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Mr Kim Wood  
Principal Commissioner  
Queensland Productivity Commission  
George St, Brisbane  
Queensland, 4003

Submitted electronically at: <http://www.qpc.qld.gov.au/inquiries/solar-feed-in-pricing>

Dear Mr Wood

### Queensland Solar Feed-in Pricing Inquiry

EnergyAustralia is one of Australia's largest energy companies, providing gas and electricity to over 2.5 million household and business customers in NSW, Victoria, Queensland, South Australia and the Australian Capital Territory. EnergyAustralia owns and operates a multi-billion dollar portfolio of energy generation and storage facilities across Australia, including coal, gas and wind assets with control of over 4,500MW of generation in the National Electricity Market (NEM).

EnergyAustralia welcomes the opportunity to comment on the Queensland Solar Feed-in Pricing Inquiry Issues Paper (Issues Paper). In our view, solar feed-in pricing policy should reflect a broader policy of cost reflectivity for energy users and solar generation undoubtedly provide a range of benefits and these should be recognised and accounted for properly. Therefore we agree with the intent of the objective outlined in the Terms of Reference (TOR) for this inquiry:

*"A fair price for exported solar energy: is to be determined based on an assessment of public and consumer benefits from solar generated electricity; and must not have an unreasonable impact on network costs for non-solar users."<sup>1</sup>*

The following submission outlines EnergyAustralia's views in relation to a number of the questions raised in the Issues Paper.

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<sup>1</sup> Queensland Productivity Commission, Public Inquiry into a Fair Price for Solar Exports, Terms of Reference, page 26 of the Issues Paper

## **Is there evidence of significant and enduring market failures in the solar export market in Queensland and should the Feed in Price be regulated?**

EnergyAustralia has been an active participant in the Australian solar industry for many years. Over this time, many states have introduced Feed in Tariff (FiT) schemes not underpinned by clear or consistent policy objectives. Over the years, FiTs have increasingly been deregulated and those that are still regulated FiTs have been set on a relatively consistent basis.

With solar penetration currently at around 25% and increasing steadily<sup>2</sup> in Queensland, sufficient evidence exists to demonstrate that solar PV (photovoltaic) generation is being appropriately valued and consumers are being rewarded for the benefits of PV exports under the current competitive market conditions. As outlined in the TOR, FiTs offered by six Queensland energy retailers vary between 6c and 12c per kWh showing that some retailers are offering above the wholesale cost of electricity in order to attract PV customers. This range appears to be providing sufficient incentive to consumers to continue to invest in small scale PV.<sup>3</sup> Consequently, we see no evidence of market failures in relation to solar exports in Queensland under the current regulatory settings.

The fact that not all retailers are offering FiTs is not evidence of any market failure as it is unrealistic to expect all retailers to offer all types of services and compete on all offer types. Retailers have different business models and different strengths across their product and service portfolios. This issue was recognised when the solar FiT was reviewed in NSW in 2012. IPART (Independent Pricing and Regulatory Tribunal) commented:

*"...it would be difficult for us to recommend an exact mandatory rate because of the individual characteristics of retailers and their PV customers. Setting the feed-in tariff too high could affect the attractiveness of PV customers in the market and potentially affect the financial viability of retailers."<sup>4</sup>*

Another regulatory approach is to set a benchmark range rather than a single mandatory FiT value. The Queensland Competition Authority's (QCA's) previous position with regard to providing a benchmark was that:

*"...publishing a benchmark indicative range could dilute the benefits of competition by not providing an incentive for retailers to avoid revealing their efficient costs. It is likely that the lower bounds of a benchmark range, if published by the Authority, would effectively be viewed by retailers as a minimum obligation and would offer voluntary tariffs no higher than that level, regardless of their individual financial capacity to make more generous offers. There appears to be some evidence of this in NSW, where a number of retailers adjusted their voluntary feed-in tariff offers to reflect the lower bound of the IPART's 2012-13 benchmark range after it was published."<sup>5</sup>*

Any externally derived value of solar generation has a different perception in the market compared to FiTs available from retailers and is seen as the benchmark by which all other

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<sup>2</sup> Clean Energy Regulator, (November 2015), *Postcode Data for Small Scale Installations*, Accessed from: <http://www.cleanenergyregulator.gov.au/DocumentAssets/Pages/Postcode-data-for-small-scale-installations.aspx>

<sup>3</sup> Renew Economy, (2015) *Queensland's Energex passes 1GW mark for rooftop solar*: Accessed from: <http://reneweconomy.com.au/2015/queenslands-energex-passes-1gw-mark-for-rooftop-solar-98735>

<sup>4</sup> IPART, (March 2012), *Solar feed-in tariffs, Setting a fair and reasonable value for electricity generated by small-scale solar PV units*, in NSW Final report, page 5

<sup>5</sup> QCA, (March 2013), *Estimating a Fair and Reasonable Solar Feed-in Tariff for Queensland*, Final Report, page 47

prices are assessed. Customers will always look to the regulated or benchmark FiT and this hampers efforts by retailers to set competitive FiTs and find the efficient pricing level. A regulator cannot ascribe a value to solar exports as reliably as retailers operating in a competitive market environment can as they:

- are not a participant in the market;
- can only make assumptions about the available data when setting prices; and
- cannot test out prices in the market as a retailer can.

As long as a number of first and second tier retailers are actively marketing and have solar FiTs available, we do not see that there is a need to regulate FiTs (for example, by setting either a mandatory level or within a benchmark range). We acknowledge that the Queensland Productivity Commission (QPC) is bound by its Terms of Reference to establish a methodology and fair price for solar PV exports in Queensland and comment on these aspects later in our submission.

### **Do solar PV exports produce positive environmental and social impacts that are currently not paid for through existing programs and rebates?**

There are certainly environmental benefits associated with solar PV generation where this displaces fossil fuel generation. Quantifying these is very difficult and therefore arbitrary values are often ascribed to environmental costs or benefits as they usually exist for policy reasons. There is also no fair and equitable way to apply environmental benefits through a FiT even if the value could be determined.

For example, environmental and societal benefits arise from people saving energy through changing their behaviour or installing more energy efficient appliances. It would be extremely difficult to value and pass back these benefits to customers. Moreover, it would be inconsistent if environmental or other benefits were applied to solar generation via the FiT, but energy efficient behaviour was not rewarded in the same way and would indicate that this form of environmental benefit was more preferable. It would also imply that distributed residential solar generation is more environmentally beneficial than large scale solar farms.

There can also be costs of displacing fossil fuel generation with renewable generation where the renewable generation is not always available, is more expensive than fossil fuel generation or cannot provide ancillary services.

Therefore, we recommend that the components included in the FiT are kept simple and fair and that any sharing of environmental or other benefits is considered more broadly. A solar feed-in tariff is not an effective and efficient tool to address environmental externalities.

### **What are the objectives of a solar export pricing policy?**

The primary aim of the Queensland solar PV export pricing policy should be to allow customers to obtain a fair price for their solar generation (that is no less than the wholesale value of electricity gained by their retailer) and to avoid imposing costs on other customers.

The Queensland Government's one million rooftops target by 2020 is a related objective but one which does not need to be achieved via the solar PV export pricing policy alone. The Terms of Reference notes that the "*Government is not intending to return to a premium tariff,*

*and any FiT will be at significant discount to the retail cost of electricity.*<sup>6</sup> We commend this approach as past policies have encouraged solar PV installation, but have created significant expense and inequity. In fact, the generosity of previous Queensland schemes would have allowed some customers to have paid back their solar PV installation several times over.

### **What principles should be used to guide solar export pricing policy and any regulation of feed-in tariffs?**

Achieving a simple, fair, efficient and equitable solar FiT is best done via keeping the existing arrangements for new solar PV installations in South East Queensland (SEQ). Many retailers are providing FiTs at or above the wholesale value of solar PV exports. However, one aspect that has not often been commented on in solar FiT reviews is neutrality.

If a higher price is paid for residential solar PV exports than for other forms of generation then there is a greater potential for adverse outcomes. For example, increases in the penetration of battery storage may lead to the emergence of storage aggregators with the ability to bid significant amounts of PV generation into the market. A price signal which values an individual's solar output more highly than the aggregated generation would discourage the entry of these players resulting in increased competition in the wholesale market failing to be realised. Therefore, we believe it's important that neutrality is taken into account in determining a solar FiT methodology.

### **What are the costs and benefits of exported solar electricity?**

We agree with elements of the QCA's 2013 inquiry into Solar Feed in Tariffs which found that:

*"The fair and reasonable value of PV exports should be the direct financial benefit that electricity retailers receive when they on-sell exported energy from their PV customers; and there is no compelling evidence to support a regulated, mandatory minimum feed in tariff for customers in the south east Queensland retail electricity market."*<sup>7</sup>

We consider that an approach based on the true costs and benefits of solar is best and further that the fair and reasonable value of exported PV generation should simply reflect the wholesale cost of electricity. In submissions to previous reviews of solar FiTs in Queensland and other states, respondents have often argued for the FiT value to include a myriad of other cost components. Seeking to pay a return to PV exporters for costs they don't bear and services they don't provide (i.e. network services and retail operating costs) will not produce an efficient FiT value.

Below we outline the main components (apart from the electricity wholesale price) that are often put forward as avoided costs for solar PV exports and provide reasons why they should not be include in the solar FiT pricing methodology.

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<sup>6</sup> Queensland Productivity Commission, Public Inquiry into a Fair Price for Solar Exports, Terms of Reference, page 28 of the Issues Paper

<sup>7</sup> QCA, (March 2013), *Estimating a Fair and Reasonable Solar Feed-in Tariff for Queensland, Final Report*, page vi

### Retail costs

The Terms of Reference suggest, “Wherever possible that the entity receiving the benefit of exported solar energy should be the entity to pay for that benefit.”<sup>8</sup> On this basis, it is reasonable that the additional costs of PV are also considered. While it’s true that retailers receive financial benefit from electricity exported to the grid from PV customers, we incur additional retail operating costs too. Specialist skills, additional training and resources are required when dealing with solar PV customers given the:

- Extra handling time in processing connection orders and quotes
- Extra billing complexity
- Extra time and complexity in answering customer queries

Additional operating costs for PV customers are currently at such a level that some retailers do not offer a voluntary solar feed-in tariff in Queensland. Conversely, a number of retailers specialise in dealing with solar PV customers and actively seek to acquire them.

### Network costs and benefits

EnergyAustralia does not believe that network benefits should be included when determining the fair value of solar to consumers. Although in certain instances, the existence of PV generation can lead to the easing of network constraints, thus eliminating the need for further capital investment, this effect is far from uniform across the network. The value of any such network benefit is highly location specific and consequently cannot be applied across the network as a whole with the creation of cross-subsidies. This locational element is evident because network constraints exist (and consequently can only be addressed) in certain locations. It also manifests in the fact that PV generation is not distributed evenly across the network in either SEQ or regional Queensland.

It is difficult to determine that an overall network benefit actually exists given the role of solar export in the increasing under-utilisation of the distribution network. In Queensland, and across Australia, networks have historically been upgraded on the basis of forecast increases in electricity demand. This increase has not materialised as a result of a number of factors (including the penetration of distributed PV), meaning that the network is being under-utilised and resulting in considerable inefficiencies.

For these reasons network benefits from PV exports are very difficult to determine. They may also be offset by PV related costs, arising from the need for network reinforcement to avoid quality and reliability issues attributable to the saturation of PV exports in localised network areas. We consider that it is appropriate that any impacts should be reviewed by the AER (Australian Energy Regulator) and included in network tariff calculations rather than viewed as a component of the price returned to the PV exporter.

### Losses

Consistent with the nature of network impacts, the contribution of small scale PV on loss factors is highly geographically dependent. For losses to be avoided as a result of PV export, equivalent or larger loads are required to be present in the nearby vicinity. Customers

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<sup>8</sup> Queensland Productivity Commission, Public Inquiry into a Fair Price for Solar Exports, Terms of Reference page 2

contributing to these loads should therefore share in any financial benefit allocated by retailers. This would be impossible to either calculate or administer. If benefits from avoided losses were applied only to PV customers, this would disadvantage the local non-PV customers, an outcome which is discouraged in the TOR.

### NEM Fees and Ancillary Service Charges

The issues paper considers that there may be a case for the inclusion of avoided NEM participant fees to be included in the fair value for solar. It is curious that the QPC is unambiguous in its belief that retailers derive a benefit stating: "*As exported solar PV displaces purchases from the wholesale market, retailers will avoid NEM and ancillary services fees*".<sup>9</sup> EnergyAustralia disputes that such fees are avoided as result of PV exports, and are instead largely fixed costs as per the National Electricity Rules. Retailers in their roles as market purchasers cannot avoid these costs, as they will be reallocated by the Australian Energy Market Operator with the same quantum of fees being applied over lower wholesale volumes.

In fact, there is a case to suggest that due to the intermittent nature of PV generation, the costs of ancillary services may increase due to the need for additional frequency control and voltage support required as both generation and demand profiles become less predictable and more volatile. Notably, in South Australia we are seeing that the increase in intermittent renewable energy is displacing traditional generation and driving up ancillary service costs.

### **How should the price be structured and paid? Should feed-in tariffs account for variations in value due to location and time?**

The calculation of solar FiTs already take into account the time-based value of the electricity exports as the value is largely based on assumed wholesale prices for an upcoming period and a typical profile for the solar PV exports. While a single FiT value (all season, all time period) will not accurately represent the value of solar PV exports for all customers, it is set by a process analogous to that used to set usage prices for residential and small business customers. To have more specific FiT prices for different customers (based on their location and solar generation profile) would be more difficult to calculate and apply to each customer and very costly to support. The best solution is to the reflective pricing of solar exports for all customers is to create a time-varying (time-of-use) FiT, although metering arrangements for the vast majority of customers do not currently allow this.

Calculating an accurate single FiT value in future will be complicated with the introduction of battery storage, as the solar generation profile will differ even more significantly between customers. By that time, we expect that smart metering will be more common and will facilitate retailers offering a time-varying FiT to customers.

### **When should the feed-in tariff be reviewed or regulated?**

Small scale solar installations should receive an income from their solar exports as any other generator would. However, the solar FiT in SEQ should not be regulated (either via a mandatory value or within a benchmark range) as this can lead to adverse outcomes for

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<sup>9</sup> Victorian Competition and Efficiency Commission, (July2012), *Power from the People: Inquiry into distributed generation – Final report*, page 60

consumers. If there is no regulation of the value or nature of the solar PV export price then there is no requirement to review or update the pricing methodology unless a significant market failure arises.

## **Conclusion**

Since July 2014, the price of exported solar energy in South East Queensland for new installations has been determined by retailers in a competitive market environment and this ensures that all customers are paying (or being paid) an amount as close as possible to the value for their contribution. EnergyAustralia sees the net benefit of solar exports payable to solar PV customers being the wholesale value of the electricity fed back to the grid. We also believe that regulating the FiT, setting benchmarks or including other cost elements in the FiT will lead to inequitable outcomes for customers and will limit innovation and impact on business models in related markets.

In the absence of any regulation of the solar FiT in Queensland, we contend that the pricing methodology need not be reviewed unless a clear market failure is determined in future. The existing regulatory settings already allow retailers adapt the price level and structure of the solar FiT in response to the future take up of smart metering, battery storage and other technologies.

If you have any queries on this submission, please contact Melinda Green on (03) 8628 1242 or email [melinda.green@energyaustralia.com.au](mailto:melinda.green@energyaustralia.com.au)

Yours sincerely,

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Industry Regulation Leader