



3/11/2021

Submissions
Electricity Authority
PO Box 10041
Wellington 6143

By email to distribution.pricing@ea.govt.nz

Unison and Centralines submission on refreshed Distribution Pricing Practice Note

We welcome the opportunity to submit on the proposed Distribution Pricing Practice Note. Overall, we think it is a very useful step forward in the Authority more clearly articulating its views on the path for network pricing reform. Regrettably we have not had the time we would ideally like to have prepared a more fulsome response, but have sought to address key issues we have been able to identify with the proposed refreshed Practice Note.

Unison and Centralines fundamentally agree that:

1. network pricing is important to the efficient use of electricity, and
2. reform is pressing in light of new technologies that will have significant impacts on the use of networks, including solar, solar+batteries and electric vehicles.

It is essential that network prices (as reflected through by retailers) ensure that customers face cost-reflective signals of the costs and benefits of use of the network at different times, particularly as consumers consider large scale investments such as solar PV, batteries and higher-capacity EV chargers.

The LFC Regulations will continue to have a pervasive impact on pricing efficiency

Although we think it has been useful for the Authority to express its views on “what good looks like”, our general feedback is that the guidance is not especially relevant in light of the lengthy LFC transition, which will heavily distort residential pricing for 5-10 years. The prescriptions for “what good looks like” in different network circumstances appears to be based on an unconstrained pricing environment, but the reality is that the effects of the LFC will be with us for a lengthy period and will have impacts on pricing efficiency as EDBs are forced to continue to variabilise substantial proportions of their revenue requirements, with detrimental impacts on pricing efficiency. In our view, the guidance should better address what good looks like during the period of the LFC transition so that EDBs and the Authority have a mutual understanding of least distortionary pricing approaches during this period. For example, there

seems little point in specifying that on an unconstrained network the “best” pricing approach is a purely fixed charge, when this is unachievable for residential customers for perhaps ten years.

As a starting point, we see LFC reform as critical in the development of cost-reflective residential prices. Under current settings, we estimate that residential users on low user plans pay variable retail electricity charges of 27-41 c/kWh depending on location, compared to average underlying wholesale electricity prices of ~8-12 c/kWh. Accordingly, there are significant undue incentives to avoid using grid electricity (e.g., under-heating homes) or seeking alternatives (installing gas heating) which may not be cheaper than the avoided electricity generation costs. Lifting fixed charges is a critical tool in ensuring that marginal price signals can be set at efficient price levels. Although some aspects of pricing reform can still progress during the LFC transition, the reality is that a significant proportion of the efficiency benefits of pricing reform will not materially accrue until after 2027. While we understand the Authority’s point that EDBs should not “wait” for the LFC transition to complete before implementing cost-reflective pricing reforms, the reality is the move towards more fixed charge for most networks is the strongest element of moving towards more cost reflective pricing as most networks are not widely constrained or expected to be for a number of years.

We also note that based on MBIE’s QSDEP data for May 2021, if lines charges for the average network were most efficiently recovered via a fixed charge, residential fixed network charges would be ~\$2.18 per day, whereas even by 2027, the network component of the LFC option will still only be \$0.9 per day (only 41% of the efficient level and a range of ~22-68% across the EDBs). Clearly, nothing can be done to accelerate the path of LFC reform (and higher CPI inflation may make the transition path even slower in real terms), but it is important to recognise that there will be severe limits to the efficiency of residential tariffs until well after 2027 (noting that EDBs would still likely take a cautious approach to further increases in fixed daily charges where their networks are uncongested and there is a need to carefully transition to even higher network charges).

We point this out for the sake of establishing that there will be a high degree of inefficiency in residential network prices for a lengthy period, which will impact on the optimum approach to setting variable charges in the interim. The practice note needs to recognise this because the approach to setting prices in such a constrained environment is very different to setting prices when fixed charges can be set at more optimal levels.

Reality is more nuanced than the Authority portrays

The Authority’s proposed guidance is that on an uncongested network, charges should be purely fixed. As noted above, on average this would mean fixed network charges of >\$2 per day and in some parts of the country potentially more than \$5 per day for network services. In the latter scenario, for a customer using 3,000 kWh per annum this could mean an effective unit price of around 70c/kWh bringing into real prospect that such consumers would seek to disconnect from the network and use alternatives (off-grid solution). We have severe doubts that a pure fixed charge on an uncongested network would be optimally efficient and there may be need in future to segment small users in order to retain connection to the network. Accordingly, the Authority’s proposed guidance that on an uncongested network, charges should be 100% fixed is not particularly useful guidance even in a post-LFC world. Our key point is that the guidance is unduly black and white and ignores practical realities, such as the fact that

consumers in each consumer class are not homogenous. To our knowledge, we have not seen anywhere in the world where residential network charges are purely fixed, so there must be some doubt that this can ever be an optimal approach.

Examples the Authority gives illustrate the role of price discrimination to recover fixed costs, rather than the marginal costs of additional capacity

At paragraph 9 of the proposed guidelines the Authority states:

9. A price signal is intuitively understood as the most visible input to the question ‘am I willing to consume now at this given price?’. Common price signals that people often deal with are hotel prices and airline tickets. With low supply and high demand we expect a higher relative price, and vice versa. A price signal creates a situation where choice can (usually) be exercised - do I consume now, do I change my consumption pattern, or do I find an alternative? It incentivises (rather than instructs) consumers, retailers, and flexibility traders to determine their willingness to be active in shifting demand.

10. A well-designed price signal provides a cost-reflective measure of the impact that an additional marginal unit of energy has on the network. Across a system or network the various price signals work to balance supply and demand. There is a continuum of people exercising their choices of how they value their marginal energy: as price rises, fewer people will keep consuming. These decisions are invisible to the distributor and often intuitively made by the consumer, or on their behalf, according to a multitude of individual preferences. As technology evolves demand shifting may become more invisible to the end consumer. Why someone values the energy they use is not necessary for a distributor to understand in order to provide efficient price signals.

11. Price signalling must match the state of the network and will therefore range from sending no signal, to a signal that incentivises a particular action. Its core aim is to signal physical loading on the network relative to capacity. When there is no (actual or anticipated) congestion the price signal should not be influencing how consumers use the network. A peak signal could create a distortion that is inefficient and harms customers (eg, if it incentivises people to turn down, or off, heating) if there’s actually no congestion.

Hotels, airlines, movie theatres (high fixed cost businesses) etc routinely use price discrimination as a way of efficiently recovering the fixed costs of providing their service. Prices are not necessarily linked to the marginal costs of additional capacity, but take into account different elements of the demand curve to recover the overall costs of the business. Increasingly the same kinds of varying demand elasticity issues will confront network businesses, so prices need not relate to the costs of providing another unit of network capacity, but may relate to the energy alternatives that consumers may be considering, especially during the lengthy LFC transition. For example, even on an un-congested network it may be most efficient to have a TOU price structure, which aims to recover less during off-peak day-time periods and more in peak times because of relative differences in demand elasticities at peak versus off-peak times. For example, demand may be increasingly elastic during day-time periods as consumers can invest in solar to avoid making a contribution to network costs during day-time periods. But on the other hand, during the LFC transition, too strong a peak-time signal might overly encourage investment in

batteries in order to avoid making a contribution to the fixed costs of the network. Setting the difference between peak and off-peak rates would not simply be a reflection of an estimate of the marginal costs of additional peak capacity, but an optimisation challenge reflecting the price points of alternatives.

As demand is likely to be least elastic during peak periods, especially for working people where there is less discretion to shift demands, it may be least distortionary to have a higher peak time charge than day-time charge. Accordingly, we disagree with the Authority that TOU pricing should only apply to congested networks (especially during the LFC transition). TOU pricing is likely to be a very important tool in efficiently recovering costs during the LFC transition due to the presence of energy alternatives and therefore different demand-elasticities during the course of a day or seasons.

Accordingly, especially during the LFC transition, we fundamentally disagree with the statement in paragraph 11 and the examples given in para 26: TOU pricing is likely to be a very good pricing tool even on uncongested networks when EDBs are forced to variabilise much of their fixed costs. In our view, the Authority's guidance needs a substantial re-think to take into account that EDBs (especially those with uncongested networks) face a difficult optimisation challenge as a result of being compelled to variabilise a significant proportion of fixed costs to their residential consumers, who face increasing choices to substitute alternative forms of energy.

It is unclear what under-pins the Authority's proposition that EDBs should start the price development process with setting marginal price signals

The updated price-setting guidance sets out an approach to developing prices that entails EDBs first identifying the relevant price signals which should apply to each customer group, then determining the revenues from the application of those price signals before finally determining the least distorting means of recovering the balance of revenues to be recovered from each customer group.

It is not clear to us that this makes any practical difference compared with the traditional approach, where costs are allocated in the first instance to customer groups and then prices are developed within those groups. As long as marginal prices are developed to convey the relevant price signal, the order is unlikely to matter, especially in light of the fact that EDBs are unlikely to have information that would assist in identifying the least distortionary allocation of costs to customer groups, so more mechanistic allocations are likely to be required to allocate residual costs.

We would like to understand the Authority's analysis of the practical impact its proposed approach would make on price structures and levels, as from our assessment, either approach may lead to more or less the same outcome.

Pass-through of price signals

Unison's position is that we would not expect to see retailers pass-through our network price signals 1:1 in retail prices. We expect that retailers, seeking to meet end-consumers' needs would develop packages that customers find attractive. For example, we would be quite happy if retailers took our TOU package and shaped it to provide an EV-specific price plan which encouraged overnight charging. So while we are relatively agnostic as to how retailers pass-through any particular price structure, we have

been careful to engage with retailers on pricing approaches that they would find so unpalatable that they would not consider passing through to their customers. During 2018, through the ENA we engaged with retailers on potential capacity and demand-based network pricing options for residential consumers, uncovering that:

1. Such options would be very unattractive to end-consumers and therefore not be passed through (we confirmed their unattractiveness with direct consumer research);
2. Retailers would need to invest substantially in systems to enable such billing approaches;
3. There would be significant transaction costs associated with managing such arrangements;
4. Higher fixed charges would do the “job” intended by capacity or demand charges, at considerably less cost, so it was worth waiting for LFC reform; and
5. Because network pricing could not be passed-through to end-consumers this would create additional risk to retailers, which would cause retail prices to include a further element of risk management, to the detriment of consumers.

Accordingly, although we do not consider pass-through essential, the views of retailers and consumers are vital in developing effective network prices. For example, we will be very interested to see retailers’ feedback on the Authority’s suggestions that networks could move to feeder-based pricing where prices may vary according to the different degrees of constraint on particular feeders. While, it is certainly proving viable for Aurora to develop a pricing approach to the entire upper Clutha (which is similar to the size of Centralines’ customer-base), it is an entirely different proposition for the industry to manage the transaction costs associated with developing feeder-based network charges. Understanding whether retailers would reflect such variances in their retail plans would be essential in evaluating the merits of such approaches. The constant criticism of electricity pricing is that it is too complicated, and price comparisons difficult to make: feeder-based pricing would seem to add to complexity.

Our overall message is that understanding the retailer and consumer view of the world is critical to developing network pricing approaches that will create a reasonable basis for retailers to develop retail price plans that achieve the under-lying intent of the network price signal in a way that manages transaction costs and minimises pricing risk. We note that although Orion and TLC have/had much sharper pricing signals than all other networks, but at the retail level these have not manifested, and in the case of TLC resulted in retailers balking at being retailers in its region and ultimately a customer-response that rejected its complexity and impacts even though it had strong efficiency promoting properties. We welcome the Authority’s new view that retailer pass-through is a relevant consideration in developing the path of price reform.

Expectations on the timing of reform

While this submission has expressed reservations that a number of aspects of the Authority’s proposed guidance is of limited practical merit during the LFC transition, and in some cases incorrect, Unison and Centralines wish to record that substantive steps are being taken to reform prices. In the forthcoming year Unison is moving to progress mandatory TOU prices for residential consumers on the basis that we consider it is most efficient during the LFC transition to shape variable prices to give consumers a modest signal that in the long-term it is desirable to shift discretionary demands from peak to off-peak periods, and to dilute the day-time variable price signal. Centralines’ plan is to follow in the next year to ensure that any key lessons from Unison can be incorporated in its transition. A more important focus for

Centralines is to continue to refine its commercial pricing approach to ensure that prices to irrigators (a key source of demand) are cost-reflective and can be efficiently applied.

Neither network has significant or imminent capacity constraints. However, both have identified that it will be important to have effective price structures in place in the medium term to encourage off-peak EV charging as a minimum, but ideally grow a flexibility resource similar to hot-water load control. Exactly what the optimal pricing models to achieve this is currently uncertain, but we continue to monitor different trials and business models developing. We have been encouraged in the interim that retailers have been developing EV plans off the back of our TOU and night-rate prices.

Closing comment

We appreciate the opportunity to comment on the proposed guidelines and through this process gain a much better understanding of the Authority's thinking and expectations. We would welcome the opportunity for further direct engagement with Authority Staff on pricing reform, as we think the development of the refreshed guidelines has highlighted that there remains a gap between EDBs and the Authority on the practical issues that affect the development of prices.

Kind regards,

A handwritten signature in black ink, appearing to read 'Nathan Strong'.

Nathan Strong
General Manager Commercial