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Queensland Productivity Commission
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Lodged (online): <http://www.qpc.qld.gov.au/inquiries/solar-feed-in-pricing/submission-form/>

Solar Feed-in Pricing in Queensland – Issues Paper

The Energy Supply Association of Australia (esaa) welcomes the opportunity to make a submission to the Queensland Productivity Commission's (QPC) Solar Feed-in Pricing in Queensland Issues Paper.

The esaa is the peak industry body for the stationary energy sector in Australia and represents the policy positions of the Chief Executives of 34 electricity and downstream natural gas businesses. These businesses own and operate some \$120 billion in assets, employ more than 59,000 people and contribute \$24.1 billion directly to the nation's Gross Domestic Product.

As noted in the Issues Paper, rapid solar PV expansion has raised opportunities and challenges for the electricity sector, consumers and governments. Many of these challenges primarily relate to the fact that solar PV can impose costs and accrue benefits to parties inside and outside the solar export market, the impact of which has been exacerbated by the significant and arbitrary feed-in-tariff (FiT) rates imposed by state governments.

As a body established by the Queensland Government to provide advice on complex economic and regulatory issues, the QPC has an important role to play in reaffirming the appropriateness of current market-based arrangements for solar PV FiTs in South East Queensland (SEQ). Consequently, the QPC has an opportunity to ensure the government avoids the problems that have plagued premium solar PV FiT schemes across Australia.

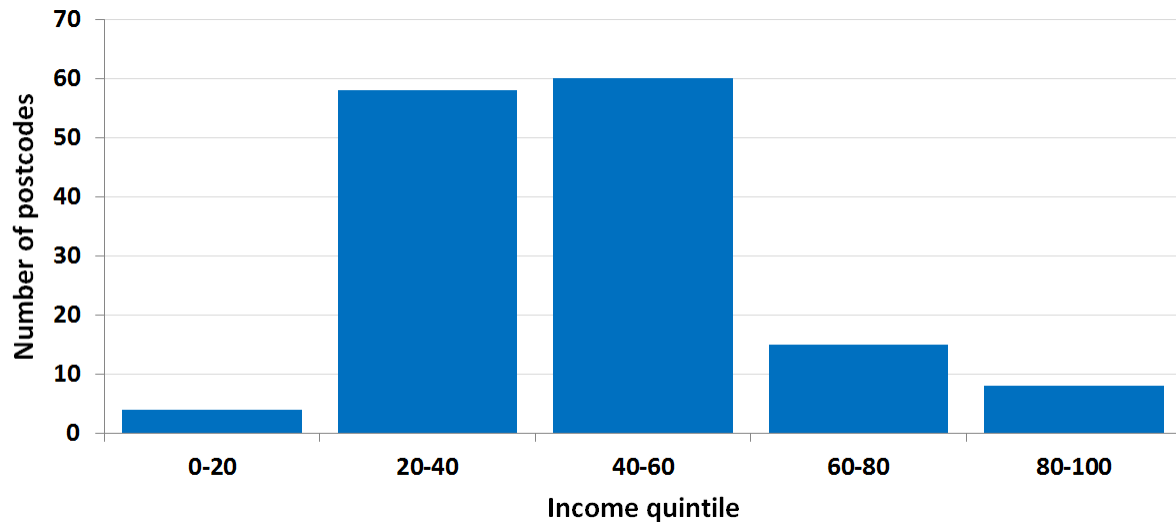
Effectiveness of the solar PV policy framework in Queensland

The Queensland Solar Bonus Scheme (SBS) has been a major driver of power price increases over the past two years. With more than 276,000 homes eligible for the 44c/kWhⁱ premium solar PV FiT, SBS costs now make up around 8 per centⁱⁱ and 9 per centⁱⁱⁱ of typical household and small business electricity bills respectively.

Given solar PV owners are able to avoid paying a portion of these costs, which are levied only on grid supplied electricity, the SBS has created a significant cross-subsidy between households with solar PV and those without it. It also creates a perverse incentive: any consumer who wishes to avoid paying the solar costs of others can do so by installing solar themselves, which in turn further increases solar costs for non-solar households.

The Association’s analysis of average income and solar PV installation data by postcode indicates these costs likely fall disproportionately on low-income households. As shown in Chart 1 below, out of 145 postcodes in Queensland with a solar PV penetration rate above 30 per cent, there are only 4 in the lowest income quintile.

Chart 1: Postcodes above 30 per cent penetration rate in Queensland by income quintile^{iv,v}



The transition to a market-based FiT in SEQ and ‘fair and reasonable’ FiT in regional Queensland, as set by the Queensland Competition Authority (QCA), was sensible in this regard and has not impeded the deployment of solar PV. Installation rates remain at around 3,000 solar PV units per month^{vi} and the SEQ market is delivering solar PV FiT rates in the range of 6-11 c/kWh.^{vii} Further, commercial providers continue to develop innovative offerings to increase market penetration such as solar leasing or solar power purchase agreements (PPAs) that have the potential to overcome historic barriers to entry for many consumers.

Given this progress, the Association does not believe there is an identifiable market failure that warrants the provision of further incentives to encourage more rapid uptake of solar PV, particularly in SEQ.

Valuing the costs and benefits of solar PV output

The esaa considers the approach currently applied by the QCA to determine a suitable FiT rate for small-scale solar PV customers in regional Queensland remains appropriate where solar PV FiT rates are to be mandated. This approach ensures solar PV export rates reflect the explicit value of that electricity in the relevant market (i.e. the value of the direct financial costs that a retail business avoids when it on-sells one unit of exported electricity from its solar PV customers). It allows for a solar PV FiT rate to be determined in a manner that is reflective of the Council of Australian Government (COAG) principles.

A common criticism of this approach, which has now been adopted across most jurisdictions, is that it does not value environmental or network benefits. But it is important to note environmental exports have already been accounted for via the Commonwealth’s small scale renewable energy scheme (SRES) as explained below. Furthermore, while a more sophisticated localised cost-reflective approach is possible, it would have a distorting impact unless a more cost-reflective approach were taken to tariff design.

Environmental benefits are already rewarded through the national Small-scale Renewable Energy Scheme

The potential abatement benefit of solar PV output is already rewarded via the upfront subsidy of renewable energy certificates provided under the SRES. These certificates covers fifteen years of deemed output, which equates to a subsidy of around \$828-972 per kW^{viii} installed in Queensland. On this basis, it is not clear what the justification would be for rewarding it a second time.

The Association also considers the most efficient approach to addressing emissions abatement is through an economy wide scheme that is applied nationally. Such a scheme would automatically reflect the value of this externality in solar PV export rates because it would be reflected in wholesale electricity prices, which is a reference point for FiTs. Should such a national emissions abatement scheme be implemented, it would be appropriate to remove any other mechanisms designed to reward abatement.

Valuing network costs/benefits is challenging

An issue that is often raised with respect to solar PV is that the current export rates do not value network benefits. This argument is based on the assumption solar consistently provides network benefits, whatever the circumstances. The Clean Energy Council recently engaged Ernst & Young to investigate these issues. According to the analysis:

- solar PV may bring benefits or impose costs on the network;
- costs/benefits are contingent on the circumstances of the section of the network on which that solar PV is located and so can vary by feeder; and
- costs/benefits tend to vary with the penetration level of solar PV on a feeder, with higher penetrations often (logically) resulting in net costs as the overall costs to the network increase to outweigh any benefits.

Queensland has one of the highest levels of solar PV penetration in the world at around 25 per cent^{ix}. Recent demand forecasts prepared by Powerlink also predict that Queensland will move to a summer evening peak by 2017-18, which means solar PV will not be producing at all during the time of the system-wide peaks. In light of this, and the analysis described above, the Association does not believe it is sustainable to impute a consistent, positive value to all solar PV installations in Queensland.

The interest in exploring locational differences is also intriguing in a state where the government has a policy of equalising small customer tariffs across different distribution networks. It is neither fair nor efficient to mask differences in retailer cost-to-serve via cross-subsidies while simultaneously rewarding distributed resources on a locational basis.

More cost-reflective tariffs for electricity consumption would reveal the value of solar PV to customers far more effectively than government-dictated feed-in-tariffs. For example, if tariffs reflected the value of supplying electricity at peak demand periods, then customers who installed and used solar PV to reduce their peak demand would receive the benefit through lower tariffs. There would then be a rational case for rewarding exports at peak demand differently than at other times.

Further, the current network regulatory framework both allows and incentivises networks to reward demand-side resources where they do help the network avoid costs. Given this, and absent evidence otherwise, it should be assumed that Energex and Ergon Energy are prepared to do so for solar PV provided it is the right amount in the right location.

The energy value of solar PV exports is likely to decline over time

The Independent Pricing and Regulatory Tribunal (IPART) recently released its final advice on the likely value of solar PV exports for New South Wales customers in 2015-16, which is estimated to have fallen from 5.6 c/kWh in 2014-15 to 5.1 c/kWh in 2015-16.^x This follows the release of the Victorian Essential Services Commission's (ESC) final determination, which recommended the minimum solar PV FiT rate be reduced from 6.2 c/kWh in 2015 to 5 c/kWh in 2016.^{xi}

In both cases, the lower solar PV FiT rates are attributable to a forecast reduction in wholesale electricity prices during daylight hours. According to IPART, solar PV output is putting downward pressure on electricity demand during daylight hours, which reduces the likelihood of high price events in the middle of the day.

Solar PV has already had a clear impact on the electricity load profile in Queensland. The ratio of average midday demand to the average peak demand has reduced from 98 per cent in 2010-11 to 88 per cent in 2014-15.^{xii} As such, it is likely the energy value of solar PV exports in Queensland will also reduce over time as wholesale electricity prices adjust to lower midday demand. In this context, governments should be cautious about promoting the value of solar PV exports, given it may have to manage public expectations in the future.

Avoiding further market distortions

Regulatory intervention can have a significant effect on the structure of the economy and the incentives to invest, with delivered benefits generally coming at the expense of other industries, taxpayers and consumers. Accordingly, where regulatory intervention is to be considered, it is important the following three broad principles are taken into consideration:

- the objective should be well defined;
- the policy measure should be designed to achieve the objective and minimise unintended outcomes; and
- the measure should contribute to positive economic outcomes.

The current proposal to incorporate additional value into solar PV export rates is highly relevant in this regard. Aside from the fact the overarching policy objective is yet to be properly defined, such an approach risks impeding retail competition and unnecessarily increasing the cross-subsidy paid to solar PV owners.

Mandatory solar PV FiTs can undermine retail competition and expose consumers to higher costs

Setting a mandatory FiT that is above the efficient level – that is, the avoidable costs associated with on-selling solar PV electricity – could result in a retailer paying far more than is necessary for solar PV-generated electricity. This could disadvantage those retailers with

a higher proportion of solar PV customers and discourage retailers from competing vigorously for customers that do have solar PV installed, thus undermining retail competition.

As discussed above, it also risks exposing low-income earners that are unable to access solar PV to even higher electricity costs. There are a range of barriers that can limit a vulnerable/hardship customer's access to solar PV, including limited access to capital (although emerging PPA business models provide a commercial solution to this) and reliance on rental accommodation. Further, such customers often have limited capacity to moderate their energy consumption. Simply increasing the value of solar PV FiT rates does little to assist these customers.

To avoid further market distortions and minimise the impact of the cross-subsidy inherent in FiTs that are set above the efficient market rate, consideration should be given to funding any new solar PV FiT on budget. This is consistent with the principles of horizontal and vertical equity outlined in the Issues Paper.

Serious consideration should also be given to removing the existing policy costs from retail prices. It would be a perverse outcome if underlying electricity supply costs are going down, but government decisions continue to push up retail prices, leading to an overinvestment in technologies such as solar PV, which in turn increases policy costs.

A more targeted approach is required

The esaa maintains a fair and reasonable value of solar PV exports is best determined and implemented by the market with no regulatory intervention, as is currently the case in SEQ. Competitive markets naturally give rise to the most efficient pricing structure and encourage competition in the development of alternative products and levels of service. This is evidenced by the fact customers in SEQ can currently access solar PV FiT rates in the range of 6-11 c/kWh.

To the extent the Queensland Government does wish to pursue alternative arrangements in this space with a view to achieving an aspirational solar PV target of 3,000MW, the Association would note there is merit in targeting solar PV incentives at vulnerable/hardship customers. Overcoming the barriers that currently restrict their engagement in the market would assist with reducing the energy bills of vulnerable/hardship customers while also contributing to the Queensland Government's broader renewable energy policy and social policy objectives.

Where there is a concern around information asymmetry within the marketplace and the ability of consumers to access more favourable tariff offerings, this could be addressed through improved communications and greater awareness of sites like the Australian Energy Regulator' (AER) price comparator website. As part of the transition to market deregulation in SEQ, there is a role for governments and businesses to communicate this information.

Given Queensland's high penetration of solar PV and the aspiration to move beyond current levels, an additional issue that warrants further consideration is the effective integration of solar PV. This might include investigating the opportunities for solar PV owners to adopt tools that would allow for their solar output to be 'managed', either by the relevant distribution network or by themselves (or an aggregator) in response to appropriate incentives. Relevant enabling technologies in this regard include smart meters, smart inverters and small-scale storage.

Any questions about our submission should be addressed to Shaun Cole, by email to shaun.cole@esaa.com.au or by telephone on (03) 9205 3106.

Yours sincerely



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- ⁱ Wardill, Steven., 'Power cost cut – privatisation to fund solar electricity', Sunday Mail Brisbane, 12 October 2014.
- ⁱⁱ Queensland Competition Authority, 'Fact Sheet – Final Decision: Regulated electricity prices for residential customers for 2015-16', accessed 18 June 2015.
- ⁱⁱⁱ Queensland Competition Authority, 'Fact Sheet – Final Decision: Regulated electricity prices for business customers for 2015-16', accessed 18 June 2015.
- ^{iv} esaa analysis of data from the Australian Tax Office, the Clean Energy Regulator and 2011 Census.
- ^v Postcodes with fewer than 250 houses have been excluded from this analysis as the small sample size can lead to impossibly high penetration rates.
- ^{vi} McCarthy, John., 'Labor's big renewable push is just 'a dream'', Courier Mail, 9 May 2015.
- ^{vii} Queensland Productivity Commission, 'Solar Feed-In Pricing in Queensland – Issues Paper', October 2015.
- ^{viii} Clean Energy Regulator SRES data, esaa analysis.
- ^{ix} Energy Supply Association of Australia, 'Household solar: Australia first, daylight second', online article, 14 May 2015.
- ^x Independent Pricing and Regulatory Tribunal, 'Solar feed-in tariffs: The subsidy-free value of electricity from small-scale solar PV units in 2015-16 – Final Report', October 2015.
- ^{xi} Victorian Essential Services Commission, 'Minimum Electricity Feed-In Tariff to Apply From 1 January 2016 to 31 December 2016 – Final Decision', August 2015.
- ^{xii} Global-Roam (NEM- Review), esaa analysis.