Submission, Molly Melhuish to Transmission pricing review, 2019 Issues Paper [1] 1 October 2019
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Long Term Benefit of Consumers

Your submissions questions section requests: "Please explain your answers in terms consistent with the Authority's statutory objective in section 15 of the Electricity Industry Act 2010. " I note that the Authority has interpreted the purpose statement in the Act's section 15, and consider that Parliament must revisit that in view of the obviously increasing competition of locally sourced energy and energy efficiency with bulk electricity supply.

Consumers derive long-term benefit from a truly competitive market in which these local energy options compete on a level playing field. And the overall economy benefits due to the increased resilience, as well as of reduced costs, of these local energy options.

Wealth transfers from consumer to electricity suppliers constrain consumers' investments which usually produce substantial spinoff benefits – including warm healthy houses which in turn benefit the productivity of the economy as a whole.

Chapter 2:

You say "Investment in distributed generation can be an efficient way to meet energy needs and reduce future transmission costs if it addresses reliability or congestion problems." I agree.

You consider that consumer investments should not be made to avoid transmission charges. Section .2.3.8 addresses residential solar and batteries. But I insist that residential consumers are not investing to reduce TX charges. Those consumers are responsible for the highest peaks. All the arguments in this chapter are irrelevant to them as transmission pricing does not directly pass through. What matters is transmission pricing's impact on retail prices, via distribution prices and whatever retailers do to bundle them. I therefore disagree with this chapter's rationale for removing peak pricing.

I support retaining the current TPM. It works well enough to be retained until an overdue re-evaluation is conducted of the ability of local energy (by which I mean mainly energy efficiency, solar, batteries, and heat from wood) to affordably reduce carbon emissions. This analysis must start from first principles and be done independently of the electricity industry and its narrowly conceived scenarios.

Chapter 3.

The TPM proposal introduces wholesale market prices into transmission pricing – via nodal pricing. These spot prices are indeed strongly influenced by any transmission constraints – but they often demonstrate the exercise of market power by gentailers.

I therefore trust peak pricing far more than I would trust nodal pricing.

Prices won't be "delivering an efficient economic signal to inform future grid investment decisions" until the market power of vertically integrated generators is constrained via strong consumer-oriented

[1] https://www.ea.govt.nz/dmsdocument/25466-consultation-paper-transmission-pricing-methodology2019-issues-paper-full-document

market monitoring. Today spot prices are all over the place – and high spot prices were responsible for high gentailer profitability in recent quarters.

Chapter 4:

You say, "In summary, the estimated quantified net benefit of the proposal is $2.7 billion, within a range of between $0.2 billion and 6.4 billion, compared with the status quo." The very wide range of results would not give confidence in the cost-benefit analysis, even if I had agreed with the methodology.

Furthermore, the status quo (also called the baseline) is defined to allow for the growth in demand, investments and costs that are expected by the industry. In scenarios by MBIE and especially by Transpower, predictions of growth have proved far ahead of the actual.

I disagree with the hoped-for return to growth in bulk electricity supply on which this TPM proposal is predicated. I think it likely that distributed energy supply and energy efficiency, even with today's hostile pricing policies, will increase sharply. These are in fact highly competitive with bulk electricity, the main constraint being access by residential consumers to the necessary capital.

The proposed "fixed-like charges" of the proposed TPM would constrain residential consumer budgets even further, while providing increased revenue certainty to bulk electricity suppliers. They would be anti-competitive in reality even though not in law.

Chapters 5, 6 and 7 cover details of the TPM which I will not address, moving instead to the Appendices

Appendix B Reasons for policy positions in the proposed guidelines

This begins with "This appendix sets out the policy intent behind the proposed guidelines to inform stakeholders as to our reasons for preparing the proposed guidelines in their current form." But only the details are presented for discussion, not the policy intent behind the "fixed-like charging". I consider the real intent is to suppress consumer investment in technologies that reduce demand, especially peak demands (which are the most profitable to bulk electricity suppliers).

Appendix C: Material change in circumstances

This discussion begins: "the current TPM was not designed for the boom in recent – and projected – investment in the transmission network that we have seen since 2008. . . . the inefficient behaviours and outcomes caused by the current TPM will be amplified by the scale of the recent and projected growth of the asset base, and thus the revenues to be recovered. With rapid growth projected in investment and thus costs to be recovered …" [my emphasis]

That is, this TPM is designed to support the growth "envisioned" in Transpower's Te Mauri Hiko.

I consider that if local energy and small-consumer investment could overcome the many barriers now in place, we would see low- or zero-carbon energy dominate over further investment in bulk electricity assets.

However, distribution assets will indeed need investment, not mainly to "grow", but to become smarter, to enable small consumers to participate in the market to minimise costs of their demand.

This section continues: “b) The increasing range of technologies available to electricity consumers are fundamentally changing the way people engage with electricity markets. … The current TPM pre-dates this period of innovation. Future scenarios include either:

- localised electricity networks predominating, reducing reliance on the transmission grid, or conversely
- increased demand for transmission services as transport and process heat electrifies.

I read the whole TPM proposal as a choice of scenarios, where the bulk electricity ones are preferred to local energy development.

I now address (d) “The regulatory environment has changed significantly.” … the guidelines produced by the Electricity Commission don’t address the Authority’s statutory objective. I strongly agree that the 2010 Act has changed the regulatory environment, but the change has in fact promoted investment in bulk electricity at the expense of end-consumer investment in energy options. This is because the present Act confirms that monopoly profits can be maximised [see Interpretation of the Statutory Authority sections A5-A7] to enable investment by the existing bulk electricity suppliers. The present proposal is for increased “fixed-like” charges which will enable per-unit charges to residential consumers to be reduced. This will reduce paybacks for consumer investment in technologies to reduce their electricity demand. The most important of these are energy efficiency, but increasingly solar is also reducing consumer demand. Importantly, household peak demand is reduced by energy efficiency – but the peak periods produce the most electricity profits.

Addressing (e): “In order for New Zealand to reach its [carbon zero] targets, consumers of all sizes, from households and small businesses to industrial consumers, will need to turn to grid electricity and other options for low emissions energy.” Well, they will respond in many ways, using more grid electricity – for example to replace natural gas – is indeed one. But the idea of using electricity for large-scale industrial heat is almost always technologically inefficient – as commented in a number of submissions to the Productivity Commission’s Low Carbon consultation. As for other options, using wood and other biomass for heat is a far more efficient solution, for industry and even appropriate households. New technology clean wood burning makes this appropriate almost everywhere. In a carbon-constrained world, New Zealand simply can’t afford to promote technically inefficient electricity consumption, while discounting New Zealand’s most carbon-efficient, and easily stored, local energy resource.

Appendix D, Decision-making and economic framework

I made submissions on the original consultation on the decision-making and economic framework, favouring “exacerbators pay” over “beneficiaries pay”. Users of peak load electricity are exacerbators. My reasoning was that when consumers can adapt their demand to reduce costs of supply, pricing should prefer that over a flatter charge to beneficiaries of electricity supply investments. So I supported their order of preference of pricing methodologies. I also supported the preference of dynamic efficiency over and above allocative efficiency.

The issue in today’s environment, in which zero-carbon must be aggressively pursued, is which investments should pricing methodologies promote?

I argue for end-consumer investments to be facilitated where possible, because as climate impacts increase there will be an enormous need for efficient capital expenditure, throughout the economy. Spending on bulk electricity assets which can be subject to storms, floods, or fires should take second place to local energy assets which add resilience in the face of such threats. Of course it must also be noted that EECA now recognises [technical report on “Energy Efficiency First], that costs of energy efficiency are typically half the costs of bulk energy supply.

Access to capital is of course the key barrier. Fixed daily residential charges shrink the capital available to non-wealthy consumers to improve efficiency in their homes while improving comfort and health. That pricing leads to lower unit charges, which make their end-use investments pay back over a longer time. Householders can often invest at rates of 3 ½ %, added to their mortgage, or retrofit instead of buying a term deposit at less than 2%. In contrast, the cost of capital to bulk electricity suppliers is typically 7 to 8 %. In my book, this means that end-consumer investment is an efficient use of capital.

Appendix E Assessment of alternatives

"A peak charge" - In this section I am considering residential consumers, who are responsible for the highest peaks. All the arguments below are irrelevant to them as transmission pricing does not directly pass through. What matters is the pricing methodology's impact on retail prices, through distribution prices, to retail prices.

The document notes that a very large number of submitters on the second issues paper (including mine) thought that the present peak charge should be retained, or possibly a different form of peak charging. Of the many reasons given, I here emphasise

- it reduces peak demand (eg, by spreading load, reducing demand), deferring transmission investment
- nodal prices are not likely to provide adequate price signals, possibly because differences in nodal prices are small compared to the wholesale electricity prices or because consumers do not see nodal price signals
- removing it would disincentivise load management and investment in load management, including in particular domestic controllable load .

Transpower's report on peak pricing is summarised in this appendix. Its literature survey makes it clear that consumer responses to peak pricing are more pronounced in the long than the short term – suggesting they are investing to reduce peaks. If today's peak signa is removed, distributors might reduce 3 to 7%, or up to 20%, of load control. This would bring forward new transmission investment by 2 to 6 years. This proposal argues that such investment would not be inefficient, unless it gets stranded befor the end of its physical life. I argue that such stranding is likely, as the prospect of doubling our electricity capacity is" extremely unlikely to eventuate.

This paper argues that "Transpower's report are incomplete, as they do not take into account the likely response of both demand and supply to higher nodal prices". Indeed it argues that any peak pricing should only be short-term, instead nodal pricing (also called locational marginal pricing) would have all the benefits of peak pricing without its problems. This would require an aggregator to convey the nodal prices, and constraints, to consumers, especially residential consumers.

I think I speak for most residential consumers that relying on yet another party between their own electricity decision-making and the power companies they pay – is at present undesirable. Much better for prices to simply reflect costs. Nodal prices – that is, wholesale electricity spot prices – are far too subject to market power, as illustrated by the whole month of October 2018, when the NZ average spot price was 30c/kWh, more than three times the typical average price of previous years.

I agree therefore with your comment at E79: "The second concern is that high nodal prices will cause the public to lose confidence in the sector and are therefore not a sustainable approach to signalling costs of use. "

In summary, my response to Transpower's report on Peak Pricing is that I agree with what it says. Any fancier pricing methodology should await the revision of energy regulation that could reasonably be expected to arise from Government's new focus on reducing greenhouse emissions.