A FAIR PRICE FOR SOLAR

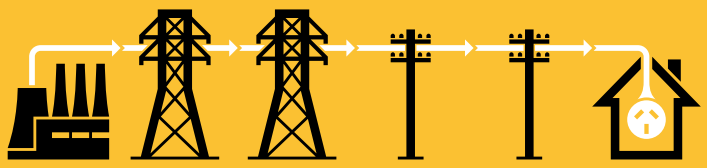
Fact Sheet

TOWERS VS PANELS: THE CASE FOR REWARDING LOCAL ENERGY GENERATION

Around 6% of your residential electricity bill pays for the transmission network, but an increasing amount of energy comes from local generation which does not use this network. Changing the electricity market rules to reflect this reality could provide a bonus for solar owners and encourage a more cost effective electricity system.

TOWERS

The traditional electricity transmission network.

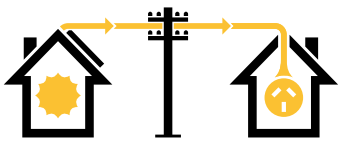


Needs hundreds of kilometres of transmission towers and a vast network of poles and wires.

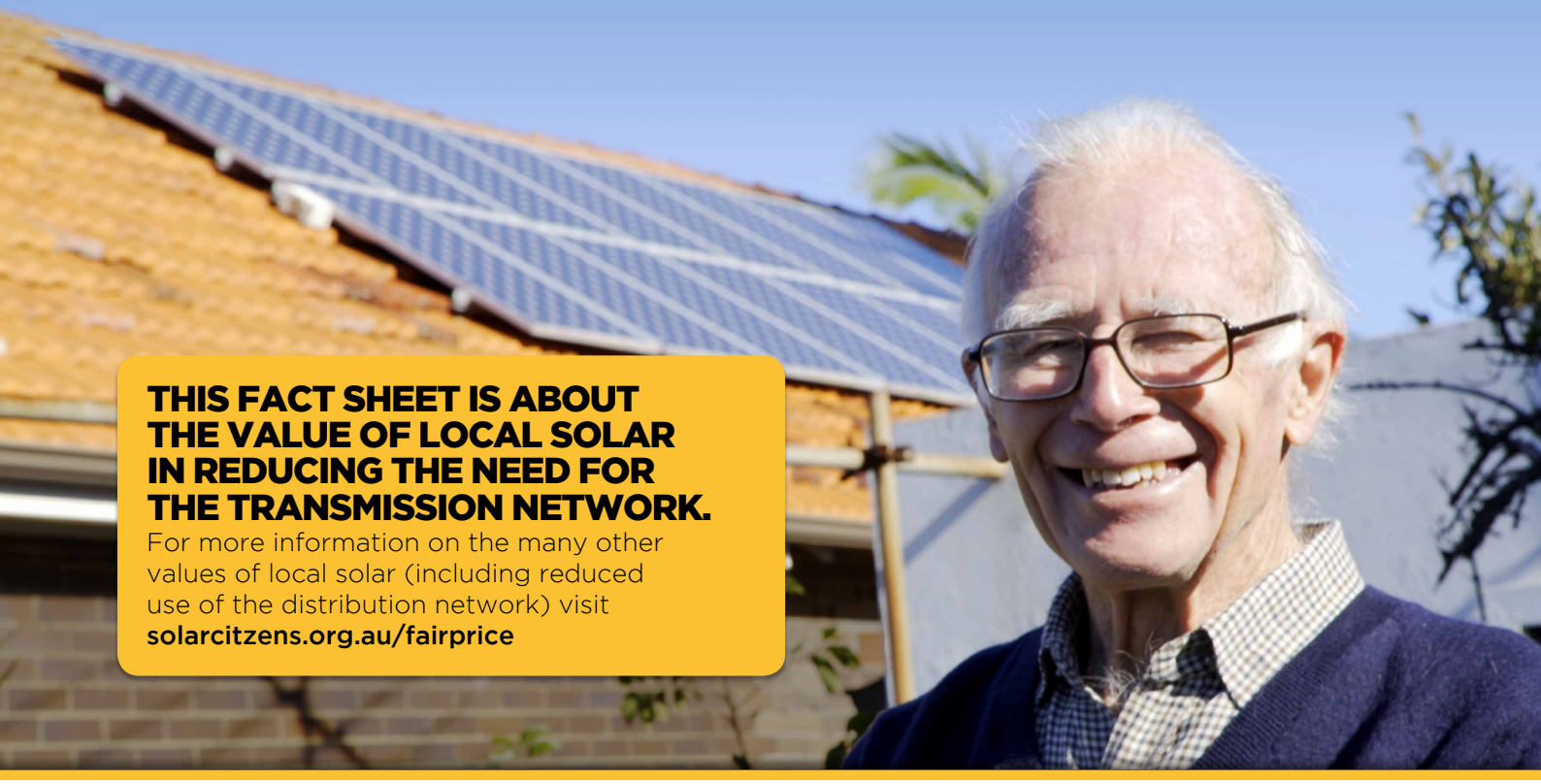
VS

PANELS

Locally generated electricity from rooftop solar panels.



Doesn't use transmission towers and makes less use of poles and wires.



THIS FACT SHEET IS ABOUT THE VALUE OF LOCAL SOLAR IN REDUCING THE NEED FOR THE TRANSMISSION NETWORK.

For more information on the many other values of local solar (including reduced use of the distribution network) visit **solarcitizens.org.au/fairprice**

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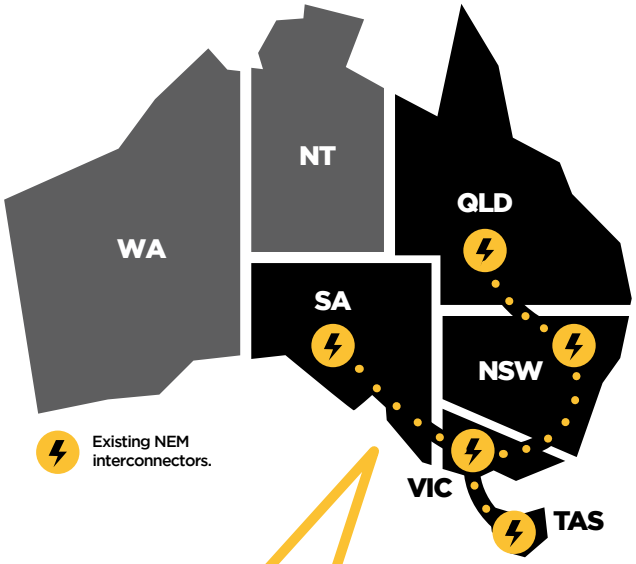
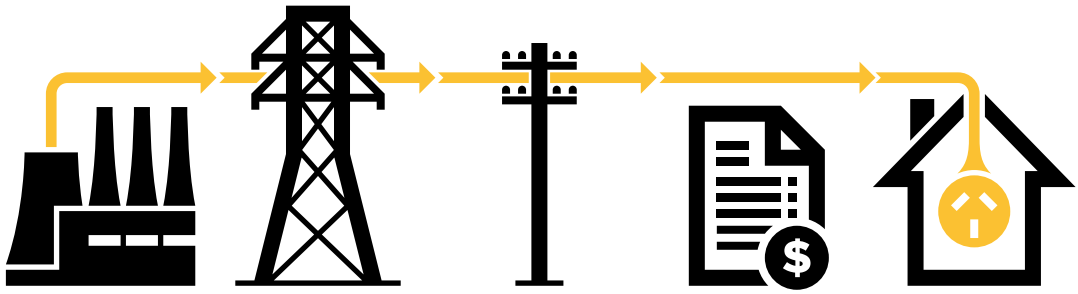
The National Electricity Market (NEM) covers most of south-eastern Australia. It is driven by rules that divide this market into both geographical regions (basically states) and by a vertical separation of roles into generation, transmission, distribution and retailing.





GENERATION
Producing electricity.

TRANSMISSION
Moving energy long distances over high voltage power lines.

DISTRIBUTION
The poles and wires that run up your street.

RETAILING
Selling you electricity.

The transmission infrastructure is necessary because big generators are located where the energy resources (coal, gas, wind or water) are located and is usually remote from where the energy is needed.

Under the national electricity rules, the cost of building and maintaining the transmission network is passed on to retailers, who include it as part of your bill. On average transmission network charges make up about 6%[1] of a residential electricity bill and distribution network charges about 40%.[2]

Transmission charges are levied on all the electricity used, but a small but increasing proportion of electricity consumed comes from local generation (mainly household solar) which makes no use of the transmission network.

Customers should not pay transmission costs for the proportion of their energy that is sourced locally. These saving should be reflected in the price paid by retailers for energy fed into the distribution network by solar owners (and other distributed generators).

The benefits would be:

- Solar owners would receive a higher price for their exported energy.
- In the longer term, costs would be reduced for all consumers because a lower cost method of supplying energy would be supported.

HOW COULD IT WORK?

There are several ways that electricity pricing rules could recognise the fact that local generation does not use the transmission infrastructure:

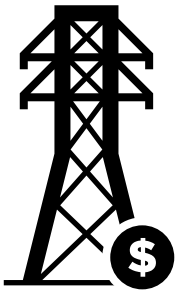
Local Generation Network Credits

A proposed rule change by the Total Environment Centre, the City of Sydney and the Property Council of Australia was submitted in 2015 to the Australian Energy Market Commission (AEMC). This proposed a mechanism called Local Generation Network Credits. Distributed generators (those who generate power locally) would be paid a credit reflecting the fact that where energy is generated and consumed in the same area, the limited use of the grid should be reflected in lower costs. The AEMC rejected this proposal.

Retailer Credit

Retailer could be given a credit for the proportion of the energy they buy from distributed generators connected to the distribution network (including solar energy exported by their customers). The electricity rules already provide for 'avoided TUoS' (Transmission Use of System) payments to large embedded generators that reduce the peak demand on the transmission network.

Transmission Network Charge



The charge passed on to retailers for use of the transmission network could be based on the amount of electricity they buy from generators connected to the transmission network. (Currently the charge is based on the total amount of electricity they sell). This would be analogous to the fact that retailers pay NEM fees based on the amount of electricity they buy from the NEM rather than the amount they sell.

The last two mechanisms (which have the same effect) would reduce network costs paid by retailers in proportion to the amount of exported solar energy they buy from their customers rather than from central generators. It is an accepted part of the setting of feed-in tariffs (FiTs) in Australia that they recognise savings to retailers and pass these savings to solar owners.

We believe the bulk of the savings on avoided use of the transmission network should be passed on to solar owners. This would increase the FiT by around 2c/kWh nationally. However a case could be made that a small proportion of these savings could be shared with retailers and networks to provide them with a motivation to implement this arrangement.

WOULD IT BE FAIR TO OTHER CUSTOMERS?

Some people argue that because the transmission networks are already built, reducing the transmission charges for some customers would just increase the costs for other customers. But forcing customers to pay transmission charges for all the energy they use irrespective of its source discourages the more efficient option of local generation.

Networks owners (state and private) do face a dilemma caused by the huge investments in existing infrastructure and the fact that electricity demand is static or falling. Potentially this can mean increased costs for users of the network if the same revenue is recouped from a reducing consumer base.

This assumes that networks have a 'right' to continue receiving the same payment for the service they provide even when the demand for the service drops. This assumption is embedded in existing rules for the national electricity market which allow networks to earn a guaranteed return on their 'regulated asset base' (RAB) irrespective of the amount of electricity they transport.

Distributed solar is often targeted as the cause of reducing demand (and hence increasing costs for non-solar customers) but in fact analysis by Hugh Saddler[3] showed that reduction in electricity demand between 2006 and 2013 was largely due to energy efficiency programs, structural change in the economy and the response of electricity consumers to higher electricity prices. Solar PV made a relatively small contribution, accounting for only 7% of the demand reduction.

The fact that networks are paid on the basis of their assets rather than on the service they provide distorts the operation of the market. It encourages networks to invest in network infrastructure, rather than seek out more efficient ways of meeting the energy demand. Despite the fact that demand for centrally generated electricity is fairly static, the national regulator has approved the expenditure of around $30bn on network upgrades over the next 5 years.[4] At a guaranteed rate of return of 6% this is $1.8bn annually that customers need to pay to networks.

The solution to increasing electricity costs is to find ways to reward the most efficient mechanisms for meeting electricity demand rather than to pay for infrastructure whether it is used or not. One approach would be a write down of asset value, which is common in other industries faced with reduced demand or technological change which renders assets less valuable. A recent report points out that "Australia's electricity networks are extraordinarily profitable, realising many multiples of the returns being realised by Australia's best performing ASX50 companies" and that revaluing their asset base to 'maximum efficient' values would reduce network prices paid by customers by 15-40%.

Changing the rules so that consumers do not pay long distance transmission charges for energy that is generated locally would be one small step towards a fairer and more cost effective electricity system.

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1 National average for transmission. States vary from 5-15%. See solarcitizens.org.au/fairprice for details.

2 National average for distribution. States vary from 38-49%. See solarcitizens.org.au/fairprice for details.

3 *Power Down: Why is electricity consumption decreasing?*, Hugh Saddler, The Australia Institute, Paper No 14, 18 Dec 2013 http://www.tai.org.au/content/power-down

4 *AEMC State of the Energy Market 2015* page 75. https://www.aer.gov.au/publications/state-of-the-energy-market-reports

5 *Assets or Liabilities? The Need to Apply Fair Regulatory Values to Australia's Electricity Networks*, Hugh Grant, ResponseAbility 5th May 2016 http://euaa.com.au/entries/general/major-report-indicates-significant-scope-for-electricity-prices-to-fall

HELP CREATE A FAIR PRICE FOR SOLAR

For more information and to add your voice visit our website at **solarcitizens.org.au/fairprice**

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