the decision making process.

Firstly, if there are network-level determinations made by the AER which include decisions that directly impact the revenue earned by households, then they should be consulted. How would this work? How would household consumers access a decision making process largely designed around companies?

Secondly, there may be more fine-grained decisions made by distribution networks, for example about the set charges levied on DER households at the level of individual substations or lines, according to the St Vincent de Paul Society Victoria proposal.<sup>6</sup> DER households could also have claim on a right to fair access to this decision making process.

Thirdly, each DER household will undergo its own process of negotiation with the distribution network about the ability to export. There would presumably need to be fair processes for DER consumers to make their case at this point. Then there would potentially have to be a fair process for households to appeal any decision.

It seems like the rule change could result in an unreasonably complicated consultation process for solar households.

The NEM regulatory process is designed to allow market participants to have their say about rule changes. Consultations are very technical and have evolved to work well for a relatively small number of specialists from market participants, governments, energy agencies and energy experts in academia, consulting and think tanks. The process is not a consumer-based process that would work for solar households.

---

<sup>6</sup> Ibid, p.44.

This structural problem is evidenced by the fact that DER users are becoming a major player in the NEM but do not have any formal status in the (post-COAG) Energy Council processes. We urge the Commission to make recommendations to rectify this this problem.