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Dear Rob

Pass-through of distribution price signals

Advisory Groups don't generally make submissions to Authority consultations but we discussed *Consultation paper: a refreshed Distribution Pricing Practice* at this week's IPAG, in particularly the discussion at paragraph 57 about the pass-through of distribution price signals. IPAG's recent review of the Transpower Demand Response programme Response programme has made some strong recommendations about the right and wrong ways for natural monopolies to use contracts and prices in the mass market which is directly relevant to this point. Members have asked me to share this work with you to inform your consultation. I've tried to link it to your work by stepping through how:

- Signalling congestion on distribution networks is essential to the Authority's Statutory Objective
- Monopoly cost allocations are not really "prices" at all
- Prices need to be observed by someone who has the capability and expertise to respond to them
- Small consumers will generally not be the best able to respond to volatile electricity prices
- Intermediaries such as retailers and flexibility traders can deploy new technologies to manage the scarcity signalled by volatile prices and
- Competition and efficiency require that natural monopolies contract with and send prices to industry intermediaries rather than small consumers.

Signalling congestion on distribution networks is essential to the Authority's Statutory Objective

At the highest level, IPAG has been supportive of the Authority's distribution pricing reform programme. The group's April 2019 advice on Equal Access included a specific recommendation that the Authority

ensure the distribution pricing principles or equivalent provide appropriate guidance for providers and procurers of DER.

This is because DER increasingly provides an efficient means for individual consumers to build on the common quality and monopoly cost of conveyance by line to meet their electricity needs at a price and level of service that they chose – consistent with the three pillars of competition, reliability and efficiency in the Statutory Objective.

IPAG's Equal Access advice recommended that

the Authority to reinforce the message that cost-reflective prices are an important step in the transformation to an efficient transactive network with widespread uptake and use of DER (that is, they are not an optional, nice-to-have feature of a well-functioning market).

Monopoly cost allocations are not really “prices” at all

Strictly a “price” is the amount a buyer is prepared to pay for a good or service in a market transaction. Distribution “prices” are not set through this sort of commercial exchange – they are the allocation of a monopoly revenue requirement for a service with economies of scale which mean that they are not generally subject to an interaction between supply and demand.

Delivered electricity prices are set by a negotiation between consumers and competing retailers who rebundle various input costs, including the costs of distribution, into price/service propositions to suit different consumers' preferences.

It may be helpful to be explicit that distribution charges are input costs to delivered electricity at a consumer's premises, not prices at all because they are not subject to negotiation and do not reflect the results of a trade-off between the cost that a consumer is prepared to pay and the level of service that they receive.

Prices need to be observed by someone who has the capability and expertise to respond to them

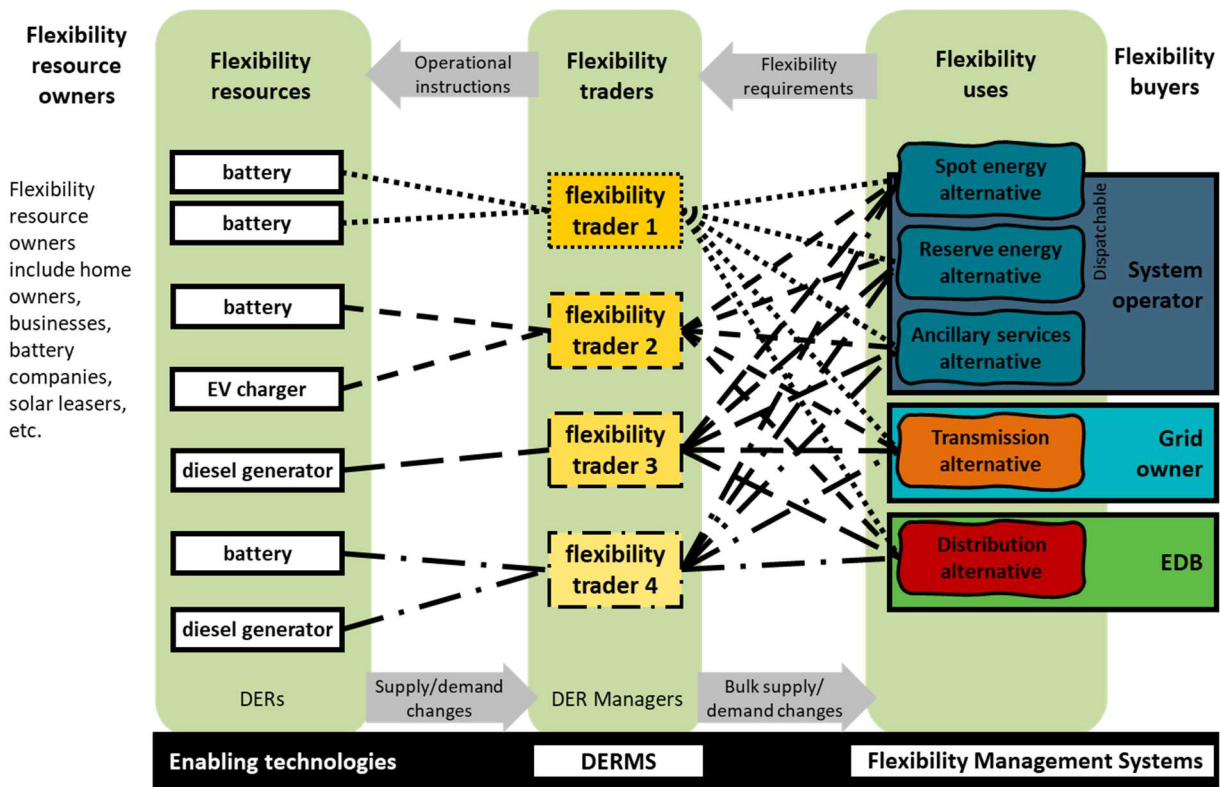
IPAG has supported the Authority's work on applying its distribution pricing principles

to correctly signal the most efficient use of the existing network, future network investments and application of non-network investments – the latter either by the distributor, its end-users or other participants.

The distinction between the three categories of participant who may respond to these signals is important: to be efficient the price needs to be observed by the party best able to respond to them.

In IPAG's review of the Transpower Demand Response Programme, the group identified the importance of flexibility traders as intermediaries between flexibility resource (DER) owners and flexibility buyers such as the Grid Owner or EDBs.

Figure 1 – Flexibility markets



Flexibility traders are owners of DER portfolios who manage their DER portfolio to allocate it to its highest value uses. Flexibility traders interact with flexibility buyers to provide the flexibility that they require. Importantly, flexibility traders maximise the value of DERs by allocating them to their highest value use (“value stacking”) rather than dedicating individual DERs to one use.

Importantly, flexibility traders are specialists – in identifying need for and contracting flexibility services to flexibility users as well as procuring, commissioning and managing DER to deliver those services. They are generally better able to ensure that DERs are allocated to their highest value use than individual DER owners.

Small consumers will generally not be the best able to respond to volatile electricity prices

IPAG’s review of the Transpower DR programme notes that in its

advice to the Authority Board on creating equal access to electricity networks, we set out principles to maximise the benefits that DER offer New Zealand in terms of the Authority’s statutory objective. In that report we noted that the 2019 Transpower DR pilot was not consistent with these principles. This is because if individual DER owners are required to deal directly with Transpower, then they would have to develop an understanding of, and enter into, commercial arrangements with all other flexibility buyers if they were to maximise the value of their DER. The transaction costs would be too high for most DER owners to do this and they would effectively limit the use of their flexibility to deferring and de-risking investment by the Grid Owner.

The economic value of DER is substantially higher if it can be allocated to its highest value use across all flexibility markets rather than being dedicated to the sole purpose of deferring or de-risking investment in one network.

The same is true of distribution “pricing”: in most cases, the transaction costs for small consumers to monitor and respond to distribution “prices” would be higher than it would be for a specialist industry intermediary to. In most cases this intermediary will be the consumer’s retailer.

There are many examples of large consumers responding to cost reflective network price elements like peak demand charges, but these usually have internal expertise and the cost of monitoring and responding to charges is justified by their large absolute spend on electricity.

For small consumers, in most cases retailers are the contractual counterparty to distribution use of system agreements and retailers are the party who observe distribution prices, they also have the scale and technical sophistication to be able to respond to them – possibly by subcontracting to other flexibility traders.

Some small consumers might want to be fully exposed to the input costs just as some choose spot-price-based energy offers but the evidence is that most small consumers don’t – they chose retailers who offer fixed price or time of use products. More recent retail offerings with “free” power periods every day are not a simplistic input cost passthrough but trigger real behaviour change and designed to attract customers from other retailers at a profit.

In paragraph 57 of the consultation paper, the Authority notes that in a competitively operating retail market, whether price signalling is muted by not having a direct pass-through by retailers should in time be moot because retailers who don’t respond to the price signals will have higher costs than those who do.

IPAG has not engaged with distributors on distribution pricing directly but the concern about lack of retail passthrough is clearly widespread. We have, however, seen other examples where networks have worked collaboratively with retailers where they face network congestion which have successfully brought peak loadings down. It may be helpful to collect and share examples of other network companies who have worked with retailers to create incentives to relieve network congestion to reassure those who do not believe that a competitive market can respond to congestion pricing?

Intermediaries such as retailers and flexibility traders can deploy new technologies to manage the scarcity signalled by volatile prices

Paragraph 56 of the consultation paper asks what role the industry sees the Authority have in supporting consumer engagement with cost reflective pricing.

In the early days of reticulation, residential consumer “participation” was forced by the way electricity supply was configured in houses – a switch forced people to choose whether to use the cooker or heater. More recently, the only economic means for small consumers to respond to direct pricing of network capacity has been to reduce demand in the peak manually – with the problems of opportunity cost that IPAG noted in its review of the Transpower DR programme.

Today the costs of small-scale generation, batteries, controllable appliances and load management software have fallen to the level that retailers (or specialised agents flexibility traders) can actually dispatch local generation or automate demand response to relieve the congestion and so avoid the high price. Retailers and consumers need to agree what access they have to flexibility resources but this is a “set and forget” negotiation, like the choice to heat water on a controlled tariff – it does not require continual consumer interaction with or response to dynamic prices. We have seen examples of this in Australia with its higher penetration of battery storage for residential solar and see no reason to think it will not happen in New Zealand.

Competition and efficiency require that natural monopolies contract with and send prices to industry intermediaries rather than small consumers

IPAG has a particular concern in the cases where distributors present congestion pricing directly to end consumers rather than to retailers. We note that The Lines Company is moving away from this model but that Mainpower and some Vector consumers still have a direct “conveyance” contractual relationship with the EDB rather than one interposed through the retailer. It is quite common for EDBs to contract directly with larger customers who have the capability and incentive to respond to demand-based charging.

If retailers are not exposed to distribution charges then it’s the consumer who has to do something about price volatility rather than being able to rely on the retailer to find the most efficient way of doing so – despite not being electricity industry experts. For some consumers that might be fine but for most it adds risk and complexity and if they do not have the resources to respond gives them no option but to reduce demand and suffer real hardship when there may be other ways of receiving the constraint. It is no different from forcing consumers to pay spot price for their energy. This is not how a market works.

Risk and technology management are core skills of retailers - they are able to manage price volatility and find technology solutions to create flexibility. Those who can’t will exit the market and those who are better able to will take their places. Electricity price risk management and technology innovation is not a core skill for most customers - particularly vulnerable residential customers.

I hope this input is helpful – at one level it is obvious, but there is clearly deep scepticism in the distribution sector about the ability of competitive markets to manage network congestion which is a barrier to efficient market operation in itself.

Yours faithfully



John Hancock
Chair