

**Private Submission to Australian Energy Market Regulator
Regarding
Proposed Pricing Mechanisms for Solar Power Exports
By
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Reference:

- A. DRAFT RULE DETERMINATION ERC 0311 - NATIONAL ELECTRICITY AMENDMENT (ACCESS, PRICING AND INCENTIVE ARRANGEMENTS FOR DISTRIBUTED ENERGY RESOURCES) RULE 2021
- B. DRAFT RULE DETERMINATION RRC 0039 - NATIONAL ENERGY RETAIL AMENDMENT (ACCESS, PRICING AND INCENTIVE ARRANGEMENTS FOR DISTRIBUTED ENERGY RESOURCES) RULE 2021

Introduction

I am a resident of the ACT and have solar PV systems on my roof.

The present AEMO proposal to allow energy retailers to reduce export tariffs paid during times of high solar PV exports has motivated me to make this submission.

I have a 1.5kW Gross Feed-In tariff solar system installed in late 2009 and a 3kW Net Feed-In tariff solar system installed in late 2014.

I am at present in the process of, at the ACT Government's encouragement, installing a battery system and consequently needing to upgrade my 3kW Net Feed-in Tariff solar system to a larger capacity solar system to support the battery system. In addition, in order to better utilize the additional solar electricity that will be generated, I am exploring replacing my existing gas ducted heater system with an electric ducted air-conditioning system, again encouraged by the ACT Government.

I have a number of rental properties in Melbourne. In order to reduce the energy consumption of these properties, over the last 12 months, I have installed solar PV systems to some of these properties.

Hence, I believe I am well qualified to provide this submission to AEMO.

Problems with AEMO Proposal

I am aware of, and appreciate, the challenges faced by the various authorities regarding excess solar power availability in the grid at times of high solar intensity and low electricity consumption. However, effectively putting a tax on the residential solar electricity provider on the feed-in tariff paid by the electricity retailer, is not in my view an effective solution to the problem, for the following reasons:

- a. It will provide a disincentive for potential new solar PV panel owners to install new solar capacity,
- b. It will not solve the problem of excess solar electricity in the grid when it is not needed, and
- c. It unfairly penalizes those of us who have invested in solar power and thereby reduced the cost of electricity to other consumers by negating the need for energy providers to build new power stations, the full cost of which would inevitably be passed onto consumers through higher electricity prices.

An Alternative Approach

A far better approach would be to implement ways to better utilize this excess solar power in the grid. The easiest and quickest way would be to increase the consumption of electricity during the day by remotely “turning on” all domestic household electric hot water heaters, instead of running them in the middle of the night. In doing this, the “off-peak” rate would need to be applied so that consumers are not disadvantaged.

For those of my rental properties with solar PV systems and having electric hot water systems, I have now installed timers, so that the water is heated by day utilizing solar power, instead of at night. I believe this should be extended to requiring all those residential properties that have solar PV systems installed, and have electric hot water systems, to also install timers to heat the water during the day utilizing solar electricity. The cost of doing so is minimal and would produce tangible benefits to the electricity grid as less solar electricity would be exported.

A further way of utilizing some of this excess electricity, would be to encourage the installation of batteries on those residential properties with solar PV systems. The ACT Government has a scheme in place to do just that, and I believe it should be expanded to other jurisdictions. However, as I have found out, it is not really feasible to install a battery on a 3Kw system, as this size system would be incapable of recharging the battery on a daily basis, particularly in winter. Therefore, as in my case, there would probably need to be a capacity upgrade of the solar PV system.

I am aware that some charities have argued that the Small-Scale Technology Certificates (STCs) that are created when a solar PV system is installed on a residential property unfairly increases the cost of electricity to those without a solar PV system. Unfortunately, this is a very narrow view point and does not recognize, nor appreciate, that solar roof top systems actually contribute to a **reduction** in the cost of electricity to everyone. As I have previously said, roof top solar systems reduce the requirement for large energy providers to build new power stations, the **full cost** of which would inevitably be passed on to all users through higher electricity charges. In addition, whilst the cost of the STCs might be passed through to electricity consumers, it must be recognized and accepted that the value of these STCs represents only a **fraction** of the total cost of the solar PV system, and therefore, only a **fraction of the cost** of the solar PV system is passed onto electricity consumers, whereas for new power stations, it is the **full cost**.

In reviewing my own electricity costs over the years, I find that in August 2017 I was receiving 11 cents per kWh for solar power exported to the grid from my 3Kw system and I was paying 19.78 cents per kWh for all electricity imported from the grid. In February 2021, I received 8 cents per kWh for solar power exported to the grid whilst paying 22.4931 cents per kWh imported from the grid. Hence, between August 2017 and February 2021, the tariff I received for my exported solar electricity reduced by 3 cents per kWh, or 27.3%, whilst that imported from the grid increased by 2.71 cents per kWh or 13.7%. The clear overall effect of this is that, in 2021, I am now subsidizing non-solar residential properties to a much greater extent than I was in 2017. The change in this subsidy is 65%! Please refer table below which summarizes this analysis.

Date	Solar Export	Grid Import	Difference
Aug 17	11c/kWh	19.78c/kWh	+8.78c/kWh
Feb 21	8c/kWh	22.49c/kWh	+14.49c/kWh
Difference	-3c/kWh	+2.71c/kWh	+5.71c/kWh
Percentage	-27.3%	+13.7%	+65.0%

Table 1. Comparison of import/export tariffs Aug 17 to Feb 21

This clearly shows the fallacy of the arguments from charities that roof-top solar systems unfairly increase the cost of electricity to those without roof-top solar systems, and that the reverse is actually the case. Alternatively, it shows that roof-top solar is being progressively down-valued, which is unfair to roof-top solar owners and might result in a lower uptake of roof-top solar systems in the future. An outcome such as this, would not be desirable in an environment where there will inevitably be a greater reliance on renewal sources of energy.

Conclusion

Implementation of a "tax" on solar PV roof-top system owners during periods of high solar electricity generation and low consumption in the grid is an unfair impost and will do nothing to overcome or reduce the likelihood of this occurring. There are far better and far more effective methodologies readily available to deal with the situation that will produce tangible results.



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