Energy Queensland
Network tariffs issues paper
TEC submission
May 2018

Total Environment Centre's National Electricity Market advocacy

Established in 1972 by pioneers of the Australian environmental movement, Total Environment Centre (TEC) is a veteran of more than 100 successful campaigns. For nearly 40 years, we have been working to protect this country's natural and urban environments: flagging the issues, driving debate, supporting community activism and pushing for better environmental policy and practice.

TEC has been involved in National Electricity Market (NEM) advocacy for the last 15 years, arguing above all for greater utilisation of demand side participation — energy conservation and efficiency, demand response/management and decentralised generation — to meet Australia's electricity needs. By reforming the NEM we are working to contribute to climate change mitigation and improve other environmental outcomes of Australia's energy sector, while also constraining retail prices and improving the economic efficiency of the NEM — all in the long term interest of consumers, pursuant to the National Electricity Objective (NEO).

Introduction

TEC is funded by Energy Consumers Australia (ECA) to represent solar and other environmental consumers, amongst other places in the current NEM-wide tariff structure statement (TSS) processes for the next regulatory round.

We are a strong supporter of the move to cost reflective network tariffs (CRNT), primarily because they result in the more efficient utilisation of existing resources. This is in spite of the fact that charging consumers more for peak demand is likely to financially disadvantage many existing solar owners unless they load-shift or install a battery.

Our approach is detailed in the attached Pricing Directions paper from one of the AER's Consumer Challenge Panels with input from TEC and other consumer advocates. For a more detailed explanation of our position, please see these recent op eds:

> https://reneweconomy.com.au/the-long-and-winding-road-to-tariff-reform-61815/
> https://reneweconomy.com.au/why-solar-households-should-learn-to-love-demand-tariffs-74238/
> https://reneweconomy.com.au/solve-problem-like-fixed-charges-28902/

Notably, in our view there is no necessary disconnect between tariff design that maximises cost reflectivity on the one hand, and good consumer outcomes on the other. However, we are sceptical of tariff reform that simplistically uses demand charges to reflect a network's long run marginal cost (LRMC) while seeking to recover sunk costs through fixed charges and reducing or even phasing out volumetric charges. For good consumer as well as energy conservation outcomes, it is necessary to maintain volumetric charges and not substantially increasing fixed charges.

With limited resources and time, we have chosen to focus firstly on answering several of the most pertinent questions in the issues paper, and secondly on the design parameters of EQ's most cost reflective tariff, T15. Our focus is on residential rather than business customers.

In general, while we support the steps EQ is taking towards more CRNT, and especially its attention to consumer education and impacts, we would encourage it to consider demand and capacity tariffs which avoid the complexities and lack of transparency inherent in retrospectively charged maximum monthly demand (MMD) type tariffs.

4.2 Primary Generic Network Tariff Structure Options

This is a useful typology of tariff types, but does not explicitly identify three of the most innovative CRNT - peak time rebates (PTR), true capacity tariffs and solar sponges:

Peak time rebates are a variation of demand tariffs, being akin to critical peak price (CPP) tariffs except that instead of customers being penalised for exceeding their typical or a nominated peak consumption figure during critical peak events, they are rewarded (typically around $10 per hour) for reducing demand during these events (typically 2-4 hours up to 10 times pa). The rebates are paid for by slightly higher fixed and/or variable charges at other (non-critical peak) times. A PTR is currently being implemented by Powershop in its Curb Your Power (AEMO/ARENA) demand response program.

True* *capacity tariffs* are similar to some telco plans in that customers nominate their peak demand for the month and pay extra if they exceed this capacity. They might be considered a type of demand tariff, but may or may not be combined with a time of use (TOU) element, so that they only apply to capacity used during the afternoon/evening peak. This tariff type is currently being piloted by Horizon via its MyPower trial, which combines a TOU tariff with a capacity/demand plan and peak time rebates in summer.

Solar sponges are a variation on controlled load tariffs. Instead of electric hot water systems and pool pumps operating overnight when total system demand is low, they are set to turn on and off in the middle of the day on sunny days where there are large or even excess (ie, more generation than load) solar exports on local feeders. SAPN is considering such a tariff for its 2020-25 TSS.

5.2 Learning from trials of existing demand tariffs

The issues paper does not present any quantitative data regarding the Ergon's 2016-17 STOUD tariff trial, so it is difficult to reach definite conclusions regarding its effectiveness. It is good to see that some customers "had made unprompted changes to their behaviour in terms of when and how they used appliances". However, the references to feedback requesting "clearer explanations of the different aspects of the tariff such as demand and the associated charges" and simple, jargon-free language hint at the bigger problems with maximum monthly demand (MMD) tariffs:

- They are inherently complex.
- They must be carefully designed to encourage behavioural change.
- Their retrospective application mean that they do not work well for the majority of residential consumers, who prefer predictable, "set and forget" style tariffs.
- They can therefore easily result in bill shock.

The other big problem with MMD tariffs is that, as APVI research has concluded, there is generally a poor correlation between an individual customer's peak load and the network-wide critical peaks that primarily drive infrastructure augmentation.

For both of these reasons - ease of understanding/response and cost reflectivity - CPP and PTR tariffs are generally superior for both consumers and networks. We prefer PTR as consumers generally respond better to incentives ratter than penalties.

Most Australian networks have to date preferred to bolt demand components onto exisiting flat or TOU tariffs, resulting in increased complexity and reduced consumer transparency, rather than regarding them as akin to demand response/management tools. However, this is changing with the AEMO/ARENA DR trial and the rollout of smart meters, so we hope that EQ will consider these options for its 2019-2024 TSS.

Regarding the fact that "few participants indicated major changes in their use of air- conditioning", for climatic reasons we would not expect major changes. The previous paragraph highlights a variety of potential minor behavioural changes that could reduce peak demand. Obviously

networks need to do more to inform consumers about how much they can save by adopting such measures. Beyond this, given the success of Energex's PeakSmart energy efficient aircon program, we would expect that something similar could be implemented more broadly. Direct load control-enabled aircons allow system-wide peak demand to be reduced without adversely affecting household thermal comfort. This reinforces the need to combine tariff reform with a comprehensive demand management program.

Tariff 15

Given that EQ has indicated that it is considering a new tariff for the 2019-2024 TSS based on the QCA-approved Tariff 15 and "combining a fixed demand component and a volume component", this tariff is worth considering in more detail.

In principle TEC considers T15 to be more cost reflective than existing tariffs. Unusually, the effective fixed charge ($24.27/month) appears to represent a decrease relative to the current fixed charge ($1.25/day), suggesting that some sunk costs will be recovered via the demand and volumetric components, although we seek clarification on this point.

However:

- Our earlier criticisms of MMD tariffs apply, except that T15 is even more complex by introducing a capacity component. The number of conditions QCA identifies for this tariff to benefit consumers is indicative of its complexity.
- Equally concerning is a lack of transparency, since consumers won't know until they get their next bill whether they have exceeded their monthly band limit. Unless Ergon and other retailers are supportive and help potential customers to understand how this tariff works, we would not expect a significant uptake.
- The higher bills for low income households mean that T15 effectively discourages energy conservation, and is therefore counterproductive in the context of the national objective of gradually decarbonising of the energy system in line with Australia's Paris climate agreement commitments.
- The intended application of T15 to weekend consumption is unusual and should be justified by references to daily summer system peaks.
- Finally, the charging window (4-9pm) is too wide to make for easy load-shifting.

Further work

For its draft TSS we would hope that EQ would also include the following:

- Evidence of EQ's regional and/or system-wide zone substation peak demand days and times (to gauge correlation with the T15 tariff parameters).
- An LRMC estimate, based on at least a 10 year horizon, and factoring in projected repex as well as augex costs.
- An explanation of how EQ intends to recover residual costs, and especially whether it intends to do so in future by increasing fixed charges.
- The 5-10 year tariff reform path for EQ including opt-in/opt-out/mandated customer transfers and intended eventual outcomes.
- Whether EQ intends to introduce location- as well as time-specific tariffs.
- Quantitive data on the projected bill impacts of demand tariffs for the following household cohorts:
  - Low versus high total consumption
  - Peaky versus flat load profile.

- Solar versus non-solar.

- Whether EQ intends to at least trial export tariffs for batteries to encourage their uptake and reduce peak consumption from the grid.
- Whether EQ intends to at least trial a solar sponge to reduce daytime bidirectional flows (and carbon emissions).

Solar households

Finally, we would draw EQ's attention to the potentially adverse financial impact of demand tariffs on solar households, the demographics of which include a substantial proportion of retirees and other low to middle income families. With the largest rooftop PV penetration of any jurisdiction in Australia, managing the transition to CRNT will be challenging for solar households, who may perceive demand tariffs to be another attempt to rip them off.

This is especially the case in relation to those networks which are advocating for the right to charge for PV exported to the grid. The issue of the costs and benefits of solar for networks is a complex one, and is being canvassed in some detail by the AEMC. But networks which already place impediments such as PV/inverter and battery capacity or export limits without adequate explanation, or which seek to recover from all consumers the putative engineering costs of high bidirectional flows without adequate consideration of the network benefits of high PV flows risk alienating large numbers of consumers, potentially hastening the death spiral and hindering the transition of the network business model from one based on cost recovery for capex investments to the energy trading platforms of the future.

Solar households can be net beneficiaries from CRNT, especially with behavioural changes or when they have also installed batteries. Bringing this large consumer cohort along for the ride towards more CRNT will require a careful and sophisticated tariff design as well as marketing approach from EQ.

Yours sincerely,

Jeff Angel

Executive Director

* So called because demand tariffs are also sometimes referred to as capacity tariffs.