

9 December 2024

National Infrastructure Plan – Testing our thinking
Te Waihanga New Zealand Infrastructure Commission
Via feedback portal

Tēnā koe,

An enduring and ambitious Plan to support delivery of the infrastructure we need

Powerco is one of Aotearoa’s largest gas and electricity distributors and is committed to our role in Aotearoa achieving a net zero economy in 2050. We supply around 357,000 (electricity) and 114,000 (gas) urban and rural homes and businesses in the North Island. The National Infrastructure Plan (the Plan) has the potential to set direction and priorities across the infrastructure sector, supporting our investment decisions and delivery of energy to around 1 million kiwis.

We support a National Infrastructure Plan that covers all infrastructure (public and private) for New Zealand’s infrastructure needs analysis, investment priorities/timing, and supporting policy/system. The infrastructure priorities Programme (IPP) will inevitably be focused on large public unfunded projects so will only form one part of the Plan.

We have commented on the discussion document questions in attachment 1 and provided information about Powerco in attachment 2. A summary of our views is:

- Policy certainty to support investment**
- Policy certainty, removal of barriers and a credible level playing field are needed to enable investment and to continue the current momentum in emissions reduction
 - International investors rank us last (38th out of 38 countries) for openness to investment.¹ We need a plan to attract investment to fill our infrastructure gaps
 - New Zealand must grow to zero, this will be enabled by leveraging our competitive and natural advantages. Growth is critical to fund climate mitigation and adaptation
 - A strong evidence base with directive policy settings and actions are critical components of the National Infrastructure Plan alongside identifying sector/regional investment priorities.

- The energy trilemma will be tested**
- Resilient, low-carbon, affordable energy for all New Zealanders is ambitious but achievable. The winter 2024 energy market situation clearly illustrates the benefit to be gained for all elements of the trilemma if we have a longer-term plan for a smooth energy transition focusing on energy security and resilience

¹ [Overseas investment changes to get New Zealand off the bench | Beehive.govt.nz](https://www.beehive.govt.nz/news/overseas-investment-changes-to-get-new-zealand-off-the-bench)

- The National Infrastructure Plan can adopt the energy trilemma as both a measure of success and as a guide for gap analysis in energy infrastructure
 - Fuel diversity and new technology is essential to security of supply in the transition as energy sources, how energy is used, and energy demand is changing. A National Infrastructure Plan can guide infrastructure planning based on a review of these changes across the sector
 - Te Waihanga is a government member of the proposed Energy Transition Framework. The “priority themes” of the Framework are relevant for the National Infrastructure Plan, and we encourage use of the Framework as a sound position on areas for action which is widely endorsed across the energy sector and relevant government agencies.
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The future New Zealanders want requires ambition and new solutions

- Unless we’re ambitious, we will not create enough wealth to have the first world infrastructure and lifestyle we want as we confront the impacts of a changing climate
- There will be trade-offs to achieve the infrastructure we need. The National Infrastructure Plan can provide direction in addressing the priorities and trade-offs across multiple infrastructure sectors
- The National Infrastructure Plan needs to acknowledge that our future infrastructure needs will be met by investment beyond traditional large projects. Smaller distributed infrastructure and new technologies will become increasingly important. Key to supporting this is national policy direction for distribution
- While we encourage utilising existing good practice, how we plan for, and manage, assets is changing, and focusing just on existing good practice or existing standards may prevent progress to the future state of infrastructure planning New Zealand needs. We endorse consistency and regulation across infrastructure sectors where appropriate, and when benefit is demonstrated.

This submission does not contain any confidential material and may be published in full. If you have any questions regarding this submission or would like to talk further on the points we have raised, please contact Irene Clarke (Irene.Clarke@powerco.co.nz).

Nāku noa, nā,



Emma Wilson

Head of Policy, Regulation and Markets

POWERCO

Response to discussion document: National Infrastructure Plan - Testing our thinking

Table 1 Powerco responses

Topic	Powerco comments
Why we need a National Infrastructure Plan	
<p>1 What are the most critical infrastructure challenges that the National Infrastructure Plan needs to address over the next 30 years?</p>	<p>We agree with many of the challenges identified in the discussion document. We point to the proposed Energy Transition Framework for a guide on the most critical challenges for energy infrastructure. Our summary of the most critical challenges the National Infrastructure Plan can address:</p> <ul style="list-style-type: none"> • Investor confidence to attract the infrastructure investment needed • Regulatory consistency across infrastructure • Regulated investment levels that support infrastructure growth and resilience aligned to national priorities • The need for all available tools and technologies to support a secure, affordable and sustainable infrastructure future • The need for a transition that is planned, including trade-offs to achieve longer term goals • Clear and enduring national policy direction that supports implementation of the long-term national priorities (eg an energy strategy that will endure changes in government) • Consistent and transparent oversight of all infrastructure investment • The changing role of the customer and the need for changing approaches to recognise the customer at the centre. • Building workforce capability, diversity, capacity and supporting information
<p>2 How can te ao Māori perspectives and principles be used to strengthen the National Infrastructure Plan's approach to long-term infrastructure planning?</p>	<p>We encourage a perspective of the customer and communities being at the centre. This aligns with a te ao Maori view.</p>
Long-term expectations	
<p>3 What are the main sources of uncertainty in infrastructure planning, and how could they be addressed when considering new capital investments?</p>	<p>Of the 8 general drivers identified in the discussion document, the key ones in our experience are:</p> <ul style="list-style-type: none"> • Renewal of existing infrastructure • Population growth and demographic change (including immigration) • Construction price inflation • Resilience to natural hazards • Decarbonising our economy • Technology change

Response to discussion document: National Infrastructure Plan - Testing our thinking

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	<p>Additional sources of uncertainty in our planning (AMPs):</p> <ul style="list-style-type: none"> • Trends in uptake of new consumer technology eg EVs, consumer demand management, Distributed Energy Resources • Uncertainty in willingness to pay and increasing pressure on affordability • (Lack of) flexibility of regulatory settings to adapt to changing technology and trends, and keep options open for changes • Uncertain natural gas transition • Uncertain pace of electrification and rate of conversion to electricity • Changing customer expectations, behaviour, and level of involvement of customers in decision-making • Changes in land use (rural areas) • Changing technology and customer services shifting expenditure to more opex rather than capex <p>We need to spend increased resource in analysis of trends and local implications but improved national data and policy certainty would assist in addressing these uncertainties across energy planning more generally. Political uncertainty through government cycles is an overarching uncertainty that could be addressed through clear bipartisan strategy, or cross party support for a National Infrastructure Plan.</p>
<p>Existing investment intention</p> <p>4 How can the National Infrastructure Pipeline be used to better support infrastructure planning and delivery across New Zealand?</p>	<ul style="list-style-type: none"> • Powerco already contributes data to the national infrastructure pipeline. • One opportunity for improvement is to provide the pipeline data in geographic form so opportunities for coordination across infrastructure projects and sectors are more easily identified. • Another opportunity is for submitted projects to identify potentially related/impacted infrastructure sector(s) as well the project sector. • We would also encourage an enhanced regional and sector view in developing all aspects of the National Infrastructure Plan. • The National Infrastructure Pipeline is important to capture small or medium sized projects, compared to the small number of very large projects expected to be on the IPP list. In developing a “menu of good projects” for decisions on what to prioritise, the IPP alone will not cover all sectors and regions needed to implement a National Infrastructure Plan.
<p>Changing the approach</p> <p>5 Are we focusing on the right problems, and are there others we should consider?</p>	<ul style="list-style-type: none"> • It is not clear that the identified challenges address a customer focus in planning, the opportunity for markets to innovate to meet customers’ needs, and the customer role in getting better results.

Response to discussion document: National Infrastructure Plan - Testing our thinking

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Capability to plan and build	
6 Investment management: What changes would enable better infrastructure investment decisions by central and local government?	<ul style="list-style-type: none"> • There are investment management approaches that apply in the energy distribution sector that could offer learnings for central and local government sectors. • Regulatory tools such as AMPs, information disclosure and performance monitoring has been in place for many years in the energy distribution sector to drive the approach to investment management. It is not a matter of picking up practice in one sector and applying to another. Regulatory tools should be relevant and be adding more benefit than cost.
7. Investment management: How should we think about balancing competing investment needs when there is not enough money to build everything?	<ul style="list-style-type: none"> • Tools for investment prioritisation decisions are important eg Powerco uses Copperleaf. This could be a useful area of research for Infrastructure Commission, including how to inform consistency in inputs across the 8 key drivers (see figure 7 of discussion document).
8. Workforce: How can we improve leadership in public infrastructure projects to make sure they're well planned and delivered? What's stopping us from doing this?	<ul style="list-style-type: none"> • As this question is focused on public projects, we do not have specific comments.
9. Workforce: How can we build a more capable and diverse infrastructure workforce that draws on all of New Zealand's talent?	<ul style="list-style-type: none"> • Electricity Networks Aotearoa estimates that around 700 additional engineers, technicians and trade workers will be required per year for the electricity supply sector alone². • Improving diversity is critical to building the workforce needed. • An industry wide workforce development plan is recommended.
10. Project costs: What approaches could be used to get better value from our infrastructure dollar? What's stopping us from doing this?	<p>We would agree that there are a number of factors that could be addressed to help with project costs such as:</p> <ul style="list-style-type: none"> • Using standardised designs for repeatable projects or elements of projects • Regulatory frameworks that are flexible to new technologies and methods • Land access and acquisition processes that are efficient • Regulatory frameworks that promote pre-purchase or bulk purchase of standard equipment, rather than tied strictly to annual AMPs • Streamlined consenting through enabling national direction. Core activities for existing infrastructure should be permitted • A proportionate, standardised and consistent approach to temporary traffic management³.

² Electricity Supply Industry Training Organisation, *Re-energise: ESI Workforce Development Strategy Report*, February 2022. Available at: [Re-energise-ESI-Workforce-Development-Strategy-Report_FEB2022.pdf](#).

³ Electricity Networks Aotearoa has commissioned a report on temporary traffic management costs to EDBs over the past five years. The report should be available in early 2025.

Response to discussion document: National Infrastructure Plan - Testing our thinking

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<p>Taking care of what we've got</p>	
<p>11. Asset management: What strategies would encourage a better long-term view of asset management and how could asset management planning be improved? What's stopping us from doing this?</p>	<ul style="list-style-type: none"> • We agree that good asset management systems can be complex, but are necessary. Our asset management systems and strategies have evolved over time and are outlined in our AMPs for electricity and gas.⁴ • While our context and levels of investment has changed over time, the approach to asset management planning has been relatively stable. However, our operating environment is expected to change significantly in the next 5-10 years. Historically AMPs have a basis of standards telling us what to do when. But there is an increasing need, and benefit, in a more risk based approach with different solutions to those used traditionally. New technology, digitalisation, and a shift from capex to opex investment are examples of our shifting asset management strategies. • As noted in question 6, electricity and gas asset management planning has learnings for other sectors, but transfer of existing practices must be fit for purpose so it doesn't add more cost than benefit. And past practice may not reflect the need for changing asset management strategies to best meet infrastructure challenges. • Tools for investment prioritisation decisions are important eg Copperleaf. This could be a useful area of research for Infrastructure Commission, including how to inform consistency in inputs to asset management processes across the 8 key drivers (figure 7 of discussion document).
<p>12. Resilience: How can we improve the way we understand and manage risks to infrastructure? What's stopping us from doing this?</p>	<ul style="list-style-type: none"> • There are significant regulatory incentives in the energy sector to ensure appropriate resilience (our price-quality regulation). However, there is opportunity for improved consistency in approach to managing some risks, which requires collaboration across a number of sectors and agencies – as data, decision-making, and funding is not business-specific. • While there are gaps in adaptation and resilience planning, there is also a risk of over-regulating, for example councils making risk assessments as part of consent decisions when distributors are best placed to do this. • Powerco's 2024 Climate Adaptation & Resilience Plan⁵ was developed to undertake a systematic approach to understanding and managing (some) risks, and has identified some key themes: <ul style="list-style-type: none"> ○ There is a balance between likelihood, cost and benefit, which needs to be supported by analysis and understanding of financial consequences ○ The role of local communities in understanding the value of resilience and developing solutions is important ○ Coordination and information sharing is fundamental in strengthening resilience, but currently patchy and not collaborative ○ Regulation, standards and tools may need adjustment to optimise hazard identification and consistent approach to investment in resilience

⁴ Powerco's full (3 yearly) asset management plans and annual updates are available on our website for electricity ([Electricity disclosures](#)) and gas ([Gas disclosures](#))

⁵ Available on our website, published July 2024: [Climate Adaptation & Resilience Plan.indd](#)

Response to discussion document: National Infrastructure Plan - Testing our thinking

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<p>13. Decarbonisation: How can we lower carbon emissions from providing and using infrastructure? What's stopping us from doing this?</p>	<ul style="list-style-type: none"> • An additional factor is better enabling demand management and open data access to facilitate better using our infrastructure. For example, energy distributors do not have open access to energy consumption data. • Regulatory and market settings are inhibiting the changes needed for rapid change in this area
<p>Getting the settings right</p>	
<p>14. Institutions: Are any changes needed to our infrastructure institutions and systems and, if so, what would make the biggest difference?</p>	<ul style="list-style-type: none"> • Clear and consistent oversight of investment and resilience outcomes is needed for confidence in accelerated investment, eg Commerce Commission oversight of all electricity networks. • Changes are not necessarily needed in institutions but a more consistent system of oversight both within and between infrastructure sectors.
<p>15. Network pricing: How can best practice network pricing be used to provide better infrastructure outcomes?</p>	<ul style="list-style-type: none"> • The document identifies electricity and gas as sectors with better pricing practice. We note that the electricity distribution pricing principles and regulation are currently under review by the Electricity Authority and this reflects the changing nature of pricing, but also highlights the differing approaches within the electricity distribution sector. Powerco has provided a detailed response to this consultation.⁶ • Pricing is not just about efficient infrastructure investment, but delivering wider goals (such as electrification) and ensuring the right signals are sent to the market. There is risk of pricing reform having unintended consequences and care is recommended in how the National Infrastructure Plan directs pricing. • Powerco is currently reviewing its pricing strategy, and can provide more information on our considerations as the Infrastructure Commission considers this part of the National Infrastructure Plan in early 2025.
<p>16. Regulation: What regulatory settings need to change to enable better infrastructure outcomes?</p>	<p>Regulation to be proportionate, focused on long-term consumer outcomes, and include:</p> <ul style="list-style-type: none"> • Establish a climate change adaptation objective for energy regulators to support investment levels in both expansion and resilience. • RMA streamlining to enable routine and low impact activities, protect existing infrastructure, and fast-track larger projects. An NPS and NES for distribution is a priority for clarity, consistency and in particular to enable routine activities. • Regulation to enable markets to innovate to meet customer needs, while maintaining an ability to intervene if security of supply and affordability threaten to impair our international competitiveness.

⁶ Submission will be available later in December on our website: [Submissions](#)

Response to discussion document: National Infrastructure Plan - Testing our thinking

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	<ul style="list-style-type: none"> • Facilitate use of standardised designs for repeatable projects or elements of projects where appropriate • Regulatory frameworks that are more flexible to new technologies and methods, including better facilitating demand management, digitalisation, flexibility services and non-network solutions. • Land access and acquisition processes that are more efficient • Consistent and transparent oversight of all infrastructure investment • Coordination and information sharing (eg hazard data) as a base to strengthen resilience, (currently patchy and not collaborative).
<p>What happens next</p>	
<p>17. Do you have any additional comments or suggestions?</p>	<p>We draw your attention to a number of key references relevant to development of the National Infrastructure Plan:</p> <ul style="list-style-type: none"> • BCG, The Future is Electric, 2022. Provides a summary of decarbonisation pathways and costs in the electricity sector. Climate Change In New Zealand The Future Is Electric BCG • Gas Infrastructure Future Working Group, various research reports 2021-24 on gas transition and gas infrastructure options. Resources — Gas New Zealand • Powerco electricity asset management documents and other regulated disclosures: Electricity disclosures • Powerco gas asset management documents and other regulated disclosures: Gas disclosures • Powerco Integrated Report 2024: Delivering into the future - Powerco releases first Integrated Report • Powerco Climate Adaptation & Resilience Plan 2024: Climate Adaptation & Resilience Plan.indd • Powerco Climate-related disclosure 2024: climate-disclosures-document.pdf

Information about Powerco and our network**Providing an essential service**

We bring electricity and gas to around 1 million kiwis 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 over 29,000 km of electricity lines and cables connecting around 360,000 homes and businesses. Our place in the electricity sector is illustrated below.

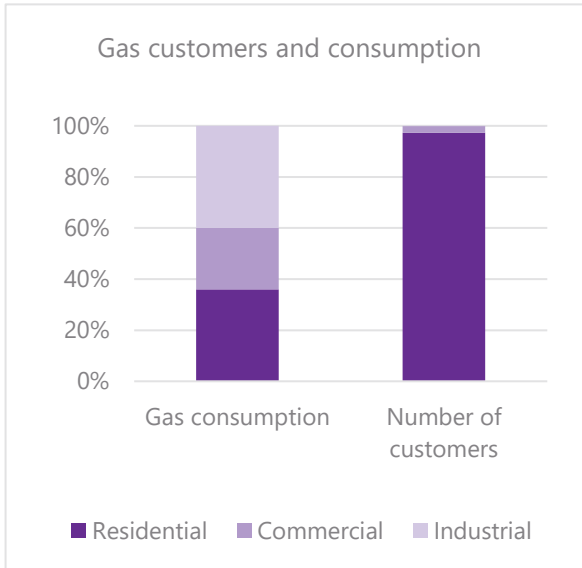


Our network contains a range of urban and rural areas, although is predominantly rural. Geographic, demographic, and load characteristics vary significantly across our supply area. Our development as a utility included several mergers and acquisitions that have led to a wide range of legacy asset types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

Information about Powerco and our 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 (2023) was 974 MW, with an energy throughput of 5,225 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 over 6,200 km of gas pipes connecting to around 114,000 homes and businesses. Our customers consume around 8.1 PJ of gas per year.

Our industrial customers are less than 1% of our customer base and consumer approx. 40% of gas on our network. Our residential customers are 97% of our customer base and consume approx. 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.

