Equal Access Presentation to IPAG

March 2018

Equal Access: I want to choose my technology, service provider and market participation

TECHNOLOGY ***SERVICE PROVIDER*** ***MARKETS***

What technology do I want to buy and who do I want to buy it from?

Do I want a service provider to manage my technology, connect it to markets, and trade off value streams to maximise value for me?

Are there network and energy markets I can access, and will my participation prevent me accessing other markets?

CONSUMER HARMS

I can't choose my own technology

I can't choose my own service provider

I can't participate in some markets

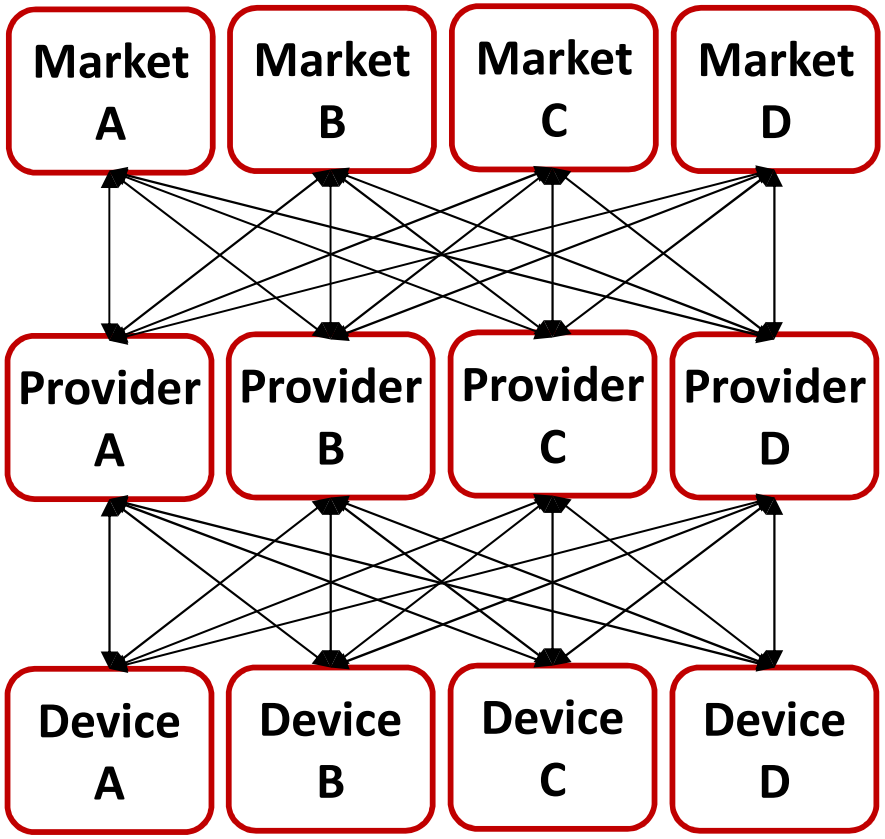
I get less value from my technology than I should

I pay more in lines charges than I should

Equal Access: Essential that networks do not play an optimising service provider role

COMPETITVE MARKETPLACE

IEA "platform for services" model



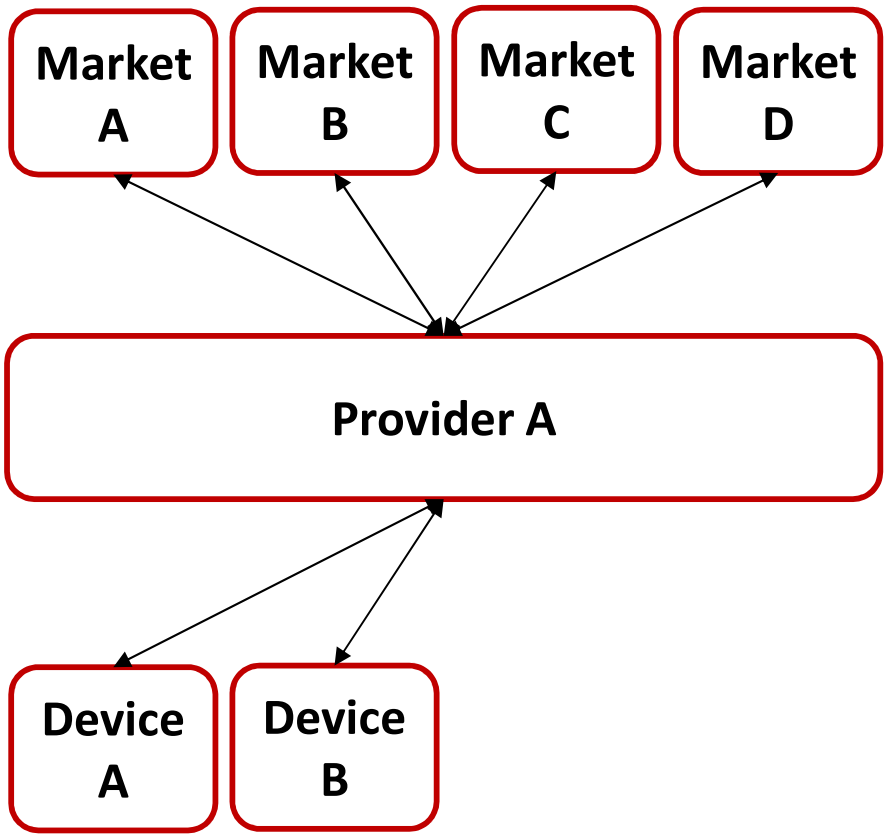
MARKETS

SERVICE PROVIDER

TECHNOLOGY

MONOPOLY SERVICE PROVIDER

IEA "value-adding services" model



Network may restrict access to network value unless consumer hands over control of device, and if consumer wants network value they have no choice of service provider as can't 'switch' network.

Problem: Networks can make network support value conditional on the consumer adopting a mandated technology solution and giving the network direct control of the technology

REGULATED CAPEX EXAMPLE

- Networks can use regulated capex to deploy and control assets like Powerwall batteries
- Network only makes network support available if consumer adopts a Powerwall battery
- Battery will be directly controlled by the network as the service provider
- If consumer wants to adopt a Panasonic battery and use a different service provider, no network support is available

REGULATED OPEX EXAMPLE

- Networks can use regulated opex to contract and control assets like hot water cylinders
- Network only makes network support available if consumer adopts ripple control technology
- Hot water cylinder will be directly controlled by the network as the service provider
- If consumer wants to adopt a smart hot water control technology and use a different service provider, no network support is available

I can't choose my own technology				**I pay more in lines charges than I should**

Problem: Networks don't share unregulated income with consumers

OVERVIEW

- Network uses regulated funds to gain control of consumer devices
- Network performs optimising service provider role
- Network participates in competitive markets to generate unregulated income

EXAMPLE

- Networks offer consumers value if they can directly control their hot water cylinders
- Networks use the hot water control to participate in reserves and Transpower DR market
- Networks have received ~$20m in reserves revenue since 2009, plus Transpower revenue
- Networks don't share the unregulated income with consumer (despite consumer providing the service from consumer owned equipment)

	I can't choose my own service provider	**I can't participate in some markets**	**I get less value from my technology than I should**	

Problem: Network controlled load tariffs are inefficient

OVERVIEW

- Network controlled load tariff discounts apply over whole network regardless of network need

EXAMPLE

- Estimate ~850k consumers on controlled load tariffs
- Average consumer discount ~$100-150 pa
- Discounts add ~$100m pa to consumers lines charges
- Unclear how much of this $100m spend pa delivers necessary network support

I pay more in lines charges than I should

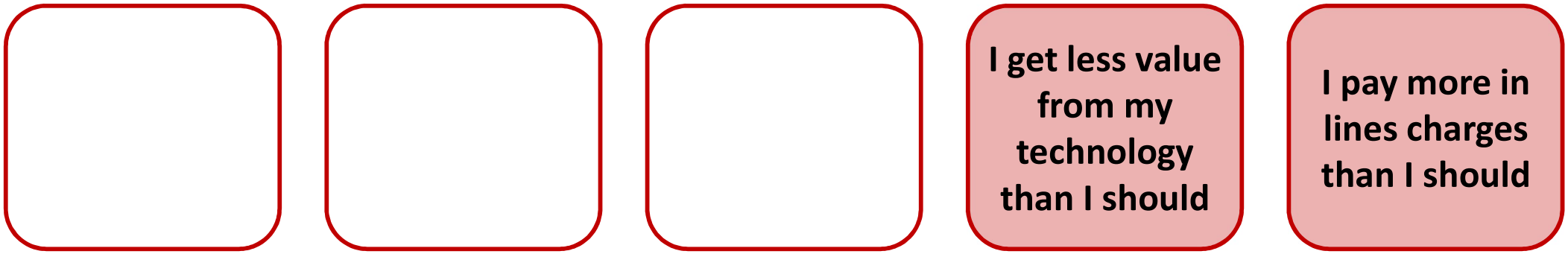
Problem: Network price signals largely don't exist for consumers to access network support value

OVERVIEW

- Distribution network requirements very localised
- Requires locational price signals which target critical peak times
  - Controlled load tariffs used for residential customers but don't support competition
  - Most network demand charges ineffective as not targeted (excl. Orion, Aurora CPD)
  - No real-time, localised distribution 'spot' pricing (and moving to TOU proving difficult)
  - No Transpower demand response equivalent programs at distribution level

EXAMPLE

- Residential batteries optimise solar and without control provide negligible network support
- Many C&I consumers have pumps, fridges, HVAC which could be turned off
- No incentive for these consumers to control assets to support the network
- Network company invests in more expensive traditional network capex



Problem: Networks may be developing uncompetitive network support programs

	Existing controlled load tariffs	Transpower DR program	Vector pilot DR program
CUSTOMER 'OPEN-ACCESS' PRINCIPLES			
Customer technology choice	✗ Ripple only	✓	✓
Customer service provider choice	✗ Dist. Network only	✓	✗ Vector only
Customer can access other markets	✗ Dist. Network control	✓	✓
LOWEST SYSTEM COST			
Equal access for all customers	✗ Mass market only	✓	✗ Residential only
Equal access for all technology types	✗ Hot water only	✓	✓
Efficient and targeted DR	✗ Network wide tariff	✓	✓

	I can't choose my own service provider			I pay more in lines charges than I should

Problem: Networks appear to prefer building assets rather than contracting network support

OVERVIEW

- Are networks incentivised to invest capex because of 67th percentile WACC?
- No transparency on project investment decision making
  - No external RFP to potential network support providers with network requirements
  - No external consultation on costs/benefits of available network & 3rd party alternatives

EXAMPLES

- Powerco > $35m investment in in traditional capex to meet Tauranga demand growth
- Powerco planned purchase of ripple receivers in Tauranga [1]
- Vector Glen Innes grid-scale battery
- Vector rollout of 'free' Tesla Powerwalls to consumers
- Vector rollout of 'Telecell' hot water devices

I pay more in lines charges than I should

Note 1: Powerco planned investment was not approved by the Commerce Commission in it's draft CPP decision due to the lack of a competitive process

Appendix

Why is it essential for consumers that networks do not control devices and provide the 'optimising service' by also targeting transmission and wholesale value for consumers?

Excerpts from the AEMC's final Distribution Market Model report (August 2017):

- *"The optimising service helps consumers (or their energy service providers) to make efficient investment and operation decisions – trading off value streams to maximise overall value"*
- *"A key question is who would provide this service and how"*
- *"In the Commission's view, a level playing field for the provision of optimising services is created if the following conditions are satisfied (AEMC emphasis):*
  - *The optimising service is provided by a party who does not have a specific interest in one or more of the services being provided, or in a particular way, and cannot exert market power or influence on the provision of those services. That is, the optimising service should be provided* ***separately from the provision of regulated services****…*
  - *The optimising service is provided by a party who is* ***exposed to financial incentives…"***
- *"Some stakeholders argued that retailers (or aggregators) are also not 'independent' and have a specific interest in a particular value stream from distributed energy resources (i.e. the 'consumer' value or the 'wholesale' value). However, retailers, including those that are vertically integrated, operate within a competitive market. Therefore, to the extent those markets are competitive the concerns above should not arise since competitive forces should prevent businesses from favouring one value stream over another. A consumer cannot switch to a different network, but a consumer can switch to other retailers, or engage a third party energy service provider, where they can utilise more choice."*