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Electricity Market Measures Submissions
Ministry of Business, Innovation and Employment
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Manawa Energy submission – Measures for Transition to an Expanded and Highly Renewable Electricity System

Manawa Energy **(Manawa)** welcomes the opportunity to provide a submission to the Ministry of Business, Innovation and Employment **(MBIE)** on *its Measures for Transition to an Expanded and Highly Renewable Electricity System* consultation paper **(Electricity Measures paper).**

Manawa's views on the Electricity Measures paper follow. These views are supported by the following expert reports (which are attached as appendices):

- The Lantau Group *Transition to a Highly Renewable Electricity System* (**Lantau report)**
- Sapere *The contribution of mid scale Distributed Generation* (DG) *in a highly renewable electricity system* **(Sapere DG report)**
- Sapere *Barriers to getting the full value from Distributed Generation (DG) in a highly renewable electricity system* **(Sapere barriers to DG report)**
- Calderwood Advisory *Kaimai Case Study* **(Calderwood report)**.

NZES objectives

Manawa supports the Government's New Zealand Energy Strategy **(NZES)** objectives of striking a balance between:

- energy affordability and energy equity,
- security and reliability through transition as we adapt to climate change effects and global shocks,
- transition at pace to deliver net zero by 2050, and
- an energy system that supports economic development/productivity.

There are tensions and trade-offs between these objectives including different perspectives on what 'affordability' means. The Lantau report notes that whether something is considered affordable is not about the value created but about how it is paid for. It suggests that a more actionable objective might be 'cost effectiveness.'[1]

The Lantau report also comments on the importance of ensuring New Zealand's decarbonisation keeps pace with international efforts and allows space for new insights and global developments.[2] The pathway to decarbonisation globally depends on developments which have not yet occurred.

[1] Lantau report page 8
[2] Lantau report pages 3 -10

We anticipate that the Government will need to provide guidance on how its objectives are to be balanced over the NZES term. It will not be possible to do this in a single strategy issued in 2024 so Manawa suggests the NZES provide for the issue of a Government Policy Statement (**GPS)** which addresses the key issues for the current decade. This GPS can then be updated to take into account new challenges and opportunities in subsequent decades as they emerge.

Part 1: Growing renewable generation

Investment in new generation

The current structure of the wholesale market including the spot market pricing mechanism and contract market (comprising ASX futures and bilateral arrangements) provides sound signals for generation investment. To date, these signals have served New Zealand electricity customers well, as investment has come forward to meet demand since the formation of the market.

Manawa is confident that the private sector, given the right regulatory settings, will continue to deliver this investment at the lowest possible cost.

In relation to the new generation build Manawa notes:

- the technology required to meet NZES targets is well understood and not very complex to install, and
- renewable energy generation projects are eligible for a fast-track resource consenting process.

Assuming the resource consent process works as intended and there are no unexpected regulatory interventions, the necessary capital will be available for investment if there is transparent information about the pace of future demand.

The Lantau Group's core recommendations[3] is to:

- allow the market to work as best as possible,
- remove unnecessary obstacles to efficient decisions,
- recognise that investors are irresponsible if they ignore real risks to which they are exposed – as such they will and should sit on the side-lines if the longer-term outlook is insufficiently clear or attractive,
- markets abhor a vacuum and have, by corollary, a robust appetite for well-structured and objective information about system current and expected future conditions, and
- minimise backstop measures to the extent possible and avoid 'think big' type projects, especially if they involve multi-year planning and development, and come at high cost and materiality. The time for these is not now.

It notes:

> *"The challenge is to approach the energy transition in a way that avoids heavy handed intervention whilst providing firm guidance regarding the problem the market is supposed to solve. Afterall, that is what any market is for: to solve the problem of balancing supply and demand through choices and efficient prices. Define the problem well, align the problem with customer preferences and supplier capabilities, and ensure adequacy of competition through ease of entry and exit.[4]"*

[3] The Lantau report page 2
[4] The Lantau report page 2

Transparent information flows

Transparent information flows are particularly important where demand growth is affected by the presence of Government support to promote electrification of process heat or transport services.

The Lantau report observes it is important to:[5]

> *"…provide stakeholders with as much information about future demand drivers and likely outcomes so that stakeholders make informed decisions. Demand projections are not guaranteed, of course, and they may not be seen as credible unless the process and method of their estimation is sufficiently transparent."*

The Lantau report also discusses the impact on demand projections of a Tiwai exit:[6]

> *"So many other uncertainties pale in comparison to this. Given the value that having more time can have when innovation is happening and new technology costs are falling, and given the paralysis that an extraordinary binary risk has on market behaviour, there are few focus areas that can restore a more healthy and efficient energy market than to resolve or figure out how to manage the impact of the Tiwai Point Smelter. Given that it is still only 2023, one could argue that it is prudent to push off any decision whose answer depends on which way the Tiwai outcome falls."*

The value of optionality

The Lantau Group observe:[7]

> *"Our key observation on demand growth projections is not to suggest that one set of figures is more correct than another… but rather to say that any form of electricity projection is prone to error which introduces uncertainty, and the further out you project, the greater these errors and uncertainties become. If the idea is that major infrastructure should be developed 'soon' for such distant effects, that would be a mistake. However, if there are steps that can be taken to shorten the time of development from a point of decisions, that may be prudent. The shorter the time of development, the later the point of decision can be. The option to defer commitment is a positive source of value."*

Retirement of thermal plant in next decade

Manawa considers gas has an important role as a transition fuel and agrees with Concept's analysis that there are sound reasons for thermal plant to remain operational until at least 2032.

Thereafter it is not clear what the best solution for intermittency will be.

The Lantau group suggest that the NZES should have some flexibility about the preferred dates for full thermal retirement:[8]

> *"Whilst it is good to establish firm deadlines, it is reasonable to have well-structured flexibility. Have a clear framework – set a retirement date but allow for the option of deferral of, say, six months upon the payment of a penalty charge whose payment would only make sense if the*

[5] Lantau report page 13
[6] Lantau report page 17
[7] Lantau report page 18
[8] Lantau report page 19

year of retirement happened to be a dry year of sufficient extremity. This approach combines commitment with structured flexibility – moving away from reliance on non-binding commitments or arbitrarily rigid deadlines."

Continued availability of existing renewable generation

Manawa also notes that there is a need to ensure that existing renewable generation continues to be available to meet the forecast demand.

The Sapere DG report describes the significant role DG currently plays in New Zealand's electricity sector[9] and its expected role in the transition. It also outlines the benefits that DG brings to New Zealand's energy system[10]. It notes the focus of regulatory agencies has often been on large scale generation or new forms of distributed energy resources (DER). This means the needs of mid-scale DG are often overlooked[11].

The Sapere barriers to DG report describes some of the regulatory uncertainty Manawa has faced as the largest owners of DG in New Zealand.

DG requires significant resources to:

- secure the consents it needs to operate. By way of example over the next 10 years, Manawa will be reconsenting 11 Hydro-electric schemes. This amounts to 35% of Manawa's existing generation capacity).
- obtain and maintain reasonable access terms from distributors whose loyalties often lie with existing end users rather than the supply system as a whole (this point is expanded on in the section on Networks for the Future).

To assist Manawa mitigate these challenges it would be helpful if the Government formally acknowledged the role DG (and other DER) plays in the overall energy system. This has been done before.

For example, GPSs in 2006 and 2008 included a clause that stated[12]:

"Distributed generation is expected to play an increasingly important role in meeting electricity demand as the cost of smaller-scale and new renewable technologies continues to decline. Distributed generation can improve security of supply by creating diversity of fuel types, locations and technologies, and, where appropriately sited, helps reduce the need for transmission and distribution upgrades. Accordingly, it is important that there are no unnecessary barriers to its development."

Similar statements were also included in the GPSs of 2000, 2002 and 2004.

It would be useful to have an updated version of this clause in place to assist with Manawa's day-to-day engagement with a variety of regulatory agencies and distributors. The updated clause should confirm that new DG must be from renewable sources of energy. The clause could be supplemented

[9] Sapere DG report slides 6-8
[10] Summarised in slide 4 of Sapere DG report
[11] Sapere DG report slide 11
[12] https://gazette.govt.nz/notice/id/2006-go7539, https://gazette.govt.nz/notice/id/2008-go3985

by specific GPS actions to support the deployment of DER as barriers are identified. A couple of suggested actions are included in "Networks for the Future" (below).

Role of large-scale flexibility

Manawa agrees that demand response, demand management and, over time, behind the meter injection (collectively **large-scale flexibility**) will have an important role in reducing or shifting peak demand (and thereby limiting the need for investment in new generation and new network infrastructure). Large scale flexibility can also be used to provide ancillary services, firming capacity and to mitigate market power.

Demand response is a proven technology. It can occur in response to price signals or by remote switching. It can be delivered by end users (large industrial plant or residential consumers), some other party (such as a flexibility provider) or a network operator that has some form of control over an end users' load. New energy technologies (smart meters, energy management systems, other controllable devices) increase demand response capability and enable the prospect of aggregating demand response into *a resource of scale***.**

It has long been known that demand response was an important part of an inclusive energy system.

New Zealand has had various forms of demand response for decades. Examples include:

- bulk energy tariffs were levied for many decades on the basis of peak demand providing incentives for investment by local supply companies in load management and distributed generation,
- ripple control has been used by distributors since the 1950s to support system security, manage outages, reduce transmission charges and defer network investment. It has been estimated that under the previous Transmission Pricing Methodology **(TPM)** there was 644MW of ripple control water heating available during peak periods,
- domestic consumers reducing consumption during public conservation campaigns and
- Transpower has undertaken a number of demand response trials e.g., as an option to defer network investment. Participants include campus-based organisations, like hospital and universities and dairying operations.

However, the Electricity Authority **(Authority)** has questioned the efficacy of previous demand response initiatives:

- the RCPD peak price signal has been removed and replaced by a set of fixed charges, and
- Transpower's demand response scheme curtailed as the Authority thought it would interfere with wholesale prices.

It prefers to see demand response being bid as dispatchable demand in the wholesale market now real time pricing has been introduced.

Manawa notes previous initiatives by the regulator to promote demand side participation in the wholesale market were not very successful and that international jurisdictions have also struggled with the challenges of effectively integrating demand response into wholesale market designs. There is also a complex interplay between price signals for flexibility across all value streams (transmission,

distribution and wholesale market), along with the need to enable value stacking opportunities for DER resources, that need to be worked through to fully unlock the value for flexibility in the future.

For these reasons, Manawa is not sure if New Zealand will get to the optimal levels of demand response solely through market developments under the real time pricing.

Manawa supports the work identified by both the MDAG and Flexforum to facilitate the value of large-scale flexibility being realised across the supply chain, including via more dynamic distribution network pricing. Manawa does not however, consider there is any need to develop a Nega-Watt arrangement for the wholesale market, similar to that adopted in Australia's National Electricity Market **(NEM)**, at this time. This is because there is evidence that large-scale flexibility options are beginning to emerge, for example the recent agreements with Tiwai. Heavy handed interventions to support the large-scale flexibility market developing at pace come with significant risks of creating distortions, as evidenced in overseas jurisdictions.

To support the necessary changes occurring at pace, Manawa suggests that the Government include an obligation on the Authority and the Commerce Commission **(Commission)** (to the extent it has a role in enabling funding for non-wires alternatives such as large-scale flexibility) to address any barriers for the emergence of large-scale flexibility within a specific timeframe.

Suggested measures to address issues raised in Part 1: Growing renewable generation	
Implementation of NZES objectives	Manawa recommends the NZES provides for the issue of a GPS setting out the Government's priorities for the next decade (including guidance to its regulators on how trade-offs between its aspirations should be made). This instrument can then be updated to address new insights and developments as they emerge. Manawa also suggests that the NZES objective of "affordability" be replaced with "cost effectiveness" (which can be more readily assessed).
New renewable generation	Manawa recommends the Government: a) provide stakeholders with as much information as possible about forecasted demand growth, b) consider what steps it might take to shorten the development time for new investments, but otherwise, c) rely on the market to determine the timing and mix of new renewable generation.
Existing renewable generation	DG's ability to receive reasonable access and consenting terms would be assisted if a GPS acknowledged the role that DER (including DG) play in meeting NZES objectives and required regulatory agencies to ensure that these resources do not face barriers.
Large scale flexibility	The Authority and the Commission need to be given a specific action to address barriers to large-scale flexibility (including DER and demand response) with a timeframe for delivery.

Part 2: Competitive markets

Maintaining workable competitive markets

Manawa acknowledges that as thermal plant retires there is a risk, for a period of time, of weakened competition in the market for flexible generation resources (such as hydro storage). This has already been identified by the Authority and the Market Development Advisory Group (**MDAG**).

To address this risk the Authority has introduced trading conduct rules for the spot market and is considering extending them into the hedge market. It has also improved information disclosure and is considering if there is anything it should do to enhance access to firming capacity. It plans to continue market monitoring and active enforcement.

The Lantau report comments:[13]

> *"When we looked at competition in the New Zealand market as part of the Authority's 2021 review, we made a number of observations that still hold true.*
>
> 1. *In any electricity market, we would expect that it is possible for some market participants to have some market power at some time or in some locations. The practical standard for electricity market structure in New Zealand or anywhere to date has not been perfect competition. However, it is not the existence of market power that should give concern, but whether such market power is being exercised to a degree that necessitates consideration of corrective, mitigating, or other forms of targeted action.*
> 2. *In trying to address a problem perceived with short run allocative efficiency it is important that the 'measure' applied does not dampen long-run dynamic efficiency. In an environment where a key policy objective is to attract new investment to support a low emissions economy, such 'measures' run the risk of being counterproductive.*
> 3. *Freedom to contract between well informed and willing buyers and sellers in the absence of market power being an unduly material factor, is a cornerstone of workable markets.*
> 4. *The light cast by transparency helps to ensure an orderly market (absent the possibility of enabling tacit collusion). A salient example being the requirement for disclosure of risk management contracts provided for under part 13, subpart 5 of the Code.*
> 5. *There will need to be a greater acceptance that high prices are sometimes required to allow a market to be both allocatively and dynamically efficient.*
> 6. *The Authority can support the energy transition by ensuring that its regulatory tools do not distort pricing signals through blunt un-targeted measures. The recent weekly trading conduct reports are an excellent example of a prudent regulator lifting confidence in market outcomes through increased transparency.*
>
> *We are pleased to see that following the 2021 review, the Authority's actions to constrain the exercise of market power (refer Section **Error! Reference source not found.**) are well aligned w ith these observations."*

[13] The Lantau report page 29

The Lantau report further notes that market power is mitigated by the speed and flexibility of entry which is likely to significantly increase in the future.[14] This reinforces the view that no further action is required.

Suggested measures to address issues raised in Part 2: Competitive markets	
Weakened competition in supply of firming capacity as thermal exits	Manawa recommends that the Government reinforce the priority of existing workstreams to address potential market power issues but does not undertake extra measures such as mandated ring fencing of generation assets, virtual asset swaps or physical break-up of generation capacity or introduce a single buyer.

Part 3: Networks for the future

Part 3 of the Electricity Measures paper discusses the need to ensure New Zealand's transmission and distribution networks support new renewable electricity and electrification and seeks feedback on the sufficiency of current regulation and future workstreams.

This section begins with the need for more cohesion between the industry's regulators.

Improved regulatory cohesion

The current allocation of regulatory responsibility between the Commission and the Authority involves shared roles with respect to the regulation of monopoly networks.

In transmission:

- the Commission determines Transpower's overall revenues, including the process by which Transpower's regulated asset base is increased by the approval of grid investments,
- the Commission also determines the quality/service standards which apply during each price path, and
- the Authority determines grid reliability standards, which assets form part of the core grid, the terms of default transmission agreements (which also include service standards), and sets guidelines on how transmission revenues are allocated amongst transmission customers.

In distribution:

- the Commission determines price paths and quality/service standards, and sets input methodologies which include the scope of regulated versus unregulated businesses and the recoverability of payments made to distributed generation,
- the Authority has power to determine access arrangements which also include service standards (in the form of regulated access terms or use of system agreement guidelines), create markets for evolving technologies, set the default terms which apply to the connection of DG, and decide if and how tariff structures should be regulated, and
- the Authority enforces the rules requiring the split of certain generation and retailing from distribution.

[14] The Lantau report page 29 - 30

This sharing of responsibility creates the potential for inconsistency, delay, and matters falling between the cracks. It also becomes problematic when the regulators have different views on similar policy issues or where regulated entities face the double jeopardy of parallel regulation. This is why Trustpower[15] suggested in its submission to the Electricity Price Review that a single agency – the Commission- take responsibility for regulating network entities.

Since that submission some regulated entities have been calling for a single Minister of Energy for similar reasons. This is understandable. However, it is acknowledged institutional change takes time and the NZES is focussed on "transition at pace".

For this reason, Manawa thinks the best way to achieve regulatory cohesion is for the Government to:

- undertake more active stewardship of the sector (discussed in the section on Whole of system considerations),
- amend the statutory objectives of the regulators, and
- provide clearer (ongoing direction) on respective priorities for each regulator through the mechanism of a GPS.

Statutory objectives of network regulators

Both the Commission and the Authority have objectives which focus on efficiency of the regulated parties not the broader NZES outcomes. In addition, the Commission is not currently entrusted with a "whole of supply chain view". Instead, its focus is on the consumers of transmission and distribution services not the consumers of other electricity markets (such as generation, retail and behind the meter services) or other industries such as the transport or manufacturing sectors.

Commerce Act

Part 4 of the Commerce Act provides for the regulation of the price and quality of goods or services in markets where there is little or no competition and little or no likelihood of a substantial increase in competition. Its purpose is to promote the long-term benefit of the consumers of such services. The Commerce Act defines the long-term benefit of consumers as being a market where suppliers have incentives to innovate and invest, share efficiency gains and not make supernormal profits. (Sections 52 and 52A)

The Electricity Industry Act

Section 15 provides that the main objective of the Authority is to promote competition in, reliable supply by, and the efficient operation of, the electricity industry for the long-term benefit of consumers. The Authority's additional objective is to protect the interests of domestic consumers and small business consumers in relation to the supply of electricity to those consumers.

It follows that while both agencies may be able to consider climate change objectives in discharging their duties (as permitted by section 52N of the Climate Change Response Act) they are not empowered to the make decisions which have the effect of advancing these objectives unless they are a convenient by-product of their efficiency imperatives. This needs to be rectified.

[15] Trustpower sold its mass market customers and changed its name to Manawa Energy in 2022

Government policy statements

Manawa acknowledges the concerns of the Electricity Price Review that amending the statutory objectives could pull the regulators in too many directions, require difficult trade-offs between competing objectives and blur accountability. It is likely the changes in the operating environment described earlier in this submission will also have this effect. Manawa's solution is for the Government to take a more pro-active role in guiding its regulators on the priority areas of action and/or difficult trade-offs.

Current legislation permits the issue of a GPS.

Section 26 of the Commerce Act provides that:

> In the exercise of its powers under this Act, the Commission shall have regard to the economic policies of the Government as transmitted in writing from time to time to the Commission by the Minister.

Section 17 of the Electricity Industry Act provides that:

> In performing its functions, the Authority must have regard to any statements of government policy concerning the electricity industry that are issued by the Minister.

There is settled case law as to the meaning of "have regard to". The High Court in *NZ Co-op Dairy Ltd* said:[16]

> *We do not think there is any magic in the words 'have regard to'. They mean no more than they say. The tribunal may not ignore the statement. It must be given genuine attention and thought, and such weight as the tribunal considers appropriate. But having done that the tribunal is entitled to conclude it is not of sufficient significance either alone or together with other matters to outweigh other contrary considerations which it must take into account in accordance with its statutory function."*

This case law explains why a change to the statutory objective is required (as well as the issue of a GPS) as the GPS will not have any effect if it relates to an action outside an agency's statutory functions.

Transmission system for growth

Prudent transmission investment or investment in network alternatives will have a different meaning over the NZES period in the context of a 68% increase in electricity generation[17] then the more recent period of flat demand. This is because in an environment of:

- uncertain but significant future demand growth,
- expected increase in climate change events,
- long lead times for transmission investment (7-10 years) and many
- inter-related critical path dependencies

[16] Pp612-3

[17] Forecast by Transpower in its March 2020 *Whakamanama i Te Mauri Hiko: Empowering our Energy Future*

there is a considerable risk that the "just in time" investment, currently favoured by the Commission and Authority on behalf of consumers, becomes "just too late".

The costs of higher wholesale prices, loss of supply, or higher emissions under a "just too late" outcome will be far greater than the costs of short-term spare transmission capacity. This change in operating environment is relevant to:

(a) the investment approval process administered by the Commission including the grid investment test,
(b) the quality and service standards that apply to the provision of network services, and
(c) the Authority's TPM which is currently designed to set up a contest between beneficiaries and Transpower to encourage the deferral of major investments (and no longer provides any rewards for deferring network peaks).

Grid investment test

Manawa agrees with Transpower that a strict market test is not likely to be flexible enough to take into account wider NZ Inc benefits such as climate change policy and CO2 emissions. Manawa recommends the Commission be invited to review this test following the suggested change to its statutory objective.

Grid reliability standards

The grid reliability standards are administered by the Authority but are an important input into the grid upgrade approval process administered by the Commission.

These standards require Transpower to invest to maintain n-1 reliability on the core grid and for the balance of the grid to achieve the level of reliability that occurs if all economic reliability standards were adopted. The grid reliability standards and the definitions of core grid have not been amended since they were developed by the Electricity Commission (the Authority's predecessor).

The Kaimai case study in the Calderwood report provides a real-world example of how the definitions of core grid, connection and interconnection assets inter-relate to establish the reliability obligations on networks owners and their consequential obligations (if any) to pay for network support.

The report shows that there is at best a lack of clarity about, or at worst limited obligations on, the relevant network operators (Transpower and Powerco) to maintain n-1 reliability for the Tauranga region. As a consequence, there is no appetite for either party to pay for services to meet this standard in the period prior to network upgrades.

Manawa thinks that consumers' expectations of reliable network services are higher than the current legal obligations. It follows that these standards should be revisited by both regulators, particularly in the context of removal of the transmission peak charges which previously encouraged local generation and thereby supported local resilience. Manawa recommends this as a priority area of action for the GPS.

Transmission Pricing Methodology

As noted earlier, the current TPM has been designed to delay investment until the last possible moment.

It is a very complex methodology and is already creating barriers to investment due to the unintended and non-intuitive consequences from its modelling of assumed beneficiaries. The TPM is also at risk of creating new sources of unaffordability in its belief that it is efficient to charge communities with underbuilt networks or sparse populations for the costs of climate change events or resilience upgrades.

The Government's short-term solution to the latter problem has been to expand the criteria for which GIDI funding is available to include transmission infrastructure. However, we think a longer term (less political) solution is required for the NZES term taking into account the need for stability when long-term investments are made.

This would occur if central government took responsibility for the pricing principles which need to be applied for transmission investment including the degree to which it is desirable to socialise pricing and/or signal capacity constraints in particular regions through a simple price signal.

Once these pricing principles were established it would be a relatively straight forward endeavour for Transpower to design a methodology which would allocate its costs in accordance with these principles. This should include the responsibility for adjusting price signals on a regular basis, for example each regulatory control period, as new investments are made, and the capacity restraint eased.

Dealing with the problem at source should avoid a patchwork of socialised pricing through GIDI because the Authority did not consider socialised pricing fitted within its efficiency remit.

Connection to the core grid

Connection barriers are not limited to the distribution networks. There is a potential for inefficient delay to occur at the grid level as well. A significant contributing factor to this is access to skilled resources. Manawa suggests that the progress of access requests should be monitored by regulators so an accurate picture can be built of the sources of delay and possible solutions.

Distribution networks for growth

The Electricity Measures paper identifies four possible gaps in the current regulation of distribution networks:

- the flexibility of the current regulatory model,
- the connection barriers faced by new access seekers,
- the impact of current cost allocation models on first movers, and
- the lack of pricing signals to support more efficient use of networks.

Manawa agrees that these are current issues but note that in some instances the issues (and opportunities) are broader than outlined in the paper. For example, access issues do not just arise at the point of a new connection but throughout the life of the connected plant.

Current regulatory model

A significant challenge in the New Zealand supply chain is the large number of distributors relative to the size of its population. There is a real risk that this structure does not result in the efficiencies available from larger scale entities.

In addition, a different regime for consumer owned distributors makes it more difficult to guide behaviours towards NZES outcomes. Trustpower's submission to the Electricity Price Review suggested that there was an opportunity to simplify Part 4 regulation by bringing all distribution companies into the same form of regulation (simplified individual price quality paths) where the regulator provides a spreadsheet model and some key assumptions (such as regulatory weighted average cost of capital, desired efficiency factor etc). Distributors would then populate the model, the results of which would be reviewed and modified as the regulator saw fit. This process could easily apply to the distributors that are currently exempt as it is a relatively low-cost approach.

Further, an option to fast-track price paths could be included where the proposal meets designated conditions - such as compliance with certain parameters or benchmarks. Ideally these would also include matters currently regulated by the Authority. For example, fast-track price paths could be available if a distributor committed to particular NZES-focused measures e.g.:

- by the end of the regulatory period x% of consumers of class "a" can manage their demand in response to electricity price signals, or
- y% of network support services have been procured through open market tenders.

Trustpower's Electricity Price Review submission also noted that some jurisdictions use totex (a single value for opex plus capex) when setting revenues rather than specific opex and capex forecasts. This is to avoid the potential for a bias on the part of distributors in favour of enhancing the balance sheet by investing in capex at the expense of more efficient opex.

Manawa thinks these ideas still have merit in the context of achieving NZES objectives.

<u>Barriers for new connections</u>

It is clear that there is a wide gulf between access seekers and distribution companies about the appropriate basis for connection. Submissions from access seekers on the Authority's recent *Targeted reform of Distribution pricing* consultation paper:

- requested more transparency about pricing practices both initially and throughout the term of the connection contract,
- shared their frustration about the lack of pro-active information sharing by distributors on network capacity,
- called for more standardisation and consistency in connection policies,
- expressed concern about the ongoing potential for abuse of monopoly power from distributors when setting access prices and terms, and
- sought more regulatory intervention from industry regulators to address bottlenecks, guard against inefficient pricing and unfair contract terms, promote more innovative solutions to connection issues and ensure that the electrification momentum is maintained.

In contrast, distributors did not think there were any systemic issues on connection access or connection pricing. Nor any need for urgent reform.

Manawa's review of distributor submissions suggested that the lens that many distributors apply to connection access issues was that of an advocate for existing end users within their network region. It is possible that if distributors were required to include NZES imperatives into their decision-making about access to their networks, they would approach access requests differently.

However, Manawa has reservations, based on past performance, about whether they, or the Authority will be able to implement the needed 'transition at pace'.

It would be prudent to include action on connection access in a GPS (with specific timeframe for implementation).

Barriers for distributed generation

It is also important to consider the risks that connected parties (load or generation) may face if distributed networks come under pressure.

Manawa has recently come up against an operational policy of a consumer owned distributor which sought to unilaterally impose curtailment rights on existing mid-scale generation if the distribution network became congested (as a result of subsequent connections or a lack of upgrades). In explaining this policy, the network gave no recognition to the value provided by DG to end users or as part of New Zealand's low emissions future. Instead, its focus was simply for existing end users 'who had paid for the network in the past' to face no barriers to connections in the future such as domestic solar panels.

This change of terms after capital is deployed is deeply problematic and underscores the need for a regulatory support for connected parties.

Manawa recommends that all access seekers have the benefit of a regulated regime which allows for non-discriminatory access terms and pricing and gives confidence of the reasonableness of proposed terms. A degree of standardisation will be appropriate for some types of access seekers, but larger connections will need bespoke terms (such as a negotiate/arbitrate regime).

This also should be a priority action in the GPS.

First mover disadvantage

Access seekers should only have to pay for the costs of connection assets right sized for their connection. Any efficient over-sizing should be socialised across all grid users. These costs would be mitigated if depreciation on the over-sized assets was backloaded until subsequent movers arrive.

Distribution pricing

As was noted in Trustpower's submission on the Electricity Price Review the Authority has been working on distribution pricing since its formation. This has taken significant resource and progress towards a regime, which provides simple, clear, and actionable price signals at times of peak demand for DER, has been inexorably slow.

A circuit breaker is needed and it is probably best provided by legislated pricing principles. This should be a priority action in the GPS.

Renewable energy zones

A renewable energy zone is a possible solution to the disadvantages faced by first movers accessing transmission and distribution networks but Manawa thinks it would be better to address the problem at the TPM/distribution pricing methodology level, by providing for socialisation of costs of anticipatory capacity.

Trustpower's expert Creative Energy Consulting advised the Authority of the importance of this issue for the energy transition[18]:

> *"The TPM approach creates a first-mover problem – which the EA recognises but has not been able to satisfactorily address – where an entering generator triggers new investment (whether for connection or for interconnection) incorporating excess capacity for which it is required to pay the lion's share until later entrants arrive. Of course, it cannot know whether these will arrive at all. So moving first is extremely risky, and will result in a crisis of coordination: no project that is planning to connect in an area where there are likely to be later-movers will want to be the one who goes first.*
>
> *The experience in Australia has been that solving this coordination problem is critical to the transition to renewable generation. Like the EA, Australian regulators first attempted to develop arrangements where first movers would be responsible for these costs and risks, but ultimately found these to be infeasible or impractical. These have now been superseded by new arrangements where transmission and generation entry in a REZ are centrally coordinated, and the transmission costs and risks are variously shared between entrants, load customers and taxpayers. I expect that the EA's proposals will similarly fail to meet the needs of the energy transition and be superseded. Notwithstanding that, the TPM could be substantially improved in this area by providing that load customers generally, rather than first movers, bear the initial costs and stranding risks of the excess capacity, through adjustments to the residual charge. This will substantially help with the first mover problem, whilst imposing limited risks and costs onto load customers."*

If there was a move to a socialised cost regime (and more permissive investment environment) the first mover disadvantage issues will be of less concern.

Suggested measures to address issues raised in Part 3: Networks for the future	
Improve regulatory cohesion and alignment	Amend the statutory objectives of the regulators and provide clearer (ongoing direction) on respective priorities for each regulator through a GPS.
Grid investment test	Invite the Commission to reassess the Grid Investment Test after its statutory objective has been changed to take into account the NZES.
Grid reliability standards	Invite the Commission and Authority to jointly assess the appropriateness of the current grid reliability standards and quality paths to ensure that end users expectations of reliability are met. Ensure that opex allowances will support the contracting for non-network services to meet the new standards pending network upgrades.
Transmission pricing	Replace socialised pricing of particular transmission projects through the GIDI fund with a longer-term solution such as legislated transmission pricing principles.
Connection to core grid	Invite the regulators to monitor progress on access requests to core grid to ensure the shortest possible development time for projects.
Extend and simplify price	Bring all distributors into the same simplified price quality path regulatory regime which includes a fast-track approval process for those distributors who

[18] https://www.ea.govt.nz/documents/1859/Trustpower-TPM-submission-2021.pdf

regulation for distributors	meet conditions that align with NZES objectives. Ideally this would include matters currently regulated by the Authority.
Regulate connection access and pricing for all access seekers	Require the Authority to develop a new access regime for load which provides standardised and streamlined process for some access seekers and a bespoke arrangements such as a negotiate arbitrate model for large load. Ensure that all connected parties (including DG) have access to an efficient dispute resolution process for access disputes
Distribution pricing/REZ zones	Legislate 'good enough' distribution pricing principles so the industry can move on from a tortuous reform process. This could include guidance on how efficiently over-sized assets should be recovered.

Part 4: Responsive demand and smarter systems

New Zealand will need a step change in the amount of demand response or large-scale flexibility in its energy system in line with the step change being made in generation and network investment. To help realise these benefits Manawa thinks that there is value in the Government providing clear direction on the value of flexibility markets in the energy system and value in it working with industry to develop specific options for trading flexibility including future digital platforms.

In some cases, as noted in the Calderwood report, what is missing is actually a standard of delivering desired levels of reliability or resilience. If the standards are revised to meet consumers current expectations then there is a much greater likelihood that network companies will contract for non-network solutions to meet their obligations. However, the Commission and the Authority will need to work together to ensure that this is done.

In other cases what is missing is a suitable platform for aggregation of demand response including an efficient digital platform. This is where Manawa thinks the Government could work with industry and provide financial support to identify the best options.

Suggested measures to address issues raised in Part 4: Responsive demand and smarter systems	
Improved government direction and support	Include in GPS a clear statement of the priority afforded to the development of flexibility markets, including those basic hygiene matters that should be addressed as a first priority such as establishment of standards for connection of DER resources, communication protocol and access to necessary data.
Enforce new network reliability standards	Require the Commission and the Authority to work together to ensure that non-network alternatives that add value to the system are identified and rewarded.
Develop suitable trading platforms	Partner with industry to identify and develop suitable trading platforms for the trading of flexible resources.

Part 5: Whole of system considerations

Formal co-ordination

Decarbonisation will involve a coordinated effort of the entire electricity value chain – generation, transmission, distribution, DG, retail and the various behind the meter entities. It will also involve complex trade-offs between the various objectives of the NZES: sustainability, equity, security and economic prosperity.

Part 5 of the Electricity Measures paper discusses whether there is a need for greater formal co-ordination of the system as a whole including the formation of a new agency tasked with such coordination. Manawa does not think New Zealand needs a further agency but does suggest that once the NZES is developed MBIE takes a more active role in monitoring its implementation.

Since the market began technology and demand have been relatively stable. In this environment it might have been appropriate to undertake Ministerial reviews every decade or so on a "re-set and forget" basis[19]. However, in the current environment we think more active market and regulatory stewardship will be required by Government to keep the industry and in particular its regulators on track. This needs to be done transparently and in a way which does not impede incentives to invest. This is why Manawa favours a GPS over a new institution.

The GPS will provide a useful vehicle to address the challenges faced by DG. In the Sapere Barriers to DG report, these challenges are identified as a combination of:

- the nature of existing regulation including convoluted clauses and lack of clarity,
- multiple regulations impact on DG each subject to their own interpretation,
- the added complexity of having two different regulators: one setting standards and the other seeking consideration of non-wire alternatives,
- the interpretation of regulation and the particular lack of governance and compliance on distribution compared to transmission networks,
- the absence of regulations in some cases, and
- the failure to date of market mechanisms to emerge that would unlock DG's ability to fully monetise its value.

In summary, Manawa sees the GPS:

- providing context and guidance to all entities making decisions about energy projects,
- setting out the Government's specific expectations for each part of the electricity value chain (generation, transmission, distribution, DG, retail and behind the meter services),
- establishing the priority areas for action for the industry regulators including delivery timelines and how transitions should be managed, and
- assisting the industry regulators on the trade-offs to be made in relation to the NZES objectives.

Manawa hopes that if the Government sees any further regulatory stumbles, such as those highlighted in this submission (and Trustpower's submission to the Electricity Price Review) it will provide guidance through an update to the GPS so opportunities for more efficient and cost-effective supply are not lost or unnecessarily delayed.

[19] Such as the Caygill inquiry in 2000, Layton review in 2009 and the Electricity Price Review in 2019

Suggested measures to address issues raised in Part 5: Whole of system considerations	
Improved regulatory and market stewardship	Government should engage in more active regulatory and market stewardship using the mechanism of a GPS to both provide initial direction and, over time, address any missteps.

If you have any questions regarding the content of this submission, please contact Grace Burtin, Regulatory Manager.