2 November 2023

Electricity Market Measures Submissions
Ministry of Business, Innovation and Employment
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Wellington 6140
Via email: electricitymarkets@mbie.govt.nz

Tēnā koe,

Energy market measures as we transition to an expanded and more renewable electricity system

Powerco Limited (Powerco) welcomes the opportunity to contribute to the discussion on MBIE's consultation paper, "Measures for Transition to an Expanded and Highly Renewable Electricity System."

As one of Aotearoa's largest gas and electricity distributors, servicing approximately 356,000 homes and businesses with electricity and 113,000 with gas across the North Island, we understand the pivotal role our energy networks play in achieving a net-zero economy by 2050.

Powerco sees an opportunity for New Zealand to leverage its clean energy system to grow to zero

New Zealand already has one of the lowest carbon energy systems in the world. It will become even lower carbon as we electrify more of our economy due to our extraordinary endowment of renewable electricity resources. We can leverage that endowment to attract new business and investment if we choose to. That endowment is one of our few relative advantages.

What concerns us is the risk of meeting emissions targets by shrinking our economic base, and outsourcing production to higher emitting economies. This will increase global emissions, reduce our economic resilience and our capacity to fund adaptation. Our clean energy system means we could seek a more ambitious path; one that gives us the chance to grow more quickly as we meet our net zero 2050 target. To support this ambitious path, policy settings across Government agencies must be aligned towards enabling confidence in investment and growth. This includes a sound energy strategy that pragmatically integrates all elements of the energy trilemma: affordability, security of supply, and lower carbon outcomes.

The immediate priority is stabilising the investment environment to ensure security and resilience. Then move quickly to growth.

The Government must work with industry to develop a directional Energy Strategy that sends strong signals to policy makers and regulators to reduce uncertainties and accept kiwis want a pragmatic balancing of the energy trilemma. We can't afford any other way:

1. **Rapid electrification is needed, and it needs to be supported by gas. Remove unintended barriers to energy security and affordability**. Perhaps counter-intuitively, a thriving gas system will accelerate decarbonisation as it lowers the cost of electricity and supports renewable gases.
2. **Investment in energy infrastructure is needed now. So regulatory settings need to enable it.** Targeting investment just in time will be too late. Targeting just enough investment, will deliver too little. Favour progress over perfection to expand energy infrastructure.
3. **Enable the use of all available technologies and options for the transition.** NZ has all we need to integrate the energy trilemma practically in the energy transition if policy enables it.

Feedback on the consultation paper

Now is an opportune moment to reassess the legislative framework, policies, and accompanying measures necessary for New Zealand's transition towards a more expansive and increasingly renewable electricity system. This transition is not just about expanding renewable electricity but about ensuring that the electricity system remains affordable, reliable, and resilient. This consultation process should shed light on the most effective pathways toward a more renewable electricity system, while also offering insights into the government's role in enabling this transition.

Rather than providing a point-by-point response to every question within the paper, we've offered overarching insights and more detail on particular points of note. This decision stems from the fact that many of the topics covered in the paper are already being explored by various stakeholders, as outlined in the document itself.

Our submission adopts a long-term outlook, with a particular emphasis on measures that will facilitate electricity distribution networks in delivering the $22+ billion investment required in the 2020s to enable electrification and integrate distributed energy.

Our submission is structured around two central themes:

- Supporting rapid electrification. We highlight changes that will foster rapid electrification.
- Leveraging markets and transparency before regulating. We emphasise the opportunities and value of leveraging markets and ensuring transparency as initial steps before contemplating regulatory measures.

Our more detailed insights on these themes are provided in Attachment 1. For additional information about Powerco and our network, please refer to Attachment 3. If you have any questions about this submission, please contact Nathan Hill (Nathan.Hill@powerco.co.nz).

Nāku noa, nā,

General Manager, Customer
POWERCO

Attachment 1: Powerco's feedback on the Consultation Paper

Supporting rapid electrification

Looking out several decades, and considering primary legislation or policy settings, we have identified six big issues.

National Direction and streamlined consenting for distribution networks

We recommend a National Policy Statement (NPS) and National Environmental Standard (NES) for distribution networks alongside the NPS and NES for generation and transmission. Despite a consensus of the increased role of distributed generation and distribution networks, this isn't currently recognised in the consenting framework.[1] The current state is

- ✓ NPS for renewable generation
- ✓ NPS for transmission
- × ~~NPS for distribution~~

With no current national direction, the distribution system faces the pressing issue of:

- Inconsistent approaches in RMA plans and consent requirements
- Unnecessary burden from other environmental legislation
- Inability to implement pragmatic network improvements / upgrades

Powerco is Aotearoa's largest electricity and gas distribution business by footprint, our network extends across 29 territorial and 7 regional authorities. For Powerco to operate efficiently and effectively; a consistent approach to network activities would provide significant value. Some of our assets are the same voltage and type as Transpower's, yet the NPS/NES for electricity transmission does not apply.

An issue of particular concern is an inconsistent approach to activities around existing distribution assets. Examples of inconsistent approaches and consenting barriers to projects in the absence of NPS/NES are provided in Attachment 2.

As a lifeline utility, it is imperative that the timely replacement or necessary upgrade of assets can be undertaken to ensure continuity of supply. We note that the current review of the NPS/NES for renewable electricity generation and electricity transmission does not provide adequate solutions for electrification at pace.

1 Boston Consulting Group's (BCG's) The Future is Electric roadmap estimates that $22 billion of investment is needed in distribution infrastructure to enable electrification in the 2020s and prepare networks for rapid electrification and multi-directional flows. This is more than twice that required in transmission, and yet current NPS are for transmission only.

EDB regulatory frameworks for electrification

We recommend changes to the regulatory framework to facilitate EDBs to play their pivotal role in facilitating electrification. An expanded and increasingly renewable electricity system demands substantial expansion and investment in New Zealand's distribution infrastructure.

In achieving the right balance between pace and perfection, an effective approach should embody several key characteristics:

- It should ensure financial viability, enabling EDBs to fund investments.
- It must be adaptable to address uncertainties, allowing for agile adjustments as circumstances evolve.
- It should ensure that investments are planned carefully, with timing and robust rationale in sync with future needs.

Now is an opportune time to look at what regulatory direction needs to be in place in the 2030s and beyond to support changes to the Input Methodologies, particularly to inform future IM review processes (after the 2023 IM review).

Refinements to the legislative framework that are crucial to directing the Input Methodologies and broader regulatory implementation include:

- **Incorporating decarbonisation objectives into the Commerce Act**. This would provide certainty to regulators and the regulated. If amending the Act is difficult, other tools could also be used to provide timely direction to regulators such as a Government Policy Statement.
- **Exploring adjustments to the length of regulatory periods** to provide regulators and regulated the opportunity to change more quickly (currently 4 or 5 years).
- **Reviewing the conditions for applying (or not) economic regulation to EDBs in addition to Part 4 regulation**, for example providing scope for innovation amongst EDBs that is workable and can provide national benefit from the learnings.
- **Reviewing processes to enable more flexibility to respond to uncertainty** (such as large load connections)[2]. The Commerce Commission is currently considering how the regulatory regime for price-quality regulated EDBs can provide similar flexibility as that for EDBs not subject to economic regulation.
- **Consider individualised price paths for EDBs with significant scale or significance**.

Alongside the recommended refinements in the legislative framework, realigning the priorities and directing the implementation of regulations would advance electrification efforts. For instance, a Government Policy Statement confirming a decarbonisation objective (see above), along with more comprehensive delivery reporting, and elevated standards in asset management practices across all electricity networks to forecast, plan and invest at the levels required to support earlier investment for future demand.

[2] As highlighted in para 228 of the Consultation Paper in the example for GIDI timeframes

Update the approach to setting regulated electricity networks' expenditure allowances to support network investment and delivery capacity

We welcome the Commerce Commission's proposal to revamp its approach to setting EDB capital expenditure allowances for the forthcoming default price-quality path (DPP4).[3] We firmly believe that an updated approach is essential to maximise the planning and investment potential of these businesses. Historically, the DPP has limited EDB capex allowances to less than 120% of their historical average capex. Given the necessity for a significant surge in investment by lines companies to facilitate the electrification of the economy, past spending is no longer a suitable baseline for considering future outlay. We believe that if EDBs can effectively demonstrate the essential nature of their anticipated investment profile (while ensuring prudence and efficiency), the DPP framework should not unreasonably curtail their capability to deliver this investment.

Similarly, the Commerce Commission is considering adjustments to components of its operating expenditure approach. We support an updated opex approach to ensure alignment with the changing industry context and the accurate reflection of EDBs' forecast costs.

Transitory finance mechanisms:

We recommend establishing funding mechanisms that enable efficient investment when it's a matter of "when" rather than "if." For instance, when government policies or our own forecasting show a foreseeable increase in electricity demand, though the exact timing remains uncertain, making early investments can result in substantial efficiency gains.

In the absence of these funding mechanisms, these efficient investments, like network reinforcements, upgrades, or expansions for future demand, could face delays. This delay stems from the challenge of making the right investments in the right places and recovering the investment costs when the investment needs to occur in advance of those future customers being connected or requiring upgraded capacity.

We support the introduction of mechanisms and incentives to support funding beyond current options for charging new connections or existing customers. This could involve establishing funding mechanisms for significant national or regional decarbonisation investment areas, as well as for complex projects requiring investments in generation, transmission, and distribution infrastructure. These mechanisms can stimulate investments in generation and infrastructure and provide a focus for government tools to support the financing of that investment. Other financing tools could support a different balancing of cost between new customer connections and future customer connections.

A focus on regulatory outcomes ahead of institutional arrangements:

We recommend prioritising performance in implementing our regulatory frameworks and achieving the objectives, rather than who or how policy departments and regulatory authorities are organised.

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[3] The Commission has outlined this proposed approach change in its DPP4 issues paper; https://comcom.govt.nz/__data/assets/pdf_file/0025/332944/Default-price-quality-paths-for-electricity-distribution-businesses-from-1-April-2025-Issues-paper-2-November-2023.pdf

We do not oppose changes to institutional arrangements to support efficiency, alignment and/or clear direction. We note, however, that there are energy related functions across many government agencies and coordination mechanisms between agencies will remain important to achieve decarbonisation objectives.

Tree regulations:

We recommend completing the review of tree regulations early in the new government's term. A review has been on the horizon for some time. As New Zealand's reliance on electricity grows, it's crucial that the tree regulations evolve to empower networks to manage vegetation more effectively. The current regulations present significant barriers to efficient and effective vegetation management, resulting in adverse consequences for network reliability.

Leveraging markets and transparency before regulating

Before rushing into regulatory measures, we think it is crucial to carefully consider the potential benefits that can be derived from enhancing transparency and leveraging the existing dynamics of the market. Embracing this philosophy, we recommend several market-based options to promote a cost-effective and affordable transition.

- **Better-targeted welfare support for infrastructure costs in various sectors:** support for the most vulnerable consumers, such as the winter energy payment, will need to continue separately to market settings, but could be reviewed to operate more broadly across infrastructure (water, telco, energy).
- **Prioritise funding and policy at key enablers**: We recommend concentrating funding and policy initiatives on key enablers for demand management, including initiatives like Flexforum, MDAG's demand-flex projects, and the development of managed EV charging capabilities. These targeted programmes promise significant value for money.
- **EV charger minimum requirements**: We think it's a no brainer to mandate that EV chargers can be controlled whether by EDBs or another party. However, the choice of whether an EV charger is controlled should ultimately rest with the customer.

  The capability to control charging is likely to be highly valuable in the future. In our asset management plan, we have emphasised the substantial impact of smart EV charging on the average household demand profile.[4] This technology can significantly influence consumption patterns by shifting consumption away from current network peak demand times. Transpower's data underscores the economic benefits: they estimate for every MW of peak demand averted, approximately $1.5 million in investment costs can be saved across the electricity supply chain. Considering the projected rates of EV adoption, implementing smart charging could result in a substantial $3 billion in cost savings for the New Zealand economy. [5]

[4] Powerco 2023 Asset Management Plan, page 40, 2023-electricity-asset-management-plan.pdf (powerco.co.nz)
[5] Transpower, Whakamana i Te Mauri Hiko, Empowering or Energy Future, 2020, page 62.

While we support the infrastructure and standardisation to allow EV charging to be deployed as a flexibility resource, the ultimate choice must remain with the customer, who must also be fully informed of the future value proposition of offering their flexibility. Distribution price signals, appropriately packaged by their retailer, should give clear signals of the localised value of that flexibility.

- **Improve access to smart meter data for EDBs and other parties:** Currently, the limited access to smart meter data hampers EDBs and other stakeholders such as flexibility traders and aggregators. Unlocking this data would facilitate better decision-making, enable more flexibility tools, and enhance the optimisation of network investments. To address this, it's imperative for the government and regulators to establish a framework that improves access to smart metering data for EDBs and other relevant parties, while appropriately protecting private data.
- **Strengthening cybersecurity and resilience:** Instead of immediately turning to regulatory measures to enhance cybersecurity and resilience, we strongly recommend that a more effective approach entails promoting transparent standards and encouraging self-assessment against these standards.[6] We note that resilience planning is an important (and changing) input to Powerco's asset management planning. However the Consultation Paper is focused on the impact of resilience on the transmission network, rather than on distribution.
- **Avoid pre-emptive regulation:** This includes connection costs and processes, pricing (low fixed charges), and cybersecurity. We strongly recommend against reactively regulating today's concern (i.e. a particular type of customer or location or technology), in favour of market settings and non-regulatory direction that take a longer term view.
- **Greater promotion of innovation:** We highlight the risk of regulation preventing innovation and collaborative learning-by-doing for decarbonisation and efficiency. We recommend reviewing settings to provide low-hurdle mechanisms in encouraging innovation outside of the regulatory regime.

[6] The EEA self-assessment tool is an example of a self-assessment process, https://www.eea.co.nz/tools/products/details.aspx?SECT=publications&ITEM=3049

Attachment 2 – Consenting case studies

Issue case study – Standard replacement of 33kV subtransmission assets delayed due to resource consent process for discretionary activity.

The replacement of a 33kV subtransmission asset in rural New Plymouth; where that asset is within private property and within 200m of a site of significance to Māori (in the rural zone) triggered a resource consent requiring 24 additional months for the project to be completed. Although the costs were not substantial, the drain on internal resources diverted staff from other projects.[7]

This case reveals the complexities and inconsistencies of the consent process for similar types of work, leading to unnecessary delays for some asset replacement projects. For example:

- If the replacement of the asset meets the definition of **maintenance and repair** the activity is Permitted, provided no earthworks are required:
    - '*means, in relation to a network utility, any work or activity necessary to continue the operation and functioning of an existing network utility. It does not include upgrading*'
- However, if replacing the assets, like replacing a pole, it is deemed to be an **upgrade** by the territorial authority and a resource consent for a Restricted Discretionary Activity is triggered, provided the upgrade does not result in a change in size or location of the foundation or footprint to that occupied by the existing structure:
    - '*for network utilities, means increasing the carrying capacity, efficiency, security, or safety of a network utility, where structures are of the same or similar location, scale and character*',
- These rules do not contemplate standard modern equivalent assets or improvements to safety, for example replacement of a pole with today's standard is likely to breach the rule, requiring a resource consent as a Discretionary Activity.

Similarly, replacing the same assets in similar surroundings in South Taranaki follows a convoluted path through the district plan rules and definitions to determine an activity status that is open to interpretation.

- Within an area identified as a historic site or site of significance to Tāngata Whenua as listed in District Plan Schedule 1B, Maintenance of existing lawns, gardens, structures (including fences), and buildings is a Permitted Activity. Within the definitions there is an exclusion for holes required for poles under earthworks, and the definition of maintenance includes (in relation to Network Utilities) replacement work. However, Maintenance (in relation to a site of significance to tāngata whenua) excludes new earthworks but provides

[7] The Subtransmission network facilitates a vital role of supplying high voltage electricity from Grid Exit Points (GXP's) to substations or between substations, which in turn supply communities. The Subtransmission network is end to end, meaning if the circuit is interrupted, then supply is lost unless a back feed option is available.

for repair / reinstatement of existing structures. The definition of repair, however, is only specific to the heritage provisions and provides for buildings only.

The pressing issue is the extremely high bar set for critical infrastructure that is already in existence, is already operational and is already providing a life line service to communities. The rule threshold provides little certainty that a project will be successful, makes planning timeframes extremely difficult and can involve re-litigation of historic grievances / issues.

The consenting process is also in addition to the requirements of the Pouhere Taonga Heritage New Zealand Act, which in Powerco's recent experience, duplicate the requirements of the archaeological authority provisions.

Issue case study - Burden of other environmental legislation

The provision of timely and cost effective electricity distribution infrastructure is becoming increasingly difficult to supply on time and on budget. The plethora of recent environmental protection policy has only increased the difficulty and timeframes required to construct electricity infrastructure.

Powerco has actively submitted on a number of these policies, while the intention is supported; we have sought recognition and provisions for existing infrastructure and pragmatic approaches to areas such as works within the transportation corridor and vegetation maintenance.

The introduction of the **National Environmental Standard for Freshwater**; in particular the 'natural inland wetlands' rules has presented a number of challenges to distribution infrastructure roll out - especially within the road corridor. The transport corridor provides not only for the movement of goods and services and people but also for utilities that provide people's wellbeing. The NES for freshwater stipulates a Discretionary Activity is required for new specified infrastructure if earthworks or land disturbance is required within a natural inland wetland or within 10m of a wetland.

Our submissions sought an exclusion to these provisions where works associated with specified infrastructure are located within the transport corridor. The Electricity Act provides for distribution assets to be located within the road corridor and in many cases is the lowest cost option in terms of route and most predictable in terms of timeframes to obtain necessary approvals.

The lack of clear definitions has resulted in wet areas beside the roading network being classified as wetlands by ecological assessment. Replacing a power pole now requires a Restricted Discretionary Activity if a modern standard equivalent pole is used, as the pole is larger (in terms of the pole being shaped differently) and requirements for foundations have been improved over time; meaning they are larger. Similarly, installation of new assets (mainly cable) within the road corridor where a natural inland wetland has been found to be present adjacent to the road triggers a Discretionary Consent.

In our experience, this additional consenting layer adds a further 8-12 weeks as a minimum to a standard replacement activity within the road corridor.

Options to avoid the need to pursue a consent are limited and often involve trying to seek easements on private property. EDB's are faced with either uncertainty around costs and timeframes, no matter what option is considered, and in many instances; works within the existing road corridor have limited risk to the wetland.

Issue case study - Inability to implement pragmatic network improvements.

The current resource management system is too rigid in its approach to infrastructure and the environment, and in Powerco's experience; is **limiting pragmatic outcomes that can also provide environmental benefit.**

In order to limit or reduce the need for indigenous vegetation management within conservation land and improve network reliability (significantly reduce vegetation related outages), taller poles could be installed when replacing the existing end of life poles. Additionally, taller poles would also reduce the number of poles required; reducing the existing footprint.

Taller poles and the fact that they needed to be installed adjacent to the existing poles within an Outstanding Natural Feature and Landscape triggered a Non Complying Activity for a project in the Coromandel. Due to the nature of the environment where the assets are located and the activity status under the district plan, Powerco elected to undertake in depth consultation with all parties potentially affected. This was carried out over a 7 month period and included landowners, Iwi, Department of Conservation, Thames Coromandel District Council and the Waikato Regional Council. The assets are provided for under the Electricity Act, a review undertaken by a valuer determined existing use right would be maintained; therefore no property rights were sought as part of the project. Landowner concerns primarily centred around any construction impacts and timing of works; all of which were alleviated through project design.

The district council, as part of pre application consultation requested further information, namely a landscape and visual assessment report and an Electro-Magnetic Frequency report.

These reports were compiled and included in the consent application, despite the consultation records and extensive assessment of environmental effects; the consent was limited notified. A **single submission** from a landowner was received objecting to the granting of the consent and engagement over of a number of months was unsuccessful in reaching a resolution. The project has not been progressed.

Should this project be looked at again in future, the regulatory context has changed with the NES-Freshwater and NPS-Indigenous Biodiversity now also relevant and would require investigation and any associated consenting and specialist consultants.

National direction, similar to those enjoyed by the renewable electricity generators and Transpower would go a long way towards providing a consistent approach to distribution activities and ensure customers in more remote or protected areas are not disadvantaged.

Attachment 3 – Information about Powerco and our network

Providing an essential service

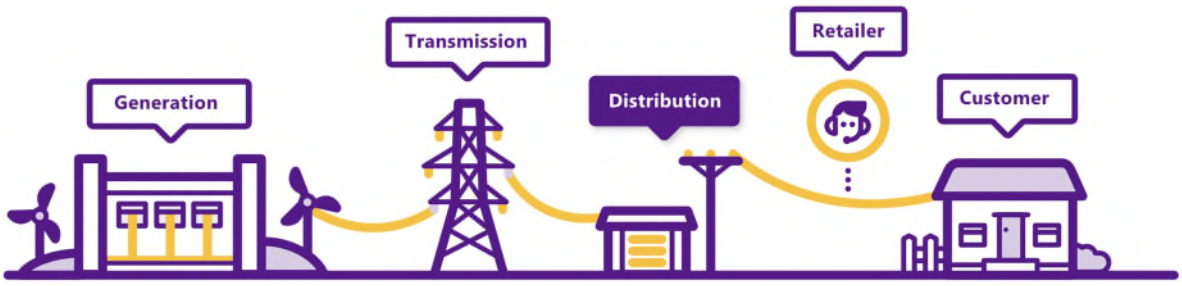
We bring electricity and gas to around 1 million customers across the North Island. We're one part of the energy supply chain. We own and maintain the local lines, cables and pipes that deliver energy to the people and businesses who use it. Our networks extend across the North Island, serving urban and rural homes, businesses, and major industrial and commercial sites. We are also a lifeline utility. This means that we have a duty to maintain operations 24/7, including in the case of a major event like an earthquake or a flood.

The cost of operating our business is not dependent on the amount of gas or electricity we distribute in our networks. These costs reflect the need to maintain the safe operation of the network and are mostly driven by compliance with safety regulations. This includes replacing assets when they reach their end of life. Additional costs to grow the size or the capacity of the network are often met by customers requiring the upgrade or new connection.

Under Part 4 of the Commerce Act, Powerco's revenue and expenditure are set by the Commerce Commission as part of monopoly regulation. We are also subject to significant information disclosure requirements, publicly publishing our investment plans, technical and financial performance, and prices. The regulatory regime allows us to recover the value of our asset base using a regulated cost of capital (WACC) set by the Commission, and a forecast of our expenditure. Every five years, the Commission reviews its forecasts and resets our allowable revenue. This process is designed to ensure the costs paid by customers for us to manage and operate our network is efficient given we are a monopoly and an essential service.

Our electricity customers

Powerco is New Zealand's largest electricity utility by the area we serve. Our electricity networks are in Western Bay of Plenty, Thames, Coromandel, Eastern and Southern Waikato, Taranaki, Whanganui, Rangitikei, Manawatu and Wairarapa. We have 28,441 km of electricity lines and cables connecting 356,000 homes and businesses. Our place in the electricity sector is illustrated below.

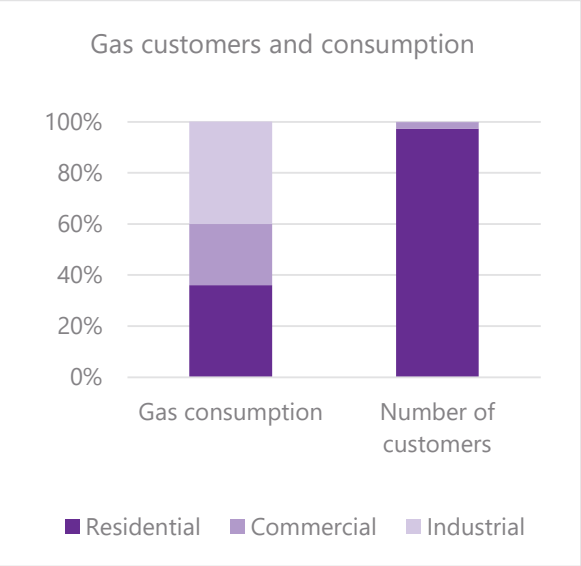


Our network contains a range of urban and rural areas, although is predominantly rural. Geographic, demographic, and load characteristics vary significantly across our supply area. Our development as a utility included several mergers and acquisitions that have led to a wide range of legacy asset types and architecture across the network.

Powerco is one of 29 electricity distribution companies. Our customers represent around 13% of electricity consumption (similar in magnitude to the Tiwai aluminium smelter) and around 14% of system demand. Powerco's network is almost three times the size of Transpower's in terms of circuit length. The peak demand on our combined networks (2022) was 986 MW, with an energy throughput of 5,266 GWh.

Our gas customers

Powerco is New Zealand's largest gas distribution utility. Our gas pipeline networks are in Taranaki, Hutt Valley, Porirua, Wellington, Horowhenua, Manawatu and Hawke's Bay. We have 6,100 km of gas pipes connecting over 113,000 homes and businesses to gas. Our customers consume around 8.6 PJ of gas per year.



Our industrial customers are less than 1% of our customer base and consume approximately 40% of gas on our network. Our residential customers are 97% of our customer base and consume approimately 35% of gas on our network. The remaining 25% of gas is consumed by our commercial customers. Around 30% of our larger customers are in the food processing sector, around 20% in the manufacturing sector and around 10% in the healthcare sector.

Our network footprint

Our network represents 46% of the gas connections and 16% of the electricity connections in New Zealand. We operate assets within six regions and across 29 district or city council areas.