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Clean Energy Council

Clean Energy Council submission to Queensland Competition Authority Regulated Retail Electricity Prices for 2014-15 Interim Consultation Paper

Executive Summary

The Clean Energy Council (CEC) supports fair and efficient electricity pricing. A fair and efficient framework for electricity tariffs (including feed-in tariffs) will deliver benefits to consumers and the economy and will drive innovation and industry development. We support the Queensland Government's objective that, wherever possible, customers should have the opportunity to benefit from competition and efficiency in the marketplace.

We support the objective of strengthening time-of-use signals in electricity tariffs, including the underlying network tariffs. A cost-reflective approach to electricity tariffs should be matched by a benefit-reflective approach to feed-in tariffs for distributed generation and storage.

Electricity pricing is crucial to influencing demand on the network. Cost-reflective tariffs for consumption matched with benefit-reflective feed-in tariffs for distributed generation and storage will spread the electricity load more evenly and this will improve network utilisation, manage growth in peak demand, and avoid spending millions of dollars on asset augmentation that customers would ultimately have paid for through their bills. Over time and on average, all consumers will benefit from moves to charge cost-reflective tariffs for consumption and pay benefit-reflective tariff for distributed generation and storage.

Key steps to enable Queensland to realise the economic benefits of cost-reflective tariffs and benefit-reflective feed-in tariffs are:

- Recognise the potential economic benefits of distributed generation and storage;
- There must be no unfair discrimination against solar customers;
- Provide incentives for 'early adopters' to move to time-of-use pricing in advance of mandated requirements;
- Regulate for competition in critical peak periods;
- Provide access to information for early adopters on the implications of time-of-use pricing tariffs for their particular circumstances; and
- Reduce or remove barriers to competition by distributed generation and storage.

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1. Recognise the benefits of distributed generation and storage

Distributed generation, distributed storage, improved energy management capability and improved metering can together make a very significant contribution to reducing electricity costs by:

- Reducing average wholesale electricity prices;
- Reducing wholesale electricity prices at critical peak periods;
- Reducing transmission losses;
- Enabling deferment or avoidance of investment in network augmentation; and
- Contributing to network management and grid stability.

Distributed generation and storage can deliver significant economic benefits through the avoided costs of distribution network capacity augmentation. Embedded generation can be a substitute for capacity augmentation that would otherwise be required to meet an increase in demand in a given locality from additional production by central generators (ACIL Tasman, 2012).

The benefits of distributed generation will vary between distribution networks and localities within them, and over time, depending on whether capacity is constrained in that locality (Energy Networks Association, 2011). VCEC (2012) observed,

> No reliable estimates of this value currently exist – at least in the public domain. The size of the network value is difficult to determine because it will be both time and location specific, but in constrained areas of the network it is likely to be large.

A report released by the Victorian Government in 2013 (Langham et al, 2011) indicated that distributed generation,

> "**was found to save consumers $437 million per annum relative to BAU**, more than half of which was due to reduced expenditure on electricity delivery (networks)"

The potential benefits of distributed generation are currently being realised to only a limited extent. Aligning electricity prices and feed-in tariffs with the costs and benefits that customers generate will enable greater economic benefits from distributed generation. This will ultimately reduce costs for all customers and across the entire economy.

Efficient pricing will provide an incentive for investment where it will be most economically beneficial. The Queensland Government has identified as a priority the provision of pricing signals to facilitate demand response at periods of peak demand.

CEC would encourage the Queensland Competition Authority (QCA) to recognise the benefits of distributed generation and storage and support the extension of its cost-reflective electricity pricing framework to include benefit-reflective feed-in tariffs for distributed generation and storage.

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2. No unfair discrimination against solar customers

The Council of Australian Governments (COAG) agreed in 2008 that all new feed-in tariff schemes would conform to a set of national principles and these principles would also be used in reviewing existing schemes. COAG agreed:

> The terms and conditions for small renewable generators should be incorporated into the overall regulation of the minimum terms and conditions for retail contracts so that charges for purchasing electricity and other terms and conditions are no less favourable than those for customers without small renewables.

Any mandated charge or change of tariff that applies only to solar PV customers would be discriminatory and contrary to clause 6.18.4(b)(4) of the National Electricity Rules.

3. Incentives for 'early adopters' of time-of-use pricing

CEC would oppose any move to compulsorily move solar customers to a time-of-use pricing tariff ahead of similar moves for all residential electricity customers. However, we would support moves to provide incentives for distributed generators (including solar customers) to shift voluntarily to a time-of-use tariff ahead of its broader application. To minimise consumer resistance and maximise the uptake of the time-of-use tariff, QCA and the Queensland Government should:

- Reassure solar customers in Queensland that they will not be singled out for a mandatory tariff changes
- Provide financial incentives for distributed generation and storage through a regulated, benefit-reflective feed-in tariff
- Regulate feed-in tariffs to allow competition on a 'level playing field' for supply of power at critical peak periods
- Resource the development of an on-line tool to assist householders in making the decision to move voluntarily to a time-of-use tariff

The Council of Australian Governments (COAG) agreed in 2008 that all new feed-in tariff schemes would conform to a set of national principles and these principles would also be used in reviewing existing schemes. COAG agreed:

> Residential and small business renewable energy generators should have the right to export energy to the electricity grid and market participants ***should be required to pay*** for that exported power at a price at least equal to the value of that energy in the relevant electricity market and the relevant electricity network it feeds into, ***taking into account the time of day*** during which energy is exported.

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We commend to QCA the policy objectives for a minimum feed-in tariff, as originally proposed by the Victorian Competition and Efficiency Commission (VCEC, 2012) and recently reiterated by Victoria's Essential Services Commission (ESC, 2013) that,

> "The minimum FiT should ensure that distributed generators receive a fair price that reflects the value of the electricity they export to the grid and provide an efficient price signal to investors in small-scale distributed generators that will help achieve efficient use of distributed generation in a competitive electricity market."

To maximise the economic benefits of distributed generation and storage, feed-in tariffs must be:

- Technology-neutral;
- Available to mid-scale systems;
- Time-varying;
- Location-specific; and
- Mandated by regulation

Feed-in tariffs should be technology neutral

Feed-in tariffs should be technology neutral to ensure that so that all electricity fed into the grid from small-scale distributed generation is treated in the same manner, regardless of the technology utilised. At present virtually all small scale distributed generation is from solar photovoltaic (PV) systems. However, new technologies (such as residential storage) are already on the market and are being adopted by a growing number of households and businesses. These technologies should not be excluded from eligibility for a FiT payment. Home energy management systems with storage will not only enable households to shift demand away from peak times; they will also enable households to export additional power at times when the system most needs it. There will only be an incentive to do so if feed-in tariff structures provide the financial incentive.

Queensland's legislation and regulations do not make provision for payment of feed-in tariffs for electricity fed into the grid from residential storage systems, some of which may be part of a solar PV system and some of which may not.

Feed-in tariffs should be available to mid-scale systems

In the days of incentive-based, 44 cent feed-in tariffs it was reasonable to place an upper limit on the capacity of eligible systems. However, now that feed-in tariffs are below the retail electricity price (and close to the average wholesale price) there is no economic rationale for capping eligibility at several kW. In Victoria, for example, the 8 cent per kWh feed-in tariff is available to systems with a capacity up to 100 kW.

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Feed-in tariffs should be time-varying

Feed-in tariffs should be time-varying, incorporating a peak, off-peak and critical peak payment, to reflect market wholesale prices at the time of electricity production. All things being equal, a time-varying FiT would better encourage small embedded generators to increase their export at peak times when compared with a fixed rate FiT.

Several policy development forums and bodies, such as the Council of Australian Governments (COAG) and the Productivity Commission, have recommended greater attention be paid to FiTs that are higher during periods when electricity value is highest. The purpose of price structures of this kind would be to improve incentives to maximise distributed generation exports when its system-wide value is highest.

The Productivity Commission (2013) noted that, "existing time-invariant tariffs do not encourage householders to orient units to the west to maximise generation in periods of peak demand late in the summer afternoon". To facilitate the achievement of these objectives the Productivity Commission recommended that, "State and territory governments should change the feed-in tariffs for any uncontracted small-scale distributed generators exporting power into the grid, so that their tariffs reflect the market wholesale prices at the time of energy production, and the (net) value to network businesses from reducing loads on their equipment at critical peak periods".

In its recent review of demand-side participation in the National Electricity Market (NEM) the Australian Energy Markets Commission (AEMC, 2012) recommended that, "consideration be given to the ability of time varying tariffs to encourage owners of distributed generation assets to maximise export of power during peak demand periods".

The VCEC (2012) expressed a similar view, noting that "adopting time-of-use pricing is desirable, because it provides a stronger economic signal to distributed generators of the value of production when overall electricity demand is high".

Feed-in tariffs should be location-specific

Distributed generation can reduce the costs of distribution network capacity augmentation and in constrained areas of the network the financial savings are likely to be large. Victoria's Essential Services Commission (ESC) has recently (ESC, 2013) recommended a location-specific component of a feed-in tariff that recognises the network value of embedded generation and provides an incentive to encourage take-up in those parts of the system subject to the greatest constraint.

CEC would support a location-specific component for feed-in tariffs. However, we are not aware of publicly available data sets that would enable the distribution network value of embedded generation to be calculated in a manner that is robust and transparent. There would be significant benefits from improved transparency in relation to information such as network congestion. It would, for example, enable regulators to set tariffs and fees so that there are incentives for efficient investment in distributed

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generation in those parts of the system subject to the greatest constraint. It would enable the distributed generation industry to focus its efforts on areas where system-wide benefits would be greatest.

Feed-in tariffs should be location-specific to encourage take-up in those parts of the system subject to the greatest constraint. CEC would encourage QCA to consider the extent to which publicly available information on distribution network constraints enables efficient investment and regulation and how this might be improved.

4. Regulate for competition in critical peak periods

The purpose of the regulation of FiTs is to ensure that all customers that are small embedded renewable generators have access to an efficient and fair price for exported electricity (DTF, 2012). That is, prices that reflect the economic value of those electricity exports, without cross subsidies between those electricity customers that generate electricity and those that do not (VCEC, 2012).

Distributed generators should be able to compete on fair terms for supply of electricity during critical peak periods when the system is under strain and the power is most needed. To maximise the benefits of distributed generation this would require a high FiT payment (commensurate with the prevailing wholesale electricity price) to be available during critical peak periods. By opening up competition to power supply during critical peak periods, the financial savings in poles and wires investment will be maximised.

Feed-in tariffs need to be regulated to ensure that investment in distributed generation is directed efficiently to maximise system-wide benefits and to ensure that customers have access to an efficient and fair price for exported electricity. Feed-in tariffs will not be efficient (eg. incorporating time-varying and location-specific payments) if setting feed-in tariffs is left to electricity retailers.

Australia's electricity industry is highly vertically integrated. All major electricity retailers own generation assets. Vertically integrated generator / retailers (also known as 'gentailers') gain a significant financial benefit at times of critical peak pricing. It has been estimated that between 20 and 50 per cent of electricity generators' annual revenue is typically earned during critical peak periods. It would not be in the financial interest of a gentailer to enable distributed generators to compete to supply electricity at critical peak periods. There is a crucial role for regulators in opening up the critical peak electricity supply market to competition by distributed generators.

New South Wales (NSW) is the only Australian state to have deregulated feed in tariff payments to customers. The NSW experiment has failed. Consumers have suffered. Solar consumers have suffered from a lack of consumer protection. Most NSW electricity retailers offer no feed-in tariff whatsoever. Other consumers have suffered because investment could have been directed more efficiently, in a way likely to reduce electricity prices. No electricity retailer in NSW offers a peak and off-peak feed-in tariff or any other form of time-varying feed-in tariff.

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5. Provide access to information for early adopters

Some customers would be financially better off by switching to time-of-use pricing. A great many more customers would be better off by switching to time-of-use pricing and changing their energy consumption patterns. However, customers do not have access to this information and so are very unlikely to voluntarily change electricity tariffs.

There are commercially available software packages that enable electricity customers to determine whether and how much better off they would be by changing their electricity tariff. Information such as this should be easily and freely available to consumers. Provision of this information clearly constitutes a public good and would therefore be very suited to funding by government, at least in its initial stages. CEC would encourage the QCA to support the development of a freely and easily available software tool for consumers and distributed generators, allowing them to assess the financial impact of switching to a time-of-use tariff and the changes needed to their energy generation and consumption patterns to minimise electricity bills.

6. Remove barriers to competition by distributed generation and storage

There are a number of regulatory and government barriers to competition by distributed generation and storage on Queensland networks. It is imperative that these barriers are removed.

The key barrier is the absence of a feed-in tariff at critical peak periods, which would enable distributed generators and storage to compete with gentailers on fair terms.

The Interim Consultation paper notes that street lighting is cross-subsidised because regulated street lighting charges only recover the cost of supplying electricity and not the costs of constructing and maintaining the assets. CEC supports the moves by the Queensland Government to move to a more cost-reflective and competitive basis for provision of street lighting services. If customers are required to make a capital contribution, they should have the option of avoiding the payment by converting to solar instead. The option of stand-alone, solar with storage street lighting should always be considered in any future extension of the street lighting network.

Volume charges have the benefit of providing a price signal to encourage energy efficiency. Time-varying volume changes have the benefit of encouraging a demand side response when it is most needed. Fixed charges discourage innovation and reduce competition in the long run. Demand or capacity charges are preferable to fixed charges. A demand or capacity charge may go some way to addressing cross subsidies between customers with and without air conditioning.

Fixed charges are regressive. There is no action a customer can take that would reduce their fixed charge. Customers can, however, take steps to reduce their demand or capacity charges in ways that are economically beneficial and reduce electricity costs for

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all. If they are introduced, demand-denominated charges should replace the fixed charge. This would likely assist with public acceptance of the proposal.

Customers will soon have the option of using home storage to remove themselves from the grid altogether. However, there is more economic benefit to be gained from retaining distributed generation on the grid. To ensure that the potential economic benefits of distributed generation and storage are realised feed-in tariffs must be fair and efficient, encouraging demand-side management and distributed generation at the times and in the places where it is of most benefit.

Recommendations for the QCA

1. Recognise the benefits of distributed generation and storage and that aligning incentives with costs and benefits will encourage efficient investment.

2. Reassure solar customers in Queensland that they will not be singled out for a mandatory tariff changes. Don't force solar customers to change to a time-of-use tariff - encourage them and persuade them to do so.

3. Regulate to ensure that gentailers are unable to use their market power to restrict competition from distributed generation and storage.

4. Provide incentives for solar customers to shift to a time-of-use tariff structure by guaranteeing that the deal runs both ways and they will be paid a benefit-reflective feed-in tariff, especially at critical peak periods when wholesale electricity prices can increase to more than a hundred times their normal value.

5. Develop on-line consumer education tools to assist consumers with making the decision to shift to a time-of-use tariff.

6. Do not increase the fixed charge component of electricity tariffs. The fixed charge component of electricity tariffs should be replaced with capacity or demand charges.

7. Open the street lighting market to fair competition from stand-alone systems with solar and storage.

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