



Project Spotlight on Emerging Contestable Services Workshop Summary

20 June 2019

Background



This document summarises themes from a workshop held on 28 May 2019 as part of a joint project seeking to understand how emerging technologies are developing in the electricity sector, and the implications of these technologies for our respective regulatory frameworks.

The project focuses on how electricity distributors and other providers are increasingly participating in new markets that use emerging technologies, such as distributed energy services. Each case study asked participants to stand in the shoes of a distributor, another supplier, and a consumer. The case study sheets used at the workshop are attached at the back of this document.

We are sharing this document to assist anyone wishing to provide post-workshop feedback or reflections. The document is a distillation of ideas captured at the workshop rather than an attempt to analyse the merits or implications of the views put forward.

Please note that many of the views expressed at the workshop related to topics that are outside the scope of this project. However, in preparing a summary of the workshop discussion, we have included these views in the interests of completeness and transparency

Please provide any post-workshop feedback or reflections to EAComComJointProject@comcom.govt.nz by **5pm, 25 June**.

Introduction

The following slides are arranged by theme. Each slide summarises an area of discussion, highlights quotes from table summaries and makes some observations.

1. Contracting challenges
2. Financial incentives
3. Network access and market power
4. Service synergies
5. Consumer preferences (and other)

1 Contracting challenges



A common theme was the difficulty forming a suitable contract between an electricity distribution business (EDB or 'distributor') and a third party for services intended to support network performance.

Challenges	Description
Performance	Ensuring a battery or generator is operated in a way that prioritises and delivers on the distributor's needs.
Accountability	Distributors have responsibilities for health and safety and network quality standards (under Part 4).
Flexibility	Network need may be shorter-lived than the life (or payback period) of the battery or generator. Ideally, services can be redeployed across the network as constraints shift over time (eg, seasonal or across years).

These challenges can be a reason for distributors to favour ownership instead of contracting for services.

Challenges are most acute where performance requirements are high and the market (or technology) is immature.

"There needs to be a mechanism to transfer quality standards risk."

"There's more risk with going to market – will suppliers deliver a solution?"

"EDB engineering focus is on reliability and health and safety."

"EDBs find it quite hard to negotiate a contract to ensure performance. May be cheaper to do it yourself."

"How batteries work compared to lines is unknown."

"The more critical the extra generation is to the network, the more likely it is to be done in-house."

Standing in the other supplier's shoes, contracting can also be challenging.

Challenges	Description
Certainty	Securing a sufficiently long-term and predictable revenue stream to support investment in long-lived assets.
Clarity and flexibility	Being clear about performance requirements and having flexibility to optimise how they are delivered.

Suppliers may need to make their contract with an EDB fit with other arrangements (e.g. for energy revenue) to make a project work.

"It's easier to re-purpose assets when they're owned rather than contracted."

"Will the network build a line in a few years and make my investment worthless?"

"Who is optimising the service? What restrictions will the EDB put on me?"

2 Financial Incentives



Widespread perception that distributors prefer capex – i.e. favour owning assets (capex) over buying services (opex).



Perception that investment risk is low for EDBs if costs can be recovered through network charges – guaranteed revenue stream for the life of the asset (or service contract). However, return is also low (unless unregulated revenue can be generated).



Uncertainty for EDBs about how regulatory treatment may change in future as technologies or markets mature.



No direct funding for EDB research and development (R&D). Trials and prototypes have potential to reduce the cost of providing the network service if successful, but excessive or premature R&D may increase costs.



Mixed approaches and views on commercialising vs. sharing intellectual property developed through EDB R&D.



Some EDBs apparently invest with no direct return (eg, subsidised vehicle chargers). Motives may be indirect benefits, prospect of longer-term returns, or non-commercial drivers.



Distributors can (sometimes) make payments for avoided network costs, and recover the cost of the payments through their lines charges.

“Distributors have an incentive to spend capex, not opex.”

“Cost recovery is uncertain for contracts (cf. assets) – not sure how incentives work.”

“If batteries realise efficiencies, then consumers benefit from lower costs.”

“Distributors would only put investment into a subsidiary if return is higher than WACC.”

“Distributors have guaranteed income stream.”

“Trials are generally shared.”

“Smaller EDBs cannot afford trials.”

“Commercial drivers, such as revenue from other markets, drive EDB decisions.”

“Locally-owned EDBs consider consumers and local economy.”

“Risk appetite amongst EDBs is diverse.”

“The IP gets developed for free, therefore it’s unfair no one else has access to it.”

3 Network access and market power

Range of views as to whether existing measures for addressing market power and network access are sufficient.

Interventions Mentioned	
Activity restrictions	Electricity Industry Act Part 3 limits EDB participation in generation and retail markets.
Cost allocation rules (cross-subsidy)	Input Methodologies govern how costs are allocated between regulated and other services.
Related party disclosure rules (favouritism)	Cover: relationships, procurement, network information sharing, arm's-length rules, transaction reporting.
Network pricing	EA market facilitation and CC disclosure rules for pricing of regulated network services. EA governance of energy and ancillary markets.
Non-price terms	EA governance and market facilitation measures for use of systems and distributed generation connection.

“There needs to be a level playing field and no barriers to entry.”

“Distributors might be best-placed to provide services because of their knowledge of the network and ease of access.”

“Other suppliers are okay as long as they had an opportunity to tender, and a transparent process.”

“EDB still needs sufficient controls to manage the network.”

“Existing tools are sufficient – related party rules, cost allocation IMs, EIA Part 3.”

“Concern about cross-subsidisation from regulated to unregulated area – might stifle competition, and innovation.”

“Keeping EDBs from competing may reduce competition.”

“information flows – what are the network problems that need to be fixed.”

“Concerned that EDB may favour subsidiary, or transfer sensitive information.”

4 Service synergies



Optimise value stack

Discussion on positive synergies (and limits) between distribution services and emerging services. Contrast with synergies available to other suppliers.

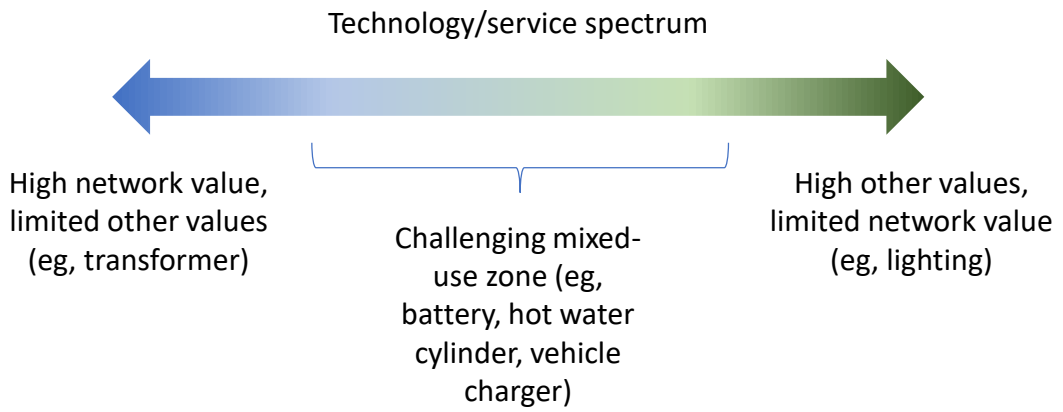


Discussion on role of EDBs (or others) making investments with benefits beyond their direct use, eg:

- remote EV chargers that are not standalone profitable but plug coverage gaps
- public EV chargers to dissuade uncontrolled at-home charging that may overload network



Discussion on spectrum of technologies, and on merits of regulation having a services-focus rather than a technology-focus.



“EDBs won’t optimise the full value-stack available from batteries.”

“Other suppliers can combine batteries with other services to improve the product offering.”

“EDBs have a trusted brand, there for the long-term.”

“Tesla will out-compete EDBs.”

“EDB benefit/use may be different from other suppliers.”

“Selling services to other EDBs reduces costs for those EDBs, and improves returns to consumer-owners.”

“EDBs may favour solutions from fellow lines companies.”

“EDBs have 24/7 response resources in place already.”

“Important to think big and look for opportunities, including internationally.”

“IP gained through trials difficult to separate out when services later offered elsewhere.”

“EDBs are engineering-led companies with a focus on reliability and safety – slower to innovate and respond to incentives”

5 Consumer preferences (and other)

Views differed on whether consumers are only concerned about the price and reliability of their electricity supply or have wider interests. Differences partly rest on how much participants see emerging technologies through network service lens, or as a broader consumer service offering.

Other Issues

“Data is more important than any other issue.”

“Many communities do not have smart meters.”

“Many networks are too small to be of interest to third parties.”

“Chargers support other policy objectives – carbon, transport, mobility.”

“Doubt the effectiveness of price signals to manage peaks.”

“Not wedded to fixed rules forever – can evolve as markets develop”

“Certainty of regulatory environment important for all parties.”

“Consumers are only concerned with [network] price and quality.”

“Competition can bring new products and services.”

“Some value managing demand, others value flexibility to consume when they want.”

“Some want scope to participate in the energy system as prosumers.”

“Consumers do not care about any of this because it’s not visible to them.”

“The benefit depends on the pricing methodology.”

“Consumers care about environmental impacts.”

“Complexity could drive extra cost.”

“Reliability is critical. Networks are a lifeline utility.”

“Consumers want what is best for competition.”

“Consumers value trust dividends.”

“There needs to be an opportunity to have a choice.”

Appendix –
workshop
case study
slides

0 Intro

1. Read the case study. Each follows a consistent format and is designed to help unpick an aspect of distributor participation in a market for emerging technologies.
2. Jot down some ideas in each of the bottom boxes, then take turns to share with your table.
3. Capture ideas from your table (does not need to be consensus view).
4. Report back to another table.

Five case studies:

1. Build or buy?
2. Big battery services
3. Solar-battery combo
4. Generation game
5. Charging ahead

Situation description

1 Build or buy?

A distributor has to take action to deal with peak demand growth. Their assessment is that a battery-based solution is probably lower-cost than lines, and they have considered four options:

- A. Invest in batteries.
- B. Buy battery-supported demand management services from a third party.
- C. Set-up a subsidiary that sells battery-supported demand management services at arm's length.
- D. Develop more targeted pricing to signal pending costs and stimulate a response.

The distributor selects Option A.

Distributor

Put yourself in the distributor's shoes. What drives your decision-making?

Other Supplier

Put yourself in the shoes of an aspiring provider of battery-supported services. What's your perspective on the distributor's decision?

Consumer

How does this situation impact consumers? What are the relative advantages (benefits) and downsides (costs). What about longer-term?

Distributor perspective

Other supplier perspective

Consumer impact

1 Build or buy?

A distributor has to take action to deal with peak demand growth. Their assessment is that a battery-based solution is probably lower-cost than lines, and they have considered four options:

- A. Invest in batteries.
- B. Buy battery-supported demand management services from a third party.
- C. Set-up a subsidiary that sells battery-supported demand management services at arm's length.
- D. Develop more targeted pricing to signal pending costs and stimulate a response.

The distributor selects Option A.

Distributor

Put yourself in the distributor's shoes. What drives your decision-making?

Other Supplier

Put yourself in the shoes of an aspiring provider of battery-supported services. What's your perspective on the distributor's decision?

Consumer

How does this situation impact consumers? What are the relative advantages (benefits) and downsides (costs). What about longer-term?

2 Big battery services

A distributor invests in a utility-scale battery within their network. After a year of trialling, they have developed a good understanding and systems for optimising the use of the battery. They now want to use this knowledge to pursue unregulated business opportunities in other network areas.

Distributor

Put yourself in the distributor's shoes. What drives your decision-making?

Other Supplier

Put yourself in the shoes of an aspiring provider of battery-supported services. What's your perspective on competing with the distributor?

Consumer

How does this situation impact consumers? What are the relative advantages (benefits) and downsides (costs). What about longer-term?

3 Solar-battery combo

A distributor has to take action to deal with peak demand growth. Their preferred option is a scheme that would install batteries in homes and businesses with no up-front cost for the consumer. The distributor would retain ownership of the batteries and some control rights (for load management). The distributor is also considering setting up a subsidiary business that would supply and install solar panels.

Distributor

Put yourself in the distributor's shoes. What drives your decision-making?

Other Supplier

Put yourself in the shoes of an aspiring provider of solar and battery services. What's your perspective on competing with the distributor?

Consumer

How does this situation impact consumers? What are the relative advantages (benefits) and downsides (costs). What about longer-term?

4 Generation game

A distributor has identified that it would be economic for a reasonably large (10 MW) power plant to be built on its network. Part of what makes the investment economic is that it would remove the need for a costly network upgrade – provided its operation is coordinated appropriately. The distributor considers two potential approaches:

- A. Set up a wholly-owned subsidiary to build, own and operate the power plant
- B. Enter a long-term contract with a third party, with the distributor paying to ensure the plant is operated in a way that removes the need for network investment.

The distributor selects Option A.

Distributor

Put yourself in the distributor's shoes. What drives your decision-making?

Other Supplier

Put yourself in a generator's shoes. What's your perspective on the distributor's actions?

Consumer

How does this situation impact consumers? What are the relative advantages (benefits) and downsides (costs). What about longer-term?

5 Charging ahead

A distributor has identified that electric vehicle charging is a growing and potentially profitable business opportunity. They decide to set up a subsidiary company that will build a network of electric vehicle charging stations as an unregulated business.

Distributor

Put yourself in the distributor's shoes. What drives your decision-making?

Other Supplier

Put yourself in the shoes of an aspiring supplier of electric vehicle charging services. What's your perspective on the distributor's actions?

Consumer

How does this situation impact consumers? What are the relative advantages (benefits) and downsides (costs). What about longer-term?