Clean Energy Council submission to the Ergon Energy Corp Ltd
Network Tariff Strategy Review Consultation Paper

Executive Summary

The Clean Energy Council (CEC) supports fair and efficient pricing for electricity. We agree that electricity pricing is crucial to influencing demand on the network. We support Ergon Energy’s stated aim to, “spread the electricity load more evenly to improve network utilisation, manage growth in peak demand, and avoid spending millions of dollars on asset augmentation; which would ultimately have been paid for by... customers through their bills” (Ergon Energy, 2013a). Ultimately, all consumers will benefit from moves to “align tariffs with the high cost of supplying electricity to meet peak demand, while rewarding customers who shift consumption to times of low usage”. Economic benefits will be even greater if distributed generators see financial incentives to increase supply at critical peak periods.

While CEC broadly supports the approach to network tariff structures outlined in the Network Tariff Strategy Review, we have some reservations regarding the proposed approach and those reservations are outlined in this submission.

CEC supports a fair and efficient approach to electricity pricing and for us this means:

- There must be no unfair discrimination against solar customers.
- Feed-in tariffs should be based on the consideration of system-wide benefits of distributed generation and not merely the financial benefits to an electricity retailer.
- Where tariffs are charged on a ‘cost-reflective’ basis, feed-in tariffs should be paid on a ‘benefit-reflective’ basis.
- Feed-in tariffs should be regulated to allow competition on a ‘level playing field’ for supply of power at critical peak periods.

This submission elaborates upon these principles and their application to Ergon Energy’s Network Tariff Strategy Review.
Benefits of a fair and efficient tariff framework

A fair and efficient framework for electricity tariffs can address affordability issues, deliver benefits to consumers and broader economic benefits and enable industry innovation and development.

Distributed generation, distributed storage, improved energy management capability and improved metering can together make a very significant contribution to reducing electricity costs. Efficient pricing will provide an incentive for investment where it will be most economically beneficial. Ergon Energy has identified as a priority the provision of pricing signals to facilitate demand response at periods of high-use or peak demand. However, Ergon Energy has not gone far enough. CEC urges Ergon Energy to extend its consideration of the pricing framework to include feed-in tariffs at critical peak periods.

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.

CEC is pleased to note that Ergon Energy is not proposing a discriminatory charge on solar PV customers only. This would be unfair and contrary to clause 6.18.4(a)(3) of the National Electricity Rules, which require that:

“customers with micro-generation facilities should be treated no less favourably than customers without such facilities but with a similar load profile”

System-wide benefits of distributed generation

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.

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.

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).

Modelling undertaken for Sustainability Victoria (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)"

Moreover, 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”.

The network value of embedded generation refers to the avoided costs of distribution network capacity augmentation caused by small-scale distributed renewable generation. 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).

‘Benefit-reflective’ feed-in tariffs

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.

CEC agrees with Ergon Energy’s statement that “a well-structured time-of-use tariff will enable the adoption of smarter technologies, such as energy efficient appliances,
demand management and energy storage” (Ergon Energy, 2013b). This principle applies equally to a well-structured time-of-use feed-in tariff. Without a well-structured feed-in tariff, Ergon Energy will likely have to spend more on core infrastructure (eg. more ‘poles and wires’ and transformers) and that means higher costs.

We commend to Ergon Energy 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.

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 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 welcome the opportunity to collaborate with Ergon Energy in considering the extent to which publicly available information on distribution network constraints enables efficient investment and regulation and how this might be improved.

Regulation 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.
Response to issues specifically raised in the consultation paper

What affordability issues do you have in relation to network tariffs?

Fixed charges are potentially the most regressive because they do not allow for cost minimisation through behaviour change.

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.

What impact, if any, should retail price distortions and uncertainty about retail treatment of network tariffs, have on decisions to develop and implement more cost reflective network tariffs?

When a distributor charges on a more cost-reflective basis it is likely that retailers will, over time, charge their customers on a more cost-reflective basis. In other words, the tariff changes are likely to be ‘passed through’.

A retailer will be under competitive pressure to pass through costs. There is no financial incentive for retailers to pay a fair and efficient price for the benefits of distributed generation. This is because of the highly vertically integrated structure of the National Electricity Market. The role of the regulator will be crucial in enabling fair competition by distributed generation and storage for supply of power at critical peak periods.

What are your views on what tariff structures would be consistent with maximising customer value from the use of the network in an environment where viable alternative supply options are available to customers?

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:

- Tariffs (including feed-in tariffs) should be fair and efficient, encouraging demand-side management and distributed generation at the times and in the places where it is of most benefit.
- To maximise the economic benefits of distributed generation, feed-in tariffs must be:
  - Technology-neutral;
What are your views in relation to the option of introducing demand-denominated charges within network tariffs for small customers (<100 MWh per annum)?

Network tariffs for small customers are currently comprised of a Fixed Charge ($/day) and a Volume Charge ($/kWh).

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.

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. 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 all.

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

What are your views about consumers’ scope to respond to peak price signals (energy or demand) and what factors in structure design will make these tariffs attractive or not?

In order to respond to peak price signals consumers will need the capacity to alter consumption patterns, technology to assist and a financial incentive to do so.

Some consumers may be unable to shift consumption patterns due to health considerations, for example. Flexibility and financial assistance will be required in situations of hardship.

Smart meters, home energy control systems, solar PV, electric vehicles and home storage will all converge into a smart system of distributed micro generation and storage – if it is allowed to. The right financial incentives are needed to direct investment to where it will be most efficient. To optimise these decisions, customers need electricity tariff structures that are transparent, cost-reflective and benefit-reflective.
What issues / benefits are seen with network tariffs that vary depending on the time energy is used?

Significant economic benefit will result from the introduction of network tariffs that vary depending on the time energy is used.

Significant economic benefit will also result from the introduction of feed-in tariffs that vary depending on the time energy is fed into the distribution grid.

What are your views in regard to the initial positions Ergon Energy is contemplating for key network tariff inputs discussed in the detailed Consultation Paper (section 4)?

CEC broadly supports the move toward more cost-reflective electricity tariffs, provided it is matched with a move toward more benefit-reflective feed-in tariffs. A crucial component of benefit-reflective feed-in tariffs is government regulation to enable distributed generators and storage to compete on fair terms for power supply at critical peak periods.

What are your views about the themes summarised earlier in this Overview? Are they appropriate for incorporation into future tariff structures?

The themes are appropriate, but not sufficient. Inadequate consideration has been given to a fair and efficient feed-in tariff framework that will maximise the economic benefits of emerging technologies incorporating micro-generation, home storage, home control systems, electric vehicles and advanced metering.
Conclusions and recommendations for feed-in tariffs

1. Fair and efficient feed-in tariffs should be based on system-wide benefits and not merely the financial benefits to an electricity retailer.

   Without a fair and efficient feed-in tariff Ergon Energy will likely have to spend more on core infrastructure and that means higher costs.

2. Feed-in tariffs should be technology-neutral

   Feed-in tariffs should be available to households and businesses who have invested in energy storage systems, regardless of whether or not the system incorporates micro-generation such as solar PV.

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

   There is no economic rationale for capping eligibility at several kW.

4. Feed-in tariffs should be time-varying

   Distributed generators should not be prevented for competing for supply of electricity during critical peak periods. The feed-in tariff during critical peak periods should be commensurate with the prevailing wholesale electricity, which can exceed $12 per kWh.

5. Ideally, feed-in tariffs would be location-specific

   Currently there is insufficient publicly available information on distribution network congestion to enable location-specific tariffs to be set in a manner that is efficient, transparent and accountable.

6. Feed-in tariffs must be mandated by regulation.

   It would not be in the financial interest of a gentailer to open up the critical peak electricity supply market to competition from distributed generators. This is a crucial role for regulators.
References


Council of Australian Governments (2008), *National Principles for Feed-in Tariff Schemes*


Energy Networks Association (2011), *Impacts and Benefits of Embedded Generation in Australian Electricity Distribution Networks*


Ergon Energy (2013b), *Stakeholder Consultation: Overview of Network Tariff Strategy Review*


