20 July 2021

Commerce Commission open letter

Role of equal access and flexibility markets

INNOVATION AND PARTICIPATION ADVISORY GROUP

V4 – 20/7/21

Commission's interest is whether Part 4

- supports the transition to a low carbon economy, but in a way that does not compromise consumers receiving the energy services they demand, across reliable and resilient networks
- encourages innovative approaches to delivering least-cost energy services
- continues to provide a level of regulatory certainty and predictability conducive to efficient investment
- recognises wider regulatory systems and competitive energy markets, and the role of our regulation within them.

COMMERCE COMMISSION NEW ZEALAND
Te Komihana Tauhokohoko

WELLINGTON
Level 9, 44 The Terrace
PO Box 2351, Wellington 6140
New Zealand
Tel: +64 4 924 3600

AUCKLAND
Level 12, 55 Shortland Street
PO Box 105-222, Auckland 1143
New Zealand
Tel: +64 4 924 3600

www.comcom.govt.nz

29 April 2021

Dear stakeholder

Open letter—ensuring our energy and airports regulation is fit for purpose

Purpose of this letter

The purpose of this open letter is to seek your views on the emerging issues for electricity networks, gas networks and airports as they relate to our responsibilities under Part 4 of the Commerce Act 1986 (**Part 4**) and how we should prioritise these issues when planning our work programme in the near term. We are particularly interested in emerging issues that relate to New Zealand's decarbonisation and use of new energy sector technologies and business models (the "energy transition") and the impacts of COVID-19.

Currently, our main prioritised processes for meeting our responsibilities under Part 4 for the near future are planned to be:

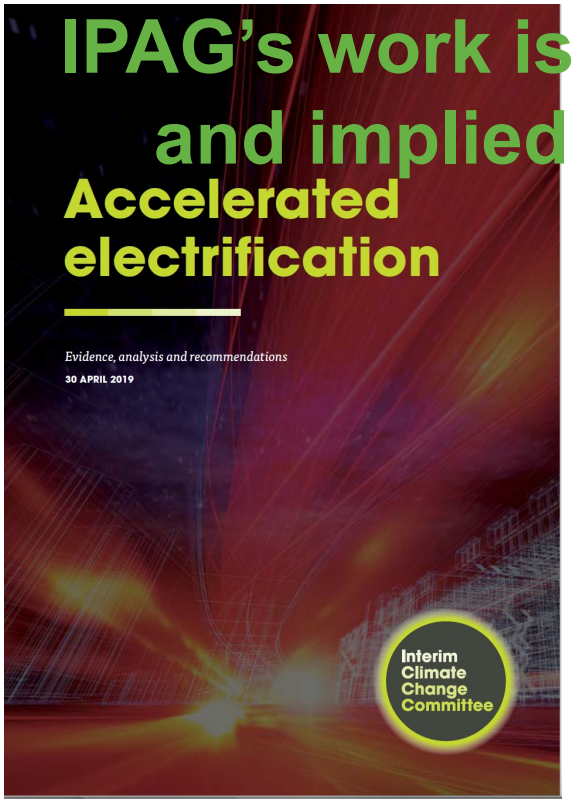
- upcoming reset of price-quality paths for gas pipeline businesses, which we are required to determine by the end of May 2022 (**gas reset**)
- upcoming input methodologies (IMs) review, most of which we are required to complete by December 2023 (**IM review**)
- ongoing summary and analysis of disclosed information, and a planned project of targeted amendments to the information disclosure regime (**targeted ID review**).

The gas reset is the second of our five-yearly processes for resetting the limits on revenue and quality standards for gas pipeline businesses. The rules and processes for the gas reset—along with those for electricity resets and other Part 4 processes we undertake—are set out in the IMs, which we review once every seven years. The IM review will be the second of these seven-year reviews.

We are seeking views now, ahead of any formal consultation on any of these processes, to help inform our planning. There will be further opportunities to have your say on any other relevant issues during each process as and when we move into the formal consultation phase of each process.

4072846-6

IPAG's work is explicitly referred to by ICCC and implied by CCC references to DER



Consumers and new service providers will require 'access' to the network for these opportunities to be realised. That is, they will need access to data, and the ability to contract and provide services to distributors to support reliability and efficient investment. The Electricity Authority's equal access project aims to address this.[140]

Supporting the evolution to a low-emissions electricity system fit for technology evolution. This should include work to increase the participation of distributed energy resources including demand response, and determining whether lines companies can integrate new technologies, platforms and business models by:

a. Assessing whether they have the necessary capacity and capabilities to support climate resilience and the transition.

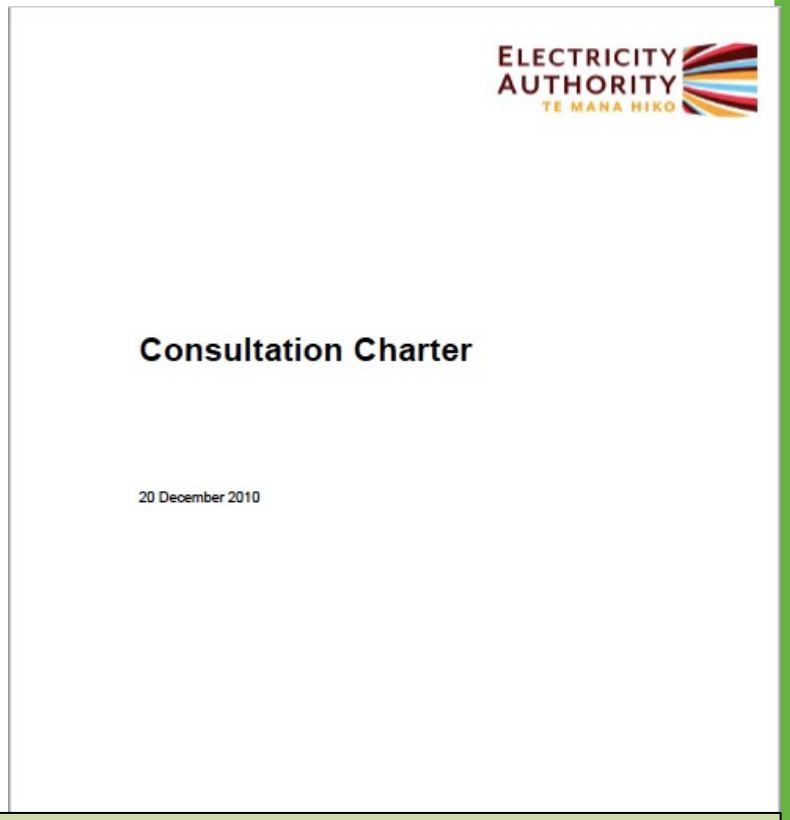
b. Evaluating whether the current regulatory environment and ownership structures of lines companies are fit for future needs.

Advisory Groups are the Authority's "primary means for developing Code"

3.2. The Authority intends advisory groups to be its primary means for developing Code amendment options for significant and non-urgent matters. The Authority has given advisory groups responsibility for (among other things):

- making recommendations to the Board in regard to aspects of the Code and market-facilitation measures identified in their terms of reference and workplan;
- deciding the extent and type of analysis and feedback they undertake to make recommendations to the Board; and
- deciding the content of discussion papers on matters identified in their terms of reference and workplan (noting that the Authority is responsible under the Act for consulting with interested parties on Code amendment proposals in accordance with the consultation requirements of section 39 of the Act, and that any stakeholder feedback sought by advisory groups on discussion papers canvassing issues and options for developing the Code and/or market-facilitation measures is not consultation required under the Act (hence the deliberate use of 'discussion papers' as opposed to 'consultation papers')).

The Authority will require its advisory groups to adopt the general principles and processes described within this Charter having regard to the particular feedback sought and related factors.


ELECTRICITY AUTHORITY
TE MANA HIKO

Consultation Charter

20 December 2010

Advisory Groups are statutory bodies – Electricity Industry Act 2010 requires the Authority to establish Advisory Groups and to consult them on material changes to the Code

Groups make recommendations to the Authority Board – covering Code, other agencies and regimes - particularly MBIE (legislation) and Commerce Commission (Commerce Act, including Part 4)

IPAG is one of the EA's 3 standing advisory groups

14.1 The purpose of the IPAG is to provide independent advice to the Authority on issues in the Authority work programme that relate to:

(a) evolving technology and business models

(b) competition and consumer choice.

14.2 In particular, the Authority may seek the IPAG's advice on:

(a) initiatives to improve the efficient development and use of evolving technologies and business models across the supply chain, including reducing inefficient barriers to:

(i) any consumers purchasing directly from the wholesale electricity market or directly from local generators

(ii) mass-market demand response, and aggregators of mass-market demand response

(iii) mass-market distributed energy resources, and aggregators of these resources, including distributed generation, batteries, micro-grids and 'prosumer' situations

(b) initiatives to efficiently promote consumer participation through the whole supply chain, including:

(i) improving consumer awareness, understanding, motivation and action by mass-market consumers

(ii) increasing choices available to mass-market consumers by further enhancing competition

(c) any other policy matters that the Authority considers appropriate.

Terms of Reference for the Security and Reliability Council and other advisory groups

IPAG and MDAG established June 2017 as successor advisory groups to WAG and RAG

IPAG members have diverse experience

Members who provided original advice on Equal Access:

- John Hancock (Chair) – specialist sector consultant, former WAG Chair
- Luke Blincoe – CEO, Electric Kiwi – new-entrant retailer
- Glenn Coates – GM Asset Management, Aurora (distributor)
- Allan Miller – consultant, former Director of Electric Power Engineering Centre at Canterbury University
- Terry Paddy – CEO, Cortexo – platform software business
- Stephen Peterson – CEO, Simply Energy – new entrant retailer, aggregator and market services provider
- Tim Rudkin – CEO, Saveawatt – aggregator
- Roxanne Salton – CDO, Southern Cross, formerly Head of Digital Strategy, Mercury
- Diego Villalobos Alberú – Observer, Commerce Commission

Former members involved in developing the advice:

- Lindsay Cowley (former Chair) – GM, Spark
- George Block – Consumer NZ
- Jennifer Cherrington-Mowat – GM Digital, Genesis Energy
- Melanie Lynn – Digital Marketing, Meridian Energy
- Rod Snodgrass – GM Digital, Vector

Members who have joined since the Equal Access project was completed:

- Rosalind Archer – Professor and Head of the Department of Engineering Science, University of Auckland
- Corrie Stobbie – Product & Regulatory Manager, Intellihub – smart meter and services provider
- Scott Willis – Community energy consultant and former Project Manager, Blueskin Energy
- John Rampton – Observer, Commerce Commission

All of IPAG's work to date has linked to DER

DER are small, widely distributed and behave differently to other electricity market resources.

Distributed Energy Resources

Typically connected to roadside power lines, not the big power pylons, and increasingly consumer owned

Mostly electricity, but can include other energy, such as solar heating; hot water

Common examples are:

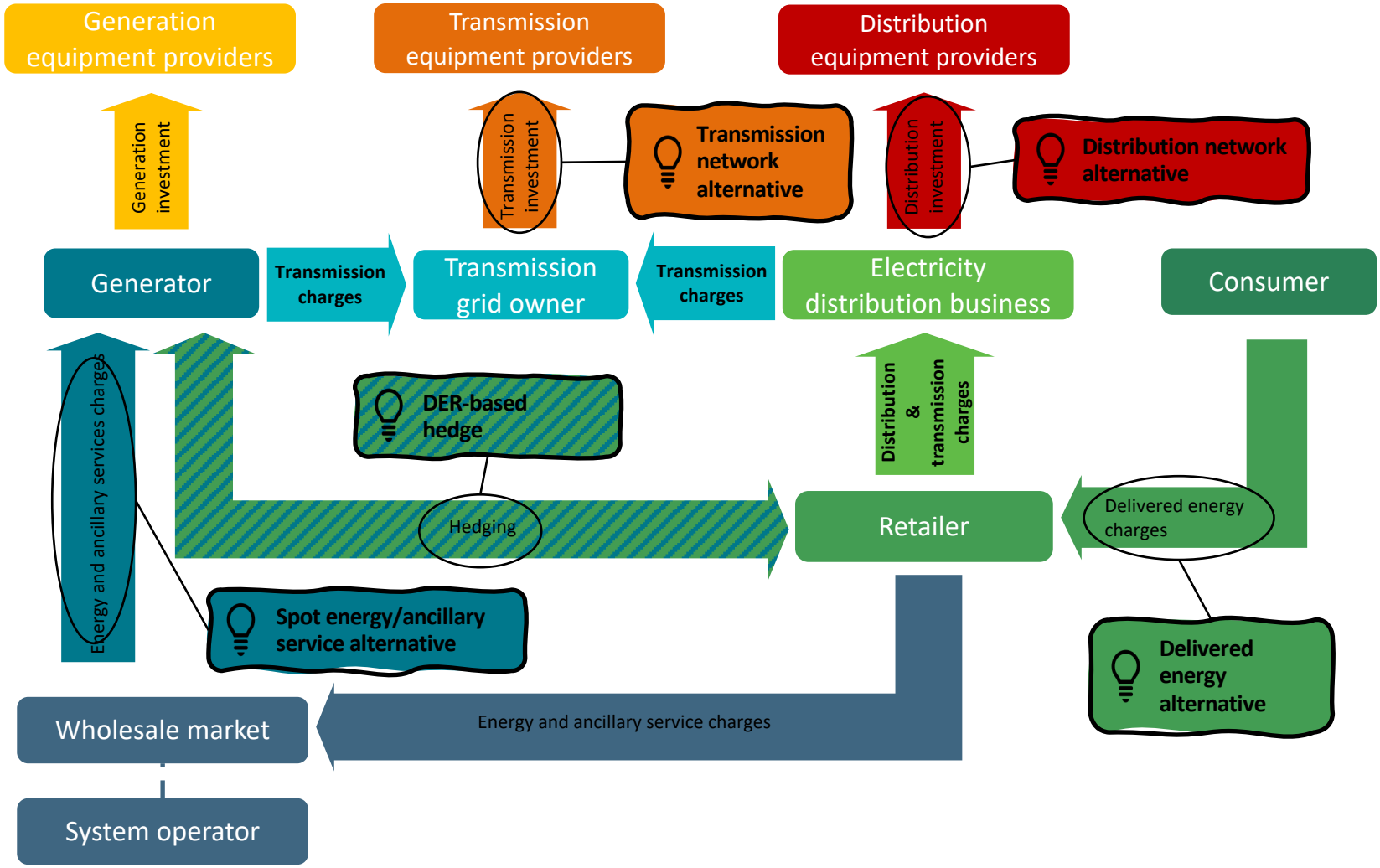
- Rooftop solar panels (photovoltaics PV)
- Storage (such as batteries)
- Controllable demand (consumers turning appliances off and on either manually or pre-programmed, to suit the power system, for a payment)

Key difference between:

- *Uncontrollable DER (solar, "dumb" EV charging etc and*
- *Controllable DER (batteries, "smart" EV charging etc*

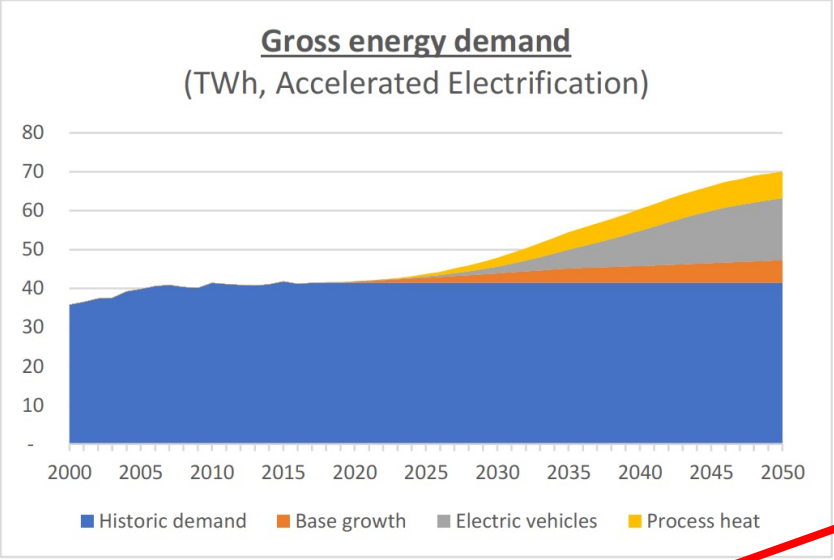
Impact of controllable DER is **flexibility** - modifying generation and/or consumption patterns in reaction to an external signal (such as a change in price) to provide a service within the energy system

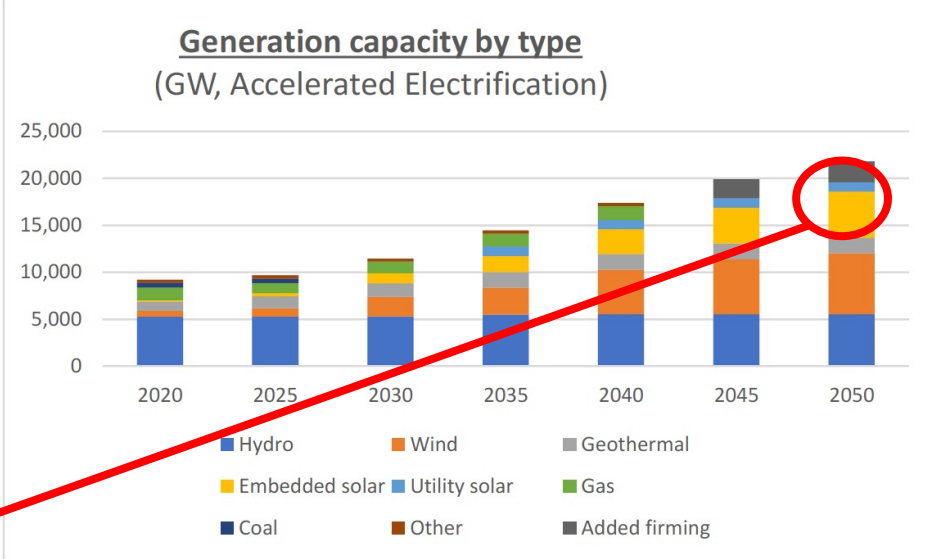
DER provide an alternative way of delivering existing services – all of which can be monetised and some of which have single buyers



1 - Transition to a low carbon economy, but in a way that does not compromise consumers receiving the energy services they demand, across reliable and resilient networks

Key link with IPAG's work is distributed solar and batteries





Transpower's 2050 future has has 5GW of solar on around a third of residential properties (788,000 ICPs) between 4 and 5 kW each

and 2.5GW of small-scale batteries on half (370,000) of them.

5GW is 50% of NZ's installed generation capacity in 2021

Source: *Whakamana i Te Mauri Hiko*, Transpower, 2020

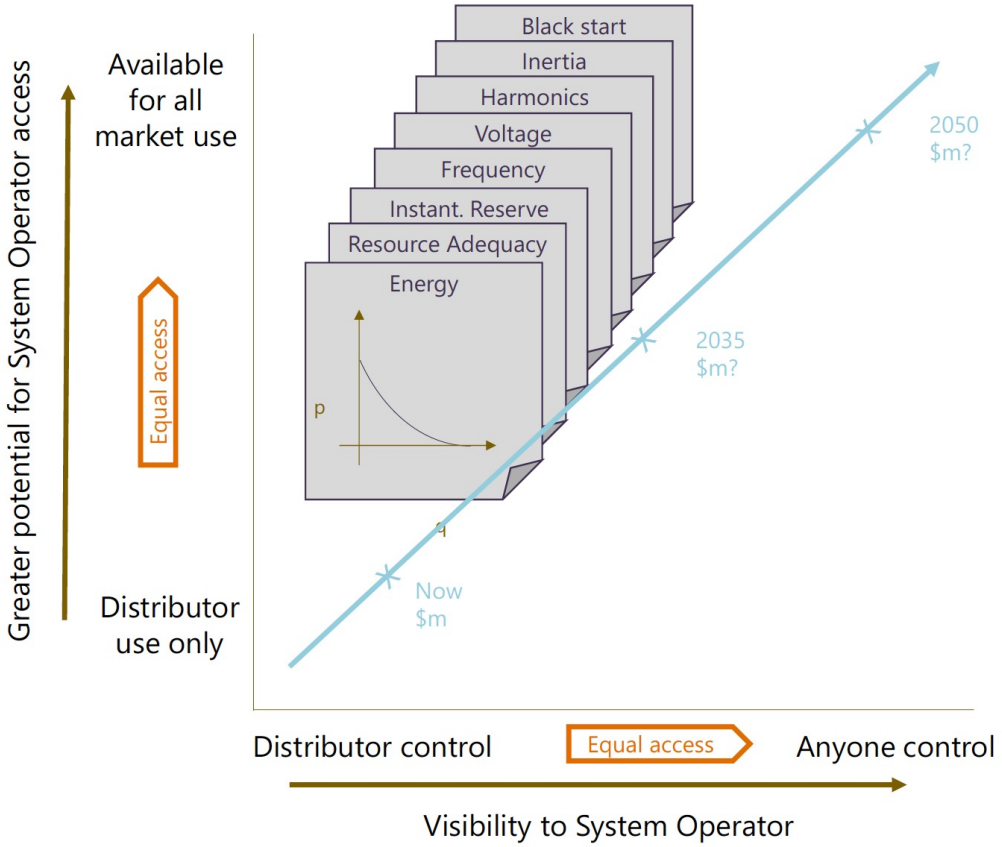
2 - Encourages innovative approaches to delivering least-cost energy services

Relevance of IPAG's work is the opportunity DER as an efficient substitute for distribution, transmission and generation investment

Embedded DER supply (particularly solar) provides energy but can both congest and relieve distribution and transmission and exacerbates need for market peaking and firming

Efficient deployment gives **annual** benefits in 2050 of:

- Transmission $194m/yr
- Distribution $274m/yr
- Peaking Generation $393m/yr



Source: *Distributed Energy Resources – Understanding the potential*, Sapere for the System Operator, July 2020

Implications for Part 4 regime are that distributors and Transpower must monetise value of flexibility

Equal Access issue 1 - Networks need to gather more information so they and DER providers can identify needs

1.1 Distributors to obtain granular network information at sub-transmission and HV level and, building on the practices for providing network information at that level, establish an ICP-level understanding of the network, that is, build the same dataset at the LV level so the network understands its congestion and voltage position.

1.2 Distributors to develop an understanding of the ability of the network to accommodate increases in DER for the purposes of understanding the implications of the growth in DER and also the potential for deploying DER to support the network (that is, network hosting capacity).

1.3 Distributors to publish utilisation of the network in both directions by transformer (or other critical network locations). This should take the form of near real time monitoring and long term projections of potential congestion.

AMP

Equal Access issue 2 – More information on needs and standing offers has to be made available for a DER "market" to open up

2.1 Distributors to publish signals of need where and when network issues are expected or occurring. This could take the form of a heat map that is openly accessible and contains relevant and timely information. It could show near-real-time needs – as distinct from long-term projections of potential congestion where network alternatives may have a role.

2.2 Distributors to also publish indicative standing offers for long-term network investment deferral opportunities.

3 - Continues to provide a level of regulatory certainty and predictability conducive to efficient investment

The Commission has explained to us its view that Part 4 provides incentives to EDBs to take advantage of non-network options where economic. In IPAG's Equal Access report, we noted (problem statement 7) that *Part 4 incentives for using DER for regulated services and network alternatives may not be well understood* noting that *Part 4 incentives may be complex, or misunderstood. This may lead distributors to focus on in-house solutions, without using a contestable framework or not use DER as a network alternative at all*.

Despite the Commission's repeated assurances that Part 4 provides incentives for efficient use of flexibility, the evidence we have accumulated is that this is simply not the case. Not all DPP-regulated companies are profit maximisers and managers in many EDBs are cautious about the use of new technologies and techniques.

Source: IPAG review of the Transpower Demand Response programme, May 2021

IPAG has repeatedly observed that distributors do not respond to Part 4 incentives

Equal Access issue 6 – Distributors seem hesitant to rely on DER to provide regulated services or network alternatives

6.1 Participants have a secure environment for experimentation to develop, test and implement delivery of products and services within contestable frameworks

- Distributors and DER providers to trial a contestable framework, for example to test heat maps and DER response to prices, verify service provision, explore contractual arrangements, and inform contracting principles and sharing of lessons learned.

Equal access issue 7 – Part 4 incentives for using DER for regulated services and network alternatives may not be well understood

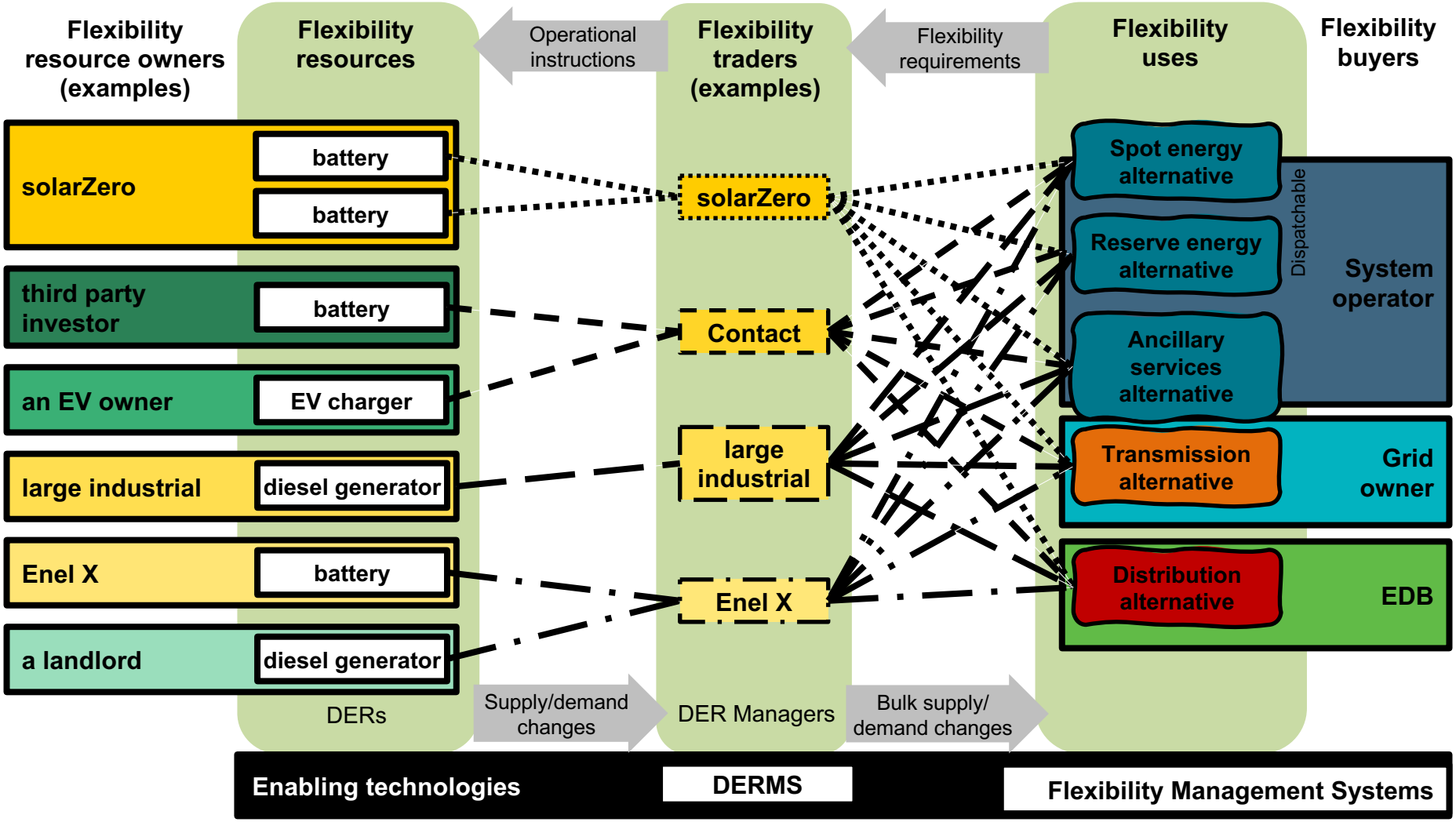
7.1 Commission to actively improve distributors' understanding of the workings of and incentives available in its Part 4 regime.

7.2 Commission and distributors to provide for greater transparency and involvement regarding investment decisions.

4 - Recognises wider regulatory systems and competitive energy markets, and the role of Commission's regulation within them

Equal Access issues 8 – Distributors' own investment in DER is treated as regulated capital rather than contestable 9 to 12 – Questions over whether distributors treat their own and competing DER equally
8.1 Commerce Commission to monitor the application of the cost allocation and related parties rules and report regularly on performance …
8.4 The Authority and Commission will promote and publicise good and bad behaviour, for example, cost allocation, related-party transactions or connection requirements.
8.5 The Authority and Commission will develop and apply principles for publication of decisions relating to investigations (including timeliness) with the outcome being to develop precedent and case law ...
8.7 The Authority and Commission will make greater use of reputation incentives (for example, meet with distribution boards when problems emerge).
8.9 Commission and distributors to provide for greater transparency and stakeholder involvement regarding investment decisions.
8.10 Authority and Commission to develop standards of conduct for DER participants with equal access principles with accountability and consequences for non-compliance, for example mandatory minimum fines.

IPAG's recent review of the Transpower DR programme has reinforced importance of value stacking of DER across all potential uses



Most DER projects do not make economic sense if dedicated to a single use – investors need to "value stack"

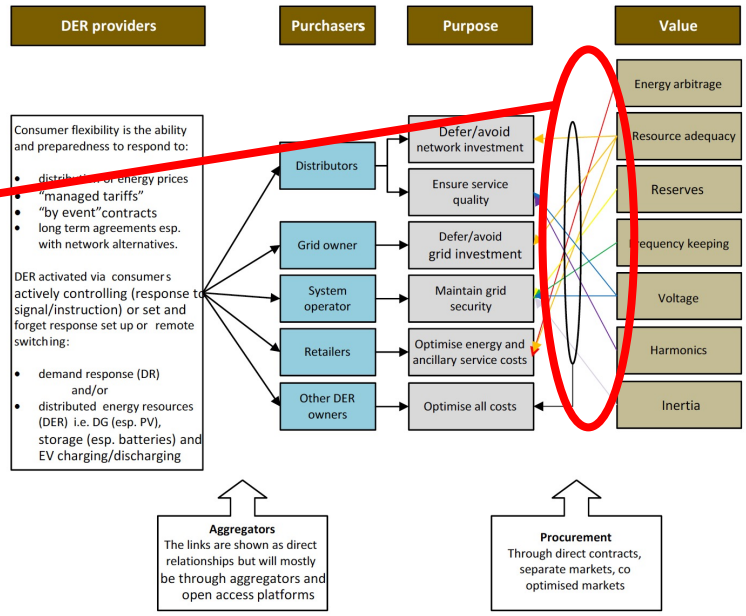
Most DER investments are not economic if they are only used for one purpose – energy arbitrage, distribution investment deferral etc

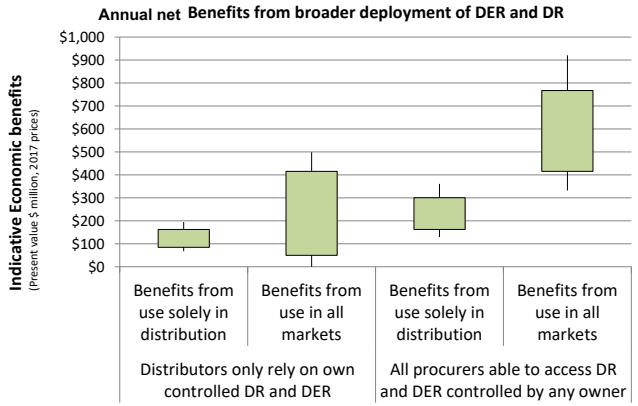
Most DER can be used for different purposes at different times

If the value of <u>each potential use</u> of DER was monetised then <u>many projects would be economic today</u>

Shortcomings in the Transpower DR programme and the lack of markets for non-network alternatives for distributors means that consumers are already paying more for reliable electricity supply than they could be: networks are being expanded prematurely and more costly generation built and dispatched than DER with shared use

This inefficiency will cost <u>in the 10s of billions of dollars over the next 30 years</u> if not remedied





Source: *Distributed Energy Resources – Understanding the potential*, Sapere for the System Operator, July 2020

IPAG's review of Transpower DR programme refines equal access recommendations

1. The IPAG recommends that the Authority monitor what progress Transpower makes on its commitment to not price services for FMS and DERMS in a way that impedes competition for these services or inhibits the development of a marketplace for flexibility managers and flexibility traders. If the Authority believes that Transpower's "DR" programme is distorting markets for flexibility and flexibility management, then the Authority, with the Commerce Commission, could consider imposing on Transpower the same related party transaction rules that are already imposed on EDBs.

2. The IPAG recommends that the Authority monitor what progress Transpower makes on its commitment to ensure that costs are allocated in ways that do not create competition concerns. If the Authority believes that TP's DR programme is distorting markets for flexibility and flexibility management, then the Authority, with the Commerce Commission, could consider imposing on Transpower the same cost allocation rules that are already imposed on EDBs.

3. The IPAG recommends that the Authority seeks assurances from EDBs that, like Transpower, they will not distort markets for flexibility and flexibility management. If EDBs do not provide such assurances, the Authority should regulate through ringfencing.

4. The IPAG recommends that the Authority and Commerce Commission develop processes to nudge EDBs to invest in flexibility and education for EDBs on how to invest in flexibility.

5. The IPAG recommends the Authority and Commerce Commission consider whether EDBs should be required to report on their progress on investing in flexibility services in their information disclosure and/or link each EDB's regulated revenue to their progress on investing in flexibility.

Transpower DR review recommendations anticipate the need for stronger incentives

1. If nudging is not sufficient to trigger change in EDB behaviour, then the IPAG recommends the Authority, with the Commerce Commission, consider whether EDB Directors should be required to warrant that they have fully explored flexibility as an alternative to all material (>$5m) network investments and link each EDB's regulated revenue to their progress on investing in flexibility. The Authority and Commerce Commission would need to make clear to EDBs that this exploration should include considering how they can move away from sub-optimal use of ripple control.