The long and winding road to tariff reform

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By Mark Byrne February 6, 2018

It's that time again in the regulatory cycle when the 11 distribution networks in the National Electricity Market (NEM) get down and dirty with consumer advocates and the regulator before the structure of their tariffs is set for the next five years.

The process starts in NSW, the ACT and Tasmania, moves on to Queensland and South Australia before finishing in Victoria (assuming no state goes rogue and secedes from the NEM).

Why should you care about Tariff Structure Statements (TSSs)?

- Because network costs make up between a quarter and half of your bills – although that proportion is slowly decreasing as networks reduce their gold-plating efforts and wholesale prices make up a bigger slice of the pie.
- Because how tariffs are structured can play a big part in driving (or delaying) the decarbonisation of the energy system.
- And because tariff structures can also help or hinder the equitable distribution of the costs and benefits of the clean energy revolution.

In coming weeks *RenewEconomy* will publish three articles by the Total Environment Centre on network tariff reform. This first one is an overview. The next one will argue that solar owners should learn to love demand tariffs (which may increase their total bills). The third one will be on what to do about fixed charges and sunk costs.

Background

This is the second round of TSSs following changes to the National Electricity Rules in 2014 which required networks to gradually move away from flat (or nearly flat) tariffs to ones which send a price signal to consumers about the cost of future investment.

Because more than a quarter of all investment in poles, wires and substations is to service critical peak demand that occurs for as little as 40 hours per year, the argument went, consumers should pay more for energy used during these critical peaks.

They can either choose to pay through the nose to run their appliances as normal during hot summer afternoons and cold winter evenings, or they can shift their demand and keep their bills down. Thus was born the idea of cost reflective network tariffs, which networks were expected to implement over the long term, bearing in mind the impacts on consumers of sudden, radical changes.

Elegant plans like this crash against the brick wall of retailer tariffs, however. Your retailer may pass through the underlying network tariff, or it may hide it to ostensibly make things simple for consumers. (One of the worst examples is Origin's all-you-can-eat-style Predictable Plan, which offers identical bills every month for a year, irrespective of how much energy you actually use from day to day.)

Networks have no control over retail tariffs, which frustrates the hell out of them; but that's the way the market works, for now at least. In theory at least, consumers can shop around for retail tariffs that suit their consumption patterns and ability to shift loads.

The journey

Traditionally, network tariffs have combined a fixed daily charge with a volumetric charge for the amount of energy consumed every half hour. Some energy charges increased with the volume consumed per billing period; others actually decreased, incentivising greater consumption (good riddance, Networks NSW!).

Over the last decade, time of use tariffs have become more common, but they have not been popular with consumers. Who wants to think about whether they are in the peak, shoulder or offpeak period every time they use an appliance, especially if these 'charging windows' change between days of the week and seasons of the year?

Now we are seeing the gradual introduction – starting with business customers – of demand tariffs, which (for those customers with a smart or interval meter) add a charge per kilowatt for the peak usage during the peak time of use period during a single half hour or hour over the past month or year. This is supposed to send the price signal referred to earlier to dampen or flatten peak demand.

It ain't necessarily so

So most networks are on a gradual, decade-long path from flat, through time of use to demand tariffs. But there are two big problems with this gradualist model of tariff reform.

One is that – as some excellent modelling by UNSW and the APVI has shown – demand tariffs based on a consumer's maximum daily demand show a poor correlation with coincident network peak demand. In other words, it's pretty hit-or-miss whether your or my monthly peak happens to coincide with the eight or ten network peaks per year that drive the need for new infrastructure spending. If this is the case, then a tariff reform process that ends in 'maximum monthly demand' (MMD) tariffs will be inadequate and incomplete.

The other problem is that networks going down this path will (unless retailers completely ignore the underlying network tariff, which will become increasingly difficult) involve consumers in a tortuous process of change as they move from flat through time of use to MMD tariffs of often bewildering complexity and poor visibility (Who knows what their peak was last month until they get their next bill?).

For its next TSS one network is even proposing a new residential tariff that uses total consumption during the five hour peak period as a proxy for peak demand. Say what? God help the poor consumer.

A better model

Fortunately, there are simpler, faster and more elegant solutions available.

One is a true capacity tariff* like Horizon Power's MyPower trial in Port Hedland and Broome, which works like a mobile phone plan. You choose a plan based on your likely maximum demand. Stay under it during the summer peak and you get a rebate of up to $300.

Go over it consistently and they move you up to the next plan. This helps the network plan the grid capacity it needs, while giving consumers an incentive to keep their peak demand in check. And no bill shock.

The only problem with it is the one identified above by the UNSW/APVI team: my or your peak may not match the network's. But there is another tariff type that seems to tick *all* the boxes. It correlates well with actual network peaks, so can help to dampen peak demand. It is easy to understand and respond to. And it puts more money in consumers' pockets.

It is the Peak Time Rebate (PTR). It is the 'carrot' equivalent of the 'stick' of Critical Peak Pricing (CPP), which penalises consumers for not reducing their demand during those 8-10 critical peaks. Instead, consumers are given advance warning – usually via a text message – of an impending critical peak.

If they respond by reducing demand they are given a rebate – say $10 per kW per hour or two – on their next bill. No participation, no rebate, but no penalty either. The other beauty of them is that they can be combined with simple underlying structures such as flat tariffs.

Downsides? They require advanced metering – near-universal in Victoria, patchy in some other networks, but on the increase everywhere since the metering rule change that came into effect last December. And obviously the rebates have to be paid for, either by slightly higher anytime energy charges throughout the year, or (ideally) by lower capital expenditure requirements in network regulatory proposals.

PTR tariffs are not rocket surgery. Powershop has one ('Curb Your Power') for some Victorian households and businesses as part of its AEMO/ARENA demand response funding for this summer.

Apparently it's working a treat. But all other current network demand tariffs are the clunky MMD type, and as far as I'm aware only SA Power Networks is so far looking seriously at going down the rebate road for their next TSS. The other networks appear to be content to

make consumers suffer another decade of minimal reform or outright tariff torture before seeing the light.

Why? Bottom line, no matter whether networks are in private or government hands, they are run for a profit, and in the short term tariff reform won't increase network revenue. TSSs are about how to slice up the five yearly revenue pie already approved by the regulator. In fact, a network genuinely interested in tariff reform could see a reduction in its capital and replacement expenditure, and thus in its total revenue.**

But looking ahead, networks will need to increase their 'load factors' (their efficiency) by incentivising solar, battery and EV owners to stay connected, while minimising the equity impacts on legacy consumption-only households – mostly those on low incomes. Sooner or later they will need to become much more nimble and smart when it comes to reforming tariffs – not only to reduce infrastructure spending but also to go with the new energy flow.

* Confusingly, networks sometimes refer to their demand tariffs as capacity tariffs, even though the former price actual demand rather than a customer's purchase of a maximum amount of capacity in the network.

** Again in theory at least, there are regulatory incentives for networks to operate more efficiently.

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