

Submission to Australian Energy Market Commission - ERC0310 Allowing DNSPs to charge for exports to the network

I make this submission in my personal capacity. With my husband, I have installed solar cells on our first home. We have since moved house and are investigating installing solar cells on our current home. Since I am making this submission in my personal capacity, it is not intended to reflect the quality and rigour of a professional submission. I am making the submission in the hope that it will provide some insight into the motivations of individuals who seek to install solar cells on their premises and export energy to the grid.

Due to time constraints, my submission is limited to addressing the six questions posed at the end of Chapter 6 of the consultation paper.

1. Should DNSPs have the option to propose to the AER charges for export services?

No. The proponents' concerns about matters of equity in the market are relevant and admirable. In particular, there is significant value in the principle that consumers who cannot afford a particular activity in the electricity market should not experience increased prices based on the cost of additional infrastructure needed to accommodate that activity. However, it is a principle that has not been applied consistently in the past and runs the risk of pitting individuals and small consumers against each other, while creating rules for a market that entrenches existing power dynamics to the benefit of existing, large scale producers of energy.

In the context of solar panels, the principle applies as follows:

1. The installation of solar panels requires increased capacity in the electricity network
2. Increased capacity requires additional investment in infrastructure
3. The increased investment is recouped through increases in electricity prices
4. It is inequitable to charge people who cannot afford solar panels the cost of the infrastructure to accommodate solar panels

The principle also applies in the context of energy use. It has been seen in the 'gold plating' of poles and wires, which has driven increases in energy prices over the last decade. In that context, the principle applies as follows:

1. The use of energy-intensive devices (such as air conditioners) requires increased capacity in the electricity network to ensure that there is sufficient capacity, especially on hot days
2. Increased capacity requires additional investment in infrastructure
3. The increased investment is recouped through increases in electricity prices

In this context, the fourth step has, to date, been left out. The reality is that people who cannot afford energy intensive devices, such as air conditioners, have been paying for the increased capacity required to keep the energy grid working on days of extreme heat.

There are multiple methods for addressing such inequities in a market. The appropriateness of any given method needs to properly understand and characterise the motivations of the market participants.

Price signals such as export charges assume the existence of the rational actor. The reality is that most owners of solar panels are not such active participants in the market on a daily basis that they will adjust their behaviour in response to export charges. Fine grade behavioural responses, such as increased self-consumption and decisions about when to divert excess energy to a battery and when to export to the grid, will not be achieved in individual solar cell owners without an intermediary, such

as a technology innovation that monitors network capacity and releases energy to the grid at points of capacity. Whether this technology is possible or marketable is speculative and should not be assumed in making rule changes.

As such, the price signal sent by export charges will be experienced by solar cell owners (current or prospective) at the point of a purchasing decision. The signal sent by export charges is that solar cells are an unwelcome inconvenience to a network built for the benefit and use of large scale producers. It will be experienced as paying for a network twice – first as a consumer and then as a producer.

The proposal to charge for both consumption and export reflects the ongoing failure to properly understand and characterise solar cell owners. Most do not characterise or consider themselves as producers trying to make money. Most solar cell owners see themselves as providing a community benefit, both in terms of providing additional energy, especially on high demand days, while reducing Australia's energy emissions. As indicated above, most solar cell owners do not monitor their usage and production in the same market-driven way as large-scale producers. While they might have an intellectual interest and curiosity in the variations and might make some generalised changes to behaviours, such as using high energy devices during the day rather than at night, they are not as adaptable or sensitive to market pricing as commercial enterprises.

Solar cell owners are not in it for the money per se. While solar cell owners do consider costs and benefits before installing solar cells, they are not seeking to make a profit. Instead, they want a fair return for their contribution. In this context, the money is a signal about whether their contribution is valued by the community. A charge to provide additional energy sends the message that the contributions of solar cell owners is not welcome. The proposal not to apply export charges to entrenched, commercial producers of high emission energy will only compound that perception. These perceptions may contribute to a decision not to install solar cells or to limit any personal investment to the amount needed for self-consumption. This will not address inequity in the market. Excess solar has a role to play in decreasing the wholesale price of energy, which has benefits for retail consumers, including those who cannot afford to generate their own power.

The export charges will also send a signal to consumers – both owners of solar cells and those without – about the value of low emission energy and Australia's pathway to a more sustainable future. Solar cells remain one of the most effective ways for individuals to decrease their emissions. In the face of a climate emergency, the ability to take action is significant in maintaining commitment to finding a solution. Charging solar cell owners to export energy, while leaving high emission generators to continue to export without charge, sends a signal that Australia is only prepared to play at the margins of emissions reductions.

The proposed changes will also entrench existing power dynamics in the market. The increased vertical integration of power producers and retailers poses challenges for competition within the market. Distributed generators, such as solar cell owners, challenges the competitive advantages of existing producers/retailers. A price signal to export that applies only to smaller, new entrants while not applying to large scale producers sends a perception of large commercial companies being protected from the newer entrants.

If sufficient capacity and equity are the objectives, then solutions must be designed in a way that reflects the realities of our environmental challenges, the motivations of solar cell owners and existing power and competition dynamics that also contribute to the equity and capacity challenges. Focusing on the issue of export and solar cell owners (or distributed generators more generally) means framing solar cell owners as part of the problem, when they are in fact part of the solution.

2. What are the potential benefits and costs of enabling export charges?

See above.

3. If customers can already negotiate 'deeper' connection agreements, is a 'supplementary' connection arrangement required to allocate DER-related costs – as proposed by TEC/ACOSS?

Such a proposal may be appropriate, if the way in which solar cell owners are charged for electricity is also addressed. I have had experience with retail agreements whereby, as a solar cell owner, I have had more limited options for retail prices than if I were a non-solar cell owner. The arrangements left a strong perception that I was being charged a higher retail rate to cross-subsidise the costs to the commercial company (e.g. network costs, lost revenues) of having a solar cell owner on the network.

I could see a situation where an owner of solar cells has two contracts: one for the purchase of electricity, which would be an ordinary retail agreement that all consumers have; and one for the sale of electricity. This latter contract could then involve a negotiated price at which the energy will be purchased (e.g. a fixed amount or percentage above the wholesale rate at the time of export). This may allow any costs associated with having additional producers on the network to be addressed, without sending a blunt pricing signal associated with export charges. It would also allow greater transparency in the way that the relationship between vertically integrated energy companies and solar cell owners – who are both competitor and customer – are managed. For this arrangement to work, individuals must have the option of having their purchase contract and sale contract with different companies to ensure maximum competitiveness is enabled.

4. If NER clause 6.1.4 is removed, and DNSPs are able to develop tariffs for export services:
 1. What are the implementation issues?
 2. Should the existing tariff structure statement process and pricing principles apply? For example, is a principle required to guide DNSP decisions on cost allocation between consumption and export services – as proposed by SAPN?
 3. Are transitional or 'grandfathering' arrangements needed and, if so, should they be prescribed in the NER?

Questions 4.1 and 4.2 are largely technical questions which I do not intend to address.

If DNSPs are able to develop tariffs for export services, grandfathering arrangements would be necessary. Solar cell owners have purchased solar cells on the basis that such tariffs would not apply. Since they do not operate on a commercial basis, solar cell owners have less flexibility and ability to pivot or change their involvement in the market to respond to unexpected price variations. Some solar cell owners will have used debt to finance the solar cells and changes to the pricing structure may affect these arrangements.

Previous changes to pricing in the context of solar energy have been the subject of grandfathering provisions. In particular, changes to feed-in tariffs have generally been the subject of grandfather clauses.

5. Should the regulatory framework better recognise the benefits DER services provide to DNSPs? For example, does SAPN's proposal to allow for negative prices address the issue?

The regulatory framework needs to better recognise the benefits solar cell owners provide. The benefits recognised need to extend beyond financial and market considerations and include issues of sustainability, both in the context of the environment and the market. Part of recognising this benefit is to recognise that solar cell owners are not miniature versions of entrenched commercial generators of energy. Their reasons for participation and ways of participating in the market are very different. The framework needs to find a category for them which is different to the existing duality of consumer and producer. The concept of a 'prosumer' is attractive from the perspective of simplicity but runs the risk of glossing over the features of solar cell owners that make them different as both consumers and producers.

As someone without a technical background in energy pricing, I am not entirely sure how negative pricing would work. That immediately presents a challenge in using it to recognise the contributions of solar cell owners who are unlikely to have a technical background in energy pricing.

6. Should these reforms only apply to small customers?

See above.