15 April 2016

Mr Kim Wood
Principal Commissioner
Queensland Productivity Commission
PO Box 12112
George St QLD 4003

Lodged online

Dear Mr Wood,

Solar Feed-In Pricing in Queensland – Draft Report

Origin Energy (Origin) welcomes the opportunity to provide a response to the Queensland Productivity Commission's (QPC) Draft Report into Solar Feed-in Pricing in Queensland.

Origin supports all of the QPC's draft recommendations and findings and it is our hope that they are repeated in the final report to the Queensland Government. The QPC's draft recommendations and findings are supported by appropriate data and an extensive analysis of the relevant issues, and are generally consistent with the findings of reviews from Queensland and other National Electricity Market (NEM) jurisdictions in recent years.[1] This indicates that a broad policy consensus on feed-in pricing has emerged from a number of regulators across Australia.

The price of a Solar PV system has greatly reduced over recent years to the point where cost subsidies are no longer required to encourage solar installation on residential premises. The economic motivation for consumers to install panels resides in the avoided cost of purchasing energy from their retailer. From the perspective of retailers, these customers represent a reduction in energy demand; the value of the exported energy is realised by retailers in the form of avoided wholesale energy costs and market fees. It is evident that in the south east Queensland market that feed-in- tariffs generally reflect this value to retailers and the market. Accordingly, there is no argument to justify regulatory intervention to capture a specific value because the market is working efficiently to provide it.

Many consumers and solar groups support a higher feed-in-tariff for a number of reasons but they are yet to demonstrate that the impact of doing so will not be inequitable or inefficient to other consumers, or that it will represent a reasonable cost relative to any benefit.

We address the QPC's draft findings and recommendations in more detail below.

Should you have any questions or wish to discuss this information further, please contact Timothy Wilson, Regulatory Analyst, on (03) 8665 7155.

Yours sincerely

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[1] Independent Pricing and Regulatory Tribunal, *Solar Feed-in-tariffs: Setting a fair and reasonable value for electricity generated by small-scale solar PV units in NSW*, Final Report, March 2012; Victorian Competition and Efficiency Commission, *Power from the people: Inquiry into Distributed Generation,* Final Report, December 2012; Queensland Competition Authority, *Estimating a fair and reasonable solar feed-in-tariff for Queensland*, Final Report, March 2013.

A framework for assessing solar export pricing

Draft finding 3.1: For this inquiry, we have proposed that a price for solar exports will be fair when solar PV owners are receiving an efficient price for the energy they generate — and remaining electricity consumers are not paying more (or less) than they should for solar PV generated energy.

Draft finding 3.2: Solar export pricing arrangements should be assessed against the following principles to determine whether they are fair:

> (a) Efficiency — Are the pricing arrangements consistent with achieving economic efficiency? Efficiency is broadly defined to ensure resources are allocated to their highest valued use (including accounting for environmental externalities), output is produced at minimum cost and new processes, systems and services are introduced in a timely way.
>
> (b) Equity — Do the pricing arrangements avoid cross-subsidies? If a subsidy is proposed, is there a well-developed rationale? If so, how should it be funded?
>
> (c) Policy governance and practice — Where prices are regulated, is the regulatory framework transparent and robust? Is it as simple as possible and appropriately balances efficiency versus simplicity where there is a trade-off? Are policies and regulation technology-neutral?

Origin supports both of the above draft findings; the QPC has established a reasonable framework for assessing whether customers are receiving a fair price for their exported solar energy. In particular, we agree with the QPC defining fairness in terms of efficiency. One of the key aspects of the National Electricity Objective is efficient investment in electricity services, and we agree with the QPC expressing this in draft finding 3.2(a).

The QPC is correct to point out that some contributions to the solar energy debate can be "emotive" and that this is motivated by a feeling that some customers have of being short-changed for their export solar energy.[2] This might be partly explained by premium feed-in-tariffs creating an expectation in some customers that exported solar energy had a very high inherent value. Different stakeholders will have varying perceptions of the characteristics a well-functioning solar export market should display. The principles contained in draft finding 3.2 will, in Origin's view, ensure that the efficiency and equity issues are appropriately dealt with.

Electricity export market: Competition assessment

Draft finding 4.1: In south east Queensland, multiple retailers are competing for solar PV customers, which promotes fair pricing for solar electricity exports. Based on the available information, the competition assessment does not suggest there is a case to mandate feed-in tariffs to address market power.

Draft finding 4.2: In regional areas, Ergon Energy (Retail) possesses significant market power, which provides a basis for some form of continued regulation.

Origin agrees with QPC's assessment of competition in both South East Queensland and Ergon Energy's regional retail patch. In Origin's view, governments do not need a solar export pricing policy where effective competition exists in their retail electricity market for feed-in-tariffs. Price regulation is not as effective at determining efficient and fair prices as an effectively competitive market. There is no compelling reason to set policy parameters for the regulation of the value of solar energy where the market is working to offer customers a range of feed-in-tariffs, as is demonstrably the case in South

[2] Queensland Productivity Commission, *Draft report: Solar feed-in pricing in Queensland*, March 2016, p. 28.

East Queensland.[3] Equally, the Uniform Tariff Policy and structure of the regional market means that competition is not effective and that regulated pricing is required. Accordingly, we agree with draft findings 4.1 and 4.2.

The market for solar customers has evolved over the last two years to include new product offerings and finance models. For instance, Origin offers customers the choice to purchase solar systems upfront or to consider our "Solar as a Service" product where customers can lease a PV system for a defined contract period. The QPC is correct to consider these products as evidence of a competitive market.[4] It is also important to consider how regulation of feed-in-tariffs might restrict product development; regulated pricing introduces risk for retailers because they cannot control the minimum price for exporting solar. Accordingly, the introduction of a regulated mandated minimum feed-in-tariff would only serve to limit product innovation and development at a time where solar energy markets are undergoing significant change with new products and technologies entering the market.

Draft finding 5.1: Investors in solar PV systems receive a subsidy from the Small-scale Renewable Energy Scheme (SRES) to reflect emissions reduction.

Draft finding 5.2: An additional subsidy paid through a feed-in tariff for emissions reduction beyond that achieved through the SRES would be poorly targeted and result in a high cost of abatement, as well as large cross-subsidies between electricity consumers.

Draft finding 5.3: Better and fairer policy options are available to achieve carbon abatement at a lower cost than can be achieved by subsidising electricity exports from small-scale solar PV generation. Efficient national and international policies should be used to address global problems.

Draft recommendation 5.1: The Queensland Government should not increase feed-in tariffs to pay solar investors for reducing carbon emissions. Investors already receive a subsidy from the SRES for emissions reduction.

Origin supports the progressive decarbonisation of the electricity sector in Australia and views the increased deployment of solar and wind technologies as a key part of this transition. We expect rooftop solar PV installations to continue growing strongly and have invested in expanding our solar and emerging technologies businesses. However, the transition to cleaner energy will require sustainable and long-term policy settings at a national and international level that encourages the commercial uptake of renewable generation sources.

In Origin's view, delivering low cost renewable energy generation for Queensland should be supported by a nationally consistent approach. Origin supports the pricing of environmental externalities, such as carbon, through national policies that apply across each state and territory. To ensure that environmental policies are efficient and effective, state jurisdictions must be sensitive to how they interact with Commonwealth energy and climate change policies.

Origin agrees with draft findings 5.1, 5.2 and 5.3 and draft recommendation 5.1. The QPC has demonstrated the extent of the upfront subsidy for solar PV systems through the Small-scale Renewable Energy Scheme.[5] The calculation of this subsidy (through Small-scale Technology Certificates) is directly linked to a prediction of the likely energy generated or displaced by the solar system. The objective of this activity is "to reduce emissions of greenhouse gases in the electricity sector... through the issuing of certificates for the generation of electricity using eligible renewable energy sources".[6] Accordingly, the QPC is correct to find that solar investors are already adequately

[3] Ibid, pp. 46-59.
[4] Ibid, p. 66.
[5] Ibid, pp. 74-75.
[6] Section 3 of the *Renewable Energy (Electricity) Act* 2000 (Commonwealth).

compensated for their contribution to the environment through the Small-scale Renewable Energy Scheme.

Other rationales: Assessment

Draft finding 6.1: We have not identified a case to increase solar feed-in tariffs for other reasons. Specifically:

> (a) Solar PV industry development and employment that are achieved through mandated feed-in tariffs are paid for by other consumers and businesses — subsidising solar exports for these reasons will increase electricity costs for other businesses and households (including vulnerable consumers) and is likely to have an overall negative impact.
>
> (b) There is no case to pay solar PV owners for any impact of solar PV on wholesale prices. Governments do not reward generators for reducing the wholesale price, just as suppliers in other markets are not paid for increasing supply. Paying solar PV owners for any reduction in wholesale market prices would likely result in overall higher electricity prices for Queensland consumers.
>
> (c) Where network benefits exist, they are best harnessed through mechanisms that can efficiently and effectively target these benefits, rather than paying all solar PV owners a uniform feed-in tariff unrelated to network impacts. A number of mechanisms exist and the Australian Energy Market Commission is considering whether any additional mechanisms are required.
>
> (d) We have not identified specific social benefits from solar PV exports that would warrant an increase in the feed-in tariff.

Draft recommendation 6.1: The Queensland Government should not increase feed-in tariffs to induce industry development, wholesale market and network infrastructure effects or other social impacts. The evidence suggests that such a policy would come at a net cost overall, and would not be fair.

Origin supports draft finding 6.1(a). The provision of upfront subsidies and high feed-in-tariffs was an effective way of encouraging consumers to install solar PV systems. However, in Queensland the price of these systems has fallen significantly, and cost subsidies are no longer necessary to provide an incentive to install solar PV. The underlying incentive to install panels is associated with the avoided cost of consumers having to purchase electricity from their retailer rather than the price they receive for exported electricity.

With respect to draft finding 6.1(b), Origin agrees with the QPC's analysis. The notion that solar ought to obtain a benefit from lowering the wholesale price of energy overlooks that the prices are artificially suppressed by subsidies and the fact that the wholesale market is presently oversupplied with generation.

With respect to the impact of solar generation on networks, the costs and benefits arising from distributed generation for the distribution network are likely to be highly location and time specific.[7] In some cases it is likely that solar installations will increase network costs. Solar PV exports do not generally correlate with the same time as peak demand on the distribution network, meaning that maximum system capacity is not reduced as consequence of residential solar installations.[8] The benefit of exported solar electricity to electricity distributors varies depending on where embedded

[7] IPART, *Solar feed-in-tariffs: setting a fair and reasonable value for electricity generated by small scale solar PV units in NSW*, March 2012, p.67.
[8] Ibid, p. 69.

generation is located in a distribution network. The complexity associated with determining locational benefits and costs to distributors at a street or even zone substation level is high.

Origin agrees with draft finding 6.1(c) that the current regulatory framework captures the benefits and cost of embedded generation in allowed regulatory revenues and therefore network tariffs. Origin notes that the demand forecasts used by distribution network service providers (DNSPs) incorporate expected increases in embedded generation, validated by the Australian Energy Regulator (AER), when assessing pricing proposals submitted by DNSPs. The inclusion of small embedded generation (which is largely solar PV) in DNSP's demand forecasts impacts upon the DNSP's augmentation planning and hence the revenue allowance approved by the AER. Accordingly, the avoided cost of constructing network infrastructure is likely to be largely factored into network revenue determinations.

To the extent that the existing framework does not adequately allocate cost and benefits then these issues need to be addressed by proposing a rule change to the National Electricity Rules. At present, a Local Generation Network Credits (LGNC) rule change is being considered by the Australian Energy Market Commission. This would reward embedded generators (largely but not exclusively solar PV) for the long-term economic benefits that embedded generators provide to distribution and transmission networks through a credit that reflects those estimated long-term benefits. Origin does not support the proposed rule change as:

- It would likely result in an increase in electricity costs for customers which would outweigh the benefits that may accrue to participating generators.
- Networks have not indicated that there is a benefit they can quantify from most small scale embedded generators.
- It would duplicate existing incentives and support provided to embedded generation.
- It will involve a high level of complexity and administrative cost relative to the benefit.
- There is limited potential to reduce network augmentation costs given modest network augmentation plans and the limited impact an LGNC would have on most embedded generation investment decisions.

For the above reasons, Origin concurs with draft recommendation 6.1, that solar feed-in-tariffs should not be increased to encourage industry development, reward any wholesale benefits or capture the any network benefits. We also agree with draft finding 6.1(d) that there are no social benefits that have been identified that could be quantified into an efficient feed-in-tariff.

Equity Considerations

Draft finding 7.1: The distributional impact of subsidies to solar PV is to transfer income from non-solar households to solar households, and to raise the cost of living for those on the lowest incomes:

(a) Subsidies to solar exports result in a large and growing transfer of income from non-solar households to solar households. The larger the subsidy per kilowatt hour exported, the larger the aggregate transfer in incomes.

(b) In considering the distributional consequences of a subsidy policy, if the focus is on the least well-off, then the policy is regressive. On equity grounds, such a policy is demonstrably unfair.

Origin agrees with draft finding 7.1. The QPC makes a convincing case that additional subsidies for solar households are likely to be met by households with lower incomes.[9] Subsidies may lower the

[9] QPC, Draft report, pp. 118-124.

cost of these systems but, as the QPC points out, low income households are less likely to own their residence and are more likely to live in an apartment. In both cases, residents are limited in their ability to access a solar system. Indeed, people in apartments or leasing households are generally excluded from accessing solar PV regardless of their income. The QPC is correct to characterise these costs as regressive given that increased energy costs are likely to represent a higher proportion of a low income household's disposable income. The cost of previous policies, namely the Solar Bonus Scheme, demonstrates how these costs can escalate where the cross-subsidy is generous.

Barriers to a market for solar exports

Draft finding 8.1: There is no evidence of widespread or major barriers to solar PV investment and solar export pricing. That said, some factors can affect the competitiveness of the market:

(a) Trading of solar exports is generally tied to the purchase of retail electricity.

(b) Metering, settlement and tariff structures can limit efficient solar export pricing based on the time of export.

(c) Information problems may inhibit consumer decision-making.

(d) Policy design issues can distort efficient investment and impede the uptake of solar PV in regional Queensland. The Queensland Productivity Commission is seeking evidence from stakeholders on the impacts of these impediments, or any other barriers to a well-functioning solar export market.

Draft finding 8.2: There is no evidence that Ergon Energy and Energex are using their market power to systematically prevent embedded generation from connecting to the network. Nevertheless, there is a case for the connection of larger embedded generators to occur in a more transparent and reasonable timeframe.

For retailers, there are no obvious barriers to price the value of solar exports to the grid. Origin believes that the way an individual retailer determines the value of such energy and the price at which it offers (the feed-in tariff) should be determined in the competitive market in South East Queensland (noting separate issues apply in the Ergon distribution network and the need for ongoing regulation until effective competition develops).

As the QPC is aware, feed-in-tariffs are regulated in Ergon Energy's distribution network in regional Queensland. There is presently limited retailer presence in this region due to the Uniform Tariff Policy. These underlying policy issues will need to be addressed if there is to be a competitive retailer market for all energy services in regional Queensland. In the absence of these reforms taking place, and effective competition developing, Origin accepts the need for a regulated feed-in-tariff in regional Queensland.

The largest barrier to creating effective competition in the regional Queensland solar market is the Government's Uniform Tariff Policy (UTP), which restricts competition in the broader retail electricity market. Without taking steps to create competition in the regional Queensland electricity market, then a well-functioning solar export market probably won't develop. As the Australian Energy Market Commission noted in its *2015 Retail Competition Review*, "There is no effective rivalry in the electricity retail market, with less than one per cent of small regional customers in Queensland being supplied with electricity on a market contract by a retailer other than Ergon Energy Retail". [2] Origin agrees with the AEMC's assessment that it is the manner in which the Uniform Tariff Policy is presently implemented that makes it difficult for new retailers to enter the market, and thereby inhibits the development of further competition.[10] The Queensland Competition Authority's review on *Industry*

[10] AEMC, 2015 Retail Competition Review, 30 June 2015, pp. 78-9.

Assistance in Queensland has examined how the UTP might be improved.[11] Origin supports the QCA's findings with respect to the UTP.

Regulatory options for solar feed-in pricing

Draft finding 9.1: In south east Queensland, if evidence demonstrated that competition was not effective in delivering a fair price for solar exports, then a number of options could be considered. For the Draft Report, we have outlined options from voluntary benchmark pricing through to a mandated minimum feed-in tariff. We are seeking stakeholder comments on the options prior to the Final Report.

Draft recommendation 9.1: The Queensland Government should retain mandatory solar export pricing in regional Queensland.

Draft recommendation 9.2: The Queensland Government should implement price approval regulation for solar exports from small customers in regional Queensland. Under the price approval process, regional retailers would be required to:

(a) purchase solar exports from small customers;

(b) submit their offers to the QCA for approval on an annual basis. The QCA must approve the offers unless they are materially inconsistent with efficient pricing principles. If the regulator does not approve the offers, it can request retailers submit revised offers for approval.

Draft recommendation 9.3: The Queensland Government should review the price approval regime if:

(a) the QCA identifies a sustained market power problem which continues despite the price approval regime in place;

(b) the QCA identifies that market power is no longer a significant problem; or

(c) market conditions change materially (for example, through competition or technological change).

In Origin's view, it makes sense for the Government to review the solar PV market as part of any market monitoring that may take place under a deregulated retail market. This will allow the Government to examine a range of factors that are appropriate for both the retail electricity market and the feed-in-tariff market. Origin considers that these arrangements sufficiently empower the Government to make an informed judgment regarding the effectiveness of competition in the feed-in-tariff market. The most suitable agency to undertake a review should operate at arm's length to provide independent advice to Government. We consider that the QCA or QPC are best placed to undertake this role.

IPART presently publishes an annual benchmark range for the benefit of consumers in the deregulated NSW market. This range represents the bottom and lower end of the value of solar PV at different times of the day. The upper-end specifically represents the value of PV during a two hour block when it is at its highest rate and the lower end of the range represents the value of energy at all times of the day excluding the value of the upper end (i.e. the two hour peak).[12]

[11] QCA, *Industry Assistance in Queensland,* Final Report: Volume 1July 2015, pp.226-7.
[12] IPART, *Solar Feed-in-Tariffs Final Report: The subsidy free value of electricity from small-scale solar PV units in 2015-16*, October 2015, p. 22.

Origin agrees with the QPC[13] that there is effective competition in the south east Queensland feed-in-tariff market. In the event that competition is found to be ineffective in the South Eastern market, the QPC may wish to consider recommending that this exercise be undertaken as part of the market monitoring that will occur under price deregulation. We note that the QCA has, in the past, cautioned against publishing pricing benchmarks because they may act as indications to the market about what is an acceptable price. However, this consideration ought to be balanced against other alternatives, such as re-regulation of the market. In Origin's view, an initial stage of price monitoring is a better way to assess whether the market is competitive than regulating tariffs in the first instance; price regulation tends to suppress competition and therefore may in fact harm the re-establishment of competition in the market place. Accordingly, Origin is of the view that publishing a benchmark range could be a sensible compromise position that informs consumers of what a fair price range is and placing pressure on retailers to meet this expectation.

Origin agrees with draft recommendations 9.1, 9.2 and 9.3. The QCA's approach to price regulation of small customer's solar exports in regional Queensland has proven to work and we see no reason for drastically altering it.

[13] See Draft Finding 4.1 above.