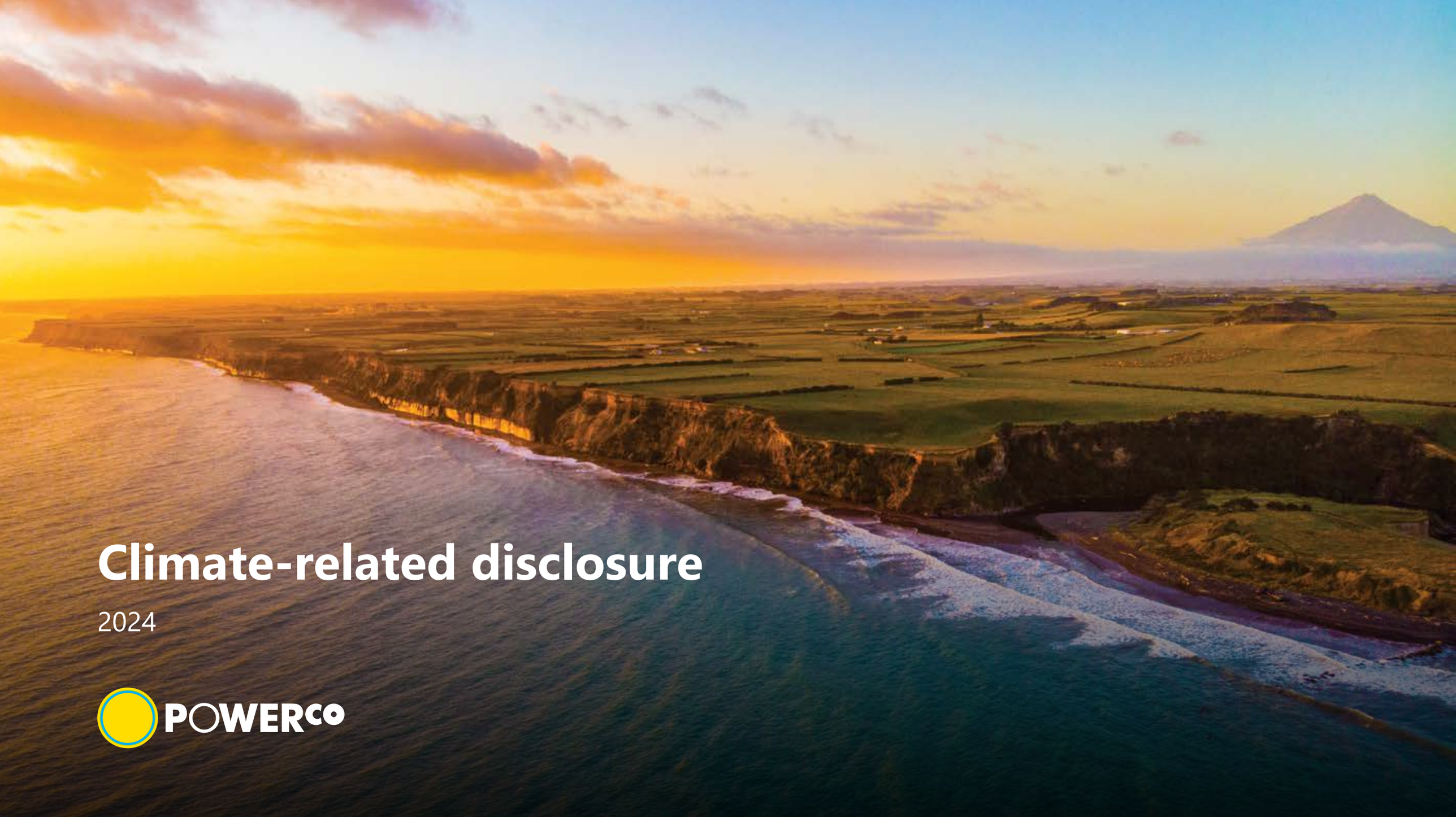
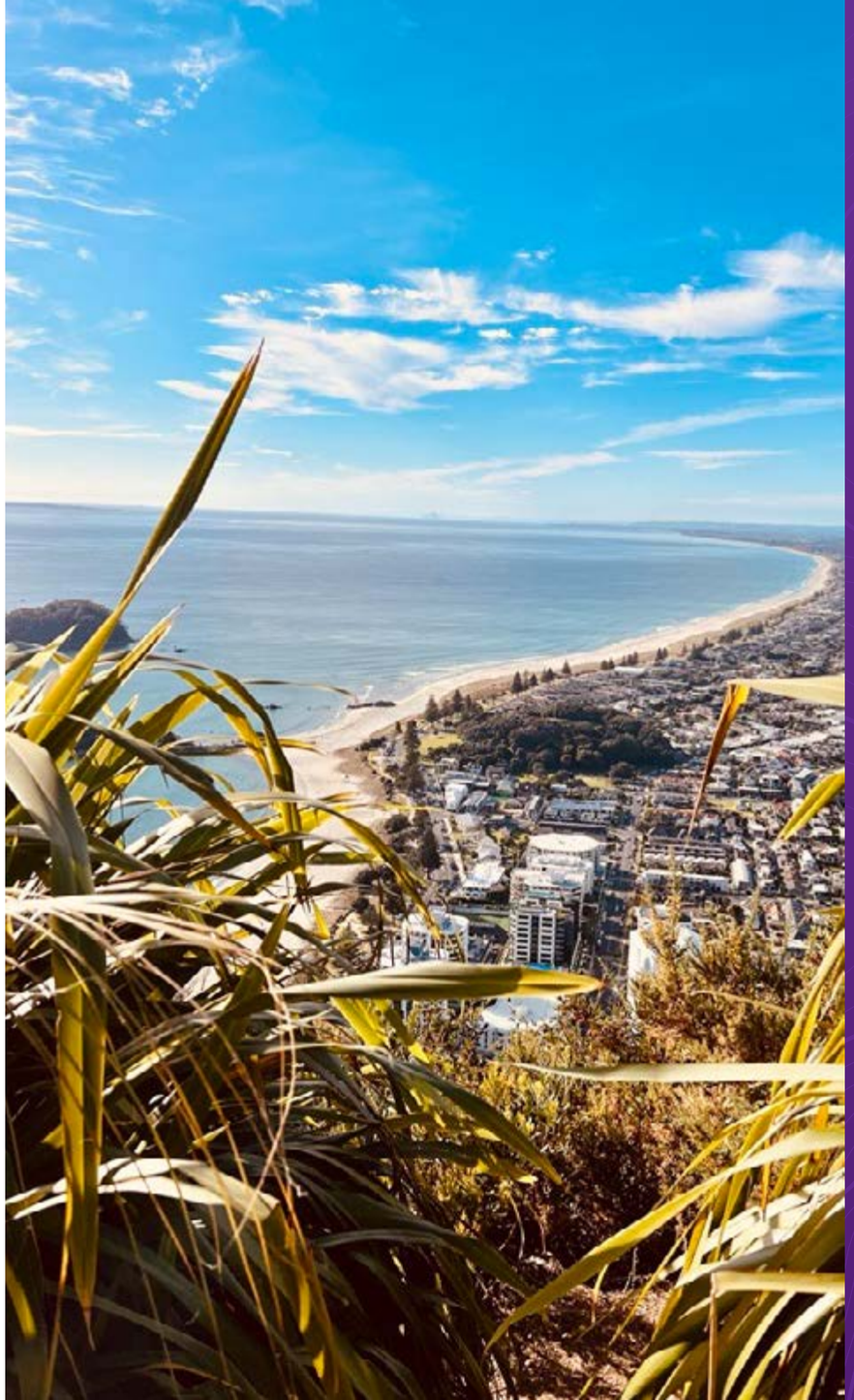


Climate-related disclosure

2024

POWERCO

Contents



Disclaimer

This is our first climate-related disclosure report and covers the period 1 April 2023 to 31 March 2024.

This report is prepared by Powerco Limited for the purpose of disclosing to our stakeholders the challenges and opportunities presented by a changing climate, and our plan to transition to a low-emissions, climate-resilient state. Our stakeholders include our shareholders, investors, regulators, customers, and the communities we supply energy to, as well as our employees and contractors, and members of the public.

We have endeavoured to prepare this report in accordance with the Aotearoa New Zealand Climate Standards set by the External Reporting Board (XRB). Powerco is not captured by the mandatory disclosure requirements of the XRB climate-related disclosure framework, however, the XRB provides a relevant set of requirements for New Zealand businesses. As the practice of disclosing climate-related information continues to evolve, we may adopt new methodologies in future reports.

Any forward-looking statements in this report are based on assumptions about the future operating environment and events, which may or may not be correct. All costs and projections in this report are estimates only and are not independently verified. Where appropriate, the assumptions in this report align with our Gas and Electricity Asset Management Plans, which provide context for these disclosures.

This climate-related disclosure report may also be referenced if we receive a mandatory request, as a lifeline utility, for information on climate adaptation preparedness under the Climate Change Response Act.

This report was published July 2024.

A message from the CEO

Powerco is here to connect communities.

We connect nearly one million Kiwis across the North Island to electricity and gas. We deliver energy through more than 29,000km of lines and cables, and more than 6,000km of pipes, making us the largest distributor – by length – of electricity and gas in Aotearoa New Zealand.

We have an important role to play in enabling Aotearoa New Zealand's net-zero 2050 target.

Our strategy is to ensure a sustainable energy transition that helps New Zealand grow and thrive as it meets its net-zero target. This means ensuring energy remains affordable for our customers, is delivered in an environmentally conscious way, and there is security of supply every step of the way. To achieve this, we are investing in our electricity network now to meet forecast demand as customers electrify. Maintaining our natural gas network also has an important role to play in the energy transition, as well as exploring low and zero-carbon gas alternatives for the future.

The energy transition is a challenge, but it is also an opportunity. We are ambitious to see Aotearoa thrive as we decarbonise. New Zealand is in the enviable position of having one of the cleanest energy systems in the world. Our total energy system is already 43% low-carbon, and within that our electricity sector is ~90% renewable. That advantage can be leveraged to attract business to the country and grow our economy as other countries look to reduce their emissions.

Growing our economy will be critical to funding climate change adaptation. New Zealand will be the recipient of climate outcomes created by much larger economies. While we must invest to support New Zealand's mitigation efforts so that our exporters can retain access to global markets, we must also invest to adapt to ever worsening climate outcomes. And we need a growing economy to fund this.

We call this thinking 'grow to zero' – actively seeking to grow our economy as we deliver our net-zero future.

This report shares some of our thinking around the challenges and opportunities presented by a changing climate. While this report is specific to Powerco and our operations, we recognise that collaboration and coordination with local authorities, lifeline utilities and other infrastructure owners is essential for transitioning towards a future that is resilient to climate change.

We will continue to evolve this work to ensure that we not only keep the energy flowing to our customers well into the future, but that we enable Kiwis to thrive as we respond to our changing climate.

Ngā mihi nui

James Kilty
Chief Executive Officer

Governance

Powerco is regulated by the Commerce Commission to ensure we provide our customers with a good level of service at a fair price.

Our gas and electricity networks are 58% owned by funds managed by Queensland Investment Corporation (QIC) and 42% owned by funds managed by Dexus.

Our diverse team of more than 500 is guided by Ngā Tikanga – Our Way, which incorporates our values and ways of working with each other, our stakeholders and industry peers to get the best outcomes for our customers.

Powerco's Board of Directors oversees risk management within the business. The Board's formal objectives and the principles governing the appropriateness of its skills and competencies are outlined in Powerco's Governance Statement.

Working closely with our Executive Leadership Team, our Board of Directors has significant international experience in asset management and infrastructure markets, giving our corporate governance the right level of expertise to confidently deliver our strategy while creating value for our shareholders.

The governance of Powerco's climate-related risks and opportunities is overseen through our risk management framework – in particular, our practices relating to physical and transitional risks and opportunities. These practices empower our leaders to regularly identify, manage and escalate, where appropriate, the uncertainty facing our business.

The specific climate-related responsibilities of groups within Powerco's governance and management structure are summarised in the following pages.

Governance

Powerco Board

Responsible for Powerco's social, environmental and sustainability strategies, policies, and targets, including those pertaining to climate-related risks, opportunities, adaptation, resilience, and mitigation.

Approves the company's strategy and annual business plan, in line with Powerco's risk appetite, which is reviewed annually. The company's strategy considers the necessary preparation to deliver Aotearoa's electrification needs and energy resilience in the face of major climate events. The business plan includes specific actions related to climate adaptation and mitigation.

Monthly reporting (and more in-depth quarterly reporting) is provided by management with progress against the business plan, including climate-related risks, opportunities, and metrics.

Audit and Risk Committee

Assists the Board to exercise due care, diligence, and skill in relation to climate-related risks and opportunities, including mitigation plans and related disclosure information.

Our risk management policy and risk management framework include environmental, social and governance (ESG) and operational risks as key exposure categories. Quarterly reporting is provided to the Audit and Risk Committee and Board on climate-related risks within the gas and electricity businesses.

Regulatory and Asset Management Committee

Assists the Board with oversight and approval of Powerco's long-term Asset Management Strategy and Plans, including reviewing investment decisions for consistency with long-term sustainability goals, ESG responsibilities and climate-related disclosures.

Assists the Board with overseeing Powerco's asset management planning and expenditure to support resilience to climate change, and tests individual network projects for impact on the environment, decarbonisation, and resilience in the face of climate change.

Human Resources and Remuneration Committee

Assists the Board in all matters related to human resources and remuneration. This includes periodically reviewing the effectiveness of remuneration policies, which include requirements for all staff to have a sustainable business measure.

At least annually, the committee reviews the remuneration package of the Chief Executive and the Executive Leadership Team, considering and recommending to the Board any performance bonus to be paid in accordance with their employment contracts and considering key performance measures.

Treasury Committee

Assists the Board to monitor Powerco's financial performance and compliance with policies, including overseeing Powerco's sustainable finance framework, governance, and processes.

Management

Executive Leadership Team

The Executive Leadership Team sponsors, oversees and reviews Powerco's strategy and operations, including in this context:

- Powerco's key climate-related risks and mitigation plans.
- Powerco's strategic and business priority areas relating to climate change.
- The Senior Leadership Team's performance, performance criteria and individual targets, which are recommended to the Board for approval.

Company-level ESG targets are assigned to the appropriate executive for ownership and delivery. These include annual and long-term targets (three-year rolling) to create value over longer time frames.

Senior Leadership Team

Climate-related risk management is decentralised across the organisation. Senior Leadership Team members across individual business units are responsible for day-to-day monitoring, management, and reporting. Key measures are reported monthly or quarterly to shareholders and the Board and annually in the global sustainability benchmarking survey GRESB.

Relating to climate-related risks and opportunities, these day-to-day responsibilities of the Senior Leadership Team are:

- Ensuring climate-related risks and opportunities are incorporated into our strategy.
- Overseeing identification and management of climate-related risks and opportunities. These are collated, monitored, and reported to the Executive Leadership Team and the Audit and Risk Committee each quarter.
- Ensuring the results of scenario analysis are considered in the business strategy setting process and business planning.
- Developing and implementing Powerco's sustainability strategy, including our material sustainability issues, sustainability pillars, and the metrics and targets that support our business strategy.
- Delivering Powerco's strategic priorities.
- Overseeing the implementation of emissions reduction opportunities, including lower carbon natural gas alternatives such as biomethane.
- Iterative business planning process, prioritisation, and plan creation.

Each Senior Leadership Team member is responsible for ensuring that the key performance indicators of their team align with the company strategy and Ngā Tikanga.

Powerco human resources policies outline a requirement for at least one sustainability-focused general measure for all employees. This is a metric that checks we are doing the right thing, for the right reasons, for the long run, and serves as a reminder that there are some things that should not be compromised in pursuit of our specific performance measures. Achievement of these metrics is a consideration in determining employees' remuneration.

Asset Management Steering Committee and Gas Senior Leadership Team

The Asset Management Steering Committee and Gas Senior Leadership Team respectively ensure that performance within the Electricity and Gas Asset Management Systems is monitored, and that appropriate risk management, continual improvement, and legal and regulatory compliance initiatives are in place. This includes execution of our strategic priorities relating to climate change.

Strategy

Our business

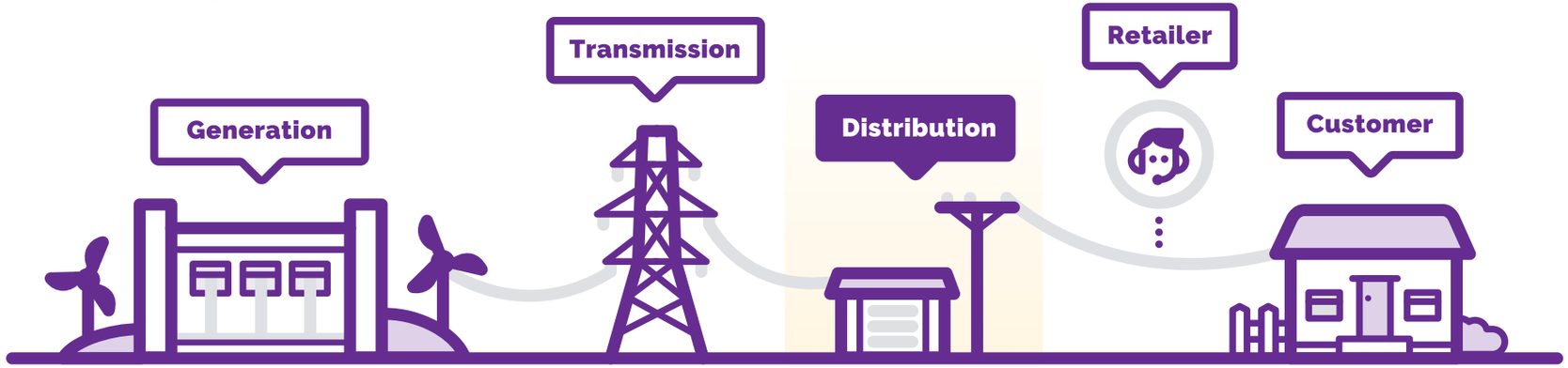
At Powerco, we are committed to creating a sustainable energy future.

We're one part of the power supply chain. Energy is generated or produced by power stations, then sent along transmission networks operated by Transpower (for electricity) and First Gas (for gas) to distributors like us. We own and maintain the local lines, cables and pipes that deliver power to the people and businesses who use it. From urban and rural homes and businesses to large-scale industrial and commercial operations. You pay your retailer for the energy you use, and some of what you pay comes to us so we can continue to invest in our network to ensure your power supply is safe and resilient.

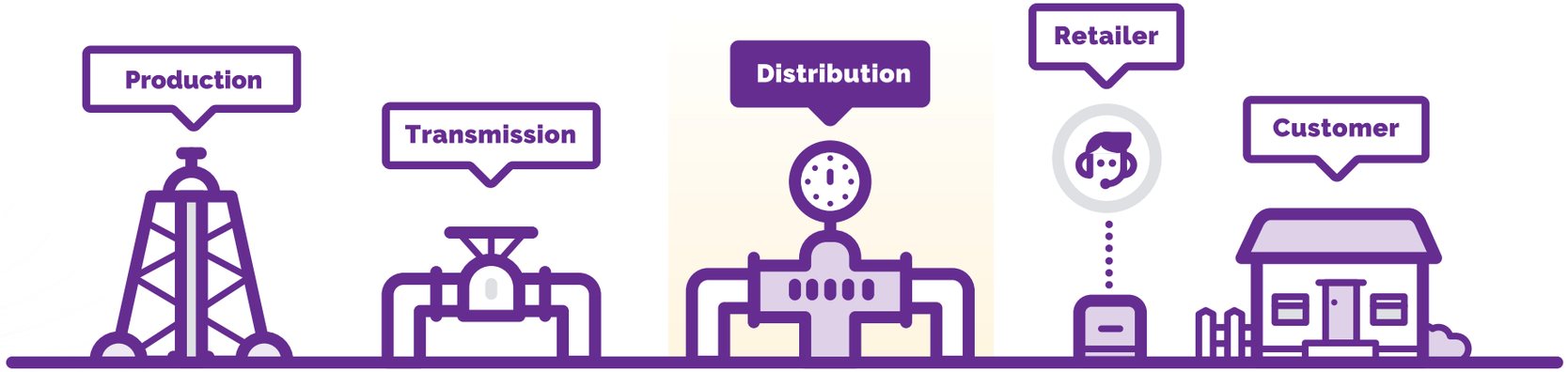
Our value chain comprises our suppliers and contractors that provide resources and services to maintain, renew and build our distribution network, and all activities undertaken by or on behalf of Powerco on the electricity and gas networks to serve our customers. Overall, nearly one in five Kiwis depends on us to keep their energy flowing. Providing reliable energy is a job we take seriously, and we are proud to do it.

More information on our business is available on our website.

Electricity supply chain



Gas supply chain



Our integrated strategic framework

Powerco's strategic framework embeds integrated thinking in our strategic and business planning activities. It encompasses our strategic vision, purpose, and strategic priorities, and provides a structure for our business priorities. This framework ensures alignment between our strategic vision and the work we undertake.

The climate disclosure transition planning that you will read about in this climate-related disclosure calls out these specific strategic priorities:

Enabling customer growth – Our customers are facing the need to reduce their carbon emissions, and this will drive the need for greater electrification, and renewable gas. We want to enable our customers to achieve their objectives quickly and economically, which requires us to improve our performance.

Enabling New Zealand's growth – We are actively exploring new technologies and infrastructure opportunities to help New Zealand grow and thrive.

Future-ready networks – Our networks will play a key role in helping New Zealand meet its net-zero carbon emissions targets, while continuing to ensure safe, cost-effective, reliable, and resilient energy delivery to our customers now and in the future.

Delivering on our growth and future network strategies is the focus of our **Digital and delivery excellence** strategic priority – We understand the importance of high performance, efficiency, and outstanding customer experience in enabling a sustainable energy transition for New Zealand. Building a strong delivery capability enables us to scale for growth and position ourselves as the partner of choice for customers, communities, and service providers.

Powerco's Electricity and Gas Asset Management Plans include our 10-year plan for meeting the needs of our customers. Aligned with our strategic framework, our Asset Management Plans set the direction for managing our gas and electricity assets, and are supported by forecasted expenditure, which we publicly disclose as part of the Commerce Commission information requirements (electricity and gas assets are disclosed separately)[1].

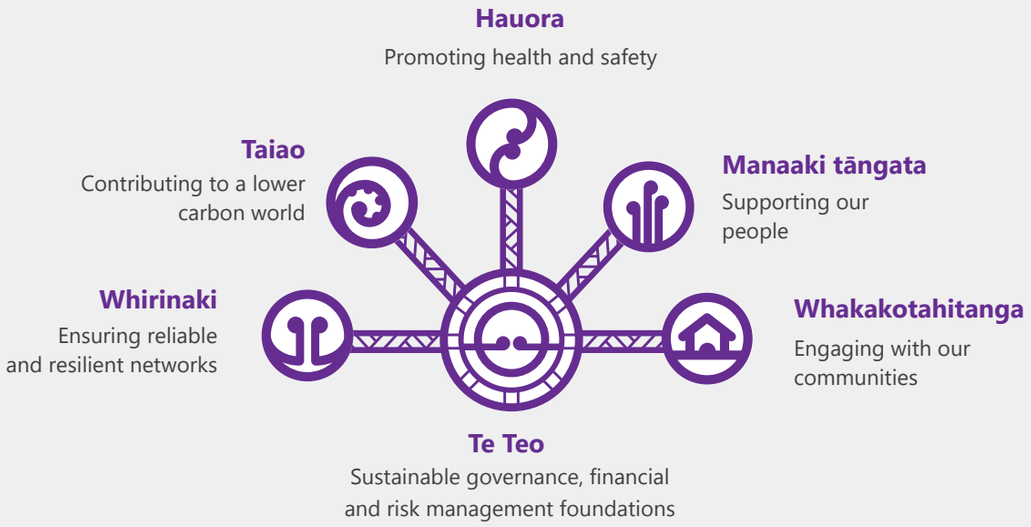
Vision	New Zealand's most customer-focused infrastructure owner and operator			
Purpose	We connect communities			
Ngā Tikanga Our Way	**Proud to be here**	**Better together**	**Working smarter**	**Future focused**
Strategic priorities	Enabling customer growth			
	Enabling New Zealand's growth			
	Future-ready networks			
	Digital and delivery excellence			
Planning	Asset management planning	Business planning	Customer & stakeholder engagement	

[1]Electricity Asset Management Plan 2024, Section 5.1 Schedule 11a) Report on forecast capital expenditure and 11b) Report on forecast operational expenditure.
Gas Asset Management Plan 2023, Appendix 3.1, Schedule 11a) Report on forecast capital expenditure and 11b) Report on forecast operational expenditure

Sustainable value

Our sustainability materiality assessment process involves engaging with our stakeholders to define what's important to them. Through this process, we have developed Ngā Pou, our sustainable business principles, and since 2020 we have aligned our sustainability reporting with Ngā Pou.

Our journey continues to evolve with the recognition that businesses have foundational requirements that also need to be nurtured to truly deliver sustainable value. Our broadened concept of Ngā Pou is illustrated below.



Ngā Pou and Te Teo

Our five pou, or pillars, represent the key focus areas we are working on to provide value to our stakeholders. The pou are connected and supported by Te Teo, represented by a strong bollard, which provides the sustainable governance, financial and risk management foundations required to deliver sustainable value to our customers, communities, and other stakeholders.

The concept of Ngā Pou and Te Teo is inspired by te ao Māori, where te teo is a hitching stake that safeguards and protects. For Powerco, Te Teo provides a foundation and security for the delivery of Ngā Pou.

Ngā Tikanga

Ngā Tikanga – Our Way, is our cultural framework, and describes who we are and how we work with each other, our partners, and industry stakeholders. It is inspired by tikanga, a Māori concept that refers to the ethical framework of Māori society. In the graphic to the left, Ngā Tikanga is represented in the ropes that connect our pou to Te Teo.

Ngā Pou connects with our strategic framework

The management of our business plan is guided by Ngā Pou, Te Teo and Ngā Tikanga. We iteratively assess and plan as a business to ensure that we are constantly adapting to deliver the value that our stakeholders expect from us (Ngā Pou), supported by good business practice (Te Teo) and aligned with our behavioural commitments to ourselves and our business partners (Ngā Tikanga). The initiatives we are committed to have measures that clearly demonstrate our aspirations and delivery of sustainable value. These are articulated through our annual sustainability reporting.

Check out our website to see Powerco's sustainability reports. In these documents, you will see our short-term targets and longer-term goals under each of our sustainability pillars, as well as how we have performed against the ambitions we set ourselves.

You will also find our Climate Change Policy, describing our commitment to facilitate decarbonisation and to collaborate with our customers to enable them to innovate, connect to and transact over our assets.

Scenario analysis

Powerco is driven by its purpose of connecting communities. This means ensuring we continue to thrive as a climate resilient business in a low-emissions world. But what could that future world look like? This section describes our climate change scenarios – the plausible but challenging future scenarios that we are testing our business resilience against.

Powerco has developed four challenging and unique scenarios, specific to the Powerco gas and electricity networks. They are centred on how New Zealand and the global transition to a net-zero carbon future (or lack of) will plausibly affect us over the short (2035), medium (2050) and long term (2080). Previous scenarios have been developed by both the energy sector and Powerco. This project has utilised and leveraged this previous work and aligned scenarios where appropriate[2]. These existing scenarios helped provide useful context and identify relevant drivers for the scenarios. We also participated in the recent development of the New Zealand Energy Sector Scenarios and will utilise this work next year to determine any emerging risks and opportunities not previously considered.

Our scenarios describe the driving forces of climate change, building high-level assumptions about each of the plausible worlds. Disorderly and orderly scenario archetypes are relevant to Powerco and, therefore, were included. The warming scenarios include several representative concentration pathways (RCP) forecasts adopted from the Intergovernmental Panel on Climate Change (IPCC) and consider a range of possible greenhouse gas (GHG) concentration trajectories. These are also aligned with the Socio-economic Shared Pathways (SSPs) of the recent IPCC AR6 report. A fourth scenario, New Zealand Greenhaven, allowed for a future where Powerco could consider both network resilience and decarbonisation aligned with a planned approach focused largely on electrification.

The short-term time horizon (2035) captures part of our asset management planning period (10 years) and a variety of transitional risks and opportunities. The medium-term planning horizon (2050) aligns with New Zealand and international emissions targets. The long-term planning horizon (2080) accounts for the lifecycle of our network assets and variety of physical risks that we may encounter when we replace these assets.

Global Alignment

The globe and New Zealand pursue aggressive emissions reductions, and this succeeds in limiting global temperature increases to 1.5°C (above pre-industrial temperatures), with global net-zero emissions being achieved by 2050. The transition occurs in a coordinated manner across government and the energy sector, with clearly signalled policy changes.

1.5˚C policy ambition

RCP 2.6 (0.9-2.3˚C by end of century)

Lower increase in severe weather events

Policy change is clearly signalled and smooth

Hothouse

Global emissions continue to grow unabated largely due to a failure (reversal) of key emissions reduction policies both in New Zealand and in key developed, high-emitting countries. This leads to warming levels that reach 2°C by 2050, and continue to increase steeply thereafter, reaching 4°C by end of century. Climate 'chaos' enters mainstream discourse, across all sectors and communities.

No ambition

RCP 8.5 (3.2-5.4˚C by end of century)

Extreme increase in severe weather events

No new policies, possible reversal

Global Delay

The globe and New Zealand are delayed in their transition, resulting in a steady increase in temperature between 2020-2030. The New Zealand energy sector direction is unclear, and decisions are protracted. Realisation occurs in 2030 that action is urgently needed. However, this results in abrupt and poorly coordinated policy and market changes.

2˚C policy ambition

RCP 4.5 (1.7-3.2˚C by end of century)

Moderate increase in severe weather events

Policy change is delayed and chaotic

New Zealand Greenhaven

New Zealand and most of the developed world continue to pursue net-zero targets by 2050. However, the rest of the developing world do not follow suit, leading to a rise in global temperatures between 2-3˚C by end of century. New Zealand is viewed as a 'greenhaven' by many in the world and attracts investment and immigration as a result.

1.5˚C policy ambition

RCP 4.5 (1.7-3.2˚C by end of century)

Moderate increase in severe weather events

Policy change is indicated and smooth for New Zealand

[2]Electricity Networks Association (ENA) – Network Transformation Roadmap, 2019; The Future is Electric (Boston Consulting Group, 2022); Whakamana i Te Mauri Hiko (Transpower, 2020); Gas Infrastructure Futures in a Net Zero New Zealand (Vivid Economics, 2018).

Scenario methodology development process

The Powerco scenario development process was completed in FY23 and was led by external climate specialists, along with 22 key stakeholders from Powerco's management team. These stakeholders were crucial for both the development and successful utilisation of the scenarios. The methodology for the scenario development process is included.

1. Key stakeholders from Powerco management team were selected.

2. A focal question was developed/agreed to hold focus through the scenario development process.

3. Time horizons were agreed.

4. The scenario archetypes were agreed, which included two Aotearoa Climate Standards XRB mandated scenarios (1.5°C aligned, and >3°C), and at least one other. A fourth scenario was developed that allowed for a future where Powerco could consider both network resilience and decarbonisation.

5. Driving forces were identified. Identification of driving forces helped us explore and develop an understanding of how the physical and transitional risks and opportunities of climate change might plausibly impact our network assets and business operations over time.

6. Driving forces are external factors, outside the control of Powerco, which may have an impact on our organisation. A method to identify these drivers is called STEEP, which groups drivers into five categories – social, technology, economic, environment and political.

   Physical risks are those categorised as environmental and can be acute or chronic.

   Opportunities also exist and are grouped into five categories – resource efficiency, energy source, products and services, markets, and resilience.

7. The identified drivers were ranked based on their level of uncertainty and impact to Powerco. Those with moderate-low levels of impact were documented and 'left out', and high-impact drivers were retained. Those with high uncertainty were those where very little was known about their future state and should be considered as being foundational to the archetypes. This exercise was completed in a qualitative manner for this project.

8. Outcomes and pathways were generated for top-ranked drivers. Stakeholders explored the different outcomes (and relevant pathways) related to each shortlisted driver under each of the agreed scenario archetypes.

9. Following review of all the drivers and outcomes, narratives were developed. These outcome pathways are descriptions of how the driver manifests within each of the scenarios.

10. Quality check and review. The narratives were reviewed, updated, and approved by both Powerco's Executive Leadership Team and the Powerco Board.

How we identify and manage risk

Our risk management framework

Good risk management will help us to manage the impact of climate change. To enable this, our risk management framework (aligned to the principles of ISO 31000: 2018 Risk Management Guidelines and with the values of Ngā Tikanga) provides a single, priority-based tool to promote prudent decision-making and is reviewed in conjunction with any material updates to our strategic objectives or operating environment.

The framework enables Powerco to achieve a consistent and comprehensive understanding of risks, including those that are climate-related, and involves a systematic approach to manage risks and opportunities. Our risk categories are environmental, social, governance and operational and are informed by the results of internal risk and maturity assessments, risk assurance work, and emerging insights from several industry and global publications. Specific consideration has been given to both physical and transitional risk assessment criteria under the environmental risk category.

Risk identification

The initial step performed during our climate-related risk assessment involved identification and framing – setting the boundaries of the risks, the assessment process, and other key elements, including:

- What are the risks and opportunities that may relate to Powerco's strategic priorities and business plan. These have been considered in relation to the shortlisted drivers identified during the scenario development phase.
- Who are the key stakeholders across the organisation who may be impacted by the risk or opportunity and, therefore, should be members of the risk assessment team.
- What are the characteristics of the risk and opportunity, notably impact, likelihood, and time horizon.

The 12 shortlisted drivers identified from the FY23 Powerco scenario development process were grouped into the four categories of the Powerco risk framework[3].

Risk assessment

Climate-related risks and opportunities were assessed and prioritised using our risk management framework, including a series of risk deep-dives bringing together senior leaders and subject matter experts across Powerco. For each scenario, the shortlisted drivers were assessed and prioritised in a qualitative manner in terms of their impact, climate-related velocities, current management response or proposed future mitigation. All risks need to be acceptable in terms of Powerco's risk appetite, and risk reduction measures may be required. Climate-related risks and opportunities were evaluated in the same manner as any other risk at Powerco.

The risk assessment outcomes were aggregated to give a high-level indication of the relative importance of the four climate-related scenarios. The most significant risks and opportunities were presented and confirmed with the Executive Leadership Team before being incorporated in our broader risk status update to Powerco's Audit and Risk Committee. All parts of our gas and electricity network value chain have been included in the risk assessment.

Six of the 12 shortlisted drivers were considered material during the risk assessment phase and are presented on page 16 of this report.

Frequency of assessment

Our climate-related assessments were completed as focused deep-dive assessments for the current financial year. These will be maintained continuously, integrated into our priority-based risk assessments, and reported to the Executive Leadership Team and Audit and Risk Committee through the risk status update. Our risk management framework is an integrated decision-making tool, and assessing climate-related risks is a key part of this.

[3] **Environmental** - Severe weather events, sea level rise, and managed retreat. **Governance** - Regulatory misalignment, phase out of internal combustion engine vehicles, and transition to electric vehicles. **Social** - Customer behaviour, population shifts (urban/rural/local). **Operational** - Supply chain impacts, carbon price, access to finance and insurance, and transmission failure.

Climate-related risks and opportunities

It is an exciting – and challenging – time to be part of Aotearoa New Zealand's energy industry.

At Powerco, we are committed to enabling Aotearoa to achieve net-zero emissions by 2050, and helping Kiwis thrive along the way.

As the country's largest dual-energy distributor by length, we have an important role to play in the decarbonisation journey. First, by providing the reliable and resilient gas and electricity networks our customers rely on, and second, by supporting the development of green gas opportunities. We know a successful transition to a low-carbon future must be environmentally conscious, affordable for our customers, and provide security of energy supply every step along the way.

Our role in the transition will have both risks and opportunities associated with the pace and extent to which we ensure our activities help customers to mitigate emissions and adapt to a changing climate.

Physical risks are risks resulting from climate change that are event-driven (acute risks), including increased severity of extreme weather events, such as cyclones, high winds, and floods. They also relate to longer-term shifts in climate patterns (chronic risks) that may cause sea level rise or chronic heat waves.

Powerco's most significant climate-related risks and opportunities are summarised below. These risks and opportunities are integrated with our risk framework categories and are further documented, along with our transition strategies, in the following pages.

Climate driver	Business	Climate scenario				Time horizon		
		Global Alignment	Global Delay	Hothouse	New Zealand Greenhaven	Short - 2035	Medium - 2050	Long - 2080
Transitional								
Supply chain impacts	Electricity and gas	Operational	Operational	Operational	Operational			
Regulatory misalignment	Electricity and gas	Governance	Governance		Governance			
Uptake in renewables	Electricity and gas	Social			Social			
Customer behaviour	Electricity and gas		Social		Social			
Physical								
Sea level rise and managed retreat	Electricity and gas		Environmental	Environmental	Environmental			
Severe weather events	Electricity and gas	Environmental	Environmental	Environmental	Environmental			

Climate change poses challenges, but also opportunities.

Demand for electricity is forecast to increase more than 70% by 2050 as the country electrifies the transport fleet, and industrial heating and processing. To meet that demand, we are investing now in the following ways:

- We are expanding our network to have capacity available when our customers need it so we can enable their mitigation and growth, rather than being a barrier to progress.
- We are investing in technology and preparing for the smart grids of the future. This will integrate more distributed generation as customers increasingly switch to their own solar and wind power and feed the excess electricity back into the network.
- On our gas network, we are working on biogas and green hydrogen gas alternatives that can be used in residential customers' existing infrastructure. These alternatives will provide affordable supply, offer energy resilience, and support customers' needs, including when storms impact electricity supply. Our industrial gas customers provide the biggest opportunity to reduce emissions, and we are working with them to electrify their operations over time[4].

[4] Gas Asset Management Plan 2023, Section 2.4 Looking ahead.

Supply chain impacts

Time horizon		
Short - 2035	Medium - 2050	Long - 2080

Current and anticipated impacts

We are already experiencing supply chain impacts because of New Zealand's distance from major global supply lines, the reliability of global sea freight post COVID-19, and global political unrest. These factors are causing longer lead times and cost increases for some of our standard equipment, and are impacting the availability of some technology components. Cyclone Gabrielle tested our critical spares response standards and systems.

We anticipate:

- Supply chain disruption will extend to basic materials (copper, steel, aluminium), which may impact our planned works programme and slow down the pace at which we can implement our strategic plans.
- Increasing severe weather events will further restrict global supply chains and further increase costs over the medium to long-term time horizons.
- Increased demand in clean energy technology and resources, resulting in international-scale competition for resources and skillsets. This may impact the cost of, and our ability to deliver, new and traditional energy solutions.

Current and anticipated financial impacts

We have not attempted to separate out the impacts on our current cost base of recent supply chain issues. Given the limited ability to isolate these from other cost increases, the financial impact of possible supply chain disruptions is difficult to forecast. The procurement review that is being undertaken, and the standardisation initiatives (as outlined in our transition strategy), will help inform our analysis of financial impacts.

Transition strategy

To manage our supply chain more strategically, aligned with our 'Digital and delivery excellence' strategic priority, we are:

- Undertaking a procurement review, including accelerating equipment standardisation.
- Partnering with other distribution businesses to accelerate industry network standardisation and formalise provisions for mutual aid support and industry buying groups. This will provide scale to compete in global markets or support growth in domestic markets.
- Reviewing our critical spares standards and inventory of critical spares to provide short-term resilience to disruptive events.
- Working to position Powerco as an industry-leading employer of choice to ensure we attract and retain the talent required to deliver electrification[5].

[5] Electricity Asset Management Plan 2024, Section 3.4 Workforce capability and capacity.

Regulatory misalignment

Time horizon		
Short - 2035	Medium - 2050	Long - 2080

Current and anticipated impacts

Regulatory and policy settings impact our ability to implement low-carbon resilient energy. We are seeing changes in Government policy following the 2023 election. The Government is moving from a Government-led transition towards market-driven solutions. In some areas of the policy environment this is supporting investment (eg fast-track consenting process), but in others, such as the removal of subsidies for transition investments by business and individuals, it may slow the transition. As a regulated business, the settings decided by the Commerce Commission will dictate our capacity to support electrification and adaptation.

We remain concerned that changes in policy settings, and in particular short-term policy pressures, may adversely impact regulatory settings, which should be focused on the long-term best interests of customers. We believe those interests are best served by a sustainable (affordable, secure and environmentally sound) net-zero pathway. Studies show that the net-zero pathway leads to a lower total cost of energy for customers as more of their lives are powered by electricity, but there are costs during the transition as the system evolves.

Previous Government interventions have contributed to reduced investment in the necessary thermal fuel and infrastructure to support a secure and affordable transition of the electricity system. This has increased wholesale electricity prices to reflect fuel supply risks just when New Zealand needs prices to fall to ensure ongoing affordability for switching to electricity.

New Zealand's electricity system will be ~97% renewable by 2030 without a need for Government support for the supply side. But such a highly renewable system needs support from thermal fuels to address capacity and energy storage challenges that arise from time to time. In time, new technologies and smart networks will be able to address these issues, but for now, thermal fuel storage and electricity generation offer the most robust solution.

The new Government is reversing previous interventions and it is too soon to tell whether the upstream investment will occur, or whether the perception of risk continues to stymie investment. Projected growth is at risk if, as an industry, we fail to address affordability and security.

Current and anticipated financial impacts

Our regulatory settings are important to our business and customers. They underpin how much we can spend on our networks and the amount of revenue we are able to recover from our customers. The absence of a decision on the default price-quality path (DPP4) electricity settings means it is difficult to quantify the financial impact of any change in these settings. While we are actively engaging with the Commerce Commission on the reset, we are largely unable to control this risk. But those settings will dictate our ability to invest and support New Zealand's transition and adaptation.

Transition strategy

Greater certainty in the regulatory environment will likely emerge in late 2024. The second Emissions Reduction Plan will likely provide key points of direction in the new Government's energy targets, and the role of alternative fuels. The Commerce Commission will also deliver its final decision on the settings for regulated electricity distribution businesses for the period 2025 to 2030, which will reveal whether those businesses are funded to support the transition.

Our focus is on:

- Understanding our evolving context and monitoring and adjusting our strategies and engagement to achieve a regulatory outcome that supports a sustainable transition. We will continue to lift our stakeholder engagement with a range of key regulators and policy makers.
- Continuing our efforts around sound forecasting of appropriate funding levels, and being ready to engage in a customised price-quality path application, price path reopener, or innovation processes to enable alternative outcomes if necessary.
- Our strategy includes a transition to a distribution system operator as we increasingly integrate and enable distributed energy, storage, and control assets. This will enable the maximum utilisation of our network assets and non-network solutions, which in turn drives the lowest cost, and most resilient, pathway for customers. Our capacity to move quickly on this will be dictated by regulatory allowances.

Uptake in renewables

Time horizon		
Short - 2035	Medium - 2050	Long - 2080

Current and anticipated impacts

It is now accepted that substituting fossil fuel use with electricity is one of the most viable, effective means of achieving our carbon goals. In 2023, ~90% of Aotearoa's electricity was produced from renewables, and this will reach ~97% by 2030 without any Government intervention. For us, this means:

- We are experiencing an increase in electricity applications for both residential and grid scale distributed generation (DG) connections. Under our Global Alignment scenario, we see customer requests for DG connections continuing to grow with high expectations for network capacity.
- We are experiencing a reduction in consumption and lower residential customer connection growth on our natural gas network. Our New Zealand Greenhaven scenario anticipates the wind-down of natural gas, phasing out over the short to medium-term timeframes. Although we are observing a more pragmatic view to gas under the current Government, we are not anticipating a return to higher growth because of the increasing cost of natural gas. The Gas Transition Plan Issues Paper, released in August 2023, confirms the opportunity to reduce reliance on fossil gas using biogas. Under our Global Alignment scenario, substituting natural gas use with biogas (or potentially hydrogen) will reduce the carbon footprint and provide a more sustainable transition.

Current and anticipated financial impacts

The increase in renewable electricity generation being connected to our network will require additional capital expenditure. The quantum of expenditure outcomes continues to be refined given the uncertainty associated with the number and timing of connections that will be required.

The New Zealand Greenhaven scenario provides for a steady planned approach focused on electrification. There is a risk that our gas network assets could become stranded under this scenario, because of the forecasted steady reduction in natural gas usage as Aotearoa moves towards a target of net-zero emissions by 2050. There is, however, a high degree of uncertainty associated with any reduction in gas usage and connections. The current carrying value of the Powerco natural gas network is $457 million[6].

Transition strategy

To manage the uptake of electricity renewables, our 'Future-ready networks' strategic priorities include:

- Our electricity network architecture needs to change, with more focus on the visibility of our low voltage (LV) networks and operational control to enable a fully open-access network capable of supporting distributed renewable generation. We have started improving visibility of our LV network operations and created a DG hosting capacity map that helps our customers assess site suitability to inform hosting decisions on our network.
- We will improve our probabilistic demand forecasting models and enhance our probabilistic planning approach with the development of an Advanced Distribution Management System to improve our network planning and risk management, and allow higher network utilisation rates without having to take on undue risks.

To manage the uptake of renewable gasses, we have developed a roadmap to 100% green gas centred on repurposing the gas network to enable distribution of mixed gases, such as biogas and hydrogen. Our natural gas network is ready to receive and convey renewable natural gas (biomethane) with little augmentation required. We have been exploring several pilot projects and opportunities to support a low-emissions future and have partnered with a landfill and wastewater plant for sourcing biomethane for distribution in our networks. This is non-regulated spend aligned with our 'Enabling New Zealand's growth' strategic priority.

[6] Gas information disclosures, financial and technical 1 October 2022 – 30 September 2023, Report of value of regulatory asset base, Page 12 (includes non-network assets).

Customer behaviour

Time horizon		
Short - 2035	Medium - 2050	Long - 2080

Current and anticipated impacts

Affordability and security are fundamental to electrification. Our customers will not transition to renewable energy if it is too expensive, or the service is unreliable.

Some industrial customers indicate that, to reduce carbon emissions, they are more likely to convert their major processes to run on biomass than on electricity. This is partly driven by energy costs, but also by the limitations of using electricity to effectively drive high-temperature heat processes. Lower temperature processes are likely to be electrified.

In the commercial and industrial sphere, applications for electrification projects are increasing. Our industry's current response times to facilitate new demand are slower than customers' expectations and we hope regulatory settings will support us to invest in our capacity to support customers.

For residential customers, there will be continuing changes in the use of our networks and complexities in determining societal changes that move around energy demands. Working from home is now common, changing demand from urban centres to residential areas and changing use patterns. Gas customers may decarbonise and switch to electricity faster than anticipated and the gas network may become uneconomic. Customers will increasingly produce their own energy with distributed resources potentially driving an over-supply of electricity generation and the need to 'spill' electricity on our network.

As storm outages continue to increase, some customers may go off-grid – self-generating at equal or lower costs. This may leave a smaller number of customers on the network, meaning proportionally even greater cost burdens fall on a shrinking customer base. This creates a risk of assets being stranded and/or over built in the long term.

Current and anticipated financial impacts

Our Gas and Electricity Asset Management Plans incorporate the costs we expect to incur to meet the future needs of existing customers as well as our best view of customers decarbonising and transitioning to electricity during the 10-year planning period. However, the timing of large new customer connections remains outside of our control. As our knowledge of our customers' requirements develops, so will our ability to refine the costs that Powerco will need to incur and the timing of those, within our Asset Management Plans.

Transition strategy

Our 'Enabling customer growth' strategy aims to make it easy and attractive for customers to use our networks to support the uptake of renewables. This means:

- For our industrial and large commercial customers, we are ensuring that what we build meets future need, is built in time for that need, and is done efficiently. Our goal is proactive customer consultation to understand their plans and to become a go-to partner for developing low-carbon energy solutions. The Energy Efficiency and Conservation Authority (EECA) regional energy transition accelerator programme offers opportunities to work across councils and large customers on future decarbonisation plans, demand, and options. We are developing a method of valuing this impact to enable us to understand the economic value of investing ahead of time.
- For our residential customers, an important strategy is maximising utilisation of our assets. In addition to new tools and technologies, continuing to undertake robust forecasting and planning of customer demand and network capacity will contribute to this. We are developing customer segmentation profiles that cluster our customers around similar socioeconomic and demographic profiles, enabling us to interact with these groups more effectively. This will help us develop a better understanding of their decarbonisation journey and what the likely future demand impact will look like, enabling more robust planning and investment decisions. In addition, our biogas programme will support residential gas customers to transition to a lower carbon gas supply over time.

Sea level rise and managed retreat

Time horizon		
Short - 2035	Medium - 2050	Long - 2080

Severe weather events

Time horizon		
Short - 2035	Medium - 2050	Long - 2080

Current and anticipated impacts

In 2023, Cyclone Gabrielle impacted our gas and electricity networks across the North Island, particularly our Hawke's Bay, Coromandel and Wairarapa networks. This tested our operational and response capability.

Our gas pipeline crossing the Ngaruroro River bridge in Napier was pulled from the supporting structures because of flooding and slash. Proving resilient, its integrity was maintained, and gas supply to Napier was not interrupted, demonstrating the importance of fuel diversity for energy resilience.

Our electricity networks in the Coromandel and Tararua were hit hard from falling trees and flooding. Some of our assets were submerged, such as our Tīnui substation in Wairarapa, and communication sites were interrupted. Remote townships lost supply for longer durations because of access issues from landslips. At the height of the cyclone's impact, more than 100,000 of our electricity customers were without power (an average of 34,000 customer outages per day).

We anticipate:

- Storms to increase in frequency and severity with inland flooding and slips further impacting our networks and communities.
- Increasing sea level rise potentially submerging electricity and gas assets, exacerbated by storm surges and river and coastal erosion.
- Increasing interdependencies between infrastructure providers to initiate community-level planning, with local councils facilitating managed retreat on an ad hoc basis. This will prompt the need to relocate existing infrastructure and change the ways we invest new infrastructure provisions accordingly.

Current and anticipated financial impacts

Nationally, Cyclone Gabrielle caused significant damage to key infrastructure services (housing, roads, water) with widespread loss of electricity and cell phone connectivity. It joined the list of New Zealand's mass fatality events with 11 people losing their lives. The cost to the country is estimated to be up to $14.5 billion. This exceeds economic losses of the 2016 Kaikōura earthquake ($2bn-$4bn)[7].

Cyclone Gabrielle has imposed significant costs on our electricity and gas networks. While storm events are typically accounted for in our reactive and emergency forecasts within the network capital expenditure (Capex) and operational expenditure (Opex) categories[8], the specific financial impacts resulting from Cyclone Gabrielle warrant separate consideration.

As shown below, the electricity network expenses amount to $9.1m, and the gas network $4.8m, both with final costs still pending for completion of resilience repair work. These costs highlight the direct and indirect financial impacts of severe weather events on our networks are significantly broad and ongoing.

We anticipate that future costs associated with network events, such as these, will exceed our current regulated allowances. It is crucial that our stakeholders and regulators support our investments aimed at mitigating these expenses (as outlined in our transition strategy on page 23). The expenses attributed to Cyclone Gabrielle inform our network resilience review, ensuring that our expenditure programme adequately addresses climate risks. Additionally, we consider the exasperating impact of rising sea levels in this assessment.

Powerco network	Gas		Electricity	
Financial impacts	Capex	Opex	Capex	Opex
Direct repair costs	$127,000	$116,000	$1.5m	$1.2m
Resilience repairs	$3m	$90,000	$4.221m	
Delayed projects	$1.312m			$611,000
Internal resources		$163,430	$688,000	$634,000
Insurance premium increase		$13,000		$267,000
Total cost	**$4.439m**	**$382,430**	**$6.409m**	**$2.712m**

[7] Public Health Communication Aotearoa, Cyclone Gabrielle by the numbers – A review at six months, 14 August 2023
[8] Electricity and Gas Asset Management Plans 2023, Capex Schedule 11a) Asset replacement and renewal expenditure category, and Opex Schedule 11b) Systems operation and network support expenditure category.

Transition strategy

Our 'Future-ready networks' strategic priorities include goals to deliver a level of network energy resilience that balances our customers' expectations, considering supply risk exposure and upgrade costs.

To support this goal, we have developed and published our first Climate Adaptation & Resilience Plan, which identifies and outlines actions and strategies for managing physical climate risks. A summary of the actions in this plan include:

- A regional wide-area asset vulnerability assessment using geospatial hazard analysis (eg inland, and coastal inundation and land slips) broadly aligned to our climate scenarios.
- Targeted proactive measures, including remediation or strengthening of existing gas and electricity priority assets.
- Non-network support for remote communities who are most exposed to prolonged loss of supply during major storm outages.
- Increased climate resilience investment to support our adaptation and resilience planning. Our resilience plans undergo an investment optimisation process, and actual expenditure will be updated once projects are selected.

Note: New Zealand's infrastructure is a complex web of inter-related services and local planning efforts, all at different stages of maturity and collaboration. While we have modelled our electricity and gas networks to specifically identify assets vulnerable to inland inundation and sea level rise, further engagement with local government and other essential infrastructure asset owners is required. Strengthening resilience or working with communities on adaptation plans, means we need much greater understanding of local plans and improved coordination across infrastructure services and providers.

Investment	Resilience planning
$16m	For strengthening backbone electricity overhead assets crossing rivers.
$10m	For zone substation relocation out of flood zones (high-risk sites).
$14m	For rebuilding 5% of the electricity underground network exposed in flood-prone areas.
$3m	For additional spares to improve response to zone substation flooding.
$14m	For storm-hardening 2% of electricity overhead assets for extreme wind speeds.
$8m	For relocating 10% of the electricity overhead network at risk from falling trees (forestry).
$1m	For high voltage fuse replacements to mitigate bush fire risk.
$14m	For relocating 1% of the electricity overhead network within active and slip-prone areas.
$13m	For establishing 40-60 off-grid community hubs for hard-to-serve areas.
$20m	For strengthening our gas special crossings (distribution pipe) and gas regulator stations in flood-prone areas.

Read more about our approach to improving our network resilience to climate risks in Section 6 of our Climate Adaptation & Resilience Plan.

Metrics and targets

Climate-related metrics and targets monitor and manage the effectiveness of our transition planning.

We are monitoring the impact of the energy transition and the impact of physical risks on our gas and electricity networks. These assets or business activities are ‘vulnerable’, in terms of the Aotearoa Climate Standards, as they are impacted by issues such as possible impairment or stranding of assets, effects on the value of assets and liabilities, and changes in demand for products or services.

We are also monitoring the opportunity to grow our electricity network. Demand for electricity is forecast to increase as the country electrifies the transport fleet, and industrial heating and processing. We are investing now to meet that demand to ensure we transition to a low-emissions climate resilient state.

We are always seeking to improve our climate risk management by benchmarking ourselves against global sustainability standards and achieving asset management excellence.

Each year, we set key targets that help our stakeholders understand what we are focusing on to improve our performance. By reporting on these, we aim to provide a clear view of how our work contributes to maintaining a sustainable service for our customers.

Climate-related metrics

Assets vulnerable to transitional risks

Uptake in renewables

The Powerco climate scenarios have modelled potential futures of the gas network over different trajectories.

The New Zealand Greenhaven scenario provides for a steady planned approach focused on electrification.

Under this scenario, we forecast a steady reduction in natural gas usage as Aotearoa moves towards a target of net-zero emissions by 2050, resulting in a reduction in natural gas connections across the sector.

The Global Alignment scenario provides for a coordinated pathway towards a low-carbon future focused on electrification and a transition to biomethane.

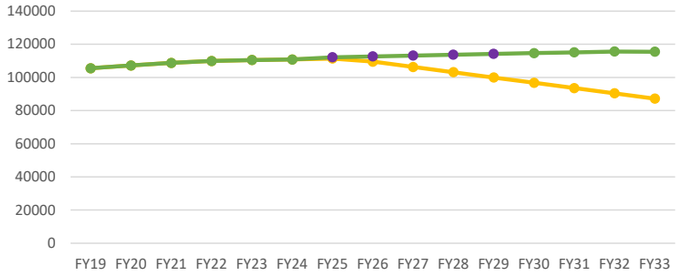
Under this scenario, we forecast residential volumes and commercial gas volumes (after some initial uncertainty) to return to historical trends. At first it will increase before potentially slowing down because of future changes in demand and affordability.

Industrial gas volumes and customer connections are forecast to reduce through the transition period to 2033 and beyond, as this sector executes its plans to reduce emissions.

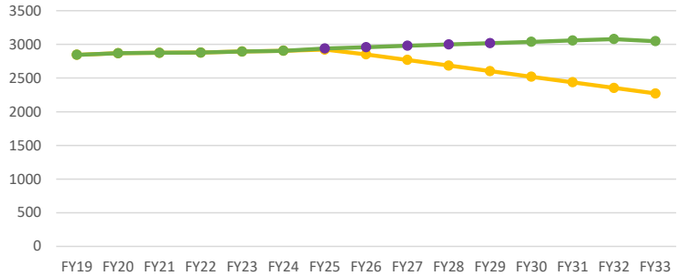
The Powerco climate scenarios transition risk metrics include future assumptions that are uncertain. They are neither a forecast nor prediction and only represent potential scenarios. To monitor and measure our transition strategy with more certainty, we annually report on forecasted demand (new customer connections) over a five-year regulatory period in our Gas Asset Management Plan[9]. This includes the number of new connections for our residential, commercial, and industrial customers, and supports our expenditure forecasts[10].

The following diagrams illustrate the scenario assumptions pertinent to both the New Zealand Greenhaven and Global Alignment scenarios. The anticipated demand, as projected by our Gas Asset Management Plan, is depicted in concordance with the Global Alignment scenario. This supports the pathway towards a low-carbon future by transitioning households and small business from natural gas to biogas and hydrogen alternatives, and transitioning our industrial gas customers to electricity over time.

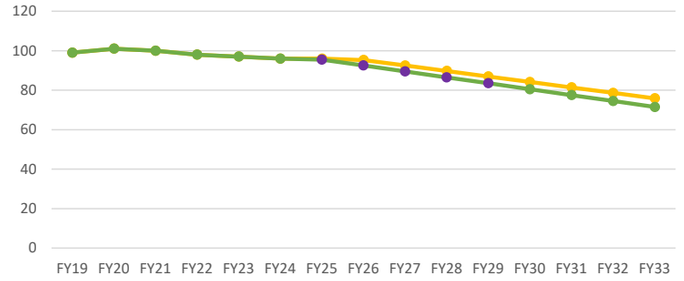
Residential gas connections



Commercial gas connections



Industrial gas connections



[9] Gas Asset Management Plan 2023, Schedule 12c) Report of forecast demand by regulatory year (RY).
[10] Gas Asset Management Plan 2023, Section 7.2 Forecast inputs and assumptions, 7.2.1 Consumer Connections.

Assets vulnerable to physical risks

Our Climate Adaptation & Resilience Plan (as outlined on page 23 of this report) contains outcomes of our regional wide-area asset vulnerability assessment using geospatial hazard analysis broadly aligned to our climate scenarios.

Our assets vulnerable to physical risks are shown in the table below. The assets are identified as 'vulnerable' because they are key points of supply to customers. The table also shows the number and percentage of these assets exposed to physical risks and the total net value of these assets.

The analysis included assets exposed to inland flooding (1% AEP), and sea level rise scenarios (SSP 1-1.9 and SSP 2-4.5). The worst-case SSP 5-8.5 scenario was not included as it was deemed a reasonable approach to not impose unnecessary costs on our customers given the uncertainty of actual future projections[11].

Our method for calculating the total net asset value of exposed assets includes the audited values from our regulatory asset base (RAB). The RAB is published on our website (see Financial and technical information disclosures, Schedule 4) and includes the Gas RAB (as of 30 September 2023) and Electricity RAB (as of 31 March 2023).

We have also noted that there is a significant portion of zone substation assets with flood protection provided by regional and local council flood mitigation assets, such as stop banks, flood gates and flood pumps. We acknowledge that our asset resilience relies on the adequacy of these flood protection measures, and we are actively working with councils to improve our understanding of these services.

Asset type	Total number of assets (% of fleet)	Total net asset value
Gas regulator stations	46 (24%)	$1.859m
Gas special crossings	10 (3%)	$383,460
Electricity zone substations	28 (21%) *	$58.829m

*Includes 21 electricity zone substations protected by regional and local council flood protection assets.

Climate-related risks and opportunities expenditure

Investment towards our transition strategy for physical risks over the 10-year asset management planning period (as outlined on page 23 of this report) is summarised below. Actual expenditure will be updated once projects are selected through investment optimisation. This investment is publicly disclosed in our report on forecast capital expenditure, available in our Gas and Electricity Asset Management Plans[12].

Physical risks	**Total estimated expenditure**
Gas network	$20 million
Electricity network	$113 million

Opportunities

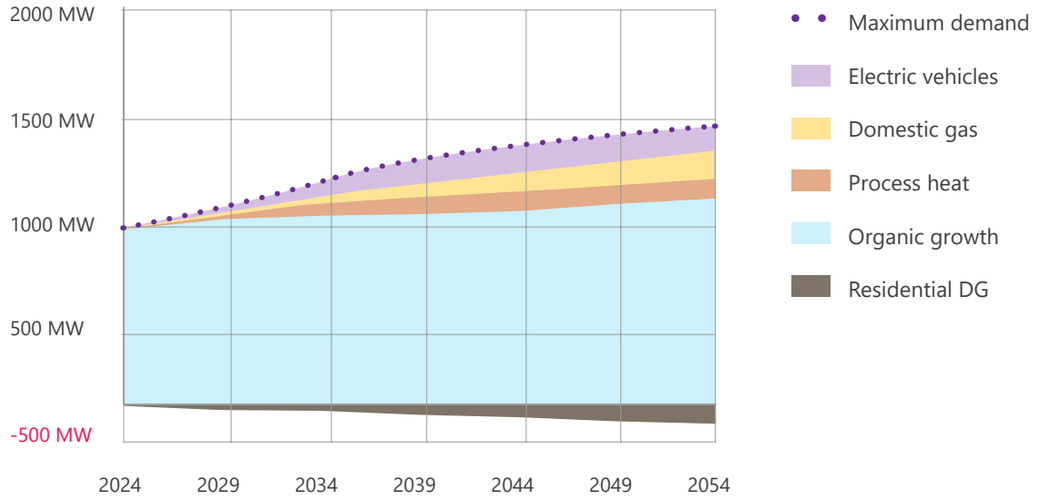
As an energy distribution company, we have a huge opportunity to help New Zealand decarbonise and grow our network. This includes helping customers connect to renewable energy in various forms.

Our long-term demand forecasts are illustrated below. As in the past, we see our major growth factors as being:

- Organic growth, based on increasing customer connections.
- Increased uptake of electric vehicles (with the underlying assumption that we will exert a level of control in terms of when these will be charged).
- Conversion of process heat to electricity, mainly for smaller loads (up to about 50MVA) to be connected to the distribution network.
- The future conversion of domestic gas networks to electricity.
- The uptake of residential distributed generation (DG) around the network helping to reduce peak demand.

These assumptions for major growth factors inform our long-term demand forecasts and form a scenario of system peak demand to support our expenditure forecasts[13].

System peak demand scenario



[11]Annual exceedance probability (AEP) is the probability of an event occurring each year. Our climate scenarios include several warming scenarios aligned with Socio-economic Shared Pathways (SSPs) for New Zealand sea level rise predictions. Further details on our exposure analysis, including methods and assumptions, is detailed in the Powerco Climate Adaptation & Resilience Plan, Section 6.

[12] Electricity Asset Management Plan 2024 and Gas Asset Management Plan 2023, Capex Schedule 11a) Asset replacement and renewal expenditure category.

[13]Electricity Asset Management Plan 2024, Section 2.2 Electricity consumption trends.

Internal emissions price

Our investment optimisation framework includes a carbon price based on the current spot rate with a generic inflation rate. This carbon cost is updated annually in our investment optimisation framework and is overseen by the Asset Management Steering Committee.

The cost per tonne of CO_2 is a risk quantification parameter that reflects the current value attributed to the prevention of carbon emissions. When updated, the value for all investments that apply this model will be updated. This parameter can also be varied in scenario analysis to determine if a change in carbon value would impact on investment decisions (eg project timings, preferred options).

Any updates to the methodology will be based off the Climate Change Commission advice on carbon price, as published on the Climate Change Commission website. We are considering an updated approach to setting the carbon price based on the Climate Change Commission mid-point rate (2050) and future carbon rate to support a decarbonised economy. We are now investigating a robust approach on how this impacts our investments before integrating.

Remuneration

ESG targets form part of the in-year, short-term and long-term performance metrics for all executives. Performance against ESG targets directly impacts in-year executive remuneration. Powerco's Board has recently approved a change to a long-term incentive structure, so that 25% of the total incentive is based on achievement against an ESG scorecard, which includes an emissions reduction target.

Industry metric

An indirect impact of extreme weather events is customer outages because of weather-induced faults on the network.

For our electricity network, we use the industry metric 'Major event days – SAIDI' to measure this impact, which is the days of severe weather that breach our System Average Interruption Duration Index (SAIDI) boundary value for unplanned interruptions (a value set by the Commerce Commission). For the 2023 regulatory period, the SAIDI 24-hour boundary value was 11.710 minutes.

In FY23, our electricity network had three SAIDI major event days caused by Cyclone Gabrielle (dated 12, 13, and 14 February 2023). These events caused an average of 34,000 customer outages per day and contributed to 200.6 raw SAIDI minutes to Powerco's reliability performance – more than 50% (out of 396 minutes) of total raw unplanned SAIDI for the period[14].

Our gas network experienced no outages (leakage) from Cyclone Gabrielle as gas supply to Napier was not interrupted[15].

For the 2024 and 2025 regulatory period, the SAIDI 24-hour boundary value is set at 9.82 minutes. We will report on our 2024 Major event days – SAIDI in FY25.

[14]Our electricity network identifies 'Major event days' in our 2023 annual compliance statement, attachment C.
[15]Detailed in our gas safety report on Cyclone Gabrielle.

Asset management excellence – ISO 55001

Managing infrastructure and assets is one of our core skillsets, and we are proud of our asset management capabilities. To achieve continual improvement of our Asset Management System, Powerco follows the plan-do-check-act model of ISO 55001. Powerco's electricity network has asset management certification ISO 55001, an internationally recognised standard for asset management. We are aligning our gas Asset Management System with the principles of ISO 55001 for effective decision-making. Our 2024 recertification will be reported in FY25.

	ISO 55001 certification for electricity
2021	Three-year certification, subject to annual surveillance audits
2022	Passed surveillance audit
2023	Passed surveillance audit

Sustainability benchmarking – GRESB

Since 2016, we have benchmarked ourselves globally in the GRESB sustainability infrastructure survey. Participation in the GRESB survey allows Powerco to get a clear picture of our ESG performance, how it compares with our peers' performance, and what we can do to improve. In the years we have participated, we have achieved a five-star rating five times (2017, 2018, 2019, 2021 and 2023), putting us in the top 20% of companies that undertake the survey worldwide. Within our peer comparison group (Electricity Distribution Network, maintenance, and operation), we achieved a first placing during 2017, 2018, 2021 and 2023. We did not complete the survey in 2020 because of priorities with the COVID-19 pandemic. Our 2024 GRESB score will be reported in FY25.

	Rating	Company score	Peer average
2017	Five stars	82	43
2018	Five stars	88	58
2019	Five stars	75	67
2020	Did not complete survey because of COVID-19 priorities		
2021	Five stars	97	89
2022	Four star	93	87
2023	Five stars	100	88

Greenhouse gas emissions

As one of Aotearoa New Zealand's largest electricity and gas distributors, we play a critical role in our customers' transition to a sustainable and low-carbon energy future. By enabling decarbonisation through electrification, and by preparing our gas network for low-carbon alternatives, we will contribute significantly to New Zealand's net-zero 2050 target.

Our own corporate emissions are a fraction of the quantity we can impact through enabling connection to lower carbon energy, and in expanding our networks and keeping them resilient we will naturally be faced with a challenge of maintaining or reducing our corporate emissions. We are, however, committed to making sustainable choices in our operations and continuously looking for opportunities to reduce emissions.

To quantify and be held accountable to our progress, we measure and publicly disclose our GHG inventory. Our latest GHG Inventory Report was published in July 2024 and covers the financial year ending 31 March 2024.

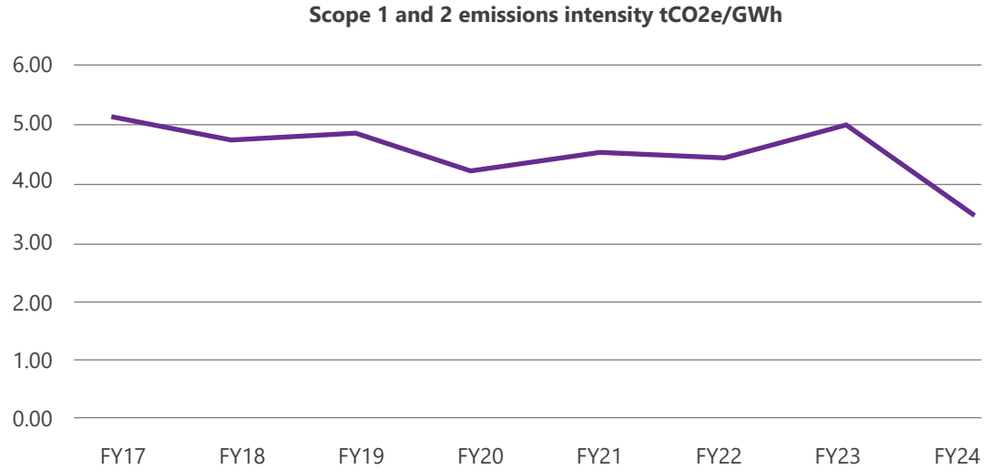
Powerco's GHG inventory reporting processes and emissions categorisation is prepared in accordance with the GHG Protocol using the operational control consolidation approach. In line with the Aotearoa Climate Standards XRB requirements, emissions factors and any exclusions are included in the report under the methodology section. An analysis of the main trends for each metric is included in the FY24 GHG inventory analysis section.

Our GHG inventory is annually verified against the ISO 14064 standard.

The table below shows Powerco's emissions by scope in tonnes of carbon dioxide equivalent (tCO2e).

Scope	FY24 tCO2e	FY23 tCO2e	Base year FY21 tCO2e	Variance	
				tCO2e	%
1	7,467.09	7,609.64	7,927.87	-460.78	-5.81
2	20,352.92	32,272.08	28,185.58	-7,832.66	-27.79
3	85,306.07	81,611.93	79,786.96	5,519.11	6.92
Total	113,126.08	121,493.65	115,900.41	-2,774.33	-2.39

A relevant emissions intensity metric for energy distribution is scope 1 and 2 emissions per gigawatt hour (GWh) of energy transported. The figure below shows a steady decrease in emissions intensity up to FY20. From FY21 to FY23, our emissions intensity has risen because of declining gas throughput and increasing scope 2 emission factors. FY24 intensity has reduced, largely because of a decreased emissions factor (based on New Zealand's electricity grid mix).



Emissions reduction targets

Powerco is committed to being accountable for the emissions that relate to our business operations.

Our FY24 aim was to set a business-wide, ambitious reduction target and plan. This short-term goal excluded electricity distribution line losses and fugitive gas losses.

While progress towards this goal has continued, achieving a business-wide target and reduction plan has not been achieved and this can be attributed to:

- A natural tension between network supply resilience and emissions reduction (relating to the use of diesel generators).
- The availability of timely and accurate emissions data.
- A change in approach to the development of individual reduction pathways for each emissions type.

Despite this, significant progress has been made in:

- Transitioning our vehicles to a low-emissions fleet.
- Procedural improvements to ensure visibility and appropriateness of generation during outages.
- The commissioning of our natural gas leak detection vehicle.
- Development of our corporate waste strategy.
- A halt in the rapid increase of business travel post COVID-19.

In FY25 we aim to exceed our FY24 commitment by including our fugitive gas losses in our proposed reduction target, which will be publicly disclosed. At this stage in our journey, the use of offsets is not being considered as our effort is directed at continuing to reduce those emissions within our direct influence.

Sustainability targets

Goals and targets related to our emissions reductions and managing our climate-related risks and opportunities are a part of broader sustainability reporting. In these documents, you will see our short-term targets and longer-term targets under each of our sustainability pillars, and how we have performed against the ambitions we set for ourselves.


POWERCO