Gas Asset Management Plan

2025

POWERCO

Foreword from CEO

Foreword from our CEO

Kia ora koutou

Aotearoa New Zealand is on a journey to net-zero emissions by 2050, and at Powerco we want to see Kiwis thrive along the way.

Decarbonising New Zealand's energy system is a key way to achieve this net-zero ambition given that nearly 90% of our electricity is already generated renewably[1]. But, in order to transition equitably, the need for greater sustainability must be carefully balanced with the need to ensure energy is also affordable and reliable for Kiwis.

As New Zealand's largest dual energy distributor by network length – delivering gas and electricity to nearly one million Kiwis – we clearly see the critical role that natural gas has in helping achieve that balance.

Gas supports the reliability of our electricity system by providing peak generation to supplement our fantastically renewable, but intermittent, wind, solar and hydro generation. Gas is far preferable to importing and burning coal.

Additionally, retaining gas reduces the overall scale of electrification, and continues to supply customers who will eventually electrify, such as large industry, while the electricity sector builds more capacity.

Therefore, maintaining diversity in our energy system with gas supports the balance of sustainability, affordability and reliability as we transition to net-zero.

New Zealand's second emissions reduction plan endorses this view and also supports steps to create an enabling environment for the uptake of renewable gas to reduce the emissions associated with natural gas, and maintain long-term security of supply.

To support the role gas will continue to play in Aotearoa New Zealand's energy mix we're continuing to invest prudently in our gas network now and actively working on renewable gas solutions for the future – actions this Gas Asset Management Plan (AMP) is firmly focused on delivering.

In the 2025 Gas AMP, we have used our bespoke climate scenarios to guide our thinking, considering the implications of each of our four scenarios (you'll find these scenarios on the next page). These same scenarios also inform our Electricity AMP.

The investment decisions in our Gas AMP are based on the 'Global Alignment' scenario, which anticipates the globe meeting net-zero ambitions by 2050.

This climate-based approach illustrates our ongoing mahi to fully embed our response to climate change challenges and opportunities from business strategy right through to planning and operation of our business.

We are committed to maintaining our 113,000 gas customers, as well as supporting new connections. To achieve this, our Volume-to-Value Investment Framework provides consistent, robust investment decision-making designed to balance cost, risk and performance trade-offs.

[1] Generated from electricity supply

Our resilience work will continue by strengthening vulnerable parts of our network as we adapt to the physical impacts of a changing. And our gas leak detection vehicle will continue to monitor our network, keeping it safe and reducing the carbon emissions associated with leaks.

We're also playing an active role in the development of biomethane in Aotearoa. A 'drop in' replacement for natural gas, biomethane is renewable and can reduce our carbon emissions. It is already in use extensively overseas and is being injected into the New Zealand transmission system near Reporoa by Ecogas and First Renewables (part of the Clarus group).

We're working collaboratively across industry (and beyond) on the regulatory, market and policy settings that are needed to establish and support a thriving biomethane market at scale.

Our Renewable Gas team have been making strides in this space.

In May 2025 we proceeded into front end engineering design to produce biomethane at the Manawatū District Council wastewater treatment plant located at the Resource Recovery Park. We were also part of the inaugural Biogas Bridge Forum in July 2025 which brought together the waste, energy and primary sectors with policy makers and innovators to continue building momentum for this opportunity.

This mahi, in tandem with the work in our electricity operations to accelerate electrification, is how we're enabling a sustainable energy transition for Kiwis.

We're ambitious for Aotearoa New Zealand to benefit and thrive from a world-class renewable energy system that provides abundant, affordable and resilient energy – and we're working hard to help make it happen.

Ngā mihi nui

Jason Franklin
Chief Executive Officer

Gas scenarios and developed pathways

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). Our climate scenarios describe the driving forces of climate change, building high-level assumptions about each of the plausible worlds. Using these scenarios we have identified and evaluated material climate-related risks and opportunities for the gas network.

For physical climate-related risks, we are focused on ensuring our network is resilient to the impacts of the changing climate. Our Climate Adaptation & Resilience Plan released in 2024 has been embedded in our 2025 Gas AMP, and assets vulnerable to physical risks have been identified.

Transitional risks for the gas network relate to the impact of the transition on the gas network and our ability to uptake renewable gases. Gas supports the overall energy system and serves as a reliable back-up, supporting overall energy resilience. Our strategy provides a coordinated pathway towards a low-carbon sustainable future for the gas network focused on a transition to biomethane (renewable natural gas). This strategy aligns with our 'Enabling New Zealand's growth' strategic priority.

The diagrams below include pathways for the transition of the gas network (key metrics and drivers), aligned with our climate scenarios. We used these scenarios to explore possible futures, assessing the balance between maintaining network value and managing the risks of low return, and potentially stranded assets, alongside the cost and impact on our customers and communities. The actual outcome will depend on how the energy sector transitions to electrification and renewables, and how environmental factors play out, which we will continue to monitor.

Balancing investment in our network while navigating this evolving landscape is a key priority. While our strategy has considered each of the climate scenarios, **the investment in our Gas Asset Management Plan 2025 has been informed by the Global Alignment scenario.**

Our climate-related disclosures include detailed modelling on the Global Alignment and New Zealand Greenhaven scenarios, as these are the most material to our gas network. The current and anticipated impacts of these, along with our transition strategies, are publicly disclosed in our latest climate-related disclosures (included in our FY25 Integrated Report, Page 45-46).

Global Alignment

Maintain existing ICPs - where possible to within life of gas appliances (residential and commercial).

Gas pipelines maintained and ready for energy transition.

A few assets rationalised to avoid stranding.

Gas network supports the overall energy system while the electricity grid upgrades.

By 2035 the biomethane transition is largely complete (residential and commercial).

A few larger industrials electrify early freeing up gas supply for the residential market.

Global Delay

Initial decline of existing ICP's before stabilising (residential and commercial).

Gas pipelines maintained and ready for energy transition.

Some assets rationalised to avoid stranding. We expect more of our assets to be impacted.

As the energy transition is slowed, New Zealand continues investment in the exploration of natural gas for energy security providing ample wholesale gas supply.

Gas network serves as a reliable backup, enhancing resilience during prolonged electricity outages, while overall energy system transitions.

The transition to biomethane is largely complete by 2050 (residential and commercial).

Hothouse

Prolonged residential ICP gas demand as sector decarbonisation doesn't occur no loss of industrial and commercial customers.

Gas pipelines maintained for business-as-usual strategies.

The gas network remains as we see it today with no further investment in renewables.

The gas network balances seasonal extremes, preventing blackouts and protecting energy security.

Ample wholesale gas supply from new domestic production and imported LNG.

New Zealand Greenhaven

Loss of ICPs over time as the industry fails to decarbonise the gas network. Assets become stranded over time with the entire asset base stranded by 2050.

With the decline in the availability of gas, by 2030, the government decides the gas network will be wound down during the next 10 years.

As fossil gas is phased out, vulnerabilities in energy supply emerge during outages from storms or cold periods.

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Executive summary

1. Executive summary

1.1 Introduction to our 2025 Gas AMP

Our vision for Aotearoa New Zealand is to Grow to zero[1] – leveraging our abundance of renewable energy as a competitive advantage to produce low-emissions goods and services, which is an increasingly attractive proposition as global economies seek to decarbonise. It's also a call to action, to ensure the energy transition delivers the best future for Kiwis – enabling us to grow our economy relative to others as we transition so that we can afford to adapt to the challenges ahead.

The challenge for New Zealand to move to a more sustainable energy future is significant. With that challenge comes opportunity, and we believe through continued investment and innovation in our gas network assets, alongside the exploration of future gas mix options, we are well-placed to provide leadership and solutions in the transition to net-zero 2050.

It's more than an opportunity – it's our responsibility. We service New Zealand communities, these are our whānau, so we have a responsibility to ensure the pathway to a sustainable energy future is an affordable one.

The investment plans and corresponding work programme outlined in our 2025 Gas Asset Management Plan (AMP) are shaped by the ongoing transition in New Zealand's energy system, climate policy, electrification, and broader societal trends, and our commitment to deliver safe, reliable, resilient and affordable natural gas – today and into the future.

Natural gas continues to play a critical role in supporting resilience and affordability through the energy transition.

Our strategy is guided by the Global Alignment climate scenario (refer to our gas scenarios and development pathways), that informs the investment decisions in this plan. At the heart of this are our customers, ensuring our investments provide value for money while managing the energy trilemma of reliability, sustainability, and affordability.

Our strategy is clear, we are focused on maintaining our existing 113,000 customers by providing them with a secure, reliable, resilient, and affordable energy system.

We are focused on building a more sustainable gas network, supporting electrification where it makes sense, and delivering lower emissions renewable gas. This approach ensures that households and businesses can continue to enjoy the benefits of gas. At the same time, our strategy recognises the unpredictable nature of the energy transition while ensuring security of supply and prudent network management.

1.2 Adapting to changing demand – strategic insights

A shift in demand dynamics has occurred, with gas connection growth slowing because of policy direction and economic conditions. In response, we have adopted a Volume-to-Value Investment Framework, focusing on maintaining the value of the existing network, maintaining asset performance, and preparing for a sustainable future. Our forecasts, while at lower levels compared with previous forecasts, indicate reduced but stable new residential connections to 2030, with stable commercial/industrial demand.

Our projected customer connection numbers are shown in Figures 2.5 and 2.6 in Chapter 2 – Strategic insights and operating context. In this chapter, we discuss the shifting economic conditions we must consider when planning investments. Given the pathway towards a low carbon future is focused on a transition to renewables,

[1] Grow to zero white paper

our new connections and volume assumptions align with our Global Alignment climate scenario and the connections observed during the past 12 months.

This scenario has been used as the base case for the detailed AMP planning across this period, as shown in our gas scenarios and developed pathways.

1.3 Managing asset stranding risk

We have assessed the viability of our networks to identify those at risk of becoming non-economic. Networks have been classified as Healthy, Vulnerable, Industrial Vulnerable, or High Risk. Targeted strategies, including possible decommissioning, are being explored to reduce risk while maintaining service. We are proactively engaging with industrial customers and planning for feasibility studies on network decommissioning, including a trial at Mangatainoka.

1.4 Building resilience

Climate resilience is now a core part of our investment planning. Our Climate Adaptation & Resilience Plan[2] published in 2024, outlines our approach to identifying and mitigating climate-related risks through targeted infrastructure investment, focused on regulator stations and special crossings. This capital investment is funded by reallocating spend from new connection growth, ensuring cost neutrality and alignment with our climate scenario.

We have embedded resilience into our decision-making framework and are tracking progress using the Resilience Management Maturity Assessment Tool (RMMAT). Our 2025 assessment shows developing maturity, with improvement to be made over time.

1.5 Gas Default Price-Quality Path (DDP) reset

We are a regulated gas business and are subject to price-quality regulation that sets the maximum revenues that are allowed and the minimum service quality standards that must be met. We are currently operating in DPP3, which is set to expire on 30 September 2026. Under the Commerce Act, the Commerce Commission has until 31 May 2026 to set the components of DPP4, which will apply from 1 October 2026 to 30 September 2031. The DPP4 reset process has commenced, and we are actively engaged in the process.

Given the current level of uncertainty, as we are mid reset process, we have taken steps to confirm our own investment strategy and ensure we have robust internal evidence to support it. This approach enables us to navigate the evolving regulatory landscape with clarity around investment decisions.

1.6 Our 10-year expenditure forecasts

We are committed to maintaining a safe and reliable network. As the market changes, with a forecast slowdown in system growth (connections) and demand volumes, we are having to adapt our AMPs to ensure we maintain a safe and reliable network, while reducing our risk to asset stranding. Our Volume-to-Value Investment Framework guides us towards making the right Capex or Opex investment decision. There is a shift between capital and maintenance work on the network compared with the 2024 AMP Update, driven by:

- A reduced number of new connections and resultant system growth.
- An increase in asset replacement and renewal maintenance costs to address leakages and losses (detected at higher rates because of our leak detection vehicle), and as we focus on emissions reduction.
- Resilience and adaptation climate risk mitigation projects in priority areas.
- Investment in our renewable gas pathway.

[2] Climate Adaptation & Resilience Plan

This results in a reduction of capital investment and increased operational expenditure. This rebalancing of expenditure enables us to cost effectively maintain our gas network assets, in perpetuity, and provide the safe, reliable and efficient delivery of gas expected by our customers.

1.6.1 Expenditure forecasts

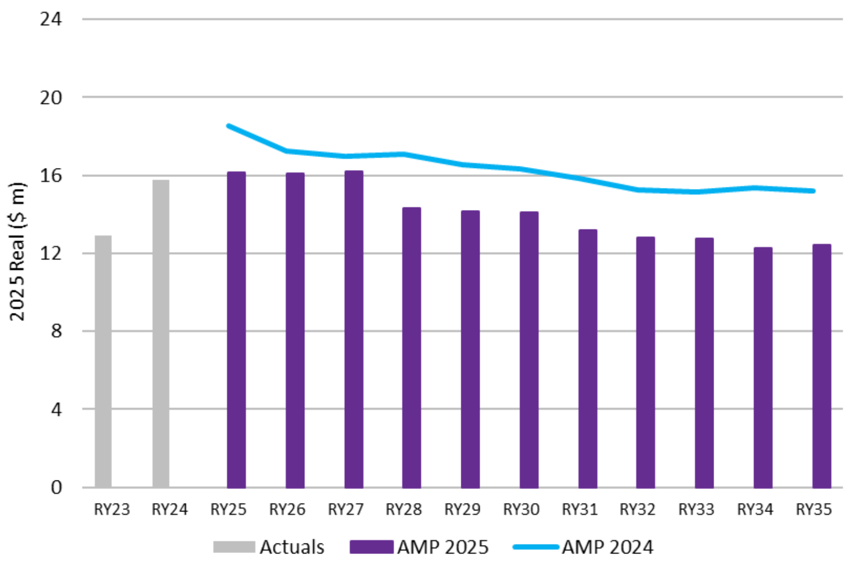
Our expenditure forecasts are based on our most recent asset condition and customer information. This information includes network use and customer engagement data, and projected customer trends. An allocation is included for managing risk associated with climate adaptation, resilience, and emissions reduction projects. There is also a prudent allowance for preparing the network for a transition towards a renewable energy future.

1.6.2 Capital expenditure

The forecast 10-year capital expenditure trend is shown in Figure 1.1. Our planned capital investments for the 2025-2035 period are set out in Chapter 7. The forecast reflects:

- A reduction in new residential connection numbers to align with the most recent actual connection numbers, and the socio-economic impacts assessment.
- A reduction in growth because of the re-phasing of renewable gas expenditure across the period.
- Increased investment in our asset replacement and renewal ($2 million per year) has been forecast at a constant level for climate adaptation and resilience plans. This will support any resilience work required for the relocation of pipe on bridge crossings, equipment and pipe replacements, and critical spares holding etc.
- Support functions through non-network capital expenditure, such as IT systems and improvements. Information and communications technology (ICT) investment and other non-network expenditure has increased as we continue to invest in the development of systems.

Figure 1.1: Forecast capital expenditure



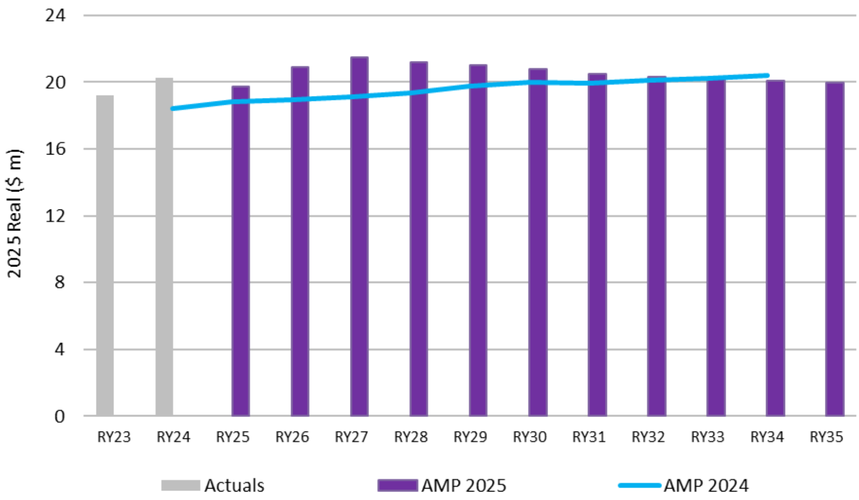
1.6.3 Operational expenditure

The focus for operational expenditure during the planning period is set out in detail in Chapter 7. Our updated forecast operational expenditure for the AMP planning period, as shown in Figure 1.2, signals an increase in operational expenditure. This reflects:

- An increase in asset replacement and renewal as we manage leak reduction across the period, as well as our leak detection vehicle programme.
- Steady routine inspection and corrective maintenance across the period.

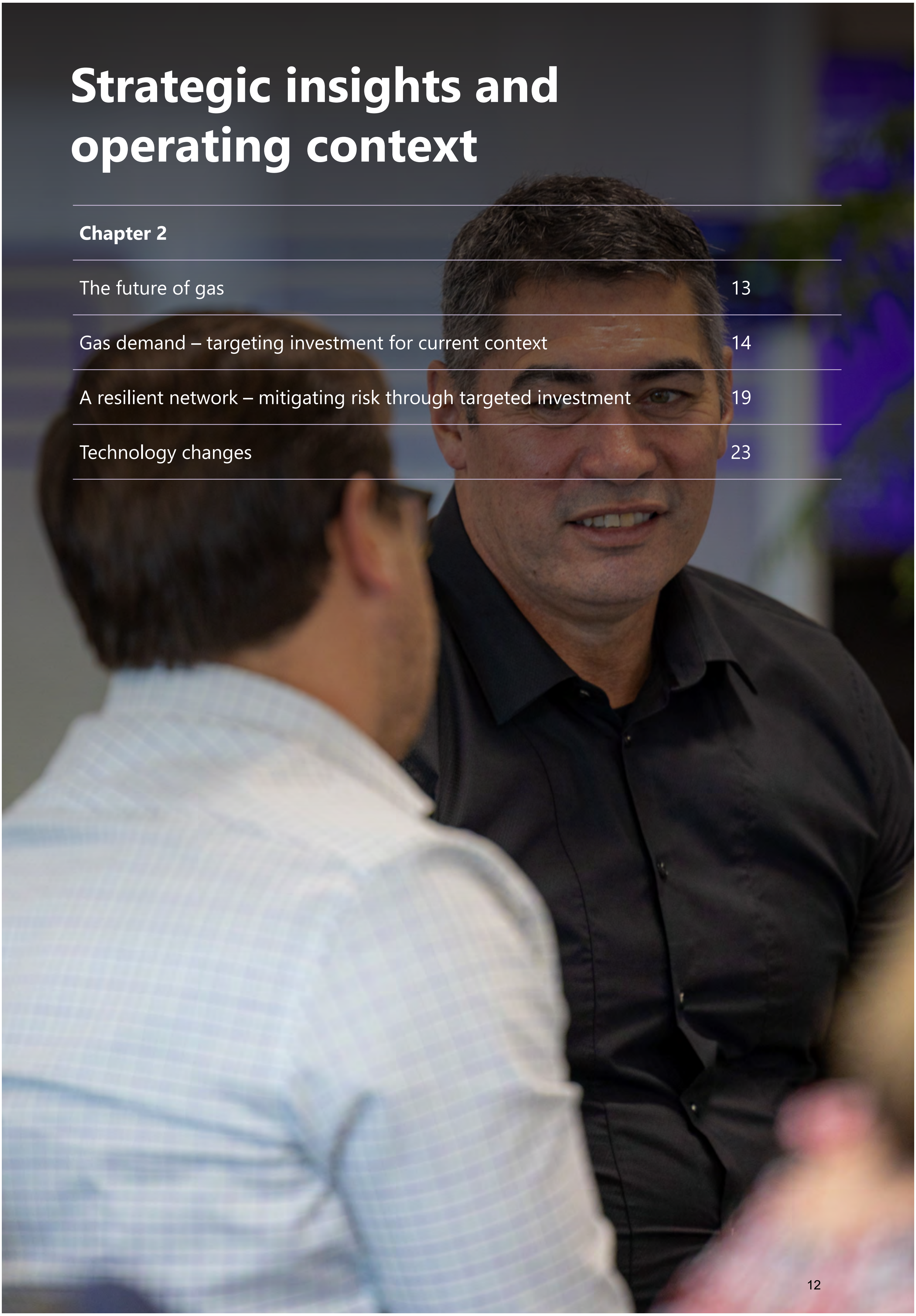
- An increase to business support related to resources supporting the gas business.

Figure 1.2: Forecast operating expenditure



Strategic insights and operating context

Chapter 2



2. Strategic insights and operating context

The energy sector is undergoing a significant transformation, driven by several societal mega-trends, which are accelerating change in Aotearoa's energy use. We are also experiencing some immediate issues that have a material impact on the use of energy, in particular on gas and the pivotal role it has in supporting a resilient and affordable transition.

Our 2025 Gas Asset Management Plan recognises that to achieve a net-zero future by 2050, New Zealand will require a diverse mix of energy options, including low and zero carbon gases. As electrification takes place, natural gas continues to be a key enabler of system resilience, supporting secure and cost-effective energy supply through the transition.

This chapter outlines the strategic insights guiding our long-term planning and investment decisions. It examines the shifting economic conditions that make forecasting future demand challenging. At the heart of our approach is a focus on maintaining the resilience of our gas infrastructure, while supporting the transition to a renewable energy future. Balancing investment in our network while navigating this changing landscape is a key priority. While our strategy considers a range of climate scenarios, the investment decisions in the plan have been informed by the Global Alignment scenario.

2.1 The future of gas

New Zealand's first emissions reduction plan was published in May 2022, with significant implications for the energy sector, and for how we run our business. The first emissions reduction plan is in place until 31 December 2025, the end of the first emissions budget period. The second emissions reduction plan, was published in December 2024[1], to align with the Government's climate change strategy, which was published in July 2024.

New Zealand is well positioned to tackle emissions in the energy and industry sectors because of our high levels of low-carbon energy resources[2], our competitive advantage, and our attractive proposition as economies around the world seek to decarbonise. Grow to zero is Powerco's vision to ensure the energy transition delivers the best future for Kiwis.

Grow to zero offers a vision for Aotearoa New Zealand.

Almost half[3] of all energy we use in New Zealand is renewable[4]. Gas typically contributes 20-25% of primary energy supply and is an essential fuel and feedstock for the petrochemical industry and electricity generation. In 2023, gas contributed about 9% of New Zealand's electricity generation[5]. More than 500,000 households and businesses in New Zealand rely on gas (natural gas and LPG).

We recognise that electrification plays an important role in New Zealand reaching its emissions reduction targets. However, gas reticulation remains an essential component of the overall energy system, as natural gas will continue to provide reliable energy supply for customers while the capacity needed for widespread electrification and the transition to renewable gas is built. It shores up peak electricity demand, and provides back-up generation for our intermittent renewable resources. Gas-fired generation keeps electricity affordable and secure, which in turn supports electrification. Gas can reduce New Zealand's reliance on coal. Insufficient gas could result in New Zealand burning more coal to keep the lights on, increasing emissions. The second emissions reduction plan recognises the role of gas in New Zealand's energy system, and noted the government is exploring ways to increase the uptake of renewable gases.

[1] New-Zealands-second-emissions-reduction-plan-202630.pdf
[2] Grow to zero white paper
[3] Total energy generated in New Zealand
[4] Energy in New Zealand 2024
[5] New-Zealands-second-emissions-reduction-plan-202630.pdf

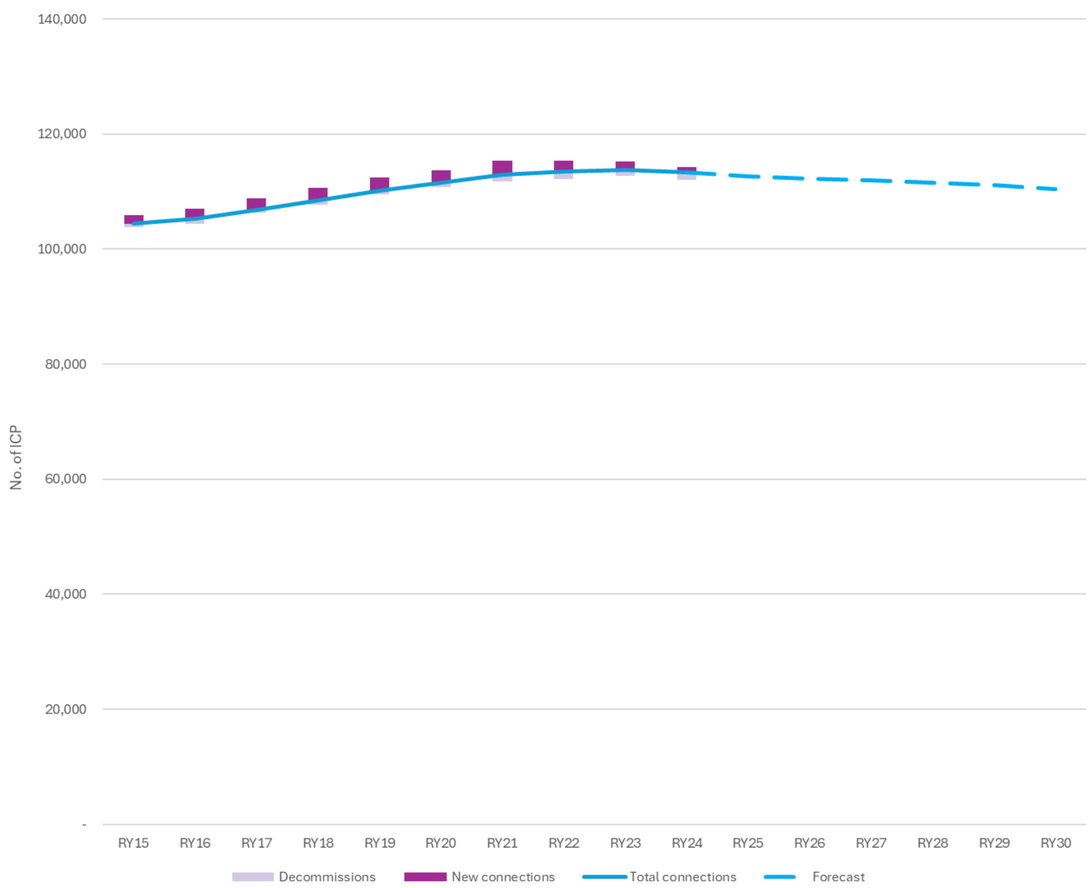
2.2 Gas demand – targeting investment for current context

While we work on the production of renewable gas, natural gas will continue to pay a vital role in the energy transition and in sustaining a resilient energy system. We forecast a period of transition where network and customer growth are not guaranteed. In response to these changing sector dynamics, we introduced our Volume-to-Value Investment Framework in our 2024 Asset Management Plan (refer to Chapter 4). This has led to a change in our asset investment strategy – from one of expected growth to one of maintaining our existing customer base by managing the risk of lower new connection numbers, disconnections, and increased customer contributions. Understanding these changes to future customer connections is important, but it is equally important to ensure the existing customer base can enjoy safe, reliable and efficient delivery of gas. This framework is in place to protect our core business, improve financial health, and prepare for a resilient, sustainable, low-carbon future.

As seen in Figure 2.1, we have observed a reduction in new customer connections in recent years. This has informed our forecast connection numbers to 2030 and beyond. As the energy sector transitions, better understanding of changes to growth dynamics are essential to ensure appropriate investments are being made for our existing customer base and our new customers. We have included insights into our analysis of historical gas and electricity customer connection trends in section 2.2.1, and how we use this insight in our forecasts in section 2.2.2.

We have also investigated the status of our existing gas networks in section 2.2.3, seeking to better inform our asset investment decisions and identify where appropriate interventions could be applied for better customer outcomes.

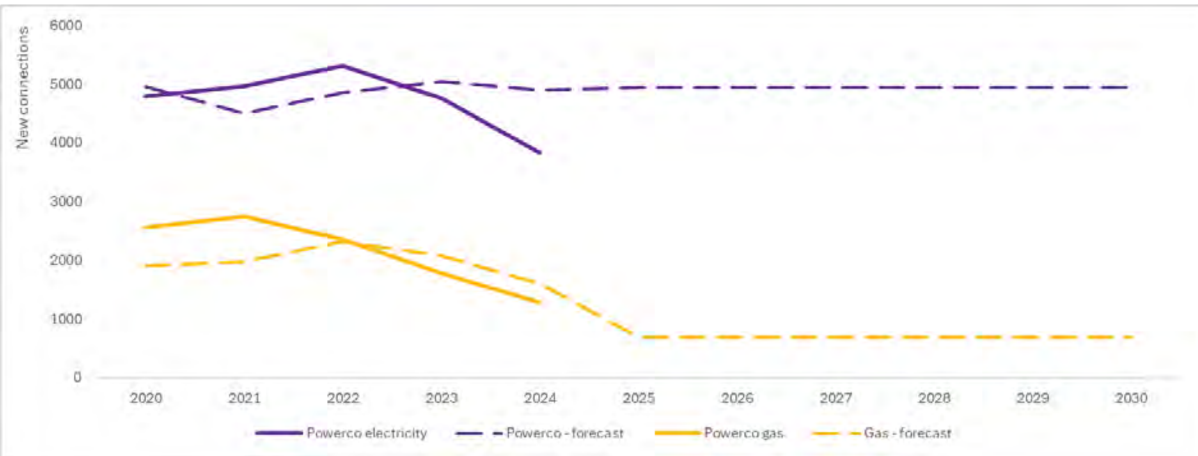
Figure 2.1: Gas total customer and new customer connection and disconnection profile



2.2.1 New connections and economic trends

Figure 2.2 highlights the downward trend of new gas and electricity connections during the past five years. The number of new gas installation control points (ICPs) began to decline in 2021, influenced by policy impacts associated with the government's approach to achieving net-zero 2050 articulated in the first emissions reduction plan, released in May 2022. This plan signalled a shift in direction for the energy sector, prompting an earlier decline in gas connections compared to electricity connections.

Figure 2.2: New connections actuals v forecast



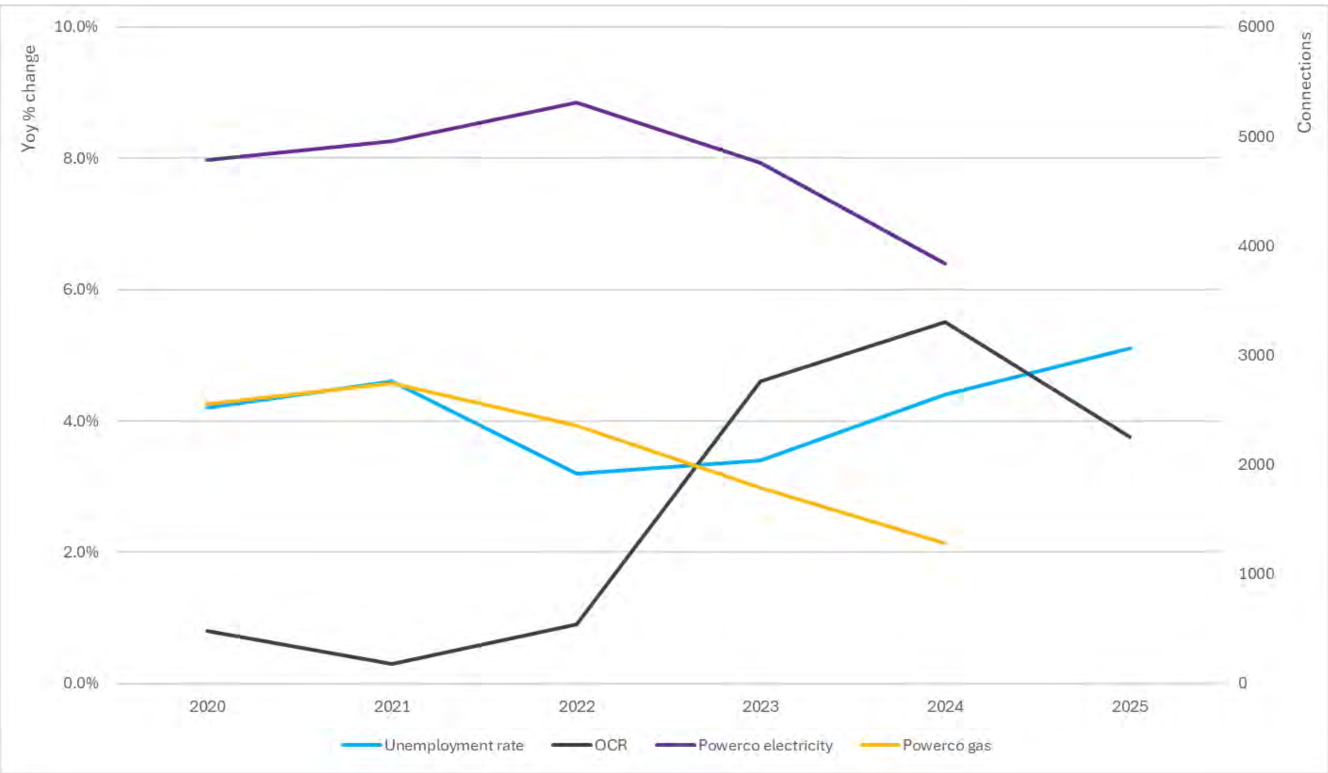
In addition to policy impacts, a range of broader socio-economic factors have contributed to the decline in new connections. A slower economy has led to a drop in residential building consents, which directly affects the number of new gas and electricity connections. With fewer homes being built, fewer connections are needed. Figure 2.3 highlights this trend, showing the relationship between new connections and residential building consents during the past five years for both gas and electricity in their respective regions.

Figure 2.3: Yearly new connections and residential Powerco gas (PG) and Powerco electricity (PE) building consents

Figure 2.3 shows that the new gas and electricity connections closely follow the trend in residential building consents[6]. As the number of consents have declined so have new connections. It's important to note that there may be a time lag when a consent is issued and when a connection takes place, particularly for gas. Developers typically have up to two years to complete a build after a consent is granted, meaning gas connections often occur in the later stages of construction.

The slowdown in the residential development market and resulting decline in new gas and electricity connections can be linked to broader economic challenges in New Zealand – factors such as a rising official cash rate (OCR), increasing unemployment rates, higher construction and living costs, and fluctuations in growth and net migration during recent years. Figure 2.4 outlines how some of these socio-economic indicators[7] align with the downward trend in new connection numbers for both gas and electricity.

Figure 2.4: Socio-economic factors and new connection trends



The decline in Powerco's new gas and electricity connections from 2022 to 2025 appears to be a lagging response to key socio-economic pressures. Rising unemployment from 2023 weakened consumer confidence and financial capacity for new builds, subdivisions, and renovations. At the same time the official cash rate (OCR) surged from 2022 to 2023, leading to rising inflation and cost of living, making construction and development less viable. Together, these factors led to a slowdown in residential and infrastructure activity, reflected in the steady decline in Powerco's new connections post-2023.

This lag effect suggests that even as economic conditions stabilise, it may take several years for connection volumes to recover. Looking ahead, a decreasing OCR and inflation indicate a recovering economy, which is

[6] Building consent data has been aligned to the Master Builders Association industry data. Note, excludes renovation consent numbers.
[7] Socio-economic data obtained from:
Population | Stats NZ
Unemployment rate | Stats NZ
Household living costs increase 3.0 percent | Stats NZ
Consumers price index (CPI) | Stats NZ

expected to support a rise in residential developments. While the extent of future connections remains uncertain, this recovery may lead to a stabilisation in gas connection numbers, even if growth does not return, rather than a continued downward trend.

2.2.2 Customer numbers and volume

While new connections and volumes are forecast at lower levels compared with previous forecasts, this aligns with our Global Alignment scenario and connections observed during the past 12 months. Our strategy is clear, we are focused on maintaining our existing customer base, who provide the greatest value to our business, by providing them with a secure, reliable, resilient, and affordable energy system. Although the future remains uncertain, recent trends in gas connections, driven by socio-economic factors, provide useful insights into what a plausible future may look like. Our analysis suggests that the energy transition has slowed, and the gas network continues to deliver essential services.

While we have forecast customer numbers and the delivered volumes of piped natural gas to decline over time (refer to Schedule 12c), there remains significant uncertainty about the pace and extent of this change. Customer behaviour will be a major driver of this shift, meaning different areas of our network will transition at different rates. Despite these changes, our existing customer base (greater than 100,000), provides a consistent foundation for sustaining our core business operations. Our Volume-to-Value Investment Framework is in place to manage reduced volumes and protect asset value.

Overall, our strategy reflects a pragmatic response to the observed trends: a declining trajectory in new residential gas connections, a stable outlook for commercial connections, and a focus on maintaining service for our existing customer base.

The current trend in our network shows a steady decline in new residential gas connections, consistent with the broader economic conditions. We have reviewed our forecasting to reflect this change by showing a decrease in new residential connections annually to a steady state of 596 per year through to 2030. This trend aligns with policy implications from 2021, a drop in building consents, and other socio-economic factors that have led to a slower economy affecting the housing and construction sectors. Figure 2.5 shows the revised residential forecast in Schedule 12c.

Figure 2.5: New residential connections forecast

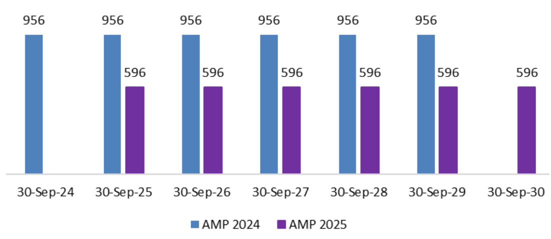
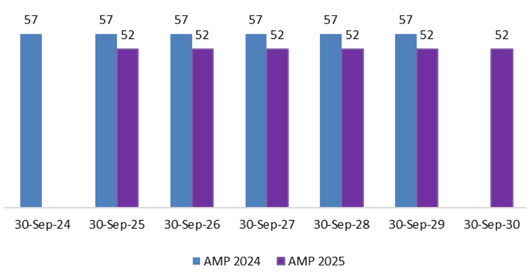


Figure 2.6: New commercial/industrial connections forecast



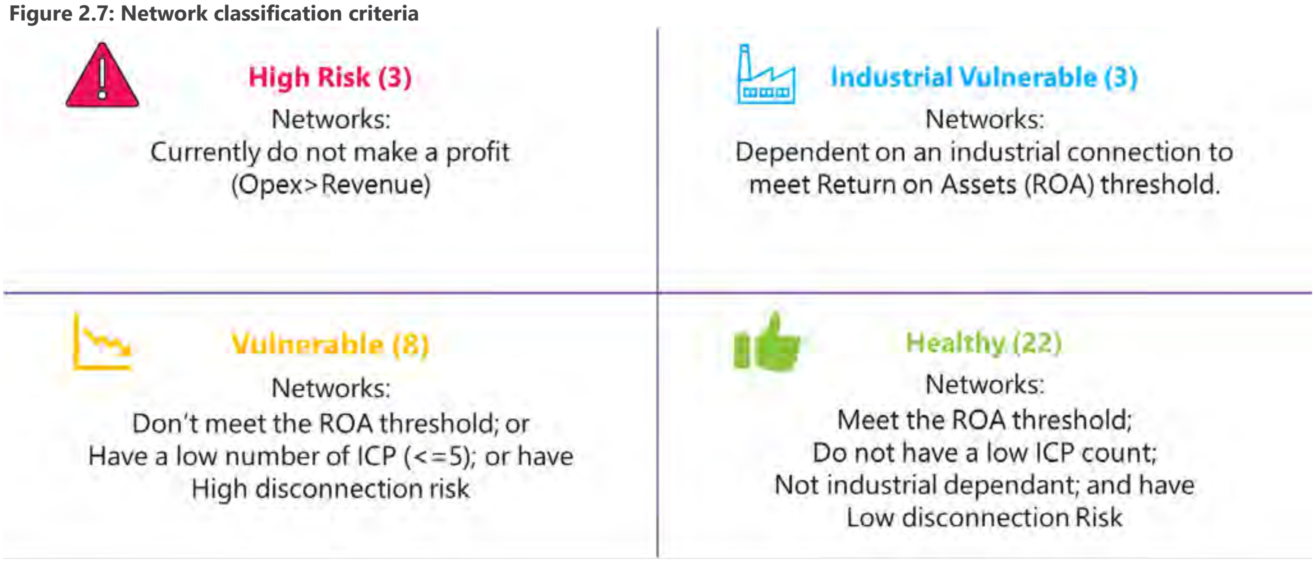
Commercial/industrial gas connections are forecast to remain stable following a slight decrease, to a consistent level of 52 new commercial connections annually compared with 57 in 2024. This suggests ongoing interest in commercial gas use. These factors have important implications for the amount we spend on maintaining our gas pipeline services while, at the same time, giving customers the certainty they need. Figure 2.6 shows the revised forecast for commercial/industrial connections in Schedule 12c.

2.2.3 Addressing asset stranding risks – assessing non-viable networks for decommissioning

As sector dynamics continue to change, strategic investment in our existing gas infrastructure will become even more important to ensure value for our existing customers. We are committed to continued investment in a safe and reliable network, prioritising the right investment, on the right asset, at the right time, and at the right cost. Our Volume-to-Value Investment Framework guides our assessment of the viability and profitability of our networks. This aims to flag the different risk profiles of networks in our regions, identify intervention opportunities, mitigate the risk of stranded assets, and support the transition to renewable energy solutions.

We have undertaken a high-level assessment of the financial performance of our networks and grouped them into four categories – Healthy, Vulnerable, Industrial Vulnerable, and High Risk – based on criteria shown in Figure 2.7. This classification enables us to tailor our strategic focus to each network's specific needs, with the overarching goal of ensuring a sustainable, resilient, and customer-focused gas network.

Figure 2.7: Network classification criteria



High Risk networks are those that are already non-profitable. We have identified three High Risk networks, comprising a total of eight ICPs, which are considered non-viable because operating costs exceed revenues. These are networks that were small to begin with, usually built around a single large customer, which has since disconnected from the network. In one example, there are currently no active ICPs on the network. As part of our strategic response, we are exploring network decommissioning where viability thresholds are no longer met.

The networks that fall into the High Risk category provide an opportunity for understanding the cost, process, and broader implications of network decommissioning, providing learnings that could inform future decisions. A feasibility assessment is being planned to investigate decommissioning Mangatainoka within the next 1-2 years. This network has no active ICPs connected to it, making it a valuable case study to learn the decommissioning and technical process and costs associated with this work, without disrupting any gas consumers.

Vulnerable networks are those that either do not meet a return on assets (ROA) threshold, have fewer than six ICPs, or are at risk of a high rate of disconnections. We have identified eight networks that fall into this category. Many of the networks in Vulnerable status are because of their low ICP number. While these networks are still profitable for us, they are networks we will continue to monitor, and may be good candidates for specific interventions to mitigate stranding risk. We have also created a category of vulnerable networks that are specifically at risk of major industrial customer exit. Industrial Vulnerable networks are those where an industrial customer provides the financial backbone of the network and, therefore, its disconnection could mean the network is at risk. Each of these vulnerable network categories provides an opportunity for specific targeted interventions to address their core risk profile.

We are investigating what these options may look like and how they could be applied, such as:

- Focused operational expenditure to reduce capital intensity.

- Limiting future connections where growth and economic viability is in question.
- Accelerated depreciation strategies.
- Exploration of renewable gas options.
- Enhanced engagement and support for existing customers.

For our Industrial Vulnerable networks, we are working closely with key industrial users to understand their future gas requirements and decarbonisation pathways, including potential electrification. Our aim is to remain a proactive and supportive partner, identifying opportunities for renewable gas injection and other solutions that align with their goals, while maintaining their connection to gas. Our strong relationships with our industrial customers will continue to be crucial going forward. Engaging with them via account managers, surveys and other channels is providing key information and helping us understand their future.

The last category is our Healthy networks. The assessment of these networks indicates a strong foundation for ongoing and future gas supply. These networks represent 99.3% of our total ICP numbers. Our Healthy networks will continue to receive the support, promotion, and investment required to maintain their strong performance and ensure they remain a reliable part of our future network footprint. Ensuring timely and well-prioritised investment will be critical in retaining and growing our customer base in the coming years. These networks are crucial to a strong gas future as they give confidence to both our business and current and future gas consumers, reinforcing the case for continued investment and growth.

Our analysis is based on commercial risk and benefit only, and does not factor in consumer implications and costs. Our planned feasibility assessment to investigate decommissioning on one High Risk network will also focus on commercial aspects. We see value in a collaboration between a gas pipeline business and government to undertake a more detailed assessment (and potentially trial) for at least one decommissioning to provide invaluable learnings across commercial, social and consumer factors.

With declining demand and potential network closures, gas pipeline assets now have shorter expected economic lives than previously assumed. Tools to manage asset stranding risk are critical to maintaining services to customers. There is a package of regulatory mechanisms available to deal with asset stranding risk, and we are hopeful the right tools will be put in place to preserve incentives to invest and protect customers.

The gas default price quality path (DPP) is in a reset process, with the DPP for the period 1 October 2026 to 30 September 2031 to be confirmed by May 2026. Leading up to the DPP decision, there is a period of uncertainty for Powerco in the regulatory control and tools available for our investment strategy.

2.3 A resilient network – mitigating risk through targeted investment

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 resilient in the face of weather events, and provides security of supply. To achieve this, we are maintaining our natural gas network that has an important role to play in the energy transition, as well as exploring low and zero-carbon gas alternatives for the future.

2.3.1 Drivers behind resilience-related expenditure

Climate change mitigation has focused predominantly on minimising the extent of temperature change through reduction of greenhouse gas emissions. New Zealand’s adaptation to a changing climate is critical alongside mitigation efforts. Recent weather events have highlighted the importance of a focus on adaptation and resilience. We are seeing warmer than average temperatures on a more consistent basis, and New Zealand has recently experienced a string of severe weather events that caused significant damage to homes, businesses, and infrastructure. This corresponds with the modelled longer-term impact of climate change.[8] We want to be prepared for an increase in frequency and intensity of weather events. Climate variability increases the vulnerability of our gas network, and improving the resilience of our network against weather events is an important area of focus for us. Proposed resilience-related expenditure is driven by the increasing impacts of climate change, analysis of climate risks on our network, and our commitment to maintaining a secure, reliable energy supply for our customers.

Our gas networks that serve communities cannot be separated from the physical environment risks where they are built. These risks already pose challenges for network infrastructure. During the next century, increasing storms and flooding risks will continue to impact the integrity of our network infrastructure.

While Powerco is not yet subject to mandatory climate-related disclosure requirements, we have chosen to align with the Aotearoa New Zealand Climate Standards and are proactively preparing for future regulatory expectations. Investment in resilience is a key part of delivering on our responsibility to our stakeholders and the communities we serve.

2.3.2 Prudent resilience investment planning that's customer focused

Our Climate Adaptation & Resilience Plan released in July 2024 sets out our analysis and approach to proactively identify, mitigate, and adapt to climate risks, and has been embedded in our asset management planning processes and decision-making framework. The plan includes detailed regional hazard vulnerability maps of the anticipated climate impacts on our assets in each region (refer to Climate Adaptation & Resilience Plan, Appendix 5, pages 124-130), and strategies are in place to determine how those risks will be mitigated[9].

This work has highlighted the importance of investing in resilience now. Our strategy includes targeted investment to strengthen vulnerable parts of our network, such as special crossings and regulator stations, to better withstand the impacts of climate change. This investment supports our broader plan to transition to a low-emissions, climate-resilient energy system while continuing to deliver affordable and reliable energy.

We found that planning to the worst-case scenario drives up cost for our customers and may not provide an equivalent benefit. We want to plan for appropriate scenarios and avoid imposing unnecessary added costs.

Importantly, the proposed capital investment in resilience does not represent an overall increase in capital expenditure. It has been offset by a reduction in forecast Capex for new gas connections, reflecting lower connection growth aligned with our Global Alignment climate scenario. This reallocation ensures we are using existing capital more effectively to manage emerging risks.

The proposed expenditure is not blanket reinforcement across the network, it is a targeted programme, focused on strategic pipe, and our most critical assets being regulator stations and special crossings. Our modelling focused on the low and moderate socio-economic shared pathways – SSP1-1.9 and SSP2-4.5 – climate change scenarios, which identify the hazard risk, with implications in some regions, but not as significant as the SSP3-8.5 worst case scenario. This approach has consumer interests front of mind by managing cost in balance with risk and avoiding imposing unnecessary added cost. Refer to Chapter 5 for project delivery tables, including planned Opex and Capex solutions.

[8] Analysis is based on the socio-economic shared pathways (SSP), for assets exposed to inland flooding (1% AEP), and sea level rise scenarios (SSP 1-1.9 and SSP 2-4.5).

[9] Non-viable networks identified as vulnerable to stranding (refer 2.2.3), are not impacted by the Climate Adaptation & Resilience Plan/targeted programme.

2.3.3 Assessment of network risks incorporating resilience priorities – decision-making framework

To ensure our investment is prudent and consumer focused, we have embedded climate resilience into our asset management planning framework. To manage this, we revised our decision support mechanism by applying a resilience weighting factor to ensure resilience projects are fairly prioritised with the investment plan. Rather than creating a new pillar, we embedded resilience into our existing partnership pillar, which is our customer-focused driver, and increased its weighting to elevate the importance of mitigating resilience risk, while maintaining balance with our other objectives. Figure 2.8 illustrates how the decision-making framework changed to embed resilience into our asset management planning process. Refer to Chapter 4, Section 4.10 for more information on asset management planning.

Figure 2.8: Updated decision-making framework

Decision-making framework

Putting greater emphasis on resilience using key decision tools

Score	Reliability	Delivery	Safety	Efficiency/Value	Partnership
1	Defects & specifications	Failure of asset	Level of risk	Financial measure	Customer focused, ensuring a sustainable and **resilient** environment
2					
3					
0					
Pre-June 2024	1.4	1.3	1.5	1	1
Current weighting	**1.5**	**1.5**	**2**	**1**	**1.5**

2.3.4 Desktop analysis – assets vulnerable to slips

To improve our understanding of climate change across our asset base, earlier this year we modelled the impact of active slips, erosion and slip-prone soils, classified into severity based on a 5m buffer, using data from New Zealand Land Resource Inventory and GNS Science[10]. The case study below provides an overview of assets vulnerable. For more information on assets vulnerable to physical risk refer to page 47 of our Integrated Report 2025[11].

[10] Powerco's second Climate Disclosure is available in the Integrated Report 2025

[11] Powerco Integrated Report 2025

Assets vulnerable to slips case study

Pāuatahanui gas gate case study

Following the FY24 resilience study into the impacts of increased flooding events and sea level rise, in FY25 the analysis was expanded to include the impacts of landslips on our network. Understanding the natural vulnerabilities of our asset classes was vital in identifying which assets would be affected by a large landslip. Regulator stations and special crossings were identified, as they are above-ground assets at risk to collision, as well as strategic mains because of the risk of shearing.

The landslip risk assessment identified the Pāuatahanui gas gate and its surrounding area as the location with the highest exposure to severe impact, with approximately 893 metres of intermediate pressure (IP) pipeline, and containing the sole impacted regulator station (Figure 2.9).

Overall, the Powerco gas network showed limited exposure to landslips. Pāuatahanui was the only suburb with multiple assets at risk; outside this area, only three special crossings were affected. Notably, this site was not identified as a concern during the inland flooding and coastal inundation analyses conducted in 2024.

The landslip dataset used for the study was the New Zealand Land Resource Inventory 2021, which classifies soil polygons by erosion type and severity. Erosion polygons, highlighted in red in Figure 2.10, represent areas of streambank erosion, where continuous water flow gradually wears away the banks of rivers or streams. The only river in the area runs directly past the Pāuatahanui gas gate, the Pāuatahanui district regulating station (DRS), and above our IP pipeline. This IP pipeline feeds into the Mana LMP pressure system, serving more than 5,300 customers.

Figure 2.9: Vulnerability map of Pāuatahanui gas gate

Figure 2.10: Pāuatahanui gas gate streambank erosion

Pāuatahanui gas gate case study – continued

Although the stream is small, it curves sharply about 15 metres upstream of the gas gate station. This curvature suggests progressive bank erosion over time could compromise the station's foundations. While erosion of 15 metres in a stream of this scale would take many years, the potential loss of the station and gas gate could disrupt supply to 5,320 customers during a typical winter demand scenario (with system pressure below 50% droop). Consequently, the incorporation of erosion level monitoring into the site's 12-monthly inspection programme will be investigated to proactively manage this risk going forward.

2.3.5 Resiliency maturity assessment

As our resilience projects will take several years to complete, we have a short-term goal to improve our self-assessment for asset management using the Resilience Management Maturity Assessment Tool (RMMAT) in which resilience maturity is aligned on the 4Rs of the Civil Defence and Emergency Management (CDEM) framework.

- **Reduction** – Identification and mitigation of network vulnerability risks.
- **Readiness** – Contingency planning training and exercising before an event.
- **Response** – Immediate actions after an event assessment, repair and restoration of supply.
- **Recovery** – Long-term reinstatement of network to provide pre-event security of supply service standards.

A RMMAT assessment of the gas network was completed in 2025, resulting in an average maturity score of 2.37 out of 4. This score reflects a developing level of maturity that indicates we are progressing well in areas such as risk assessment, contingency planning, and recovery. However, there are opportunities to improve our capability in areas such as readiness, resourcing and spares.

To support continuous improvement, we have established a key performance indicator to regularly measure and track our resilience maturity. The RMMAT will be updated every two-to-three years. Refer to Chapter 4, Section 4.15.5for more information.

2.4 Technology changes

New Zealand's target of net-zero emissions by 2050, requires investment in technology and the building of a sustainable network that can deliver renewable gas.

Energy technology is developing and improving at a rapid rate. This brings about opportunities for our gas business. However, along with this comes increased complexity of operations to be managed to ensure the benefits from new technology can be fully realised safely. Our strategy is to build a sustainable network that supports future energy needs, enabling delivery of renewable energy to our customers.

2.4.1 Biomethane technology

Biomethane is a lower-emissions gas and a renewable source of energy. Biomethane upgrading technology enables the conversion of biogas, captured from organic waste, into biomethane. The technology has been proven overseas, and Aotearoa has enough organic waste (feedstock) to produce biomethane that could meet a significant share of household and small business gas demand.

We have completed an assessment of pipeline materials that confirmed there are no compatibility issues in transitioning towards the use of biomethane across our existing network. Standards are now being assessed to incorporate renewable gas. System capacity will be assessed as renewable gas options are identified.

We have also completed feasibility studies at two sites in the Manawatū-Whanganui region to explore upgrading biogas into biomethane as a low-emissions, renewable alternative to natural gas:

- Manawatū District Council wastewater treatment plant, located at the Feilding Resource Recovery Park.
- Bonny Glen landfill, with Midwest Disposals.

Both assessments confirm that upgrading biogas to biomethane is technically feasible. The next steps at the Manawatū sites are progressing to Front End Engineering Design (FEED) to refine:

- Plant design
- Commercial arrangements
- Investment requirements.

These projects demonstrate potential for biomethane production in Aotearoa, and we see this as an opportunity to help develop the market, supply the market, and influence the regulatory framework needed to bring renewable gas to Kiwis. Therefore, we are also continuing to work on a collaborative gas sector feasibility project to blend hydrogen (1%-15% with natural gas) into the Te Horo distribution system in the lower North Island. Chapter 4 outlines our future focused strategies and renewable gas road map.

2.4.2 Measuring gas emissions

As greenhouse gas emissions, particularly methane emissions, significantly contribute to climate change, it is important for the global gas industry to assess and to mitigate these emissions in a transparent, reliable and consistent way. Therefore, to quantify and report these emissions, Marcogaz (a non-profit international gas system association) has developed a “bottom-up” methane emissions assessment methodology and reporting template for environmental reporting. We are using this industry standard to measure and track our gas emissions.

2.4.3 Gas leak detection vehicle

We have fitted out a hybrid Toyota Highlander with gas leak and detection identification service technology to improve the way we monitor gas leakage on the network. The vehicle and the technology allow us to identify and fix any leak on the network in about a fifth of the time of the traditional method of walking the network with a hand-held unit. We are now able to survey our network annually – a process that used to take about five years.

The first full annual survey using the vehicle has led to a greater number of leaks being detected earlier than anticipated, which has brought forward some maintenance investment compared with previous forecasts.

This investment reflects our ongoing commitment to safety, reliability, and emissions reduction. By detecting and responding to leaks more quickly, we’re delivering better outcomes for our customers and the communities we serve.

2.4.4 Integrated gas SCADA replacement – future proofing network operations

We are upgrading our network operational technology by implementing an integrated supervisory control and data acquisition (SCADA) solution using the existing electricity AspenTech platform. This programme includes a full replacement of gas field remote terminal units (RTUs) by the end of 2027, and the retirement of the gas SCADA system, which is becoming obsolete and will soon not be supported by the vendor.

This integrated approach will support our operational systems by leveraging shared infrastructure, knowledge, and capability across both gas and electricity. It reduces complexity, improves efficiency, and enhances visibility across networks. Importantly, it is a key step in future-proofing our operational technology, ensuring our systems remain reliable, supported, and fit for purpose as we transition into a smarter, more connected energy future.

AMP overview

3. AMP overview

Powerco is New Zealand's largest dual-energy distributor by length. We connect more than 900,000 Kiwis across the North Island to safe, reliable, resilient, and cost-effective gas and electricity through our network of pipes, local lines and cables.

From urban homes and businesses, to rural communities and large-scale industrial operations, keeping our customers connected now and in the future drives everything we do.

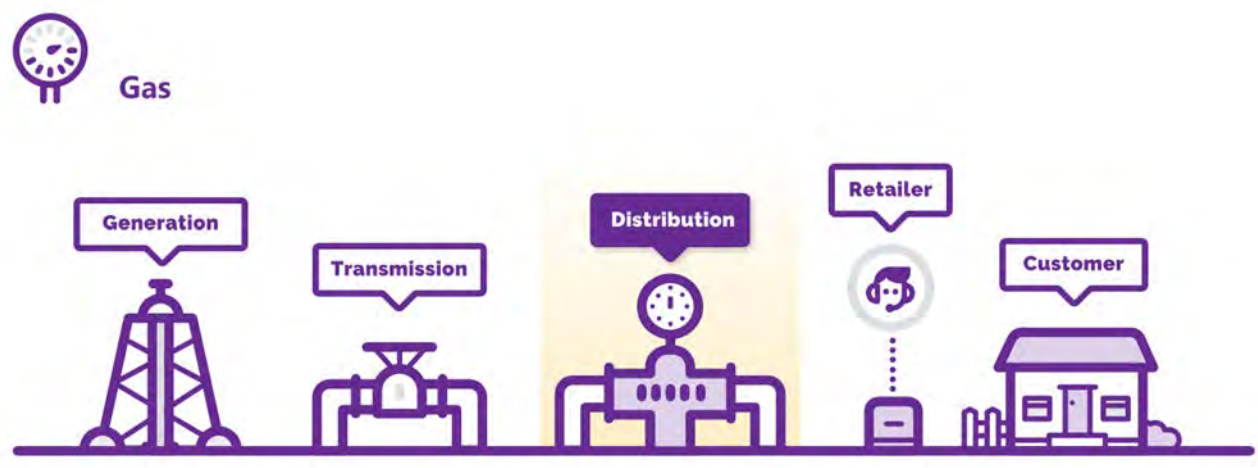
We are owned by Australian funds managed by QIC Limited and Dexus[1]. This international backing means we can attract capital to invest in our networks and grow our investment in infrastructure in Aotearoa.

This chapter provides the context for our 2025 Gas Asset Management Plan (AMP). It outlines the purpose and objectives of the AMP, who it is written for, and how it is structured. It also introduces our network and provides an overview of the regions, network footprint and assets on our network.

3.1 Who we are

For more than a century we have distributed gas to New Zealand homes and businesses, serving approximately 113,400 customers across the North Island. We're one part of the energy supply chain. Natural gas is extracted from onshore and offshore wells, such as the Māui gas field in Taranaki, then sent along national transmission networks operated by Firstgas to the gas gate of a distributor. We own and maintain the local pipelines that deliver energy to the people and businesses who use it. Our customers pay their retailer for the energy they use, and some of what they pay comes to us, so we can continue to invest in our network to ensure energy supply is safe, reliable, resilient and cost-effective. Figure 3.1 shows the gas supply chain.

Figure 3.1: Gas supply chain



3.2 Purpose of our Asset Management Plan

The purpose of this AMP is to describe the gas asset management and planning processes we implement to achieve our Asset Management Objectives of:

- **Hauora – promoting health and safety:** Supporting the public, our staff, our service providers and the environment from the inherent risks posed by a gas network sits behind everything we do.
- **Whakakotahitanga – customers and community:** We provide an essential service to our communities; we do this based on our customers' requirements and preferences.

[1] Queensland Investment Corporation (QIC) (49%) and Dexus (51%)

- **Taiao – contributing to a lower carbon world:** We will continue to develop secure and enduring energy supply that will meet our customers' needs reliably and efficiently, now and in the future.
- **Whirinaki – ensuring reliable and resilient networks:** We operate a large number of diverse assets, which we will manage efficiently and keep in good health.
- **Te teo – sustainable governance, financial and risk management foundations:** Good asset management helps us deliver a safe, reliable, resilient and cost-effective gas supply to our customers. We continuously improve and develop our people, systems and investment decision-making processes.

Our vision is to be Aotearoa New Zealand's most customer-focused infrastructure owner and operator. Our purpose is to connect communities by working better together, working smarter, being future focused, and taking an integrated business-wide approach to our work. Effective asset management is a cornerstone for the delivery of our vision and purpose.

Our asset management practices and documentation, including our Asset Management Policy, Asset Management Objectives, and asset class strategies and plans, are underpinned by *Ngā Pou – the pillars of our work, Ngā Tikanga – Our Way* (our cultural framework), our corporate vision, and corporate purpose.

The outputs of our annual business planning processes include:

- The operational programme, which drives operational expenditure (Opex) on our gas network and informs the development of our asset maintenance plans.
- The capital programme, which drives capital expenditure on our gas network.
- Gas Works Plan.
- AMP or Updated AMP.
- Climate Adaptation & Resilience Plan 2024.

3.2.1 Our annual business planning process helps inform our AMP

The AMP incorporates plans and initiatives from Powerco's annual business planning process. These plans align Powerco's work across the business to ensure we're working together to deliver on Powerco's Corporate Strategic Framework (Chapter 4, Figure 4.3) and to create value for our customers and shareholders. The key corporate plans, policies and standards used to guide our AMP are:

- Powerco Integrated Business Plan FY26-FY30
- Powerco Asset Management Policy
- Powerco Risk Appetite Statement
- Powerco FY25 Integrated Report including our climate-related disclosures (XRB)
- Powerco Climate Change Policy
- Powerco Environmental Policy.

Our AMP maps how, where and when we'll be investing in our networks during the next 10 years. It provides assurance to our customers and our regulators that we're managing our networks with the future in mind.

3.3 AMP planning period

Our AMP covers a 10-year period, from 1 October 2025 to 30 September 2035. Consistent with Information Disclosure requirements, greater detail is provided for the first five years of this period.
Our Board of Directors certified and approved this AMP on 25 September 2025.

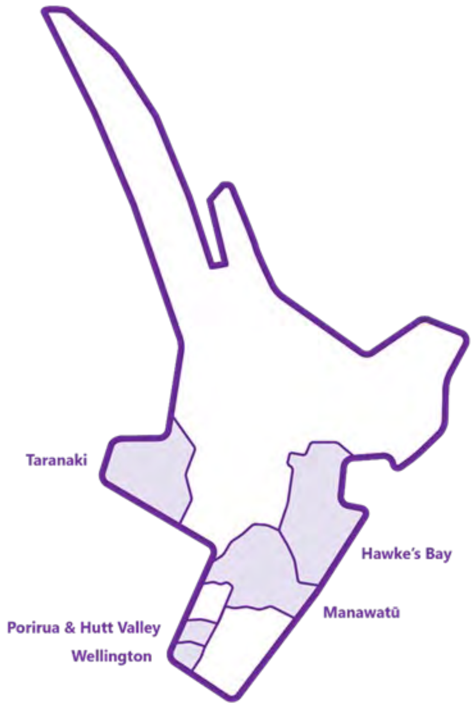
3.4 Network description

With approximately 6,300km[2] of pipeline, we are one of New Zealand's largest gas distribution utilities. Our underground gas network supplies approximately 113,400 urban and rural homes, businesses, and industries in

[2] Refer to Chapter 5, Table 5.4 for total (km) of in-service pipe.

the Wellington, Hutt Valley, Porirua, Taranaki, Manawatū, and Hawke's Bay regions, as shown in Figure 3.2. The majority of those connections are to homes for families to take advantage of the continuous hot water, cooking and heating that natural gas enables.

Figure 3.2: Powerco gas distribution network boundary



Our gas network assets consist of:

- Main and service pipes
- Regulator stations
- Line and service valves
- Special crossings
- Monitoring and control systems
- Cathodic protection systems

The operation of our network also involves non-network assets, such as information technology (IT) systems, offices, specialist tools and vehicles.

3.5 Our customers

Our network of underground gas infrastructure serves residential, commercial, and industrial customers representing about 36% of all the gas connections in Aotearoa. We recognise that New Zealand's energy system is undergoing a transition, and while renewable alternatives are being explored, we are committed to supporting the role natural gas has in ensuring resilience and a reliable energy system. To support the transition and to maintain flexibility for the future, we are working to unlock the potential of producing biomethane. To do this, strong collaboration across the waste, agricultural, wastewater and energy sectors is underway to build confidence to invest and to commit to producing biomethane at scale. Policy and regulation settings are also needed to support this.

Our key stakeholders, their interests, and how we identified them, are summarised in Chapter 4, Table 4.2.

Our customers

We target and achieve a high level of customer service, to ensure all customers receive the same standard in terms of reliability, sustainability and affordability, and support through the energy transition.

Customer overview

We exist to serve the energy needs of our customers. Our customers rely on us to provide a consistently safe, reliable, resilient, and cost-effective supply of gas. We serve three customer type classifications consisting of eight network load groups. The load group names and the criteria for allocating customers to these groups are described in Table 3.1.

Table 3.1: Typical characteristics of different load group customers

Load group	Typical customers
Residential (≤10 scm/hr)	
G06	Low-volume residential customers.
G11	Standard residential customers. Small commercial customers: small cafes, fish and chip shops, pizza shops.
Commercial (10-200 scm/hr)	
G12	Restaurants, small apartment/office buildings, small to mid-sized motels.
G14	Hotels, large motels, shopping complexes, swimming pools.
G16	Large office buildings, apartment blocks, commercial kitchens.
G18	Commercial laundries, dry cleaners.
G30	Large commercial customers, large hotels. Commercial customers who are at risk of bypass.
Industrial (>200 scm/hr)	
G40	Manufacturing and industrial businesses.

Six of the load groups are defined by nominal capacity, in standard cubic metres per hour (scm/hr) and by annual consumption, and they are charged at the standard published tariffs. The remaining two (G30 and G40) are considered non-standard customers who fall outside the definitions above, and/or because individual pricing arrangements apply to them.

Residential/small commercial customers: Customers in the residential and small commercial category use about 30GJ per year with a maximum load of less than or equal to 10 scm/hr. These customers generally use individual hot water systems, whether instantaneous or storage cylinders, central heating systems or gas cooking equipment. This drives high demand peaks in the morning and evenings when people use these appliances at home. In comparison, consumption during the rest of the day is low. Our current network performance objectives have been set to accommodate these customers anywhere on our network.

Commercial customers: The commercial customer group is diverse, and includes restaurants, office buildings and small industries where the gas is used to cook, heat spaces or water at a large scale. These customers have a high load (between 10 and 200 scm/hr), but they mostly use their appliances during daytime.
Our current network performance objectives have been set to accommodate these customers with a maximum load of up to 60 scm/hr without having to undertake reinforcement work. If a customer's load is larger, we work with them to find the best way to connect to the network at a competitive price. This includes a balanced customer contribution.

Industrial customers: These customers usually use gas as part of their industrial processes. They are typically dairy, food processing, healthcare and education facilities, or sawmill plants. The loads tend to be large (more than 200 scm/hr) but relatively stable throughout the day. The network is generally not designed to cater for these customers without reactive, targeted reinforcement work. We have key account managers who look after these customers to anticipate their future needs, which are then integrated into our long-term plans. We also operate at higher pressure in industrial parks to provide greater capacity, such as Bell Block in New Plymouth or Mihaere Drive in Palmerston North.

Large customers that have a significant impact on network operations or asset management priorities

All parts of the network are operated to the same level of availability. However, load group G40 industrial customers have a significant potential to impact network operations because their consumption is high. The impact that each large customer has is influenced by the area it is in and the customer's load profile and operational requirements. For example, the available timeframe for maintenance is dictated by the specific needs of each customer or network development based on demand forecasts. As such, each new G40 customer is assessed on a case-by-case basis to ensure that the network can supply the required gas volumes and the same level of availability of the network is maintained.

Table 3.2 illustrates the correlation between the number of customers in each category and their annual volume.

Table 3.2: Comparison of network customer numbers with gas consumption (as of 30/09/2024)

Customer type	Gas consumption %	Number of ICPS
Residential/small commercial	37	110,385
Commercial	24	2,904
Industrial	39	96
TOTAL	100	113,385

Because of their impact on the reliable operation of our networks, specific attention is given to G40 industrial customers.

Figure 3.3 and Figure 3.4 illustrate the region and sector of these customers.

Figure 3.3: Breakdown of large customers by region

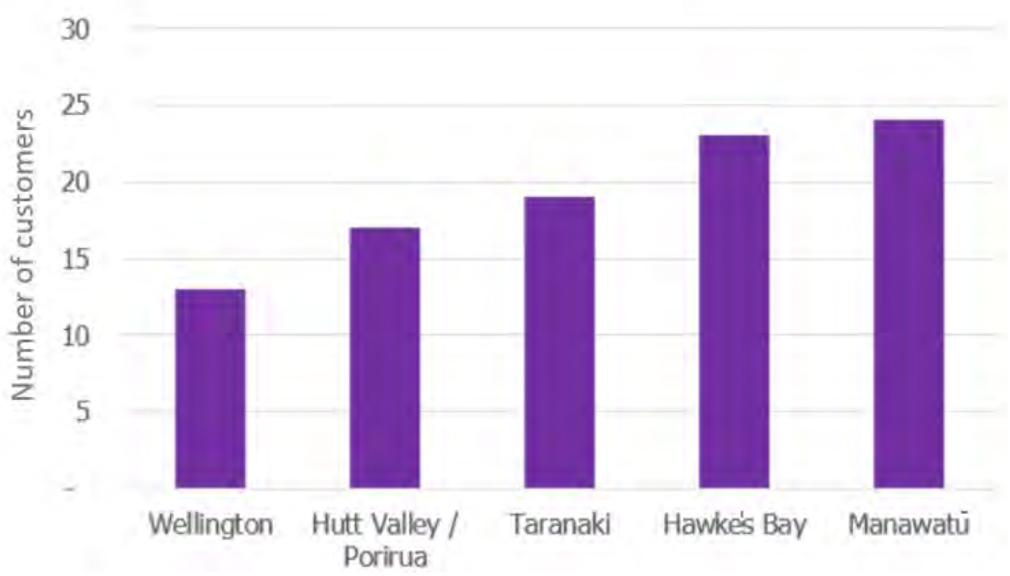
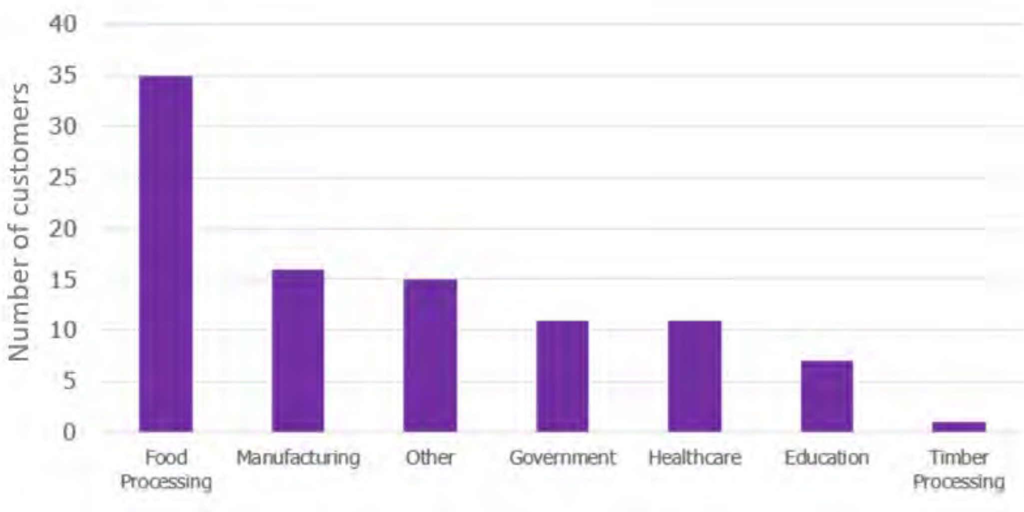


Figure 3.4: Breakdown of large customers by sector



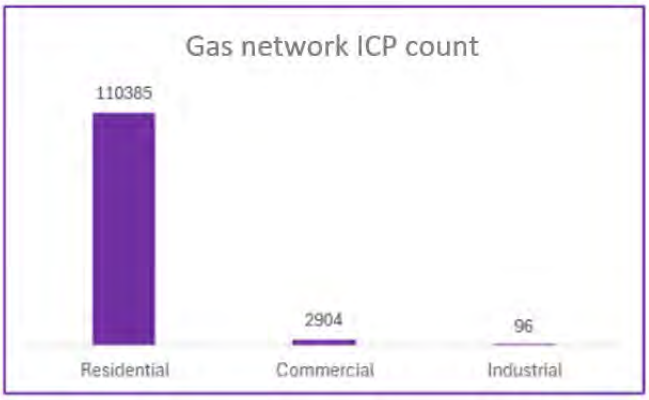
3.6 Keeping the gas flowing

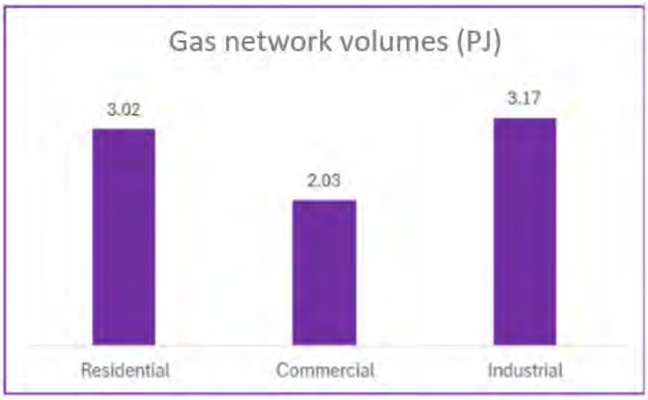
We recognise that New Zealand's energy system is undergoing a transition, with natural gas playing a vital role in resilience while we explore renewable alternatives. As anticipated, new connection numbers have slowed, and this trend is expected to continue. Balancing investment in our network while navigating this evolving landscape will continue to be a key priority.

In view of this, we are committed to reducing carbon emissions in our gas network by transitioning to biomethane – a renewable natural gas – over the longer term to support household and small business. This pathway is illustrated by our renewable gas road map, which anticipates a transition from feasibility assessments, engineering design, and blending, to 20% renewable blend in the gas network. Chapter 4 outlines our future focused strategies and renewable gas road map.

Figure 3.5 shows our gas customer category numbers and use of gas as at regulatory year (RY) end 30 September 2024.

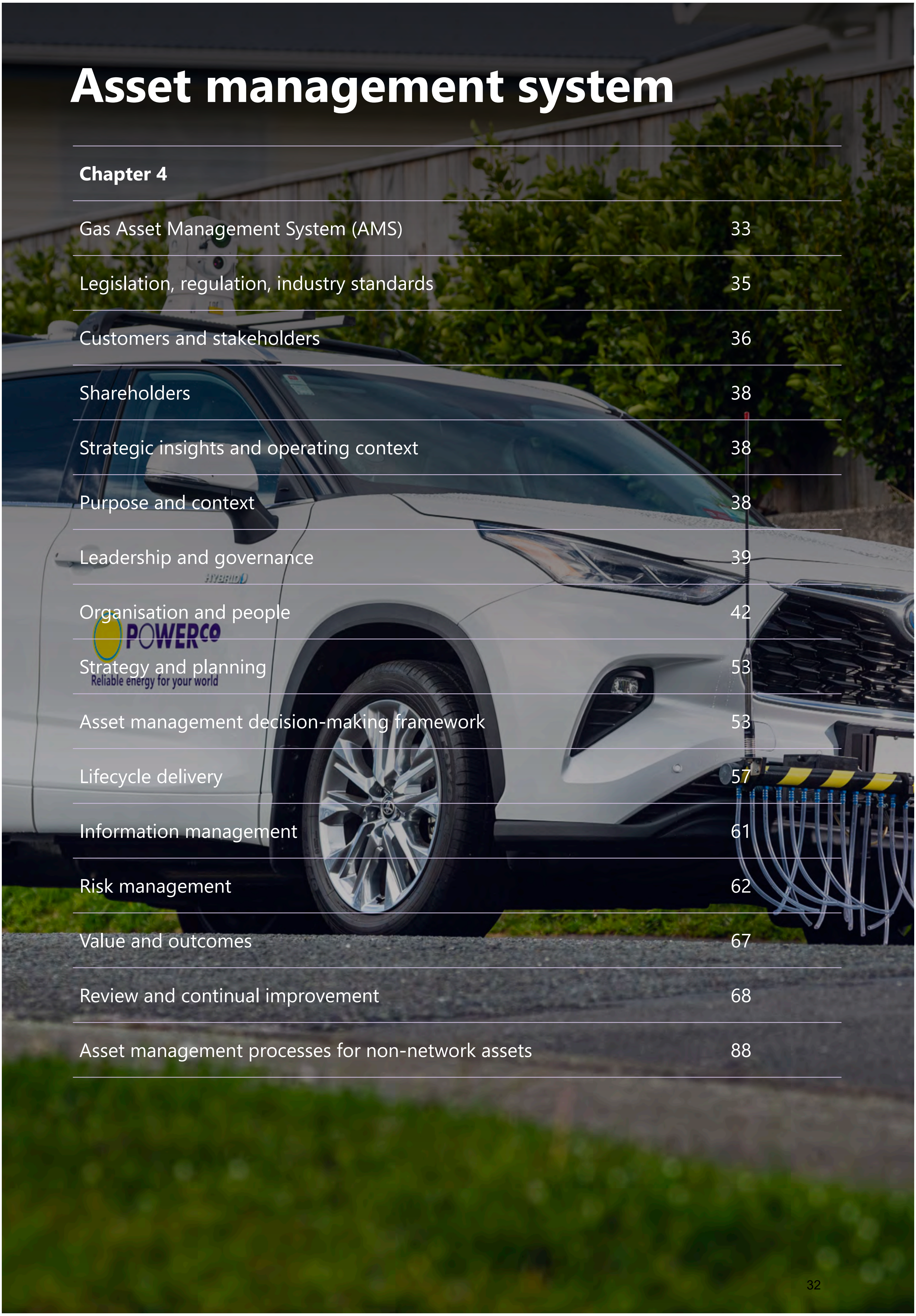
Figure 3.5: Our gas customer category numbers and use of gas on our network





Asset management system

Chapter 4



4. Asset management

Effective asset management does not focus on assets themselves, but on the value those assets provide to a business. For us, that value is driven by Powerco's corporate vision, purpose, Ngā Tikanga, Ngā Pou, and corporate objectives. Accordingly, we align our asset management decisions (technical, financial, and operational) with these.

As a leading energy infrastructure asset manager, managing infrastructure and assets is one of our core skill sets, and we are very proud of our asset management capabilities. Powerco's asset management activities span the electricity and gas businesses. This section relates specifically to our gas business.

4.1 Gas Asset Management System (AMS)

Our Gas AMS applies to our gas network asset portfolio. We define our gas network assets into six portfolios as shown in Table 4.1.

Table 4.1: Gas network asset portfolio definition

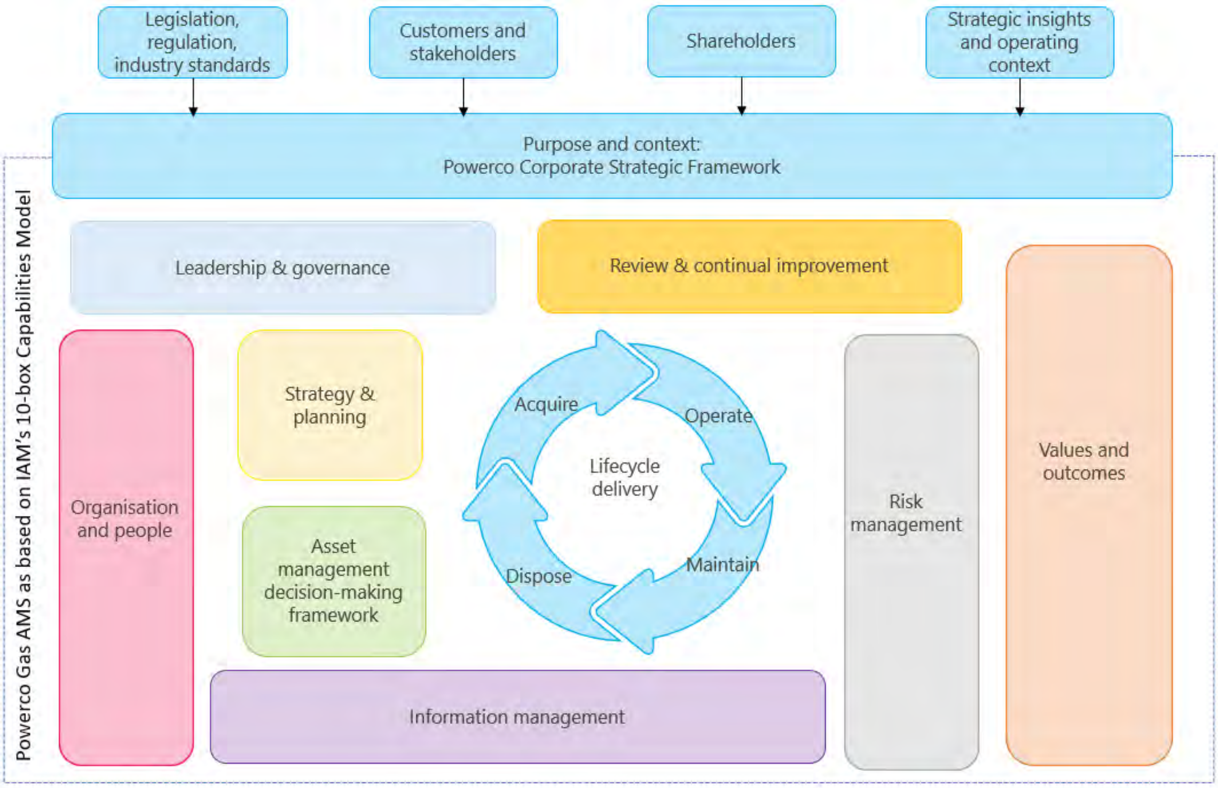
Asset class	Definition
Main and service pipe	**Main** – pipeline that transports gas from the bulk supply transmission system to each service main. **Service** – pipeline that transports gas from the main to the customer, ending at the meter control valve.
District regulator station (DRS)	An installation designed to reduce the pressure of gas.
Line and services valve (VAL)	A fitting installed in a pipeline designed to control the flow of gas.
Special crossing (SPX)	An installation designed to provide above or below ground passage for a pipeline across a river, road (national significance) or railway.
Monitoring and control system (MCS)	A monitoring and control system architecture that incorporates sensors, remote terminal units, networked data communications and computers for high-level process supervisory management.
Cathodic protection system (CPS)	A corrosion-inhibiting system that ensures buried metallic pipelines are permanently cathodic, i.e. electrically negative to the surrounding soil.

We have based our gas AMS on the principles of internationally recognised asset management standard ISO: 55001. While our gas AMS focuses on network assets, non-network assets systems and processes are provided by the corporate Business Transformation function. These include IT operations, enterprise architecture, and planning design and delivery, and are managed at a corporate level. This is aligned with the electricity business AMS to ensure consistency across the organisation. Motor vehicles, including our leak detection vehicle, and critical spare parts are also non-network assets. Our asset management processes for our gas non-network assets are explained here.

Our AMS is illustrated in Figure 4.1, which is based on the Institute of Asset Management's (IAM) 10-box Capabilities Model. It shows how all the interrelated parts of the business work together. This provides context for our asset management objectives, and decisions. It also shows how each capability influences our overall performance. It reflects a holistic approach to asset management, enabling our gas business objective of "*delivering a safe, reliable, resilient, and cost-effective gas supply to our customers*" to be achieved. Inputs into our

AMS are legislation, regulation, industry standards, customers, stakeholders, shareholders, and our strategic insights and operating context.

Figure 4.1: Our AMS based on the IAM's 10-box Capabilities Model



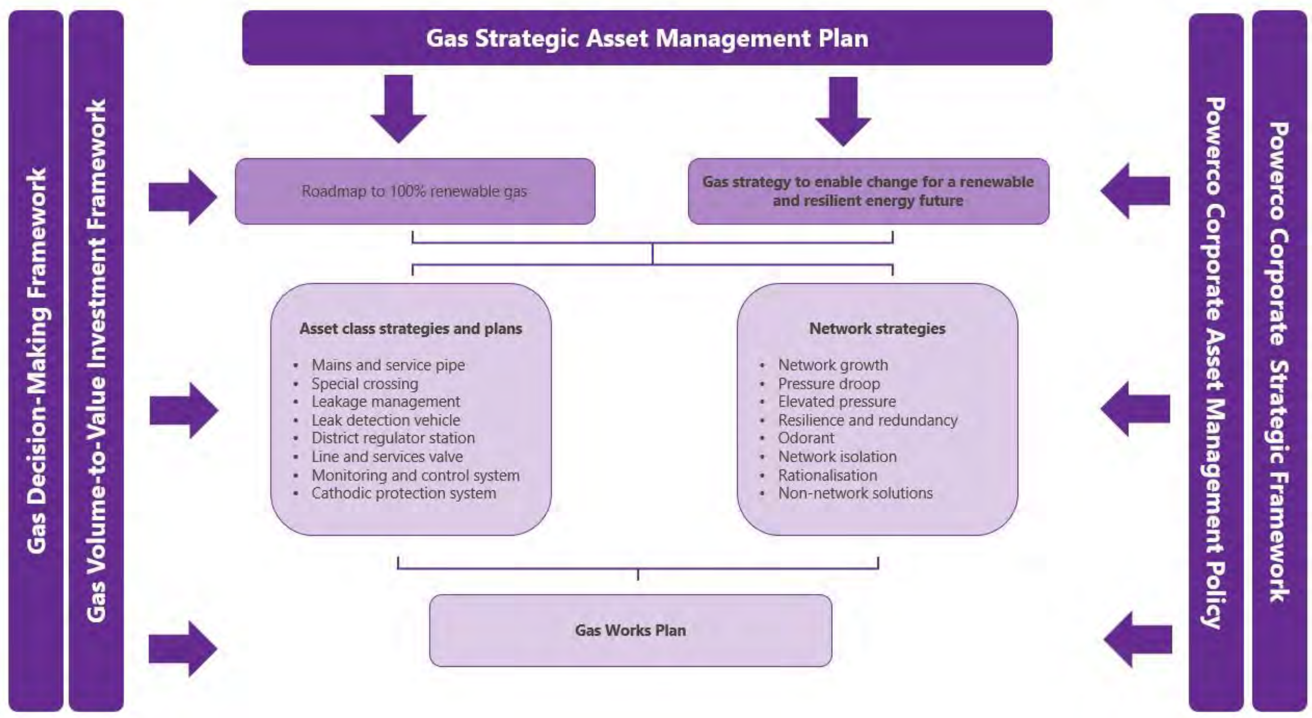
4.1.1 Gas AMS documentation

Our gas AMS is supported by our asset management documentation. Figure 4.2 illustrates our key gas asset management documents.

Our Gas Strategic Asset Management Plan (SAMP) provides alignment between Powerco's Corporate Strategic Framework and our gas business. Powerco's Corporate Asset Management Policy guides the development of our gas asset management strategies, plans and activities.

The Gas Decision-Making Framework and Gas Volume-to-Value Investment Framework enable us to make effective, consistent, robust decision-making, balancing appropriate cost, risk, and performance trade-offs.

Figure 4.2: Gas AMS strategic documents



4.1.1.1 Documentation control

We have document control processes in place to ensure the integrity of our key asset management documents. Our controlled documents include policies, standards, delegated authorities, charters and forms. These documents incorporate legislative requirements, regulations and industry standards.

4.1.2 Contextual inputs into our AMS

Our AMS is shaped by the environment and contextual inputs that we operate in. These are discussed below.

4.2 Legislation, regulation, industry standards

Our AMS and gas asset management approach and activities, including asset design, construction and operation, accounts for Acts (and amendments), government regulations and plans, and industry codes and guidelines, including:

- AS/NZS 4645.1 Gas Network Management
- AS/NZS 2885 Pipelines – Gas and liquid petroleum
- Cadastral Survey Act 2002
- Climate Change Response (Zero Carbon) Amendment Act 2019
- Commerce Act 1986 (Part 4)
- Civil Defence and Emergency Management Act 2002
- Emissions Reduction Plans – 2022 and 2024
- Gas Act 1992 and Gas Amendment Act 2006
- Gas Industry Company Determinations, Guidelines and Notices
- Gas Governance (Compliance) Regulations 2008
- Gas Governance (Critical Contingency Management) Regulations 2008
- Gas (Levy of Industry Participants) Regulations 2022

- Gas (Safety and Measurement) Regulations 2010
- Government Roading Powers Act 1989
- Hazardous Substances and New Organisms Act 1996
- Health and Safety at Work Act 2015
- Heritage New Zealand Pouhere Taonga Act 2014
- Local Government Act 2002
- National Adaptation Plan – 2022
- New Zealand Standard (NZS) 7901:2008 – Electricity and Gas Industries – Safety Management Systems for Public Safety
- NZS 5263:2003 Gas Detection and Odorization
- Privacy Act 2020
- Railways Act 2005
- Resource Management Act 1991
- Utilities Access Act 2010.

4.3 Customers and stakeholders

Our network of underground gas infrastructure serves residential, commercial, and industrial customers representing about 36% of all the gas connections in Aotearoa. We target and achieve a very high level of customer service to ensure all customers receive the same standard in terms of reliability, sustainability and affordability, and support through the energy transition.

4.3.1 Accommodating stakeholders' interests into our asset management practice

Most of our stakeholders have long-term interests that align with the long life of our assets. We reflect these requirements in our policies, objectives, and asset management processes. We also work alongside our stakeholders to look beyond our 10-year planning period, ensuring our assets are designed to serve them now and into the future. In recent years, the role of gas in a low-carbon future has been questioned. As a response, we are engaging across the sector to explore what alternative fuels could be distributed through our network. New technology to produce hydrogen and biomethane will become viable alternatives to traditional natural gas extraction. We are assessing our business and network strategies in response to these possible scenarios and creating opportunities for partnerships, which may include a network transition plan, and investigating options to invest in the transport of cleaner low-carbon gas.

We identify stakeholders' interests through various mechanisms, such as consumer questionnaires and market research. We regularly consult with our stakeholders to identify their expectations. Clear responsibilities are established inside Powerco to make sure that stakeholder interests are appropriately supported. Our key stakeholders, their interests, and how we identified them, are summarised in Table 4.2.

Table 4.2: Key stakeholders, their main interests, and how these interests are identified

Stakeholder	Main interests	How stakeholder interests are identified
Gas customers	Service quality and reliability Price Safety Information Environmental Seamless experience with their gas installation	Market research studies Engagement and consultation with retailers Dedicated client managers for major consumers Gas Hub website analysis Satisfaction surveys after connections through the Gas Hub Gas Hub presence at home shows

Stakeholder	Main interests	How stakeholder interests are identified
Retailers	Service quality and reliability Price Safety Efficient business-to-business processes	Regular meetings Network Service Agreements Retailer consultations Active participation with Gas Industry Company
Public, landowners, iwi	Public safety Land access and respect for traditional lands Environmental	Consultation and feedback Access and easement negotiations and agreements Acts, regulation, and other requirements
Transmission	Technical performance and rules compliance	Involvement in the Gas Association of New Zealand
Other distribution companies	Standards setting Benchmarks	Involvement in industry bodies
Our investors	Efficient and effective business management and planning Financial performance Governance Risk management	Corporate governance arrangements Formal reporting KPIs
Commerce Commission	Pricing levels Quality standards Effective governance Appropriate expenditure Effective asset management Information Disclosure	Meeting with commissioners and staff Quality response to consultation papers, decision paper and regulatory determination
State bodies and regulators	Safety (WorkSafe) Market operations and access via the Gas Industry Company Environmental performance (Ministry for the Environment)	Published acts, rules and determinations Formal reporting Ongoing consultation
Employees	Safe, productive working environment Training and development Security of employment Remuneration Continuous improvement, adoption of new technologies	Regular dialogue, internal communications and employee surveys Employment negotiations
Contractors	Safe, productive working environment Commitment in works volume	Contractor negotiations and dialogue Contract managers present in the regions
Other Powerco divisions	Expertise sharing Standardisation of tools and systems	Regular discussions across the business Tactical initiatives discussed and coordinated

4.3.2 Balancing stakeholder requirements

As shown in Table 4.2, we have a wide range of stakeholders. Should a situation arise where stakeholder interests conflict, we need to ensure these are managed appropriately. Our Gas Decision-making Framework applies a weighting factor to ensure projects are prioritised in the investment plan. As safety is a Powerco priority, safety takes precedence in resolving any conflicting requirements. Refer to Section 4.10 for more information on asset management planning.

We balance differing requirements in the following order:

- Safety
- Reliability
- Delivery
- Partnership and resilience
- Efficiency value

4.4 Shareholders

We are privately owned with two institutional shareholders: 49% owned by funds managed by Queensland Investment Corporation (QIC) and 51% owned by funds managed by Dexus.

4.5 Strategic insights and operating context

The external environment we operate in, provides the context for our corporate strategic framework and policies. This is set out in Chapter 2, which outlines the operating context shaped by long-term societal mega-trends transforming Aotearoa's energy use and the challenges impacting the gas sector.

4.6 Purpose and context

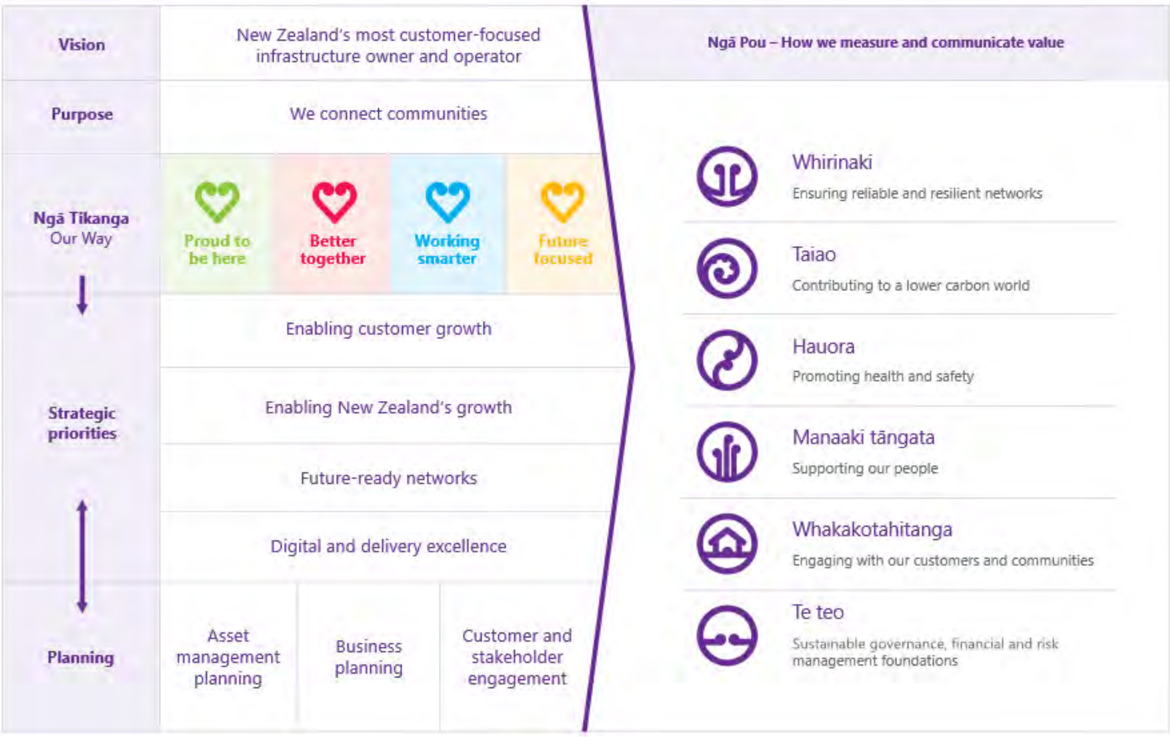
We know a successful transition to a low-carbon future must be environmentally conscious, affordable, and provide security of energy supply for Kiwis. Our focus is on serving our customers, and building resilience, capacity and technology into our networks to support decarbonisation.

4.6.1 Powerco Corporate Strategic Framework

Our Corporate Strategic Framework unites our vision, purpose, Ngā Tikanga values, and strategic priorities, informing our annual asset management, business, and stakeholder engagement planning, as shown in Figure 4.3.

Ngā Pou, our pillars for a sustainable business, represent our key focus areas to provide sustainable value to our stakeholders. Ngā Pou also informs our strategy, closing the loop between what our stakeholders value and the direction of our business.

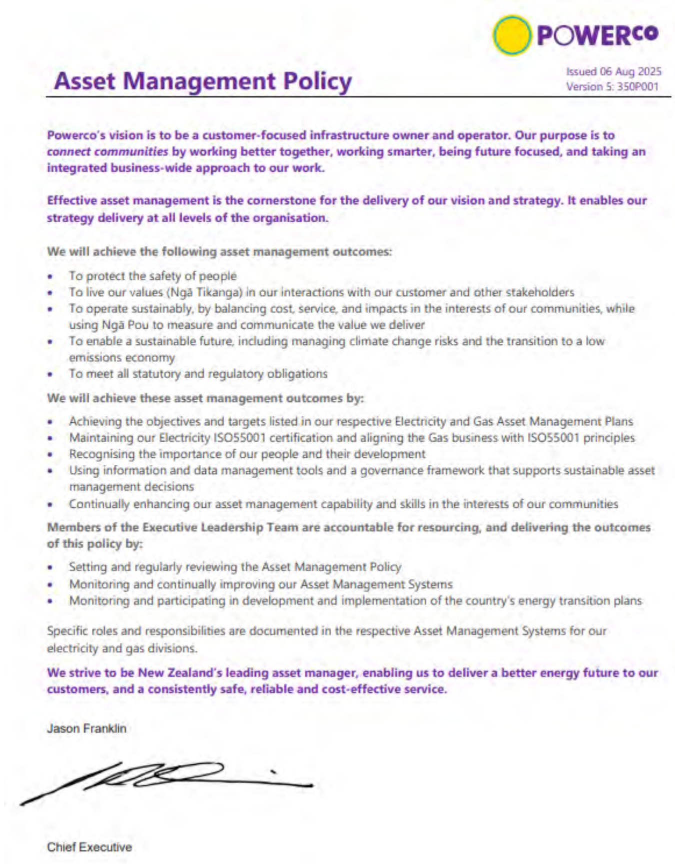
Figure 4.3: Our Corporate Strategic Framework



4.6.1.1 Corporate Asset Management Policy

The Corporate Strategic Framework informs the principles set out in Powerco's corporate Asset Management Policy, which is shown in Figure 4.4.

Figure 4.4: Powerco's corporate Asset Management Policy



POWERCO

Asset Management Policy

Issued 06 Aug 2025
Version 5: 350P001

Powerco's vision is to be a customer-focused infrastructure owner and operator. Our purpose is to *connect communities* by working better together, working smarter, being future focused, and taking an integrated business-wide approach to our work.

Effective asset management is the cornerstone for the delivery of our vision and strategy. It enables our strategy delivery at all levels of the organisation.

We will achieve the following asset management outcomes:

- To protect the safety of people
- To live our values (Ngā Tikanga) in our interactions with our customer and other stakeholders
- To operate sustainably, by balancing cost, service, and impacts in the interests of our communities, while using Ngā Pou to measure and communicate the value we deliver
- To enable a sustainable future, including managing climate change risks and the transition to a low emissions economy
- To meet all statutory and regulatory obligations

We will achieve these asset management outcomes by:

- Achieving the objectives and targets listed in our respective Electricity and Gas Asset Management Plans
- Maintaining our Electricity ISO55001 certification and aligning the Gas business with ISO55001 principles
- Recognising the importance of our people and their development
- Using information and data management tools and a governance framework that supports sustainable asset management decisions
- Continually enhancing our asset management capability and skills in the interests of our communities

Members of the Executive Leadership Team are accountable for resourcing, and delivering the outcomes of this policy by:

- Setting and regularly reviewing the Asset Management Policy
- Monitoring and continually improving our Asset Management Systems
- Monitoring and participating in development and implementation of the country's energy transition plans

Specific roles and responsibilities are documented in the respective Asset Management Systems for our electricity and gas divisions.

We strive to be New Zealand's leading asset manager, enabling us to deliver a better energy future to our customers, and a consistently safe, reliable and cost-effective service.

Jason Franklin

Chief Executive

Our Asset Management Policy is central to our Asset Management Plan. It highlights the expectations of our Board of Directors and management regarding how we are to manage our assets and make decisions, while reflecting our strategic corporate direction. It has also been developed to ensure we continually focus on delivering the service our customers want and need in a sustainable manner that balances risk and long-term costs.

4.7 Leadership and governance

We have leadership and governance functions to ensure delivery of our Corporate Strategic Framework. This provides the structure, processes, and appropriate oversight for our asset management activities. Our leadership and governance structure puts in place the skills, capacity, and supporting systems needed to achieve good asset management practice and service delivery.

4.7.1 The Board

The overall direction and governance of Powerco is vested in the Board, including the formulation of policies to be applied. The Board ensures that the business is managed in accordance with the Shareholders' Agreement, constitutions, relevant business plans and company policies. This includes fostering a culture of compliance with the highest legal and ethical standards and business practices.

The principal asset management governance responsibilities of the Board are:

- Accountability for maintaining a safe working environment and ensuring public safety is not compromised by our assets and operations.

- Reviewing and approving our AMP, including our medium-term (10-year) investment forecasts and shorter-term expenditure plans.
- Approving our annual gas capital and operational budgets based on allowances. This includes our prioritised Capital Works Plan, the allowance for reactive works, maintenance, System Operations and Network Support (SONS), and Business Support.
- Sanctioning individual operational or capital projects involving expenditure greater than $2m, and the divestment of assets with a value greater than $250,000.
- To guide management on improvements required, or changes in strategic direction. The Board does this through information received in monthly reports that include performance reports regarding the status of key work programmes, key network performance metrics, updates on high-value and high-criticality projects, and the status of our top-10 risks. It also receives audit reports against a prescribed audit schedule.
- Overseeing risk management practices and reviewing audit findings through the Board's Audit and Risk Committee.

4.7.2 The Executive Leadership Team (ELT)

The needs of our communities are the focus of our ELT. Driving our strategic direction, they lead our business into the future.

Figure 4.5 provides an overview of the leadership and governance activities of our ELT.

Figure 4.5: Leadership and governance activities

4.7.3 Gas and electricity integrated asset management leadership and governance process

Our asset management leadership and governance processes set direction, promote a whole of life asset management approach, and ensure appropriate oversight during the development and execution of our asset management activities.

The Asset Management Steering Committee spans both our gas and electricity businesses. Membership consists of the gas and electricity general managers, and senior level asset management roles across Powerco. The Asset Management Steering Committee purpose is to direct and oversee the asset management activities within the Electricity and Gas AMS's and provide updates to the wider ELT and the Board.

This ensures that:

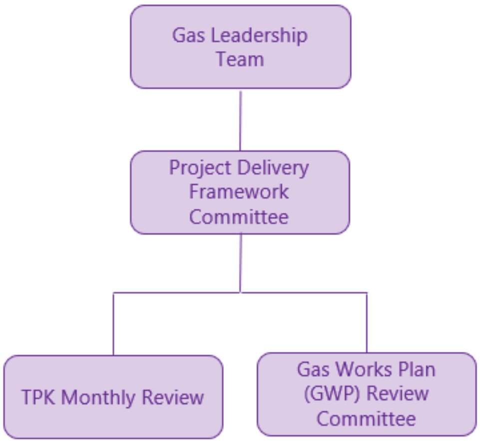
- The AMSs are aligned with, and achieve, the company objectives.
- AMS objectives are clearly established, and strategic plans are in place for achieving them.
- The interests of the AMSs are represented at executive governance level.
- Performance within the AMSs is monitored.

- The AMSs have appropriate risk management, continual improvement, legal and regulatory compliance initiatives in place.

4.7.4 Gas business governance processes

In addition to our integrated asset management leadership and governance process, we also have a gas business only leadership and governance process, as shown in Figure 4.6.

Figure 4.6: Gas asset management governance



4.7.4.1 Project Delivery Framework Committee

The Project Delivery Framework Committee is a gas senior leadership-level committee responsible for overseeing governance of our category one projects defined as high-cost (>$500,000) and high-complexity. It is accountable for and provides strategic guidance and oversight to support the effective management and delivery of gas network projects during design and delivery phases.

4.7.4.2 Te Puni Kāpuni (TPK) Monthly Review

The TPK[1] Monthly Review group includes appropriate technical staff or engineers across the gas business with an in-depth technical appreciation of the standards and assets related to the network. Its primary role is to review all complex System Analysis Programme (SAP) data notifications and asset initiatives to prioritise future work. Priority works identified for the delivery pipeline are fed into the Gas Works Plan (GWP) process. The TPK process aims to allocate the right investment, at the right time, across the asset lifecycle.

4.7.4.3 GWP Review Committee

The GWP Review Committee is a gas senior leadership-level committee responsible for the review and approval of the GWP. The plan details all scheduled capital projects, complex operational expenditure (Opex) projects, investigations, and roll-over projects to be undertaken in the next financial year.

4.7.4.4 Governance of outsourced activities

Core asset management field work activities and support functions are outsourced to competent service providers. Because of the risks involved with field work, significant controls are in place to ensure the service providers undertake work safely. There are also considerable contractual controls in place to ensure all work is completed to the required level of quality, cost, and timeliness. Our approach to managing external contractors for the delivery of field work is mature and in line with energy industry best practice.

[1] The working document that represents the TPK Monthly Review process is known as the Te Puni Kāpuni (Issues Register)

4.8 Organisation and people

We have a team of 556 fulltime employees, based across offices in New Plymouth, Whanganui, Palmerston North, Masterton, Wellington and Tauranga, who make up our electricity and gas businesses.

We maintain organisational roles, responsibilities, and authorities consistent with implementing our policies, strategies, and plans, to achieve Powerco's Corporate Strategic Framework and our gas Asset Management Objectives.

We have six asset management planning activity levels, ranging from strategic direction by the Board and CEO to the approval of operations and maintenance expenditure by the operations team. Each layer is designed to provide a clear line of sight between our Corporate Strategic Framework and our asset management activities.

Table 4.3 provides an overview of these asset management planning responsibilities.

Table 4.3: Asset management planning responsibilities

Level	Purpose	Responsible	Documentation
Corporate Strategy	Setting high-level objectives and targets for the company.	CEO, Board, Executive Team	Ngā Tikanga, vision, purpose, Corporate Objectives, Asset Management Policy, Business Plan
Asset Management Objectives	Support Corporate Objectives, set Asset Management Objectives, and goals.	GM Gas	Asset Management Plan
Asset Management Plan	A summary of our strategies and plans for providing a safe, reliable, resilient, and cost-effective gas supply for the next 10 years.	GM Gas	Asset Management Plan
Te Puni Kāpuni (TPK) Planning	Detailed planning of project needs registration and prioritisation (gives effect to the 10-year investment plan for future delivery).	Gas Asset Strategy Gas Operations Contract & Field Services	SAP notifications Te Puni Kāpuni (Issues Register)
Gas Works Plan (GWP)	The GWP defines the list of projects to be delivered in the next financial year.	Gas Asset Strategy (with Gas Operations support)	Annual GWP approved document Investigation reports, project briefs Maintenance plan, non-network plan(s)
Works Delivery and Field Operations	Oversight of capital project and maintenance delivery.	Gas Operations Gas Projects Delivery Contract & Field Services	Project delivery framework Gas project brief Gas Leadership Team reports Monthly Board reports

4.8.1 The Board

Our Board provides strategic guidance and oversight of risk management and makes sure we're on track to perform well for our customers and are accountable to our shareholders. It also focuses on creating value for our shareholders into the future. There are four formal Board sub-committees that assist the Board with discharging its governance responsibilities and provide robust strategic guidance. Each committee includes at least three Directors (although all Directors have a standing invitation to attend) that meet at least quarterly, or more frequently as required. The committee charters set out any specific expertise required for appointments. The Health, Safety and Wellbeing function is overseen by the Board as a whole, given the important role each Director plays as an officer in setting the direction for health and safety leadership and fulfilling the Board's due diligence and governance obligations.

Figure 4.7 shows the Board's Health, Safety and Wellbeing function and the function of the four Board sub-committees.

Figure 4.7: Board's Health, Safety and Wellbeing function and the function of the four Board sub-committees

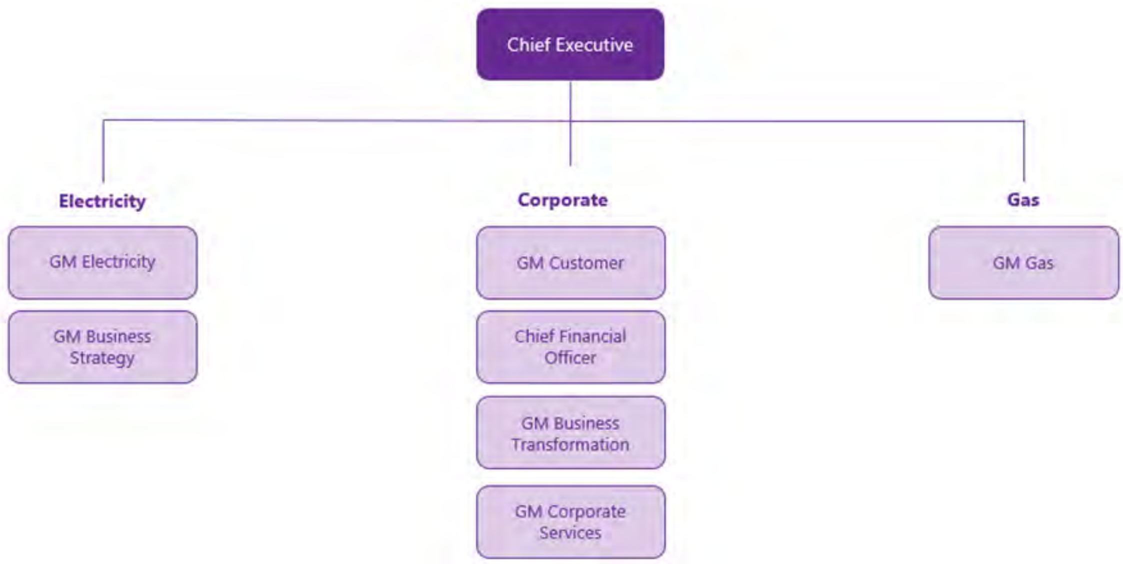
Health, Safety and Wellbeing	Regulatory and Asset Management Committee	Audit and Risk Committee	Treasury Committee	HR and Remuneration Committee
Health, safety and wellbeing governance is the responsibility of the Board as a whole, as set out in the Powerco Board Health, Safety and Wellbeing Charter.	Assists the Board with oversight and approval of Powerco's long-term asset management strategy and plans and material decisions, as well as oversight in relation to regulatory and policy affairs.	Assists the Board with ensuring the integrity of financial outputs, internal and external audit processes, and oversight of enterprise risk management systems.	Assists the Board with decisions relating to debt funding, capital structure and treasury management.	Assists the Board in all matters related to human resources and remuneration.

From an asset management perspective, the Board endorses key documentation, establishes our business objectives, approves the strategies needed to achieve those objectives, and monitors delivery to this.

4.8.2 The Executive Leadership Team (ELT)

Our organisational structure is based on two asset management-focused units – the electricity and gas businesses – with the support of four functional units. The makeup of our ELT, which reflects this organisational structure, is illustrated in Figure 4.8. This structure allows the gas division to focus on core gas activities and decisions and access specialist skills and advice as required.

Figure 4.8: Executive Leadership Team structure

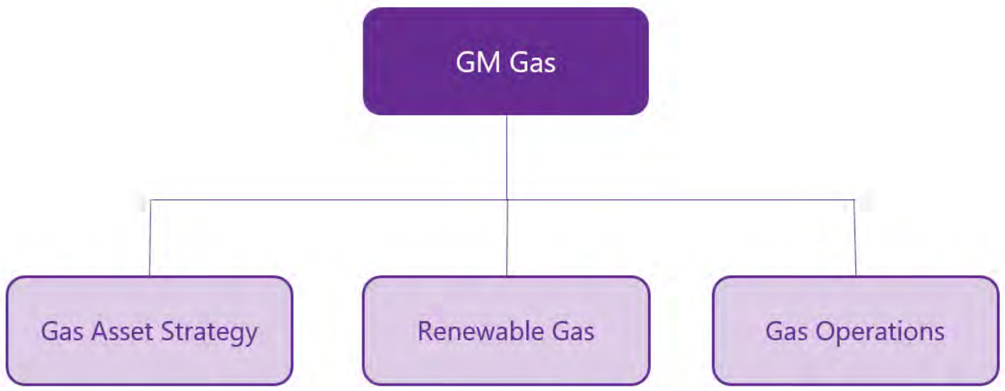


The electricity and gas divisions are responsible for asset investment, operational management, and commercial management of each business line.

4.8.3 Gas business organisation structure

The gas business has specialised teams reporting to one general manager, as in Figure 4.9.

Figure 4.9: Gas division – asset management responsibilities



The General Manager Gas ensures the planning and operations of our gas networks are aligned to deliver the energy mix that customers want today and in the future. This includes the development and integration of biogas and other renewable gases to reduce New Zealand's emissions and increase renewable energy to help Aotearoa 'grow to zero'.

The gas business responsibility includes ensuring that the network assets are developed, renewed, maintained, operated and used sustainably and efficiently to meet the needs of all stakeholders. The following asset-focused groups report to the General Manager Gas:

1. **Gas Asset Strategy Group:** Responsible for the asset management function, which involves overseeing long-term activities on the network, sponsoring the asset strategy, and developing, monitoring and analysing asset objectives, performance and reliability. This group ensures the asset strategies are consistent with Powerco's other strategies and policies. The development of the AMP is part of this group.
2. **Renewable Gas:** Responsible for identifying opportunities to integrate renewable gas into our gas distribution system. This includes Front End Engineering Design studies to established that a project is feasible – technically and financially.
3. **Gas Operations:** Responsible for the preparation and delivery of work on the networks. This includes developing technical standards, design, operation and maintenance, and the management of the contractors working on the network.

4.8.4 Corporate support functions

We leverage the corporate support functions to assist with asset management activities. These support functions include:

- Legal support
- Financial support
- Regulatory support
- Health, safety and environmental advice and support
- Business transformation
- Processing of as-builts
- Provision of Information and Communications Technology (ICT) systems and services
- Management of facilities

To make connecting to our gas network as smooth as possible, our dedicated team at The Gas Hub takes care of the entire process for both residential and commercial customers, making it simple from start to finish.

Our Customer team is responsible for customer relationship management across Powerco. This includes customer service, customer surveys, and account management of major users on the networks. The Customer team maintains a high level of customer service and assists our customers through the energy transition to a low-carbon future.

4.8.5 Asset management competencies and training requirements

People competent in asset management activities are critical for the successful implementation of our AMS. We have set in place the competency requirements for the asset management roles within Powerco. We assess personal performance annually against these requirements, with a view to designing appropriate development training for our internal staff.

For our external contractors, we clearly identify competency requirements, including qualifications and training needs based on industry standards and frameworks. These are used in assessing prospective contractors' ability to conduct the work.

4.9 Strategy and planning

The gas strategy and planning capability aligns our asset management activities, and the outputs from our assets with our Corporate Strategic Framework. This capability within our AMS comprises several interrelated activities used for asset planning, including the documentation that contains our asset class strategies, objectives and plans.

4.9.1 Ngā Tikanga – Our Way, our cultural framework

In line with our long-term approach to asset management, investment in our gas network reflects our guiding philosophy of moving forward together as one. Ngā Tikanga – Our Way is our cultural framework. As shown in Figure 4.10, Ngā Tikanga – Our Way, which forms part of our Corporate Strategic Framework, guides our way of working. It describes how we work with each other, our partners and industry stakeholders to get the best outcomes for our communities. Ngā Tikanga – Our Way is inspired by tikanga, a Māori concept that refers to the ethical framework of Māori society.

Figure 4.10: Ngā Tikanga – Our Way, our cultural framework

Proud to be here

We're recognised for the difference we make and are respected for our actions and decisions. Our customers and communities value and trust us.

Better together

We're one team and stronger for it, inspired by our purpose to keep our communities connected and supporting each other to achieve great outcomes.

Working smarter

Innovating, learning and improving together every day, we keep things simple and streamline our approach.

Future focused

We're passionate about making sustainable choices that will help our communities thrive now and into the future.

4.9.2 Gas SAMP

Our Gas SAMP defines our gas Asset Management Objectives, which align with our Corporate Strategic Framework, the asset management principles of our corporate Asset Management Policy, and the gas business decision-making criteria and framework.

Our Gas SAMP excludes our non-network assets, systems and processes, as the asset management principles and approach for these are covered by the gas and electricity business Asset Management Plans (AMP). Non-network assets include information systems and other non-network assets, such as motor vehicles, including our leak detection vehicle, equipment, and critical spare parts.

The content of our Gas SAMP is based on the international standard ISO: 55000 series for asset management.

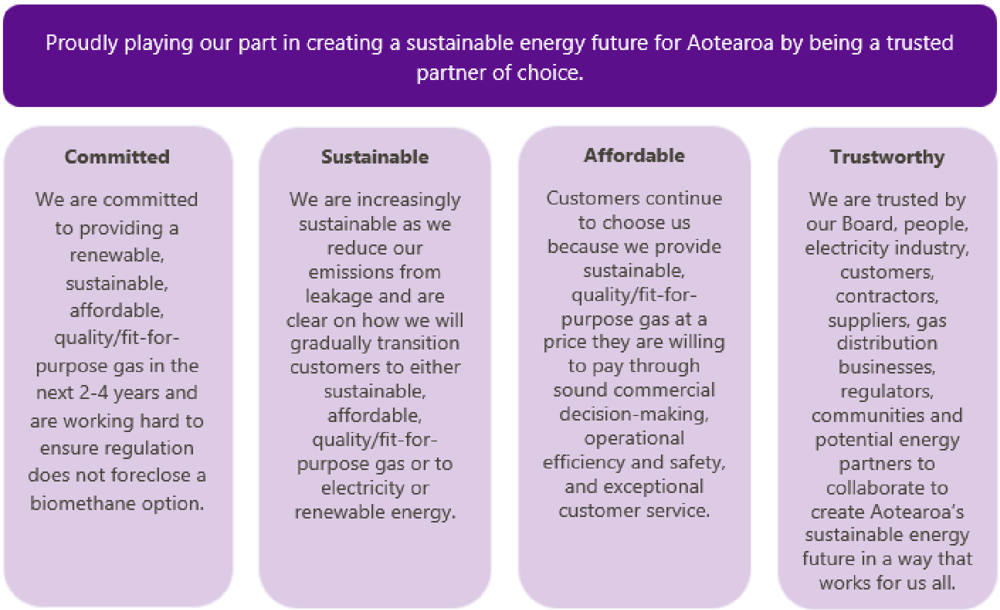
4.9.3 Gas purpose

In line with Ngā Tikanga and our gas Asset Management Objectives, our gas purpose is to deliver a better energy future to our customers by providing a consistently safe, reliable, resilient, and cost-effective gas network now and into the future. To achieve this, we work to manage our assets through their lifecycle stages in a manner that will deliver value to our customers.

4.9.4 Gas strategy to enable change for a renewable and resilient energy future

Figure 4.11 outlines our gas strategy.

Figure 4.11: Our overarching gas strategy



We believe that renewable gas is at the core of Aotearoa's overall energy solution, and that it is essential for a sustainable energy future. We consider this means there is a need for continued strategic investment in our existing infrastructure. Hence, our asset management approach is to maintain our gas network assets in perpetuity, at the least lifecycle cost. However, we need to ensure that future investment decisions include present and emerging environmental factors and changing sector dynamics, in particular:

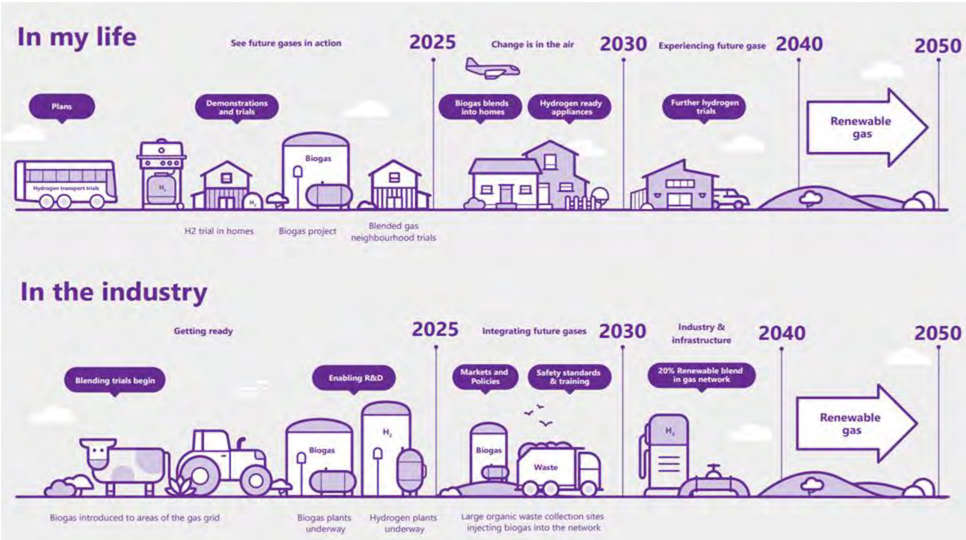
- Policy impacts
- Reduction in new customer connections.
- Safe, reliable and efficient delivery of gas for the existing customer base.
- Socio-economic trends impacting new connection numbers.
- Renewable gas to support decarbonisation and an orderly and affordable energy transition.
- Reduction of our own emissions.
- Increased need for infrastructure and energy resilience.
- Addressing the risk of asset stranding.

We have changed our investment strategy from one focused on growth to one of maintaining our existing customer base by managing the risk of lower new connection numbers, disconnections and increased customer contributions. We are constantly making trade-offs and using levers to manage stranding risk, prioritising customers staying connected to the network, connecting new customers, and ultimately ensuring customers can enjoy safe, reliable and efficient delivery of gas. This approach will ensure the value of our assets and viability of our business.

4.9.5 Roadmap to 100% renewable gas

Our roadmap to transition to 100% renewable gas, as shown in Figure 4.12, centres on repurposing the gas network to enable the distribution of mixed gases, such as biomethane, and includes initiatives that will support the transition.

Figure 4.12: Roadmap to 100% renewable gas



Our roadmap to 100% renewable is a living document, which is updated and adjusted as opportunities and challenges are identified, or when a change in direction, strategy or initiative is required.

4.9.6 Gas asset management strategic objectives

Our gas Asset Management Objectives, as shown in Figure 4.13 gives effect to Powerco's Corporate Strategic Framework (Figure 4.3) and Asset Management Policy (Figure 4.4).

Figure 4.13: Gas Asset Management Objectives

Hauora – promoting health and safety objectives

The safety of the public, our staff and service providers is paramount.

Table 4.4 and Table 4.5 show our 'promoting health and safety' objectives, goals, and measures. Section 4.15.3 provides details of the Gas Asset Management Key Performance Indicators (KPIs) and sets out our 'promoting health and safety' KPIs, which will measure how we are performing.

Table 4.4: Promoting health and safety – overall objectives

Promoting health and safety – overall objectives
Our overall safety objectives are to safeguard the public from any harm from our assets, to ensure an injury-free workplace.

Table 4.5: Promoting health and safety – goals and measures

ASSET MANAGEMENT OBJECTIVE	GOAL	MEASURE
Promoting health and safety	Keep all network assets safe for the public by having third-party damage (TPD) decrease to 50 per annum by 2033.	Number of TPD incidents (#p.a./1,000km)
	Keep all network assets safe for the public by having >95% response to emergencies (RTE) within one hour.	Response time to emergencies (% within 1hr)
	Keep all network assets safe for the public by having >90% of emergency calls answered within 30 seconds.	Percentage of emergency calls answered (% within 30 secs)
	Maintain zero lost time injuries (LTIs) per annum to ensure our contractors and staff are safe.	LTI (#p.a.)

Whakakotahitanga – customers and community

Our customers' priorities guide our investments. Achieving this requires balancing:

- Investment in the network to ensure it remains in an appropriate condition, has sufficient capacity and functionality to meet customers' current and future needs.
- Customers' individual experiences in the short term as we deliver our investment programme and service their day-to-day gas needs.

Table 4.6 and Table 4.7 outline our customers and community objective, goals and measures. Section 4.15.3 provides details of the Gas Asset Management Key Performance Indicators and sets out our 'customers and community' KPIs, which will measure how we are performing.

Table 4.6: Customers and community – overall objective

Customers and community – overall objective
Ensure customer and community preferences are reflected in the provision of a safe, reliable, resilient, and cost-effective gas supply that is future-ready and affordable.

Table 4.7: Customers and community – goals and measures

ASSET MANAGEMENT OBJECTIVE	GOAL	MEASURE
Customers and community	Ensure new connection satisfaction is excellent by having the net promoter score (NPS) ≥50 every year until 2033.	NPS (-100 to 100)
	Ensure customer satisfaction is tolerable by having <50 customer complaints per annum until 2033.	Customer complaints (#p.a.)

Taiao – contributing to a lower carbon world

Our gas network provides a lifeline utility service to communities. Our network needs to be capable of supporting and meeting our customers' evolving energy requirements and service level expectations, as well as providing a flexible transition towards a low-carbon future that is affordable for all Kiwis. This means ensuring we can support those customers who choose gas as their preferred energy solution, and those who wish to partner with us to develop new renewable energy solutions.

Table 4.8 and Table 4.9 outline the objective, goals and measures for 'contributing to a lower carbon world'. Section 4.15.3 provides details of the Gas Asset Management Key Performance Indicators and sets out our 'contributing to a lower carbon world' KPIs, which will measure how we are performing.

Table 4.8: Contributing to a lower carbon world – overall objective

Contributing to a lower carbon world – overall objective
We will continue to provide our customers with a safe, reliable, resilient, and cost-effective gas supply that will reflect customers' preferences and meet customers' needs reliably and efficiently. Now and in the future, including the transition towards sustainable low-carbon renewable energy options.

Table 4.9: Contributing to a lower carbon world – goals and measures

ASSET MANAGEMENT OBJECTIVE	GOAL	MEASURE
Contributing to a lower carbon world	Ensure we have adequate network capacity by having <10 poor pressure events per year until 2033.	Poor pressure events (#p.a.)
	Ensure network integrity is at an adequate level by having <100 pipe leaks (network and service) per year until 2033.	Number of network leaks (#)
	Ensure operational reliability by having the number of customers affected by supply interruptions because of component failure <6 per year until 2033.	Customers affected by supply interruptions because of component failure (#p.a./1,000 customers)
	Ensure gas is delivered reliably and at the right quality, by having non-compliant odour test reported <5 per year until 2033.	Non-compliant odour test reports (#p.a.)

Whirinaki – ensuring reliable and resilient networks

Ensuring reliable and resilient networks of long-life assets requires a thorough understanding of their performance and condition. It also requires us to be prudent operators, ensuring an asset does not operate outside capacity limits or be used in unsafe ways. Table 4.10 and Table 4.11 outline the objective, goals, and measures of 'ensuring reliable and resilient networks'. Section 4.15.3 provides details of the Gas Asset Management Key Performance Indicators and sets out our 'ensuring reliable and resilient networks' KPIs, which will measure how we are performing.

Table 4.10: Ensuring reliable and resilient networks – overall objective

Ensuring reliable and resilient networks – overall objective
Through effective management and operation, our assets deliver a safe, reliable, resilient, and cost-effective gas supply to customers by prioritising the right investment, at the right cost, over the full expected asset life.

Table 4.11: Ensuring reliable and resilient networks – goals and measures

ASSET MANAGEMENT OBJECTIVE	GOAL	MEASURE
Ensuring reliable and resilient networks	Achieve Asset Management Maturity Assessment Tool (AMMAT) score of 3.5 by 2033.	AMMAT score (# between 0-4)
	Achieve Resilience Management Maturity Assessment Tool (RMMAT) score of 3.6 by 2035.	RMMAT score (# between 0-4)

Te teo – sustainable governance, financial and risk management foundations

Sustainable governance, financial and risk management foundations is a broad concept that covers many of our activities. From an asset management perspective, these objectives have relevance to the following areas:

- Putting in place the skills, capacity and supporting systems needed to achieve good practice asset management and service delivery, including network operations, asset maintenance and construction.
- Cost-effectively delivering services to customers according to their needs.
- Effective engagement with stakeholders, including providing accurate performance reports and asset information, supporting regulatory submissions, and preparing high-quality material to aid company governance.
- Excellence in asset and network data collection, the management and safekeeping of this data, and the processing and analysis of data and information to support effective decision-making.
- Increasing efficiency within our planning and delivery processes to ensure the best value is achieved from our operations.
- The efficiency of our service provider management.

Table 4.12 and Table 4.13 outline the objective, goals, and measures of 'sustainable governance, financial and risk management foundations'. Section 4.15.3 provides details of the Gas Asset Management Key Performance Indicators and sets out our 'sustainable governance, financial and risk management foundations' KPIs, which will measure how we are performing.

Table 4.12: Sustainable governance, financial and risk management foundations – overall objective

Sustainable governance, financial and risk management foundations – overall objective
Ensure we have the skills, capacity, systems, and processes to deliver our strategies in a safe, reliable, resilient, and cost-effective way while improving our asset management performance.

Table 4.13: Sustainable governance, financial and risk management foundations – goals and measures

ASSET MANAGEMENT OBJECTIVE	GOAL	MEASURE
Sustainable governance, financial and risk management foundations	Be a cost-effective provider of gas network services by having >60% of expenditure using market-tested pricing.	Percentage of expenditure using market-tested pricing (%)
	Improve service provider (SP) performance continuously by ensuring SP performance KPIs meet minimum requirements.	KPI values/performance (Score 0-100%)

4.9.7 Gas asset class strategies and plans

We have developed gas asset management strategies to help us get where we want to be and by when. These:

- Deliver on Powerco's Corporate Strategic Framework, Asset Management Policy, and our gas Asset Management Objectives
- Enable a sustainable transition to net-zero emissions

- Ensure the value of our assets
- Ensure the viability of our business

Our overall gas Asset Management Objectives form the basis of our gas asset class strategies, asset management plans, service plans, and our risk mitigation plans.
We manage a range of different assets each with unique risks, operating procedures, expected lifespans and failure modes. The asset class strategies and plans describe how often the asset is operated, inspected, and maintained.

We have asset class strategies and plans that inform the lifecycle activities for all our major asset types. These are:

- Main and service pipes
- Special crossings
- Leak management
- Leak detection vehicle
- District regulator stations
- Line and service valves
- Monitoring and control systems
- Cathodic protection systems

Each asset class strategy and plan account for the lifecycle of the asset. They outline the condition of our assets, our approach to renewal programmes, operations and maintenance, renewal, and expenditure, as well as information quality. They also discuss our current understanding of any systemic issues. Programmes of work are identified and are broken into specific projects as part of our annual GWP and investment process, which considers each element of the asset lifecycle. The work is then scheduled for delivery.

The asset class strategies and plans are developed by analysing the:

- Asset class quantities and age profile
- Asset class life expectancy
- Asset class condition

This process ensures that the investment and programme of works identified are aligned with our corporate strategic direction and Asset Management Objectives.

4.9.8 Network strategies

Our network strategies provide direction for strategic investment and network performance requirements. We operate networks in five regions, each with different operating characteristics, customers and, therefore, operating risks. We have seven network strategies as shown in Table 4.14.

Table 4.14: Our network strategies and their definition

Network strategy	Definition
Network growth	The changing operating environment reflects our transition from a growth strategy to a prudent focus on maintaining the customer base. For network growth we will respond to the residential market demand.
Pressure droop	Ensure sufficient capacity to obviate low pressure in any part of the network. For network growth we will respond to the residential market demand.
Elevated pressure	Preserve personnel and public safety.
Resilience and redundancy	Maintain supply availability.
Odorant	To ensure adequate odorant within our network.
Network isolation	Increase the disaster resilience of our network against high-impact low-probability events.
Rationalisation	Improve efficiency through optimised networks.
Non-network solutions	We actively monitor emerging technologies and non-network solutions that could potentially serve as alternatives to, or be used in conjunction with, traditional network investments. We have not yet implemented any non-network alternatives and, as of now, we have not identified any emerging technologies that show significant promise.

Assessments of the networks are conducted under the limitations dictated within these strategies. These assessments identify areas of the networks to be worked on to mitigate the identified risks. These areas are broken into specific projects in the network plans. Please refer to Chapter 6 for more detail on our network strategies, the decisions they inform, and the projects and plans they produce for each region covered by our network.

4.10 Asset management decision-making framework

A crucial aspect of a competent AMS, is enabling effective, consistent, robust decision-making, balancing appropriate cost, risk, and performance trade-offs. To achieve this, we apply our established decision-making framework to our asset management decisions. Our decision-making criteria reflect our overall corporate strategic direction and they are shown in Table 4.15.

Table 4.15: Gas business decision-making criteria

Criteria	Definition
Safety	Keep the public, our staff, and our contractors safe from harm.
Delivery	Ensure our networks have the capacity and resilience to meet the quality of supply expected by our customers.
Reliability	Safe containment of gas and operational reliability to deliver gas to our customers at the right quality.
Efficiency	Continuously seek out and deliver cost efficiencies. Focusing on our Volume-to-Value Investment Framework by prioritising the right investment, maintaining our asset base, and expanding into a renewable future state.
Partnership	Be a responsible sustainable and resilient future energy-focused partner of choice for our customers and our other stakeholders.

Our Gas Decision-making Framework prioritises interventions by assigning the highest weighting to safety, ensuring a sustainable and resilient gas network aligned with our strategic objectives. The decision-making criteria are our key drivers for investment within our decision-making process, guiding our prioritisation process.

In prioritising projects, each category must be weighted appropriately. Safety typically receives the highest weight because of its critical role in preventing accidents and ensuring compliance. Other category weightings may be adjusted as business priorities are refined.

In 2024, when we integrated climate adaptation and resilience[2] into our AMS, we activated the resilience risk factor to place greater emphasis on resilience. This mechanism includes a factor or benefit multiplier, which we adjusted to positively weight resilience projects within our investment plan.

To achieve this, we embedded resilience into our existing partnership pillar, our customer-focused driver, and increased its weighting. This elevation reinforces the importance of mitigating resilience risk, ensuring a balanced and strategic approach to project prioritisation.

Table 4.16 shows how we apply the criteria.

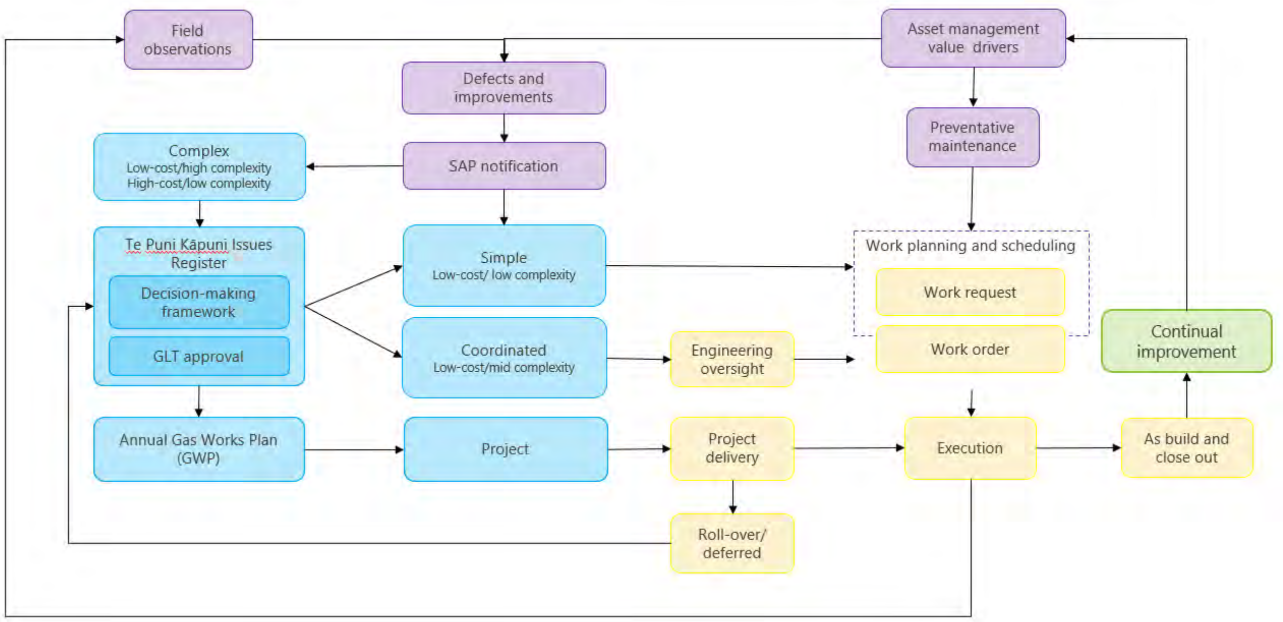
[2] Climate Adaptation & Resilience Plan can be found under climate-related publications here.

Table 4.16: Decision-making criteria application

Score	Reliability	Delivery	Safety	Efficiency/value	Partnership
	Enabling our gas business objective of "delivering a safe, reliable, resilient, and cost-effective gas supply to our customers" to be achieved.				
1	Out of spec or obsolete, asset/similar assets might have green defects	Failure of asset/similar assets that is low risk for customer loss	Very low – very low or low safety risk	Replacement/augmentation of the asset will lead to a decrease in operational costs < cost of asset	Risk of potential customer complaints about image or responsibility for ensuring a **sustainable and resilient** environment
2	Out of spec or obsolete, asset/similar assets have amber or multiple green defects	Failure of asset/similar assets that is medium risk for customer loss	Medium to high risk	Replacement/augmentation of the asset will lead to a decrease in operational costs >= cost of asset	Should be receiving customer complaints about image or responsibility for ensuring a **sustainable and resilient** environment
3	Out of spec or obsolete, asset/similar assets have red or multiple amber defects	Failure of asset/similar assets that is high risk for customer loss	Very high + risk	Replacement/augmentation of the asset will lead to a decrease in operational costs >= cost of multiple assets in the area	Have received customer complaints about image or responsibility for ensuring **a sustainable and resilient** environment
0	Less critical than above	Less critical than above	Less critical than above	Less critical than above	Less critical than above
Current weighting	**1.5**	**1.5**	**2**	**1**	**1.5**

Combined with our decision-making criteria, inputs from various pathways within the business, such as defect notifications, performance condition, capacity and demand information are included in our decision-making process, as shown in Figure 4.14.

Figure 4.14: Gas Works Plan planning process



4.10.1 Gas Volume-to-Value Investment Framework

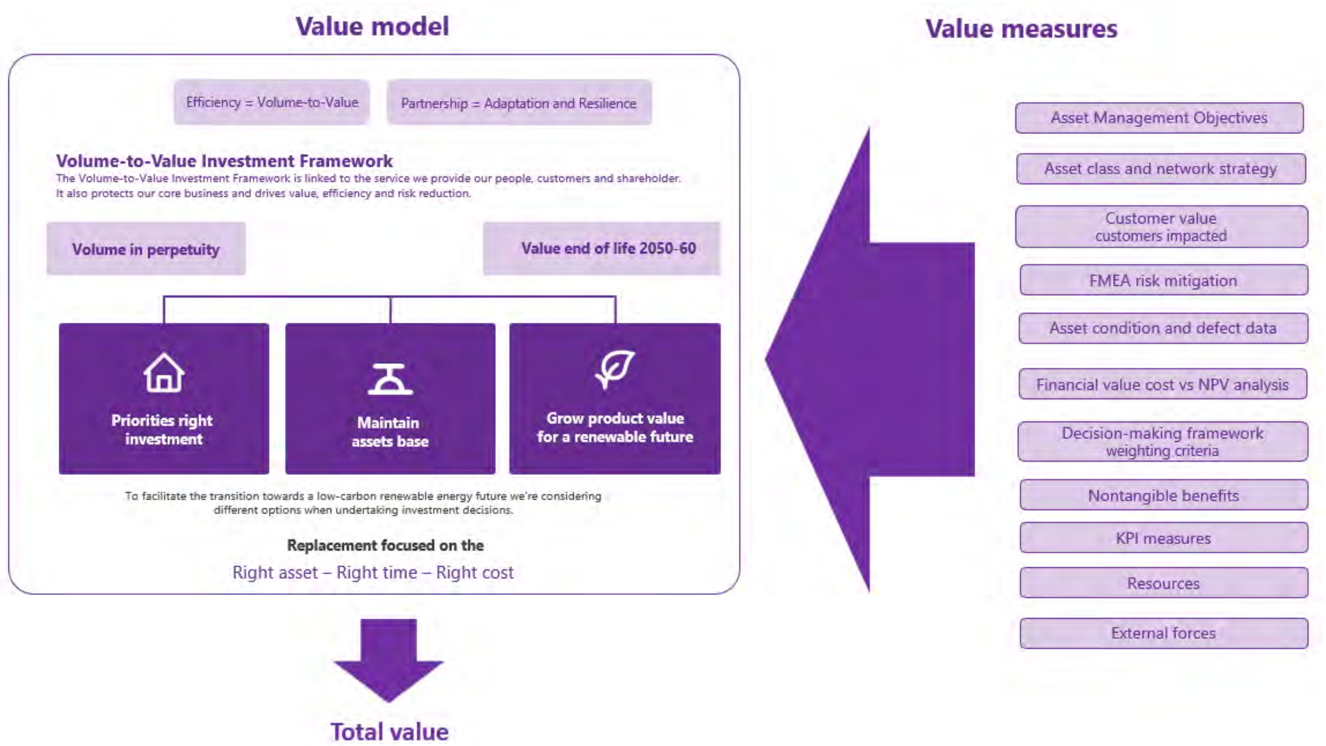
By maximising the value of our core assets, we ensure that we gain the greatest benefit from investments made in our infrastructure.

Our gas Volume-to-Value Investment Framework is a decision-making framework that focuses on addressing declining volumes across our gas network, improving financial health, and preparing for a resilient, sustainable, low-carbon future. This involves rationalising networks by aligning capacity with demand to identify opportunities such as decommissioning low-utilised networks, and prioritising investment in high-capacity growth areas. This investment framework aims to provide the long-term viability of our gas business, mitigate the risk of stranded assets, and support the transition to renewable energy solutions.

Our Volume-to-Value Investment Framework considers multiple measures that contribute to the overall assessment of our future investment plan. It supports the transition to affordable, reliable, and renewable energy by prioritising smarter investments and future-focused flexibility.

We also recognise a range of non-financial benefits that contribute to overall value and guide us towards achieving our gas business objective of "*delivering a safe, reliable, resilient, and cost-effective gas supply to our customers*", as shown in Figure 4.15.

Figure 4.15: Volume-to-Value Investment Framework



As part of this investment framework, our pathway towards a low-carbon future is focused on a transition to biomethane. This approach will enable us to meet future energy needs while delivering renewable energy solutions to our customers in alignment with our roadmap to 100% renewable gas, illustrated in Figure 4.11.

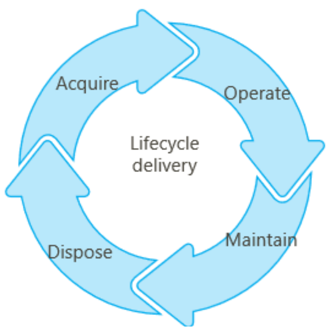
The gas Volume-to-Value Investment Framework addresses the challenges and opportunities of operating as a modern gas distribution business, which are reflected in our network and asset class strategies and plans.

4.11 Lifecycle delivery

Holistic asset management considers every stage of an asset's lifecycle, including acquire (either develop or acquisition), operation, maintenance, and disposal. Our asset strategies and lifecycle plans consider:

- The means to achieve safe, cost-effective, reliable operation
- Maximising the value of an asset over its lifecycle
- The ongoing operational, maintenance and refurbishment costs over the expected life of the asset
- The complexity and cost of decommissioning and removal
- Any possible environmental impacts at all stages of the asset lifecycle.

Figure 4.16: Asset management lifecycle



Lifecycle management of each asset class determines how we intervene with the asset. We utilise a reliability centred maintenance (RCM) strategy for an asset's maintenance scheduling. Our RCM strategy requires us to understand our asset class risks, in conjunction with current asset class performance, to develop our asset intervention plan(s) for each asset class. Asset intervention includes when and how we:

- Operate the asset
- Maintain the asset
- Renew or replace the asset
- Dispose of the asset

Our asset management lifecycle is shown in Figure 4.16.

4.11.1 Acquire

Our GWP identifies an issue in the network to be addressed along with a brief scope. This becomes the responsibility of the gas operations Projects Delivery team to complete an assessment of potential options and prepare designs for delivery. Under the Volume-to-Value Investment Framework, an existing asset may be replaced or refurbished (develop) or a new asset installed (acquire). The preferred option will address:

- Asset renewal and replacement
- System growth and capacity
- Quality of supply, such as rationalisation, resulting in a more efficient and optimised network
- Other reliability, safety, and environment items, such as valve retrofits, new isolation valves and sectorisation
- Customer connections and relocations of existing assets
- Future network needs, such as green gas options and solutions

Design and construction comprise detailed design, tendering, construction and project management, commissioning, and handover of new assets to the operational teams. Our engineering design and construction standards establish the requirements for this process.

Using the project gas management framework, projects are broken into the following five phases and utilise stage gates between each phase to ensure adequate oversight. Management approval is required to proceed through each phase of the framework. The project lifecycle phases are:

- **Initiate phase:** Begins when a need has been identified within the Te Puni Kāpuni (Issues Register), assessed against our decision-making criteria and assigned to the Projects Delivery team. Information is gathered to gain an understanding of the project goals, complexity, cost, and timeframes. This information is collated in a project charter where the scope is defined, and a governance category is assigned. This category dictates the thoroughness of project management and documentation required throughout the remaining project phases.
- **Select phase:** The project concept is developed into a preferred solution. The preferred solution must be justifiable, and most often that justification is articulated though an options analysis. The options analysis determines and outlines the preferred solution by assessing all feasible solutions against our decision-making criteria, environmental impact, constructability, and Volume-to-Value Investment Framework.
- **Define phase:** The preferred solution is developed into a ready-for-construction package. The key components of this include approved detailed design drawings, a project scope of work, and a contract package including procurement of any long lead items.
- **Execution phase:** A service provider is selected, the contract is awarded, and construction is completed.
- **Closure phase:** Begins when construction is physically completed. It confirms that all expected results have been achieved by the service provider as part of the project close out report process.

4.11.2 Operate

We operate our gas assets in accordance with legislation, regulations, industry standards, and standards prepared by our Operations team. This ensures we deliver a safe and reliable gas service to our customers.

4.11.3 Maintain

We maintain our gas assets to ensure they remain safe and reliable. Our maintenance activities are driven by internal and industry standards, which often prescribe minimum inspection frequencies to ensure the safe operation of the network. In recent years, our internal standards have evolved towards a risk-based approach. They follow the principles of RCM, aimed at further improving the efficiency and optimisation of our asset lifecycle management. This may lead to a change in the frequency of leakage surveys and inspections, or type of operation/maintenance activity performed.

4.11.3.1 Inspection and maintenance programmes

Our routine maintenance and inspection programmes are planned at asset class and regional levels. During these inspections, each asset is checked against a performance criterion established by our operating standards, prepared by the Operations team. When the checks highlight findings outside the acceptable criteria, defects are raised and managed through our System Analysis Programme (SAP) notifications. SAP is a single integrated software system that connects financial and works management systems (projects, maintenance etc).

Simple, quick-fix defects can be addressed instantly on-site by our service providers as they carry tools and consumables that allow them to complete basic repairs in a reactive way. This is considered unplanned maintenance. A post-repair notification is expected so an appropriate record of this activity can be created against the asset type performance history.

High cost/consequence, complex defects are evaluated through our notification assessment and Te Puni Kāpuni - Issues Register (TPK) process. There are two possible planned corrective maintenance routes from the evaluation of cost, complexity, and urgency. The first is for our maintenance team to execute the work as part of their regular planned maintenance defined under a work order in SAP. The second is for our Service Delivery team to plan, scope and execute the work as a project on our GWP for the next 12-month period. From an investment perspective, both types of works are classified as either Capex or major Opex, depending on the specific nature of the work required.

4.11.3.2 Condition assessments

There are a range of factors we use to evaluate the condition of our assets and determine the appropriate maintenance and renewal programmes. Examples are asset age, number of defects identified per asset class, renewal models, number of leaks, and direct current voltage gradient surveys. We combine these assessments to determine the condition grade in accordance with the system developed by the Commerce Commission. Table 4.17 shows how the grades are applied.

By undertaking condition assessments on our assets regularly, we can make informed decisions about future investments and ensure that our asset management plans are up-to-date and aligned with our objectives.

Table 4.17: Condition grading system definition and application

Grade	Status	Definition
Grade 1	Poor	End of serviceable life, immediate intervention required. Intervention planned in next planning cycle or completed through reactive project.
Grade 2	Fair	Material deterioration but asset condition still within serviceable life parameters. Intervention likely to be required within three years.
Grade 3	Good	Normal deterioration requiring regular monitoring.
Grade 4		Good or as new condition.
Grade unknown	-	Condition unknown or not yet assessed.

4.11.3.3 Works programme development

Our GWP is approved by the Gas Leadership team on an annual basis. It is generally a compilation of the highest priority works identified at the time, but also includes rolled over portions of larger and/or multi-year projects that may have included investigations. Asset-related work identified in the asset class and network strategies are grouped into projects and scheduled into an upcoming GWP.

From our network needs analysis, we develop at a high level a long-term 10-year view of required works. The work for the earliest three to five years is developed in more detail, while work identified for delivery in the immediate financial year is fully scoped and designed for delivery.

The projects in the GWP are optimised against our value drivers to ensure greatest benefit to our customers and greatest reduction in network risk. We endeavour to deliver a smooth works programme, without step changes in activity, provided we have the resources available to achieve this and our ability to efficiently deliver is maintained. We also review the best way to deliver each project in terms of internal and external resourcing and cost efficiency to complete any investigations, project justifications or designs.

Our contract structure allows us to use alternative contractors or seek competitive tenders for work if a project requires specialist work or the cost is expected to be more than $150,000. Within reasonable limits, there is usually flexibility to move the timing of projects to reflect resource, or factors such as the delivery timeframe to plan the works around preferred construction seasons or availability of long lead time components.

4.11.3.4 Planned activities

Planned activities are driven by our accepted risk levels, the value drivers and the targets established for each objective. If we consider that our current or future risk levels, in terms of our value drivers, are outside acceptable limits, we will include them in a new project with an indicative delivery date in the Te Puni Kāpuni (Issues Register).

4.11.3.5 Optimisation and prioritisation

Only top priority projects are entered into the GWP. To populate the GWP, the Te Puni Kāpuni (Issues Register) is reviewed, and investment opportunities are prioritised against the value drivers. The projects are given weightings against each value driver, and the top priority opportunities are then incorporated into the GWP.

4.11.3.6 Works management

It is imperative that works are delivered and are conducted safely. There are two main works delivery streams that are used to ensure work is completed to a high standard and in a safe, sustainable, and affordable manner. They are:

- **Works mastery:** Balancing cost, scheduling and quality is the essence of our successful project and works delivery. For large scheduled Capex projects, our Projects Delivery team follows our Project Management Framework to ensure the work programmes are designed and constructed according to the relevant Powerco gas standards, industry regulations, council requirements and safety legislation. By compiling groups of projects together by asset class, such as mains replacement, regulator station replacement or refurbishment, valve replacement and cathodic protection, lessons can be learned and passed on to future projects.
- **Safety leadership:** Our Engineering team adheres to the 'safety in design' concept when designing solutions to the technical challenges in each project. By considering the health and safety outcomes throughout the lifecycle of the new asset, it becomes easier for our construction crew to install the asset, carry out regular maintenance, and eventually decommission the asset at the end of its technical lifecycle in a safe manner. An example is the installation of valves on berms as opposed to in the middle of the traffic carriageway. This avoids the need for specialist traffic management for the construction crews to install and to do scheduled inspections.
- **Safety leadership:** The project manager and auditors carrying out site safety audits at critical milestones of the construction phase. This ensures that gas safety fundamentals are being followed, and any non-routine works, such as hot-tapping, flow stopping and bypassing, are being carried out as per the agreed methodology.

4.11.3.7 Customer-initiated works (CIW)

Residential requests come directly to the Customer team from individuals or through their retailers. Most CIW have standard designs and procedures applied. Our customer contribution policy is used to identify the costs to be passed on to the customer. Other CIW (commercial, subdivision reticulation etc) go through the same process as capital works, with commercial oversight and justification provided by the Pricing and Revenue Manager.

4.11.3.8 Third-party requests

Pipe relocations or alterations are reactive activities driven by third-party requests, such as subdivision developments, and therefore cannot have plans created for them. However, the programme budget is managed accordingly, and prioritisation of projects is utilised if scheduled projects need to be halted. They come directly to, and are dealt with by, the Projects Delivery team. Most of these activities can have their costs recovered, as provided for by the Gas Act 1992.

These activities will be funded from our existing forecasts, as part of our business-as-usual continuous improvement activities.

4.11.3.9 Procurement process

We procure larger items such as district regulator stations (DRS), specialist material, and large quantities of pipe etc, directly for larger projects. We also directly tender civil works where it makes sense to do so. Procurement of minor items is left to the contractor to ensure a smooth workflow.

We tender all works of significant scale (typically >$150,000) and can do the same for specialist works. Our ability to benchmark tender outcomes provides strong confidence in the costs achieved.

4.11.3.10 Cost estimation
Our cost estimation process involves using historical data from completed projects, as well as input from our project engineers, contractors, and field staff, based on their experience.

Our cost estimation process involves using historical data from completed projects, as well as experience-based input from our project engineers, contractors, and field staff. We are continuing to look for improvements, as accurately estimating costs can be challenging because most of our assets are located underground.

Unforeseen conditions, such as unknown third-party assets or challenging ground conditions, can impact on construction costs. The location of the project can impact costing; for instance, works located in high-density community usage areas tend to be more expensive than works located in suburban or rural areas. Works within road corridors are often significantly more costly because of the need for traffic management.

To mitigate risk and increase the accuracy of cost estimation, we split complex projects into multiple stages. This allows us to include a detailed design and costing phase, which improves the accuracy of the project cost estimate and reduces the risk of over/under spending our budget.

4.11.4 Dispose
We consider disposal when an asset becomes unsafe, obsolete, or when it costs more to maintain than to replace. We also consider asset decommissioning when operating costs exceed revenue.

4.12 Information management
Our asset management activities rely on effective decision-making. Good asset information enables better decisions to be made. Our asset information and data are maintained at all stages of the asset lifecycle. We have therefore defined our data requirements to align with each stage of the asset lifecycle. We use this information and data to plan, design, operate, monitor, and maintain the gas network, and to monitor its performance. We also use it for Information Disclosure, regulatory and statutory reporting, customer management, and billing management.

Information quality is key to enhancing data-driven outcomes. Improving data quality is an important aspect of effective asset management. Having the right data enables better decision-making, risk management, and planning for maintenance and renewal activities. We have controls in place to ensure data accuracy, including:

- Validated data entry templates in BlueWorx and SAP
- Standard attribute fields across asset types
- Scheduled audits and exception reporting
- Role-based permissions to safeguard data integrity

Field data collected via BlueWorx is synced back to and stored in SAP. SAP and GIS are integrated to maintain a single source of truth. Our streamlined documentation requirements for fault responses and reactive repairs ensures consistent information is captured throughout our maintenance activities.

We report on data directly from our core AMS, facilitating data decision-making using up-to-date data. These reports heavily influence the maturity of our condition assessment (summarised in Schedule 12a).

We treat our asset information as a valuable company asset that sits alongside our physical assets and demands the same level of protection and management throughout its lifecycle. We have a robust process for collecting as-built information relating to all alterations to our network. We have a dedicated team that uses as-built information to update and maintain our asset data records. Only this team has the authorisation to update these records, protecting the integrity of the asset information.

Our Information Management Policy establishes the way we manage the creation, storage, use, application, distribution, and disposal of information in compliance with legislative requirements. This is supported by our documented Information Management Standard, which defines our framework for the management of documents. It provides the criteria for categorising documents, how these categories (uncontrolled, managed and controlled) are to be treated, naming conventions, access controls and version protocols.

For detail on our information systems please refer to our non-network assets Section 4.16.

4.13 Risk management

To meet our purpose of connecting communities, we must deliver value for our customers, communities, and partners. This requires us to take measured risks.

4.13.1 Risk Management Framework

Our Risk Management Framework provides for prudent decision-making within our risk appetite boundaries. Our risk framework is a core component of our asset management practices. It is a living priority-based framework that is reviewed in conjunction with any material updates to our strategic objectives or operating environment.

The framework, aligned to AS/NZS ISO: 31000:2018 and with the principles of Ngā Tikanga – Our Way and Ngā Pou woven through our approach, provides guidance as we make risk-based decisions on asset health and criticality – both well-developed practice areas within our AMS. Table 4.18 shows our Risk Management Framework guiding principles.

Table 4.18: Risk Management Framework guiding principles

Guiding principles	
Proud to be here	A risk culture that promotes flexibility and accountability across the business, providing a safe environment and reliable service for our people, contractors, customers, and members of the public.
Better together	A priority-based approach that takes an informed view of risks, opportunities and implications involved. An integral part of all decision-making where boundaries are set through Powerco's risk appetite statements with measurement against risk limits and tolerances.
Working smarter	Risk management is continually improved through learning and experience. A single framework enables a common and agreed understanding of risk and opportunity, contributing to consistent, comparable and reliable outcomes. All risk information should be timely, clear and available to relevant stakeholders.
Future focused	Our framework is 'living' by nature, and requires Powerco to review the principles, limits and tolerances in conjunction with any review or update to the strategy, objectives or material change. Our environmental, social and corporate governance alignment drives sustainable choices that will help our communities now and into the future.

4.13.2 Risk process

Our risk system includes our governance, appetite and management processes. Our overall intentions and direction are outlined in Powerco's Risk Management Policy. This framework then provides the steps we must follow to manage risk across Powerco.
Focused deep dive risk assessments, aligned to our risk appetite statement priorities, consider the following questions:

- **Risk identification:** Are risks being identified from a range of sources that reflect the organisation's core activities?
- **Controlled risk:** What is the level of risk that the organisation is exposed to once the design and effective operation of processes and controls have been considered?

- **Risk management plans:** What further risk mitigations are required to reduce risk levels to within acceptable risk appetite boundaries?
- **Future risk:** What is the importance and effectiveness of risk mitigations? What is the remaining level of risk?
- **Emerging risk:** Are there new or unforeseen risks that have not yet been contemplated?
- **Risk monitoring:** Are risks being viewed dynamically to ensure timely risk-based decisions are being made?

Priority-based risk registers capture all risks that are relevant and are grouped around our four strategic themes:
- Deliver for our customers
- Get ready to do more for our customers
- Transform our customer experience
- Serve new customers

All risks are ultimately measured as a function of the impact they have on achieving our business objectives and are evaluated on common environmental, social, governance, and operational assessment criteria.

4.13.3 Risk oversight
The Board, assisted by the Audit and Risk Committee, ensures the effectiveness of our risk management practices and empowers management to regularly identify, manage and escalate where appropriate the many sources of uncertainty facing our business.

The Board sets our risk appetite, which supports all decisions required to achieve our corporate vision and objectives and is reviewed on an annual basis or when required following a major event. In practice, the risk appetite statements enable a common and agreed understanding of the risks that Powerco is willing to take.

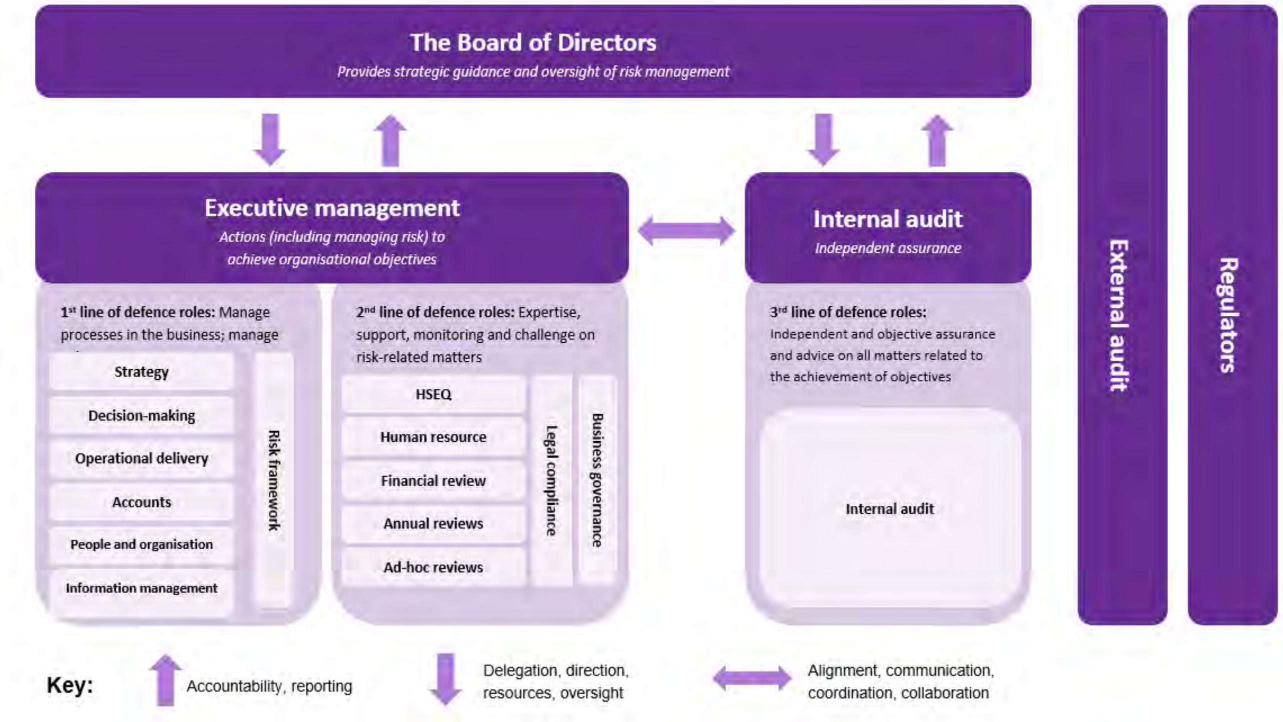
The CEO and ELT are responsible for the monitoring and management of risk relating to our activities. This ranges from assisting the board in setting Powerco's risk appetite to ensuring that employees and contractors understand how we manage risk. Each one of our priority-based risk registers is sponsored by a member, or members, of the ELT.

4.13.4 Risk monitoring and reporting
Ongoing review and monitoring are essential to the quality and effectiveness of our risk management processes. This allows us to integrate any feedback into possible revisions to the risk assessment and evaluation. If conditions have changed, it is important to establish a link to ensure the initial assessment and management decisions are revised if necessary. Our risk reporting structures are as follows:
- **Group risk dashboard by strategic theme:** Key business risks are reported quarterly by priority area, supported by a risk appetite dashboard. Any significant changes to these risks will be included in the quarterly report and may be outside of the regular reporting cycle if needed.
- **Risk deep dives – Board Audit and Risk Committee:** The Boad Audit and Risk Committee receives in-depth presentations on key risks by priority area. These deep dives focus on high-priority risks, how well current mitigations are performing, and future mitigation improvements.

4.13.5 Business assurance
Our Business Assurance Framework (BAF) sets out how risk and control assurances are obtained through the structured Three Lines framework. The BAF strengthens risk communication and assurance provision by clarifying essential roles and duties for various parts of governance, management, and day-to-day operations, and assessing the effectiveness of risk controls.

The outputs of the assurance activities inform the risk assessments for the business, and findings are reflected in our enterprise risk management system. The BAF outlines how assurance activities are structured at Powerco and how they interact across the three lines of defence.

Figure 4.17: Assurance framework



4.13.5.1 1st line of defence

This is the principal area where we focus our risk management efforts. A significant portion of business-as-usual practices, e.g., standard operating procedures, permit control, and confined space entry, reside in this layer. This layer includes line supervisors and frontline staff who conduct work on the network. A significant portion of the effort spent by the ELT, and senior management also forms part of this layer of defence.

4.13.5.2 2nd line of defence

This includes various compliance oversight functions. The objective of this line is to monitor key risk indicators and tell management where it should focus its efforts. Functions of this layer include:

- Multiple compliance oversight teams with responsibility for specific types of compliance monitoring, such as health and safety, environmental, regulatory, commercial, legal, and human resources.
- Risk management team that provides risk consulting and other business support services consistent with relevant ISO standards.
- Financial control functions that monitor financial risks and financial reporting issues.

4.13.5.3 3rd line of defence

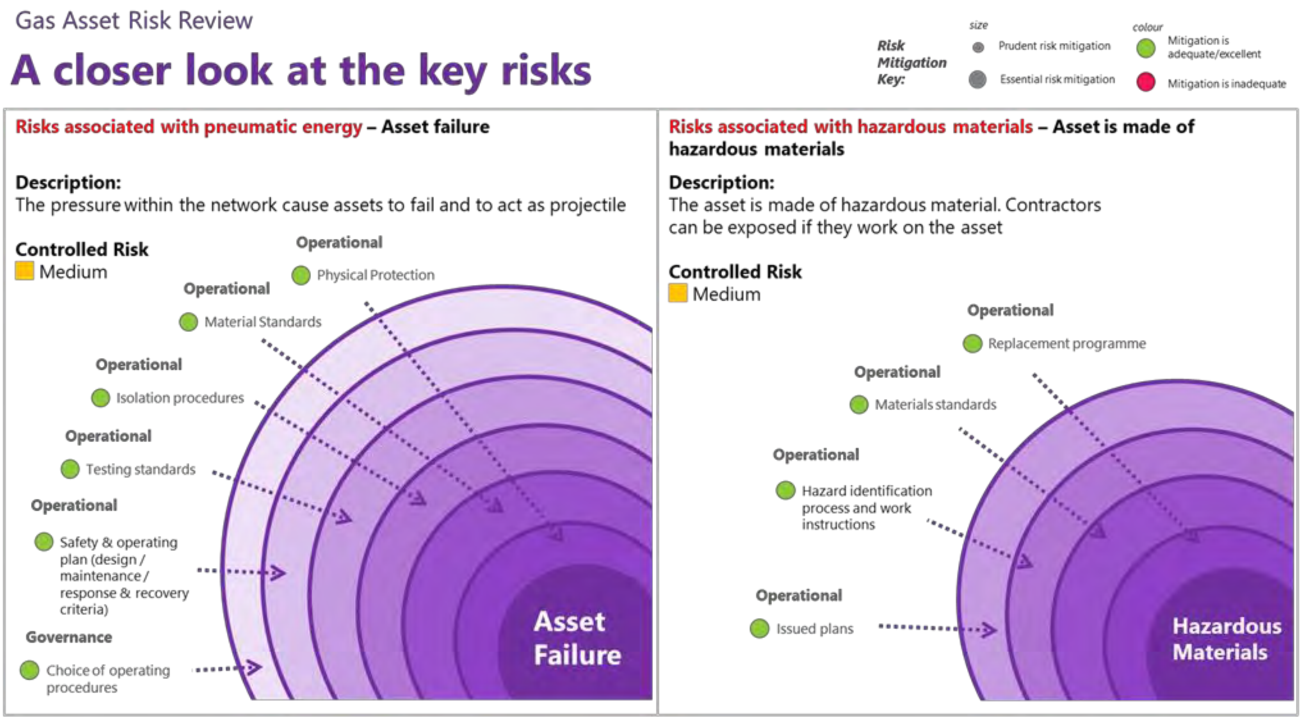
Internal audit. This function consists of qualified internal auditing staff being supported by independent external assurance providers.

4.13.6 General network risks assessment

The detailed review of general network risks contributes to our gas formal safety assessment, safety management and public safety management system requirements under NZS7901, and our asset management practices. The last risk assessment was completed in 2024, with specific focus on reviewing general networks risks that were previously assessed as having a controlled risk level of medium or high.

Outcomes of the risk assessment are grouped into the four categories of the Enterprise Risk Framework – environmental, social, governance and operational – with a closer look at the key risks identified during the assessment. This included analysis of the mitigations currently in place, their importance in terms of essential or prudent status, and the overall level of mitigation adequacy. Detailed analysis of the outcomes of the general network risk assessment can be found in Appendix 4.

Figure 4.18: Extract – general network risks deep dive presentation



4.13.7 High-impact low-probability events

Our networks are designed to be resilient to high-impact low-probability (HILP) events, such as upstream supply failure, natural disasters, and critical equipment failures. The nature of our assets and the way we run our business limits the consequences should these events occur. These HILP events include:

- Loss of supply because of gas transmission pipeline failure.
- Undetected gas escape into a building leading to fire or explosion.
- Long-term loss of service because of a natural disaster (e.g. earthquake, volcanic activity or landslide).

In order to mitigate the impact of these events, we use the following controls:

- **Geographic diversity:** The geographical diversity of our networks increases the likelihood that natural disasters will affect only part of our networks.
- **Multiple supply points:** Our networks are designed with multiple supply points where practicable to mitigate the impact of a supply point failure.
- **Standard equipment:** Our networks utilise standard equipment where possible. Consequently, assets can be relocated/rebuilt easily in the event of failure.
- **Earthquake resilient:** Our facilities have been upgraded to ensure resilience to earthquakes and to meet all related statutory requirements.

- **Scalable response:** Our scale and stable long-term capital programmes mean we can scale and redeploy resources quickly to attend to localised or regional natural disasters.
- **Response plans:** We have thoroughly tested emergency response plans and demonstrated capability to manage significant natural events and widespread damage to our networks.
- **Business continuity plans:** We have structured business continuity plans in place to ensure that the corporate aspects of our business are resilient and will support on-going operation of our networks.

4.13.8 Contingency planning

As part of our risk mitigation strategies, we have different contingency plans in place that are regularly tested by exercises. The main strategies relevant to the gas activities are the Gas Event Management Standard, the Emergency Response Plan, the Business Continuity Management Plan, and the Civil Defence Liaison Standard.

4.13.9 Gas Event Management Standard

This standard describes the mechanisms, roles, and responsibilities relative to fault and incident management. This includes reported smell of gas, customer supply interruption, or third-party damage on the network. It also prescribes the escalation criteria to trigger the Emergency Response Plan.

4.13.10 Emergency Response Plan

Our Emergency Response Plan is regularly reviewed and continues to develop to improve its performance in emergency situations. The plan is designed for emergencies, i.e. events that fall outside the ordinary operation of the network that routinely deals with incidents. The plan is supported by training, tests, equipment, and support structures to ensure that the proper response can be delivered.

4.13.11 Business Continuity Management Plan

Our Business Continuity Plan (BCP) is designed to manage and support several adverse scenarios. The BCP is supported by a business impact analysis, which is conducted on a regular basis by business units to identify and prioritise critical infrastructure, assets, and processes for recovery action. The BCP is rehearsed by the appropriate teams on a regular basis, and our IT infrastructure has been designed with built-in resilience to ensure continuity of operations.

4.13.12 Civil Defence Liaison Standard

Our Civil Defence Liaison Standard sets out the interface required from the gas response/incident level team structure to the local Civil Defence Emergency Management Group in the event of a civil emergency being declared (from a Level 1 incident at a local level only, up to a Level 5 incident being a state of national emergency or emergency of national significance).

4.13.13 Asset risk

Our approach to managing asset risk involves conducting a comprehensive risk assessment over the entire lifecycle of the asset. This includes performing a failure mode and effects analysis (FMEA) assessment on each asset class. These assessments help refine our asset class strategies, which guide lifecycle activities alongside our engineering Gas Operating Standards. FMEA data was reviewed during calendar year 23-24, which informed our asset class strategies update conducted during calendar year 24-25.

For each asset class, criticality is assessed considering the severity and likelihood of the risk; and the methods used to detect and control the risk. The most impactful criticality risks identified in the FMEA assessments for each asset class are discussed in the subsections below. Appendix 4 covers general network risks.

Asset risk also influences our operations and maintenance programmes. A risk-based approach allows us to prioritise our maintenance activities based on the level of risk posed by each asset. This means we focus on assets that have a higher probability of failure and/or are critical to the safe and reliable operation of the network.

To ensure customer and community preferences are reflected in our approach, maintenance activities are carried out by our internal teams along with contractors who are carefully selected based on their experience and expertise.

4.14 Values and outcomes

Powerco's focus is on serving our customers, building resilience, capacity and technology into our networks, and supporting Aotearoa to grow to zero. As already mentioned in this AMP, our work is guided by our Ngā Pou, which is how we communicate value and measure outcomes. They are our key focus areas to provide sustainable value to our stakeholders. Ngā Pou closes the loop between what our stakeholders value, and the direction of our business, including our asset management activities.

4.14.1 Whirinaki – ensuring reliable and resilient networks

As a lifeline infrastructure owner and operator, we work closely with other lifeline groups throughout the areas we operate to ensure we're resilient, co-ordinated and can respond in a major event, such as an earthquake, cyclone, volcanic eruption or other emergency.
Close working relationships with other lifelines ensure we're prepared, particularly as climate change increases extreme weather events. During FY25, we've contributed to three scenario-based assessments across our footprint, which included:

- The national oil and gas outage exercise in response to a volcanic eruption of Taranaki Maunga (Mt Taranaki).
- A critical contingency response to a sizeable earthquake and tsunami centred in the capital, Wellington.
- Helping pinpoint priority evacuation and essential service routes as part of the New Zealand Lifelines Council North Island Priority Routes Project.

We have identified and prioritised vulnerable gas assets using exposure maps. Physical feasibility assessments will be undertaken in FY26. Timing for remediation work will be confirmed from FY27.

4.14.2 Taiao – contributing to a lower carbon world

Our new leakage detection vehicle has allowed us, for the first time, to survey our entire gas network in one year. This is now part of our standard leakage detection programme.

Using the past five years of actual gas leakage data, we have successfully established a more accurate baseline emissions value. This has been reviewed externally and verified as part of Powerco's greenhouse gas inventory reporting.

We have a renewable gas target of 20% of residential and small commercial gas volume through our network by 2030. We have made progress towards this by advancing integration planning, engaging with potential developers, and exploring supply opportunities for our gas distribution network.

4.14.3 Hauora – promoting health and safety

We've had a huge focus in the past year on critical risks – incidents that can potentially permanently harm or be fatal but are preventable through training and discipline. We're working with our contractors to emphasise the importance of addressing these risks so that everyone safely gets home to their whānau each and every day.

During FY25, we met with all our service providers three times with a direct focus on safety. These included 'Stop for Safety' sessions, a review of safety performance for the year and back-to-work safety sessions. We also attended service providers' monthly toolbox meetings, covering all of the regions we distribute gas. These meetings discussed incident findings, KPI changes in standards, proactive reporting, new tools and operations, machinery, working around other's assets, interaction with customers, working around gas, and driving.

4.14.4 Whakakotahitanga – engaging with our communities

To enable our customers to more easily find what work and investments are taking place that relate to their communities, during the past year we've developed an online community investment map. As well as our gas AMP information, we've also included some of our community engagement (collaborating with communities for feedback on network decisions) and community partnership (where we support events and organisations across the regions we operate) activities on the map.

4.14.5 Te teo – sustainable governance, financial and risk management foundations

Having a range of complementary skills and expertise on our Board and ELT helps ensure robust governance, and good financial and risk management foundations. This ensures that our strategic development and execution is well-balanced and stems from diverse viewpoints. During FY25, (following a skills matrix assessment conducted with both the Board and the ELT in FY24), several upskilling sessions were conducted to help with better-informed business decision-making. Strengthening our capabilities in both existing and emerging areas relevant to our mahi is a continual process that supports best practice in the evolving energy landscape.

4.15 Review and continual improvement

Our corporate vision and purpose are front of mind in all our asset management activities. They determine what is important, and they are reflected in our corporate and gas Asset Management Objectives. Effective asset management provides assurance for the achievement of these objectives. We have asset performance monitoring, measures and targets to ensure that we manage our assets to meet our objectives.

4.15.1 Performance monitoring

Asset performance data is crucial for reliability centred maintenance (RCM) and asset renewal planning. Table 4.19 and Table 4.20 describe our standard performance assessments and how they are applied to the respective asset classes.

Table 4.19: Performance assessments

Assessment	Description
Leakage surveys	Detection of leaks in the near vicinity of the asset.
Material testing	Laboratory testing of material performance and failure.
Safety assessments	Analysis of asset safety risks, including formal safety assessments.
Condition assessments	Visual inspection of asset condition (defect detection).
Monitoring alarms	Fault and warning alarms from monitoring systems.
Network monitoring	Analysis of network performance.
Network modelling	Real-time network models and integration (SCADA, GIS, SAP).

Table 4.20: Performance measurements and assessment types

Performance measures	Main and service pipe (M&S)	District regulator station (DRS)	Line and services valves (VAL)	Special crossings (SPX)	Monitoring and control system (MCS)	Cathodic protection systems (CPS)
Leakage surveys	X	X	X	X		
Material testing	X	X				
Safety assessments		X		X		
Condition assessments		X	X	X	X	
Monitoring alarms		X			X	X
Network monitoring		X			X	
Network modelling	X	X	X			

We monitor asset performance through the identification of defects. The results of these assessments are analysed using asset performance models, which can then inform adjustments to our standards through our asset class strategies, maintenance programmes, and/or renewal projects.

Understanding the health and performance of our assets is essential for managing risk, prioritising renewals, and maintaining a safe, reliable gas supply. To help us get a better understanding of where our assets are sitting, we have rationalised asset defect history into a year-on-year trend. By looking at pattern changes in the defects within our SAP notification database, we are able to understand the risk we are carrying as well as the efficiency of our reliability improvement initiatives.

Figure 4.19: Past performance graph example

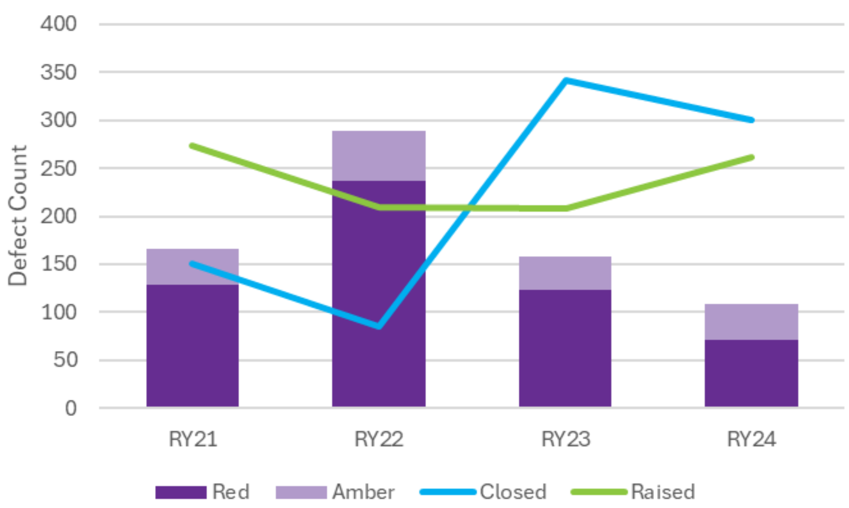


Figure 4.19 illustrates defect trends recorded in SAP from RY21 to RY24, segmented by criticality (red and amber), and tracked against the number of defects raised and closed each year. The bars represent open defects at the end of each regulatory year, while the green and blue lines show the total number of defects raised and closed, respectively. Refer to Chapter 5 for past performance graphs per asset class.

By continually monitoring asset performance and making necessary adjustments, we can ensure the safe and reliable distribution of gas to our customers while minimising risk and optimising asset utilisation.

4.15.2 Gas asset management key performance indicators

We have quality standards and additional targets that help drive performance improvements and measure our progress in delivering a safe, reliable, resilient, and cost-effective service for our customers and communities. Our key performance indicators (KPIs) are specific goals that align to our Asset Management Objectives, ensuring we operate to a standard that is appropriate in our industry and our environment, and reflect our commitment to further improving service levels to customers. Where practical, we compare our targets with other New Zealand distributors through publicly available information, or through our involvement with the Gas Association of New Zealand. All targets are set and committed to by the Gas Leadership Team and reported monthly to the Board. Changes can be made at any time to any target if there are significant changes to decision-making factors, customer needs, the external operating environment, or internal drivers. The objectives associated with each measure over the AMP period are outlined in the summary of objectives and measures at the end of this section.

4.15.2.1 Hauora – promoting health and safety

We have four safety objectives to measure how we safeguard our people, the public, staff and service providers from harm and risks posed by a gas network. 'Keeping the public, our staff, and our service providers free from harm' sits behind everything we do.

Our gas assets distribute natural gas that is integrated throughout the communities our networks serve. Accordingly, Powerco is committed to preventing harm to the public, its staff, and service providers. We are committed to maintaining and improving the standard of safety management applied to our network.

Our commitment to public safety is reflected in our Telarc registration, which confirms that we operate a management system conforming to both NZS 7901:2008 and NZS 7901:2014. We were assessed by Telarc Limited under the JAS-ANZ PSMS Scheme (Issue 1) and maintain our compliance through regular audits, with the next scheduled for 2027.

We have safety targets that focus on the following areas:

- Reducing the number of third-party damage (TPD) incidents year-by-year
- Maintaining response time to emergencies (RTE)
- Maintaining acceptable times to answer emergency phone calls
- Reducing the number of staff and contractor lost time injuries (LTIs) per annum

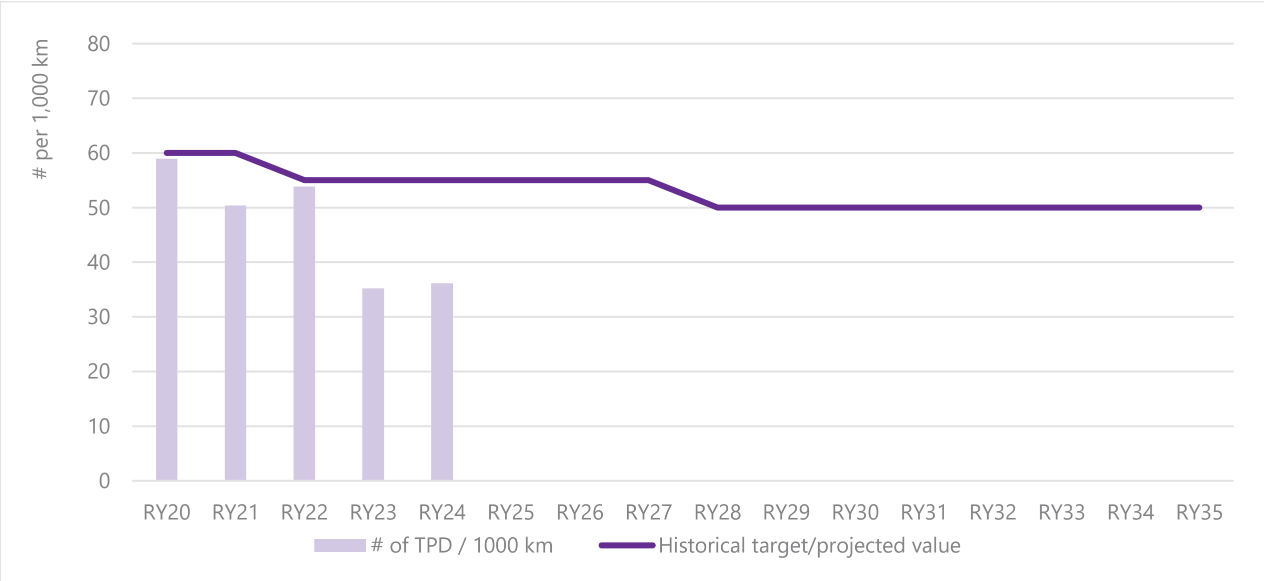
Number of third-party damage (TPD) incidents

Target – Reduce TPDs to 50 per annum per 1,000km by 2035

TPD to our networks poses a significant threat to public safety and the reliability of our supply. Although most of the TPD incidents may seem minor, they can potentially cause substantial damage and injury. Therefore, tracking the frequency of TPD is crucial for assessing public safety and mitigating risks.

We have managed to reduce and maintain the rate of incidents on the network in the past five years despite the growing volume of traffic on our road corridors. This achievement is the result of our continuous efforts, emphasising the importance of education and support initiatives. As part of our risk management approach, we encourage contractors to adopt new technologies, such as hydro-vac excavation, relocating assets in high-risk areas, and taking part in the 'Safe Digging Month' campaign, which takes place in November. We have also implemented the 'BeforeUdig' campaign that encourages contractors and the public to get confirmation of gas pipe locations before undertaking works. Through these proactive measures, we anticipate a steady reduction in the level of TPD incidents, as shown in Figure 4.20.

Figure 4.20: Historical and projected TPD



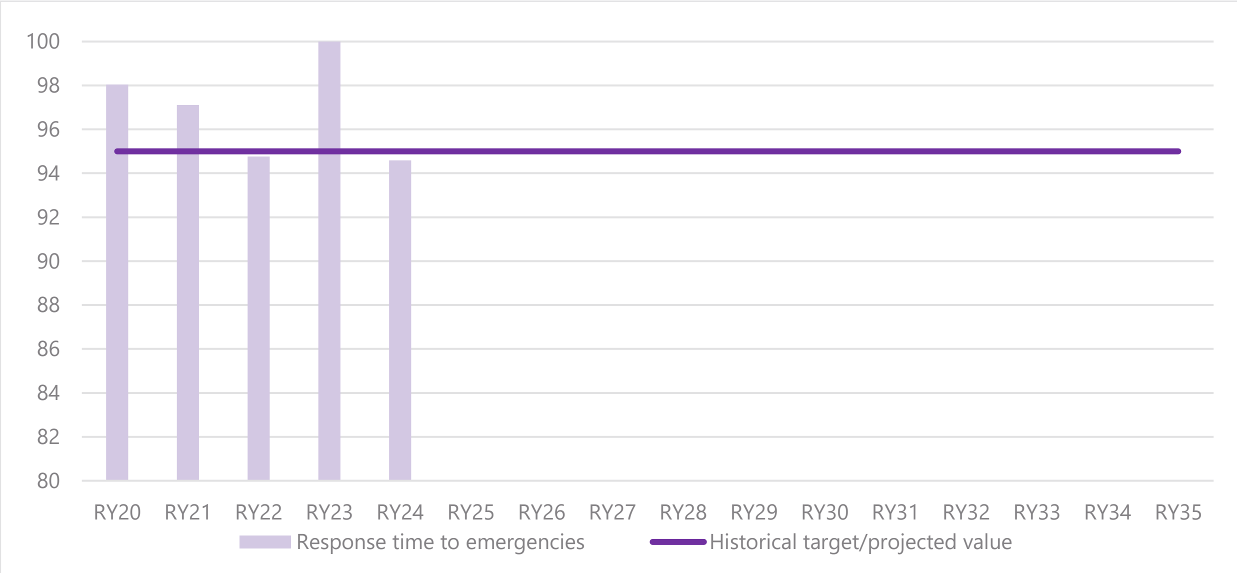
Response time to emergencies (RTE)

Target – Maintain >95% RTE to within one hour

The RTE is a quality standard set out in the Commerce Commission's Default Quality Price-Path (DPP). It is a vital indicator of our effectiveness in managing incidents and minimising their potential impact. Our ability to promptly respond to emergencies relies on our system, which allows the public to report emergencies. Therefore, we establish specific targets and closely monitor the time it takes to receive these emergency calls as a key performance measurement.

In our DPP standard, we are required to respond to 80% of emergencies within 60 minutes, and 100% of emergencies within 180 minutes. We have set our internal target of responding to 95% of emergency events within one hour. This higher target ensures that we not only meet, but exceed, the requirements specified in the standard, as shown in Figure 4.21.

Figure 4.21: Historical and projected RTE

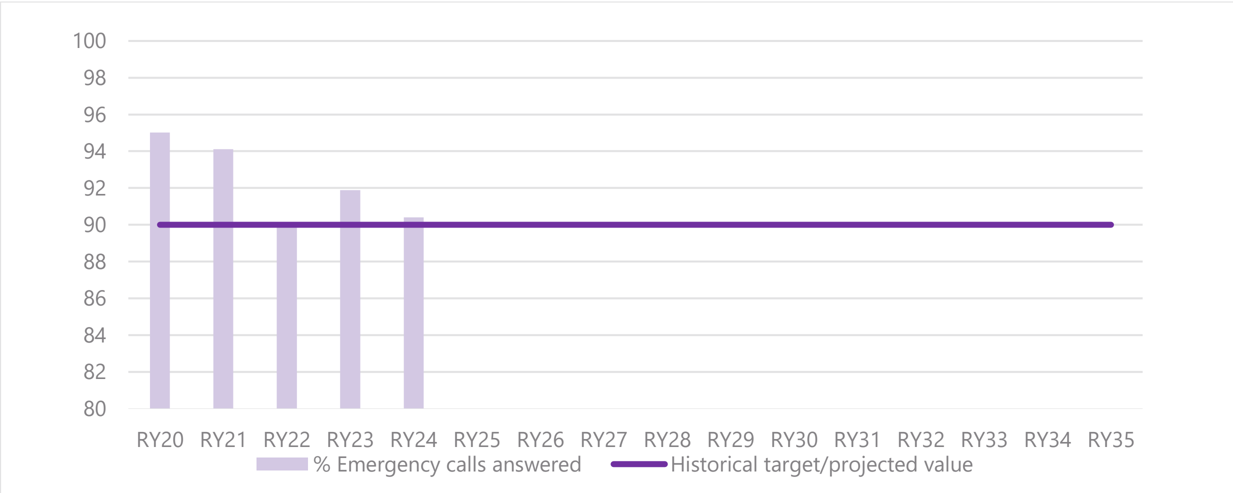


Percentage of emergency calls answered

Target – Achieve >90% of emergency calls answered within 30 seconds

Our Network Operations Centre (NOC) serves as the first point of contact for the public when reporting a gas-related incident. To ensure a prompt and efficient response to a potentially hazardous situation, we have set a time limit of 30 seconds for NOC to respond to incoming calls. This guarantees that the public receives timely assistance. As shown in Figure 4.22, we have been meeting our targets for emergency calls consistently.

Figure 4.22: Historical and projected emergency calls answered within 30 seconds



Maintain zero lost time injuries (LTIs)

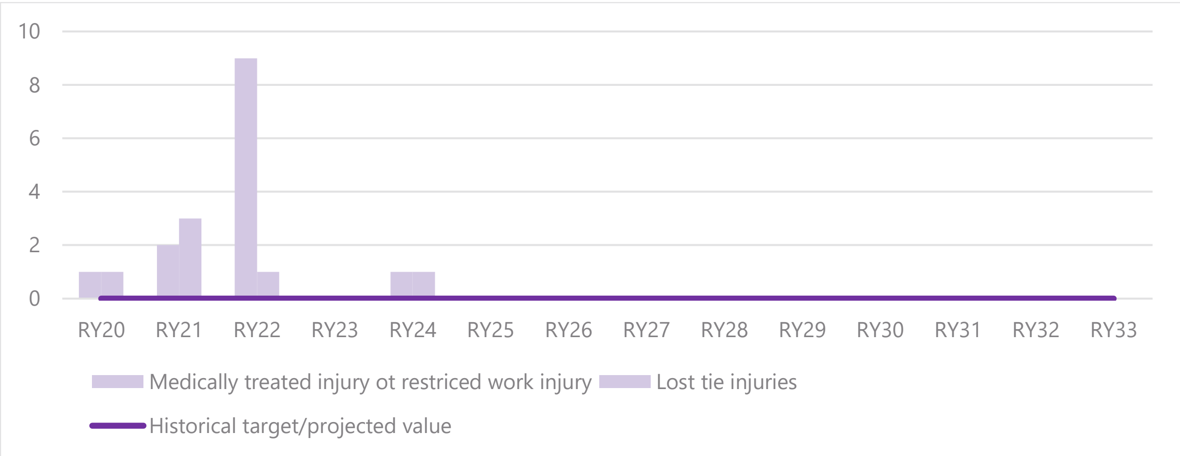
Target – Maintain zero staff and contractor LTIs per month

Along with our approach to public safety, we have the following goals to measure the outcome from all safety objectives:

- Zero fatalities or permanent injuries to staff or contractors. Worker safety throughout our networks, with a focus on events that could cause serious injuries from critical risks. We strongly believe that we must strive to prevent injuries to our workers, so any other target is unacceptable.
- Minimising injuries. The commitment by our staff and service providers to provide a safe workplace is demonstrated by a consistently low number of medical treatment injuries (MTI) and LTI rates across our business.
- Reducing public safety incidents, a focus on raising awareness, and communicating with customers, communities, and stakeholders.

We focus on critical control effectiveness, which we partner with a continuous improvement approach to assessment of risk, as shown in Figure 4.23.

Figure 4.23: MTIs and LTIs



4.15.2.2 Whakakotahitanga – customers and community

We provide essential services to our communities based on our customers' preferences for a safe, reliable, resilient, and cost-effective gas supply. We leverage the power of our Gas Hub and Corporate Customer team to expand the range of communication channels available to our customers, the public, and stakeholders, making it easier for them to engage with us. This includes the utilisation of social media platforms, instant chat features on our website, and more frequent interactions with our stakeholders. To gauge customer satisfaction, we annually carry out thorough and extensive market research surveys to gather valuable feedback. The insights obtained from these surveys play a significant role in shaping our asset management planning. We follow two objectives:

- Net Promoter Score (NPS)
- Customer satisfaction

Additionally, every second year we carry out specific market research on asset management. This research aims to assess the satisfaction of our customers regarding the quality of their gas supply and Powerco's operational performance.

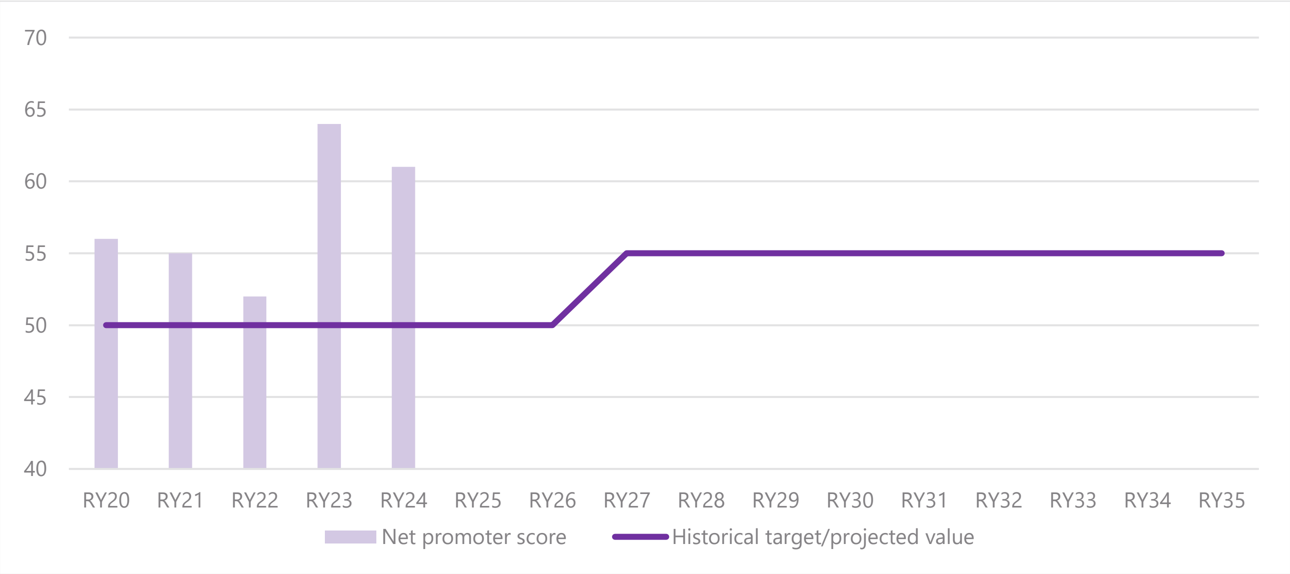
Net Promoter Score (NPS)

Target – Achieve an NPS of ≥55 by 2035

We utilise the NPS survey system to help determine customer experience and customer satisfaction. The survey is largely based on the process for new customer connections. While this is important feedback, capturing customer satisfaction feedback from long-term gas customers is becoming equally, if not more, important.

The drive towards net-zero 2050 is prompting customers to think about their future association with gas as an energy solution. In the near term, we will continue to use the NPS survey system but will be less focused on improving an already strong promoter target based on the new connection process. The new NPS targets, as shown in Figure 4.24, reflect this.

Figure 4.24: Historical and projected NPS

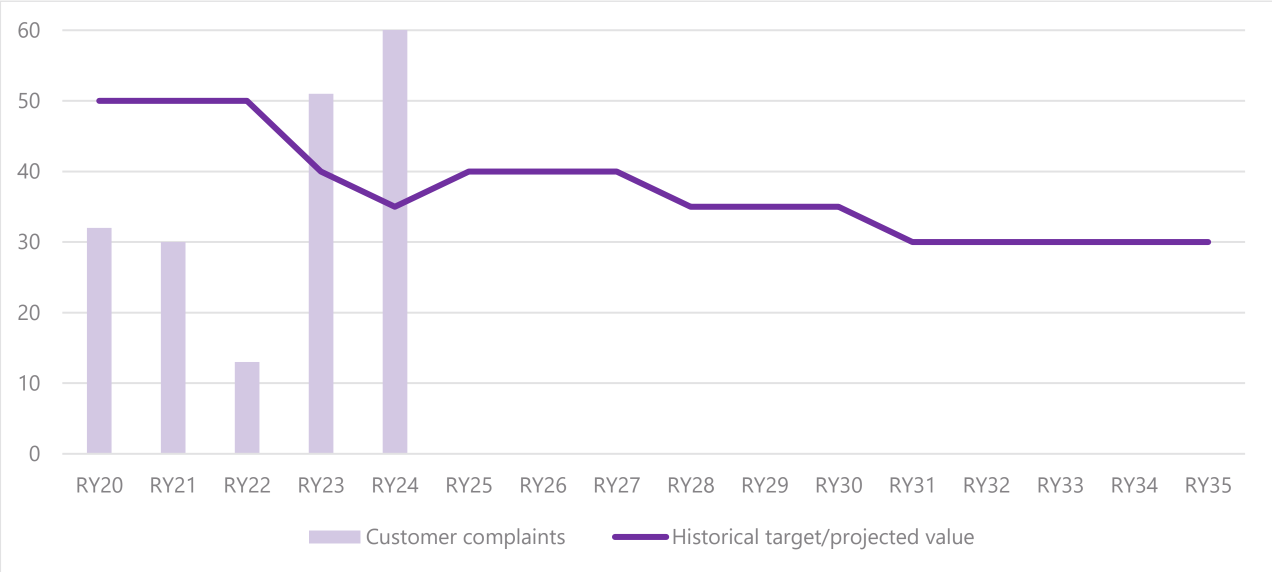


Customer satisfaction

Target – Achieve ≤30 customer complaints by 2035

As shown in Figure 4.25, the number of customer complaints has increased above the targets set in the 2023 AMP, largely because of issues arising from the rollout of the new smart meters during 2023-24. However, these complaints have since reduced with only one received in 2025. This reduction is expected to bring overall complaint levels back in line with the target of 40 per year through to 2028, and 30 per year by 2035. Powerco remains focused on improving performance in this area and has set new targets aimed at further improvement. To support this, we have made improvements to the Customer Works Management System (CWMS) during the past two years.

Figure 4.25: Historical and projected number of customer complaints



4.15.2.3 Taiao – contributing to a lower carbon world

We will continue to provide our customers with a safe, reliable, resilient, and cost-effective gas supply that will reflect customers' preferences and meet customers' needs reliably and efficiently. Now and in the future, including the transition towards sustainable low-carbon renewable energy options. We have four objectives:

- Network integrity – leak reduction
- Network capacity – poor pressure event reduction
- Operational reliability – component failure resilience
- Operational reliability – gas quality assurance

Network integrity – number of network leaks

Target – Achieve <100 pipe leaks per 1,000km per annum

Maintaining the safe and reliable operation of our network, while minimising environmental harm, is crucial. Because of the hazardous nature of natural gas, a key aspect of achieving this is effective gas containment. Reliable containment is essential to maintaining uninterrupted gas delivery, as addressing gas leaks may require the shutdown of a section of the network. As part of our reliability objective, we aim to keep the number of uncontrolled gas releases to a minimum, taking practical measures to achieve this goal.

The term 'integrity' refers to the safe containment of gas and the reliable delivery of gas to our customers. This is expected by our customers and the wider public, and is a legislative requirement. The System Average Interruption Duration Index (SAIDI) is the commonly used industry metric for assessing the delivery reliability of electricity networks. However, measuring the reliability of gas networks presents challenges because they are underground. While gas networks offer inherent security, the restoration process in the event of outages can be significantly longer. This process involves carefully purging the network and recommissioning each customer, which can result in supply disruptions lasting several weeks. As a result, the SAIDI measure for gas networks exhibits high volatility from year to year, making short-term trend analysis difficult and potentially misleading. As a result, Powerco does not utilise SAIDI as a short-term measure but instead focuses on the long-term average to demonstrate overall reliability performance.

Several factors can contribute to uncontrolled gas release:

- Faulty components or installation
- Gradual penetration of polyethylene (PE) pipe by rocks
- Corrosion in steel pipelines and components
- Operational errors during network maintenance
- Incorrect pressure (resulting in pressure safety devices venting)
- Damage to pipeline by third parties

To measure our performance in achieving this objective, it is essential to monitor the total number of gas release incidents occurring on our network. These incidents can be reported by the public or identified through our inspection procedures. However, it is important to note that gas releases resulting from TPD because of excavation and construction activities are not included in this measurement, as they are unrelated to the condition of the asset.

The frequency of public reported escapes (PRE) can fluctuate and is influenced by public perception. For instance, in the aftermath of an earthquake, we actively encourage the public to report any gas odours. Consequently, we may observe yearly variations in PRE that do not necessarily indicate a rapid deterioration of asset condition.

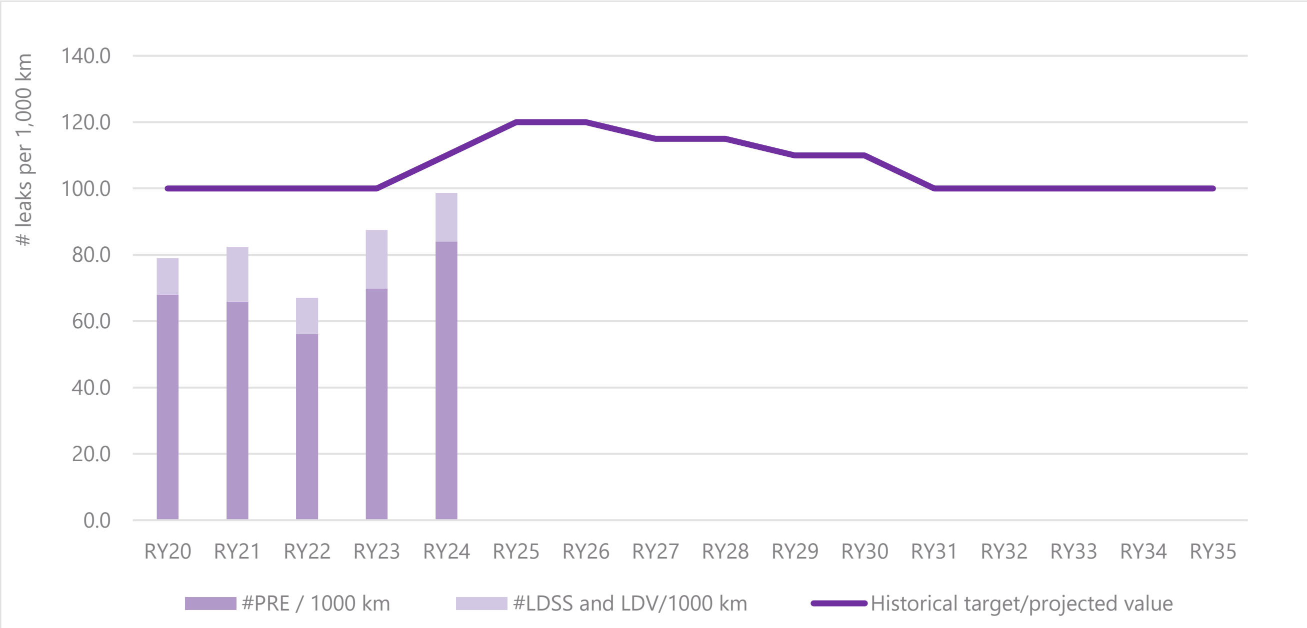
Leaks detected during scheduled survey (LDSS) results may vary, based on the extent of the leak survey conducted within a given year. In 2024, we reworked our LDSS strategy to target surveys on services, as the introduction of the leak detection vehicle (LDV) would cover the scheduled surveying of the mains network.

In 2024, we introduced the LDV as part of our ongoing efforts to improve our leak detection and provide further insights about our network and its overall condition. The goal of the first year of operation (FY25) was to implement and document an effective surveying process throughout the survey of our entire main pipe network within 12 months. These goals were accomplished and set a baseline for future performance and reporting. The success of the first year of surveying guided the strategy and goals for FY26, highlighted by maintaining operational parameters and implementing an optimised survey path, adding a targeted survey of areas with high leak rates additional to the full network survey. A targeted survey proved effective in trials at the end of FY25, seeing a 65% improvement in leak rate – from 14.5 leaks/1000km surveyed in the regular survey, to 24 leaks/1000km in a pre-85 pipe survey of Wellington, and Hutt Valley and Porirua (HVP). It is proposed that over time, the vehicle's survey path will be optimised to minimise both distance travelled and emissions by finding leaks early. Given the infancy of the LDV's use, the relationship between survey frequency and leak volume is still unknown, but this relationship will help to guide leak volume forecasts and pipe replacement strategy going forward.

The measures PRE, LDV and LDSS are recorded individually, with PRE being logged in OMS, while LDSS and LDV are logged in SAP. However, all three leak targets are combined to effectively monitor and handle overall network leaks.

We have consistently succeeded in keeping our leak rates below the maximum allowable level. This achievement is attributed to the successful implementation of the pre-85 projects we have delivered in the past few years. With the introduction of the LDV in 2024, and its first full year of operation in RY25, we expect to see an increase in leaks detected through more frequent surveying. But as we aim to be able to detect and remediate leaks more efficiently, we are aiming for a decrease to <100 leaks per annum as shown in Figure 4.26.

Figure 4.26: Historical and projected leaks



Network capacity – poor pressure event reduction

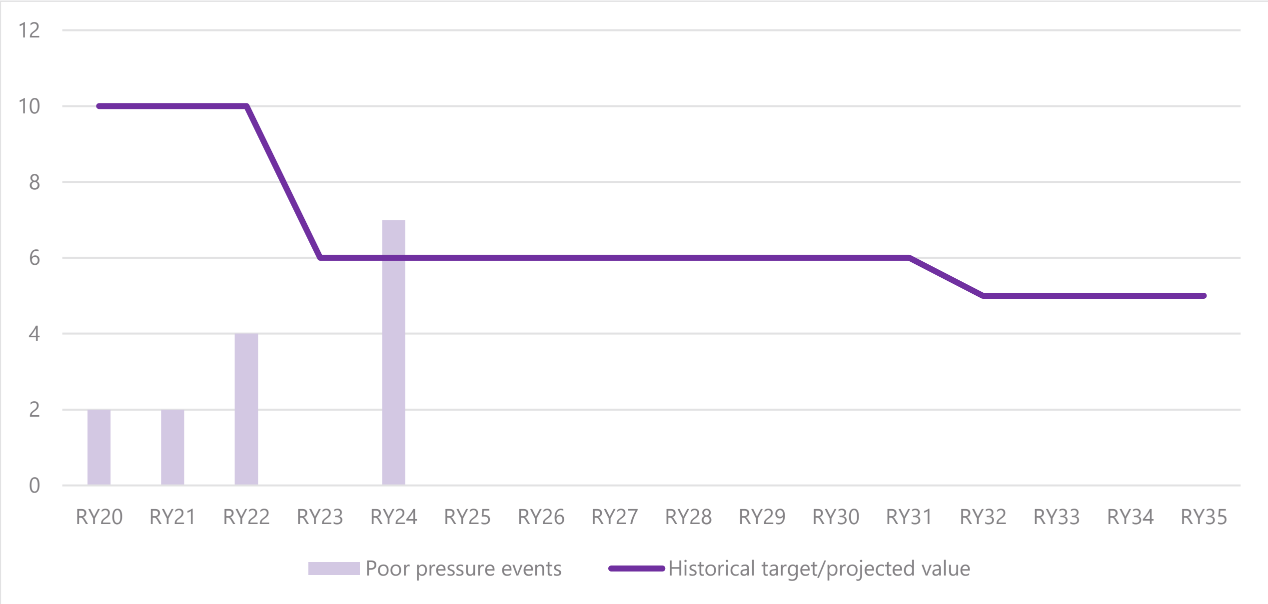
Target – Achieve <5 poor pressure events per annum by 2035

The network must have sufficient capacity to meet anticipated demand and accommodate future growth, while also considering potential constraints on construction timelines. For instance, our new residential customers expect gas connections to be available within two weeks of their commitment. To consistently meet this timeframe, the network needs to have additional capacity to accommodate the projected rates of connection.

To determine if the existing capacity is suitable for the customer demand, a reliable indicator is the pressure measured at representative points within the network. We continuously monitor the pressure and loads at specific locations on the network and regularly verify the capacity performance against criteria, to evaluate our performance in meeting this objective. If certain network systems are found to be approaching their capacity limits, we will develop a capacity management plan and implement it gradually. As a result, we expect a decrease in the number of customers experiencing low pressure events.

As evident in the Pressure Droop Strategy section in Chapter 6 – Network strategies and development plans, significant progress has been made in enhancing the capacity of our constrained networks during the past decade. This progress is attributed to the implementation of our pressure monitoring programme and improved network modelling. Consequently, we have made the decision to maintain our projected threshold for poor pressure events at six with a decrease to five by 2032, as shown in Figure 4.27.

Figure 4.27: Historical and projected poor pressure events



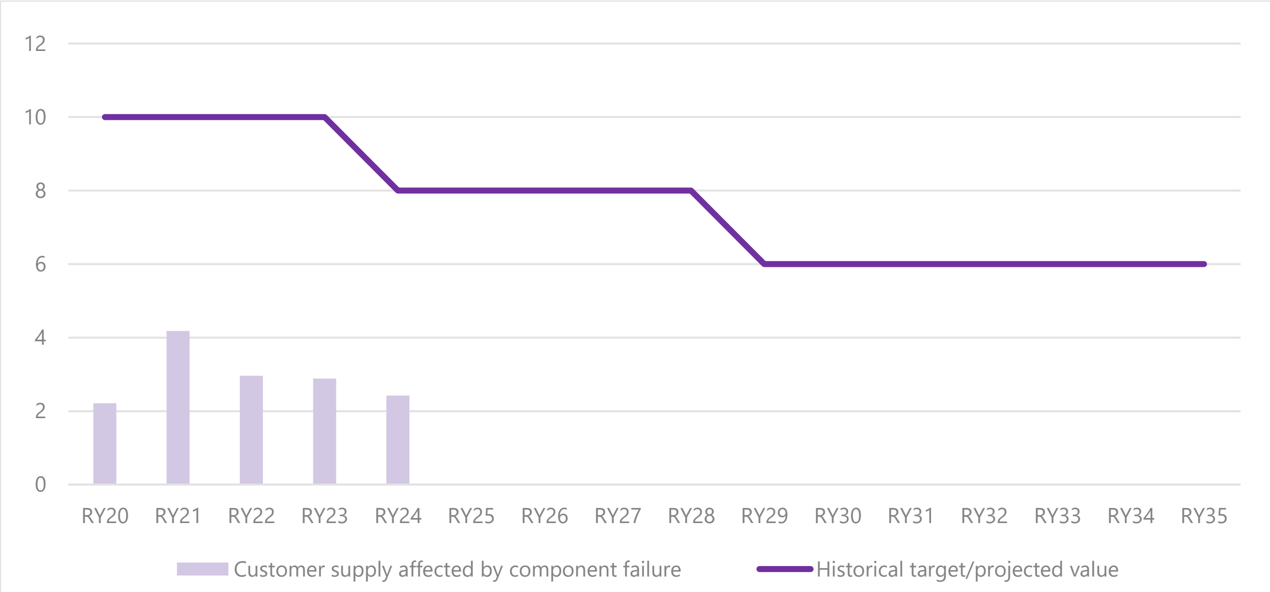
Operational reliability – component failure resilience

Target – Achieve <6 customers affected by supply interruptions because of component failure per annum

We aim to enhance the security of our gas supply by incorporating system redundancy in economically viable situations. The implementation of network loops is an example of this, ensuring a continuous supply to customers in the event of pipe damage. Because a simple measure of system redundancy, such as N-1, is not an accurate indicator of reliability, Powerco considers the network or sub-network's characteristics, fault probability, and consequences when modelling reliability.

Figure 4.28 demonstrates the success of our commitment to reliability, with a minimal number of customers experiencing supply interruptions. We expect the number of interruptions to remain consistently low.

Figure 4.28: Historical and projected customer interruptions because of component failure

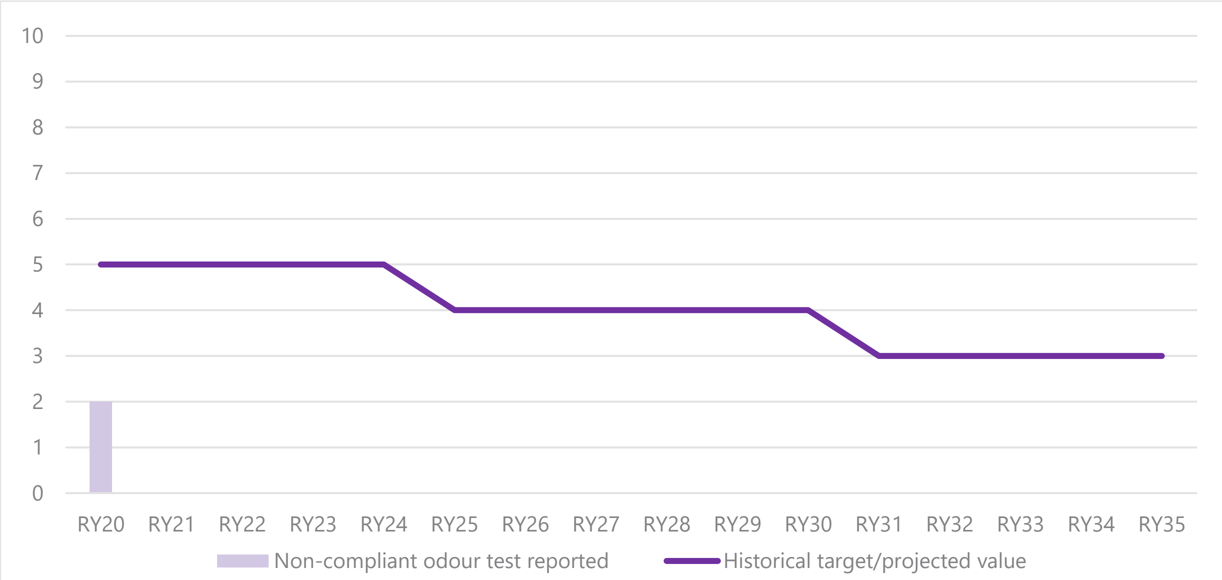


Operational reliability – gas quality assurance

Target – Achieve <3 non-compliant odour tests reported per annum

In New Zealand, all gas must meet the specification requirements and be odorised, as set out in NZS 5442:2008 and NZS 5263:2003 respectively. No single party has full responsibility for gas quality. Gas composition is controlled and monitored by the gas processing facilities and transmission companies. Gas odorant is added by the transmission companies and monitored by them at gate stations. Gas network operators, such as Powerco, are responsible for ensuring that the quality of gas delivered to the network is maintained as it travels through the network, with no degradation because of contaminants such as water, dust or oil being added. We are responsible for monitoring gas odorant levels at representative points within the network and to report on non-compliant odour readings. Depending on the actual result of the test, we have an escalation process to communicate with the rest of the gas supply chain. The strengthening of our processes with the gas industry helped us to reduce the number of non-compliant readings and, in the past four years, no odour outside the specification has been reported, as shown in Figure 4.29.

Figure 4.29: Historical and projected non-compliant odour test reported



4.15.2.4 Whirinaki – ensuring reliable and resilient networks

Good asset management helps us deliver a safe, reliable, resilient, and cost-effective gas supply to customers by prioritising the right investment, at the right cost, over the full expected asset life. We have two objectives:

- Continuously increase our Asset Management Maturity Assessment Tool (AMMAT) score
- Resilience maturity – RMMAT.

Continuously increase our Asset Management Maturity Assessment Tool score

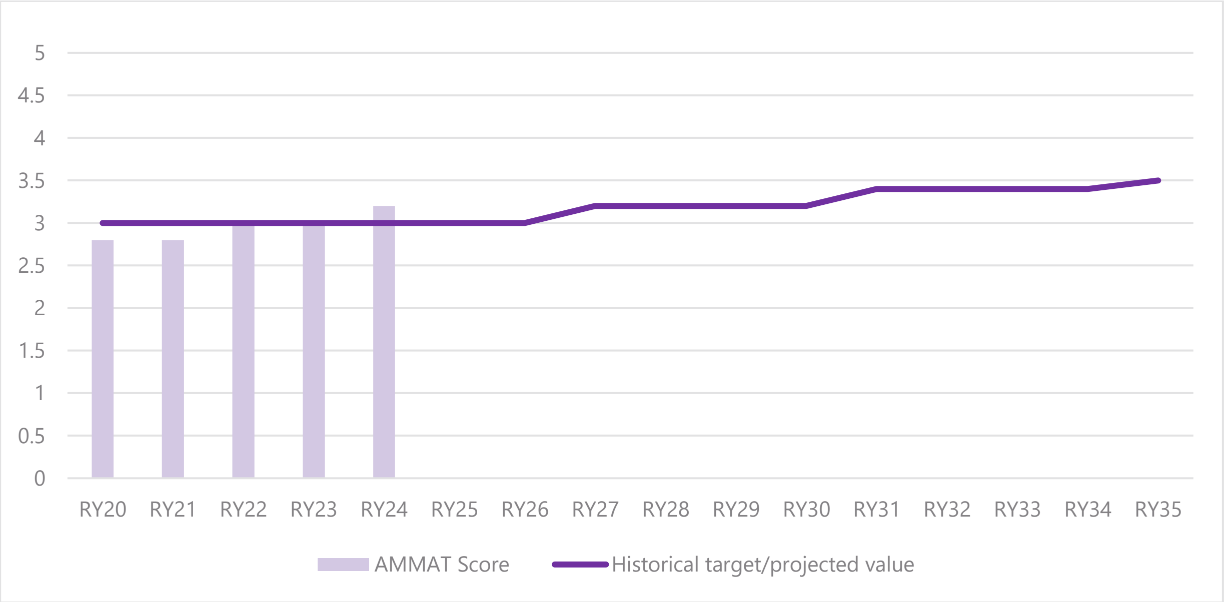
Target – Achieve AMMAT score of 3.5 by 2035

The AMMAT[3] is a prescribed set of 31 questions developed by the Commerce Commission for the self-assessment of asset management performance and maturity. The maturity assessment questions were designed to cover the full range of AMS components and activities.

Improvements in our 2025 score, as shown in Figure 4.30, are a result of the work we have done to align our gas AMS with the principles of asset management standard ISO: 55001. Further details about our asset management maturity can be found in Schedule 13.

[3] As it is a regulatory requirement, our AMMAT assessment for the 2025 AMP is provided in Appendix 13

Figure 4.30: Historical and projected AMMAT score



Resilience maturity – RMMAT

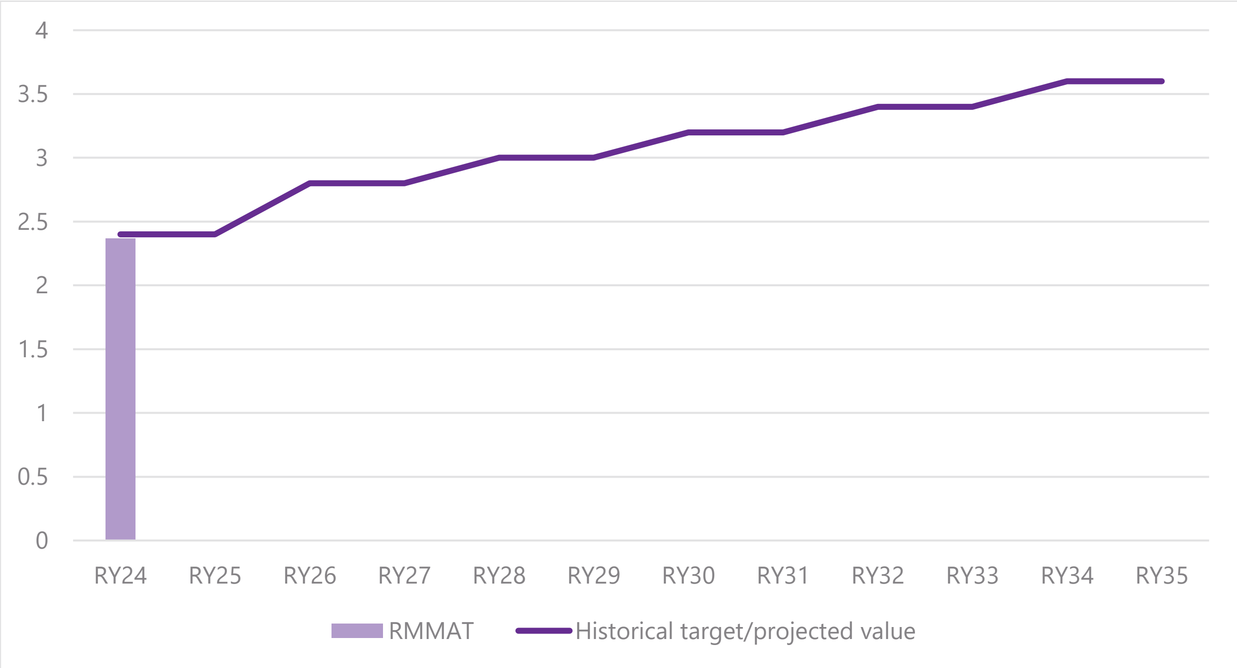
Target – Achieve a RMMAT score >3.5 by 2035

As our resilience projects will take several years to complete, we have a short-term goal to improve our self-assessment for asset management using the Resilience Management Maturity Assessment Tool (RMMAT) in which resilience maturity is aligned on the 4Rs of the Civil Defence and Emergency Management (CDEM) framework.

The first RMMAT assessment of the gas network was completed in 2025, resulting in an average maturity score of 2.37 out of 4. This score reflects a developing level of maturity that indicates we are progressing well in areas such as risk assessment, contingency planning and recovery. However, there are opportunities to improve our capability in areas such as readiness, resourcing and spares.

A target score of 3.6 by 2035 has been set to show our commitment to continuous improvement in this area. It is important to note that several questions in the assessment received a score of 0 (left blank) as they are not relevant to gas distribution. This will result in lower scores overall as they are still included in the scoring matrix.

Figure 4.31: Historical and projected RMMAT score



4.15.2.5 Te teo – sustainable governance, financial and risk management foundations

To build the skills, capacity, systems, and processes to deliver our strategies in a safe, reliable, resilient, and cost-effective way, while also improving efficiency, effectiveness and value for money, we have two objectives:

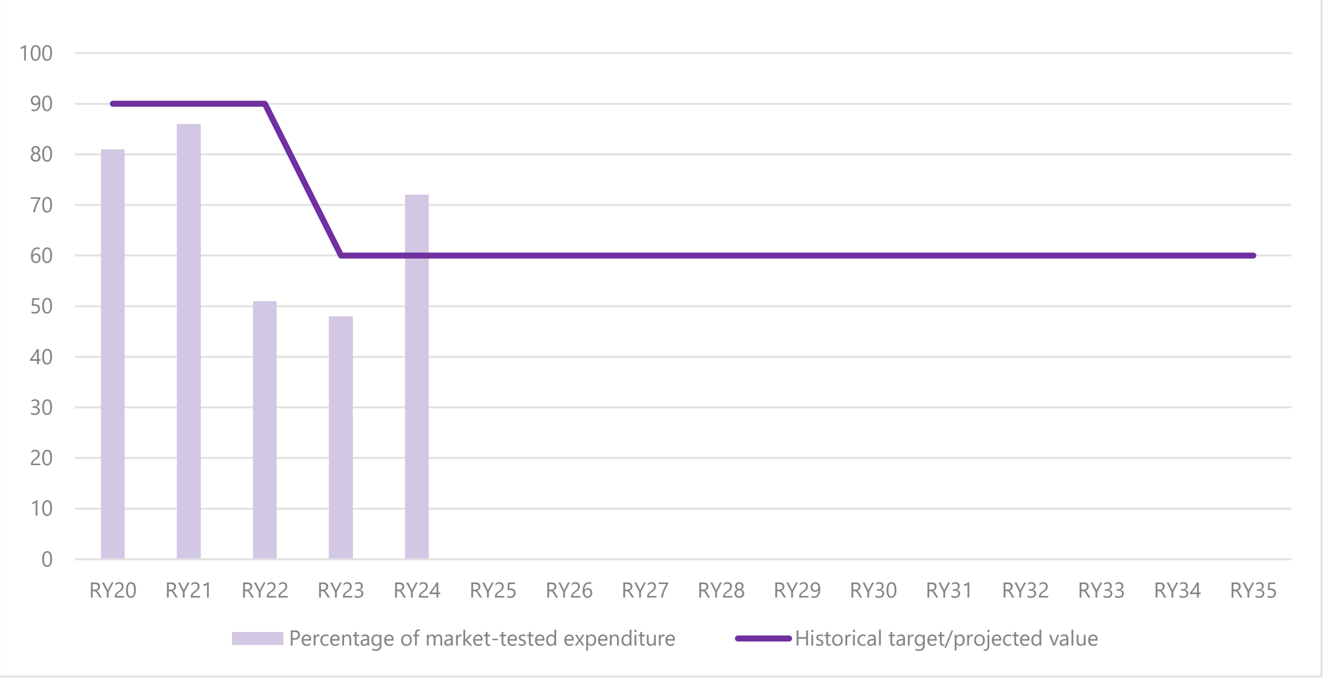
- Cost-effective provision of gas
- Service provider (SP) key performance indicator (KPI) performance

Cost-effective provider network gas services

Target – Achieve >60% of expenditure benchmarked against market-tested pricing

All large projects over a certain value are open to contestable tender, ensuring costs are market tested, while smaller projects that fall below the value threshold are sole sourced to the incumbent contractor, as part of their respective Gas Field Service Agreements (GFSA). With the new Volume-to-Value Strategy Investment Framework, assets tend to be refurbished to extend their lifespan, rather than replaced, leading to lower-cost projects. Additionally, the shift to this strategy has seen an increase in the number of projects that may fall under the sole sourced threshold. Teams that source both types of projects have processes in place to ensure that all projects remain at competitive prices and are at a minimum, indirectly market tested. This approach is illustrated in Figure 4.32.

Figure 4.32: Historical and projected percentage of market tested expenditure



Service provider (SP) KPI performance

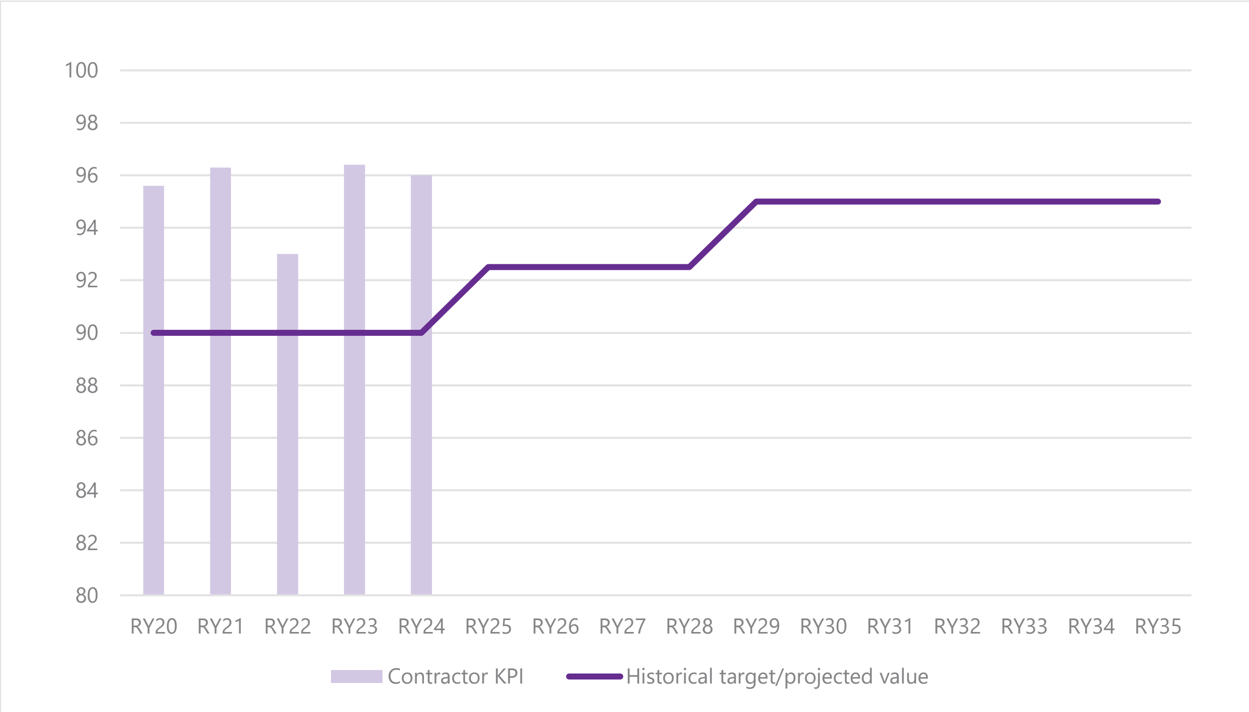
Target – SP performance against KPIs consistently exceeds minimum requirements

Our SPs deliver the physical works of our network operation. As such, they provide a significant component of the face-to-face interaction with the end users – our customers. We expect our SPs to maintain a strong work ethic, create safe work environments, maintain high-quality execution, and be continually improving. Powerco maintains KPIs to monitor the performance of our SPs against these factors.

This KPI system is an integral metric within the GFSA, implemented in 2018. These agreements expired in 2023 and have since been renewed with considerations, including current market conditions as well as the continued strong performance and improvement we see within our SP performance. This is reflected in our KPI data in Figure 4.33, as referenced against our benchmark for minimum performance. For commercial sensitivity reasons, values shown are the average KPI across our all our SPs over the entire regulatory year.

We maintain frequent face-to-face communication with our SPs to understand their concerns and issues, provide feedback on performance, and work together to continually improve the services provided. We believe our relationships are robust and we are confident this will continue with the renewal of our GFSA agreements.

Figure 4.33: Historical and projected percentage of service provider KPI performance



4.15.3 Summary of objectives and measures

Our KPIs are specific goals that align to our Asset Management Objectives. The Asset Management Objectives associated with each measure during the AMP period are summarised in this table.

ASSET MANAGEMENT OBJECTIVE	GOAL	MEASURE	RY20	RY21	RY22	RY23	RY24	RY25	RY26	RY27	RY28	RY29	RY30	RY31	RY32	RY33	RY34	RY35
Hauora **Promoting health and safety**	Keep all network assets safe for the public by having TPDs decrease to 50 per annum by 2035.	Number of TPD incidents (#p.a./1,000km)	58.94	50.39	53.87	35.22	36.15	55	55	55	50	50	50	50	50	50	50	50
	Keep all network assets safe for the public by having >95% RTE within one hour.	Response time to emergencies (% within 1hr)	98.04	97.11	94.76	100	94.59	95	95	95	95	95	95	95	95	95	95	95
	Keep all network assets safe for the public by having >90% of emergency calls answered within 30 seconds.	Percentage of emergency calls answered (% within 30 secs)	95.01	94.12	90	91.88	90.40	90	90	90	90	90	90	90	90	90	90	90
	Maintain zero LTIs per annum to ensure our contractors and staff are safe.	LTI (#p.a.)	1	3	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Whakakotahitanga Customer and community	Ensure new connection satisfaction is excellent by having the NPS ≥55 every year until 2035.	Net Promoter Score (-100 to 100)	56	55	52	64	61	50	55	55	55	55	55	55	55	55	55	55
	Ensure customer satisfaction is tolerable by having <30 customer complaints per annum by 2035.	Customer complaints (#p.a.)	32	30	13	51	68	40	40	40	35	35	35	30	30	30	30	30
Taiao **Contributing to a lower carbon world**	Ensure we have adequate network capacity by having <5 poor pressure events per year by 2035.	Poor pressure events (#p.a.)	2	2	4	0	7	6	6	6	6	6	6	6	5	5	5	5
	Ensure network integrity is at an adequate level by having <100 pipe leaks (network and service) per year until 2035.	Number of network leaks (#)	79.1	82.44	67.08	87.53	98.72	120	120	115	115	110	110	100	100	100	100	100

ASSET MANAGEMENT OBJECTIVE	GOAL	MEASURE	RY20	RY21	RY22	RY23	RY24	RY25	RY26	RY27	RY28	RY29	RY30	RY31	RY32	RY33	RY34	RY35
	Ensure operational reliability by having the number of customers affected by supply interruptions because of component failure <6 per year until 2035.	Customers affected by supply interruptions because of component failure (#p.a./1,000 customers)	2.21	4.18	2.96	2.88	2.42	8	8	8	8	6	6	6	6	6	6	6
	Ensure gas is delivered reliably and at the right quality, by having non-compliant odour test reported <3 per year until 2035.	Non-compliant odour test reports (#p.a.)	2	0	0	0	0	4	4	4	4	4	4	3	3	3	3	3
Whirinaki **Ensuring reliable and resilient networks**	Achieve AMMAT score of 3.5 by 2033.	AMMAT score (# between 0-4)	2.8	2.8	3	3	3.2	3	3	3.2	3.2	3.2	3.2	3.4	3.4	3.4	3.4	3.5
	Achieve RMMAT score of 3.6 by 2035.	RMMAT score (# between 0-4)	n/a	n/a	n/a	n/a	2.37	2.4	2.8	2.8	3	3	3.2	3.2	3.4	3.4	3.6	3.6
Te teo **Sustainable governance, financial and risk management foundations**	Be a cost-effective provider of gas network services by having >60% of expenditure using market tested pricing.	Percentage of expenditure using market tested pricing (%)	81	86	51	48	72	60	60	60	60	60	60	60	60	60	60	60
	Improve SP performance continuously by ensuring SP performance KPIs continuously meet minimum requirements.	KPI values/performance (Score 0-100%)	95.6	96.3	93	96.4	96	92.5	92.5	92.5	92.5	95	95	95	95	95	95	95

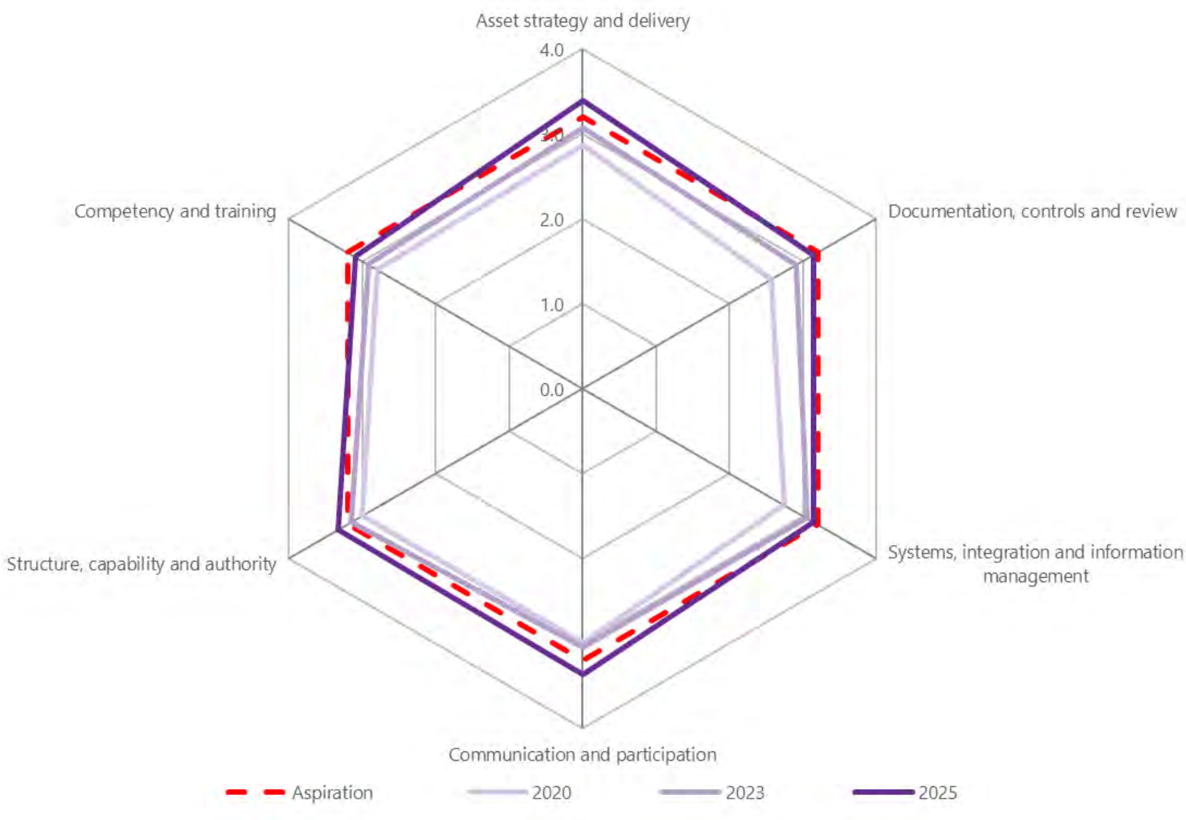
4.15.4 Continuously improving our asset management practices

As part of our commitment to continuous improvement, we are actively working to lift the maturity of our asset management and resilience practices. This focus supports more consistent, data driven decision-making, and ensures our approach remains fit for purpose as our operating environment evolves. Results from our asset management and resiliency maturity assessments are outlined below.

4.15.4.1 2025 AMMAT assessment

The results indicate our approach has progressively matured, as evidenced by the gradual increase in our AMMAT score from 2023-2025. The increased scores reflect closer alignment of our AMS with Powerco's Corporate Strategic Framework and gas business, and focusing our attention on improving and documenting our programme planning in line with ISO: 55000. Our 2025 assessment is summarised in Figure 4.34 and further details about our asset management maturity can be found in Schedule 13.

Figure 4.34: Asset management maturity assessment 2025



4.15.4.2 2025 RMMAT assessment

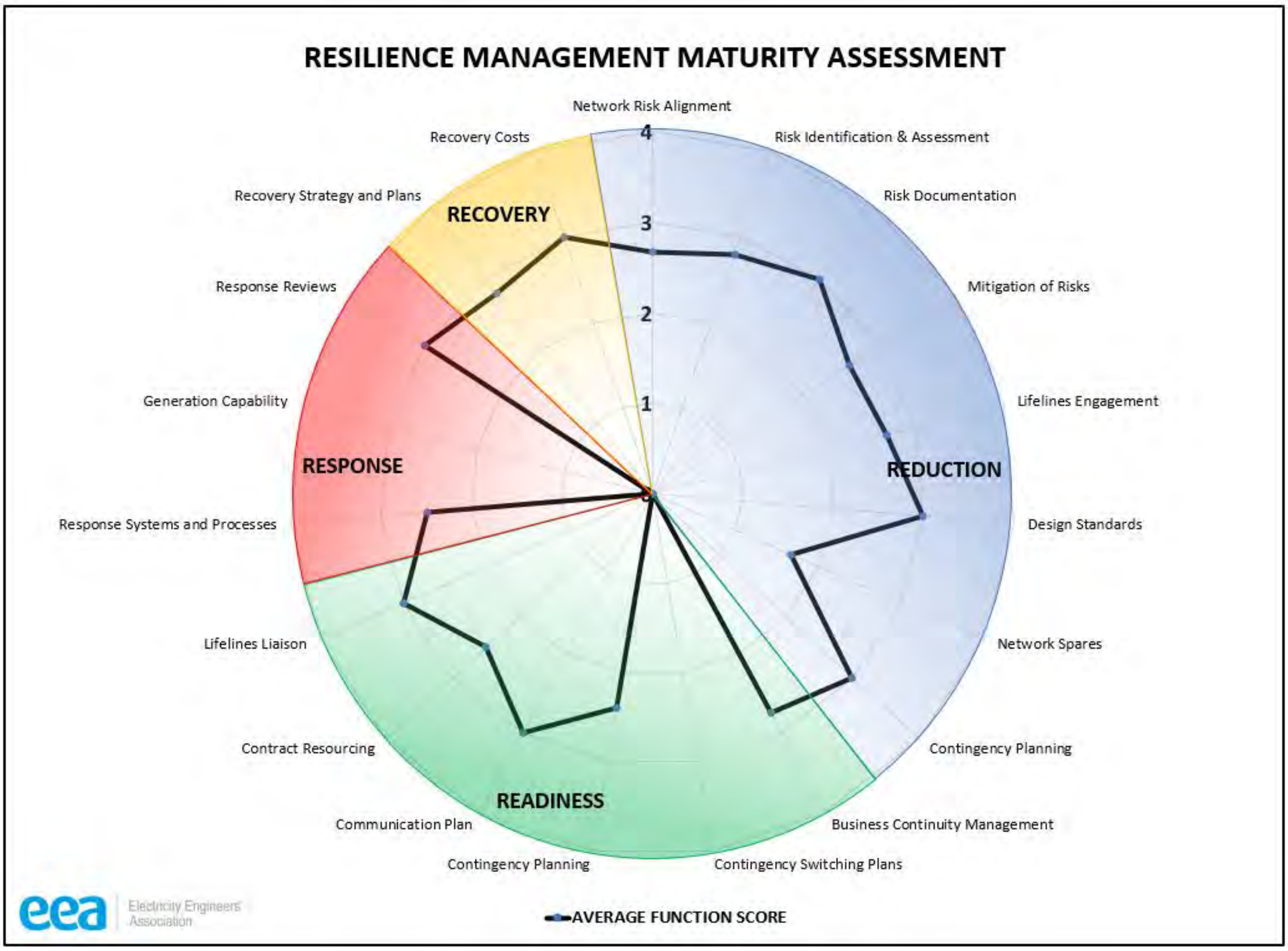
2025 is the first year that the Powerco gas business has completed the RMMAT, resulting in an average maturity score of 2.37 out of 4. This reflects a developing level of maturity in areas such as risk assessment, contingency planning, and recovery, with ample opportunity for short-term improvement. This is shown in figure 4.35.

The RMMAT comprises a list of questions aimed at highlighting potential opportunities for improvement to help increase network resilience within an organisation. The RMMAT was originally designed for electricity distribution businesses (EDBs) but Powerco's gas business has adopted it to assess our current resilience maturity and identify areas where we can improve in the short and long term to influence our asset management practices.

This does mean that some of the questions within the assessment are not relevant and have therefore been left blank. The RMMAT is aligned with the 4Rs of CDEM.

This assessment will help establish a benchmark from which we can build off and aim for continuous improvement towards our goal of a resilient network. Our resilience projects take several years to complete, and we should be able to see the effects of acting on the opportunities in the RMMAT throughout their lifecycle.

Figure 4.35: RMMAT 2025



4.16 Asset management processes for non-network assets

Non-network assets are not directly involved in delivering gas to customers but are essential for the effective and efficient operation of our business. These assets include information systems, motor vehicles (such as our leak detection vehicle), specialised equipment, and critical spare parts.

We are a dual energy distribution business, which means many of our non-network systems and platforms are integrated across gas and electricity. Some systems are standalone, and costs are allocated using a cost allocation input methodology[4] (IM). Keeping the gas flowing and lights on requires significant investment in data and digital systems. This includes platforms such as SAP, Salesforce, ArcGIS, Synergi, as well as the integration of our new gas SCADA system with electricity's Aspentech SCADA platform. Artificial Intelligence and system integration are key enablers of this mahi.

We distribute gas and electricity to more than 900,000 kiwis across the North Island.

The purpose of this section is to describe non-network assets and provide an overview of the systems and information directly related to asset management capabilities. For non-network operational expenditure refer to Chapter 7.

4.16.1 Data and digital core information systems

Core information systems that enhance our asset management capabilities and customer tools are described in Table 4.21. These platforms collectively underpin our ability to operate safely, plan effectively, and meet regulatory expectations.

Table 4.21: Core information systems

System	Function	Description
SAP	Enterprise Asset Management.	Manages asset lifecycle data, work orders, and maintenance history.
Salesforce	Customer Relationship Management (CRM) System	Manages customer interactions including general inquiries to the Customer Hub for electricity and gas. (shared service).
ArcGIS	Geographic Information System	Stores spatial and attribute data for all gas network assets.
BlueWorx	Mobile workforce management system	Enables mobile data collection for inspections and asset condition.
SAP Business Warehouse (BW) / SAP Analytics Cloud (SAC) / Enterprise Data Warehouse (EDW)	Business intelligence and reporting.	Provides reporting and visualisation of asset health, risk, and investment performance.
Abbey SCADA	Supervisory Control and Data Acquisition	Provides real-time monitoring of pressure, alarms and operational events. The existing Abbey Gas SCADA system is being upgraded and integrated with the electricity Aspentech SCADA platform to be implemented by March 2027.

[4] IM refers to the input methodologies set by the Commerce Commission. These provide greater certainty on how price-quality paths and information disclosure requirements are determined for regulated businesses.

System	Function	Description
SharePoint	Document management	Used for version-controlled policies, procedures and asset plans.
CWMS	Customer Works Management System	CWMS is a web application that allows the management of work request applications (workflows) for customer connections to the gas and electricity network.
Sitecore	Website platform	Sitecore hosts the Gas Hub website used for communications and customer requests for new gas connections.
Synergi	Capacity modelling platform	Synergi simulates network operating conditions, used for modelling of capacity assessments to make decisions on network investment.
Gas Contractor Portal (SharePoint)	Document management for gas contractors	The Gas Contractor Portal is built on Sharepoint and holds the gas procedures and information required to work on the Powerco network. Powerco's gas contractors have access to view this information.
SAP Business Technology Platform (BTP), Dell Boomi, FME	Systems integration platforms	BTP, Boomi and FME are all integration platforms that connect the different systems. BTP is predominantly used for SAP connections, FME for GIS integration, and Boomi for website and SCADA.
Junifer	Billing management	Consumption data is received from retailers and customers with bills calculated using the Junifer billing engine and invoiced from SAP.
Meridian	Drawing management	Meridian serves as the repository for engineering drawings and associated information.
Safety Manager	Health and safety management	Safety Manager supports our operational risk model and workflow – acting as the central repository for incidents, hazards and identified risks. It acts as a platform to manage these across internal and external stakeholders at an operational and strategic level.

4.16.2 Data and digital strategy

Investment in data and digital infrastructure and capabilities is essential to unlocking our next-generation digital platforms and supporting the energy transition. As we navigate electrification, and a transition towards renewable alternatives, our digital systems must also evolve to provide both high operational efficiency and enhanced customer value. This transformation requires a robust framework that integrates advanced digital systems with traditional network operations.

Enhanced network visibility remains a key pillar of our strategy. By investing in sensors and data collection systems, we can achieve much richer monitoring of network conditions. This visibility not only supports efficient asset utilisation but also empowers our operations team with greater situational awareness and, alongside increased automation, will deliver reliability benefits to customers.

Specific investments will drive improvements across our network, including enhanced gas SCADA systems, advanced analytics, and system upgrades or replacements. These targeted initiatives ensure that our digital platforms remain resilient and responsive to emerging challenges. By leveraging advanced analytics, we can forecast network capacity, identify congestion points, and optimise investment decisions.

Our Data and Digital Roadmap will see Powerco focus on essential enabling areas during the next few years. These areas, which are driving our increase in non-network investment, are:

Information management

- Reset our information architecture, data quality and records management capabilities to ensure that we collect and retain good data.
- Ensure effective information quality governance structures are in place, fully recognising the growing value of information as an asset.
- Limit our data needs (especially considering privacy laws) to a fit-for-purpose approach. This is to ensure that we do not fall into the trap of 'data gluttony'.
- The ability to exchange information between systems and apply meaningful security boundaries will be central in deciding on any future solution.

Data platform infrastructure

- Expand the Business Warehouse capability for structured analysis, while also expanding the Data Lake to support further innovation in predictive Machine Learning (ML) and Artificial Intelligence (AI).
- Develop an effective digital network twin that will support control applications, such as ADMS and network visibility, improve our network planning and risk management, and allow higher network utilisation rates without having to take on undue risks.
- Adopt systems and approaches that facilitate the seamless exchange of data, ensuring it is timely, traceable, and useful in the context of its consumption.
- Develop fit-for-purpose and well-integrated data consumption platforms to push the data to the devices or platforms where decisions are made.

Data consumption and quality

- Maximise the utility of data to improve 'citizen' analysis capabilities, ensuring that the right data and insights are served to the right person at the right time, wherever they need it.
- Publish relevant data for easy access by our delivery partners and customers. Extend the network and operational information made available to our customers, enabling as far as practicable, informed decisions while avoiding the need to request support.
- Raise data and digital literacy to gain maximum value from our data and technology solutions, while minimising risk.
- Ensure ease and effectiveness of accessing our data and using our applications.

High-performance programme

- Eliminate unnecessary double-handling of information, or manual processing.
- Continue to explore and develop emerging technologies that would improve our ability to support our communities and operations.
- Keep abreast of customers' emerging technology expectations as well as advances in AI and ML.
- 'Slow is the new broken'. Expand the systems performance monitoring programme by defining metrics for our high-usage business and critical network systems. Remediate or replace systems that do not

perform as required, to ensure real-time data and/or high availability, redundancy, and operational continuity.

Rationalisation of application architecture

- Implement solutions that have the experience and expectations of our customers and our own people in mind.
- Our approach will ensure we a have fit-for-purpose 'systems of record' and 'systems of innovation', with guardrails that balance control, agility, and delivery speed when needed. This will see a shift to software as a service (SaaS), and an increase in Opex costs.
- Keep pace with modern communications technology to support the increased rollout of decentralised devices across our network footprint and to allow real-time or semi-real-time network monitoring and control.

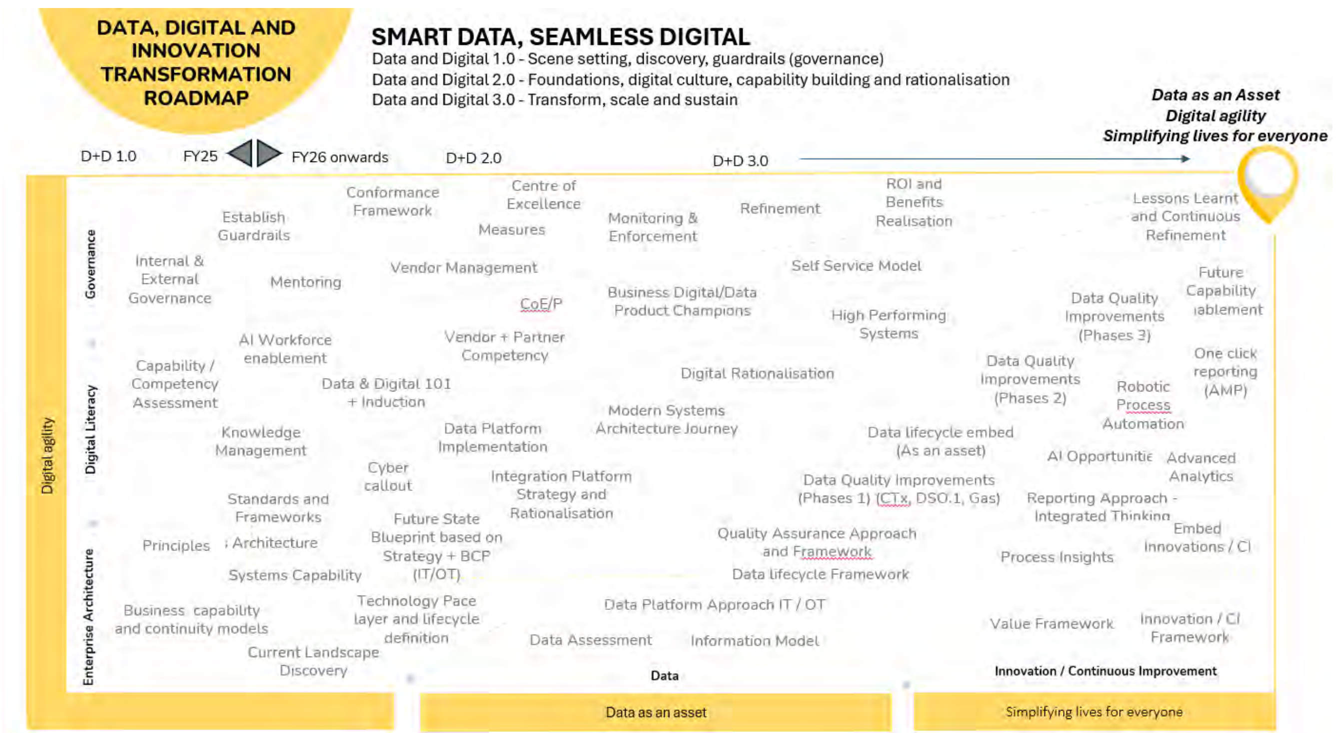
The enabling data and digital capabilities are transformational, not incremental. Overall, while the upfront costs of investing in data and digital capabilities may be substantial, the long-term benefits, in terms of improved operational efficiency, enhanced customer experience, customer choice on engagement and options, and sustainable growth, justify the expenditure. Faced with evolving regulatory mandates, technological advancements that are moving faster than we can adopt, and market dynamics, such investments are increasingly becoming essential for maintaining competitiveness, customer experience, and a reliable and resilient network.

In summary, our Data and Digital Strategy is designed to deliver tangible value to our customers while enhancing operational efficiency. By building a resilient digital infrastructure and fostering a culture of data stewardship and digital excellence, we will not only meet current energy demands but also position ourselves to lead in a rapidly evolving energy landscape.

4.16.3 Data and Digital Roadmap

Our Data and Digital Roadmap, as shown in Figure 4.36, aims to establish the framework, supporting data, and digital capabilities that allow our organisation to maintain digital agility, seek growth opportunities, and meet our customers' evolving information needs. Simultaneously, it supports resilience and renewable energy.

Figure 4.36: Data and Digital Roadmap



4.16.4 Data quality and lifecycle governance

Data requirements are defined to align with each stage of the asset lifecycle. Controls are in place to ensure data accuracy, including:

- Validated data entry templates in BlueWorx and SAP.
- Standard attribute fields across asset types.
- Scheduled audits and exception reporting.
- Role-based permissions to safeguard data integrity.

Field data collected via BlueWorx and is synced with SAP and GIS to maintain a single source of truth.

System integration and maturity

While foundational systems are well-established, integration maturity is still evolving. Currently:

- Asset data flows between GIS, SAP, SAP Business Warehouse (BW) and SAP Analytics Cloud are partially automated. Continued investment in this area is a critical part of the strategy.
- SCADA data is accessible but not yet unified with analytics platforms.
- Some performance dashboards are manual or semi-automated.

Improvement initiatives underway include:

- Development of an Enterprise Data Model.
- Enhanced middleware integration for real-time data flows.
- Expansion of visualisation tools for asset lifecycle and risk insights.

These actions are guided by our Data, Digital and Innovation (DDI) Programme, which was established in 2024 to support digital uplift across the business.

4.16.5 Offices

Our long-term property plan is in place to ensure our offices:

- Are safe and secure for our employees, contractors, and visitors.
- Are functional and fit for purpose.
- Can support future staff growth.
- Support improved productivity and efficiency.
- Are cost-effective and efficient to operate.
- Are modern, resilient, professional, and comfortable.

We have four main regional offices throughout the North Island, with our gas business staff located in our Wellington and Palmerston North offices. Our offices are positioned to match our broad geographical coverage and ensure we are close to our assets and the work being undertaken across our network.

Our four main regional offices and electricity depots are shown in Table 4.22.

Table 4.22: Main regional offices

Location	Ownership
Junction St office and depot (New Plymouth)	Owned
Grey St office (Wellington), Tauranga office, Te Aroha office, Whanganui office, Palmerston North office	Leased

4.16.6 Motor vehicles

Powerco's vehicle fleet remains a key operational asset, with a total of 80 vehicles in use. This includes 58 allocated vehicles and 21 pool or team pool vehicles that support staff with work-related travel. Of the total fleet, 11 are dedicated gas vehicles, including the leak detection vehicle.

While the overall size of our fleet has remained stable in recent years, we have made significant progress in reducing carbon emissions and improving fuel efficiency during the past 24 months as we work towards a net-zero fleet by 2030. This has included transitioning most of our general pool vehicles and nearly all Energy Account Managers into fully battery electric vehicles (BEVs). We have also replaced the majority of our 2WD Ford Rangers with Toyota RAV4 Hybrids and are upgrading older 4WD Rangers to more efficient 2L Bi-Turbo models.

Vehicle choices are guided by key criteria such as safety, fitness for purpose, total cost of ownership, and feedback from both drivers and the ELT. To further support safe and efficient operations, all vehicles are equipped with the EROAD GPS system, which promotes positive driver behaviour, ensures compliance with company policies, and helps us monitor and improve utilisation across the fleet.

4.16.7 Specialist tools and critical spares – non-network Capex

Specialist tooling and associated equipment is required for the management of emergencies on the network. Powerco owns and manages the high-value specialist tooling, which includes all storage, logistics and maintenance. Operation of this equipment on the network is carried out by our service providers.

We also carry an inventory of critical spares that are essential for the resilient operation of the gas network. These are generally high-value components that are not used frequently on the network but are required to complete reactive repairs and replacements of network assets. Our standards and Gas Field Service Agreements (GFSA) define the responsibility share between Powerco and our service providers for the availability and management of critical spares.

4.16.8 Other non-network assets

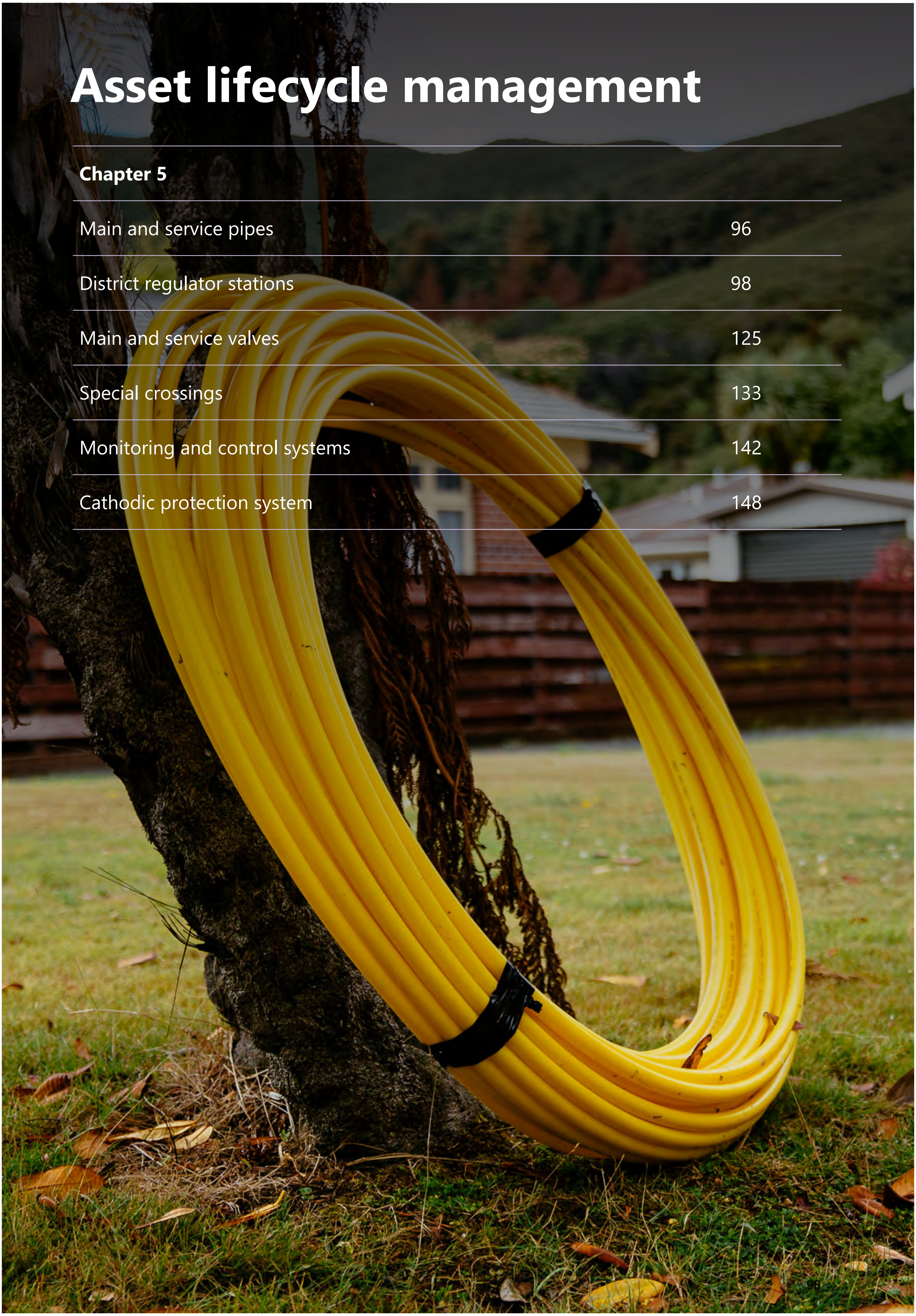
Non-network assets cover expenditure categories that are aimed at improving support aspects of the gas business, such as asset information systems and supporting applications as described above. A large percentage of our effort in the business goes towards providing support to our network-focused activities, and improvements to these activities can result in significant efficiency gains.

The biggest efficiency gains that non-network systems support is our core asset management function and enabling us to make prudent investment decisions based on the following objectives:

- Providing a good understanding of our assets, their condition, location and technical attributes.
- Ensuring the right information is available to staff and contractors.
- Focusing on how we achieve our core function to deliver a safe, reliable, resilient, and cost-effective gas supply to our customers using quality asset information.
- Supporting the delivery of our Volume-to-Value Investment Framework that aims to balance cost, risk, and performance, to determine the best investment opportunity, while considering the remaining life of the asset and the optimum time to intervene.
- Using asset information to drive our vision to be New Zealand’s most customer-focused infrastructure owner and operator.

Asset lifecycle management

Chapter 5



5. Asset lifecycle management

This chapter provides an overview of our asset classes and our asset management approach throughout the lifecycle stages. For each asset class, we discuss our current understanding of systemic issues, the condition of our assets, our approach to renewal programmes, operations, and maintenance, forecast expenditure, and information quality. Table 4.1 in Chapter 4 – Asset Management System, gives a broad overview of each asset class.

5.1 Main and service pipes (M&S)

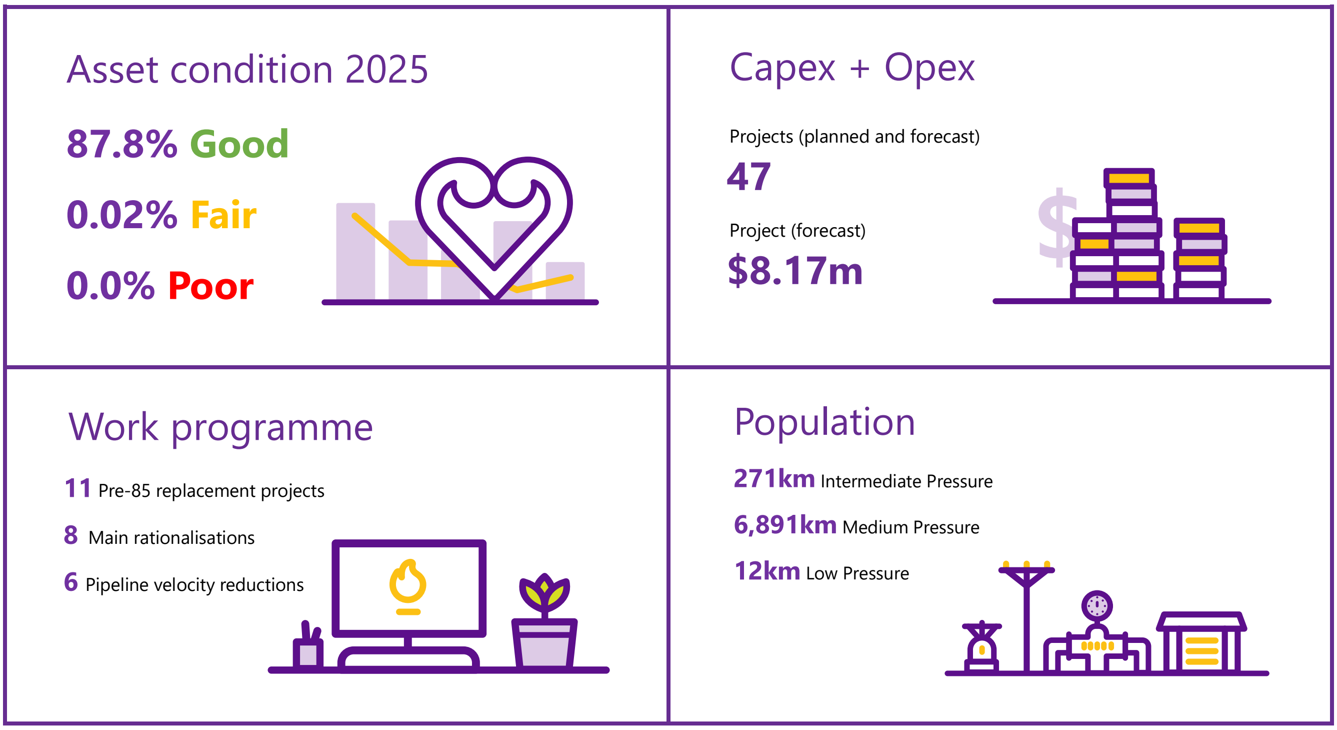
Main and service pipes (M&S) are the primary components of our distribution network, serving as the backbone of our infrastructure. This asset class is the largest in our portfolio, accounting for approximately 82% of our total regulated asset base (RAB) value. Section 5.1.2 provides details on the types of pipes used on our network.

Asset class dashboard

Figure 5.1 corresponds to the M&S asset class dashboard, highlighting:

- Asset condition 2025 is reflective of Schedule 12a, and condition grading system categories defined in Chapter 4, Table 4.17.
- $8.17 million of capital and operational investments spread across 47 planned and forecast activities.
- Operational investments are defined as being complex in nature, requiring detailed planning and project management oversight.
- The work programme comprises 11 pre-1985 (pre-85) polyethylene (PE) renewal projects, eight mains rationalisation projects, and six pipeline velocity reductions.
- Population of our assets is determined by the length of our M&S networks classified by material types.

Figure 5.1: M&S asset class dashboard



5.1.1 Asset class objectives

Contributing towards the delivery of a better energy future for our customers by providing a consistently safe, reliable, resilient, and cost-effective gas network now and into the future, the primary objectives for M&S pipes are:

- To convey gas across our networks, from the gate points to our customers.
- To efficiently reduce the total number of unplanned gas releases and outages resulting from asset failure.
- To reduce public safety risks.

To effectively minimise the overall risks associated with M&S, Powerco is committed to reducing the total number of leakages and unplanned outages resulting from asset failure. Based on analysis of historical events, the primary causes of risks are outlined in detail in Section 5.1.4.

5.1.2 Asset class overview

The classification by material type of the M&S pipes Powerco operates is shown in Table 5.1. It contains length by material type, service status, and the average age of the assets.

Table 5.1: Total number by material type, length and age

	Sub material	Total (km)	In service (km)	Average age (years)[1]	Expected life (years)
Cast iron	All	153	0	55	20 to 30
PE	All	5990	5755	33	
	PE80 – Post-85	4614	4476	28	50 to 60
	PE80 – Pre-85	1368	1270	45	40 to 50
	PE100	9	9	8	60 to 70
Steel	All	880	463	48	MP: 50 to 60 IP: 60 to 70
	Yellow/grey jacket	286	251	44	
	Galvanised	10	2	39	
	Other[2]	583	210	50	
Copper	All	1	1	16	
Asbestos	All	13	0	52	
Unknown[3]	All	138	80	42	
Total	**All**	**7174**	**6299**	**35**	

The characteristics of our M&S pipes are a product of the companies and network acquisitions Powerco has made over time – a key part of Powerco's growth history. The result is a network with a mix of systems built with different design philosophies. This is specifically reflected in the varying materials and pressure systems within our networks.

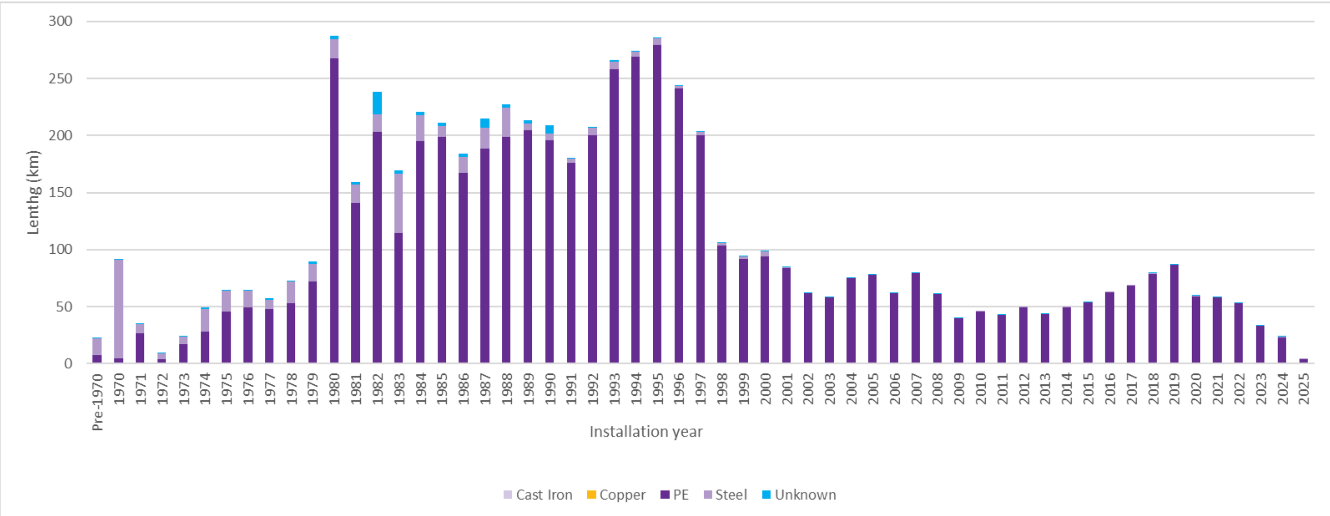
[1] In-service pipes only.
[2] Includes painted, wrapped and unknown.
[3] We assume this is made up primarily of PE and steel.

Our M&S networks operate within different pressure envelopes, as represented below:

Powerco's classification	**LP** (Tag colour green)		**MP** (Tag colour red)			**IP** (Tag colour blue)	
	LP Low Pressure	**HLP** High Low Pressure	**LMP** Low Medium Pressure	**IMP** Intermediate Medium Pressure	**HMP** High Medium Pressure	**LIP** Low Intermediate Pressure	**HIP** High Intermediate Pressure
---------------	7kPa	25kPa	210kPa	420kPa	700kPa	1,200kPa	
Industry classification	**LP** Low Pressure	**MP** Medium Pressure				**IP** Intermediate Pressure	

Powerco's network grew significantly between 1980 and 1997, adding what is now approximately 67% of our total network length. This is shown in Figure 5.2.

Figure 5.2: M&S pipes age profile for all regions



The most common failures in our M&S networks are on PE pipes installed before 1985 (pre-85 PE) and unprotected steel sections. These material types are a particular focus for our repair and renewal programmes. For effective management of the pre-85 PE and unprotected steel pipe, we report quantity by type and age per region.

5.1.2.1 Wellington (WEL)

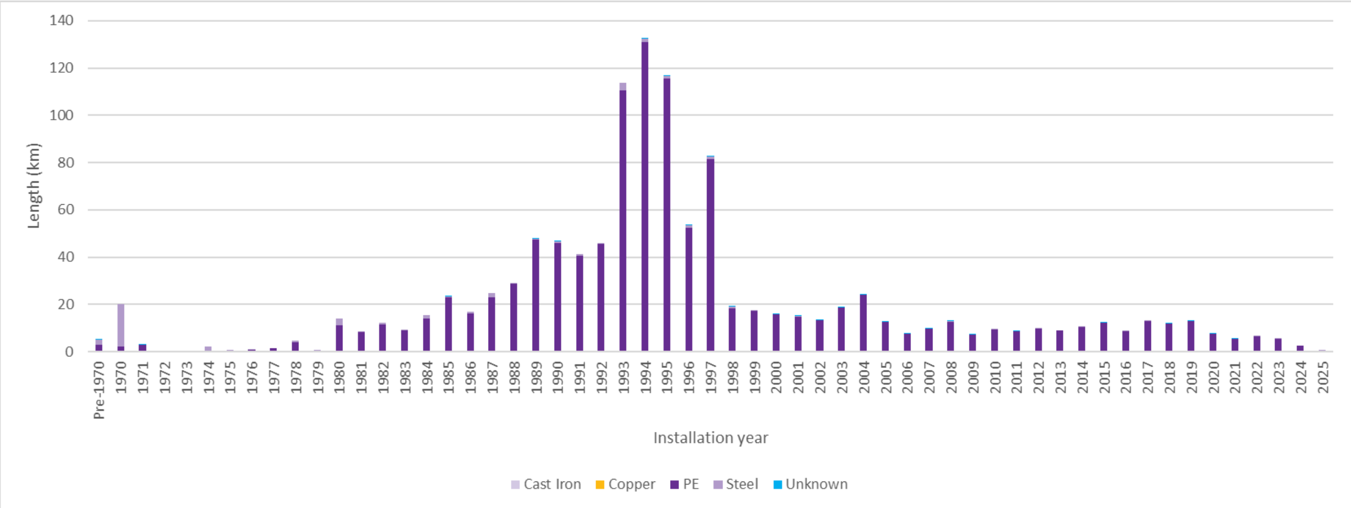
In the Wellington sub-network, the predominant material used for pipes is PE. Over time, the cast iron pipes in the central business district have been replaced with modern PE pipes. This replacement process began after 1985, resulting in a relatively low amount of pre-85 pipes (approximately 6-7%) compared with other regions.

The Wellington IP line is constructed with steel pipes and protected by an impressed current cathodic protection system. Since 2020, the system has had a reconfiguration and renewal to ensure its continued effectiveness. It is evident that the IP line in this sub-network was installed approximately 40 years ago. This is relatively early construction compared with other parts of the network.

Table 5.2: Asset quantities and average age in Wellington region

Material	Sub material	Total (km)	In service (km)	Average age (years)
Cast iron	All	67	0	55
PE	All	1176	1139	30
	PE80 – Post-85	1102	1071	28
	PE80 – Pre-85	74	68	45
	PE100	0	0	12
Steel	All	303	43	52
	Yellow/grey jacket	13	12	38
	Galvanised	0	0	20
	Other	289	31	52
Unknown	All	9	1	42
Copper	All	1	1	12
Total	**All**	**1556**	**1184**	**33**

Figure 5.3: M&S pipes age profile for Wellington region



5.1.2.2 Hutt Valley and Porirua (HVP)

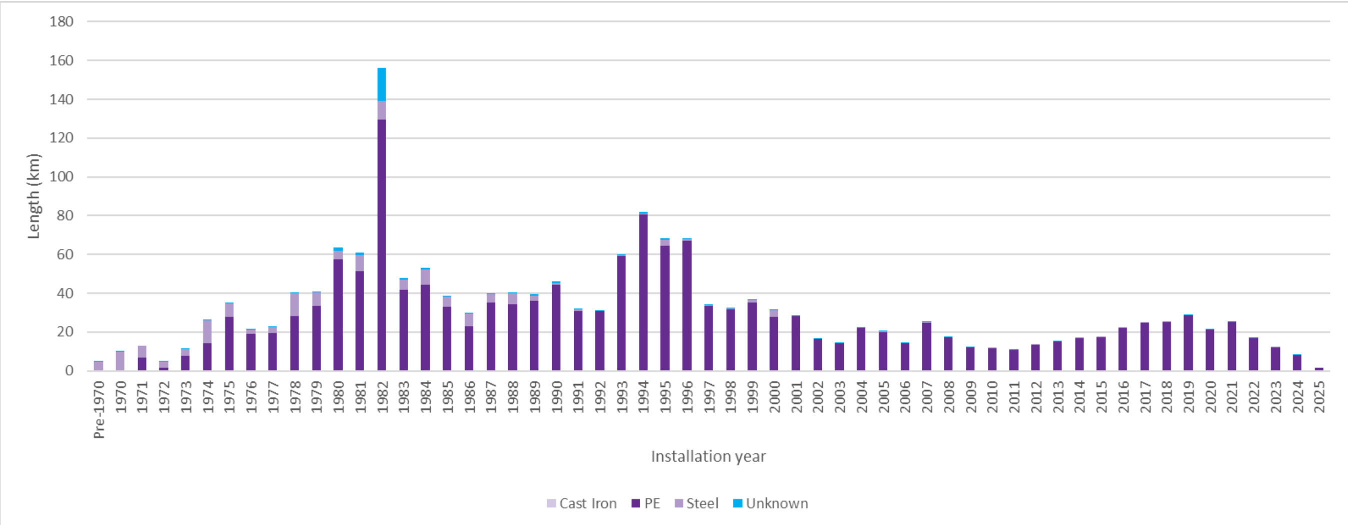
The Hutt Valley and Porirua (HVP) region predominantly consists of PE pipes, accounting for 89% of the sub-network length. This region accounts for the highest volume of pre-85 pipes, 30% of all PE. HVP is also one of our poorest performing sub-networks in terms of leakage.

The remaining portion of the network is composed of steel pipes, which are protected by impressed current cathodic protection systems. The HVP cathodic protection systems (CPS) have undergone an upgrade programme, which is at varying stages of completion. Refer to Section 5.6. for further detail on the CPS upgrade programme.

Table 5.3: Asset quantities and average age in Hutt Valley and Porirua region

Material	Sub material	Total (km)	In service (km)	Average age (years)
Cast iron	All	8	0	55
PE	All	1654	1592	33
	PE80 – Post-85	1131	1107	26
	PE80 – Pre-85	521	483	45
	PE100	2	2	7
Steel	All	172	143	43
	Yellow/grey jacket	153	137	44
	Galvanised	3	0	44
	Other	15	6	39
Unknown	All	42	35	41
Total	**All**	**1876**	**1770**	**34**

Figure 5.4: M&S pipes age profile for Hutt Valley and Porirua region



5.1.2.3 Taranaki (TAR)

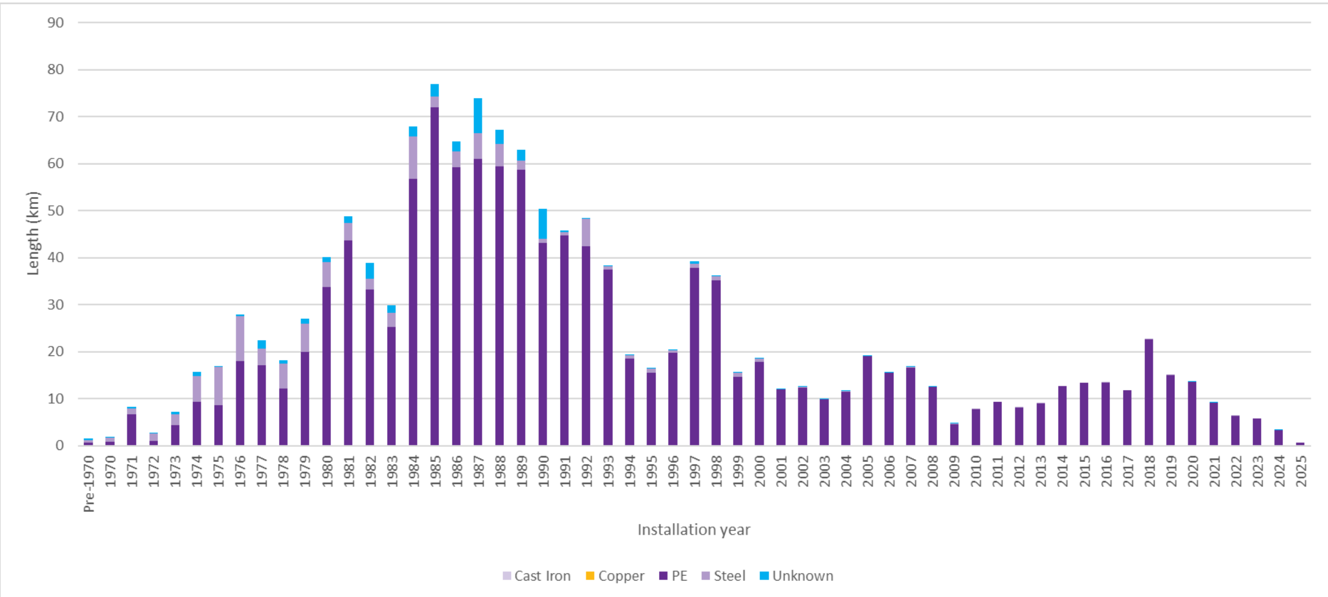
The Taranaki sub-networks are comprised mostly of PE pipes, with 26% consisting of pre-85 pipes. There are also pockets within the region where galvanically protected mild steel (medium pressure) pipes exist.

The condition of the protection system for these pipes is unknown. The CPS upgrade programme targets the Taranaki sub-networks of New Plymouth and Hāwera, bringing integrity and reliability of these steel pipes. Refer to Section 5.6. for further detail on the CPS upgrade programme.

Table 5.4: Asset quantities and average age in Taranaki region

Material	Sub material	Total (km)	In service (km)	Average age (years)
Cast iron	All	33	0	55
PE	All	1260	1205	35
	PE80 – Post-85	938	914	30
	PE80 – Pre-85	322	291	46
	PE100	0	0	0
Steel	All	166	100	46
	Yellow/grey jacket	85	70	45
	Galvanised	6	0	50
	Other	74	29	46
Unknown	All	83	43	44
Total	**All**	**1541**	**1347**	**36**

Figure 5.5: M&S pipes age profile for Taranaki region



5.1.2.4 Manawatū and Horowhenua (MAN)

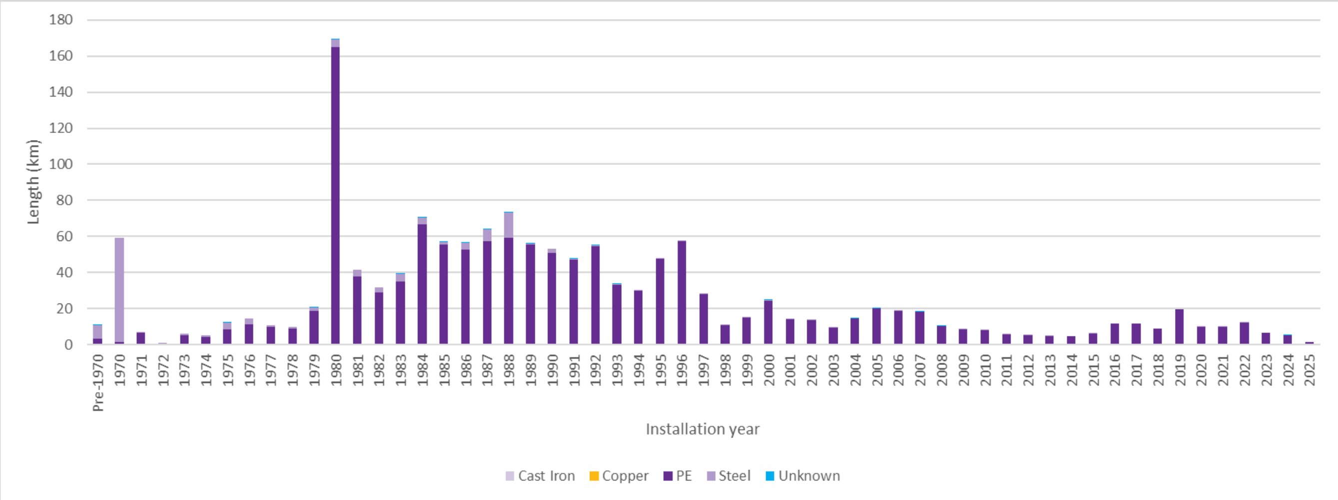
This sub-network was mainly built using PE pipes, of which 32% is pre-85. Additionally, there are pockets within the sub-network that consist of galvanically protected mild steel (medium pressure) pipes. The condition of the CPS for these steel pipes is unknown.

It is important to note that there is uncertainty in the pipe data quality for this region. This is indicated by two significant spikes in the installation dates recorded for the pipes. It is likely that these spikes represent instances where work was completed over multiple years but recorded as a single point in time.

Table 5.5: Asset quantities and average age in Manawatū and Horowhenua region

Material	Sub material	Total (km)	In service (km)	Average age (years)
Cast iron	All	28	0	56
PE	All	1408	1345	35
	PE80 – Post-85	980	937	30
	PE80 – Pre-85	428	407	45
	PE100	1	1	12
Steel	All	164	131	50
	Yellow/grey jacket	13	12	42
	Galvanised	1	1	47
	Other	151	119	50
Unknown	All	3	1	36
Asbestos	All	11	0	55
Total	**All**	**1614**	**1478**	**37**

Figure 5.6: M&S pipes age profile for Manawatū and Horowhenua region



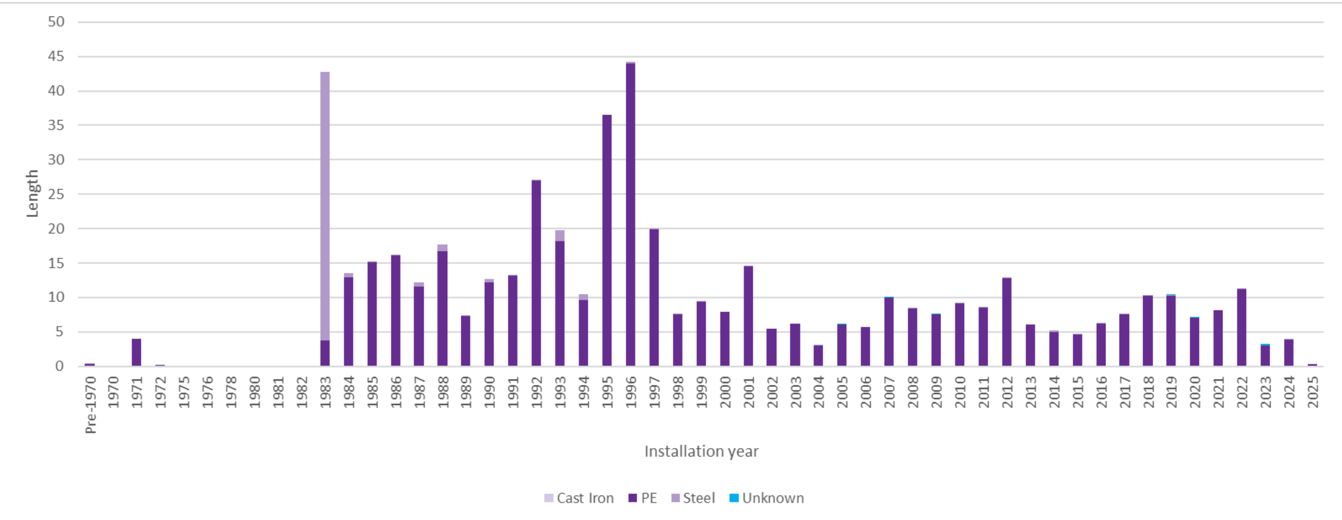
5.1.2.5 Hawke's Bay (HAB)

Hawke's Bay is Powerco's most recently built sub-network. This is characterised by pipe assets that are generally less than 35 years old. In Figure 5.7, a prominent spike indicates when a steel IP main was installed between Hastings and Napier. At more than 450km long, most of the sub-network is PE and only 4.5% is pre-85.

Table 5.6: Asset quantities[4] and average age in Hawke's Bay

Material	Sub material	Total (km)	In service (km)	Average age (years)
Cast iron	All	17	0	49
PE	All	492	474	28
	PE80 – Post-85	463	448	27
	PE80 – Pre-85	23	21	45
	PE100	6	6	6
Steel	All	75	45	41
	Yellow/grey jacket	22	21	36
	Galvanised	0	0	20
	Other	53	25	42
Unknown	All	1	0	33
Asbestos	All	2	0	40
Total	**All**	**587**	**520**	**29**

Figure 5.7: M&S pipes age profile for Hawke's Bay



[4] Asset quantities reported in this AMP are owned by Powerco. In instances where our assets are located in a compound or gas gate owned by a third party, we record our assets only.

5.1.3 Asset health and performance

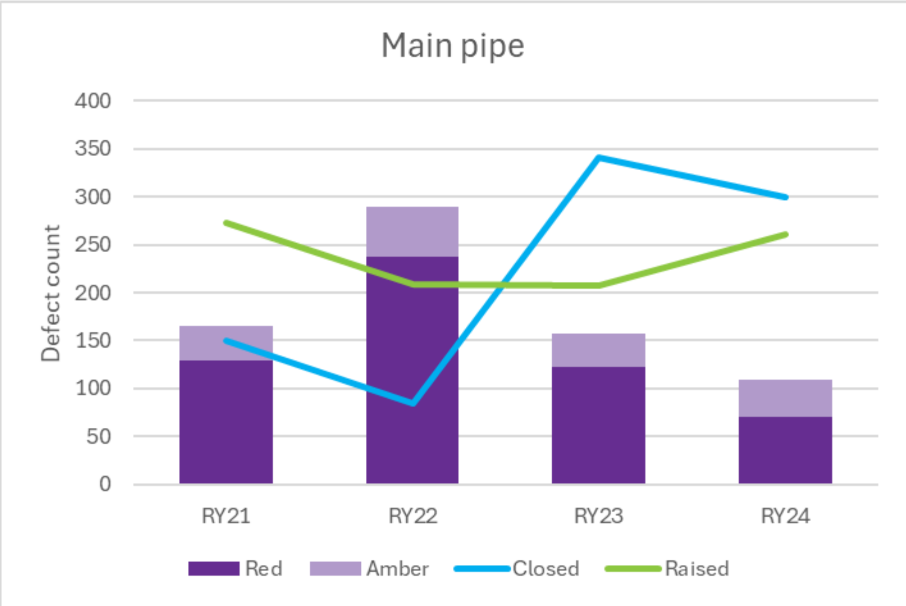
A summary of overall M&S pipe asset condition is shown in Table 5.7, classified by grades. Further detail of asset condition can be found in Appendix 3 as part of Schedule 12a.

Table 5.7: M&S pipe asset condition

	Asset type	Quantity (km)	Grade 1	Grade 2	Grade 3	Grade 4	Grade unknown	Data accuracy
IP	PE main pipe	4	21.64%	0.00%	0.00%	78.24%	0.12%	3
	Steel main pipe	256	0.02%	1.22%	5.18%	93.58%	0.00%	3
	Other main pipe	0	0.00%	0.00%	0.00%	100.00%	0.00%	3
	PE service pipe	1	0.00%	0.00%	0.00%	99.43%	0.57%	3
	Steel service pipe	10	0.17%	0.26%	1.19%	98.10%	0.28%	3
	Other service pipe	1	0.00%	0.34%	0.00%	99.66%	0.00%	3
MP	PE main pipe	3799	0.05%	0.14%	1.08%	95.8%	2.93%	3
	Steel main pipe	355	0.00%	0.24%	0.36%	40.64%	58.76%	3
	Other main pipe	239	0.01%	0.00%	0.06%	11.75%	88.18%	3
	PE service pipe	2180	0.01%	0.04%	0.57%	93.68%	5.71%	3
	Steel service pipe	255	0.01%	0.02%	0.15%	18.33%	81.49%	3
	Other service pipe	63	0.01%	0.00%	0.36%	79.66%	19.97%	3
LP	PE main pipe	3	0.00%	0.00%	0.00%	100.00%	0.00%	3
	Steel main pipe	3	0.00%	0.00%	8.60%	91.40%	0.00%	3
	Other main pipe	1	0.00%	0.00%	28.58%	71.42%	0.00%	3
	PE service pipe	3	0.01%	0.04%	0.57%	93.68%	5.71%	3
	Steel service pipe	0	0.01%	0.02%	0.15%	18.33%	81.49%	3
	Other service pipe	1	0.01%	0.00%	0.36%	79.66%	19.97%	3
Totals	**All pipes**	**7174**	**0.04%**	**0.14%**	**0.97%**	**86.65%**	**12.20%**	**3**

Figures 5.8 and 5.9 provide a visual representation of how defect health has trended for our M&S pipe assets. By continuing to develop these trends we look to provide a foundation for evaluating current network health. In doing this we expect to identify areas requiring targeted intervention and maintenance optimisation.

Figure 5.8: Main pipe past performance

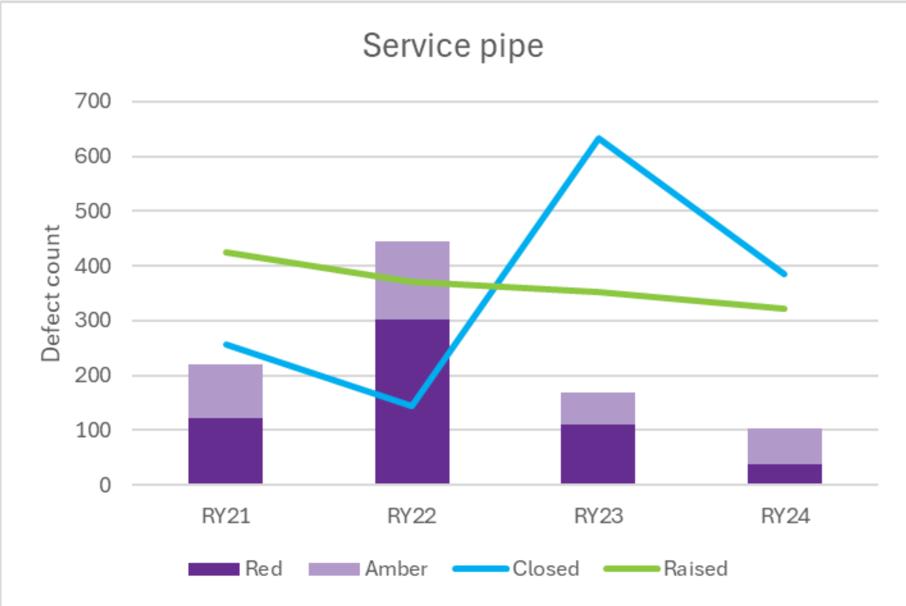


A clear spike in open defects occurred in RY22, driven by an increase in both Red and Amber classifications. This trend is likely related to a higher than average count of leaks found as part of our leak detection surveys. This is largely due to surveying a larger area with known higher defect rates, such as the HVP region. RY22 saw a notable drop in the number of closed defects, suggesting a backlog or resource constraint in addressing the rising volume. From RY23 onward, the number of open defects significantly declined, with RY24 showing the lowest count across the four-year span, indicating a period of effective catch-up and improved defect management.

The number of defects raised showed a gradual decline from RY21 through RY23 but rose slightly in RY24. The rise in 2024 is likely because of the deployment of our leak detection vehicle (LDV), which is able to cover greater areas of the network in a shorter time period. Encouragingly, the number of closed defects peaked in RY23 and remained high in RY24, reflecting improvements in work execution, resource planning, or resolution workflows

From an asset health perspective, the declining trend in open defects is a positive indicator of reduced exposure to high-criticality failure risk. The alignment between defects raised and closed in recent years suggests the network is currently being managed sustainably, with corrective actions keeping pace with identified issues. Ongoing focus on risk-based proactive renewal and inspection practices will be essential to maintaining this balance and preventing recurrence of major backlog.

Figure 5.9: Service pipe past performance



As observed with main pipe, a sharp increase in open defects occurred in RY22, with both Red and Amber classifications contributing to the rise. This spike coincides with targeted inspection efforts in older service connections, particularly those with a known history of legacy material failures. The resulting influx of identified issues outpaced available resources for resolution in that year.

RY22 also saw a drop in closed defects, further reinforcing the likelihood of a resource or delivery constraint during the year. From RY23, there was a marked improvement in defect closure, with a peak in RY23 that exceeded the number of defects raised. By RY24, open defect volumes had dropped to the lowest point in four years, indicating that the backlog from RY22 was largely addressed.

The fall in open high-criticality defects is a positive signal for asset health, but sustained investment in renewal, especially for older or poorly mapped services, will be critical to mitigate future risk and avoid accumulation of unresolved issues.

5.1.4 Type of issues

Our M&S networks are located almost entirely underground, creating a challenge for assessing their condition and undertaking inspections directly on the materials. Instead, we use CPS on our steel networks and routine leak detection surveys as the main maintenance programme activities.

The two areas we have found most likely to observe failures are across our pre-85 PE and unprotected steel networks. The performance of these assets will shape our M&S investment programmes. Our Volume-to-Value Investment Framework introduced repair as a first step before replacement is considered. Any leaks detected on the network are addressed in correspondence with the severity and our Gas Operating Standards. Where we identify high failure rates, we assess replacement viability in alignment with our aged pipe replacement criteria.

The key M&S pipe risks identified through the risk management process and failure mode and effects analysis (FMEA) are shown in Table 5.8.

Table 5.8: Key M&S risks

Major threat	Specific threats	Consequence
Legacy construction and design	Mechanical joints	Mechanical joints are prone to full-bore failure.
	Backfill damage	Poor backfill material causes damage to buried asset, leading to leakage.
	Threaded joints	Higher likelihood of leakage through threading.
	Connection welding	Poor quality welding failure, leading to leakage.
Material failure	Pre-85 PE	Higher likelihood of material failure, leading to leakage.
	Thin-walled pipes	Higher likelihood of asset failure from intervention e.g. squeeze-offs or new service tees.
Incorrect maintenance	Inadequate CP protection	Higher likelihood of accelerated material degradation because of underperforming protection.
	Improper pipe squeezing	Higher likelihood of leakage as non-standard procedure damages asset.
Third-party damage (TPD)	Working without notification	Higher likelihood of TPD, leading to leakage or failure.
	Directional drilling	Higher likelihood of TPD, leading to leakage or failure.
Poor asset information	Incorrect location	Higher likelihood of damage from people working in proximity, leading to leakage or failure.
	Incorrect material	Unplanned outage because of damage caused by issues relating to the asset not being correctly identified.

The most common consequences of asset failure are minor or major leaks. A major leak is typically sudden and immediately noticeable, often because the person or activity causing the damage is present at the time, or because of the distinct noise and smell associated with a full-bore rupture. In contrast, a minor leak tends to be gradual and harder to detect, as the underlying cause may act slowly over time, and the gas is often dispersed, reducing detectable signs. Detection of minor leaks relies heavily on routine survey frequencies and inspection tools with sufficient sensitivity, which may not align with the subtle or delayed nature of the fault.

The M&S pipe Asset Class Strategy is used in conjunction with our Gas Operating Standards and operating procedures to reduce risks to as few as reasonably practicable. The focus being on detecting minor leaks and using this data to target replacement for locations observing high failure rates. TPD issues are addressed by improving data quality, public/contractor engagement and reactionary activity procedures.

Pre-85 PE pipe

PE pipes fail primarily because of material type and quality of workmanship during construction. To assess the condition of these assets, we have found that comparing current leakage with the historical leakage rate is the most effective method to identify deteriorating asset condition.

In the past 10 years, we have analysed failure and material data on PE pipelines. An industry-recognised issue for PE pipe installed before 1985 is that mechanical deformation during the squeezing process makes the pipe material brittle, resulting in cracks along the pipe's body, and increasing the likelihood that leaks originate near previous repairs. Historically, squeeze-off points were rarely recorded. Additionally, service fittings and plastic welding methods used in M&S installed before 1985 are more prone to leakage, compared with our current methods.

During testing, we have discovered a higher volume of thin-walled pipes than expected, particularly in the Hutt Valley and Porirua areas. Our knowledge of historical wall thickness is limited, and we are exploring methods to gather this information. All the knowledge gathered on conditions and vulnerabilities of pre-85 PE have been used to shape our pre-85 renewal programme.

5.1.5 Capex and opex trade-offs for pre-85 pipe

As a result of the changes in our operating environment and our Volume-to-Value Investment Framework, we have conducted a thorough review and reprioritisation of our pre-85 renewal programme. The reprioritisation has been based on the improvement in data of our pre-85 pipes, a significant increase in the cost of new pipes, a reduction in approved capital expenditure by the Commerce Commission as part of our DPP3 reset, and an increase in the depreciation rate on our gas assets. Our tender review completed in 2022, showed a price increase of 10-30% for similar projects within the past cycle. This situation drove an updated approach to our acceptable leakage rate and the trigger for renewals verse ongoing maintenance.

We now prioritise repairing leaks on M&S pipes rather than immediately investing in replacements. However, when a section of pipe experiences three or more leaks per kilometre within a calendar year, we assess whether it should be replaced. To do this, we use a net present value (NPV) model, which helps us compare the long-term costs and benefits of continuing repairs verses replacing the pipe. The NPV model calculates the total value of future costs and savings, allowing us to make informed investment decision that balance short-term repairs with long-term renewal.

Powerco's leak detection and survey vehicle is part of our wider leak monitoring programme. The use of this equipment allows us to evaluate underperforming network areas and gather information on their condition. This valuable information informs improved decisions when allocating resources by focusing on areas with a high rate of leakage. The LDV also helps us identify leaks before they are reported by the public, enabling us to take prompt action.

Steel pipe

To assess the condition of steel pipes, we employ direct current voltage gradient (DCVG) surveys and readings from CPS, which help evaluate the coating condition of the pipes. CPS has its own class strategy, detailed in Section 5.6.

Major CPS upgrades have been completed in Wellington, Porirua, Pāuatahanui, Levin, and Palmerston North. Upgrade programmes are underway in the upper and lower Hutt areas and will continue into the next planning period. The next areas where planned upgrades will be commencing are in the New Plymouth, Hāwera and Hawke's Bay sub-networks. More detail is shown in Section 5.6.5.

Emissions and leakage management strategy

Powerco has developed a Leakage Management Strategy, which plays a critical role in guiding the reduction of network emissions and maintaining public safety. Gas leakage is a major contributor to fugitive emissions (Scope 1 and 2) and has environmental and health and safety implications. To address this, we use the MarcoGaz model to quantify and monitor network-related emissions. This is an internationally and locally used model that enables accurate reporting and informs decision-making around emissions mitigation, leak repair prioritisation, and network optimisation.

Leak-related data from past leak surveys and third-party strike incidents is used to validate assumptions within the model and set realistic reduction pathways. These efforts contribute to both immediate emissions reduction and long-term network resilience.

Strategic initiatives also include evaluating the cost-benefit of pressure reduction across network locations. This is looking towards lower leakage rates and subsequent related emissions. Outputs from network modelling are being used to identify candidate systems for optimisation. Where viable, pressure adjustments may be implemented with consideration for whole-of-life costs and emissions impact.

These efforts collectively form a foundational part of Powerco's broader goal to deliver a safe, reliable, and cost-effective gas network that aligns with New Zealand's transition to a low-emissions energy future. The leakage strategy is tightly integrated with the main and service pipe asset class strategy and supports Powerco's strategic and regulatory commitments

Adaptation and resiliency
Powerco's adaptation and resilience strategy focuses on mitigating climate-related risks. This involves assessing the vulnerability of our gas network infrastructure to inland flooding, coastal inundation and other geohazard issues. A network-wide modelling exercise was completed to identify critical above-ground assets susceptible to flooding and sea level rise. Special crossings, such as bridge-mounted pipelines on state highways, and DRS stations were a key focus because of their exposure to natural hazards and their role in maintaining gas supply. Assets located on long-span river bridges were identified as particularly vulnerable to extreme weather events and associated debris (slash). More detail on the specific locations and project details can be found in the special crossing and DRS sections.

Asset information
Our objective regarding M&S pipes is to enhance the reliability and accuracy of data pertaining to the attributes and characteristics of our assets. This includes information on their location, physical properties, criticality, and condition. Table 5.9 summarises the key information areas that we target through continuous improvement – improvements that directly influence asset risks and align with the operational needs of our network.

Table 5.9: M&S pipe asset information

Improvement	Issue	Reason
Location	Accuracy	Improved location information will assist with the prevention of TPD.
Wall thickness	Completeness	Thin-walled pipes have increased leakage rates, understanding where these are located will assist with renewal planning.
Strategic pipes	Accuracy	Redeveloping strategic pipe models will prevent unnecessary operational spend and assist with the prevention of TPD on strategic mains.
Asset age	Accuracy	The reduction in the number of mains with an assumed installation date will assist with renewal planning, particularly for pre-85 mains.

For our M&S assets we have taken major strides in addressing incorrect location information for pre-85 PE and unprotected steel pipelines. This is an ongoing effort where we are continually looking to explore new methodologies to increase data integrity.

5.1.6 Design and construct
The anticipated lifespan of distribution pipes is determined by the Commerce Commission and can be found in Table 5.10.

The Commission's guidelines outline that the lifespan of M&S pipes is based on the nominal operating pressure. Traditionally, steel pipes have been used for IP applications, while PE pipes have been used for MP applications. However, it is important to note that there are instances where MP steel and IP PE (PE100) pipes are used in circumstances that deviate from the conventional material selection. As a result, we have adjusted the expected life for MP steel and IP PE pipes in our Asset Management System. Additionally, as described above, there are well-known issues with pre-85 pipes. These pipes have a shorter lifespan because of factors such as brittleness, inadequate wall thickness, and substandard construction practice.

Table 5.10: Life expectancy of M&S pipes

Material	Sub material/pressure	Expected life (years)
Steel pipe	All IP	60 to 70
	All MP and below	50 to 60
PE	PE80 – Post-85	50 to 60
	PE80 – Pre-85	40 to 50
	PE100 (IP)	60 to 70
Cast iron	All	20 to 30

Powerco's engineering design and construction standards establish all the requirements for safety, quality and reliability of our M&S networks. These standards incorporate conditions required to comply with regulatory and statutory obligations, while incorporating new technologies, construction and repair methodologies. Our service providers also carry specialist tools and critical spares that allow assets to be managed effectively.

5.1.7 Renewal

The majority of our M&S pipes are in satisfactory condition (87.8%) and a significant portion of the network is relatively new. Therefore, our pipe renewal plans primarily focus on critical areas where three or more leaks per kilometre have been detected. As described above, the most common networks in our renewal programme are unprotected steel and pre-85 PE pipes.

Our Volume-to-Value Investment Framework has a strong influence in the renewal area, as it requires us to consider and weight alternative repair options to find the best investment opportunity. This means our investments are focused on the renewal of the right asset at the right time for the right cost, while maintaining optionality and assets that can deliver gas in whatever form is needed.

In the past, when renewing M&S pipes, there have been instances where sections of steel pipes have been interrupted with PE. This has created segments of potentially unprotected steel within our network. We are continuing to develop plans to replace them with PE pipes to ensure their protection.

The M&S pipe works are treated as individual projects, focusing on the renewal or replacement of pipes to effectively reduce associated risks. These projects are undertaken based on the specific circumstances of the pipework, considering factors such as the environment or location in which they are situated, and usage demand now and in the future.

In the context of the pre-85 pipe replacement model, we assess replacement viability when a location records three or more leaks per kilometre within a 12-month period. Net present value (NPV) is used to determine cost of ownership between repairing leaks before replacement is made. This is considered along with the asset criticality to justify replacement being optimal over continuing to repair leaks as they occur.

We adopt a reactive approach to determine the appropriate course of action in instances where customers make changes to their installation without informing us (eg homeowners make modifications to their properties, new appliances etc), or pipes are found to be historically installed in a way that no longer complies with the safety standard.

We have also implemented new technology and innovative approaches across our day-to-day activities that help extend the lifecycle of our M&S. Equipment such as the Ravetti and Friatec/TD Williamson flow-stop, combined with the use of hydro excavation equipment (instead of mechanical digging), have a positive impact on the life of our assets by significantly reducing the potential for damage during normal operations; and by default, reducing the expected number of renewals.

5.1.8 Operate and maintain

One of the significant risks to M&S is TPD. To minimise the likelihood and impact of such damage, we have implemented a notification system that requires third parties to inform us when they are working near our assets. Pipes that have a significant impact on delivery or are in high-consequence areas are designated as strategic and require close oversight from our regional contractors. Additionally, regular maintenance is conducted on pipeline warning signage to aid in their identification.

Once PE pipelines are installed, they do not require direct maintenance. On the other hand, steel pipelines need corrosion protection systems, specifically cathodic protection, which can be achieved through impressed current or sacrificial anodes. For more details on the operation and maintenance of these systems, refer to Section 5.6.

The main operational costs associated with M&S pipes are related to leakage management, inspections, and responding to faults during events. These aspects are detailed in our strategies for public safety and network integrity. The leakage inspection cycles for pipes by type are shown in Table 5.11.

Table 5.11: M&S pipe leakage survey frequency

Asset type	Annually	Five-yearly
Main and service pipes in high density community usage area	X	
Steel pipeline when CPS is faulty	X	
Other pipes not covered above	LDV accessible areas	Not accessible by LDV

Leak detection vehicle (LDV)

Powerco's LDV programme plays a central role in our operate and maintain activities for the gas distribution network. First introduced in FY25, the LDV enables high-efficiency network-wide leak surveying with significantly reduced operating costs and enhanced detection accuracy, compared with traditional walking surveys. The vehicle supports our emissions reduction goals by enabling proactive leak identification and repair, reducing public reported events (PREs), and helping manage fugitive emissions.

In FY26, we will continue with an annual full-network LDV survey, complemented by targeted surveys in high leakage areas (HLAs), such as regions with pre-85 pipelines. This hybrid approach delivers optimal cost-efficiency and emissions reduction, supported by data showing higher leak detection rates in targeted high-risk areas. The strategy aligns with Powerco's Corporate Strategic Framework, particularly the FY29 goal of delivering an optimised leak detection survey plan.

Survey data collected by the LDV feeds directly into our operational maintenance processes, informing prioritisation of repairs and enabling smarter resource allocation. Leak repairs identified via LDV were found to be more cost-effective than those found via defects or public reports. This further reinforces the LDV's role in reducing Opex while supporting a safer, lower-emissions network.

Looking ahead, the LDV strategy includes continued refinement of survey routing, potential automation of data processing, and exploration of new technologies, such as portable detectors and satellite-based methane sensing. These enhancements will support more efficient operations and contribute to meeting Powerco's 2030+ emissions reduction targets. Regular review and adaptation of the LDV programme ensures it remains an integral tool in maintaining the performance and reliability of our M&S asset class.

5.1.9 Dispose

The disposal of M&S pipes is not common on our network because of the high cost associated with their removal. Instead, when a pipe is no longer needed, we choose to decommission it and leave it in the ground, indicating in our records that it is out of service. In some cases, when a section of the pipe obstructs other assets, we may remove that specific section while leaving the remaining portion in the ground, following the same approach as previously mentioned. The physical disposal of these assets is carried out by our service provider, ensuring compliance with all environmental regulations and requirements.

5.1.10 Expenditure

Figure 5.10 shows the expenditure programme across our M&S pipes, with 47 projects forecast during the planning period, and an expected $8.17 million of investment across capital and complex operational expenditure on our networks. Of the 47 planned projects, 23 are in our 2026 Gas Works Plan (GWP) (next 12 months), combining for a total of $3.53 million in FY26. These figures are derived from our Te Puni Kāpuni (Issues Register) (TPK) and represent our 10-year forward programme. Note, some projects are in our TPK, adding to our project count, but are yet to have a price set.

Figure 5.10: M&S pipe expenditure programme

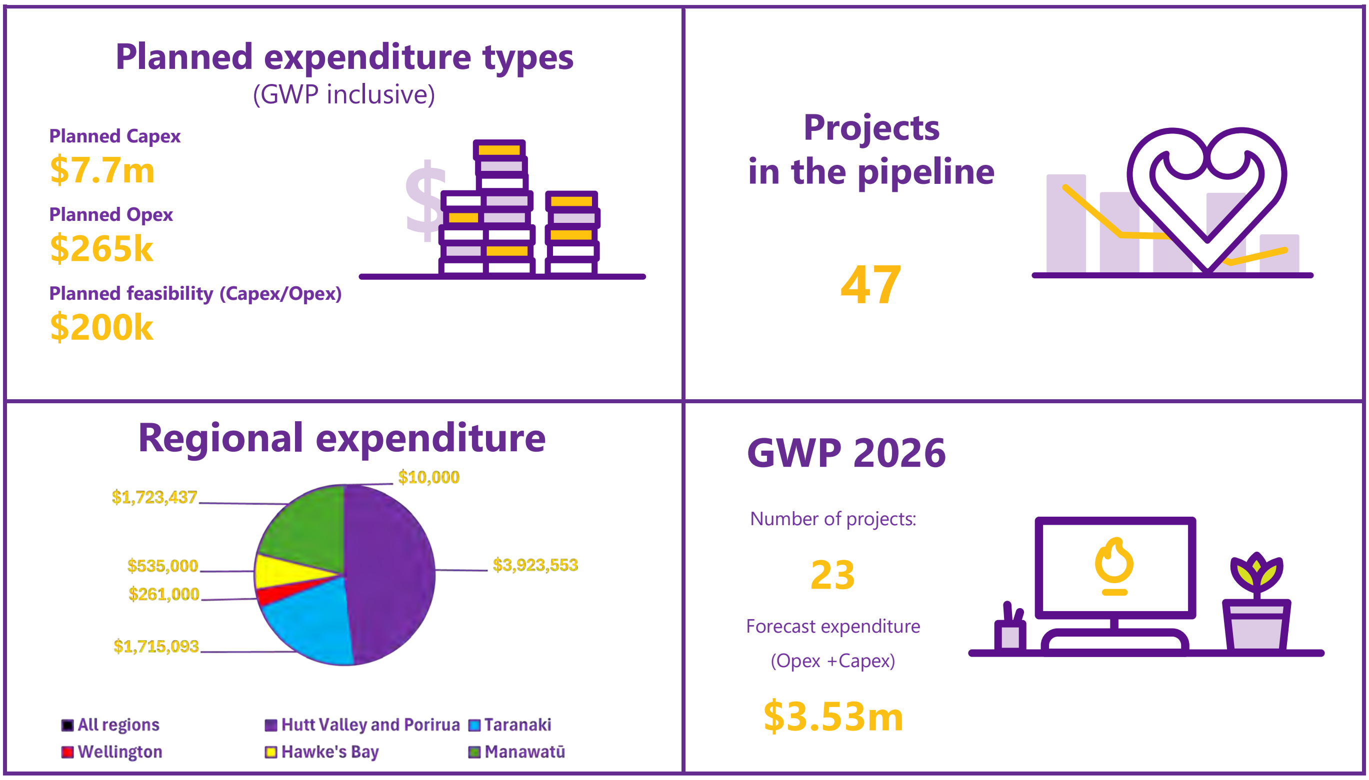


Table 5.12 describes the 23 M&S projects in the 2026 GWP (next 12 months). The other projects in the pipeline can be found in Chapter 8, and are set out by region.

Table 5.12: GWP26 M&S projects

TPK Ref.	Project description	Project region	Expenditure category	GWP26 design/ construct	Description of works
39	Kiwi Lumber, no odorant in pipeline	Manawatū	Opex	Construct	Decommitioning of a section of pipeline no longer in use.
278	De Menech Grove pre-85 replacement	Hutt Valley and Porirua	Capex	Construct	Replacement of 800m of leaking pre-85 PE pipeline.
339	DSIR DRS outlet high velocity mainline	Manawatū	Opex	Design	Design project looking into options to remediate a 300m section of line experiencing high peak gas velocities.
376	Foxton IP service downgrades	Manawatū	Capex	Construct	Downgrade a series of residentials along Ladies Mile, Foxton from IP to LMP network.
403	Wallace St Massey University IP service valve defect	Wellington	Capex	Construct	Decommission IP service and remove corroded riser.
413	29 Hartford Cres, pre-85 PE main replacement	Hutt Valley and Porirua	Capex	Construct	Shallow pre-85 in residential area. The area is under development and known for leaks.
439	Leighton Ave, IP decommissioning	Hutt Valley and Porirua	Opex	Construct	Redundant 100mm IP pipe. Efficiency loss through stand over/reactive funds with stand overs + mark outs.
440	Cuba St, IP decommissioning	Hutt Valley and Porirua	Opex	Construct	Redundant 100mm IP pipe. Decommission pipeline as a campaign.
506	Ōkato Dairy Factory, mains decommissioning	Taranaki	Opex	Design /construct	Decommission and abandon in situ approximately 400m of 80 NB PE main.
542	TSB Arena network seismic assessment	Wellington	Capex	Construct	Install earthquake valve on the inlet of the PRS. Assess the condition and integrity of the existing pipe supports of above-ground steel main then either renew or replace.
553	Wellington mains – drain water	Wellington	Capex	Construct	Equipment install to location.
554	Remove steel compression fitting at JB HiFi	Wellington	Opex	Design /construct	Removal and replacement of faulty equipment.
575	Grounsell/Park renewal pre-85 replacement	Hutt Valley and Porirua	Capex	Construct	Replacement of 1.6km of leaking pre-85 PE pipeline.
641	HMP YJS damaged wrapping – Cambridge St, Levin	Manawatū	Capex	Design	Assess the extent of the damaged yellow-jacket coating on the steel IP pipeline. Design remediation programme for the damaged coating.
681	Damaged IP coating – Waitara Rd	Taranaki	Opex	Design	Design project to determine best value option from coating's remediation or pipe relocation to IP scope.
684	Wairere Rd, pre-85 replacement	Hutt Valley and Porirua	Capex	Construct	Replacement of 630m section of pre-85 PE pipeline incurring a high number of leakage events.
702	Waitangirua, IP rationalisation	Hutt Valley and Porirua	Capex	Design	Multiple issues identified in Tawa rationalisation project. Shallow main, seized/leaky valves, leaking crossing, station renewal. Relocation.
703	Carlisle St, pre-85 replacement	Manawatū	Capex	Design /construct	Replacement of 830m section of pre-85 PE pipeline incurring high leak frequency and has sections with shallow mains issues.
705	Lemon St, remediation and removal of pipework and ancillaries	Taranaki	Opex	Design /construct	Rationalisation project, look to remove redundant pipe.
709	Walkers Rd, domestic IP to MP conversion	Manawatū	Capex	Construct	Install new MP service regulator, downrate downstream pipework to LMP. Renew risers where corroded. Remove any service regulators that exist.

TPK Ref.	Project description	Project region	Expenditure category	GWP26 design/ construct	Description of works
711	The Strand, pre-85 replacement	Hutt Valley and Porirua	Capex	Design /construct	Replacement of 1215m of pre-85 PE pipeline experiencing high leak frequency, entirely within high-density community areas (HDCU).
712	High St, pre-85 replacement	Hutt Valley and Porirua	Capex	Design /construct	Replacement of 700m of pre-85 PE pipeline experiencing high leak frequency, entirely within HDCU.
736	Belmont IP domestic customer transfer to MP	Hutt Valley and Porirua	Capex	Construct	Transfer 21 domestic risers from IP onto the MP network.

5.2 District regulator stations (DRS)

District regulator stations (DRS) are our second largest network asset class by value. Their primary function is to reduce pressure in our network. DRS are among Powerco's most technically complex asset types because of their intricate construction, maintenance, and componentry. All stations on our network, with a few exceptions, were above ground until 2003, when modular underground stations were introduced to improve public and asset safety.

This asset class accounts for 1.77% of our total RAB value.

Asset class dashboard

Figure 5.11 shows the DRS asset class dashboard, highlighting:

- The asset condition in 2025 is reflective of Schedule 12a, and condition grading system categories defined in Chapter 4, Table 4.17.
- $2.71 million of capital and operational investments spread across 27 planned and forecast activities.
- Operational investments are defined as being complex in nature, requiring detailed planning and project management oversight.
- The work programme comprises 11 station renewals, five rationalisation projects, and four capacity upgrade projects.
- We have 112 DRS on our IP network and 69 on our MP network.

Figure 5.11: DRS asset class dashboard

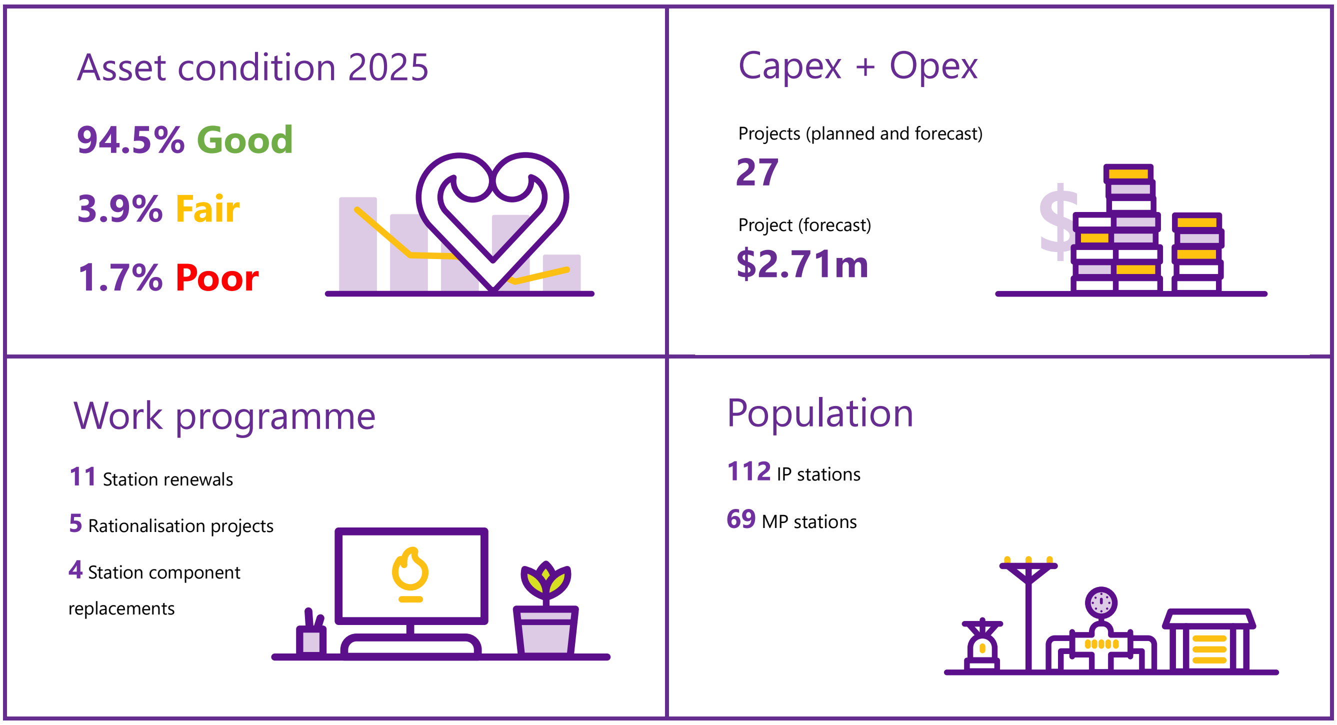


Table 5.13 describes the above ground and below ground stations utilised in our network. To support reliability-centred maintenance (RCM), stations are further classified into two categories based on delivery criticality, as shown in Table 5.14. The asset class strategy for DRS was updated in 2024. The FMEA was reassessed to give specific guidelines regarding regulator stations to inform technical standards and asset lifecycle plans, while focusing on the Volume-to-Value Investment Framework.

Table 5.13: Description of Powerco's DRS types

Station type	Description
Above ground stations	Above ground stations. These include regulators, filters, valves and facilities (building or enclosure).
Below ground stations (Cocons)	Under ground station units called 'Cocons'. They are not prone to vehicle collision and limit the visual nuisance, especially in the urban environment.

Table 5.14: Description of Powerco's DRS classification

Classification	Description
District regulator station (DRS)	Either ≥500 customers[5] or ≥100 customers, including at least one critical customer.
Pressure regulation station (PRS)	5-500 customers.
Street (SR)	1-5 customers. A street regulator is used where the regulator needs to be separated from the standard gas measurement system (GMS).

5.2.1 Asset class objectives

Contributing towards the delivery of a better energy future for our customers by providing a consistently safe, reliable, resilient, and cost-effective gas network now and into the future, the primary objectives for DRS are:

- To regulate and control pressure systems across our networks.
- To efficiently reduce the total number of unplanned gas releases and outages resulting from asset failure.
- To reduce public safety risks.
- To maintain a high visual appearance standard.

Analysing these objectives has identified the primary causes of risks are ageing assets, legacy design, third-party interference (TPI) and non-standard operation/maintenance. These risks are addressed within our asset class lifecycle management plans, which focus on minimising and eliminating these risks to ensure our stations remain safe, efficient, reliable, and aesthetically pleasing.

5.2.2 Asset class overview

Across our regions of operation, we have 181 DRS installed, 122 above and 59 below ground. Undergrounding stations in high-density community areas (HDCU) was part of our Asset Class Strategy between 2012 and 2023, resulting in an increase in the rate of underground stations installed. This strategy has been suspended indefinitely because of the associated equipment no longer being manufactured and no suitable alternative identified.

Table 5.15 provides a breakdown of the types and operating pressures of our DRS, along with their average age. This provides an indicator of the overall health of these assets. By understanding the geographic distribution and condition of our DRS, they can be better managed and maintained. This will help to ensure they continue to perform as designed. Figure 5.12 shows the age profile of our DRS by type.

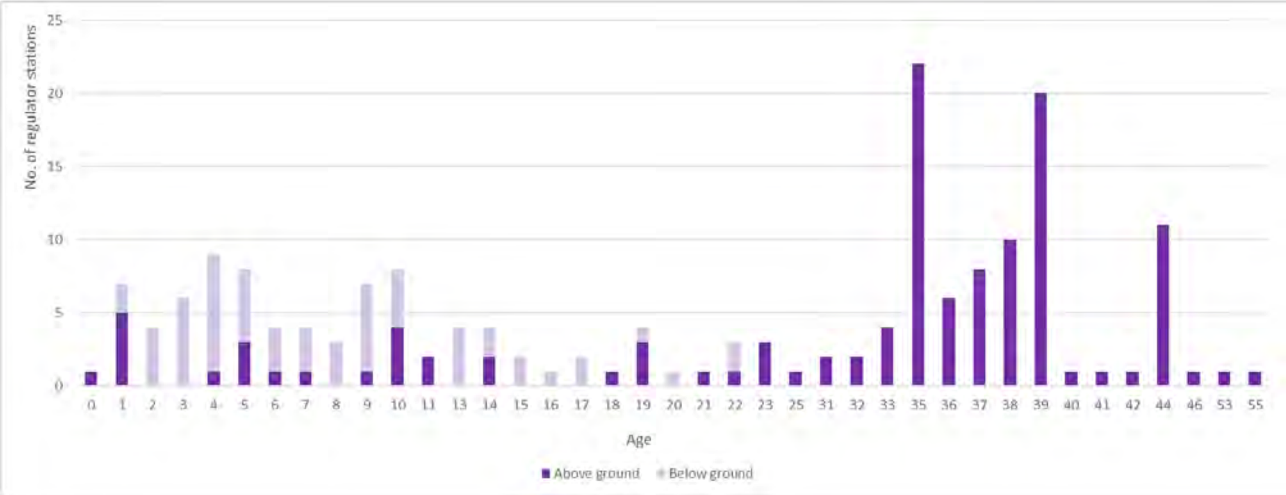
[5] Commercial customers calculated in residential customer equivalents.

Table 5.15: Total number by region, type and pressure

Region	Type	Total stations	IP stations	MP stations	Average age (years)
Wellington	**Total**	**47**	**29**	**18**	**17**
	Above ground	22	9	13	27
	Below ground	25	20	5	8
Hutt Valley and Porirua	**Total**	**45**	**32**	**13**	**20**
	Above ground	27	17	10	30
	Below ground	18	15	3	6
Taranaki	**Total**	**22**	**15**	**7**	**29**
	Above ground	15	9	6	33
	Below ground	7	6	1	22
Manawatū and Horowhenua	**Total**	**56**	**25**	**31**	**29**
	Above ground	49	19	30	33
	Below ground	7	6	1	4
Hawke's Bay	**Total**	**11**	**11**	**0**	**31**
	Above ground	9	9	0	37
	Below ground	2	2	0	6
All regions	**Total**	**181**	**112**	**69**	**24**
	Above ground	122	63	59	31
	Below ground	59	49	10	9

The age profile of our DRS shows a notable concentration of assets at 35, 39, and 44 years of age. As would be expected, these are above ground installations. There is also a consistent spread of younger assets aged 0-10 years, which include both above ground and below ground stations. This distribution reflects a mix of legacy infrastructure approaching end-of-life and recent investments in newer assets. The clear peaks at specific older age intervals correspond with past network expansion, highlighting potential clusters for future renewal planning.

Figure 5.12: DRS age profile



5.2.3 Asset health and performance

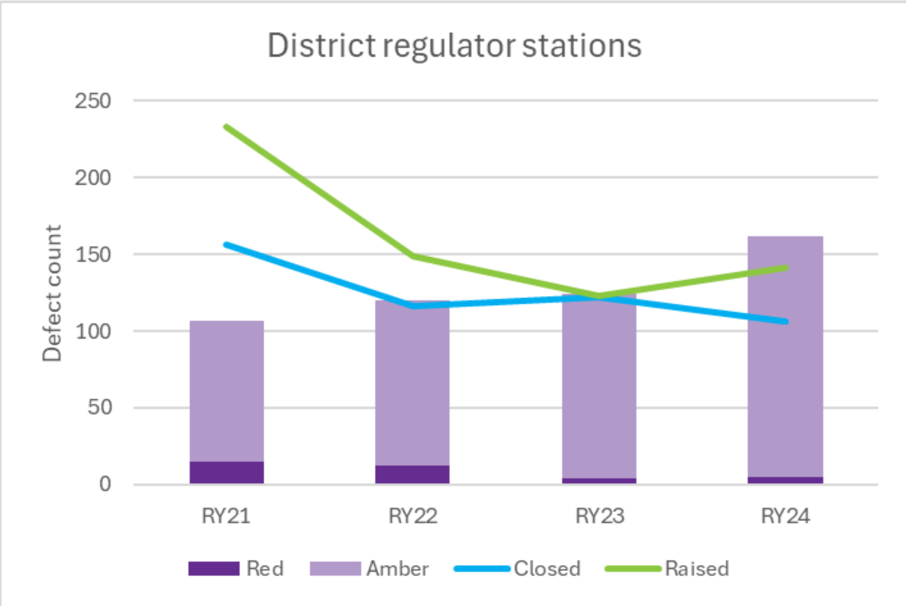
Table 5.16 shows the DRS excerpt of Schedule 12a in Appendix 3, classified by pressure regime. Our preventative maintenance programme is implemented through PRS and DRS inspection programmes. Most of our IP and MP stations are in a condition that is reflective of their age, as shown in Table 5.16.

Table 5.16: DRS asset condition

Asset type	Quantity	Grade 1	Grade 2	Grade 3	Grade 4	Grade unknown	Data accuracy
IP stations	112	1.79%	5.36%	2.68%	90.18%	-	3
MP stations	69	1.45%	1.45%	-	97.10%	-	3
Total	**181**	**1.66%**	**3.87%**	**1.66%**	**92.82%**	**-**	**3**

Figure 5.13 illustrates defect trends for DRS from RY21 to RY24, segmented by criticality, and showing total defects raised and closed each year. DRS defects are predominantly Amber, with Red defects remaining very low throughout the period.

Figure 5.13: DRS past performance



A significant reduction in raised defects is evident from RY21 to RY23, likely reflecting the impact of targeted renewal work and improved condition monitoring practices across high-priority stations. RY24 saw an increase in raised defects, which could be attributed to improved detection (LDV) and risks relating to ageing assets.

Closed defect volumes generally tracked downward during the period, with a slight rise in RY23, but dipping again in RY24. The combination of fewer closures and more defects raised in RY24 led to a visible uptick in total open defects, reversing the downward trend seen during the previous two years.

From an asset health perspective, the continued low number of Red defects is a positive sign, suggesting that critical risks are being effectively mitigated. However, the increasing volume of unresolved Amber defects in RY24 points to a growing backlog of medium-priority issues. Maintaining reliability will require renewed focus on addressing these outstanding items, particularly as older DRS infrastructure continues to age and becomes more susceptible to wear-related faults.

5.2.4 Type issues

The implementation of FMEA for DRS has led to the identification of the significant risks associated with the operation and maintenance of our stations. A comprehensive review our FMEA data was conducted in 2024 and the result of this analysis is summarised in Table 5.17.

Table 5.17: Key regulator station risks

Major threat	Specific threats	Consequence
Legacy construction and design	No fire valves	Inability to shut down station in emergency.
	Threaded joints	Higher likelihood of leakage through threading.
Component failure	Over pressure shut off (OPSO)/Relief failure to activate	Over pressure in downstream network resulting in violation of maximum allowable operating pressure (MAOP).
	Premature OPSO activation	Early activation of the OPSO valve because of vibration, leading to loss of supply to customers.
Incorrect maintenance	Incorrect OPSO/ relief set pressure	Over pressure of downstream network resulting in violation of MAOP, or early activation leading to loss of supply to customers.
	Inoperable or buried fire valve	Inability to shut down station in emergency.
Third-party interference	Vandalism or interference	Third-party interference on asset leading to leakage or unplanned outages.
	Vehicle impact	Vehicle impact, leading to gas exposure, fire or loss of supply to customers.

The primary risk areas for our DRS relate to public safety hazards, component failures, and issues arising from legacy and non-standard design, construction, and maintenance practices. To mitigate these risks, our Asset Class Strategy actively promotes changes within our standards and identification of relevant projects. These initiatives aim to minimise the impact and reduce the occurrence of such risks. We provide clear instructions for adjusting processes in the field when these risks are identified.

Most of our DRS are above ground, meaning we are able to perform asset condition assessments and inspections on stations at regular intervals. This helps ensure the critical components on our most complex assets are performing as designed. This also applies to our below ground stations, which can be accessed from a hatch at ground level.

Above ground regulator stations are exposed to the risk of external damage, such as impact by vehicles or vandalism. The addition of below ground stations to our warehouse in 2003 improved overall station performance relating to these defect types. While we still have a significant number of these assets within the fleet, we no longer run an installation programme because of procurement issues.

Leaks through threaded piping connections represent a systematic issue at our stations. An update of our engineering design and construction standards addressed this problem by incorporating flange connections to these types of joints.

In 2022, a valve failed by ejecting the valve head. This resulted in a change to the risk profile of our stations, which has been formally captured in the 2023 review of our Formal Risk Assessment. An investigation highlighted that a specific valve type was vulnerable to failure of this nature. These valves could be found across the Hutt Valley and Porirua region on IP stations installed before 1980. We launched a survey across IP stations in the region to identify and quantify how many stations could be affected. In total, 71 stations have been inspected, with just three (4%) found to have this valve type.
Between 2023 and 2025, we have continued investigations in Hutt Valley and Manawatū regions, the results are under analysis for remediation. The findings from this analysis will be used to scope projects for execution within the next planning cycle.

Adaptation and resiliency

Powerco's DRS have been assessed for vulnerability to inland flooding (1% annual exceedance probability – AEP) and coastal inundation using SSP1-1.9 and SSP2-4.5 scenarios[6]. Forty-six stations (24%) were identified as exposed to physical hazards. These stations are critical for reducing transmission pressure to safe, reliable distribution levels; inundation prevents effective pressure regulation.

Table 5.18: Total number of DRS gas assets vulnerable to inland flooding and coastal inundation

	Hazard				
Asset Type	Inland flooding	Coastal inundation	Slips	Exposed to both hazards	Total
Regulator stations	29	9	1	8	46 (24%)

Mitigation planning is integrated into asset management processes. Assessment considers customer impact and performance. Where failure isolates fewer than 500 customers, the need may be low; for higher-impact sites (>500 customers or key commercial/industrial users), loss impact and relight cost studies inform decisions. Options are evaluated and validated to select the most economical solution at end-of-life or when upgrades are required.

Preferred mitigations include relocating stations out of hazard zones, elevating assets in flood-prone areas, and avoiding below ground installations (Cocons) in accordance with design standard GDS-DRS-01. Priority is based on station age, flow rate, and network criticality. Previously completed resilience projects provide guidance for optioneering. Feasibility studies will determine whether the solution will be Capex or Opex expenditure.

A feasibility study scheduled in GWP 2026 will look to confirm remediation plans. Potential improvements under consideration include:

- Raising SCADA units to avoid water ingress and instrumentation damage.
- Installing protective barriers or cages to reduce debris impact during flooding.
- Modifying vents and stacks to prevent water accumulation and regulator malfunction.

Table 5.19: DRS resiliency and adaptation projects

TPK Ref.	Project description	Project region	Expenditure category	GWP26 design/ construct	Description of works
698	Regulator stations, coastal and inland flooding resiliency	Taranaki	Opex/Capex	Feasibility	Stations flagged for climate risk (inland flooding and coastal inundation); assessment of remediation requirement and options.

Asset information

As well as DRS general population and life expectancy data, Powerco stores other data to benefit asset strategy. A key goal is to improve our data confidence about the components within the stations and their associated characteristics. This informs maintenance and renewal planning by providing higher confidence that we are targeting critical areas.

[6] SSP means socio-economic shared pathways of the recent IPCC AR6 report in reference to global warming scenarios – aligned to RCP forecasts. 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.

The introduction of our new Asset Management System (AMS) software SAP in 2019, allowed us to store this information explicitly for each station. Previously, we had only recorded this data for our critical stations. Subsequently, we have enhanced the completeness of our dataset by adding the inlet and outlet pressures for each station. This improves our modelling and planning efficiency, as it lets us model future network developments with improved accuracy. Table 5.20 shows the key characteristics we store for each of our stations.

Table 5.20: Asset information

Improvement	Issue	Reason
Regulator type	Completeness	Improved accuracy with maintenance planning, ensuring we have the correct equipment and soft parts if maintenance is required.
Regulator protection type	Completeness	Required for network safety assessments.
Regulator model	Completeness	Required for accurate station capacity assessments.
Regulator orifice diameter	Completeness	Required for accurate station capacity assessments.
Regulator inlet and outlet pressure	Completeness	Required for modelling/planning efficiency and maintenance planning, ensuring we can plan for future developments with correct data and that we have correct parts and equipment if maintenance is required.

For full year 2026-27, we have a design project planned to further develop and improve station component data accuracy. The project will investigate the best options for component classification, with the intent to update the AMS to populate these fields. The goal is to continue improvements to data granularity and quality to enable best practice for reliability information analysis.

5.2.5 Design and construct

Because of the complexity of our regulator stations, we have historically bundled all componentry for each station into a single equipment record in our AMS, except for our major stations, such as the Tawa gas gate. The bundling approach has led us to set the life expectancy of regulator stations to 35 years, which aligns with the lifespan of most components making up a station.

In 2023, it was noticed that the Commerce Commission was using a lifespan of 25 years to establish the health condition of regulator stations. This assumption impacted the estimated state of assets, creating a change from 44% over age at 35 years, to 65% over age at 25 years. These findings instigated an internal investigation into the physical condition of DRS against age. Through analysis of population, maintenance, and financial data, there was no clear evidence of age-related failures or damage in Powerco's stations. This indicates there is no specific correlation between the physical condition and the age of these assets. As a result of this check, we consider our current maintenance regime to be adequate.

Historically, below ground stations using Cocons technology has been preferred for reliability, safety, and compact design. These stations are simple to install, require minimal space, and protect critical components from environmental exposure and TPD, including vehicles. The manufacturer of this equipment has been discontinued, prompting a shift in strategy. While spares remain available, long-term availability is uncertain, and no suitable alternative supplier for below ground station designs has been identified. Decommissioning of existing units should prioritise salvaging usable spares for continued support of operational Cocon stations.

Future station replacements or refurbishments consider site criticality and associated risks. Previous specifications required below ground designs in HDCU areas with high exposure to vehicle impact. Where Cocon stations remain in such high-risk locations, they will be retained where possible. The sites with lower criticality or reduced external risks will be evaluated for transitioning to above ground. The aim being to improve long-term maintainability and reduce operational challenges associated with ageing below ground assets.

The principal objective in the design and construction of a Powerco DRS is that it satisfies safety, reliability and capacity requirements, and the regulation and statutory obligations set out by the Commerce Commission, and industry. Our engineering standards and specifications are updated frequently to incorporate new technology, construction methods and materials, assuring quality across our stations.

5.2.6 Renewal

Renewals of our DRS are driven by safety and efficiency improvements, and our Volume-to-Value Investment Framework. When a station is determined to be ready for renewal, it is cross-checked against our network strategies (refer to Chapter 6), to ensure it meets resilience and redundancy requirements. Renewals will be designed with sufficient delivery capacity. Where capacity is not an issue, the renewal is assessed in alignment with our Volume-to-Value Investment Framework. This will specifically consider that the replacement is more effective than a refurbishment or maintenance plan.

In the past, stations have featured heavily within our renewal expenditure forecasts. When compared with the wider asset fleet, they have a relatively shorter life expectancy and are highly critical to the distribution of gas throughout our network. Powerco demonstrates its commitment to continual improvement by rationalising the number of stations across the network and standardising station designs. This approach enhances efficiency and reduces ongoing maintenance requirements.

Station renewals have been determined using the results of risk assessments. The assessments highlighted the main risks of above ground stations in an emergency event. By analysing this information, we were able to decide which stations were of highest risk and, therefore, top priority.

Supplementing the risk assessments, a variety of further criteria are also considered in our renewal planning to decide which should be carried out first. These include location, capacity, network rationalisations and analysis of defects. A health check was carried out on DRS in 2023 which revealed that the number of defects logged against a station had no material correlation with its age. In alignment with our Volume-to-Value Investment Framework, the age of a station will very rarely be used to instigate a renewal going forward. The identified station renewals are entered into our works management process (TPK) and scheduled for design and delivery by criticality.

5.2.7 Operate and maintain

The primary function of our pressure reduction facilities is to provide a safe and reliable delivery of gas at the required volumes. To ensure this function is met, Powerco carries out periodic routine inspections for maintenance on our DRS and PRS stations. The following standard operations are carried out during inspections at 6-12 month intervals, depending on station type requirements:

- The operating stream is switched from 'working' to 'standby' to reduce wear on the current working stream.
- Outlet pressure is checked and adjusted if necessary.

The following activities are undertaken and if they do not meet the standard, they are corrected on-site. If this is not possible, a work order is raised to correct it at another time.

- Check for leaks.
- Over pressure shut-off valves (OPSO) are confirmed open and reset if required.
- General inspection of pipework and identify any evidence of corrosion.
- Ensure the general condition and integrity of the enclosure is maintained.
- Filters are checked and stripped if necessary.

- Flange insulation kits are checked on stations with cathodic protection (CP), ensuring they are isolated from the system.

On top of these inspections, our stations are on 10-yearly comprehensive maintenance/inspection plans. These inspections signal a refurbishment of pressure protection equipment where possible or replacement. The facility is also cleaned where condition dictates, which may include sandblasting and repainting. The soft parts of the regulators are also changed based on condition.

5.2.8 Dispose

Our preferred method of disposing of a DRS is to fully remove the station, and any related equipment, and to restore the site to its condition before installation. An abandoned station may cause a health and safety risk to the public if not removed and requires ongoing maintenance and monitoring. This will incur operational spending that could otherwise be allocated more productively. All decommissioned pressure reduction assets are assessed for suitability for refurbishment and reuse. If they are found to be unsuitable, our service provider disposes of the physical assets in compliance with all environmental requirements.

5.2.9 Expenditure

Figure 5.14 shows the expenditure programme across our DRS assets, with 27 projects forecast during the planning period, and an expected $2.71 million of investment across capital and complex operational expenditure on our networks. Of the planned projects, 19 are in our 2026 GWP (next 12 months), combining for a total of $1.43 million in FY26. These figures are derived from our TPK Issues Register and represent our 10-year forward programme. Note, some projects are in our TPK, adding to our project count, but are yet to have a price set.

Figure 5.14: DRS expenditure programme

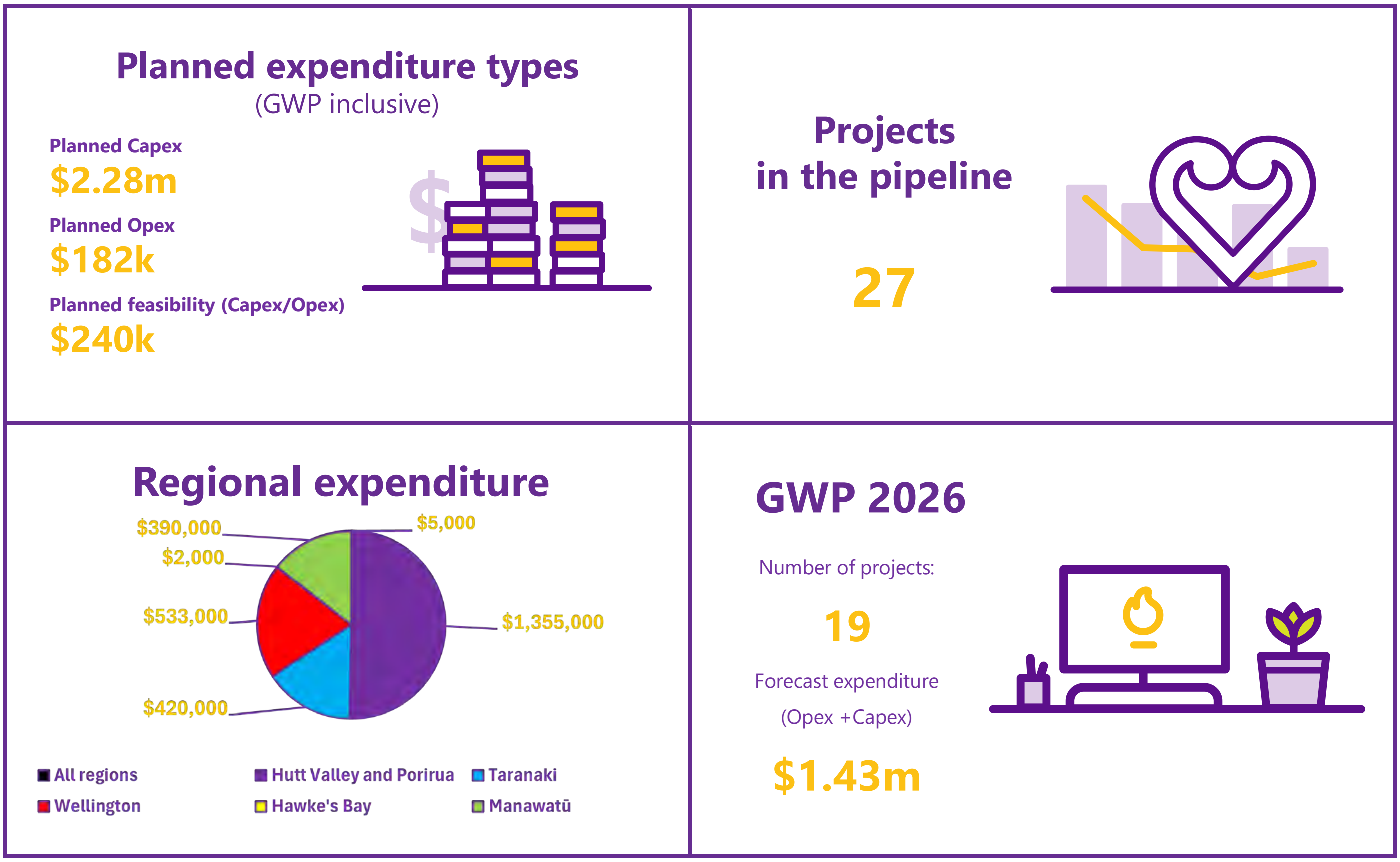


Table 5.21 describes the 19 DRS projects in the GWP for 2026. The other projects in the pipeline can be found in Chapter 8, and are set out by region.

Table 5.21: GWP26 regulator station projects

TPK Ref.	Project description	Project region	Expenditure category	GWP26 design/ construct	Description of works
213	Onepoto PRS renewal	Hutt Valley and Porirua	Capex	Design	Renewal/relocation of DRS near vehicle path. DRS 45 years old.
214	Maungaraki DRS renewal	Hutt Valley and Porirua	Opex/Capex	Feasibility	Renewal/relocation of DRS near vehicle path. DRS 38 years old.
217	Stokes Valley DRS renewal	Hutt Valley and Porirua	Capex	Design	Renewal of DRS. DRS 36 years old; failure affects 1500 ICPs.
220	Sunrise Boulevard DRS renewal	Hutt Valley and Porirua	Opex/Capex	Feasibility	Renewal/relocation of DRS. Moderate vehicle collision risk, no barrier. DRS 36 years old; leaking IP fire valve.
221	Hutt Rd South DRS renewals	Hutt Valley and Porirua	Opex/Capex	Feasibility	Renewal of DRS; 35+ years old. One regulator non-compliant.
347	Mangati Rd DRS renewal	Taranaki	Capex	Construct	Renewal/relocation of DRS.
377	Foxton LMP rationalisation	Manawatū	Capex	Construct	Foxton network rationalisation to remove PRS and reconfigure pressures; removes legacy PRS.
499	Devon St service regs	Taranaki	Capex	Construct	Approx. 70 service regulators at end of life; replacement strategy to be evaluated.
550	Miller St DRS relocation	Manawatū	Capex	Construct	Miller St PRS relocation. Reduce harm risk from leakage.
564	Old Tory St DRS leaky building	Wellington	Opex	Construct	Old building leaking badly; remediation of roof.
572	Pahiatua DRS renewal	Manawatū	Capex	Construct	Renewal of DRS. Station paint faded, corrosion; filter upgrade needed.
610	Burma Rd DRS renewal	Wellington	Opex/Capex	Feasibility	Renewal of DRS; pitting and filter issues.
634	Hutt Rd DRS – station repaint	Hutt Valley and Porirua	Opex	Construct	Renewal of DRS. Paint peeling, graffiti persistent; full repaint required.
656	Standard G65 GMS design	All regions	Opex	Design	Standardise G65 rotary GMS design for network consistency.
680	Grays Rd, corroded service regulator renewal	Hutt Valley and Porirua	Capex	Construct	Renew regulator station, including all major components.
698	Regulator stations, coastal and inland flooding resiliency	Taranaki	Opex/Capex	Feasibility	Stations flagged for climate risk (inland flooding and coastal inundation); assessment of remediation requirement and options.
701	Tawa Gate, corroded aux line	Wellington	Capex	Construct	Corrosion on Tawa Gate pipe raiser and mainline tee; remediation/replacement of spool.
710	Fairfield Rd DRS renewal	Taranaki	Capex	Construct	Renewal of DRS. Regulator issues; corrosion present. Renew regulators and pipework.
716	Wellington East DRS resiliency and rationalisation (see alternative option 717)	Wellington	Capex	Design	Childers Tce DRS: Replace valves and pilots, repaint, install temporary supply. Remove Ellice St DRS post-shutdown.

5.3 Main and service valves (VAL)

Representing 1.22% of Powerco's assets base (RAB value), the main and service valves (VAL) are manufactured out of steel and PE. The type of valves we use in the network are shown in Table 5.22.

Table 5.22: Description of Powerco's VAL types

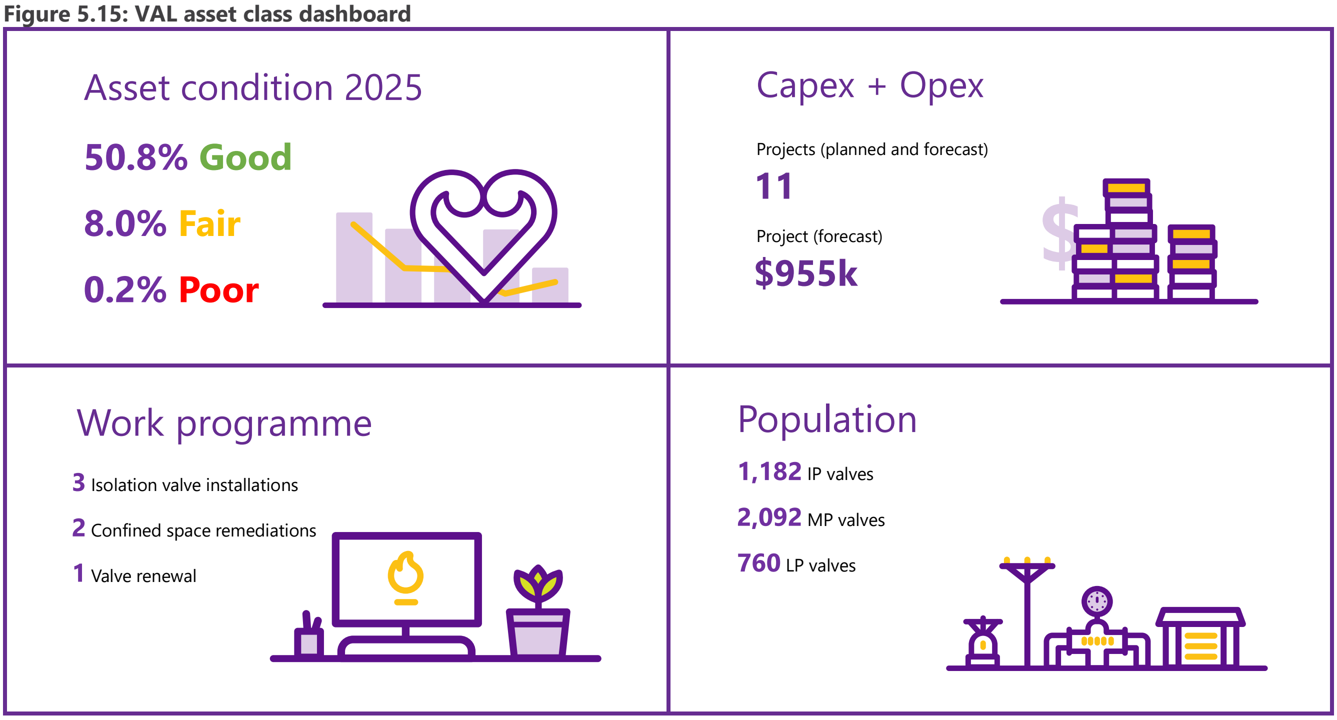
Type	Description
Main (line)	Installed inline on main pipelines, used for isolating sections on the network.
Service	Installed inline on service pipelines, used for isolating customers.
Station	Installed within regulator stations and are not covered in this section, see Section 5.2 for more information.

Asset class dashboard

Figure 5.15 corresponds to the valve asset class dashboard, highlighting:

- Asset health 2025 is reflective of Schedule 12a, and condition grading system categories defined in Chapter 4, Table 4.17.
- $955,000 of capital and operational investments spread across 11 planned and forecast activities.
- Operational investments are defined as being complex in nature, requiring detailed planning and project management oversight.
- The work programme that comprises three isolation valve installations and one valve renewal.
- A population of 1,182 IP, 2,092 MP and 760 LP valves on our networks.

Figure 5.15: VAL asset class dashboard



5.3.1 Asset class objectives

Contributing towards the delivery of a better energy future for our customers by providing a consistently safe, reliable, resilient, and cost-effective gas network now and into the future, the primary objectives for VAL are:

- To enable quick, reliable isolation of specific sections of the network or individual customers when necessary.
- To reduce public safety risks.
- To ensure valves are easily operable, identifiable, locatable and leak-free.

The valves on our network are typically in a fixed position, either open or closed, and they are only operated when dealing with faults or emergencies, or when delivering routine planned works.

By analysing events and defects, we have identified that the main causes of risk are TPI and non-standard construction or operation practices. Through our maintenance programme, we identify valve models not performing to expectations. Investigations are subsequently carried out to understand the extent and conditions of these valve types. By proactively addressing TPI and ensuring adherence to standard construction and maintenance practices, we can enhance the reliability and safety of our network.

5.3.2 Asset class overview

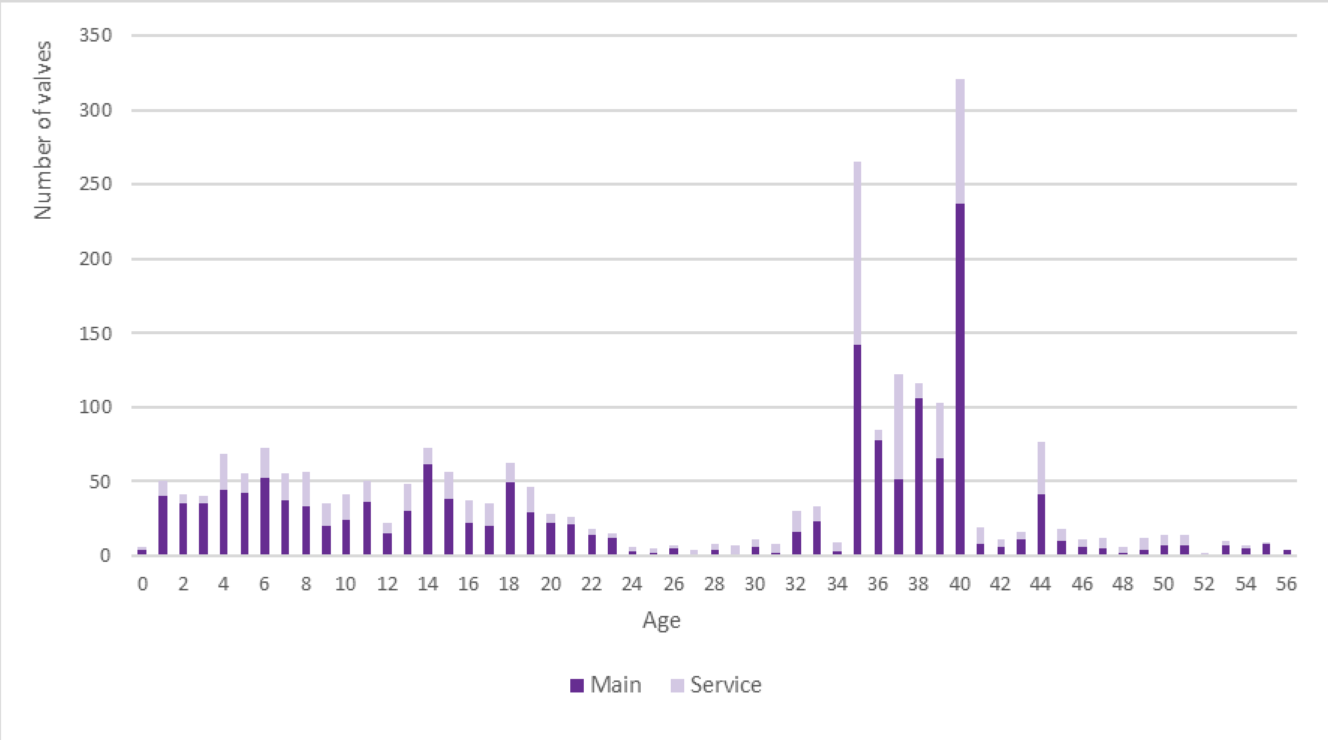
Table 5.23 shows the type and quantity of VAL by operating status and pressure systems. Figure 5.16 shows the age profile of our valves.

Table 5.23: VAL total number by type, pressure and status

Type	Pressure	Total	In service	Average age (years)[7]
Main	IP	684	394	32
	MP	1531	970	25
	LP	329	218	18
	NP	374	28	25
Service	IP	498	264	35
	MP	561	291	28
	LP	431	244	21
	NP	113	9	32
Total	All	4521	2418	27

[7] In-service valves only

Figure 5.16: VAL age profile



5.3.3 Asset health and performance

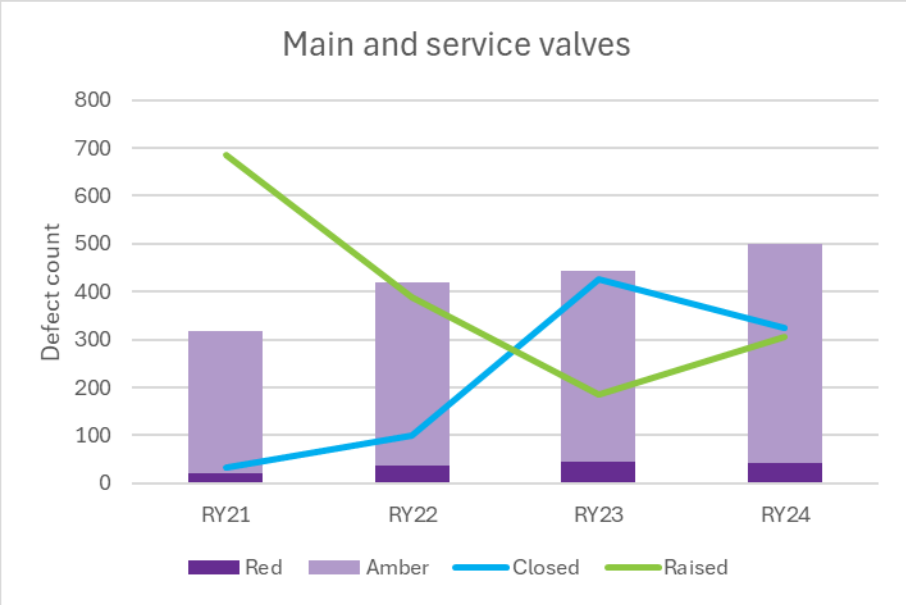
A summary of the overall VAL asset condition is shown in Table 5.24, classified by grades and pressure regime. A detailed table with the condition of all our assets is part of Schedule 12a.

Table 5.24: VAL asset condition

Asset type	Quantity	Grade 1	Grade 2	Grade 3	Grade 4	Grade unknown	Data accuracy
IP valves	1182	0.59%	5.50%	10.74%	38.83%	44.33%	3
MP valves	2092	0.05%	11.23%	13.34%	35.66%	39.72%	3
LP valves	760	0.00%	3.03%	10.66%	47.11%	39.21%	3
Total	4034	0.20%	8.01%	12.07%	38.75%	40.98%	3

Figure 5.17 shows a visual representation of how defect health has trended for our VAL.

Figure 5.17: VAL past performance



Raised defects for valves declined sharply between RY21 and RY23, reflecting improved inspection programmes and targeted maintenance. In RY24, raised defects increased slightly, likely because of enhanced detection practices and ageing asset conditions. The introduction of the LDV enabled us to greatly improve our capabilities – detecting leaking valves with more accuracy and at a higher frequency.

Closed defects peaked in RY23 after a steady rise from RY21, indicating effective backlog management during that period. The quantity of closed defects dropped in RY24 while raised defects grew, creating pressure on defect resolution rates. Investigation is underway in 2025 into addressing the backlog.

Critical (Red) defects have remained consistently low, highlighting effective management of high-risk issues. Conversely, Amber defects remain the dominant category and grew again in RY24, indicating a backlog of medium-priority issues. Continued focus on addressing these outstanding items is essential to maintaining reliability and reducing operational risk.

5.3.4 Type issues

Most network VAL are installed below ground and are only accessible via the lid, spindle, and sleeve. We evaluate the performance of this asset type by conducting condition assessment driven by defect rates, with a particular focus on leakage and operability.

The overall condition of the VAL is considered satisfactory, and they continue to fulfil their operational requirements to a satisfactory standard. Ongoing monitoring and maintenance are essential to ensuring the continued performance of the valves. Regular inspections and assessments allow us to identify emerging issues and potential risks.

The VAL FMEA identified there are similar risks to those found in our M&S pipes asset class. This could be expected, as both asset classes are part of our below ground systems. Table 5.25 highlights key risks identified for our below ground VAL.

Table: 5.25: Key VAL risks

Major threat	Specific threats	Consequence
Legacy construction and design	Valve lid not flush with ground level	Public safety risk because of tripping hazard.
Material/ component failure	Corrosion (steel valves)	Increased likelihood of leakage.
	Valve spindle failure	Valve spindle breaks when operated, inability to isolate network or customers.
Incorrect maintenance	Valve inoperable	Inability to isolate network or customers.
	Identification label missing or unreadable	Inability to isolate network or customers in emergency or accidental isolation of incorrect sector or customers.
	Valve unlocatable	Unlocatable valve, unable to isolate network or customers.
	Missing or broken valve lid	Public safety risk because of tripping hazard.
Third-party interference	Valve buried or sealed over	Unlocatable valve, unable to isolate network or customers.
	Valve sleeve filled with spoil or collapsed	Unlocatable valve, unable to isolate network or customers.

The VAL Asset Class Strategy of continuous improvement drives the identification of improvement projects and process adjustments to minimise or eliminate risks. A systematic issue detected in this asset class is leakage through the valve's stem and glands. This common issue is identified through site visits and is addressed by routine maintenance (greasing and overhauling).

A small number of legacy valve installations on the IP and MP networks present a confined space risk because of their below ground valve configuration. These valves have been flagged in the TPK for targeted investigation and remediation to ensure ongoing safety and maintainability. The focus is on confirming whether each valve is still critical for network isolation, or if it can be decommissioned entirely – particularly in cases where ongoing maintenance, such as greasing, is no longer required.

Where valves remain necessary, further assessment will determine if reconfiguration or replacement is feasible to allow above ground access. These interventions are intended to eliminate confined space entry risks, align with modern safety practices, and reduce future maintenance burdens.

Asset information

We are continuously working to increase the quality of our VAL data with special focus on safety isolation and sectorisation. Ensuring data accuracy and completeness helps support the decision-making process across maintenance and renewal plans.

We have developed below ground VAL tagging instructions, which facilitate field tagging installation while validating frontline information across our AMS. This process helps keep GIS and SAP aligned with validated field data. Table 5.26 shows some of the valve data characteristics we have been working on.

Table 5.26: VAL asset information

Improvement	Issue	Reason
Category (main or service)	Accuracy	Required to ensure correct network and customer isolations.
Valve material	Completeness	Required for maintenance and renewal planning.
Direction to close	Completeness and accuracy	Required for safe operation during emergency and fault response.
Turns to close	Completeness and accuracy	Required for safe operation during emergency and fault response.
Sectorisation	Accuracy	Required to support emergency plans and network optimisation.
Tagging	Completeness and accuracy	Required to ensure unique identification to each of our assets in the field and in our management systems.

5.3.5 Design and construct

The anticipated lifespan of VAL is determined by the Commerce Commission and can be found in Table 5.27.

Table 5.27: VAL life expectancy

Material	Sub material/pressure	Expected life (years)
Steel valve	All IP	60 to 70
	All MP and below	50 to 60
PE valve	All IP	60 to 70
	All MP and below	50 to 60

In line with national regulatory and statutory obligations, our engineering design and construction standards establish all the requirements for safety, quality and reliability of our valves. These standards and specifications are constantly evolving to incorporate new proven technologies available in the market. As defect data is gathered and analysed, we are able to identify problematic valve types and specify their exclusion from future design and procurement specifications. Our focus on quality in design and construction ensures we can meet and exceed the expected lifecycle.

Valve chambers are recognised as hazardous environments and should be avoided where practicable. When decommissioning existing chambers, we look to relocate to safer and more accessible locations. Where a chamber cannot be avoided, valves must be designed and installed to allow operation without the need for entry.

5.3.6 Renewal

Valve renewal for M&S pipes is determined by the performance of the assets. Our approach is to assess essential isolation/sectorisation valves for proactive replacement. Non-essential valves are scheduled for renewals either when they fail or in conjunction with planned renewals of the pipelines they are connected to.

In 2019, the original scoped timeframe was that by 2025 we would have completed the replacement of 18 valves in Hawke's Bay, Porirua, and Belmont at an estimated delivery rate of 4-5 valves each year. However, progress to date shows only 1-2 valves can be installed yearly, and as a result it is anticipated that the completion of this work could extend into the early 2030s.

Our efforts to identify and install sectorisation valves as part of our network optimisation process have a direct impact on the deferral of overall valve renewals by reducing the number of valves that are required to safely operate the networks.

5.3.7 Operate and maintain

Seized valves are a contributing factor to several critical failure modes. Field-based maintenance checks are a key means of identifying these issues before failure. Valves undergo an annual inspection to identify defects, verify functionality, and adherence to safety standards. During these inspections, we focus on several key aspects, including:

- Checking for any gas leaks in and around the valves.
- Assessing the condition of valve lids to ensure they do not pose a risk to the public.
- Verifying the accessibility and clear visibility of the valves.
- Ensuring that valve identification labels are present and legible.
- Testing the valves' ability to operate halfway.
- Examining the sleeves for any obstructions or spoilage.
- Evaluating the corrosion levels to ensure they are within acceptable limits.

If a valve is found to pose a risk to public safety, we schedule immediate maintenance to address the issue. For other identified defects, we assess each case individually to determine whether replacement, refurbishment, or permanent decommissioning is the most appropriate course of action.

We have carried out improvements to our inspection question set to include on-site valve tagging and validation, allowing our field resources to install and update missing tags while synchronising field status across SAP and GIS.

5.3.8 Dispose

Disposing of valves is not an optimal resolution on our network because of the high cost involved in removal. As an alternative solution, when a valve is no longer required, we decommission it by securely wrapping and burying it underground. This decommissioning process is documented in our records, marking the valve as out of service.

In certain situations where a valve has an irreparable leak or requires replacement, we will remove the valve and replace it with a section of pipe. Once the valve is removed, it is also taken off our asset records.

The physical disposal of these valves is handled by our trusted service provider, who ensures compliance with all environmental regulations and requirements throughout the disposal process.

5.3.9 Expenditure

Figure 5.18 shows the expenditure programme across our VAL assets, with 11 projects forecast during the planning period, and an expected $955,000 of investment across capital and complex operational expenditure on our networks. Of the planned projects, one is in our 2026 GWP (next 12 months), totalling $140,000 in FY26. These figures are derived from our TPK (Issues Register) and represent our 10-year forward programme. Note, some projects are in our TPK, adding to our project count, but are yet to have a price set.

Figure 5.18: VAL expenditure programme

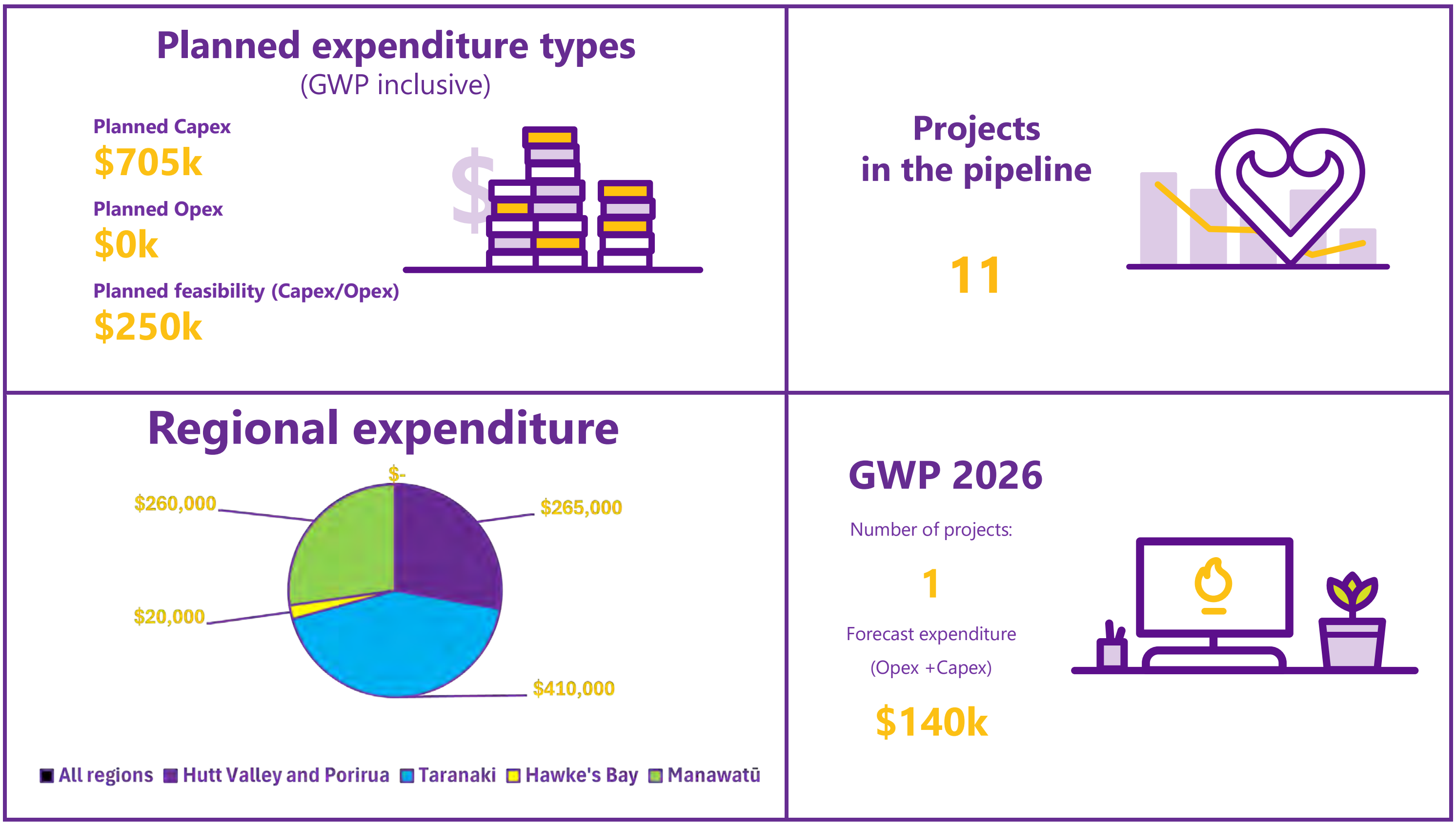


Table 5.28 describes the VAL project in the 2026 GWP (next 12 months). The other projects in the pipeline can be found in Chapter 8, and are set out by region.

Table 5.28: GWP26 VAL projects

TPK Ref.	Project description	Project region	Expenditure category	GWP26 design/ construct	Description of works
666	Tremaine Ave, ESIV valve install on LIP steel service	Hutt Valley and Porirua	Capex	Design/ construct	ESIV valve install on LIP steel service

5.4 Special crossings (SPX)

Special crossings (SPX) are utilised when a pipeline needs to cross rivers, railways, or motorways. This includes crossings that are above and below ground level. Above ground crossings are often attached to support structures, such as a bridge or culvert, and below ground level crossings are buried as a cased pipeline or inside a utility corridor. This asset class accounts for 0.21% of our total RAB value.

The types of SPX we use on our network are shown in Table 5.29.

Table 5.29: Description of Powerco's SPX types

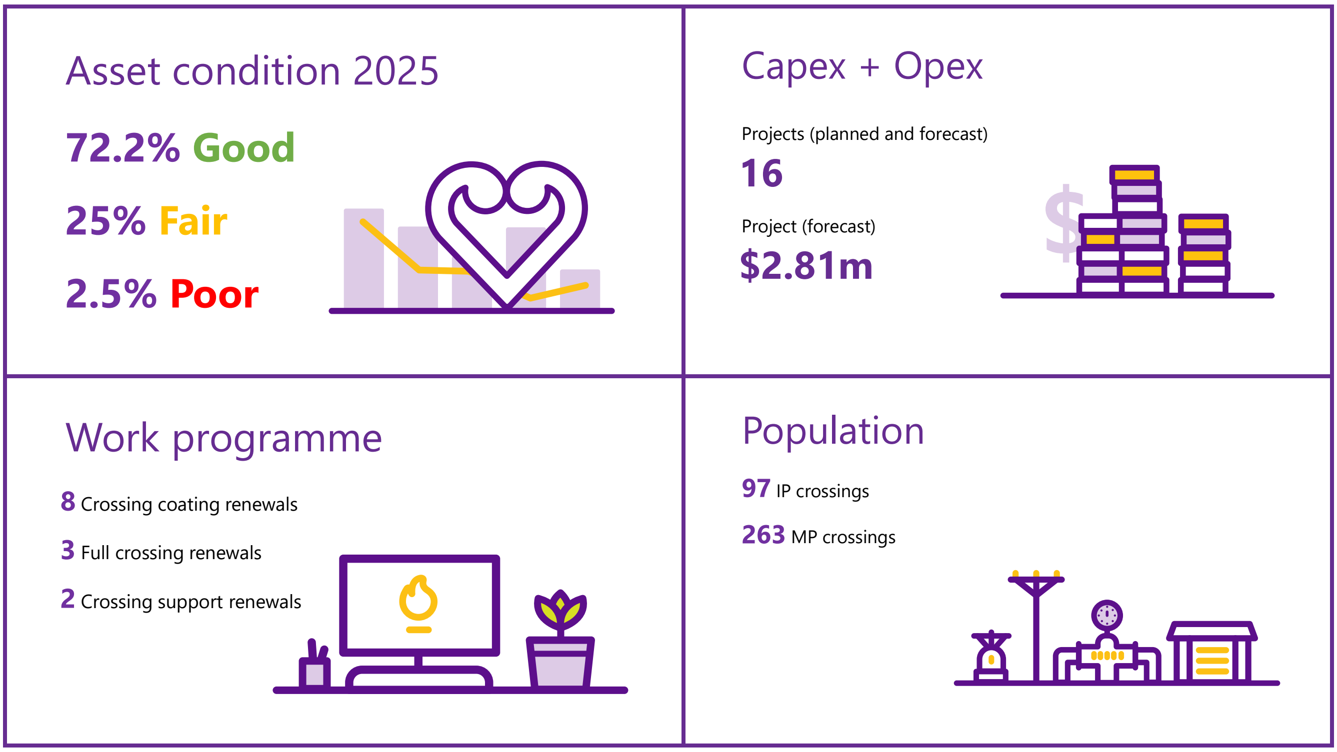
Type	Description
Attached	Fixed to a support structure using brackets (cased or uncased).
Below ground	A cased pipeline buried beneath a crossed feature.
Utility corridor	A passage within a support structure, specifically designed for carrying uncased pipelines.

Asset class dashboard

Figure 5.19 corresponds to the SPX asset class dashboard, highlighting:

- Asset condition 2025 is reflective of Schedule 12a, and condition grading system categories defined in Chapter 4, Table 4.17.
- $2.81 million of capital and operational investments spread across 16 planned and forecast activities.
- Operational investments are defined as being complex in nature, requiring detailed planning and project management oversight.
- The work programme consists of eight coating renewals, three full crossing renewals and two crossing support renewals.
- A population of 97 crossings on our IP network and 263 crossings on our MP network.

Figure 5.19: SPX asset class dashboard



5.4.1 Asset class objectives

Contributing towards the delivery of a better energy future for our customers by providing a consistently safe, reliable, resilient, and cost-effective gas network now and into the future, the primary objectives for SPX are:

- To convey gas across our networks, from the gate points to our customers.
- To protect main and service pipes against deterioration when crossing a river, railway, or motorway.
- To efficiently reduce the total number of unplanned gas releases and outages resulting from asset failure.
- To reduce public safety risks.
- To maintain a high visual appearance standard.

Powerco's SPX are secondary systems, meaning their primary function is to ensure their protected assets (gas pipe) meet their primary objectives. The primary risks associated with our SPX assets are TPI, component failure, and incorrect maintenance and operation.

5.4.2 Asset class overview

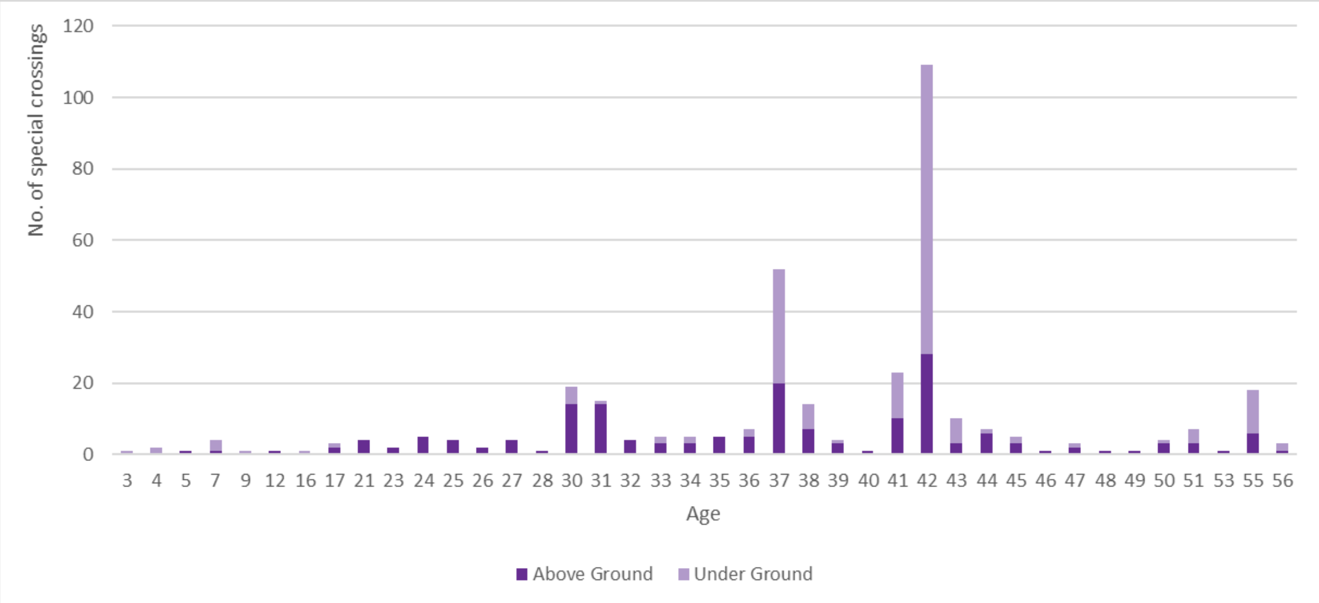
The types of SPX we operate, and the associated pressure and service status, are broken down in Table 5.30. The overall health of our assets is shown through the age of the assets, which corresponds to the expected lives set by the Commerce Commission. The expected lives are based upon the pipeline contained within the asset. Figure 5.20 shows the age profile of our SPX.

Table 5.30: Total number by pressure, type and status

Pressure	Type	Total	In service	Average age (years)[8]
IP	Total	97	97	41
	Above ground	26	26	43
	Below ground	71	71	40
	Unknown	0	0	
MP	Total	263	262	37
	Above ground	149	148	35
	Below ground	114	114	40
	Unknown	0	0	
All pressure	Total	360	359	38

[8] In-service crossings only

Figure 5.20: SPX age profile



5.4.3 Asset health and performance

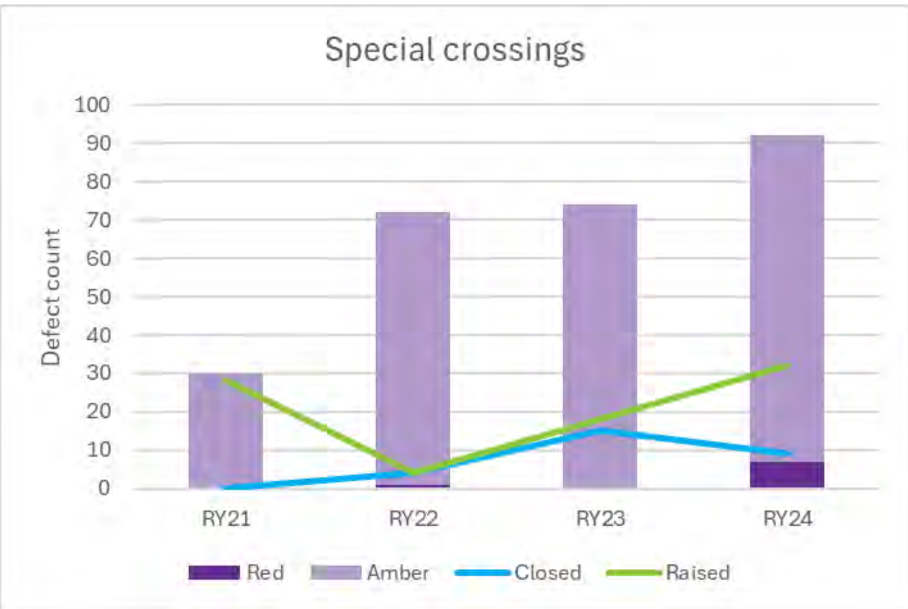
Table 5.31 demonstrates the condition of our SPX assets, categorised by pressure. It is an excerpt from Schedule 12a, which details the condition of all assets.

Table 5.31: SPX asset condition

Asset type	Quantity	Grade 1	Grade 2	Grade 3	Grade 4	Grade unknown	Data accuracy
IP crossings	97	1.03%	34.02%	2.06%	62.89%	0.00%	3
MP crossings	263	3.04%	21.67%	4.94%	69.96%	0.38%	3
Total	360	2.50%	25.00%	4.17%	68.06%	0.28%	3

Figure 5.21 shows a visual representation of how defect health has trended for our SPX.

Figure 5.21: SPX past performance



Raised defect volumes dropped significantly in RY22 because of the way inspections were scheduled during this year. However, defects raised increased through RY23 and RY24, indicating escalating condition issues, particularly related to ageing supports and casings. This trend also reflects improvements in how we identify defects and the reassessments carried out after recent cyclones.

Closed defect volumes increased gradually between RY21 and RY23, highlighting effective follow-through on identified maintenance issues. There was a slight dip in RY24 because of resourcing pressures and a shift in focus to larger-scale renewal activities. This change in closure rate, paired with the increase in defects raised, has led to a net growth in the backlog.

The low number of Red defects across all years is a positive indicator that critical risks are being actively identified and resolved before escalation. The consistent and growing volume of Amber defects indicates accumulating medium-priority issues that require ongoing management attention. This is most apparently seen in the sharp rise in RY24.

Maintaining reliability and structural integrity across the SPX portfolio will require sustained focus on defect closure and proactive intervention. This grows in criticality as asset age and environmental exposure increase the likelihood of support corrosion and bracket fatigue-related damage.

5.4.4 Type issues

The major risks associated with SPX are outlined in Table 5.32. Our strategy and engineering standards are designed to minimise these risks to as low as reasonably practicable. We provide clear instructions for making process adjustments in the field when these risks are identified. By proactively addressing the risks, we aim to enhance public safety and ensure the reliability of our SPX while continuously improving our operational practices.

Table 5.32: SPX key risks

Major threat	Specific threats	Consequence
Legacy construction and design	Crossing depth too shallow	Scouring or erosion of the riverbed exposing crossing to water.
Supporting structure defects/failure	Bridge movement	Increased stress or fatigue applied to crossing, leading to leakage or failure.
	Vibration	Bracket fixings become loose increasing stress or fatigue applied to crossing, leading to leakage or failure.
Material/component failure	Flexible joint	Bridge movement causing flexible joints to fail, leading to leakage or failure.
	Seal failure	Water or material ingress causing corrosion, leading to leakage or failure.
Third-party damage	Vehicle impact (above ground)	Third party damaging asset or protective coating, leading to leakage or failure.
	Vandalism (above ground)	Third party damaging asset or protective coating, leading to leakage or failure.
	Working without notification	Third party damaging asset or protective coating, leading to leakage or failure.

The performance of our SPX is monitored through leakage surveys, maintenance inspections, and safety assessments on a case-by-case basis.

Corroded casing and supports, and incorrect clamps are the common systematic issues found through our inspections. These are addressed and evaluated through our defect management process and resolved through planned corrective maintenance and project delivery initiatives. We have not identified any systematic type issues associated with our SPX.

Adaptation and resiliency

SPX are highly exposed to environmental hazards because of their location at critical infrastructure points, such as bridges, highways, and rail lines. Some assets span water bodies or areas prone to flooding, as outlined in Table 5.33. These assets are particularly vulnerable to climate-related events, including inland flooding and coastal inundation. The modelling we have undertaken based on SSP1-1.9 and SSP2-4.5 climate scenarios has identified 10 SPX across the network that face increased exposure. This represents 3% of the asset class fleet. These assets are considered high priority because of their role in maintaining continuous gas supply to customers, including large commercial users and essential service providers.

Table 5.33: Total number of gas assets vulnerable to inland flooding and coastal inundation

	Hazard			
Asset type	Inland flooding	Coastal inundation	Exposed to both hazards	Total
Special crossings	2	3	5	10 (3%)

The resilience of these assets is being addressed through a structured adaptation programme. This includes a decision-making framework that considers factors such as customer type, volume of affected connections, and the strategic nature of the pipeline. The framework outlined in Table 5.34 helps guide the options and scoping process when prioritising bridge crossings for remediation analysis. This ensures the appropriate level of consideration is given to understanding any resilience work required for the relocation of pipe on bridge crossings, the re-design of existing brackets, drilling pipe underground, holding spares, or whether additional isolation points are required.

Table 5.34: SPX decision-making framework

Metric	Number of customers	Customer type	Priority for optionality
Non-strategic pipe	<500	Residential	Low
Strategic pipeline	>500	Residential and commercial	Medium
Highway	>500	Critical supply loss to large commercial/industrial customers, including hospitals, rest homes and schools	High

The framework is supported by the Gas Networks Emergency Response Plan Standard 394S012. Our intention is that by using these strategies, alongside our climate change scenarios, the climate-related risk assessment work undertaken will enable us to identify our priority physical risks and the associated investments required over the short, medium, and long-term timeframes.

Several SPX resilience projects are scheduled within the next planning cycle as outlined in Table 5.35. These include re-engineering high-risk bridge attachments on state highways, assessing underground drilling feasibility in flood-prone areas, and establishing additional isolation points to mitigate the risk of loss of supply during emergencies. Asset-specific scoping is underway for each of the 10 identified high-risk crossings. Feasibility studies will determine whether the solution will be Capex or Opex expenditure.

These efforts will continue to evolve as our understanding of physical risk improves, ensuring that investment decisions remain responsive to climate projections, asset condition, and customer impact.

Table 5.35: SPX adaptation and resiliency GWP26 projects

TPK Ref.	Project description	Project region	Expenditure category	GWP26 design/ construct	Description of works
400	Ngaruroro Bridge bracket replacement	Hawke's Bay	Capex	Construct	Replace pipe supports and renew bridge crossing coating.
689.1	Waitangi Bridge, HAB special crossings, defect remediation and flooding resiliency	Hawke's Bay	Opex/Capex	Feasibility study	Feasibility study to understand options with construction to follow in subsequent full year.
689.4	Clive River, HAB special crossings, coastal and inland flooding resiliency	Hawke's Bay	Opex/Capex	Feasibility study	Carry out a feasibility study or take the learnings from the other bridge feasibility study and assess if the valving/isolation is aligned with specification.

Asset information

The asset information we have for our SPX is generally sufficient for our planning purposes. Development of the SAP characteristic for vent type is underway to improve asset data accuracy. An initiative has been instigated to specify vent type information within the SAP asset record for SPX. This data will be progressively collected and integrated as projects complete work on the crossings. The driver for this initiative is the need to differentiate pressurised crossings, which have distinct maintenance, inspection, and failure mode profiles compared with non-pressurised sites.

Currently, we have no additional plans to specifically gather further information on our SPX other than through usual inspection cycles and site inspections.

5.4.5 Design and construct

Powerco standards outline the criteria that SPX on our network must comply with. The requirements specified vary depending on several factors, including location, whether it will be above or below the ground, and the type of feature the pipe is crossing. The standards cover the typical depth, pressure testing and casing required for each crossing type. A SPX life expectancy is designed to match the life of the protected asset.

Table 5.36 shows the established life expectancy set by the Commerce Commission.

Table 5.36: SPX life expectancy

Material	Expected life (years)
IP crossings	60 to 70
MP crossings	50 to 60
LP crossings	50 to 60

In 2023, Cyclone Gabrielle caused a significant flooding event in Hawke's Bay. Our above ground crossing across the Ngaruroro River bridge in Napier sustained damage when it was pulled from its brackets because of the flooding and slash in the river. The crossing, which was built in the 1960s, was built on the upstream side of the bridge because of the perceived high risk of tsunamis at the time. However, this meant it was more susceptible to flooding than if it were downstream. The increased flood risk during the past 60 years has motivated Powerco to update the FMEA and Asset Class Strategy, as well as our adaptation resilience plan. These learnings are now reflected in our design and construction standard for any new future installations.

5.4.6 Renewal

Renewal planning is undertaken proactively on SPX, driven by:

- Maintenance and inspection results.
- Safety assessments.
- Bridge renewals (above ground only).
- Options analysis.
- Erosion or riverbed exposing crossing.
- End of asset life.
- Volume-to-Value Investment Framework.

When defects can no longer be remedied through corrective maintenance or the asset presents a public safety risk, renewal projects are considered. Details for expenditure on our SPX are included in Section 5.4.9.

5.4.7 Operate and maintain

SPX are inspected on a quarterly and annual basis, depending on the location of the crossing being above or below ground. Table 5.37 shows the type and frequency of inspections for different crossings. Table 5.38 describes the objectives and main activities involved in each maintenance inspection. Above ground crossings are more exposed to the external environment, which makes them more vulnerable to the failure modes associated. To address this, we carry out inspections more frequently.

Table 5.37: Operation and maintenance schedule for SPX

Crossing type	Quarterly	Annually	5 years	15 years
Above ground	Leakage survey Signage Visual integrity	Movement and stability		Comprehensive integrity
Below ground		Leakage survey Signage Visual integrity	Comprehensive integrity	

Table 5.38: SPX specific inspection types

Type	Description
Leakage survey	Gas detection over the crossing span plus 20 metres either side.
Signage	Crossing identified through clearly visible and accurate signage.
Movement and stability	Assessment of abutment movement, bank stability and expansion joint integrity.
Visual integrity	Visual assessment of the coating, support, and surrounding environment integrity.
Comprehensive integrity	Above ground – Full inspection of crossing, coating, brackets, and fixings. Below ground – Inspection of vent pipework and pressure test of casing (if required).

If we observe corrosion on pipe supports (for bridge crossings) or carrier pipe, we aim to repair it within a year of its discovery through our defect process. The priority of this work is determined by our defect classification procedure.

5.4.8 Dispose

SPX disposals are treated separately depending on whether they are above or below ground.

The preference for above ground crossing disposals is full removal, including related equipment (e.g. brackets) and the restoration of the site to pre-installation condition. If all the equipment is not removed, the site will require ongoing maintenance and monitoring, which incurs additional operational expenditure. Physical disposal of this asset is completed in compliance with all environmental requirements by our service provider.

Below ground crossing disposals are treated the same as M&S. The preference is to decommission the asset and leave it in the ground, while recording it as out of service in our records. The vent up stands are removed to below ground level and the vent ends are permanently sealed to eliminate risk in future.

5.4.9 Expenditure

Figure 5.22 shows the expenditure programme across our SPX assets, with 16 projects forecast during the planning period, and an expected $2.81 million of investment across capital and complex operational expenditure on our networks. Of the planned projects, 10 are in our 2026 GWP (next 12 months), combining for a total of $1.55 million in FY26. These figures are derived from our TPK (Issues Register) and represent our 10-year forward programme. Note, some projects are in our TPK, adding to our project count, but are yet to have a price set.

Figure 5.22: SPX expenditure programme

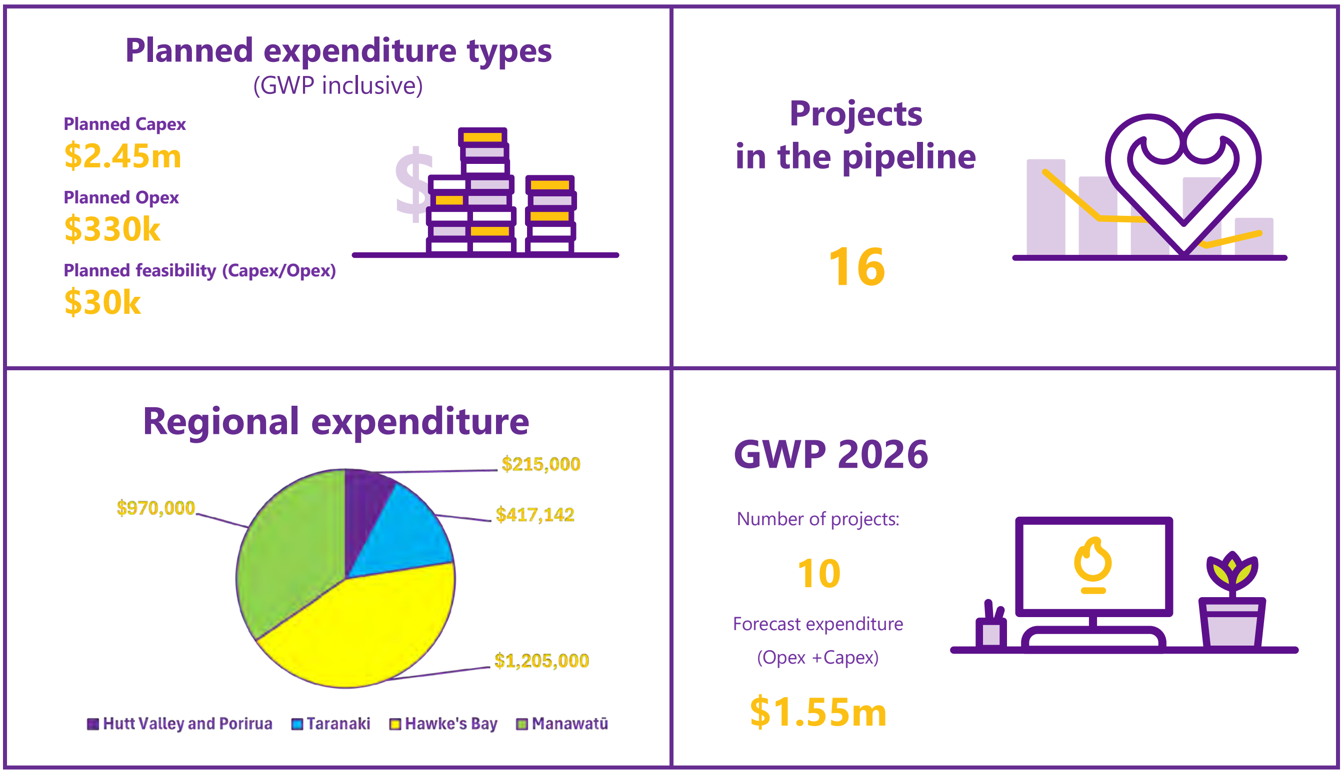


Table 5.39 describes the 10 SPX projects in the 2026 GWP (next 12 months), ordered with the highest expenditure forecasts at the top. The other projects in the pipeline can be found in Chapter 8, and are set out by region.

Table 5.39: GWP26 SPX projects

TPK Ref.	Project description	Project region	Expenditure category	GWP26 design/ construct	Description of works
400	Ngaruroro Bridge bracket replacement	Hawke's Bay	Capex	Construct	Replace pipe supports and renew bridge crossing coating.
507	York St LMP, special crossing corrosion defect	Hutt Valley and Porirua	Capex	Design/construct	York St Bridge LMP crossing casing repairs.
608	45 Middle Rd, MP Bridge, crossing re-wrapping	Hawke's Bay	Capex	Design	MP crossing re-wrap required.
622	Corroded Lepperton special crossing support renewal	Taranaki	Capex	Construct	Corroded pipe supports, renewal required.
628	888 Normanby Rd Manaia, special crossing coating remediation	Taranaki	Capex	Design/construct	Swing bridge special crossing; coating remediation.
629	1 South St, crossing coating remediation	Manawatū	Opex	Design	Wrapping deteriorated at South St crossing; corrosion at both ends.
661	Gillespies Line MP bridge crossing	Manawatū	Opex	Design/construct	Gillespies Line crossing aged; wrapping repair/replacement and brackets remediation.
689.1	Waitangi Bridge, HAB special crossings, defect remediation and flooding resiliency	Hawke's Bay	Opex/Capex	Feasibility	Waitangi Bridge crossing critical for Napier supply; flood damage and coating defects repairs. Resiliency improvements needed.
689.4	Clive River, HAB special crossings, coastal and inland flooding resiliency	Hawke's Bay	Opex/Capex	Feasibility	Clive River crossing at risk from coastal inundation and flooding; Resiliency improvements needed.
706	150 Whites Line East, MP crossing renewal	Hutt Valley and Porirua	Capex	Design	Whites Line East MP crossing to be relocated downstream; scaffolding and new road crossing required.

5.5 Monitoring and control systems (MCS)

Monitoring and control systems (MCS) are a key part of our network infrastructure. The information they provide is a fundamental part of our safety controls, network improvement initiatives and operation. Currently, Powerco is not using any control functions, meaning our system is used for monitoring only. Table 5.40 shows the types of MCS used on our network.

Table 5.40: Description of Powerco's MCS types

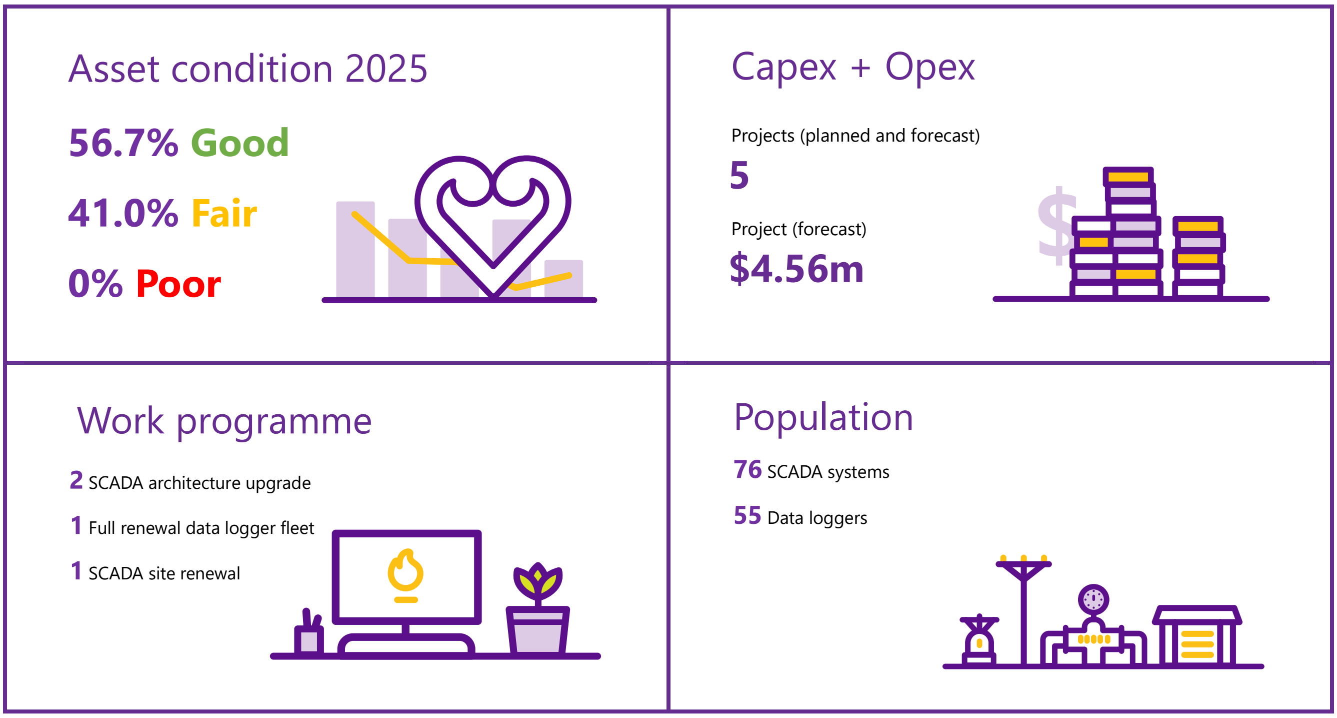
Type	Description
SCADA	Permanent sites, providing live data and alarms, primarily used for monitoring regulator stations.
Data loggers	Self-contained units, recording and providing delayed data and live alarms, used on regulator stations and network monitoring points.

Asset class dashboard

Figure 5.23 corresponds to the MCS asset class dashboard, highlighting:

- Asset condition 2025 is reflective of Schedule 12a, and condition grading system categories defined in Chapter 4, Table 4.17.
- $4.56 million of capital and operational investments spread across five planned and forecast activities.
- Operational investments are defined as being complex in nature, requiring detailed planning and project management oversight.
- The work programme comprises full renewal of all data loggers and an upgrade to our SCADA architecture, a SCADA quality assurance check, and the installation of a permanent logger site.
- A population of 76 SCADA systems and 55 data loggers.

Figure 5.23: MCS asset class dashboard



5.5.1 Asset class objectives

Contributing towards the delivery of a better energy future for our customers by providing a consistently safe, reliable, resilient, and cost-effective gas network now and into the future, the primary objectives for MCS are:

- To monitor, gather, and process data on our networks.
- To alert Powerco on network behaviours and/or potential failures in the network.

As a secondary system, SCADA plays a crucial role in ensuring that the assets monitored continue to fulfil their primary objectives and work within their operating envelope. After analysing asset risks, we have identified the primary causes of failures in MCS are TPI, failures in supporting systems, and delays in response times because of incorrect maintenance and operation practices.

Our focus for this asset class centres on ensuring the correct configuration, and to conduct investigations, when required, to address any component replacement. By addressing configuration concerns and exploring potential system replacements, we aim to enhance the performance and reliability of our MCS, reducing the risks associated with failures and ensuring the efficient operation of our assets.

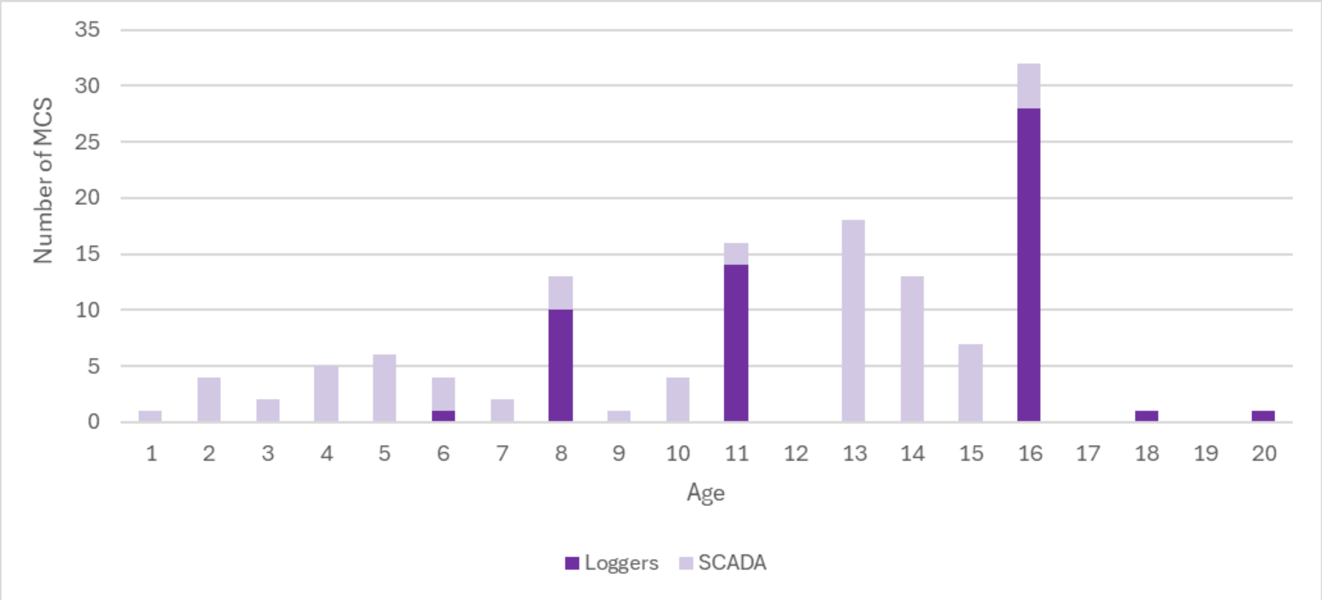
5.5.2 Asset class overview

Table 5.41 shows the population breakdown of our MCS. The breakdown is split up by quantity, service status, and average age, which indicates the health of the assets. Figure 5.24 shows the age profile by type.

Table 5.41: MCS numbers by pressure type and status

Type	Total	In service	Average age (years)[9]
SCADA	79	76	11
Data loggers	55	55	13
Total	134	131	13

Figure 5.24: MCS age profile



5.5.3 Type issues

The major risks for our MCS are shown in Table 5.42. Most of the risks associated with our MCS field equipment are electrical and TPD related. Our Asset Class Strategy for MCS is due to be updated as part of the SCADA renewal project. It will be used to drive changes within our standards and identify projects to reduce risks and to instruct process adjustments.

[9] In-service systems only

Table 5.42: Key MCS risks

Major threat	Specific threats	Consequence
Alarm configuration	Incorrect alarm levels	Alarms set at wrong level, increasing likelihood of over/under pressure being missed.
	Spurious alarms	Decreased likelihood of responding to correct alarm.
Insufficient response time	Missed alarms	Duty operator misses alarm, increasing likelihood of unplanned outage or gas exposure event.
Component failure	Battery failure	Battery fails, MCS not operating when alarm required.
	RTU or data logger failure	Primary unit fails, MCS not operating when alarm required.
Supporting systems	IT server failure	Server hosting MCS software fails, increasing likelihood of missing alarms.
	Telecommunication system failure	Telecommunications network fails, increasing likelihood of missing alarms.
	Electrical system failure	Electrical system fails, MCS not operating when alarm required.
Third-party damage	Vehicle impact	TPD on asset, MCS not operating when alarm required.
	Vandalism	TPI on asset, MCS not operating when alarm required.

Table 5.43 shows the condition of our MCS as per Schedule 12a in Appendix 3. Other than age degradation, no systematic issues have been found in this asset class.

Table 5.43: MCS asset condition

Asset type	Quantity	Grade 1	Grade 2	Grade 3	Grade 4	Grade unknown	Data accuracy
MCS	134	41.04%	0.00%	0.00%	56.72%	2.24%	3

SCADA renewal

Powerco's gas network is monitored and controlled through the gas SCADA system that is nearly 25 years old. This system is critical to safe and effective network operation, providing real-time visibility, modelling, and performance data from 76 sites across the network. Vendor support for the current platform is scheduled to end in the coming years, after which operational reliability will decline, real-time visibility will be lost, and cybersecurity vulnerabilities will increase.

To ensure safe and reliable gas network operation through to 2050, Powerco has undertaken projects to upgrade both the SCADA platform and the Remote Terminal Unit (RTU) fleet. Benefits include increased system reliability, modernised security protocols for regulatory compliance, and a scalable design that allows for future enhancements without major redesign. The solution also supports potential biogas integration and the extension of remote data acquisition where it is more efficient than manual collection.

The upgrade will ensure compliance with regulatory requirements for network monitoring and with internal standards. It will also align with our sectorisation guidelines, improving Powerco's ability to maintain sector integrity and quickly isolate network segments in an emergency. These improvements will strengthen operational resilience across key supply regions.

RTU upgrade

During FY2025, Powerco completed the Critical RTU Upgrade Project to address the risk posed by New Zealand's transition from 2G/3G to 4G and higher cellular networks. The existing RTU fleet, which was essential for real-time monitoring and data acquisition as part of the gas SCADA system, would have become inoperable without intervention. Failure to act would have compromised operational visibility, delayed fault detection, and increased the likelihood of extended outages.

The project replaced all affected RTUs with upgraded units capable of operating on 4G networks. This included developing a detailed work plan, commissioning the first round of replacements, and implementing in-field modifications where required. Project management oversight ensured that as-built documentation was captured for integration into SAP asset records.

Completion of the RTU upgrade has preserved the integrity of Powerco's MCS, ensuring continued compliance with statutory and internal operational standards. The programme has safeguarded real-time visibility of the network, reduced the risk of communication loss, and positioned the system to accommodate future technology transitions. The integration of updated RTU asset information into SAP has also improved operational planning and maintenance efficiency, supporting the safe, reliable, and efficient operation of the gas network.

Asset information

The quality of our asset information for MCS is of a high standard, attributed to the accessibility of the assets, availability of live data and alarms, and the age of our assets. We consistently gather all the necessary information through regular maintenance activities and thorough inspections. This ensures that we have comprehensive and up-to-date data to effectively monitor and control our systems. By maintaining a high standard of asset information, we can make informed decisions, optimise performance, and promptly address any issues that may arise.

With several major projects scheduled for completion in the next planning period, we will maintain our strong focus on data integrity.

5.5.4 Design and construct

The Commerce Commission sets an expected life of 20 years for MCS. Powerco's gas division is in the process of a full system and technology upgrade for our SCADA systems, with the aim to bring a contemporary approach to how we gather and analyse real-time data to monitor and control equipment that deals with critical and time-sensitive materials and/or events on our networks.
We are also undertaking a review of our Gas Operations SCADA Standard to include learnings and to future-proof this technology.

5.5.5 Renewal

The requirements for MCS are derived from the network strategies outlined in Chapter 6. The Network Resilience and Redundancy Strategy outlines requirements for the installation and renewal of SCADA systems on regulator stations. The Pressure Droop Strategy guides the placement of data loggers on network extremities. Both the Pressure Droop Strategy and Elevated Pressure Strategy play a crucial role in determining the alarm limit setpoints for SCADA and data loggers. By aligning with these strategies, we ensure that our MCS are strategically implemented to enhance network resilience, redundancy, and maintain optimal pressure management throughout the network.

Powerco's preference is to run the MCS assets to failure. Asset obsolescence drives larger programmes of work, and the criticality of the monitored asset will drive renewal prioritisation.

Two major renewal projects are included in the current planning period to address asset obsolescence in Powerco's MCS. The gas SCADA upgrade and the RTU replacement programme. The SCADA renewal will replace the ageing platform with a modern, secure, and scalable system to maintain real-time network visibility, strengthen cybersecurity, and ensure compliance with operational standards.

The RTU renewal will replace units reliant on obsolete 2G/3G communications with 4G-capable devices, preserving critical monitoring and control functions. Together, these projects will mitigate the risks associated with ageing technology, enhance operational resilience, and position the network for future technology transitions and integration of renewable gas alternatives.

5.5.6 Operate and maintain

Powerco's MCS are autonomous, and all data is transmitted through the telecommunications network. Operation and maintenance activities are driven by alarms and routine inspections. The inlet and outlet pressures, flow rates, and alarm activations at the regulator station at which the system is installed can be accessed online using a remote user access system. The data is used in the Asset Strategy team's network analysis and monthly reporting.

Our SCADA systems are inspected annually, in alignment with our Gas Operations SCADA Standard, which involves a generic inspection, a solar power inspection (where installed), a meter check, an inspection of the transmitter and RTU, and the recording of any defects. This inspection period meets the manufacturer's instructions and the requirements of national standards, and ensures the assets maintain the condition and operability to meet the asset's important operational design life.

It is expected that the requirements will be different following the renewal projects. As part of the deliverables for the project, there is a requirement to update the Asset Management Strategy and associated maintenance activities specified by the related standards.

5.5.7 Dispose

The preferred method of disposing of a SCADA system is to fully remove the cabinet and any related equipment, and to restore the site to its condition before installation. Any system causes a health and safety risk to the public if not removed, and requires ongoing maintenance and monitoring, incurring additional operational spending. The cables and wires must be disconnected by an electrician, as live wires pose a major health hazard around gas assets. All systems are then assessed for suitability for refurbishment and reuse. If they are found to be unsuitable, our service provider disposes of the physical asset in compliance with all environmental requirements.

5.5.8 Expenditure

Figure 5.25 shows the expenditure programme across our MCS, with five projects forecast during the planning period, and an expected $4.56 million of investment across capital and complex operational expenditure on our networks. Of the five planned projects, two are in our 2026 GWP (next 12 months), with a forecast expenditure of $1.71 million in FY26. These figures are derived from our TPK (Issues Register) and represent our 10-year forward programme. Note, some projects are in our TPK, adding to our project count, but are yet to be priced.

Figure 5.25: MCS expenditure programme

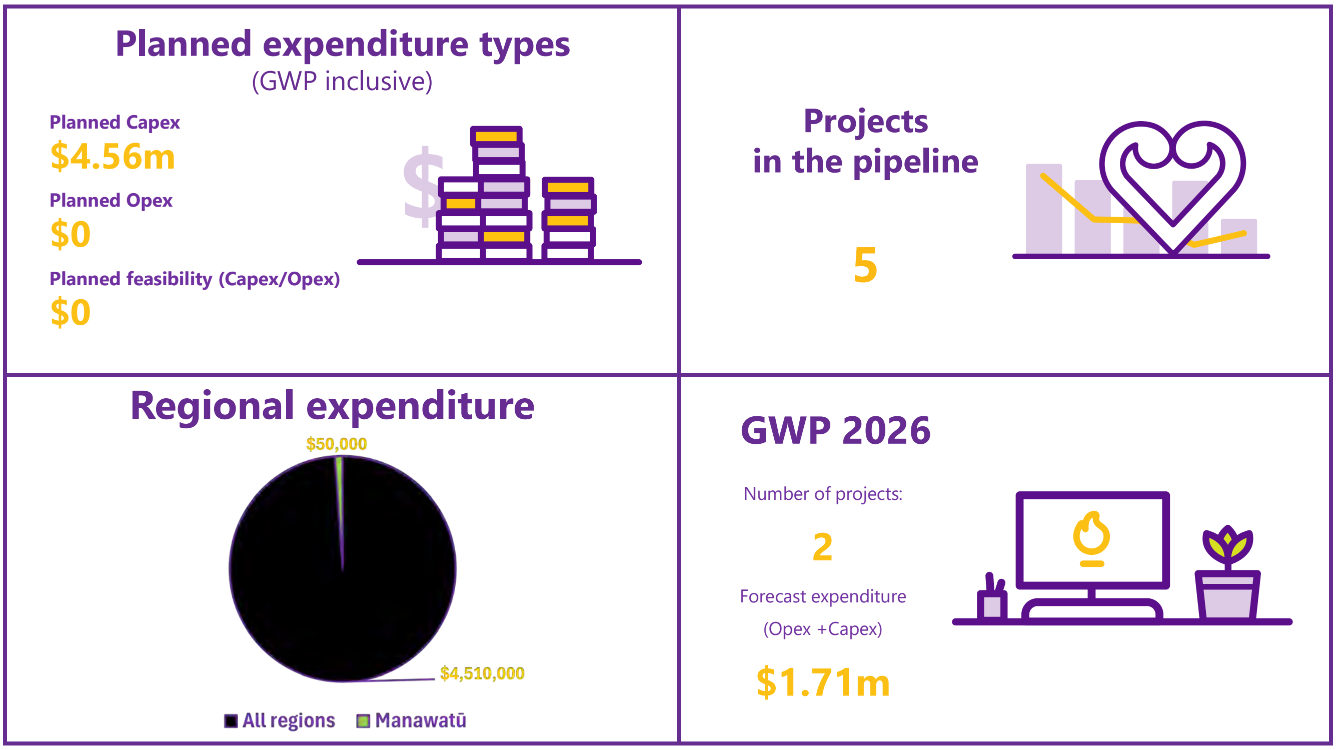


Table 5.44 describes the MCS projects in the 2026 GWP (next 12 months). The other projects in the pipeline can be found in Chapter 8, and are set out by region.

Table 5.44: GWP26 MCS project

TPK Ref.	Project description	Project region	Expenditure category	GWP26 design/ construct	Description of works
504	Data logger upgrades	All regions	Capex	Construct	Procurement of new and upgraded data loggers.
654	Abbey systems (SCADA) shutdown	All regions	Capex	Design	Full SCADA system replacement, including MCU and RTU upgrades.

5.6 Cathodic protection systems (CPS)

Cathodic protection systems (CPS) play a crucial role in safeguarding our buried metallic assets on the network and help to maintain and monitor their condition. These systems serve as a secondary layer of protection when the primary protective coating on an asset deteriorates or fails. The different types of CPS employed on our network are outlined in Table 5.45.

Table 5.45: Description of Powerco's CPS

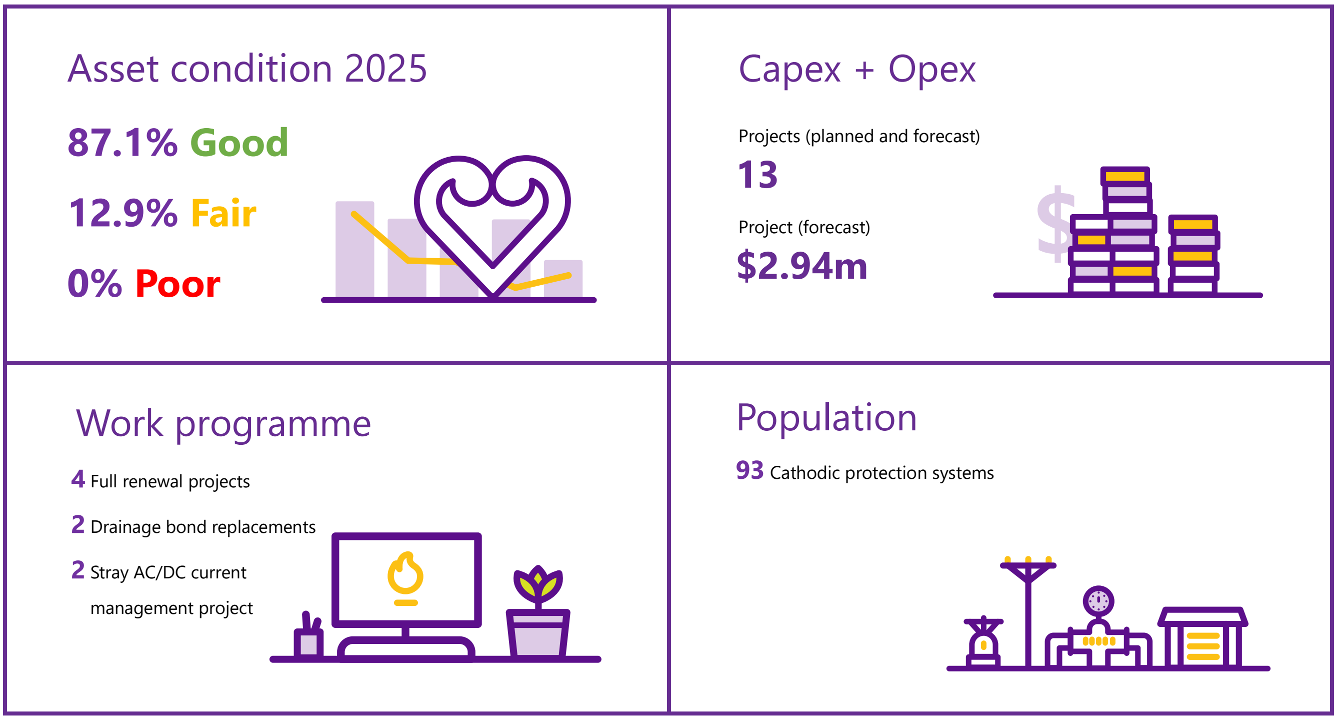
Type	Description
Galvanic system	Asset is protected by being cathodically charged through the passive electronegativity difference between the sacrificial anode and the asset.
Impressed current system	A galvanic system with additional negative charge impressed onto the protected asset. This charge increases cathodic protection by opposing corrosion charge pathways.

Asset class dashboard

Figure 5.26 corresponds to the CPS asset class dashboard, highlighting:

- Asset condition 2025 is reflective of Schedule 12a, and condition grading system categories defined in Chapter 4, Table 4.17.
- $2.94 million of capital and operational investments spread across 13 planned and forecast activities.
- Operational investments are defined as being complex in nature, requiring detailed planning and project management oversight.
- A work programme that comprises of four cathodic protection system renewal projects, two drainage bond replacement projects, and two stray AC current management projects.
- A population of 93 cathodic protection systems installed across our steel networks.

Figure 5.26: CPS asset class dashboard



5.6.1 Asset class objectives

Contributing towards the delivery of a better energy future for our customers by providing a consistently safe, reliable, resilient, and cost-effective gas network now and into the future, the primary objective for CPS is to protect metal against degradation.

Cathodic protection acts as an added barrier (secondary system) in addition to existing coatings or other primary barriers. We have conducted a comprehensive analysis of asset risks and identified the primary causes of cathodic protection failure are TPI, external interference, and incorrect maintenance and operation.

Our focus is on enhancing the performance of CPS, particularly for our IP pressure systems, through the delivery of our CPS upgrade and renewal programme. This programme was developed under three strategic targets:

- Reliability – IP and selected MP systems continue to provide safe containment of gas.
- Safety – public and worker safety is maintained.
- Delivery – build IP pipeline resilience reducing the likelihood of supply curtailment, or interruption as result of corrosion-based leakage.

5.6.2 Asset class overview

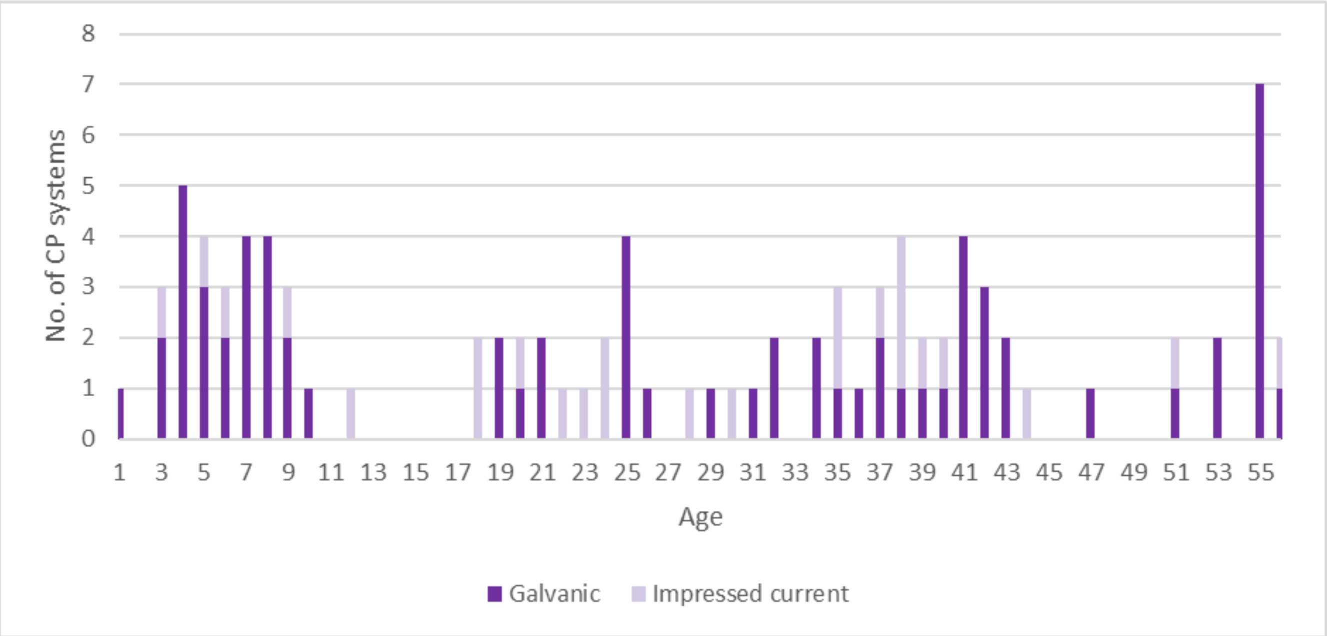
A description of our CPS, including the quantity, service status, and average age of each type is shown in Table 5.46. Figure 5.27 shows the age profile of our cathodic protection assets.

Table 5.46: CPS total number by type and status

Type	Total	In service	Average age (years)[10]
Impressed current	25	25	28
Galvanic	68	68	27
Total	93	93	27

By analysing performance details of periodic readings, we can assess the effectiveness and performance of our CPS. This allows us to gain valuable insights into the state of our assets and make informed decisions regarding their maintenance and improvement.

Figure 5.27: CPS age profile



5.6.3 Asset health and performance

Table 5.47 summarises the condition of CPS. A detailed table with the condition of all our assets is part of Schedule 12a.

Table 5.47: CPS asset condition

Asset type	Quantity	Grade 1	Grade 2	Grade 3	Grade 4	Grade unknown	Data accuracy
Cathodic protection	93	0.00%	12.90%	9.68%	77.42%	0.00%	3

Performance of our CPS is monitored on an ongoing basis. However, the overall performance can be impacted by some systematic issues, including:

[10] In-service systems only

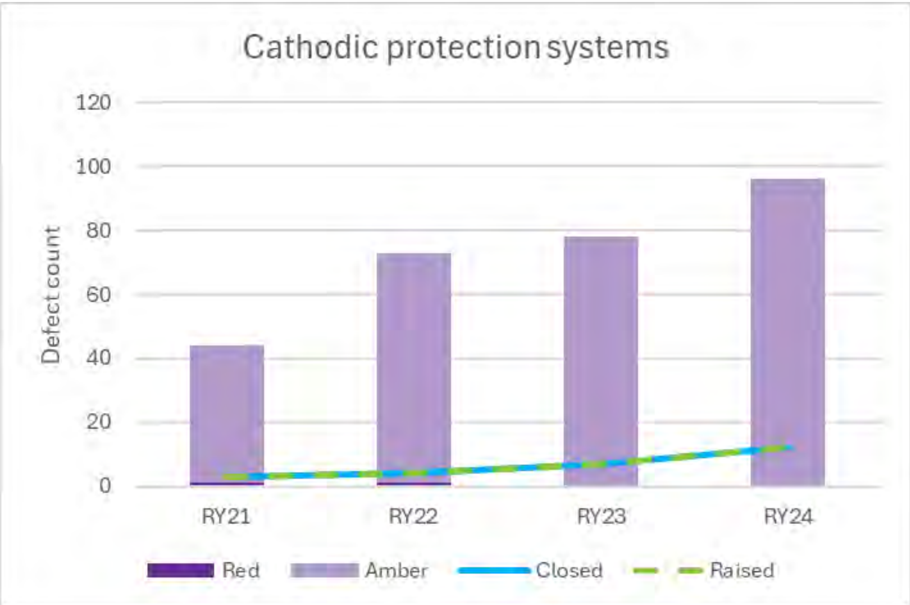
- Damage or failure of the protected asset's intrinsic protection (e.g. coating or wrapping).
- Unintentional protection of assets external to the system, through design failure or failure of an insulation joint.
- Degradation of the protection anode.
- Damage to the rectifier.
- Stray or induced current on protected asset.

We conduct troubleshooting activities to identify the sources of undesirable electrical charges on and off the IP pipe. We have discovered that faults can be attributed to assets belonging to other utility owners, which either introduce or drain the electrical charge from the pipe. Once a fault is identified, we promptly isolate and repair it.

To address this issue, we have reconfigured the layout of the CPS, which has resulted in improved charge readings. We continue to face challenges in maintaining the charge within the desired range. We are actively working on identifying and implementing solutions to overcome these persistent problems and ensure the effective functioning of our CPS.

Figure 5.28 shows how defect health has trended for CPS assets.

Figure 5.28: CPS asset past performance



Amber defects have steadily increased from RY21 to RY24, suggesting a gradual rise in medium-priority issues across the CPS portfolio. This growth is likely linked to ageing systems, environmental factors, and enhanced defect detection during routine inspections.

Raised and closed defect volumes remain comparatively low, but have shown a gradual upward trend, reflecting incremental improvements in both detection and remediation. The consistent absence of notable Red defects indicates that critical CPS failures are being effectively prevented through ongoing monitoring and maintenance.

5.6.4 Type issues

In line with our Asset Class Strategy, we are actively working towards reducing risks through our CPS upgrade and renewal programme. This is designed to improve the system protecting the approximately 410km of in-service steel pipe from corrosion damage. Our aim is to ensure the optimal performance and reliability of our CPS.

Table 5.48 shows the primary risks associated with our CPS assets.

Table 5.48: Key CPS risks

Major threat	Specific threats	Consequence
Incorrect design or construction	Incorrect asset protected	Unintentional protection of another asset, creating an unplanned draw on the system. Failure or reduction in cathodic protection.
	System not extended for network growth	Steel assets installed without extending coverage of system. Assets unprotected.
Incorrect maintenance and operation	Anode fully degrades	Failure or reduction in cathodic protection.
	Live cable exposed	Increased risk to public safety.
Material/ component failure	Isolation joint or surge diverter failure	Unintentional protection of asset/s, creating an unplanned draw on the system. Reduction or failure of cathodic protection.
	Cable failure	Asset no longer receiving impressed current. Failure or reduction in cathodic protection.
External interference	External CPS	Disruption caused by external CPS. Failure or reduction in cathodic protection.
	Induced or stray current	Disruption caused by external CPS. Failure or reduction in cathodic protection.
Third-party damage or interference	Vehicle impact	Above ground assets damaged. Failure or reduction in cathodic protection.
	Test point buried or sealed over	Unable to test performance of cathodic protection. Failure or reduction of system not identified.
	Working without notification	Third party damaging component assets. Failure or reduction in cathodic protection.

Asset information

An output of our CPS upgrade and renewal programme is re-configuration of the asset information within our Asset Management System. Table 5.49 shows key improvements we are looking for.

Table 5.49: CPS asset information characteristics

Asset	Improvement	Issue	Reason
All assets	Location	Accuracy	Improved location information will assist with maintenance, inspections, and prevention of TPD.
CP anode	Type (galvanic or impressed)	Completeness	Required for defining the area of a CPS.
CP test point	Type	Completeness	Required for identification, improving maintenance and inspections.
CP bond wire	Bonded to	Accuracy	Required for defining the area of a CPS.
CP test lead	Wire ID	Completeness	Required for identification, improving maintenance and inspections.

5.6.5 Design and construct

Our CPS are designed in alignment with Powerco's Gas Operations Cathodic Protection Standard. The Commerce Commission sets an expected life of 35 years for CPS, irrespective of system type and its associated equipment.

We are in the process of connecting our CPS directly to SCADA, moving CPS into continuous monitoring. This means our system is able to alert any condition changes that may impact its performance. This move reduces dependence on routine checks, having a positive impact on our maintenance expenditure while safeguarding equipment reliability.

5.6.6 Renewal

Powerco's preferred approach is to allow individual assets that make up the CPS to run until they fail. We closely monitor their performance through regular operation and maintenance activities. When we reach a point where we can no longer maintain the CPS within its specified operating parameters, we plan for its renewal.

The construction or enhancement of CPS is driven by equipment condition and other network projects. When there are extensions to our IP mains, we install additional CPS assets to ensure the proper protection of the expanded network. This proactive approach helps us maintain the integrity and reliability of our infrastructure in line with industry standards.

The CPS upgrade and renewal programme has progressed over several years and is targeting completion of current scopes within the current planning period. The reprioritisation of projects within the programme aims to ensure that the CPS of the poorest performing steel pipes are replaced first. Table 5.50 shows the status of the programme by area.

Table 5.50: CPS renewals and upgrades

Project name	Status
Wellington IP CP	Physically completed and capitalised
Upper Hutt IP CP	FY24 – rollover to FY26
Lower Hutt IP CP	FY25 – rollover to FY26
Porirua IP CP	Physically completed and capitalised
Levin MP CP	Physically completed and capitalised
Palmerston North CP	Physically completed and capitalised
New Plymouth IP CP	FY26
Hāwera MP CP	FY27
Hastings IP CP	FY27

5.6.7 Operate and maintain

CPS requires little intervention from an operability and maintenance point of view. The system is monitored by taking readings, which identify whether the system is working as required. The maintenance activities performed on CPS include checking joints, replacing anodes, and setting parameters for systems with impressed current. These parameters can be changed throughout the asset life depending on conditions identified during inspections. The parameters are set to ensure that the ground's electric potential is above the pipe's electric potential.

During inspection, CP readings are taken, and all accessible physical equipment is checked for damage. The readings are the primary indication of faults in the system. The rectifiers and bonds on the system are maintained aligning with a fix-on-failure approach, while anodes are maintained on a condition-based maintenance routine.

The inspections and test results are analysed regularly, and corrective actions taken as is required.

5.6.8 Dispose

Powerco fully decommissions and removes above ground CPS components when required, including rectifiers, PCRs, and test points. Any above ground system that might not be removed will present a public risk needed to be managed, requiring ongoing cost associated with operations and maintenance.

For underground assets, such as isolation joints, cables, and anodes, decommissioning in-situ is preferred. All records are updated to reflect the out-of-service status.

All disposal works are completed by our service providers in compliance with our engineering and environmental standards.

5.6.9 Expenditure

An investment of $2.94 million on our CPS during the next five years is included in our forecast and delivered under the CPS upgrade and renewal programme by our Projects team.

The general scope of the programme covers upgrade/renewal of nine CPS – five in the Wellington region, one in Manawatū and Horowhenua, two in Taranaki, and one in Hawke's Bay. It also includes the Wellington City CP. The programme distributes expenditure as follows:

Capex covers:

- Installation of new test points.
- Renewal of transformer rectifiers (TR) and anode beds.
- Upgrade of existing test points with IP67 test boxes.
- Installation of new transformer rectifiers and anode beds.
- Where required, relocation of TR and anode beds to improve system performance, worker safety and maintenance costs.
- Supply and installation of CP data loggers.
- Installation of surge diverter across flange insulation kit.
- Installation of replacement CP test points, where existing test points are replaced with new test points.

Opex covers:

- Production of operations manuals for each network.
- Validate CP cable connection and label.

Figure 5.29 shows the expenditure programme across our CPS with 13 projects forecast during the planning period, and an expected $2.94 million of investment across capital and complex operational expenditure on our networks. Of the planned projects, 9 are in our 2026 GWP (next 12 months), combining for a total of $1.63 million FY26. These figures are derived from our TPK (Issues Register) and represent our 10-year forward programme. Note, some projects are in our TPK, adding to our project count, but are yet to have a price set.

Network strategies and development plans

6. Network strategies and development plans

Network strategies provide direction for strategic investment and network performance requirements. This chapter describes our network strategies, the decisions they inform, and the projects/plans they produce for each region covered by our network. For each network strategy, we will describe the major programme of works that we have forecasted. Our development plans have a strong focus on the decision-making criteria to prioritise intervention decisions based on safety and delivery. We describe the options we have considered and those we prefer based on cost, performance, efficiency, and ability to deliver. This chapter provides greater levels of project detail on a five-year horizon. When possible, we extend the description to 10 years.

6.1 Network strategies approach

Our network strategies, summarised in Chapter 4, are defined in more detail in this section. The focus in this chapter is network-related projects rather than projects based on individual assets, as seen in Chapter 5. Network strategies provide direction for strategic investment and network performance requirements. We have seven network strategies, as described in Table 6.1.

Table 6.1: Network strategy definition

Network strategy	Definition
Network growth	The changing operating environment reflects our transition from a growth strategy to a prudent focus on maintaining the customer base. For network growth we will respond to the residential market demand.
Pressure droop	Ensure sufficient capacity to obviate low pressure in any part of the network. For network growth we will respond to the residential market demand.
Elevated pressure	Preserve personnel and public safety.
Resilience and redundancy	Maintain supply availability.
Odorant	To ensure adequate odorant within our network.
Network isolation	Increase the disaster resilience of our network against high-impact low-probability events.
Rationalisation	Improve efficiency through optimised networks.
Non-network solutions	We actively monitor emerging technologies and non-network solutions that could potentially serve as alternatives to, or be used in conjunction with, traditional network investments. We have not yet implemented any non-network alternatives and, as of now, we have not identified any emerging technologies that show significant promise.

Network risk

Powerco assesses general network risks through a regular (i.e. five-yearly) Formal Safety Assessment (FSA), as outlined in Appendix 4. We last undertook an FSA in June 2025. Our network strategies include controls to mitigate the strategic risks identified in the FSA. The identified controls are developed in alignment with our five value drivers and aim to ensure reduced safety concerns and reliable delivery of gas to our customers. The key risks identified by the FSA are set out in Table 6.2. Refer to Appendix 4 for all the risks associated with the gas network, their controls and risk level after mitigation.

Table 6.2: Key network risks related to network strategies

FSA	Risk	Consequence	Strategy	Control
A 4.2 #4	**Gas outage**	Loss and regain of supply where flame failure device is not present.	Pressure droop	Droop limits
A4.1: #1, #4	**Equipment venting**	Over pressure on the inlet that causes physical damage to the equipment Gas Measurement System (GMS) or district regulator station (DRS).	Elevated pressure	Network pressure design Pressure protection alignment
A4.1: #5	**Faulty district regulator station (DRS) equipment**	Because of a fault, DRS equipment fails, releasing gas.	Resilience and redundancy	Twin-stream
A4.6	**Third-party interference (TPI)**	Assets are damaged or operated by an unauthorised person, including vandalism.	Resilience and redundancy	Protect stations from vehicle impact (i.e. undergrounding)
A4.2 #1 A4.3 #1	**Gas release (undetected)** **Ignition source**	An equipment vents gas that is not detected until it reaches high concentration in the air.	Odorant	Gas odorisation management
A4.1	**Gas release (uncontrolled)**	Major gas leak, fire, explosion.	Network isolation	Emergency isolation valves, isolation plans

Network condition and performance

Network pressure, regulator stations (configuration, componentry, and location), odorant concentration, and isolation valves (location and operability) are modelled, monitored, and assessed for compliance regularly to identify any breaches of our network strategy criteria. We monitor network performance through a variety of avenues, which are further described in each respective network strategy. When non-compliant events are detected, an item is entered into our Te Puni Kāpuni – Issues Register (TPK), and options are assessed to determine the most viable solution with consideration of improved safety, cost, ease and safety of construction, network security, and performance.

By continually monitoring the performance of our network, we can make informed decisions about future investments and ensure that our asset class strategies and plans are up to date to achieve our Asset Management Objectives. Each subsequent section describes the criteria used and the resulting expenditure associated with each network strategy.

6.2 Network Growth Strategy

Network growth results in increased utilisation of the existing assets which, in the long term, leads to more competitive and efficient customer pricing.
We aim to accommodate network growth and maintain our residential customer base by:

- Reticulating new development areas (subdivisions) linked to our existing network.
- Connecting infill new builds or infill subdivisions (existing parcels subdivided into two to 10 dwellings).
- Connecting customers directly fronting our mains (within 20 metres) or re-connecting previous customers now disconnected.
- Considering current information regarding network use and engaging with customers to project customer trends.

There have been considerable changes in our operating environment, and we forecast a period of transition where new connection numbers, network growth, and the overall demand for gas is more complex to predict than previously. Demand for gas from industrial and large commercial customers is reducing and will continue to reduce as this sector executes its plans to reduce emissions.

Much of our growth expenditure related to connecting new customers is reactive (~90%) and is achieved through reticulation of new subdivisions as they are developed. The expenditure forecast for new developments is derived from a detailed system growth budget forecast set out in Chapter 7. We have also accounted for increasing investment opportunities to expand our network to reach renewable gas opportunities from the beginning of RY27, with projects through to the end of the planning period.

The remainder of growth expenditure is spent on major projects scheduled throughout the planning period in the form of network reinforcements to increase capacity to cater for projected growth. These are discussed in Section 6.3 – Pressure Droop Strategy, and Schedule 12b – Report on forecast utilisation. As most new subdivision growth occurs at the extremities of our networks, the capacity is impacted not only by a rise in gas volumes, but also by a larger pressure drop resulting from longer distances of gas conveyance.

Growth rates are modelled with consideration of:

- Historical infill rates and council planned growth rates.
- Greenfields growth through direct relationships with developers and councils to assess the appetite for gas in subdivisions and where land is designated.
- Diversity factors for both residential subdivisions and large commercial/industrial customers.
- Applying our own assessment in the near term for how quickly land will be developed based on present trends (number and new lots).
- A reduction in growth is also reflective of our assessment that some developers will not support higher capital contributions.

As the bulk of growth occurs on the extremities of our networks, it has a much greater impact on capacity and, therefore, requirements for reinforcement. Modelling growth allows us to determine the extent and timeline of reinforcements.

6.2.1 Network Growth Strategy development plans

Despite our changing operating environment, growth is occurring in all regions of our network, with the largest growth taking place in Wellington, Porirua, and Hawke's Bay. This section provides a summary of the forecast growth in each region.

6.2.1.1 Wellington

Most of the growth in Wellington is taking place on the northern part of the subnetwork. The Wellington Urban Growth Plan shows the potential extension of the city along the state highway to Porirua. This will occur on both the west of the state highway, from Churton Park to Tawa, via Stebbings Valley, and on the east, from Grenada Village and Woodridge to Grenada North, via Lincolnshire Farms. This aligns with the plans we have discussed with potential developers.

Growth in the area is set to occur around:

- Broadmeadows
- Churton Park
- Crofton Downs
- Grenada Village
- Johnsonville
- Khandallah

- Newlands
- Karori
- Woodridge

6.2.1.2 Hutt Valley and Porirua

In Hutt Valley, several large subdivisions are forecast to start or be completed during the next five years in areas with sufficient capacity. Steady growth is expected across the 10-year planning period, and we will continue to monitor this to determine whether any network reinforcements are required.

Subdivision growth rates in Porirua are high and will require some significant network expansion and reinforcements during the planning period.

Hutt Valley – expected growth areas:
- Arakura (Wainuiomata)
- Kelson (Lower Hutt)
- Totara Park (Upper Hutt)
- Wallaceville (Upper Hutt)
- Gillespies Road (Upper Hutt)
- Stokes Valley (Upper Hutt)

Porirua – expected growth areas:
- Tawa
- Aotea
- Elsdon
- Kenepuru
- Plimmerton/Pukerua Bay
- Whitby

6.2.1.3 Taranaki

In the next five years, we expect to reticulate several subdivisions in New Plymouth in a staged manner to align with the developments. The biggest growth area is in the northeast part of Bell Block, towards the airport.
The primary areas of growth in the region are:
- Bell Block
- Ferndale
- Vogeltown

Additionally, we expect to see new subdivisions in both Hāwera and Ōākura, where we have sufficient capacity to cater to both developments.

6.2.1.4 Manawatū and Horowhenua

We continue to see sustained growth in the region. In Feilding and Levin, new subdivisions are being connected to our network as they grow. We anticipate the need to reinforce the southeast of Levin as growth occurs.

Palmerston North, our third largest subnetwork in terms of customers, is expected to grow significantly during the planning period. As well as subdivisions expanding the city in the south (Summerhill), the city council is planning a major expansion on the eastern side of the city (Whakarongo). This is accompanied by significant industrial and commercial activity.
In Palmerston North, we expect to see growth in the following areas:

- Awapuni
- Centennial Drive
- Freedom Drive/Whakarongo
- Summerhill

6.2.1.5 Hawke's Bay

Growth in the region is occurring in Napier, Hastings, and Havelock North, although developments have been delayed because of the effects of Cyclone Gabrielle. There are several large subdivisions in Hastings and Napier with the potential for large increases in size during the planning period.
The main developments are:

- Willowbank Road (Napier)
- Parklands (Napier)
- Wharerangi Road (Napier)
- Iona (Havelock North)
- Brookvale (Havelock North)
- Arataki Road (Havelock North)
- Guppy Road (Napier)
- Te Awa Estates (Napier)

6.3 Pressure Droop Strategy

Poor pressure events on the network potentially result in customers losing gas supply. As such, it is important to be able to detect and prevent any poor pressure event under typical network operating conditions. Droop characteristics for each network are recorded and captured as part of normal operating procedures, and these values are utilised to determine how the network is operating. Limits on acceptable droops have been set and are maintained to ensure customer interruptions are limited in normal operation.

Providing customers with gas at the right pressure relies on ensuring there is sufficient capacity in our pipelines and regulator stations to meet pressure requirements at the furthest extremities, or highest usage points, on our network. Network modelling, combined with pressure monitoring, allows us to simulate current network performance, and use forecast growth to predict future performance and identify reinforcement solutions where required.

Our approach to managing pressure droop in this planning period takes into consideration:

- Pressure systems that are, or are expected to become, highly utilised (meaning a greater than 40% drop from nominal operating pressure) are reflected in Schedule 12b. These systems are monitored for pressure permanently.
- Pressure systems that are, or expected to, reach 50% droop are planned for reinforcement if a high growth rate is expected.
- Pressure systems that reach 60% droop through pressure monitoring are reinforced immediately.
- $1.5 million of capital and operational investments spread across six planned and forecast projects.
- Although network modelling helps to forecast when a network will become constrained and subsequently require reinforcement investment, capital investments are often held off until actual pressure performance criteria is observed on the network.
- Future reinforcement plans in areas where pressure performance issues have been identified are discussed in Section 6.3.8 and Schedule 12b.

6.3.1 Pressure Droop Strategy objective

The objective of the Pressure Droop Strategy is to build sufficient network capacity to ensure that no customers are impacted by poor network pressures and to allow for all residential/small commercial gas connection applications to be accepted. This strategy provides guidance on growth forecasting, criteria for minimum allowable pressures (pressure droop with regards to network capacity, and lowest functional operating pressure with regards to equipment specification, i.e. gas meter system – GMS inlet pressure requirements), as well as pipe sizing and gas velocity limits. These, along with our network modelling and pressure monitoring programme, allow us to identify when and what reinforcement projects are required. The strategy aims to strike a balance between cost and delivery risk.

6.3.2 Pressure Droop Strategy overview

Projects identified through this strategy aim to reinforce the network to improve constraints that arise from either:

- Network growth (GRO) – Expected to occur because of increased customer demand as described in Section 6.2; or
- Capacity constraints (quality of supply – QOS) – If constraints on the amount of gas we can provide currently exist.

Forecasts provided from our commercial team are used in conjunction with network modelling to predict network performance. Detailed plans in Schedule 12b are prepared for only five years.

6.3.3 Types of issues

The main types of low pressure (LP) issues that occur are summarised in Table 6.3.

Table 6.3: Key pressure droop risks

Specific threat	Specific cause	Solution
Low pressure at network extremity or high demand area	Inadequate main pipeline diameter.	Overlay pipeline in larger diameter.
	Inadequate nominal operating.	Increase nominal operating pressure.
	Lack of network interconnectivity.	Interconnect low pressure part of network with higher pressure part of network.
	Insufficient supply points.	Add a new supply point from a higher pressure system via a regulator station.
Low pressure at customer installation control point	Inadequate service pipeline diameter.	Overlay service pipe in larger diameter.
	Customer load larger than contracted.	Discuss possibility of reducing customer load, or consider reinforcement options such as pipeline overlay or nominal operating pressure increase.
Insufficient pressure at regulator station outlet	Improperly sized regulator.	Replace regulator or regulator orifice with larger size.

Table 6.4 summarises the network performance status keys we utilise to grade the current and future performance of our networks. Each section (6.3.8.1-6.3.8.5) summarises the major network development plans required for each region. They also give the current and expected performance levels if no projects are carried out.

The projects included in the sections consider network performance during the next five years. This is reflective of our current knowledge and understanding of network performance and our planning being less accurate after a five-year horizon.

Table 6.4: Network performance status key

Status	Network performance and maximum pressure droop
🟢	Satisfactory (<40%)
🟡	Low pressure (>40%)
🟠	Very low pressure (>60%)
🔴	Loss of supply (>80%)

Any pressure systems not mentioned in this section or in Schedule 12b are performing at a satisfactory level and are expected to remain that way across the planning period. No reinforcement projects are required, and we will continue to monitor those systems.

6.3.4 Network capacity

Pressure droop is a measure of the pressure drop from the nominal operating pressure (NOP) and allows us to measure residual capacity in our networks.

In 2020, our Pressure Droop Strategy was updated, increasing the maximum allowable pressure droop to 50% (up from 40%[1]). This increase in allowable droop was made because of higher confidence in our network modelling, better coverage of pressure monitoring data loggers across our networks, and more consideration of the rate of growth and its impact.

Additionally, several of our networks continue to run in the 50% droop range with no ill effects and, with little to no growth expected, they remain stable with sufficient buffer for unexpected demand. A 50% droop level represents about 80% capacity being utilised, leaving additional capacity for unexpected demand, such as abnormally cold weather, existing customer-specific volume growth (e.g. installation of additional appliances), and infill, subdivision, and commercial growth beyond what is known in our growth forecasts. If the trigger of 50% droop is reached, we undertake a detailed analysis that potentially leads to reinforcement work on the network.

Part of the analysis is a reassessment of the risk that customers lose supply through a poor pressure event, considering our growth projections. With all the above considerations, there is no increased risk to our network delivery. Any observed droop above 60% on the network triggers an immediate reinforcement project to remedy the high droop levels.

To increase capacity on the network, the main approaches are:

- Construct high-capacity mains (replacing older, smaller diameter mains) to minimise pressure losses along a defined route.
- Add more points of supply on the network, for example:
  a) A new regulator station supply from a higher-pressure network, which allows more gas to be injected into the system.
  b) A mains interconnection with another less-constrained part of the network.
- Increase the NOP within permitted limits.

The choice of approach is dependent on the specific characteristics encountered in each network, the type of end customers, and the circumstances that lead to the pressure droop.

[1] All pressure systems that are highly utilised (greater than 40% drop from NOP) are permanently monitored and reflected in Schedule 12b.

In addition to poor network capacity, we occasionally need to replace regulator stations that have reached their delivery capacity, as identified in Section 6.3. All our stations are running at satisfactory utilisation and, during the planning period, we do not plan to upgrade any stations because of capacity constraints.

6.3.5 Pipe sizing

Mains pipes are sized to ensure we have adequate capacity now and into the future so that, ideally, further reinforcement is not required during the lifecycle of the new mains.

Service pipe sizes are designed to ensure customer GMS inlet pressure requirements can be met at peak customer load during minimum operating levels on the network.

Gas velocity in pipes is also considered in sizing of mains to ensure velocities remain within allowable limits, as higher velocities result in significantly higher rates of pressure drop. We periodically investigate all pipes in our network modelling to identify high-velocity mains and add them to our TPK (Issues Register).

6.3.6 Pressure monitoring

We use pressure data logging devices to measure the pressure of our network. All our pressure loggers are installed directly onto our network and have remote capabilities, providing daily pressure data and alarm ability. We run a pressure monitoring programme to:

- Monitor non-constrained networks every three years, or reactively (whichever comes first), informed by our modelling tool or reported network issues.
- Maintain permanent active pressure monitoring on our highly utilised pressure systems with >40% droop (physically recorded on the network or modelled under simulated peak conditions).

Acquiring network pressure data allows us to improve accuracy of our network models and detect any changes in network performance between model builds.

6.3.7 Network modelling

We use DNV’s Synergi network modelling software to simulate network operating conditions, allowing us to perform capacity assessments and make decisions on network investment. This is a risk-based integrity management simulation tool that enables us to reduce the likelihood of unscheduled downtime or incidents because of asset failure. Our network modelling is mature and allows us to:

- Simulate network performance under a 1-in-20-year peak load.
- Forecast accurate network capacity.
- Gauge pressure performance of our future networks.

This allows us to identify options for reinforcement required to bring our networks to acceptable levels.

6.3.8 Network droop development plans

Network performance and plans are discussed in more detail below, broken down by region. Chapter 8 references all network diagrams and all network strategy projects greater than $60,000.

6.3.8.1 Wellington

The Wellington region consists of a single sub-network fed from Tawa gas gate supplying seven main medium pressure (MP) systems and two LP systems through the Wellington intermediate pressure (IP). Table 6.5 summarises the Wellington capacity reinforcement plans.

Table 6.5: Wellington capacity reinforcement plans

Pressure system	Current pressure performance	Pressure performance (if status quo)	Pressure performance (if projects completed)[2]	Proposed projects
Wellington IP	🟡	🟡	N/A	None – Active monitoring
Wellington 25kPa	🟡	🟡	N/A	None – Active monitoring
Wellington North	🟢	🟢	N/A	None – Active monitoring
Karori	🟢	🟢	N/A	None – Active monitoring

We continue to monitor performance of the Wellington IP system. In the past, forecast demand has flagged a risk of potential performance issues at the Karori lateral, which is where the minimum pressure in this IP system is observed. However, because of updated modelling and demand growth expectations in Karori, we do not expect the pressure at this IP extremity to drop to levels where reinforcement is required. There is sufficient pressure to adequately supply Karori, and we will continue to monitor through SCADA. If pressure does drop below acceptable limits, we will upgrade the Tawa gas gate station regulators to provide a slight boost in pressure.

Wellington's 25kPa pressure system has seen improvements since being interconnected with the Wellington CBD. This network change was a direct result of the decade-long pressure elevation programme to increase capacity for commercial growth in the Wellington CBD from LP (7-10kPa) to high intermediate pressure (HIP, 25kPa), which was completed in 2022. The low point is localised within the Thorndon, Wadestown and Northland area of the system. With no expected growth in this area, we do not anticipate any need to reinforce the network and we will continue to actively monitor pressures across the system.

In the northern suburbs, the city is expanding with new buildings and subdivisions, and it is expected that the city will eventually form one continuous urban area all the way to Tawa. Some areas of droop have been identified on this part of the network and have been, and will continue to be, remedied as growth continues – the low point of the Wellington North pressure system remains at Grenada Village. Growth in Grenada Village has been slow, and we no longer expect to see network pressures breached during the planning period.

We continue to monitor network performance within Karori, which appears to be healthy. A single subdivision is planned within the next five years, which we do not expect will require any network reinforcement.

The remainder of Wellington's pressure systems are performing well.

6.3.8.2 Hutt Valley and Porirua

The Hutt Valley and Porirua region consists of three sub-networks, the first feeding the Hutt Valley from Belmont gas gate, supplying 10 main MP systems through the Belmont HIP and low intermediate pressure (LIP) systems. The second feeds Porirua from two gas gates, with Waitangirua and Pāuatahanui No 1 jointly supplying the Mana MP system, and Waitangirua solely feeding another six main MP systems. The third sub-network feeds a small area with a handful of rural customers.

Hutt Valley and Porirua sub-networks mainly operate in the MP range, supplying residential customers. The sub-network in Hutt Valley runs over a large geographical area, from the gas gate in Belmont, as far as Upper Hutt in the north, Eastbourne and Wainuiomata in the south, and Ngauranga Gorge in the west. In Porirua, the sub-network supplies an area from Plimmerton in the north, to Tawa in the south, and includes Tītahi Bay to the west. Table 6.6 summarises the Hutt Valley and Porirua capacity reinforcement plans.

[2] Future expected pressure performance with growth in 2028 to align with Schedule 12b.

Table 6.6: Hutt Valley and Porirua capacity reinforcement plans

Pressure system	Current pressure performance	Pressure performance (if status quo)	Pressure performance (if projects completed)	Proposed projects
Belmont LIP	🟢	🟡	N/A	None – Active monitoring
Lower Hutt LMP	🟡	🟡	N/A	None – Active monitoring
Pāuatahanui IP	🟡	🔴	🟢	Pāuatahanui IP upgrade – RY26
Elsdon LMP	🟡	🟡	N/A	None – Active monitoring

The LP point in the Belmont LIP system resides at Norfolk DRS (Wainuiomata). Refinement of Wainuiomata modelling has reduced the impact of divergent load profiles, improving droop modelling of this network. Network performance is continuously monitored with SCADA.

The LP constraint on Lower Hutt is limited to the Harbour View suburb, which is permanently monitored. A relocation as part of the Riverlink project is providing an opportunity to increase the diameter of the motorway crossing and improve pressures. We maintain active monitoring at this point, and we consider this situation acceptable, as planned growth will not impact this system.

With large subdivision growth expected north of Mana, reinforcement work will need to be carried out on the Pāuatahanui IP system in RY26. This reinforcement will be staged, including a pressure uplift and Plimmerton DRS relocation, and further reinforcement may be required beyond five years, depending on the rate of uptake in the new development.

In the Elsdon LMP network, growth in the form of small subdivisions is expected, but the location of the growth is not expected to impact on the constrained area’s performance. We continue to monitor performance on this system.

6.3.8.3 Taranaki

The Taranaki region consists of 17 sub-networks supplying mostly small towns, and a major sub-network in New Plymouth feeding four main MP systems through its IP system. Table 6.7 summarises the Taranaki capacity reinforcement plans.

Table 6.7: Taranaki capacity reinforcement plans

Pressure system	Current pressure performance	Pressure performance[3] (if status quo)	Pressure performance (if projects completed)	Proposed projects
New Plymouth MP	🟡	🟡	N/A	None – Active monitoring
Bell Block North	🟢	🟢	N/A	None – Active monitoring
Pātea	🟡	🟡	N/A	None – Active monitoring
Lepperton	🟡	🟡	N/A	None – Active monitoring
Waitara MP	🟢	🟢	N/A	None – Active monitoring

There are five pressure systems that are near or exceeding 50% droop in Taranaki. Two are in New Plymouth, and the remainder are in Pātea, Waitara and Lepperton.

In the New Plymouth MP pressure system, only localised issues have been identified near Port Taranaki. The Hutchen Place reinforcement project was assessed for options and the only economically feasible options provided minimal capacity improvements. It was decided to not proceed with this project, which unfortunately means there is no remaining capacity at Port Taranaki.

Significant growth is expected in Bell Block North, however, the area has been slower to develop than previously expected. As part of a DRS replacement project in Bell Block North, we overlaid some smaller diameter outlet pipe to larger diameter. This has given a small improvement in performance – approximately 20kPa additional capacity in 2030. No additional reinforcement is expected during the planning period, however, if subdivision growth was to accelerate, the Bell Block supply improvement project can be enacted to reinforce the system.

In Waitara, seasonal pressure drops have occurred on a smaller diameter main supplying a chicken farm off Waitara Road. However, these do not currently pose a problem to network performance. If increased consumption occurs in the area, we will transfer this main over to the Lepperton pressure system that was isolated from Waitara in RY19 and now operates at a higher pressure.

Lepperton continues to have pressure constraints at extremities where large chicken sheds are connected, even after the pressure uplift in 2019. No pressure issues have been reported, and with no growth in demand expected, we will continue to monitor performance with no further action planned.

Gas gate volumes through Pātea have been slowly trending down for the past five years. With no expected growth in the area, there are no requirements for reinforcement. Monitoring is ongoing.

6.3.8.4 Manawatū and Horowhenua

The Manawatū and Horowhenua region consists of 13 sub-networks supplying mostly rural areas. The major sub-network, in Palmerston North, feeds six main MP systems through its IP system. The region mainly comprises

[3] Refer to Schedule 12b for commentary relating to LP performance and the trigger for intervention.

small-town sub-networks, usually supplying a few large commercial or industrial customers. Table 6.8 summarises the Manawatū and Horowhenua capacity reinforcement plans.

Table 6.8: Manawatū and Horowhenua capacity reinforcement plans

Pressure system	Current pressure performance	Pressure performance (if status quo)	Pressure performance (if projects completed)	Proposed projects
Palmerston North LMP	🟢	🟢	N/A	None – Active monitoring
Summerhill	🟢	🔴	🟢	Summerhill reinforcement – RY30
Feilding	🟡	🔴	🟢	Roots St reinforcement – RY28
Levin LMP	🟢	🔴	🟢	Queen St East overlay – RY29
Oroua Downs MP	🔴	🔴	🔴	None – Active monitoring
Ashhurst LMP	🔴	🔴	🔴	Ashhurst LMP reinforcement feasibility study – FY26

In Palmerston North, which is our third largest sub-network in terms of customers, we expect strong residential growth in the south and expect strain on the Summerhill pressure system. The Summerhill reinforcement project is planned to start in RY30 to ensure deliverability is maintained while growth continues. The Palmerston North rationalisation project, driven by safety and efficiency, was completed in 2022 and has remedied capacity issues that were occurring. We will continue to monitor this system.

Feilding and Levin are actively monitored as there is significant residential growth occurring. We expect the need to reinforce Levin in the southeast and Feilding in the north because of new subdivisions. Other sub-networks operate at a satisfactory level.

In Oroua Downs, the system is at capacity because of an existing large commercial consumer. If local customers require more gas or greater pressures beyond what is delivered, substantial upgrades will be required. However, it is not expected that any changes will occur in this system. We continuously monitor pressure performance in this system.

The Ashhurst LMP system is at capacity because of larger than expected demand at the network extremity. A feasibility study to assess solutions, such as a pressure uplift or a 100NB interconnection to support this demand, will be initiated in 2025. Outcomes of this feasibility study will determine the pathway forward to address the current pressure issues.

6.3.8.5 Hawke's Bay

The Hawke's Bay region consists of a single sub-network fed from Hastings gas gate supplying four main MP systems and one LP system through the Hastings IP. Table 6.9 summarises the Hawke's Bay capacity reinforcement plans.

Table 6.9: Hawke's Bay capacity reinforcement plans

Pressure system	Current pressure performance	Pressure performance (if status quo)	Pressure performance (if projects completed)	Proposed projects
Hastings LMP	🟢	🔴	🟡	Havelock North reinforcement stage 2 – RY31
Hastings MP	🟢	🔴	🟢	Hastings pressure uplift project – RY26

Havelock North has experienced significant growth in gas customers – existing homes connecting to gas and new subdivision growth. This growth put constraint on the southern end of the Hastings LMP pressure system, which was fed off a single main coming from Hastings. In 2022, we completed the first stage of a long-term reinforcement project. Carrying out the project in stages allows us to defer some expenditure until growth is actualised in future years. The first stage involved running a secondary main from the Hastings gas gate towards Havelock North, which provided more capacity into the constrained area. We continue to monitor this system, and plan to enact stage two of this reinforcement project in RY31 to support the continued growth.

A recent large customer connection request in Hastings MP will require a pressure uplift of the pressure system to 350kPa in FY26.

We now expect continued delays to growth in Taradale, and pressure monitoring in the area indicates that additional reinforcement may not be required in the near term. This pressure system will continue to be monitored, and the Taradale supply upgrade project will be enacted if droop reaches trigger points.

6.3.9 Expenditure

Table 6.10 shows the expenditure plans across our network pressure droop programme. The projects are derived from our Pressure Droop Strategy and network modelling plans. Seven projects are forecast during the planning period, with an expected investment of $1.5 million.

Table 6.10: Network pressure droop projects

Project description	Project region	Delivery year	Description of works
Pāuatahanui IP upgrade	Hutt Valley and Porirua (Porirua)	RY26	Plimmerton is expected to see the development of several thousand lots over 20+ years, beginning in RY26. Expected residential growth will exceed the IP capacity if upgrades are not undertaken. Once subdivision construction commences, a gas gate pressure uplift will permit subsequent growth in demand, and relocation of the Plimmerton DRS will improve the pressures further as the large subdivision progresses. We have already completed survey requirements for the pressure increase, and we plan to uprate the Pāuatahanui IP from 1,050kPa to 1,500kPa.
Summerhill reinforcement	Manawatū and Horowhenua (Palmerston North)	RY30	The growth occurring in the southern part of Summerhill will put strain on the extremities of the pressure system. In the 2020 AMP, we indicated the need to reinforce by RY24. However, with growth slowed and several developments previously forecast now on hold, pressures remain at reasonable levels. We plan to reinforce the system in RY30 by increasing the NOP from 100kPa to 150kPa.
Queen St East overlay	Manawatū and Horowhenua (Levin)	RY29	The growth occurring in the southeast of Levin is expected to put strain on the smaller diameter mains supplying the area. We plan a reinforcement via an overlay of the smaller diameter main pipes with larger diameter main pipes.
Havelock North reinforcement – stage 2	Hawke's Bay (Hastings)	RY31	The first stage of this project involved running a secondary main from the Hastings gas gate towards Havelock North, which provided more capacity into the constrained area. This main was run in higher rated pipe, which will allow us to carry out stage two, to increase the pressure and add a new supply point into Havelock North. If growth continues, stage three will involve the continuation of the high pressure pipeline directly into Havelock North, bringing the supply point even closer.
Roots St reinforcement	Manawatū and Horowhenua (Feilding)	RY28	Because of large developments in the northern part of Feilding, pressure constraints are expected to occur by RY28. In 2028, we will install a new trunk main along Churcher St, bringing more capacity to the northern part of Feilding. This will only add limited capacity, and we will need to further reinforce the network in 2029 by uplifting the pressure to 200kPa.
Omahu Rd	Hawke's Bay (Hastings)	RY26	A recent large customer connection request will require a pressure uplift of the Hastings MP pressure system to 350kPa in FY26.
Ashhurst LMP reinforcement feasibility study	Manawatū and Horowhenua	RY26	Feasibility study to assess potential solutions to larger than expected demand at network extremity. This feasibility study will determine the project to address pressure issues.

6.4 Elevated Pressure Strategy

The purpose of the Elevated Pressure Strategy is to reduce safety and delivery risk associated with elevated pressure, and to ensure that supply stations and customer equipment can operate adequately under a high-pressure incident.

Elevated pressures on the network may cause damage to, or failure of, Powerco or customer assets. This is a potentially dangerous situation, and strict limits are placed on the maximum allowable operating pressure (MAOP) to ensure this does not occur. The performance of the network is reviewed regularly to ensure that safety systems are in place and operational safety measures are undertaken. Elevated pressures usually occur because of upstream issues, so most measures undertaken will involve over pressure shut off (OPSO) valves automatically closed and an alarm raised.

6.4.1 Elevated Pressure Strategy objectives

The main objectives are:

- Define MAOP for safety, monitoring, and control purposes.

- Ensure that no existing equipment is exposed to pressures above the equipment's manufacturer pressure rating, increasing likelihood of failure.
- Ensure that customer safety is maintained by not exposing installations downstream of GMS to a pressure greater than the installation's design.
- Minimise relief activating on our regulating stations.
- Prevent OPSO valves from shutting supply to large numbers of customers following a single over pressure event.
- Standardise MAOP for all newly constructed pressure systems.
- Manage SCADA alarm setpoints.
- Provide guidance on raising/lowering MAOP of pressure systems.

6.4.2 Elevated Pressure Strategy overview

There are no identified networks with known issues that require Capex investment.
We are reviewing our regulator station setpoints and plan to standardise DRS relief and OPSO setpoints where practical. The intent being that, in the event any pressure system is exposed to elevated pressures, the reliefs will operate before OPSOs are shut, reducing the risk of supply loss. This will be delivered through our Opex maintenance programme.

6.4.3 Types of issues

The main types of elevated pressure issues that could occur are summarised in Table 6.11.

Table 6.11: Key elevated pressure risks

<table>
<tr><th>Specific threat</th><th>Specific cause</th><th>Solution</th></tr>
<tr><td>High pressure resulting in poor pressure or loss of supply</td><td>Relief valves or OPSO activated on regulator affecting supply.</td><td rowspan="2">Monitoring and detection of network pressure (SCADA).
Regularly assess and standardise MAOP.</td></tr>
<tr><td>High pressure results in equipment failure and possible supply issues or gas release</td><td>Equipment fails because of pressure rating insufficient for high network pressure.</td></tr>
</table>

6.4.4 Expenditure

There are no identified network elevated pressure issues that require Capex investment.

6.5 Resilience and Redundancy Strategy

Failure of assets is inevitable, but to ensure that customers do not lose gas supply, some redundancy must be designed into the network. Minimum requirements for network design help to ensure that a single asset failure will not affect an unduly large number of customers.

During failure of one of our assets (regulator working stream) or some other unexpected event, such as TPI (e.g. contractor hitting a gas pipe, vehicle collision with regulator station), it is important that we still maintain gas supply to networks with major customers or large customer numbers. This strategy ensures networks are designed to maintain supply in minimum redundancy scenarios.

Resilience and Redundancy Strategy highlights:

- Most of our regulator station resilience and redundancy requirements have been met through the design of regulator stations, as well as a few upgrades that were completed directly out of this strategy.
- Additionally, we have installed SCADA onto all critical stations to meet our monitoring requirements.

- All our regulator stations meet the resilience and redundancy requirements for minimum redundancy.
- Our existing obsolete Abbey Gas SCADA system is being upgraded and integrated with the electricity Aspentech SCADA platform. This is to be implemented by March 2027. The work includes the replacement of associated field IT hardware, known as remote terminal units (RTU), across 76 sites.

6.5.1 Resilience and Redundancy Strategy objectives

The purpose of the Resilience and Redundancy Strategy is to ensure we have the appropriate level of built-in redundancies to maintain supply to our customers during the failure of network equipment. This strategy is applied to all stations identified for replacement because of asset-driven risks, as identified in Section 6.3.

Network resilience, as part of operational reliability, is measured against the quantity, type and gas volume of customers who could potentially lose supply because of a single, reasonably foreseeable, failure event. This is managed through the following regulator station requirements:

- Single v twin stream
- Single station v multiple stations
- Monitoring requirements

Lastly, to detect potential failures, we use a SCADA system with real-time monitoring and alarm capabilities on our high criticality stations, as well as pressure logging devices on our medium criticality stations.

6.5.2 Resilience and Redundancy Strategy overview

All our stations have been assessed for SCADA requirements and SCADA has been installed where necessary. There are currently no identified networks with known resilience and redundancy non-conformances.

6.5.3 Types of issues

The main types of resilience and redundancy issues that occur are summarised in Table 6.12.

Table 6.12: Key resilience and redundancy risks

Specific threat	Specific cause	Solution
Failure of asset resulting in poor pressure or loss of supply and/or release of gas	Failure of regulator because of deterioration or poor condition, or TPI (i.e. vehicle impact).	Twin-stream Monitor regulators Trunk mains between stations Monitoring system (SCADA) Vehicle impact bollards
	Failure of main pipe/valve because of deterioration, poor condition, or TPI (i.e. contractor strike).	Backfed network

6.5.4 Expenditure

Table 6.13 shows the expenditure across our resilience and redundancy programme. One project is forecast during the planning period, with an expected investment of $2.7 million.

Table 6.13: Resilience and redundancy projects

Project description	Project region	Delivery year	Description of works
SCADA replacement[4]	All	RY25-RY27	The comprehensive overhaul and replacement of Powerco's gas distribution SCADA and RTU systems to address obsolescence, operational risks, and cybersecurity vulnerabilities, while enabling future scalability.

6.6 Odorant Strategy

We ensure odorant is present so that natural gas leaks can be detected. We assess the growth of our network and location of our test points on a regular basis, to ensure our testing regime is effective.

Odorisation of natural gas is a key safety requirement of its distribution and use. Odorant serves as a detection method for loss of containment. It alerts the public to the presence of gas at home and in the community. It also provides an early warning to third parties working near mains and services should there be an existing leak, or an accidental strike on a main or service.

Odorant highlights:

- We have had zero failed odorant readings on our network in the past five years. The last failed odorant reading was in March 2020.
- We continue to address any identified sections of pipe with no flow ('dead legs') as part of our regular Opex programme. We reviewed our odorant test points in 2021, and will assess these again in 2026, at which point there may be operational expenditure required to install some new test points.

6.6.1 Odorant Strategy objectives

This strategy ensures our network odorant levels are managed properly and that odorant test point locations are determined adequately and reviewed at required intervals. Additionally, it ensures the prevention and mitigation of odorant fade, specifically resulting from large lengths of pipe with minimal to no gas conveyance ('dead legs'). This strategy informs maintenance plans (driving Opex costs rather than Capex projects). Works include odorant point installation/relocation, monitoring, and flaring where required.

6.6.2 Odorant Strategy overview

In the event of any odorant failures, we will evaluate and control any associated risk (e.g. checking that the nearest upstream customer still has adequate odorant, checking if the problem can be economically controlled with regular flaring). These events are dealt with reactively when they are detected and are managed on a case-by-case basis.

6.6.3 Types of issues

The main types of odorant issues that could occur are summarised in Table 6.14.

[4] This is a Capex asset replacement and renewal project. Refer to Chapter 5, Section 5.5.8 – Monitoring and control systems (MCS) expenditure, for more information.

Table 6.14: Key odorant risks

Specific threat	Specific cause	Solution
Low or no odorant	Inadequate odorant supply at network entry point.	Test odorant at gas gate.
	Inadequate odorant concentration at reference point or network extremity.	Test odorant at specified reference and extremity points.
	Odorant fade within low utilisation pipe ('dead leg').	Sponsorship of a customer at the end of the 'dead leg' to allow odorised gas to flow through the pipe. Routine flaring at intervals ensuring odorant remains within adequate levels. Decommissioning the 'dead leg' from the network.
Inadequate testing locations	Network growth results in extremities beyond existing test sites.	Review test points every five years.

6.6.4 Expenditure

In addition to our usual operational expenditure for regular odorant point testing, we also anticipate some operational expenditure in 2026 to add or relocate some odorant test points. There are no network odorant issues that require Capex investment.

6.7 Network Isolation Strategy

In the event of a large asset failure, Powerco must have the ability to isolate the flow of gas to the damaged area. As such, a strategy has been developed to ensure that neither the public nor Powerco is exposed to undue risk in the event of an asset failure; and, where appropriate, isolation ability is designed into the network.

Network isolation highlights:

- Works for isolation valves in all our major six sub-systems have been assessed and planned, with anticipated completion in 2030.
- IP isolation has been completed in Porirua, New Plymouth and Palmerston North. Six more IP isolation valves are required in Belmont, Wellington and Hawke's Bay, with three additional existing valves to be brought back into service.
- MP/LP sector valve installation has been completed for Porirua, Wellington, New Plymouth, Palmerston North and Hastings. Two valves have recently been installed in Belmont, with six additional valves required to complete this sectorisation installation.
- $4.4 million of capital investment planned and forecast during the next five years.
- Phase two of our isolation plans will see further improvement to isolation capabilities, enhancing the ability of major customers to remain connected (or be reinstated more quickly) during emergencies. These plans will begin in 2030 as we near completion of our IP and sector valves.
- The isolation plans have proven to be invaluable during annual emergency exercises.

6.7.1 Network Isolation Strategy objectives

The purpose of the Network Isolation Strategy is to improve our emergency response preparedness as we increase the disaster resilience of our network against high-impact low-probability events (e.g. major earthquakes, TPD to IP main). Network isolation requirements are checked when the network is extended. All valves replaced through asset-driven means, as described in Chapter 5, Section 5.3 Main and service valves, are cross-checked against this strategy.

6.7.2 Network Isolation Strategy overview

We are improving isolation capacity on a risk-based metric by installing new isolation valves throughout our six critical sub-networks. This enables us to isolate our network simply and quickly in case of a major event. We have identified where we need to install valves on our network – refer to Chapter 5, Table 5.28, Chapter 6 Table 6.18.

We expect to spend $4 million during the next five years for the initial alignment with the current phase of our Network Isolation Strategy. The future phase of our Network Isolation Strategy aims to ensure that our major and critical customers are given a priority when isolation is required. In the event of a required shutdown of a large part of our network, we will look to maintain supply to these customers through a series of strategically located valves or, alternatively, by connecting these customers directly onto the high pressure backbone (IP) pipelines. Additionally, in the event of an entire network shutdown, this configuration would allow a quick reinstatement of supply to these customers. We expect to spend $1 million during the second half of the planning period for this next phase.

Overall, we foresee spending $5 million during the next 10 years to ensure all our networks have the necessary isolation valves required to be prepared for any emergencies and to comply with our Network Isolation Strategy requirements.

6.7.3 Types of issues

The main types of isolation issues that occur are summarised in Table 6.15.

Table 6.15: Key network isolation risks

Specific threat	Specific cause	Solution
Cannot isolate during an emergency	Valve inoperable.	Maintain all isolation valves annually.
	Inadequate nominal operating.	Increase nominal operating pressure.
	Valve cannot be located.	Network plans with valve IDs, maps, information pages, etc.
	Valve is in incorrect location.	Perform test isolation of specific sectors or sections of the network.
IP gas release (or imminent risk of) requiring isolation of valve, resulting in large outage numbers	Inadequate number and/or location of IP isolation valves.	Install IP isolation valve(s) at strategic points to optimise cost of installation versus risk of complete network isolation (gas gate).
MP/LP gas release (or imminent risk of) requiring isolation of valve resulting in large outage numbers	Inadequate number and/or location of MP/LP sector valves.	Install sector valve(s) at strategic points to optimise cost of installation and number of customers per sector versus risk of complete network isolation (DRS).
Slow isolation response to MP/LP emergency	Too many MP/LP sector valves.	Minimise number of valves on a sector.
Slow reinstatement of supply following network isolation	Inadequate number and/or location of MP/LP sector valves.	Install sector valve(s) at strategic points to optimise cost of installation and response time versus risk of complete network isolation (DRS).

6.7.4 Intermediate pressure isolation

IP isolation valves ensure quick isolation of high IP pipelines conveying gas at high pressures, while minimising outages to customers. Locations for valves are determined strategically based on risk. Risk is determined on a probability and consequence basis. Probability is based on the length of main isolatable by a specific valve, and consequence is based on the 'cost' of losing supply (based on the marginal number of customers that would lose supply) if the valve were not present. To ensure efficiency in design, minimum isolatable lengths and number of customers are set.

We plan to install IP isolation valves on our six critical sub-networks as per Table 6.16. We also plan to restore three existing valves to service to support isolation, without the capital expenditure of investing in new valves.

Table 6.16: IP isolation plans

Sub-network	Number of valve installs required	Number of valve restorations required	Status
Wellington	2	0	Planned
Belmont	3	2	Planned
Porirua	0	0	Completed
New Plymouth	0	0	Completed
Palmerston North	0	0	Completed
Hawke's Bay	1	1	Planned

6.7.5 Sectorisation

Our sectorisation plans create isolatable sectors that minimise the impact of disruption if a large isolation is required. The strategy aims to make all sub-networks isolatable into sectors with a maximum of 5,000 customers, while reducing that number to 500 customers for a CBD and steel networks.

There are two scenarios this strategy is attempting to mitigate:

- A large incident occurs within an area. Sectorisation allows us to isolate the sector without impacting supply to all other parts of the network.
- A large incident occurs on one of our HP pipelines. Sectorisation allows us to load shed an entire sector to reduce the load and maintain positive pressure to the remainder of the network.

We aim for all LP/MP/CBD/steel sectors to have a maximum of five isolation valves to minimise the response time in an emergency.

6.7.5.1 LP/MP sectorisation

Only six of our sub-networks have more than 5,000 customers. These are the only sub-networks on which this strategy has an impact. MP/LP sector valve installation is compliant for Porirua, Wellington, New Plymouth, Palmerston North and Hastings. Two valves have recently been installed in Belmont, with six additional valves required to complete this sectorisation installation, as per Table 6.17.

Table 6.17: LP/MP sector plans

Sub-network	Number of new valves required	Status
Porirua	0	Compliant
Wellington	0	Completed/compliant
Belmont	6	Underway
New Plymouth	0	Completed
Palmerston North	0	Completed
Hawke's Bay (Napier)	0	Completed

6.7.5.2 CBD sectorisation

For CBDs in larger towns or cities, we will aim to maximise the number of customers per sector to 500. These areas are often very meshed/interconnected, requiring a number of valves for sectorisation. As installation is costly and quick emergency response is difficult, the installation of these valves is carried out only where practical. The installation of these valves allows parts of the CBD to remain operating, rather than the entire CBD being shut down.

6.7.5.3 Steel networks

Steel networks are also made to be isolatable in sectors of 500 customers, because of the difficulty in responding to leakage on steel pipelines (we cannot just squeeze off and bypass easily, such as with PE pipe networks). This minimises the impact of response, preventing the need to potentially shut down supply to the entire sub-network.

6.7.5.4 Major customers

This section of the isolation strategy is yet to be written, but the intention is to install valves in strategic locations that will allow us to isolate the bulk of our networks while maintaining supply to major customers during an emergency or large isolation/outage event. This will also create the ability to reinstate supply more quickly to major customers during an entire sector/pressure system/network shutdown. This will be delivered as phase two of the Network Isolation Strategy.

6.7.6 Expenditure

Table 6.18 shows the expenditure across our network isolation programme, and an expected $4.4 million of capital investment.

Table 6.18: Network isolation projects

Project description	Sub-network	Delivery year	Description of works
IP isolation valves	Belmont	FY27-FY30	Install three IP isolation valves and restore two isolation valves to service on the Belmont LIP.
	Wellington	FY27-FY30	Install two IP isolation valves on the Wellington IP.
	Hawke's Bay	FY27-FY30	Install one IP isolation valve and restore one IP isolation valve to service on the Hastings IP.
LP/MP sector valves	Belmont	FY27-FY30	Install four valves in Lower Hutt and two valves in Upper Hutt.
Isolation strategy – phase 2	All	FY30-FY35	Install strategic valves to bring more security to our major customers ($1 million).

6.8 Network Rationalisation Strategy

Powerco has accumulated networks throughout its corporate history. Accordingly, we have inherited different design philosophies and practices. The old way of thinking often involved replacing assets like-for-like without assessing other options.

In the past, rationalisation projects have been focused on proactively modernising and streamlining networks to reduce operational investment required to maintain the networks into the future. Recent examples include major rationalisation projects for Wainuiomata, Kelson/Avalon/Belmont, Upper Hutt, Wallaceville and Palmerston North East.

Going forward, rationalisation projects will be focused on smaller network improvement opportunities as part of asset renewal, rather than proactively rationalising large sections of networks. This is largely because of the completion of many such network rationalisation projects, and therefore little more can be done in this space.

We have introduced decommissioning criteria in our rationalisation strategy to guide decommissioning of parts of the network that carry no benefit, such as 'dead legs' or parts of the network that have utilisation below requirements. This strategy is supported by the framework outlined in Chapter 2 – Strategic insights and operating context, which discusses the work we have done to assess network viability. As part of this work, we will be decommissioning the Mangatainoka gas gate, which has zero active customers. This decommissioning project will act as a case study to gather information on the process and will inform improvements to the rationalisation strategy.

6.8.1 Network Rationalisation Strategy objectives

This strategy aims to find and optimise efficiencies in our network. When an asset renewal or network project is identified via other primary drivers (asset class renewal, network strategy non-compliance), we undertake a network rationalisation assessment to see if there are other assets/issues on the network in need of remediation, and whether the network can be made more efficient, resulting in an overall optimised network. The result is a reduction in average annual costs over the lifespan of the assets, compared with a do-nothing/like-for-like asset replacement option. Additionally, project delivery efficiencies are gained with all the required works for a pressure system designed, constructed, and delivered at the same time.

Some benefits from network rationalisation include:

- Reduction/replacement of assets that have high operational expenditure (resulting in cost savings).
- Improvement in network capacity.
- Reduction of defects on the network.
- Reduction of safety risks on the network.
- Removal of high velocity and 'dead leg' pipes.
- Enhancement of isolation capabilities.

Several combinations of options are compared with one another as well as against a 'do nothing' approach, resulting in a solution that provides the greatest benefit in alignment with our decision-making framework.

6.8.2 Network Rationalisation Strategy overview

A rationalisation concept study shall be commenced if some of the following criteria are met:

- Multiple DRS are near the end of their asset life.
- Defects exist on multiple DRS regulators.
- Safety risks have been identified across the network.
- A shortfall in capacity is forecast.
- Utilisation of a network has been assessed to be below requirements.

Before entering a rationalisation project into the TPK (Issues Register), the Asset Strategy team will undertake a concept study. A whole life discounted cashflow evaluation is prepared for several suitable rationalisation network configurations, with analysis based on Capex and Opex estimates.

6.8.3 Types of issues

The main types of rationalisation (efficiency) issues that occur are summarised in Table 6.19.

Table 6.19: Key network rationalisation risks

Specific threat	Specific cause	Solution
High operational costs	Too many regulator stations in one pressure system.	Optimise/minimise number and location of regulator stations.
Loss of capital and construction efficiencies	Performing several projects within one area in different years (higher cost, annoyance to public, repeated disturbance of other assets).	Concept study of entire subsystem. Collaboration with service delivery teams.

6.8.4 Expenditure

Table 6.20 shows the expenditure programme for planned rationalisation projects. Five projects are forecast during the planning period, with an investment of $1,000,000. Each is an independent project to address renewals and known defects with the most efficient expenditure.

Table: 6.20: Network rationalisation projects

Project description	Project region	Delivery year	Description of works
Waitangirua IP rationalisation	Hutt Valley and Porirua	FY27	Multiple issues identified in Tawa that can be addressed in a single rationalisation project, including shallow main, seized/leaky valves, leaking crossing, and station renewal.
Taita Drive DRS	Hutt Valley and Porirua	FY27	Corrosion on pipework and pipe supports, building at end-of-life. Modelling suggests network does not require DRS and may be removed after a successful trial shutdown.
Foxton LMP rationalisation	Manawatū and Horowhenua	FY26	Removing a PRS, pressure uplifting 30ICPs, and reducing delivery pressure from Lady's Mile DRS.
Walkers Rd rationalisation	Manawatū and Horowhenua	FY26	Installing a new MP service regulator and downgrading pipework to LMP.
WGN East rationalisation	Wellington	FY26	Ellice St DRS is surplus to requirements and will be removed rather than renewed, and Childers Tce DRS will be renewed as part of the rationalisation project to offset the removal of Ellice St DRS.

Expenditure forecasts

Chapter 7

7. Expenditure forecasts

7.1 Overview

This chapter provides a summary of our expenditure forecasts during the planning period. It is structured to align with our internal expenditure categories, and forecasts provided in earlier chapters are presented here to provide a consolidated view of expenditure across the business. The expenditure profiles cover in-year forecasts for regulatory year 2025 and our forecasts for the 10-year AMP planning period from 1 October 2025 to 30 September 2035.

All figures are presented in constant prices, which means they exclude the allowance made for expected price inflation.

7.2 Forecast inputs and assumptions

This section describes the inputs and assumptions used to forecast our capital and operational expenditure.

Our forecasts rely on several inputs and assumptions, these include:

- Customer connections
- System growth
- Asset replacement and renewal
- Asset relocation
- Quality of supply
- Other reliability, safety and environment
- Network Opex
- Non-network assets
- Escalation of costs

7.2.1 Customer connections

Customer connections is Capex associated with the connection of new customers to the network, or alterations to the connections of existing customers, where main extension is generally not required.

Assumptions used to forecast expenditure are:

- Our new connections and volume assumptions align with our Global Alignment scenario and connections observed during the past 12 months.
- Socio-economic factors outlined in Chapter 2 have influenced our connection forecasts.
- Current contract rates have been used for cost per connection (residential), escalated for inflation.
- Cost per connection (commercial) has been estimated using actual figures for RY24, escalated for inflation.
- A reduction in new residential and commercial connection numbers and low but stable growth.
- Current expenditure for connections has been re-forecast to reflect a steady increase in capital contributions from RY25 to RY30, holding constant to RY35, to reduce the financial risk associated with stranded assets.

7.2.2 System growth

System growth Capex relates to the development or enhancement of the network.

Assumptions used to forecast expenditure are:

- Consideration of growth rates in all areas using council growth plans, growth factors considered in the Customer connections category, relationships with developers, and historical uptake rates.
- Costs for reticulation of new subdivisions are based on historical averages, escalated for inflation.

- We have updated our estimates for growing our network to reach renewable gas opportunities, now estimating a steady expenditure throughout the planning period instead of increasing to the end of the planning period.

7.2.3 Asset replacement and renewal

Asset replacement and renewal costs relate to addressing the progressive deterioration of the condition of network assets. This includes replacement of existing assets where these assets have been identified as reaching end-of-life, or the assessed criteria for replacement has been reached. These include reactive replacements following technical failure or risks associated with age, condition, or obsolescence.

Assumptions used to forecast expenditure are:

- Asset lives are aligned with the standard lives prescribed in the gas default price-quality path (DPP) Input Methodologies reset by the Commerce Commission in 2022. The final decision permitted gas distribution businesses to reduce the remaining lives of their network assets, enabling accelerated capital recovery aligned with the expected duration of natural gas conveyance.
- Operational forecasts are based on historical trends and current rates, escalated for inflation.
- We will be investing $20 million in climate resilience during our planning period, as discussed in our Climate Resilience and Adaptation Plan (2024). A proportion of this will fall under asset replacement and renewal, for example addressing special crossings in vulnerable locations.

7.2.4 Asset relocation

Asset relocation is Capex associated with the need to move assets because of third-party requests. Asset relocation mainly includes new pipe (or stations) constructed as part of route realignment because of a third-party request, such as road widening.

Assumptions used to forecast expenditure are:

- Volumes have been based on historical levels of relocation.
- The cost of relocation represents our current cost base, escalated for inflation.
- Customer contributions for asset relocations have been set at 100%.
- Our engineers and customer teams maintain a watching brief regarding emerging relocation requirements.
- Where major works in excess of our forecasts are known, these are factored into our forecasts.

7.2.5 Quality of supply

Quality of supply Capex is focused on ensuring we provide sufficient capacity and pressure where networks are, or may become, constrained because of unforeseen demand growth (i.e. infill, cold weather, unforeseen commercial activities etc.). These projects look at current network pressure performance and network configuration to ensure that our networks are both capable of delivering required demand and acceptable pressures, and are constructed in the most efficient manner possible.

Assumptions used to forecast expenditure are:

- This category of investment relates to portfolios of projects covering specific, targeted enhancement areas.
- The costs of specific projects and programmes are based on our recent experience in managing similar types of initiatives.
- Continual monitoring of our networks informs us of areas where quality of supply improvements may be required in the future.

7.2.6 Other reliability, safety and environment

Reliability, safety and environment Capex is focused on promoting health and safety of the network to safeguard the public, employees, and contractors. These projects are designed to improve reliability, security of supply or service standards, and are required to meet environmental standards.

Assumptions used to forecast expenditure are:

- This category of investment relates to portfolios of projects covering specific, targeted enhancement areas, including network isolation improvements.
- The costs of specific projects and programmes are based on our recent experience in managing similar types of initiatives.
- We will be investing $20 million in climate resilience during our planning period, as discussed in our Climate Resilience and Adaptation Plan (2024). A proportion of this will fall under other reliability, safety and environment, for example investing in resilience of assets that are vulnerable to climate impact.

7.2.7 Network Opex

Network Opex is focused on the maintenance and inspections costs required to ensure safe operation of the gas distribution network.

Assumptions used to forecast expenditure are:

- Forecasts are based on current rates adjusted by an increase in network size (based on historical trends).
- Includes all work to survey and maintain the assets to achieve their original design lives and service potential.

7.2.8 Non-network assets

Powerco's non-network gas assets include the digital and physical tools that support the safe and efficient safe operation of the gas network. These include:

- Enterprise IT systems (e.g. SAP, GIS, SCADA)
- Communication and telemetry equipment
- Laptops, tablets and ruggedised field devices (BlueWorx-enabled)
- Facilities and depots
- Cybersecurity systems and infrastructure

In addition, core information systems, such as Salesforce, ArcGIS, Synergi, artificial intelligence tools, and system integration platforms, support both our gas and electricity operations. These systems enhance asset management and customer capabilities, but require significant investment in data and digital infrastructure, resulting in increased in expenditure.

These assets are essential for:

- Managing the network
- Mobilising field crews
- Protecting critical systems
- Ensuring regulatory compliance

7.2.9 Management policies and lifecycle approach for non-network assets

We apply asset lifecycle planning principles to non-network assets, guided by corporate IT and facilities policies. These include:

- **Hardware refresh:** End-user devices are refreshed on a 3–5-year cycle.
- **Software upgrades:** Enterprise systems follow vendor-aligned upgrade schedules.
- **Facilities management:** Buildings and depots are maintained under condition-based renewal plans.

- **Security management:** Cyber assets are governed under our security hardening and renewal programme.

Asset condition, business needs, obsolescence risks, and regulatory compliance drive our investment decisions.

Table 7.1: Planned non-network material projects (FY25-FY30)

Project	Description	Timing	Type	Estimated cost
Field mobility refresh	Replace BlueWorx field tablets and software	FY26	Capex	$650,000
EDW modernisation	Migrate enterprise data warehouse (EDW) to cloud platform	FY27-28	Capex	$1.2m
SCADA operations room upgrade	Upgrade visual display, workstation and interface equipment	FY26-27	Capex	$900,000
Cybersecurity uplift	Endpoint protection, segmentation and monitoring	FY25-28	Capex	$450,000
SAP hosting uplift	Forecast increase in SAP hosting costs	FY25-30	Opex	$125,000/year

7.2.10 Integration with Business Strategy

Non-network investment is governed under the Data, Digital and Innovation (DDI) Programme, established in 2024. This programme ensures alignment between digital enablement, enterprise risk management, and the long-term needs of the gas business. It also connects non-network investment with the enterprise performance measures overseen by the Data, Digital and Innovation Governance Group (DDIGG).

Assumptions used to forecast expenditure are:

- Forecasts assume an allocation for investment in core Asset Management Systems, discussed in the Electricity AMP, that will benefit gas in the longer term by providing tools, systems and facilities that would be too onerous for gas only.
- These improvements translate into improved cost outcomes for gas customers. We will continue to refine the scope and cost of these allocations to ensure targeted benefits can be delivered.

Specific details regarding our approach to non-network assets and our specific assumptions in this area are provided in Chapter 4.

7.2.11 Escalation of costs

We have assumed that the published NZIER inflation forecast (as of June 2025) provides an appropriate basis for adjusting our forecasts into nominal dollars.

Table 7.2: Customers price index (CPI) forecasts used to produce the expenditure forecasts

Year to	2026	2027	2028	2029	2030
End September	2.07%	2.13%	2.00%	2.00%	2.00%

All forecasts are in constant FY24 dollars and align with Schedule 11a/b disclosures.

Expenditure profiles and allowances

The Capex and Opex forecasts reflect our best current information regarding future network use having looked at actual connection trends during the past 12 months and other external factors that may influence our expenditure forecasts. Allowances have also been made for managing risk associated with climate adaptation, resilience, and enabling the distribution of renewable gases. This information has been used to prepare our forecast expenditures.

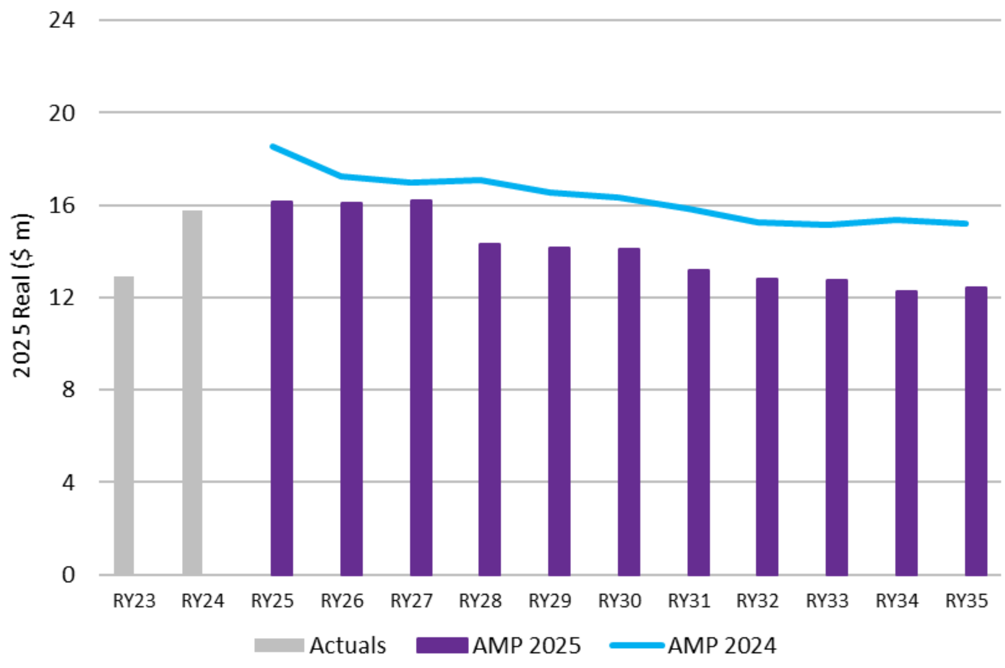
To help inform our stakeholders of the challenges, opportunities, and future planning needs, Chapter 2 summarises the main factors that impact our operating environment.

Expenditure forecasts in this section have been developed using a base-step-trend methodology. The specific work to be completed, detailed in Chapters 5 and 6, is used to define the baseline, with the operating context (Chapters 2 and 4) used to assess if a step change in expenditure is needed. Predictive forecasting techniques are used to estimate work volumes that are applied to associated unit rates.

7.3 Network capital expenditure

Our forecast for total Capex across the 10-year AMP period shows a reduction in investment compared with the Gas 2024 AMP Update. The decrease is driven by a reduction in new residential connection numbers and a linear increase in capital contributions to offset the risk of stranding assets.
Changes to our expenditure profile are also reflective of our transition away from a growth strategy to a prudent focus on maintaining our customer base under the changing operating environment. A conservative allowance has been included to enable our renewable pathway, adaptation, and resilience planning for the future. The forecast capital expenditure is shown in Figure 7.1 and Figure 7.2.

Figure 7.1: Capex expenditure forecast (constant $)

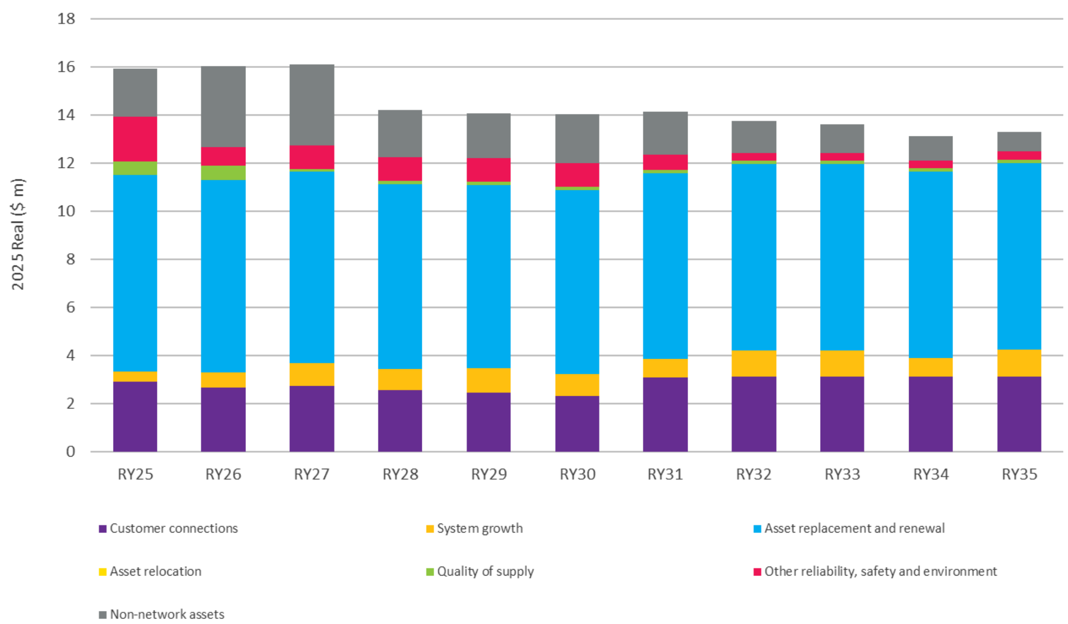


Total Capex includes the following expenditure categories:

- Customer connections
- System growth

- Asset replacement and renewal
- Asset relocation
- Quality of supply
- Other reliability, safety and environment
- Non-network assets

Figure 7.2: Capex expenditure forecast by category (constant $)



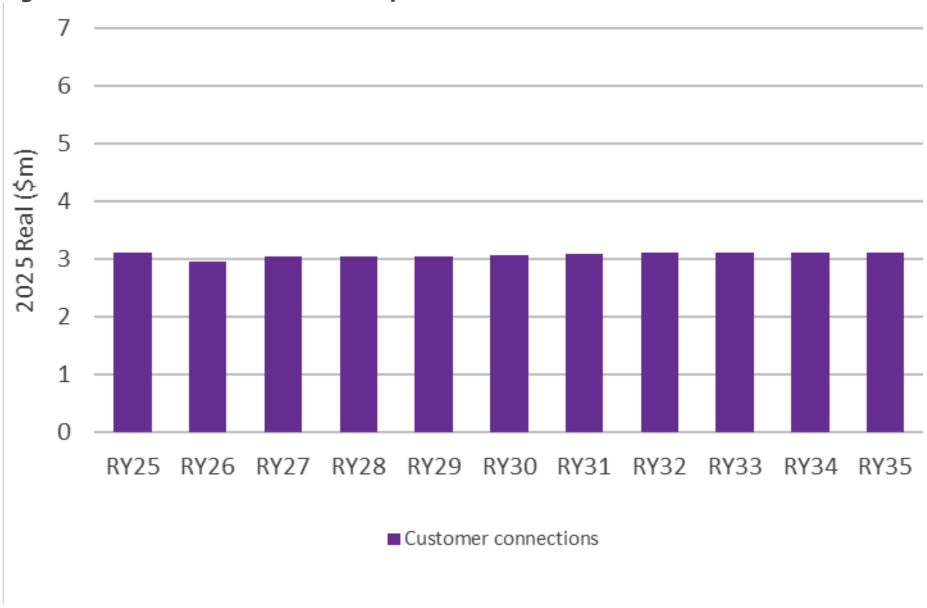
7.3.1 Customer connections

Customer connections is Capex primarily associated with the connection of new customers to the network, or alterations to the connections of existing customers, where main extension is generally not required. Forecast Customer connections Capex is shown in Figure 7.3.

Investment in this category is guided by our Global Alignment Scenario, Volume-to-Value Investment Framework, and our strategy to maintain existing customers on the network while managing lower connection numbers. We have observed connection trends during the past 12 to 24 months and investigated several external factors, as outlined in Chapter 2, to inform our forecast for new connections. The projected expenditure results in a lower consistent growth trend and a reduction in forecast expenditure across the period. The reasons for the forecast trend in expenditure are:

- A reduction in new residential connections because of a decrease in demand driven by socio-economic factors and policy decisions.
- A lower but stable level in new commercial connections as commercial enterprises look towards electrification and decarbonisation. The forecast is a small reduction, but remaining constant during the 10-year planning horizon.

Figure 7.3: Customer connections Capex



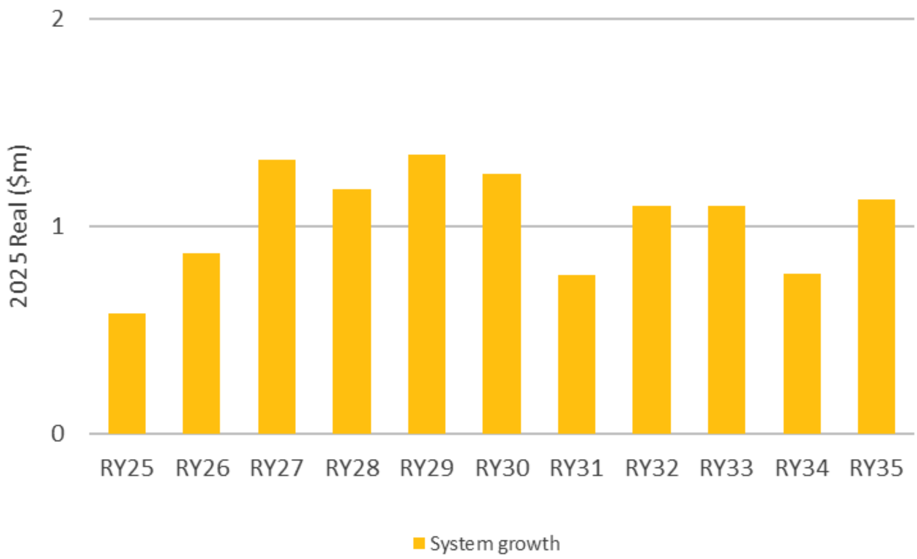
7.3.2 System growth

System growth Capex relates to the development or enhancement of the network. This category is for work driven by growth in network load (mainly through residential developments), which requires an increase in network capacity via network upgrade or mains extension to connect to new customers or other opportunities. Forecast system growth Capex is shown in Figure 7.4.

The projected expenditure forecast increases through to RY27 before showing no real trend from RY28 to RY31. It increases into the later part of the 10-year AMP period, where it stays constant except for a dip in RY34. The reasons for the forecast trend in expenditure are:

- Our forecasts for the number of residential subdivision developments we connect are in line with the reduction in Customer connections expenditure forecasts.
- The forecast reflects an increase in capital contributions proportional to that seen in customer connections expenditure forecasts.
- We have updated our estimates for growing our network to reach renewable gas opportunities – now estimating expenditure throughout the planning period instead of increasing to the end of the planning period. This renewable gas expenditure is forecast around regular projects every few years, which is a key contributor to the overall expenditure profile for system growth Capex during the planning period.

Figure 7.4: System growth Capex



7.3.3 Asset replacement and renewal

Asset replacement and renewal Capex relates to addressing the progressive deterioration of the condition of network assets. This may include replacement of existing assets where these assets have been identified as reaching their assessed criteria for replacement. These include reactive replacements following technical failure or risks associated with age, condition, or obsolescence. Forecast asset replacement and renewal Capex is shown in Figure 7.5.

The projected expenditure required for asset replacement and renewal remains steady, in line with historical forecasts across the 10-year AMP period. The reasons for the forecast trend in expenditure are:

- Specific work that includes the replacement of pre-85 pipes, steel pipe renewal and removal, renewal of ageing regulator stations, replacement of our fleet of pressure loggers, and the renewal of cathodic protection systems (CPS). Specific projects are discussed in Chapter 5.
- Investment in our asset replacement and renewal forecast across the period has allowed for investment related to climate mitigation, adaptation, and resilience plans, such as the relocation of pipe on bridge crossings or holding spares etc. This will support any resilience work required for strategic assets, as well as improving our network leakage to reduce emissions from network losses.

Figure 7.5: Asset replacement and renewal Capex

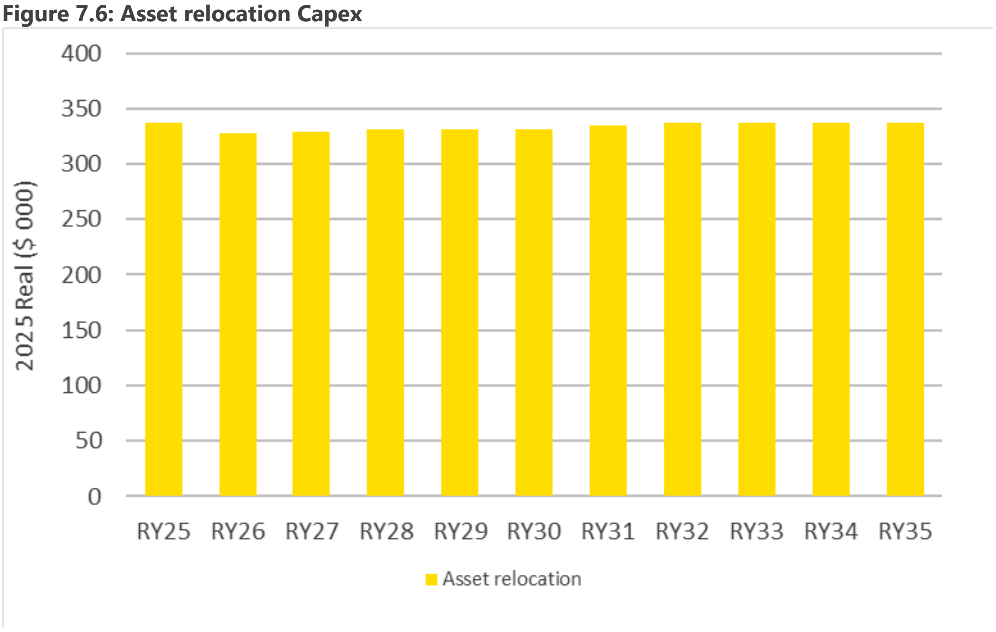
7.3.4 Asset relocation

Asset relocation is Capex associated with the need to move assets because of third-party requests. Such requests mostly include new pipe constructed as part of route realignment because of a third-party request, such as road widening. Forecast asset relocation Capex is shown in Figure 7.6.

The projected expenditure required for asset relocation remains steady, in line with historical forecasts. The reasons for the forecast trend in expenditure are:

- While we have seen high volatility in the level of relocation required over time, several years' worth of historical expenditure allows us to forecast an average level of asset relocation of approximately $340,000 per annum.
- Capital contributions for asset relocations have been set at 100%. This means asset relocations will only be done when necessary and the third party requiring the relocation will cover the cost. Figure 7.6 outlines the forecast asset relocation Capex prior to capital contributions.

Figure 7.6: Asset relocation Capex



7.3.5 Quality of supply

Quality of supply Capex is focused on ensuring we provide sufficient capacity and pressure within our network. Most of the quality of supply expenditure is related to networks with existing pressure constraints unrelated to growth, or networks that have, or are expected to, become constrained over time because of slow, organic growth in demand unaccounted for in our growth plans and system growth (GRO) planning forecasts. Forecast quality of supply Capex is shown in Figure 7.7.

In comparison with historical forecasts, there is an increase in expenditure in RY25. A sharp decline is forecast from RY26 to RY27. Minimal and steady expenditure is forecast for the remainder of the 10-year AMP period. The reasons for the forecast trend in expenditure are:

- In the past decade we have completed some major projects, bringing the majority of our networks up to capacity specification (i.e. Wellington CDB capacity upgrade).
- Most of these large-scale rationalisation projects have been completed, and without an expectation of network growth (outside of subdivision growth) going forward, and without associated significant changes in network demand, there is little expectation that substantial rationalisation projects will be required at the network scale.
- Most of our supply upgrades in the AMP period are for expected constraints because of isolated network growth (GRO), rather than existing network issues.
- Connection to renewable gas supplies could remove/reduce the need for network upgrades where the supply point could be introduced at the constrained extremity of a pressure system.
- A future growth provision to account for networks that reach capacity by infill, or existing commercial customers increasing consumption; or colder weather resulting in increased demand, making network weak points more apparent through our pressure monitoring programme.

Figure 7.7: Quality of supply Capex

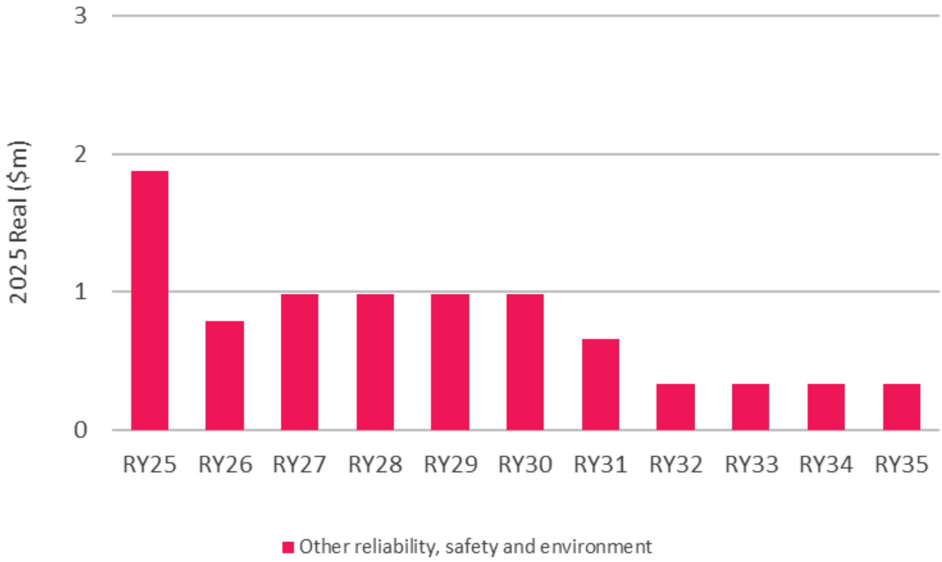
7.3.6 Other reliability, safety and environment

Reliability, safety and environment Capex is focused on promoting health and safety of the network to safeguard the public, employees, and contractors. These projects are designed to improve reliability, security of supply or service standards, and are required to meet environmental standards. Forecast reliability, safety and environment Capex is shown in Figure 7.8.

The projected expenditure shows high spending in RY25, followed by a stable period from RY27 to RY30, tapering off in the later years of the 10-year planning horizon. The reasons for the forecast trend in expenditure are:

- We have incorporated expenditure to enable the delivery of targeted asset-specific investment programmes, in particular emergency isolation valves, focused on reliability and improved public safety.
- Increased expenditure in RY25 as we installed some strategic intermediate pressure (IP) valves as part of our IP isolation plans (Chapter 6, section 6.7.4).
- Increased investment from RY27 to RY30 as we deliver phase two of our Network Isolation Strategy (major customers).
- Investment decrease from RY30 as we complete our sectorisation plans (Chapter 6, section 6.7).

Figure 7.8: Other reliability, safety and environment Capex



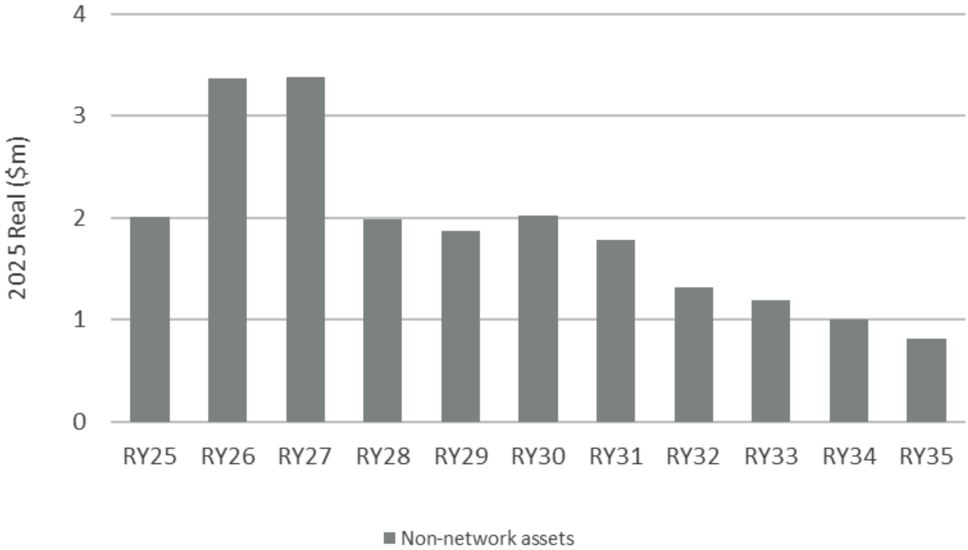
7.3.7 Non-network assets

Non-network assets Capex is all costs associated with information and communication technology (ICT), systems and platforms, facilities, and leases that support the operation of the gas business. We plan to spend approximately $2 million on non-network assets in RY25, and 13.4% of total Capex during the AMP planning period. Forecast non-network assets Capex is shown in Figure 7.9.

The projected expenditure required increases sharply in RY26 and remains constant in RY27, before decreasing across the remainder of the planning period. The reasons for the forecast trend in expenditure are:

- Facilities and lease investment profiles remain relatively unchanged across the period.
- We plan increased investment in ICT between RY26 and RY27 to upgrade our SAP, GIS, SCADA and other software systems. This is in line with increased investment in data and digital across Powerco.
- Dynamic allocation for shared non-network Capex – for projects classified as shared, we've moved from a static allocation percentage across the AMP period to a dynamic allocator that varies year-by-year. This allocator is based on projections from the corporate model and reflects the average split of regulated asset base (RAB) assets and revenue between the electricity, gas, and unregulated businesses.

Figure 7.9: Non-network assets Capex



7.4 Operational expenditure

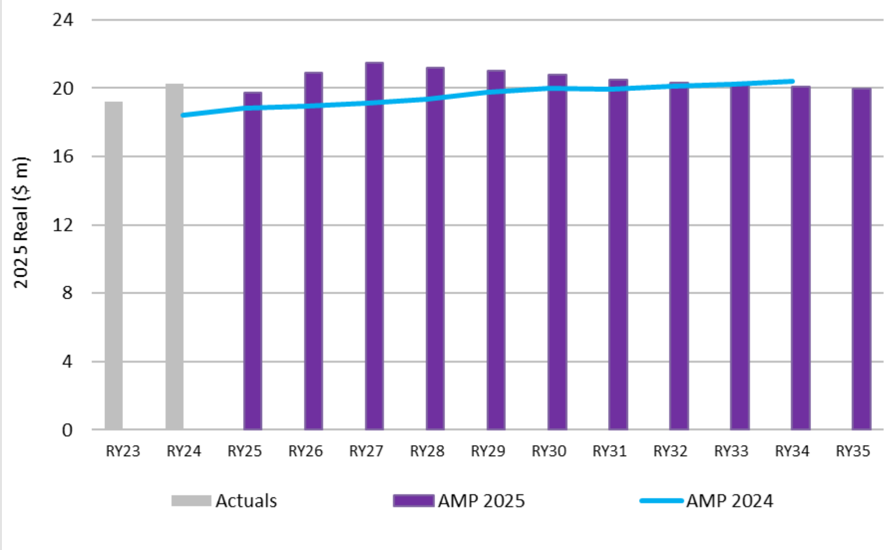
Operational expenditure is projected to rise from RY25 to RY27, followed by a steady decline during the remaining 10-year AMP period. This change reflects a shift between capital and maintenance work compared with previous forecasts.

The projected expenditure profile of operational expenditure shows a higher trend during the 10-year period when compared with the Gas 2024 AMP Update. This is mainly because of:

- A reduced number of new connections and resultant system growth.
- An increase in asset replacement and renewal maintenance costs to address leakages and losses (detected at higher rates because of our leak detection vehicle – LDV), and as we focus on emissions reduction.
- An increase in shared business support costs across Powerco.

This change aligns with our Volume-to-Value Investment Framework and strategy focused on maintaining existing customers on the network. The forecast operational expenditure is shown in Figure 7.10 and Figure 7.11.

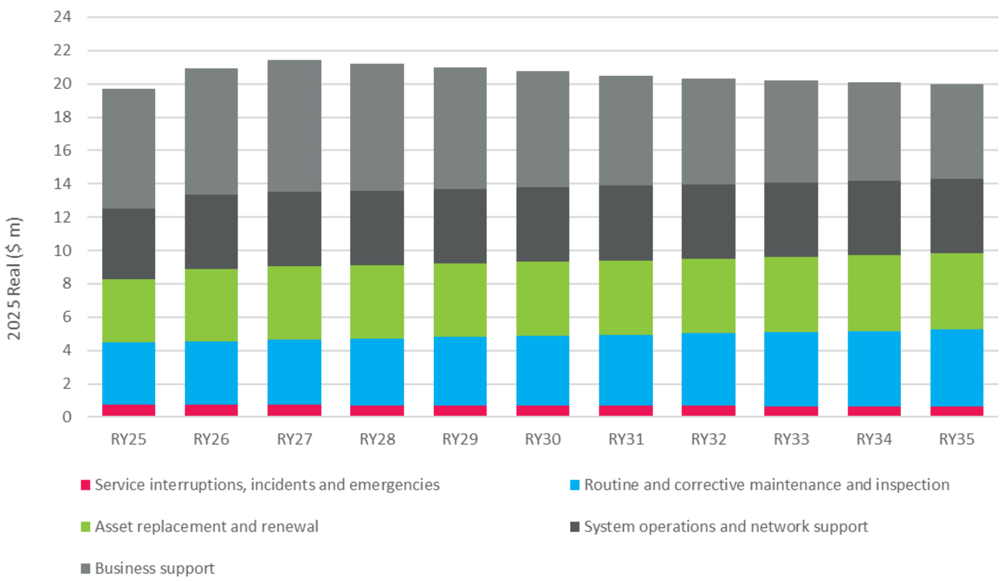
Figure 7.10: Opex expenditure forecast (constant $)



Total Opex includes the following expenditure categories:

- Service interruptions, incidents and emergencies
- Routine and corrective maintenance and inspection
- Asset replacement and renewal
- System operations and network support
- Business support

Figure 7.11: Opex expenditure forecast by category (constant $)



7.4.1 Service interruptions, incidents and emergencies

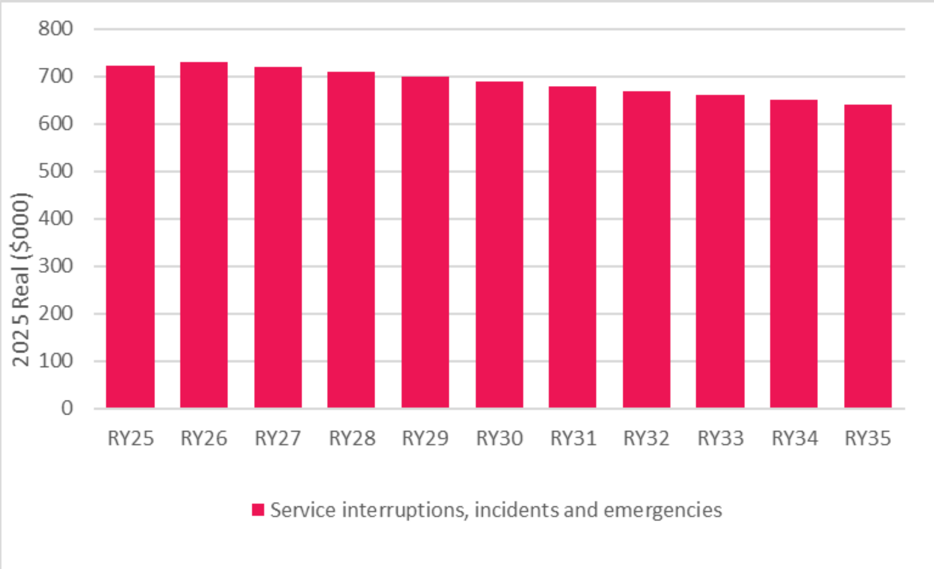
Service interruption (faults) and emergency maintenance work is completed as needed in response to supply interruptions, major leakage, or public reported escapes. It generally comprises callouts to restore supply or to make the network safe. This category includes the expenses related to our third-party damage prevention programme. Work comprises activities undertaken by field personnel responding to a reported failure of the network, including any back-up assistance needed at the time to restore supply or make the network safe. Forecast service interruptions, incidents and emergencies Opex is shown in Figure 7.12.

The work can be either temporary or permanent. Where follow-up work is needed, it is deemed to be corrective. Our fault response capability is measured by the response to emergency time and is closely monitored.

The projected expenditure required for service interruptions, incidents and emergencies shows a slight declining trend across the 10-year period. The reasons for the forecast trend in expenditure are:

- Volumes of faults are determined based on historical trends. Unit rate forecasts are our current cost basis, escalated for a growing network and inflation, and include consideration of local conditions.
- Powerco has a well-developed understanding of the requirements to respond to emergencies and ensure safety of the public and customers around our network.

Figure 7.12: Service interruptions, incidents and emergencies Opex



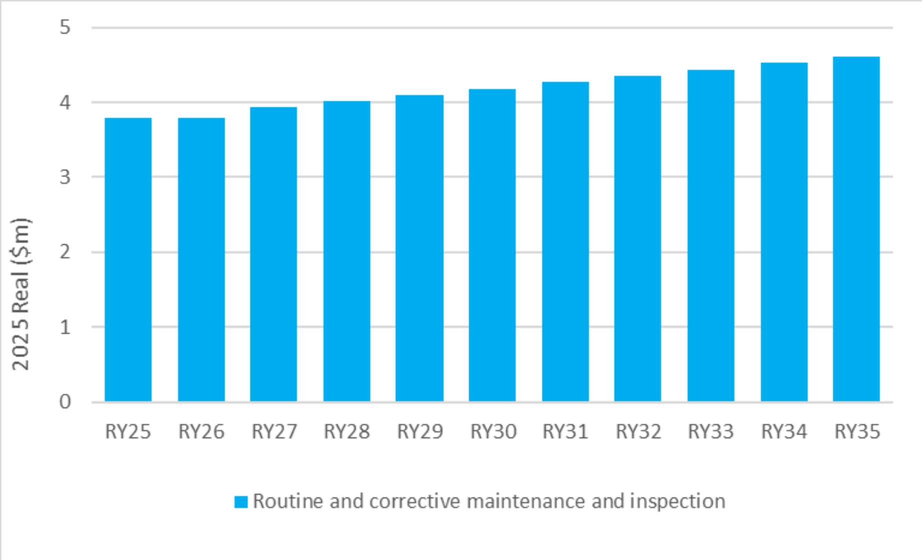
7.4.2 Routine and corrective maintenance and inspection

Routine and corrective maintenance and inspection Opex is driven by pre-planned work schedules. It comprises network inspections and routine servicing of equipment, as well as repair of defective equipment in accordance with the annual maintenance plan. This expenditure category also includes non-routine maintenance, such as relocations of rotatable assets. Most of our routine and corrective maintenance and inspection programme is driven by legislation and industry standards. Forecast routine and corrective maintenance and inspection Opex is shown in Figure 7.13.

The projected expenditure required for routine and corrective maintenance and inspection increases across the 10-year period. The reasons for the forecast trend in expenditure are:

- Forecast increase in leak events (found using LDV) will be offset by reduction in public reported leaks.
- Category includes preventative maintenance activities, such as plan issue, location of pipes and stand-overs.
- Unit rate forecasts represent our current cost base, escalated for network growth and inflation, and include consideration of local cost influences.

Figure 7.13: Routine and corrective maintenance and inspection Opex



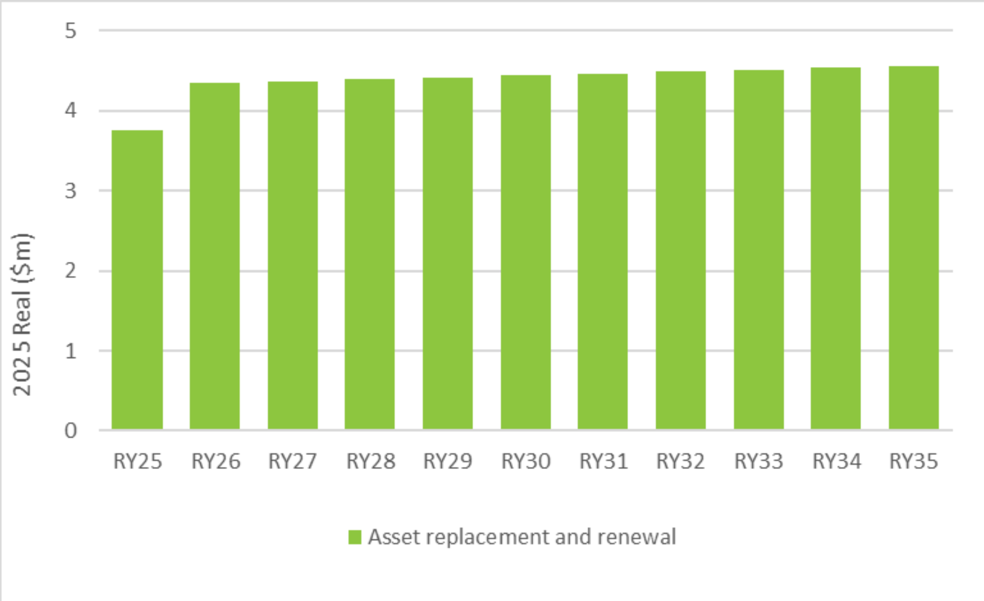
7.4.3 Asset replacement and renewal

Asset replacement and renewal maintenance Opex is driven by the maintenance of asset integrity to address the progressive deterioration or obsolescence of assets, or the need to maintain physical security. Because there is a potential cross-over of this expenditure and corrective maintenance expenditure, Powerco interprets asset replacement and renewal maintenance to include non-routine defect remediation, which requires the replacement of a capitalised asset or subcomponent. This category contains all the replacement and renewal jobs that cannot be capitalised. The cost for each individual activity is low (under $500). Conversely, corrective maintenance includes renewal of subcomponents or parts, which are not part of our capitalisation policy and the value of which is inferior to a certain threshold. Forecast asset replacement and renewal Opex is shown in Figure 7.14.

The projected expenditure required for asset replacement and renewal increases from RY25 to RY26 then remains constant, with a very slight increasing trend across the 10-year period. The reasons for the forecast trend in expenditure are:

- It reflects the increase in actual expenditure in previous years, and the forecast to repair network leaks detected through the leak detection survey process.
- Volumes have been determined based on network age and condition.
- Unit rate forecasts are based on historical works escalated for inflation.
- Powerco's planning defect identification and analysis processes and data provide a good basis for future volumes.

Figure 7.14: Asset replacement and renewal Opex



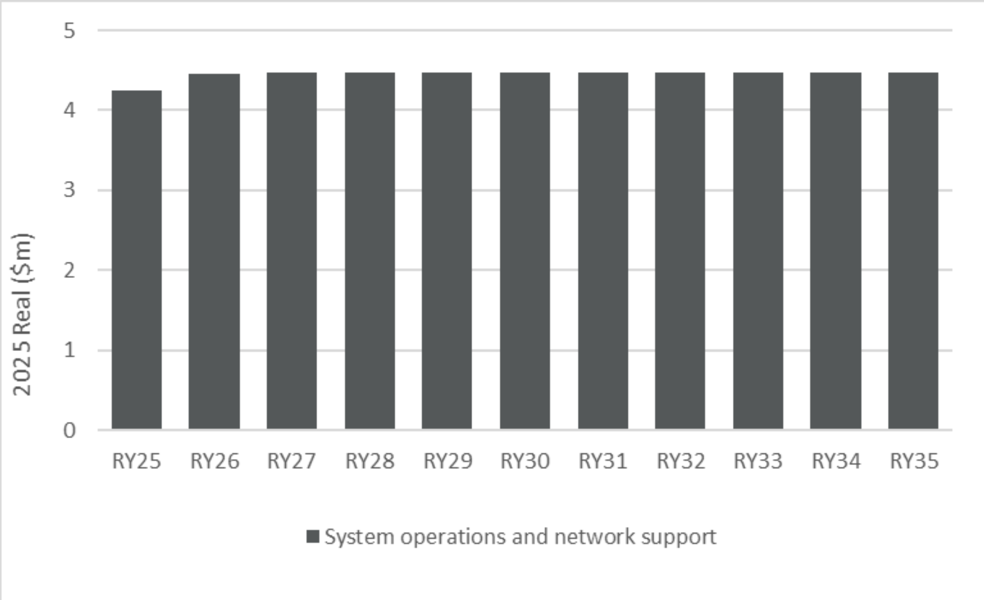
7.4.4 System operations and network support

System operations and network support expenditure includes the direct costs associated with managing the network. These include network planning process expenses, such as people costs associated with the Gas Future Energy, Asset Strategy and Operations teams, the non-capitalisable portion of the service provider relationship management process (contract and project management), and network operations expenses. The expenditure also includes management costs not directly associated with creating network assets, such as the costs for customer management, network planning and network operation. These costs include site service charges, network insurance premiums and charter payments, and may include the costs of decommissioning existing assets (where a new asset has not been created). Forecast system operations and network support Opex is shown in Figure 7.15.

The projected expenditure required for system operations and network support has reduced in RY25. However, the forecast increases from RY26 and remains steady for the remainder of the period. The reasons for the forecast trend in expenditure are:

- The lower expenditure in RY25 is because of a lower allocation to gas operations than forecast for RY26 and beyond.
- Increased expenditure from RY26 relates to resources required to support people and capability within the gas team.

Figure 7.15: System operations and network support Opex



7.4.5 Business support

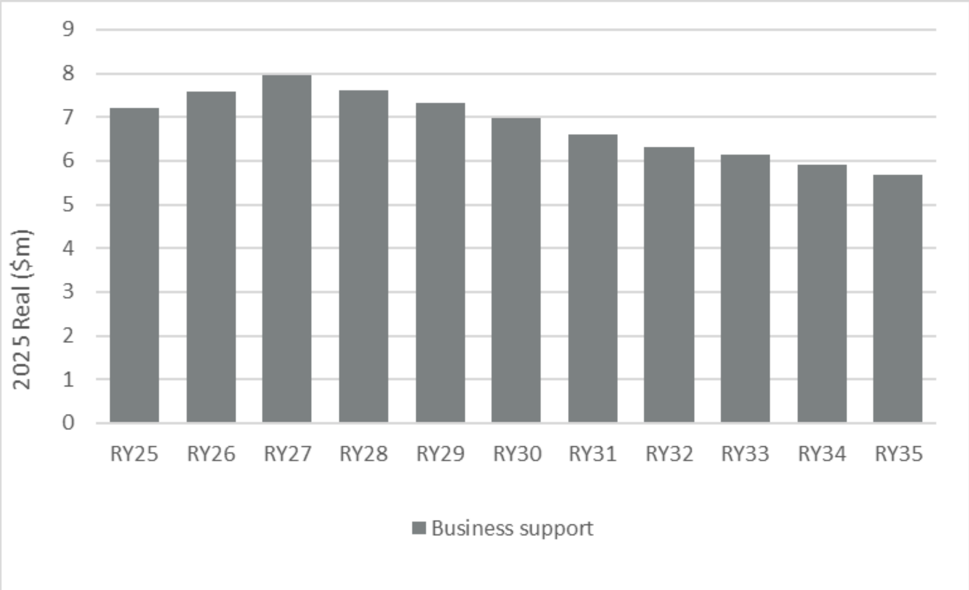
Business support costs are the allocation of Powerco's corporate support activities relating to its centralised corporate functions. Key functions provided for include finance, legal, audit and compliance, pricing, human resources, health and safety, corporate communications, information services, business projects, and general administration. Powerco has well-established functions in these areas, providing effective corporate oversight and management. Forecast business support Opex is shown in Figure 7.16.

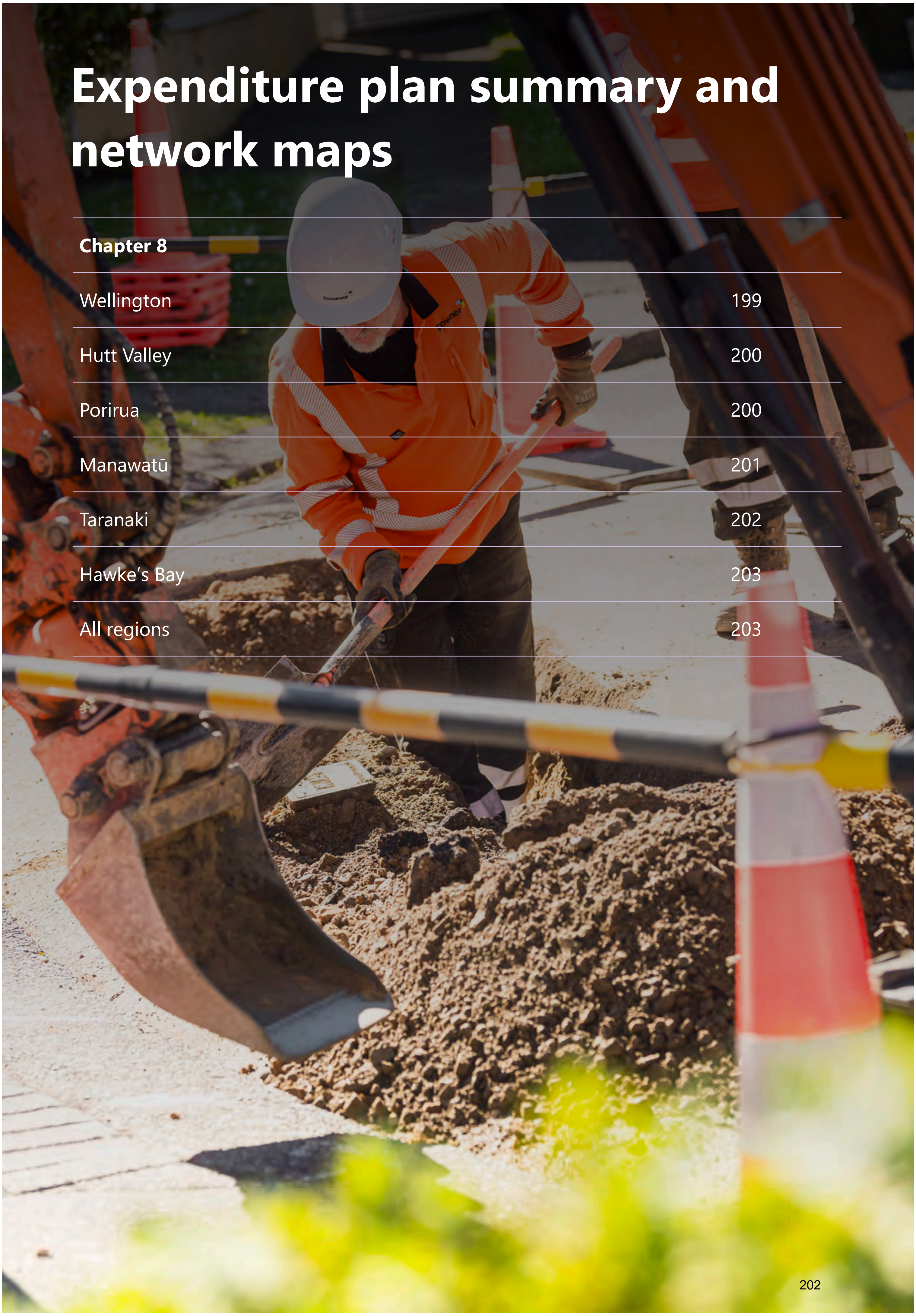
The projected expenditure required for business support shows an initial increase from RY25 to RY27, followed by a decreasing trend for the remainder of the 10-year planning period. The reasons for the forecast trend in expenditure are:

- Business support expenditure is aligned with our cost allocation[1] methodology.
- Costs related to the implementation of digital solutions, including cloud services, and corporate function requirements, such as finance, legal and regulatory shared support, increase for the business.

[1] Non-network systems and platforms are integrated across the gas and electricity businesses. Some systems are standalone, and costs are allocated in accordance with the cost allocation input methodology (IM), refer to Chapter 4.16.

Figure 7.16: Business support Opex





Expenditure plan summary and network maps

Chapter 8

8. Expenditure plan summary

Below are the accompanying tables for the network maps in Appendix 6. There is a table and map for each region.

The following data is accurate to the end of June 2025 (01/07/2025).

The criteria for the projects shown on each map are:

- Only Opex/Capex projects (no feasibility).
- Total cost (design and construct) must be greater than or equal to $60,000.
- Status is approved or ready for approval.

The criteria for the subdivisions to be included in the maps are:

- Model = Wellington, Belmont, Porirua, Palmerston North, New Plymouth, Hastings.
- Total >= 100 lots.
- This is customer-initiated works (CIW), which is separate from our Te Puni Kāpuni (TPK) monthly review process.

8.1 Wellington

Item	TPK number	Work type	Driver	Asset Management Strategy	Project	Delivery target	Delivery budget
1	542	ORS	Partnership	Main and Service	TSB Arena network seismic assessment	2026	$85,000
2	701	ORS	Reliability	Main and Service	Tawa gate corroded auxiliary line replacement	2026	$200,000
3	564	ORS	Reliability	DRS	Old Tory St DRS leaky building	2026	$120,000
4	667	ARR	Reliability	CPS – Cathodic Protection System	Middleton Rd drainage bond and solar panel replacement	2026	$60,000
5	520	GRO	Delivery	Pressure Droop	Churton Park network reinforcement	2027	$110,000
6	716	QOS	Safety	Rationalisation	Wellington East DRS resiliency and rationalisation	2027	$198,000
7	CIW	GRO	Partnership	Network Growth	Silverstream Park	TBC	TBC
8	CIW	GRO	Partnership	Network Growth	Lincolnshire Farm	TBC	TBC
9	CIW	GRO	Partnership	Network Growth	Lincolnshire Farm North	TBC	TBC
10	CIW	GRO	Partnership	Network Growth	Spenmoor St	TBC	TBC
11	CIW	GRO	Partnership	Network Growth	Woodridge	TBC	TBC

8.2 Hutt Valley

Item	TPK number	Work type	Driver	Asset Management Strategy	Project	Delivery target	Delivery budget
1	231	ARR	Reliability	Main and Service	Pre-85 replacement – Roband Cres and Shanly St	TBD	$510,000
2	278	ARR	Safety	Main and Service	Pre-85 replacement – De Menech Grv	2026	$400,000
3	413	ARR	Safety	Main and Service	Pre-85 replacement – Hartford Cres	2026	$160,000
4	575	ARR	Reliability	Main and Service	Pre-85 replacement – Grounsell Park	2026	$236,803
5	578	ARR	Reliability	Main and Service	Pre-85 renewal – Railway Ave, Ewen Bridge	2027	$436,750
6	684	ARR	Reliability	Main and Service	Pre-85 replacement – Wairere Rd	2026	$320,000
7	711	ARR	Safety	Main and Service	Pre-85 replacement – The Strand	2026	$340,000
8	712	ARR	Safety	Main and Service	Pre-85 Replacement – High St	2026	$420,000
9	217	ARR	Reliability	DRS	DRS renewal – Stokes Valley	2027	$215,000
10	634	ARR	Reliability	DRS	Station repaint – Hutt Rd DRS	2026	$100,000
11	507	ARR	Safety	Special Crossings	Special crossing corrosion defect – York St	2026	$65,000
12	706	ARR	Reliability	Special Crossings	Crossing renewal – Whites Line East	2027	$110,000
Whole area	627.28	ARR	Reliability	CPS – Cathodic Protection System	Upper and Lower Hutt IP CP renewal	2026	$980,000
13	679	ARR	Safety	CPS – Cathodic Protection System	Korokoro TR replacement	2027	$250,000
14	475	ORS	Safety	Network Isolation	IP isolation valve #14 – Maungaraki offtake	2030	$265,000
Whole area	736	QOS	Safety	Rationalisation	Belmont IP to MP domestic customer service transfer	2026	$100,000
a	CIW	GRO	Partnership	Network Growth	Kelson Heights	TBC	TBC
b	CIW	GRO	Partnership	Network Growth	Cannon Point	TBC	TBC
c	CIW	GRO	Partnership	Network Growth	Arakura	TBC	TBC
d	CIW	GRO	Partnership	Network Growth	Gillespies Rd	TBC	TBC
e	CIW	GRO	Partnership	Network Growth	Wallaceville	TBC	TBC
f	CIW	GRO	Partnership	Network Growth	12 Shaftesbury Grv	TBC	TBC

8.3 Porirua

Item	TPK number	Work type	Driver	Asset Management Strategy	Project	Delivery target	Delivery budget
1	212	ARR	Reliability	DRS	PRS renewal – Awarua St	2028	$315,000
2	213	ARR	Reliability	DRS	PRS renewal – Onepoto	2027	$320,000
3	220	ARR	Reliability	DRS	DRS renewal – Sunrise Boulevard	2026	$150,000
4	655	ARR	Reliability	CPS – Cathodic Protection System	Kenepuru drainage bond power supply	2026	$60,000
5	395	GRO	Delivery	Pressure Droop	Pāuatahanui IP upgrade	2028	$220,000
6	702	ARR	Reliability	Rationalisation	Waitangirua IP rationalisation	2027	$575,000
a	CIW	GRO	Partnership	Network Growth	Jamaica Rise	TBC	TBC
b	CIW	GRO	Partnership	Network Growth	Kenepuru Landing	TBC	TBC
c	CIW	GRO	Partnership	Network Growth	Aotea	TBC	TBC
d	CIW	GRO	Partnership	Network Growth	Mount Welcome	TBC	TBC
e	CIW	GRO	Partnership	Network Growth	Plimmerton Farm	TBC	TBC
f	CIW	GRO	Partnership	Network Growth	Takapūwāhia	TBC	TBC

8.4 Manawatū

Item	TPK number	Work type	Driver	Asset Management Strategy	Project	Delivery target	Delivery budget
1	616	ARR	Reliability	Main and Service	Brightwater Terrace and Opawa Pl steel replacement	TBD	$ 533,437
Off map	376	QOS	Safety	Main and Service	Foxton IP to MP customer service conversion	2026	$85,000
Off map	641	ARR	Reliability	Main and Service	HMP YJS damaged wrapping – Cambridge St Levin	2027	$ 320,000
Off map	703	ARR	Reliability	Main and Service	Pre-85 replacement – Carlisle St	2026	$460,000
Off map	377	QOS	Efficiency	DRS	Foxton LMP rationalisation	2026	$90,000
Off map	550	QOS	Safety	DRS	Miller St DRS relocation	2026	$220,000
Off map	725	ORS	Delivery	DRS	Weld St DRS missing fire valve	2027	$60,000
2	625	ORS	Delivery	Special Crossings	Special crossing poly valves – Palmerston North	TBD	$60,000
3	660	ARR	Reliability	Special Crossings	Fitzherbert HMP bridge crossing renewal	2028	$800,000
4	629	ARR	Reliability	Special Crossings	Special crossing coating remediation – 1 South St	2027	$120,000
5	666	QOS	Reliability	Network Isolation	Tremaine Ave, ESIV valve install on LIP steel service	2026	$140,000
6	709	QOS	Reliability	Rationalisation	Domestic IP to MP customer service conversion – Walkers Rd	2026	$200,000

Item	TPK number	Work type	Driver	Asset Management Strategy	Project	Delivery target	Delivery budget
7	CIW	GRO	Partnership	Network Growth	Centennial Dr	TBC	TBC
8	CIW	GRO	Partnership	Network Growth	Freedom Dr	TBC	TBC
9	CIW	GRO	Partnership	Network Growth	Whakarongo	TBC	TBC
10	CIW	GRO	Partnership	Network Growth	Voss Block (Pacific Dr South)	TBC	TBC
11	CIW	GRO	Partnership	Network Growth	Aokautere East	TBC	TBC

8.5 Taranaki

Item	TPK number	Work type	Driver	Asset Management Strategy	Project	Delivery target	Delivery budget
1	584	ARR	Reliability	Main and Service	Pre-85 replacement – Tavistock St and Trelawney Cres, phase 2	2027	$610,000
2	713	ARR	Reliability	Main and Service	Pre-85 replacement – Carrington St	2027	$420,000
Off map	506	ORS	Safety	Main and Service	Mains decommissioning – Ōkato Dairy Factory	2026	$60,000
3	499	ARR	Safety	DRS	Devon St service regulator rationalisation	2026	$90,000
4	710	ARR	Delivery	DRS	DRS renewal – Fairfield Rd	2026	$100,000
Off map	622	ARR	Reliability	Special Crossings	Special crossing support renewal – Lepperton	2026	$197,142
Off map	628	ARR	Reliability	Special Crossings	Special crossing coating remediation – 888 Normanby Rd, Manaia	2026	$170,000
Whole area	92	ORS	Reliability	CPS – Cathodic Protection System	Taranaki IP pipeline DCVG investigation	2026	$90,000
Whole area	627.29	ARR	Reliability	CPS – Cathodic Protection System	New Plymouth IP CP renewal	2026	$300,000
Off map	627.31	ARR	Reliability	CPS – Cathodic Protection System	Hawera IP CP renewal	2027	$450,000
5	328	GRO	Delivery	Pressure Droop	Bell Block area Q supply improvements	TBD	$510,093
6	347	ORS	Reliability	Pressure Droop	DRS renewal – Mangati Rd	2026	$150,000
Off map	733	ORS	Safety	Network Isolation	Hāwera sectorisation improvement	2027	$120,000
7	705	ORS	Safety	Rationalisation	Lemon St remediation and rationalisation	2026	$65,000
8	252M	GMS	Efficiency	GMS	Replacement of non-standard AL2300 meters	2026	$266,124
9	253M	GMS	Efficiency	GMS	Replacement of non-standard AL1400 meters	2026	$80,000

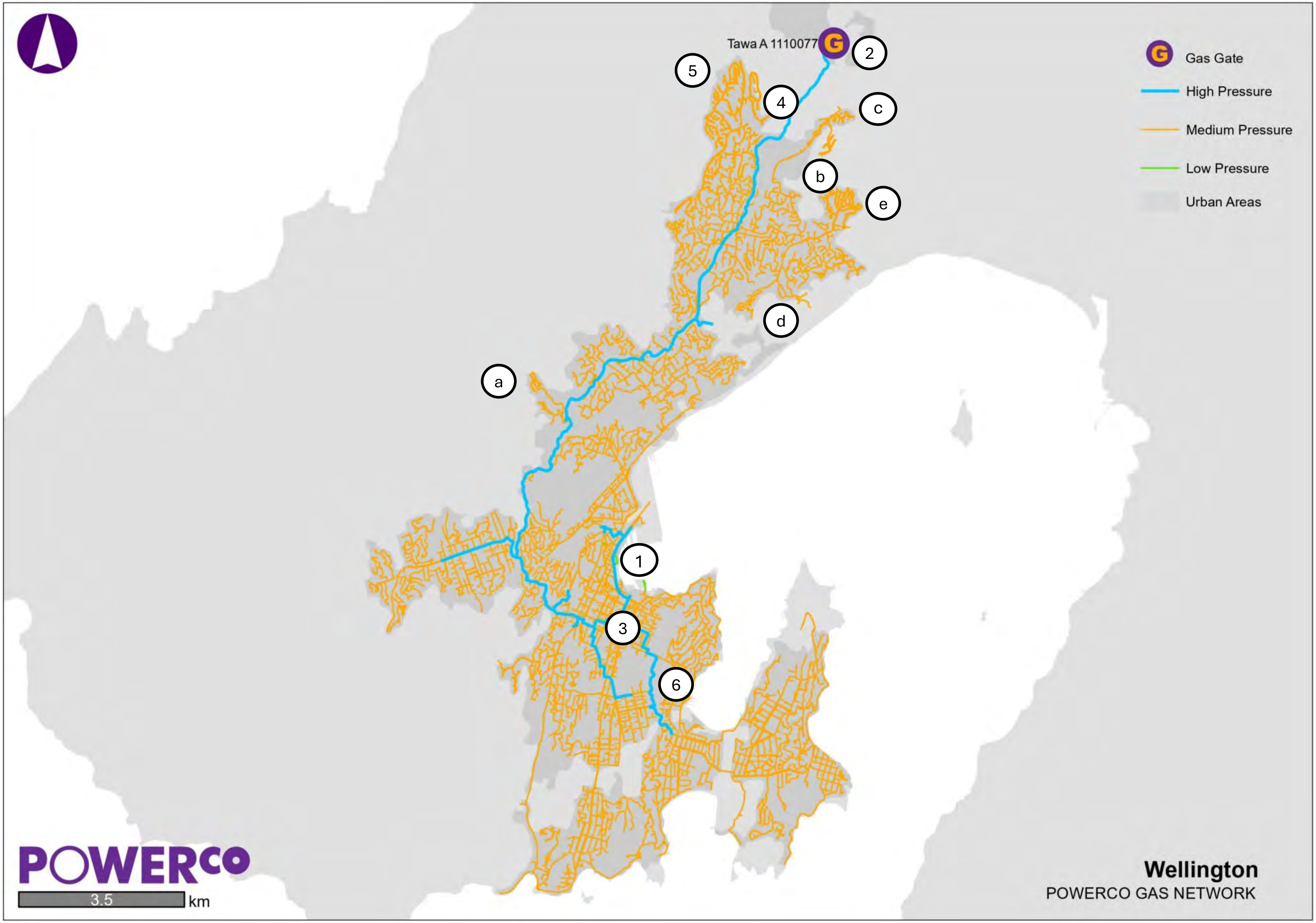
Item	TPK number	Work type	Driver	Asset Management Strategy	Project	Delivery target	Delivery budget
10	CIW	GRO	Partnership	Network Growth	Puketapu (area Q / west of Waitaha Stream / Stu Bliss)	TBC	TBC
11	CIW	GRO	Partnership	Network Growth	Parklands Ave West	TBC	TBC
12	CIW	GRO	Partnership	Network Growth	Fernbrook	TBC	TBC
13	CIW	GRO	Partnership	Network Growth	Mangorei Rd	TBC	TBC

8.6 Hawke's Bay

Item	TPK number	Work type	Driver	Asset Management Strategy	Project	Delivery target	Delivery budget
1	400	ARR	Safety	Special Crossings	Ngaruroro Bridge bracket replacement	2026	$770,000
2	647	ARR	Reliability	Special Crossings	Bridge crossing wrapping condition – Lipton Rd	2027	$120,000
Whole area	627.3	ARR	Reliability	CPS – Cathodic Protection System	Hawke's Bay IP CP renewal	2027	$600,000
3	310.2	GRO	Delivery	Pressure Droop	Havelock North reinforcement stage 2	2028	$500,000
4	CIW	GRO	Partnership	Network Growth	Wharerangi Rd	TBC	TBC
5	CIW	GRO	Partnership	Network Growth	East of Arataki Rd	TBC	TBC
6	CIW	GRO	Partnership	Network Growth	Iona	TBC	TBC
8	CIW	GRO	Partnership	Network Growth	Te Awa Estates	TBC	TBC
9	CIW	GRO	Partnership	Network Growth	Parklands phase 4	TBC	TBC
10	CIW	GRO	Partnership	Network Growth	Guppy Rd	TBC	TBC
11	CIW	GRO	Partnership	Network Growth	Willowbank Rd	TBC	TBC

8.7 All regions

TPK number	Work type	Driver	Asset Management Strategy	Project	Delivery target	Delivery budget
504	NONNET	Delivery	MCS – Monitoring and Control Systems	Data logger replacement	2026	$ 510,000
654	ARR	Reliability	MCS – Monitoring and Control Systems	Abbey Systems (SCADA) shutdown	2027	$ 4,000,000
255M	GMS	Reliability	GMS	AL425 statistical sampling and testing	2026	$ 400,000
552M	GMS	Reliability	GMS	Honeywell mini AT TOU phase out	2027	$ 130,000
718	NONNET	Efficiency	Non-network	Renewal of stopple equipment	2026	$ 150,000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Gas Gate
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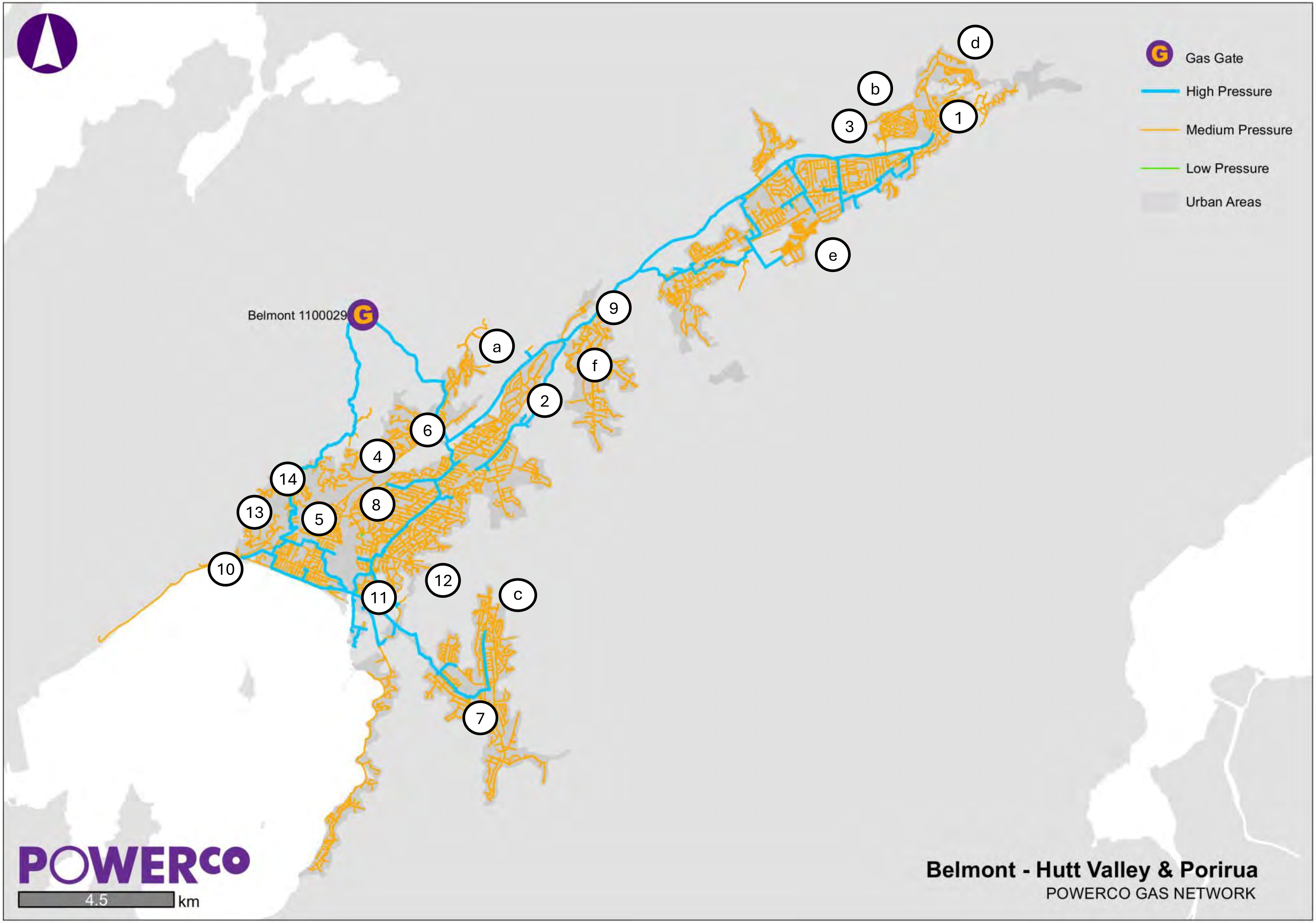
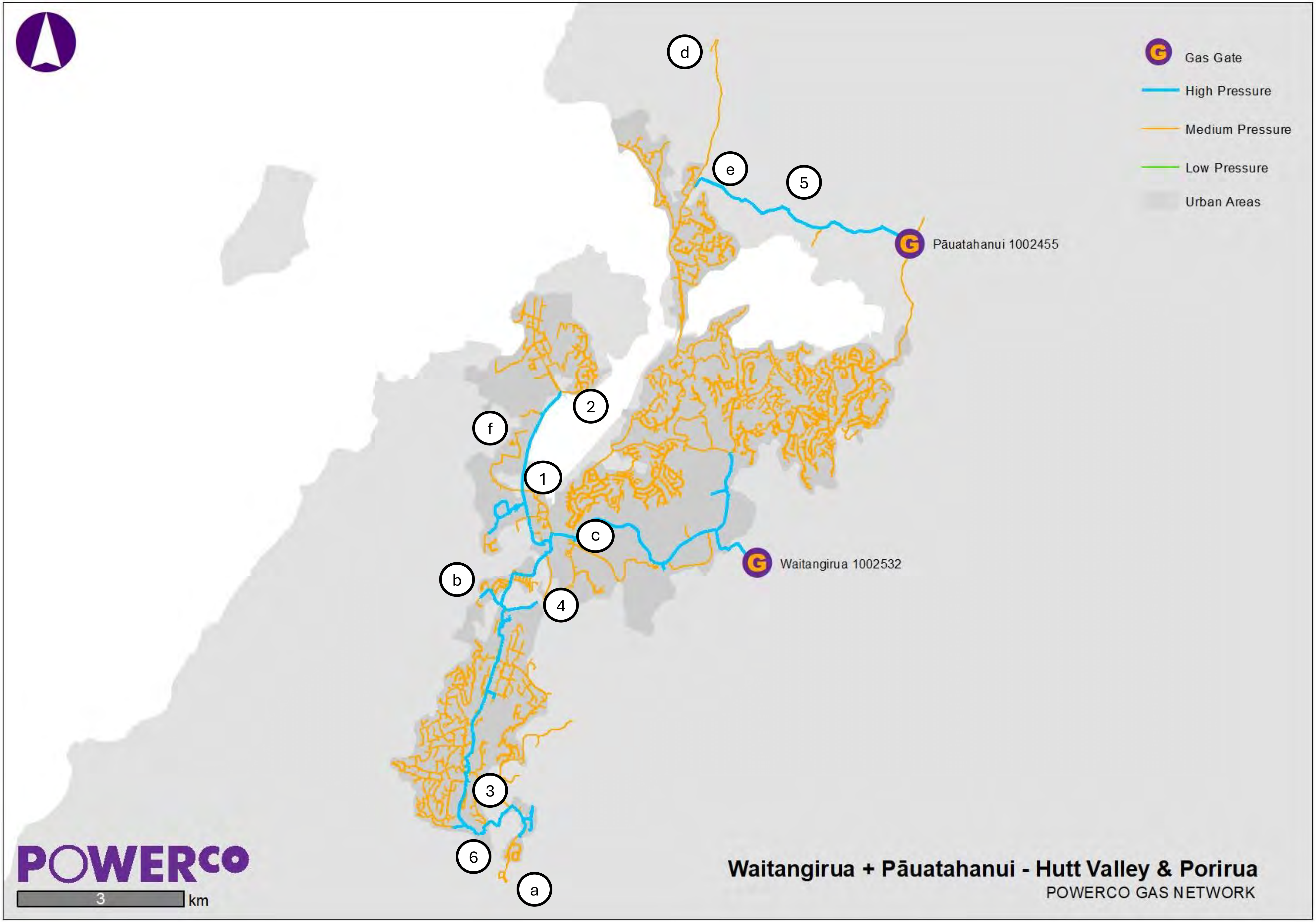
POWERCO GAS NETWORK



Belmont - Hutt Valley & Porirua

POWERCO GAS NETWORK



Waitangirua + Pāuatahanui - Hutt Valley & Porirua

POWERCO GAS NETWORK

Gas Gate
High Pressure
Medium Pressure
Low Pressure
Urban Areas
Palmerston North 1070272
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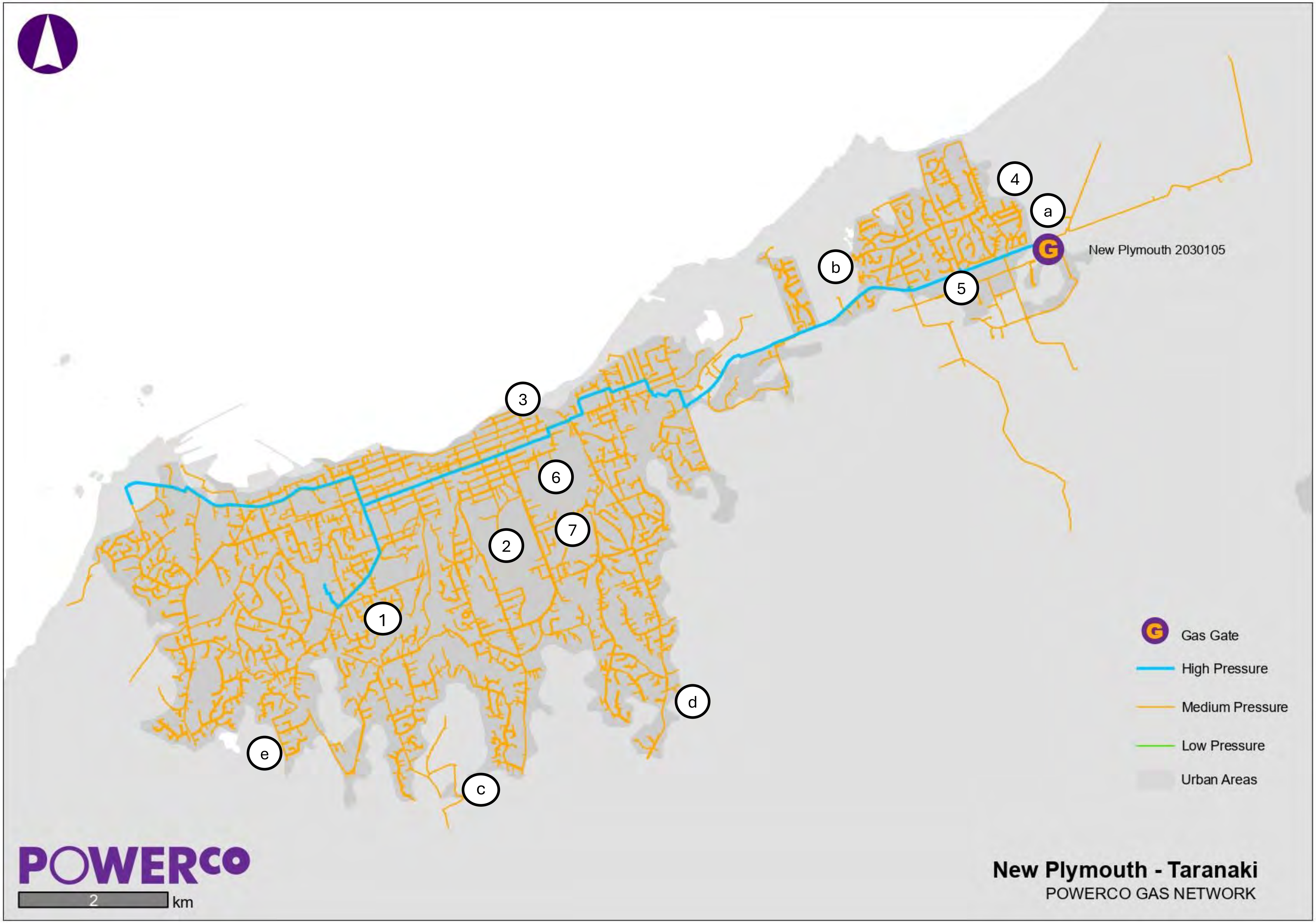
PALMERSTON NORTH - MANAWATU
POWERCO GAS NETWORK



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3
4
5
6
7
a
b
c
d
e
Gas Gate
High Pressure
Medium Pressure
Low Pressure
Urban Areas
POWERco
2
km
New Plymouth - Taranaki
POWERCO GAS NETWORK


Gas Gate
High Pressure
Medium Pressure
Low Pressure
Urban Areas
e
2
a
g
d
f
1
Hastings 7001531
G
3
b
c
POWERCO
6.5
km
Hastings - Hawke's Bay
POWERCO GAS NETWORK

Appendices

This section provides additional information to support our AMP. It includes our Information Disclosure schedules.

Appendix 1 – Key assumptions of the AMP

This AMP is based on some fundamental assumptions that underpin our long-term strategic direction and operating environment. The scenarios described have been used as the base case for the detailed AMP planning across this period. These key assumptions are:

- Grow to zero offers a vision for Aotearoa New Zealand requiring a diverse mix of energy options, including low and zero carbon gases.
- We forecast a period of transition where new connection numbers, network growth, and the overall demand for gas is not guaranteed.
- Our analysis of socio-economic drivers suggests that the energy transition has slowed, and natural gas continues to be a key enabler of system resilience, supporting secure and cost-effective energy supply through the transition.
- The investment forecast is guided by the Global Alignment climate scenario, derived from the Gas Scenarios as approved by the Board in May 2025, that informs investment decisions in this AMP. These numbers are also included in the May version of the corporate model.
- All residential, commercial and industrial new connections (Schedule 12c) are forecast to align with our Global Alignment scenario (business corporate model), and actual consumer connections observed during the past 12 months. ICP count is aligned to the business corporate model.
    - Gas volumes, maximum daily load, and maximum monthly load (Schedule 12c) have been aligned to the business corporate model.
    - The gas transmission system continues to operate and develop in line with our future focused strategies to enable a sustainable transition to a low-emissions energy future. Our Low-carbon Transition Strategy for the gas network and Volume-to-Value Investment Framework outline how we are considering lower carbon options while continuing to maintain the network to an adequate level.
- Our strategy is focused on maintaining our existing customer base, who provide the greatest value to our business, by providing them with a secure, reliable, resilient, and affordable energy system.
- Our Volume-to-Value Investment Framework guides our assessment of the viability and profitability of our networks, so that we continue investing to maintain a safe and reliable network by prioritising the right investment, on the right asset, at the right time, and at the right cost.
- With a forecast 10% drop in ICPs during the next 10 years, our investment path reflects the base number of consumers we serve, ensuring we align our decisions with changing demand.
- Asset lives are aligned with the standard lives prescribed in the gas Default Price-quality Path (DPP) Input Methodologies reset by the Commerce Commission in 2022. The final decision permitted gas distribution businesses to reduce the remaining lives of their network assets, enabling accelerated capital recovery aligned with the expected duration of natural gas conveyance. Consequently, the remaining lives of Powerco’s network assets have been reduced by 31% (from a projected average of 24.98 years to 17.32 years in 2023), to mitigate the increased risk of economic stranding.
- The forecast reflects an increase in capital contributions during the regulatory period, with further increases from RY30 to RY35 to offset the stranding risk of our assets.
- Field services continue to be outsourced, and there are no major disruptive changes to the availability of contractors.
- With the current DPP3 period ending on 30 September 2026, the DPP4 reset process has commenced. We are actively engaged in the process and have taken steps to confirm our own investment strategy and ensure we have robust internal evidence to support it. This approach enables us to navigate the evolving regulatory landscape with clarity around investment decisions.
- To the extent possible, all the assumptions made in developing this AMP have been quantified and described in the relevant chapters. Where an assumption is based on information that is sourced from a third party, we have clearly set this out.

- A range of factors outside the control of Gas Distribution Businesses (GDBs) could result in material differences between the prospective information disclosed and the actual outcomes recorded in future disclosures. These could include:
    - **Government policy direction**: Remains the most significant source of uncertainty, with ongoing discussions about government's role in the energy market, upcoming elections and potential policy shifts (such as restrictions on gas exploration, bans on new gas appliances, LNG options, prioritising gas allocation, or support for conversions) likely to impact demand, connections, and forecasts. Gas policy is highly susceptible to political swings, and public interpretation or media emphasis can further influence customer behaviour, compounding reductions in demand beyond what is currently anticipated.
    - **Decommissioning**: Policy or customer changes may accelerate the need for decommissioning, leading to stranded assets earlier than forecast. The processes, costs, and timing of decommissioning are not yet well understood, and outcomes may vary considerably from current assumptions. Similarly, a large supply-side event could alter the pace of decline in gas use, requiring network adjustments and investment decisions that differ materially from those set out in forward planning.
    - **Customer perception of gas**: Is influenced by evolving climate and energy policies, that could further affect willingness to connect, or to stay connected to the network. Lower customer numbers would increase pressure on pricing as fixed costs are spread across a smaller base. In addition, the quality of network performance could diverge from expectations if asset owners choose to defer maintenance, leading to increased leakages, or alternatively leading to additional investment in resilience and leak detection to reduce such identified risks.
    - **Significant gas supply changes and/or price shock:** Are two factors that the 2024-25 period illustrated can drive gas use, customer demand and customer perceptions, further impacted by the role of gas in the changing energy system (eg growing importance of thermal support for intermittent or dry year electricity generation). There has been considerable shift in recent supply forecasts, and the consequential outcomes for gas demand have not yet emerged.

  Together, these factors highlight that changes in government policy, customer behaviour, gas supply, and network investment decisions may all create outcomes that materially differ from the prospective information currently disclosed.

Appendix 2 – Glossary of terms

AMP means Asset Management Plan.
AMMAT means Asset Management Maturity Assessment Tool score.
API means cloud-based application programming interface.
ARR means asset replacement and renewal network development plans.
Capital expenditure (Capex) means the expenditure used to create new assets or increase the service performance or service potential of existing assets beyond the original design service performance or service potential. Capex increases the value of the asset stock and is capitalised in accounting terms.
CBD means Central Business District.
Cocon means Below Ground Regulator Station.
CP means Cathodic Protection.
CPI refers to the rate at which the prices of goods and services purchased by households in New Zealand are increasing, as measured by the Consumer Price Index (CPI)
DCVG means Direct Current Voltage Gradient used to assess condition.
DPP means Default Price-quality Path.
DRS means District Regulator Station.
ERP means Emissions Reduction Plan.
FY means Financial Year ending 31 March of the year in question.
GDB means Gas Distribution Business.
GFSA means Gas Field Service Agreement.
GMS means Gas Measurement System.
GRO means System Growth Network Development Plans.
GWP means Gas Works Plan.
HDCU means High Density Community Areas.
HLPI refers to the rate at which the prices of household living costs increase.
HVP means Hutt Valley and Porirua region that is one of our network areas.
ICP means Installation Control Point where a customer is connected.
ID means Information Disclosure.
IP means Intermediate Pressure (700-2000kPa).
ISO: 55000 refers to the International Organization for Standardization publication 55 000. It is a suite of three documents.
KPI means Key Performance Indicator.
LDV means Leak Detection Vehicle.
LP means Low Pressure (0-7kPa).
MAOP means Maximum Allowable Operating Pressure.
MBIE means Ministry of Business, Innovation and Employment.
MP means Medium Pressure (7-700kPa).
NOC means our Network Operations Centre.
NOP means Nominal Operating Pressure.
NPS means Net Promoter Score.
OMS means Outage Management System, which is used for call operations and the coordination of outage restoration efforts.
Operational expenditure (Opex) means the expenditure directly associated with running the gas distribution network, ensuring it is operating safely at any time. Operating expenditures include maintenance and inspection expenditures required to survey and maintain the assets to achieve their original design lives and service potentials. It also includes the expenses related to our third-party prevention programme.
OPSO means Over Pressure Shut Off valve that automatically closes in the event of elevated pressure.
ORC means Official Cash Rate.

ORS means Quality of Supply Development Plans.
PE means Polyethylene, which is the material plastic gas pipes are made from.
PRS means Pressure Regulator Station.
QOS means Quality of Supply Network Development plans.
RAB means Regulated Asset Base being the total value of assets used to provide a regulated service.
RCM means Reliability Centred Maintenance.
RMMAT means Resilience Management Maturity Assessment Tool score.
RTU means field remote terminal unit that collects data from field sensors and transmits it to Powerco's SCADA system that helps monitor pressure of the gas distribution networks.
RY means Regulatory Year ending 30 September of the year in question.
SAP means System Analysis Programme, which is our Enterprise Resource Planning system that helps Powerco tie together various business processes and enables the flow of data between them.
SCADA means supervisory control and data acquisition that is Powerco's centralised software system that enables real-time pressure monitoring of the gas distribution networks and provision to alert when network conditions fall outside acceptable thresholds. It also records and presents system pressure and performance data to support network analysis and inform planning for network investment relative to capacity and demand requirements on the gas network.
SSP means socio-economic shared pathways of the recent IPCC AR6 report in reference to global warming scenarios – aligned to RCP forecasts.
TPD means Third-Party Damage caused to our network.
TPI means Third-Party Interference.
TPK means Te Puni Kāpuni (Issues Register), our tool for identifying projects and prioritising their need.
TSO means Transmission System Operator.

SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

11a(i): Expenditure on Assets Forecast (Nominal)

Section	Row	Context	Category1	Category2	Category3	Current Year CY | $000 (nominal dollars)	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
11a(i): Expenditure on Assets Forecast	4		Network asset	Consumer connection		3,115	3,025	3,171	3,248	3,315	3,389	3,490	3,579	3,650	3,729	3,803
11a(i): Expenditure on Assets Forecast	5		Network asset	System growth		581	886	1,378	1,251	1,460	1,386	866	1,266	1,292	925	1,380
11a(i): Expenditure on Assets Forecast	6		Network asset	Asset replacement and renewal		8,154	8,145	8,274	8,186	8,272	8,456	8,707	8,928	9,107	9,302	9,487
11a(i): Expenditure on Assets Forecast	7		Network asset	Asset relocations		337	335	343	352	359	367	378	387	395	404	412
11a(i): Expenditure on Assets Forecast	8		Network asset	Reliability, safety and environment	Quality of supply	558	614	134	137	140	143	148	151	155	158	161
11a(i): Expenditure on Assets Forecast	9		Network asset	Reliability, safety and environment	Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
11a(i): Expenditure on Assets Forecast	10		Network asset	Reliability, safety and environment	Other reliability, safety and environment	1,873	802	1,020	1,045	1,067	1,090	744	379	386	395	402
11a(i): Expenditure on Assets Forecast	11		**Total reliability, safety and environment**			2,431	1,416	1,155	1,182	1,207	1,234	891	530	541	552	563
11a(i): Expenditure on Assets Forecast	12		**Expenditure on network assets**			14,618	13,807	14,321	14,219	14,613	14,833	14,332	14,691	14,985	14,912	15,645
11a(i): Expenditure on Assets Forecast	13		Expenditure on non-network assets			2,005	3,434	3,517	2,107	2,035	2,234	2,015	1,511	1,406	1,199	992
11a(i): Expenditure on Assets Forecast	14		**Expenditure on assets**			16,623	17,242	17,838	16,325	16,648	17,066	16,346	16,202	16,391	16,111	16,636
11a(i): Expenditure on Assets Forecast	15	plus	Cost of financing			221	58	75	89	91	93	92	96	98	97	102
11a(i): Expenditure on Assets Forecast	16	less	Value of capital contributions			692	865	1,037	1,210	1,382	1,555	1,555	1,555	1,555	1,555	1,555
11a(i): Expenditure on Assets Forecast	17	plus	Value of vested assets			-	-	-	-	-	-	-	-	-	-	-
11a(i): Expenditure on Assets Forecast	18		**Capital expenditure forecast**			16,152	16,435	16,875	15,204	15,357	15,604	14,883	14,743	14,934	14,653	15,184
11a(i): Expenditure on Assets Forecast	19		Assets commissioned			16,346	16,410	16,801	15,396	15,240	15,433	14,838	14,601	14,703	14,516	14,952

11a(i): Expenditure on Assets Forecast (Constant)

Section	Row	Context	Category1	Category2	Category3	Current Year CY | $000 (in constant prices)	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
11a(i): Expenditure on Assets Forecast	24		Network asset	Consumer connection		3,115	2,964	3,042	3,055	3,057	3,064	3,093	3,109	3,109	3,114	3,113
11a(i): Expenditure on Assets Forecast	25		Network asset	System growth		581	868	1,322	1,177	1,346	1,253	767	1,100	1,100	772	1,130
11a(i): Expenditure on Assets Forecast	26		Network asset	Asset replacement and renewal		8,154	7,979	7,937	7,698	7,627	7,644	7,716	7,757	7,757	7,768	7,767
11a(i): Expenditure on Assets Forecast	27		Network asset	Asset relocations		337	328	329	331	331	332	335	337	337	337	337
11a(i): Expenditure on Assets Forecast	28		Network asset	Reliability, safety and environment	Quality of supply	558	601	129	129	129	130	131	132	132	132	132
11a(i): Expenditure on Assets Forecast	29		Network asset	Reliability, safety and environment	Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
11a(i): Expenditure on Assets Forecast	30		Network asset	Reliability, safety and environment	Other reliability, safety and environment	1,873	786	979	983	984	986	659	329	329	330	329
11a(i): Expenditure on Assets Forecast	31		**Total reliability, safety and environment**			2,431	1,387	1,108	1,112	1,113	1,115	790	461	461	461	461
11a(i): Expenditure on Assets Forecast	32		**Expenditure on network assets**			14,618	13,527	13,737	13,372	13,474	13,408	12,701	12,764	12,764	12,453	12,809
11a(i): Expenditure on Assets Forecast	33		Expenditure on non-network assets			2,005	3,364	3,374	1,981	1,876	2,019	1,785	1,313	1,198	1,001	812
11a(i): Expenditure on Assets Forecast	34		**Expenditure on assets**			16,623	16,891	17,111	15,354	15,350	15,427	14,486	14,077	13,962	13,454	13,621
11a(i): Expenditure on Assets Forecast	35		Subcomponents of expenditure on assets (where known)	Research and development		-	-	-	-	-	-	-	-	-	-	-

11a(i): Difference Between Nominal and Constant Price Forecasts

Section	Row	Context	Category1	Category2	Category3	Current Year CY | $000	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
11a(i): Difference Between Nominal and Constant Price Forecasts	40		Network asset	Consumer connection		-	61	129	193	259	326	397	469	541	615	689
11a(i): Difference Between Nominal and Constant Price Forecasts	41		Network asset	System growth		-	18	56	74	114	133	98	166	191	152	250
11a(i): Difference Between Nominal and Constant Price Forecasts	42		Network asset	Asset replacement and renewal		-	166	337	487	645	812	991	1,171	1,350	1,534	1,720
11a(i): Difference Between Nominal and Constant Price Forecasts	43		Network asset	Asset relocations		-	7	14	21	28	35	43	51	59	67	75
11a(i): Difference Between Nominal and Constant Price Forecasts	44		Network asset	Reliability, safety and environment	Quality of supply	-	12	5	8	11	14	17	20	23	26	29
11a(i): Difference Between Nominal and Constant Price Forecasts	45		Network asset	Reliability, safety and environment	Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
11a(i): Difference Between Nominal and Constant Price Forecasts	46		Network asset	Reliability, safety and environment	Other reliability, safety and environment	-	16	42	62	83	105	85	50	57	65	73
11a(i): Difference Between Nominal and Constant Price Forecasts	47		**Total reliability, safety and environment**			-	29	47	70	94	119	101	70	80	91	102
11a(i): Difference Between Nominal and Constant Price Forecasts	48		**Expenditure on network assets**			-	281	583	846	1,139	1,425	1,631	1,927	2,221	2,459	2,836
11a(i): Difference Between Nominal and Constant Price Forecasts	49		Expenditure on non-network assets			-	70	143	125	159	215	229	198	208	198	180
11a(i): Difference Between Nominal and Constant Price Forecasts	50		**Expenditure on assets**			-	350	726	972	1,298	1,639	1,860	2,125	2,429	2,657	3,016

11a(ii): Consumer Connection

Section	Row	Context	Category1	Category2	Current Year CY | $000 (in constant prices)	CY+1	CY+2	CY+3	CY+4	CY+5
11a(ii): Consumer Connection	55	Consumer types defined by GDB*	Residential / Small Commercial		2,599	2,677	2,747	2,758	2,761	2,767
11a(ii): Consumer Connection	56	Consumer types defined by GDB*	Commercial / Industrial		516	287	295	296	296	297
11a(ii): Consumer Connection	57	Consumer types defined by GDB*	[GDB consumer type]							
11a(ii): Consumer Connection	58	Consumer types defined by GDB*	[GDB consumer type]							
11a(ii): Consumer Connection	59	Consumer types defined by GDB*	[GDB consumer type]							
11a(ii): Consumer Connection	60		**Consumer connection expenditure**		3,115	2,964	3,042	3,055	3,057	3,064
11a(ii): Consumer Connection	61	*less*	Capital contributions funding consumer connections		202	291	318	498	590	744
11a(ii): Consumer Connection	62		**Consumer Connection less capital contributions**		2,913	2,673	2,724	2,557	2,467	2,320

** include additional rows if needed*

11a(iii): System Growth

Section	Row	Context	Category1	Category2	Current Year CY | $000 (in constant prices)	CY+1	CY+2	CY+3	CY+4	CY+5
11a(iii): System Growth	68		Intermediate pressure	Main pipe	-	-	-	-	-	-
11a(iii): System Growth	69		Intermediate pressure	Service pipe	-	-	-	-	-	-
11a(iii): System Growth	70		Intermediate pressure	Stations	-	-	-	-	-	-
11a(iii): System Growth	71		Intermediate pressure	Line valve	-	-	-	-	-	-
11a(iii): System Growth	72		Intermediate pressure	Special crossings	-	-	-	-	-	-
11a(iii): System Growth	73		**Intermediate Pressure total**		-	-	-	-	-	-
11a(iii): System Growth	74		Medium pressure	Main pipe	368	656	1,122	1,106	1,157	1,064
11a(iii): System Growth	75		Medium pressure	Service pipe	198	198	186	66	176	176
11a(iii): System Growth	76		Medium pressure	Stations	-	-	-	-	-	-
11a(iii): System Growth	77		Medium pressure	Line valve	11	11	11	4	10	10
11a(iii): System Growth	78		Medium pressure	Special crossings	2	2	2	1	2	2
11a(iii): System Growth	79		**Medium Pressure total**		579	867	1,321	1,176	1,345	1,252
11a(iii): System Growth	80		Low Pressure	Main pipe	1	1	1	0	1	1
11a(iii): System Growth	81		Low Pressure	Service pipe	0	0	0	0	0	0
11a(iii): System Growth	82		Low Pressure	Line valve	0	0	0	0	0	0
11a(iii): System Growth	83		Low Pressure	Special crossings	0	0	0	0	0	0
11a(iii): System Growth	84		**Low Pressure total**		1	1	1	0	1	1
11a(iii): System Growth	85		Other network assets	Monitoring and control systems	-	-	-	-	-	-
11a(iii): System Growth	86		Other network assets	Cathodic protection systems	-	-	-	-	-	-
11a(iii): System Growth	87		Other network assets	Other assets (other than above)	-	-	-	-	-	-
11a(iii): System Growth	88		**Other network assets total**		-	-	-	-	-	
11a(iii): System Growth	89		**System growth expenditure**		581	868	1,322	1,177	1,346	1,253
11a(iii): System Growth	90	*less*	Capital contributions funding system growth		153	228	348	310	354	330
11a(iii): System Growth	91		**System growth less capital contributions**		428	640	974	867	992	924

11a(iv): Asset Replacement and Renewal

Section	Row	Context	Category1	Category2	Current Year CY | $000 (in constant prices)	CY+1	CY+2	CY+3	CY+4	CY+5
11a(iv): Asset Replacement and Renewal	96		**Intermediate pressure**	Main pipe	152	275	218	212	210	210
11a(iv): Asset Replacement and Renewal	97		Intermediate pressure	Service pipe	82	147	117	113	112	113
11a(iv): Asset Replacement and Renewal	98		Intermediate pressure	Stations	1,056	266	-	-	-	-
11a(iv): Asset Replacement and Renewal	99		Intermediate pressure	Line valve	54	4	7	7	6	6
11a(iv): Asset Replacement and Renewal	100		Intermediate pressure	Special crossings	150	469	1	1	1	1
11a(iv): Asset Replacement and Renewal	101		**Intermediate Pressure total**		1,493	1,161	343	333	330	331
11a(iv): Asset Replacement and Renewal	102		**Medium pressure**	Main pipe	3,811	3,373	4,821	4,676	4,632	4,643
11a(iv): Asset Replacement and Renewal	103		Medium pressure	Service pipe	2,042	1,807	2,583	2,505	2,482	2,487
11a(iv): Asset Replacement and Renewal	104		Medium pressure	Stations	46	-	-	-	-	-
11a(iv): Asset Replacement and Renewal	105		Medium pressure	Line valve	45	90	148	144	143	143
11a(iv): Asset Replacement and Renewal	106		Medium pressure	Special crossings	152	276	27	26	26	26
11a(iv): Asset Replacement and Renewal	107		**Medium Pressure total**		6,096	5,546	7,578	7,351	7,282	7,299
11a(iv): Asset Replacement and Renewal	108		**Low Pressure**	Main pipe	3	6	10	9	9	9
11a(iv): Asset Replacement and Renewal	109		Low Pressure	Service pipe	1	3	5	5	5	5
11a(iv): Asset Replacement and Renewal	110		Low Pressure	Line valve	0	0	0	0	0	0
11a(iv): Asset Replacement and Renewal	111		Low Pressure	Special crossings	0	0	0	0	0	0
11a(iv): Asset Replacement and Renewal	112		**Low Pressure total**		4	9	15	15	15	15
11a(iv): Asset Replacement and Renewal	113		**Other network assets**	Monitoring and control systems	310	1,202	-	-	-	-
11a(iv): Asset Replacement and Renewal	114		Other network assets	Cathodic protection systems	252	60	-	-	-	-
11a(iv): Asset Replacement and Renewal	115		Other network assets	Other assets (other than above)	-	-	-	-	-	-
11a(iv): Asset Replacement and Renewal	116		**Other network assets total**		561	1,263	-	-	-	-
11a(iv): Asset Replacement and Renewal	117		**Asset replacement and renewal expenditure**		8,154	7,979	7,937	7,698	7,627	7,644
11a(iv): Asset Replacement and Renewal	118	less	Capital contributions funding asset replacement and renewal		-	-	-	-	-	-
11a(iv): Asset Replacement and Renewal	119		**Asset replacement and renewal less capital contributions**		8,154	7,979	7,937	7,698	7,627	7,644

11a(v): Asset Relocations

Section	Row	Context	Category1	Category2	Current Year CY | $000 (in constant prices)	CY+1	CY+2	CY+3	CY+4	CY+5
11a(v): Asset Relocations	124	Project or programme*	None		-	-	-	-	-	-
11a(v): Asset Relocations	125	Project or programme*	[Description of material project or programme]							
11a(v): Asset Relocations	126	Project or programme*	[Description of material project or programme]							
11a(v): Asset Relocations	127	Project or programme*	[Description of material project or programme]							
11a(v): Asset Relocations	128	Project or programme*	[Description of material project or programme]							
11a(v): Asset Relocations	129		All other projects or programmes - asset relocations		337	328	329	331	331	332
11a(v): Asset Relocations	130		**Asset relocations expenditure**		337	328	329	331	331	332
11a(v): Asset Relocations	131	*less*	Capital contributions funding asset relocations		337	328	329	331	331	332
11a(v): Asset Relocations	132		**Asset relocations less capital contributions**		-	-	-	-	-	-

** include additional rows if needed*

11a(vi): Quality of Supply

Section	Row	Context	Category1	Category2	Current Year CY | $000 (in constant prices)	CY+1	CY+2	CY+3	CY+4	CY+5
11a(vi): Quality of Supply	140	Project or programme*	Miller St DRS renewal		135	135	-	-	-	-
11a(vi): Quality of Supply	141	Project or programme*	Tremain Ave ESIV		86	86	-	-	-	-
11a(vi): Quality of Supply	142	Project or programme*	Rationalisation		255	255	-	-	-	-
11a(vi): Quality of Supply	143	Project or programme*	Belmont IP Domestic Customer Transfer to IP		62	61	-	-	-	-
11a(vi): Quality of Supply	144	Project or programme*	[Description of material project or programme]							
11a(vi): Quality of Supply	145		All other projects or programmes - quality of supply		19	64	129	129	129	130
11a(vi): Quality of Supply	146		**Quality of supply expenditure**		558	601	129	129	129	130
11a(vi): Quality of Supply	147	*less*	Capital contributions funding quality of supply		-	-	-	-	-	-
11a(vi): Quality of Supply	148		**Quality of supply less capital contribution**		558	601	129	129	129	130

** include additional rows if needed*

11a(vii): Legislative and Regulatory

Section	Row	Context	Category1	Category2	Current Year CY | $000 (in constant prices)	CY+1	CY+2	CY+3	CY+4	CY+5
11a(vii): Legislative and Regulatory	154	Project or programme*	None		-	-	-	-	-	-
11a(vii): Legislative and Regulatory	155	Project or programme*	[Description of material project or programme]							
11a(vii): Legislative and Regulatory	156	Project or programme*	[Description of material project or programme]							
11a(vii): Legislative and Regulatory	157	Project or programme*	[Description of material project or programme]							
11a(vii): Legislative and Regulatory	158	Project or programme*	[Description of material project or programme]							
11a(vii): Legislative and Regulatory	159		All other projects or programmes -Legislative and regulatory		-	-	-	-	-	-
11a(vii): Legislative and Regulatory	160		**Legislative and regulatory expenditure**		-	-	-	-	-	-
11a(vii): Legislative and Regulatory	161	*less*	Capital contributions funding legislative and regulatory		-	-	-	-	-	-
11a(vii): Legislative and Regulatory	162		**Legislative and regulatory less capital contributions**		-	-	-	-	-	-

** include additional rows if needed*

11a(viii): Other Reliability, Safety and Environment

Section	Row	Context	Category1	Category2	Current Year CY | $000 (in constant prices)	CY+1	CY+2	CY+3	CY+4	CY+5
11a(viii): Other Reliability, Safety and Environment	168	Project or programme*	Isolation Plans and Resilience		503	488	979	983	984	986
11a(viii): Other Reliability, Safety and Environment	169	Project or programme*	DRS Renewals		145	123	-	-	-	-
11a(viii): Other Reliability, Safety and Environment	170	Project or programme*	TSB Arena seismic valve investigation		52	52	-	-	-	-
11a(viii): Other Reliability, Safety and Environment	171	Project or programme*	Tawa Gate Auxiliary Pipeline		123	123	-	-	-	-
11a(viii): Other Reliability, Safety and Environment	172	Project or programme*	LIP valve Taranaki Hospital		363	-	-	-	-	-
11a(viii): Other Reliability, Safety and Environment	173		All other projects or programmes -other reliability, safety and environment		687	1	-	-	-	-
11a(viii): Other Reliability, Safety and Environment	174		**Other reliability, safety and environment expenditure**		1,873	786	979	983	984	986
11a(viii): Other Reliability, Safety and Environment	175	*less*	Capital contributions funding other reliability, safety and environment		-	-	-	-	-	-
11a(viii): Other Reliability, Safety and Environment	176		**Other reliability, safety and environment less capital contributions**		1,873	786	979	983	984	986

** include additional rows if needed*

11a(ix): Non-Network Assets (Routine)

Section	Row	Context	Category1 | Routine Expenditure	Category2	Current Year CY | $000 (in constant prices)	CY+1	CY+2	CY+3	CY+4	CY+5
11a(ix): Non-Network Assets	182	Project or programme*	ICT capex		985	1,741	2,219	1,315	1,099	1,256
11a(ix): Non-Network Assets	183	Project or programme*	Fleet & Facilities		642	1,033	958	496	448	255
11a(ix): Non-Network Assets	184	Project or programme*	Business Plan		-	-	16	16	-	-
11a(ix): Non-Network Assets	185	Project or programme*	[Description of material project or programme]							
11a(ix): Non-Network Assets	186	Project or programme*	[Description of material project or programme]							
11a(ix): Non-Network Assets	187		All other projects or programmes - routine expenditure		-	-	-	-	-	-
11a(ix): Non-Network Assets	188		**Routine expenditure**		1,626	2,775	3,194	1,827	1,548	1,512

** include additional rows if needed*

11a(ix): Non-Network Assets (Aytypical)

Section	Row	Context	Category1 | Atypical Expend	Category2	Current Year CY | $000 (in constant prices)	CY+1	CY+2	CY+3	CY+4	CY+5
11a(ix): Non-Network Assets	194	Project or programme*	ICT capex		3	14	27	26	25	23
11a(ix): Non-Network Assets	195	Project or programme*	Fleet & Facilities		5	-	-	53	304	484
11a(ix): Non-Network Assets	196	Project or programme*	Business Plan		292	369	153	75	-	-
11a(ix): Non-Network Assets	197	Project or programme*	Equipment		78	207	-	-	-	-
11a(ix): Non-Network Assets	198	Project or programme*	[Description of material project or programme]							
11a(ix): Non-Network Assets	199		All other projects or programmes - routine expenditure		-	-	-	-	-	-
11a(ix): Non-Network Assets	200		**Atypical expenditure**		378	590	180	154	328	508
11a(ix): Non-Network Assets	201		**Expenditure on non-network assets**		2,005	3,364	3,374	1,981	1,876	2,019

** include additional rows if needed*

SCHEDULE 11b: REPORT ON FORECAST OPERATIONAL EXPENDITURE

11b: Operational Expenditure Forecast (Nominal)

Section	Row	Context	Category1	Category2	Current Year CY | $000 (in nominal dollars)	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
11b: Operational Expenditure Forecast	4		Network opex	Service interruptions, incidents and emergencies	722	746	751	755	759	763	767	771	775	779	783
11b: Operational Expenditure Forecast	5		Network opex	Routine and corrective maintenance and inspection	3,785	3,865	4,107	4,272	4,445	4,625	4,811	5,006	5,208	5,419	5,637
11b: Operational Expenditure Forecast	6		Network opex	Asset replacement and renewal	3,756	4,438	4,557	4,673	4,791	4,913	5,038	5,166	5,297	5,432	5,570
11b: Operational Expenditure Forecast	7		**Network opex**		8,264	9,049	9,414	9,700	9,995	10,300	10,616	10,943	11,280	11,629	11,991
11b: Operational Expenditure Forecast	8		Non-network opex	System operations and network support	4,245	4,555	4,658	4,753	4,848	4,945	5,044	5,145	5,248	5,353	5,460
11b: Operational Expenditure Forecast	9		Non-network opex	Business support	7,203	7,736	8,288	8,101	7,944	7,709	7,439	7,273	7,214	7,073	6,922
11b: Operational Expenditure Forecast	10		**Non-network opex**		11,448	12,291	12,946	12,854	12,792	12,655	12,483	12,418	12,462	12,426	12,382
11b: Operational Expenditure Forecast	11		**Operational expenditure**		19,712	21,340	22,360	22,554	22,787	22,955	23,100	23,360	23,742	24,055	24,373

11b: Operational Expenditure Forecast (Constant)

Section	Row	Context	Category1	Category2	Current Year CY | $000 (in constant dollars)	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
11b: Operational Expenditure Forecast	15		Network opex	Service interruptions, incidents and emergencies	722	731	720	710	699	689	679	670	660	650	641
11b: Operational Expenditure Forecast	16		Network opex	Routine and corrective maintenance and inspection	3,785	3,786	3,939	4,018	4,098	4,180	4,264	4,349	4,436	4,525	4,616
11b: Operational Expenditure Forecast	17		Network opex	Asset replacement and renewal	3,756	4,348	4,371	4,394	4,418	4,441	4,465	4,489	4,512	4,536	4,560
11b: Operational Expenditure Forecast	18		**Network opex**		8,264	8,865	9,031	9,122	9,216	9,311	9,408	9,508	9,609	9,712	9,817
11b: Operational Expenditure Forecast	19		Non-network opex	System operations and network support	4,245	4,463	4,469	4,470	4,470	4,470	4,470	4,470	4,470	4,470	4,470
11b: Operational Expenditure Forecast	20		Non-network opex	Business support	7,203	7,579	7,950	7,619	7,324	6,969	6,593	6,319	6,145	5,906	5,667
11b: Operational Expenditure Forecast	21		**Non-network opex**		11,448	12,041	12,419	12,089	11,794	11,439	11,063	10,789	10,615	10,377	10,138
11b: Operational Expenditure Forecast	22		**Operational expenditure**		19,712	20,906	21,450	21,211	21,010	20,750	20,471	20,297	20,224	20,089	19,955
11b: Operational Expenditure Forecast	23		**Subcomponents of operational expenditure (where known)**	Research and development	-	-	-	-	-	-	-	-	-	-	-
11b: Operational Expenditure Forecast	24		Subcomponents of operational expenditure (where known)	Insurance	42	45	49	53	57	62	67	72	78	84	90

11b: Difference Between Nominal and Real Forecasts

Section	Row	Context	Category1	Category2	Current Year CY | $000	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
11b: Difference Between Nominal and Real Forecasts	28		Network opex	Service interruptions, incidents and emergencies	-	15	31	45	59	73	87	101	115	128	142
11b: Difference Between Nominal and Real Forecasts	29		Network opex	Routine and corrective maintenance and inspection	-	79	167	254	347	444	547	657	772	893	1,022
11b: Difference Between Nominal and Real Forecasts	30		Network opex	Asset replacement and renewal	-	90	186	278	374	472	573	678	785	896	1,010
11b: Difference Between Nominal and Real Forecasts	31		**Network opex**		-	184	383	577	779	989	1,208	1,435	1,672	1,918	2,173
11b: Difference Between Nominal and Real Forecasts	32		Non-network opex	System operations	-	93	190	283	378	475	574	675	778	883	990
11b: Difference Between Nominal and Real Forecasts	33		Non-network opex	Network support											
11b: Difference Between Nominal and Real Forecasts	34		Non-network opex	Business support	-	157	338	482	619	740	846	954	1,069	1,166	1,255
11b: Difference Between Nominal and Real Forecasts	35		**Non-network opex**		-	250	527	765	997	1,215	1,420	1,629	1,847	2,049	2,244
11b: Difference Between Nominal and Real Forecasts	36		**Operational expenditure**		-	434	911	1,343	1,777	2,205	2,628	3,064	3,518	3,966	4,418

SCHEDULE 12a: REPORT ON ASSET CONDITION

Section	Row	Context	Category 1 | Operating pressure	Category 2 | Asset category	Category 3 | Asset class	Category 4 | Units	Grade 1	Grade 2	Grade 3	Grade 4	Grade unknown	Data accuracy (1-4)	% of asset forecast to be replaced in next 5 years
12a: Report on asset condition	3	Asset condition at start of planning period (percentage of units by grade)	Intermediate Pressure	Main pipe	IP PE main pipe	km	21.64%	-	-	78.24%	0.12%	3	0%
12a: Report on asset condition	4	Asset condition at start of planning period (percentage of units by grade)	Intermediate Pressure	Main pipe	IP steel main pipe	km	0.02%	1.22%	5.18%	93.58%	-	3	1%
12a: Report on asset condition	5	Asset condition at start of planning period (percentage of units by grade)	Intermediate Pressure	Main pipe	IP other main pipe	km	-	-	-	100.00%	-	3	0%
12a: Report on asset condition	6	Asset condition at start of planning period (percentage of units by grade)	Intermediate Pressure	Service pipe	IP PE service pipe	km	-	-	-	99.43%	0.57%	3	0%
12a: Report on asset condition	7	Asset condition at start of planning period (percentage of units by grade)	Intermediate Pressure	Service pipe	IP steel service pipe	km	0.17%	0.26%	1.19%	98.10%	0.28%	3	0%
12a: Report on asset condition	8	Asset condition at start of planning period (percentage of units by grade)	Intermediate Pressure	Service pipe	IP other service pipe	km	-	0.34%	-	99.66%	-	3	0%
12a: Report on asset condition	9	Asset condition at start of planning period (percentage of units by grade)	Intermediate Pressure	Stations	Intermediate Pressure DRS	No.	1.79%	5.36%	2.68%	90.18%	-	3	9%
12a: Report on asset condition	10	Asset condition at start of planning period (percentage of units by grade)	Intermediate Pressure	Line valve	IP line valves	No.	0.59%	5.50%	10.74%	38.83%	44.33%	3	5%
12a: Report on asset condition	11	Asset condition at start of planning period (percentage of units by grade)	Intermediate Pressure	Special crossings	IP crossings	No.	1.03%	34.02%	2.06%	62.89%	-	3	5%
12a: Report on asset condition	12	Asset condition at start of planning period (percentage of units by grade)	Medium Pressure	Main pipe	MP PE main pipe	km	0.05%	0.14%	1.08%	95.80%	2.93%	3	1%
12a: Report on asset condition	13	Asset condition at start of planning period (percentage of units by grade)	Medium Pressure	Main pipe	MP steel main pipe	km	0.00%	0.24%	0.36%	40.64%	58.76%	3	0%
12a: Report on asset condition	14	Asset condition at start of planning period (percentage of units by grade)	Medium Pressure	Main pipe	MP other main pipe	km	0.01%	0.00%	0.06%	11.75%	88.18%	3	0%
12a: Report on asset condition	15	Asset condition at start of planning period (percentage of units by grade)	Medium Pressure	Service pipe	MP PE service pipe	km	0.01%	0.04%	0.57%	93.68%	5.71%	3	0%
12a: Report on asset condition	16	Asset condition at start of planning period (percentage of units by grade)	Medium Pressure	Service pipe	MP steel service pipe	km	0.01%	0.02%	0.15%	18.33%	81.49%	3	0%
12a: Report on asset condition	17	Asset condition at start of planning period (percentage of units by grade)	Medium Pressure	Service pipe	MP other service pipe	km	0.01%	-	0.36%	79.66%	19.97%	3	0%
12a: Report on asset condition	18	Asset condition at start of planning period (percentage of units by grade)	Medium Pressure	Stations	Medium pressure DRS	No.	1.45%	1.45%	-	97.10%	-	3	25%
12a: Report on asset condition	19	Asset condition at start of planning period (percentage of units by grade)	Medium Pressure	Line valve	MP line valves	No.	0.05%	11.23%	13.34%	35.66%	39.72%	3	0%
12a: Report on asset condition	20	Asset condition at start of planning period (percentage of units by grade)	Medium Pressure	Special crossings	MP special crossings	No.	3.04%	21.67%	4.94%	69.96%	0.38%	3	8%
12a: Report on asset condition	21	Asset condition at start of planning period (percentage of units by grade)	Low Pressure	Main pipe	LP PE main pipe	km	-	-	-	100.00%	-	3	0%
12a: Report on asset condition	22	Asset condition at start of planning period (percentage of units by grade)	Low Pressure	Main pipe	LP steel main pipe	km	-	-	8.60%	91.40%	-	3	0%
12a: Report on asset condition	23	Asset condition at start of planning period (percentage of units by grade)	Low Pressure	Main pipe	LP other main pipe	km	-	-	28.58%	71.42%	-	3	0%
12a: Report on asset condition	24	Asset condition at start of planning period (percentage of units by grade)	Low Pressure	Service pipe	LP PE service pipe	km	0.01%	0.04%	0.57%	93.68%	5.71%	3	0%
12a: Report on asset condition	25	Asset condition at start of planning period (percentage of units by grade)	Low Pressure	Service pipe	LP steel service pipe	km	0.01%	0.02%	0.15%	18.33%	81.49%	3	0%
12a: Report on asset condition	26	Asset condition at start of planning period (percentage of units by grade)	Low Pressure	Service pipe	LP other service pipe	km	0.01%	-	0.36%	79.66%	19.97%	3	0%
12a: Report on asset condition	27	Asset condition at start of planning period (percentage of units by grade)	Low Pressure	Line valve	LP line valves	No.	-	3.03%	10.66%	47.11%	39.21%	3	0%
12a: Report on asset condition	28	Asset condition at start of planning period (percentage of units by grade)	Low Pressure	Special crossings	LP special crossings	No.	-	-	-	-	-	3	0%
12a: Report on asset condition	29	Asset condition at start of planning period (percentage of units by grade)	All	Monitoring and control systems	Remote terminal units	No.	41.04%	-	-	56.72%	2.24%	3	100%
12a: Report on asset condition	30	Asset condition at start of planning period (percentage of units by grade)	All	Cathodic protection systems	Cathodic protection	No.	-	12.90%	9.68%	77.42%	-	3	27%

SCHEDULE 12b: REPORT ON FORECAST UTILISATION

12b: Forecast utilisation of heavily utilised pipelines

<table>
<tr><th>Section</th><th>Row</th><th>Context</th><th>Category 1 | Region</th><th>Category 2 | Network</th><th>Category 3 | Pressure system</th><th>Nominal operating pressure (NOP) (kPa)</th><th>Minimum operating pressure (MinOP) (kPa)</th><th>Total capacity at MinOP (scmh)</th><th>Remaining capacity at MinOP (scmh)</th><th>Utilisation |scmh |Current Year CY</th><th>scmh | CY+1</th><th>scmh | CY+2</th><th>scmh | CY+3</th><th>scmh | CY+4</th><th>scmh | CY+5</th><th>Utilisation | kPa |Current Year CY</th><th>kPa | CY+1</th><th>kPa | CY+2</th><th>kPa | CY+3</th><th>kPa | CY+4</th><th>kPa | CY+5</th><th>Comment</th></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>4</td><td></td><td>Manawatū</td><td>Levin</td><td>Levin LMP</td><td>100</td><td>50</td><td>1,225</td><td>18</td><td>977</td><td>1,001</td><td>1,037</td><td>1,073</td><td>1,109</td><td>1,145</td><td>91</td><td>91</td><td>86</td><td>69</td><td>91</td><td>91</td><td>A 50NB pipe will be installed to supply initial demand at the Queen St East subdivision. This pipework is sufficient until RY29 load comes on, which is when the 100NB extension from Queen St DRS is required.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>5</td><td></td><td>Wellington</td><td>Tawa A</td><td>Karori LMP</td><td>135</td><td>68</td><td>1,189</td><td>10</td><td>1,165</td><td>1,165</td><td>1,165</td><td>1,207</td><td>1,207</td><td>1,207</td><td>101</td><td>101</td><td>101</td><td>93</td><td>93</td><td>93</td><td>No reinforcements are required in the next five years. A single subdivision is expected in FY28, which will not require any reinforcements. The Karori LMP model has been updated with new reference data that better reflects recent operation of the pressure system.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>6</td><td></td><td>Wellington</td><td>Tawa A</td><td>Wellington North</td><td>185</td><td>93</td><td>3,299</td><td>41</td><td>3,204</td><td>3,240</td><td>3,261</td><td>3,402</td><td>3,467</td><td>3,531</td><td>153</td><td>149</td><td>149</td><td>130</td><td>126</td><td>112</td><td>No reinforcements required in the next five years.
Subdivision growth in Grenada Village has slowed and we do not expect the need to reinforce the area (Mark Ave overlay) in the next five years. This system is being continuously monitored.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>7</td><td></td><td>Wellington</td><td>Tawa A</td><td>Wellington 25kPa HLP</td><td>25</td><td>13</td><td>9,471</td><td>19</td><td>9,442</td><td>9,442</td><td>9,442</td><td>9,442</td><td>9,442</td><td>9,442</td><td>15</td><td>15</td><td>15</td><td>15</td><td>15</td><td>15</td><td>The low point is localised within the Thorndon, Wadestown and Northland area of the system. With no expected growth in this area, we do not anticipate any need to reinforce the network and we will continue to actively monitor pressures across the system.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>8</td><td></td><td>Wellington</td><td>Tawa A</td><td>Wellington LIP</td><td>1,200</td><td>600</td><td>20,841</td><td>192</td><td>20,822</td><td>20,859</td><td>20,880</td><td>21,076</td><td>21,141</td><td>21,205</td><td>618</td><td>617</td><td>617</td><td>588</td><td>592</td><td>591</td><td>The low point on this system is at the inlet to the Karori DRS. The Minimum Operating Pressure could be accepted as low as 335kPa. We do not expect any issues during the planning period and will continue to monitor through SCADA.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>9</td><td></td><td>Manawatū</td><td>Feilding</td><td>Feilding LMP</td><td>100</td><td>50</td><td>721</td><td>6</td><td>716</td><td>752</td><td>821</td><td>890</td><td>958</td><td>1,015</td><td>54</td><td>53</td><td>51</td><td>51</td><td>173</td><td>173</td><td>Because of large developments in the northern part of Feilding, pressure constraints are expected to occur by RY28. In 2028, we will install a new trunk main along Churcher St, bringing more capacity to the northern part of Feilding. This will only add limited capacity, and we will need to further reinforce the network in 2029 by uplifting the pressure to 200kPa.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>10</td><td></td><td>Manawatū</td><td>Oroua Downs</td><td>Oroua Downs MP</td><td>330</td><td>165</td><td>235</td><td>34</td><td>273</td><td>273</td><td>273</td><td>273</td><td>273</td><td>273</td><td>63</td><td>63</td><td>63</td><td>63</td><td>63</td><td>63</td><td>The system is at capacity because of an existing large commercial consumer. If local customers require more gas or greater pressures beyond what was delivered, substantial upgrades will be required.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>11</td><td></td><td>Manawatū</td><td>Ashhurst</td><td>Ashhurst LMP</td><td>120</td><td>60</td><td>133</td><td>9</td><td>139</td><td>139</td><td>139</td><td>139</td><td>139</td><td>139</td><td>50</td><td>50</td><td>50</td><td>50</td><td>50</td><td>50</td><td>This system is at capacity because of a large commercial customer. A feasibility study to assess solutions, such as a pressure uplift of the Ashhurst LMP system or a 100NB interconnection along Hillary Cres to support this customer at the extremity of the network, will be initiated in 2025.
Forecast pressure has been shown here at the current minimum until a specific reinforcement plan has been confirmed, at which point forecast pressure will be improved above this minimum recorded level.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>12</td><td></td><td>Hutt Valley/Porirua</td><td>Belmont</td><td>Belmont LIP</td><td>860</td><td>430</td><td>16,740</td><td>58</td><td>16,606</td><td>16,694</td><td>16,778</td><td>16,880</td><td>16,955</td><td>17,021</td><td>615</td><td>604</td><td>580</td><td>553</td><td>525</td><td>509</td><td>The low pressure point resides at Norfolk DRS (Wainuiomata). Refinement of Wainuiomata modelling has reduced the impact of divergent load profiles, improving droop modelling to better reflect actual pressures in this network. Network performance is continuously monitored with SCADA.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>13</td><td></td><td>Hutt Valley/Porirua</td><td>Belmont</td><td>Lower Hutt LMP</td><td>125</td><td>63</td><td>7,174</td><td>9</td><td>7,167</td><td>7,167</td><td>7,167</td><td>7,167</td><td>7,167</td><td>7,167</td><td>69</td><td>69</td><td>69</td><td>68</td><td>68</td><td>68</td><td>The low pressure constraint on this subsystem is limited to the Harbour View suburb, which is permanently monitored. A relocation as part of the Riverlink project is providing an opportunity to increase the diameter of the motorway crossing and improve pressures. We don't expect any issues during the planning period.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>14</td><td></td><td>Hutt Valley/Porirua</td><td>Waitangirua/ Pāuatahanui</td><td>Elsdon LMP</td><td>104</td><td>52</td><td>517</td><td>5</td><td>504</td><td>514</td><td>514</td><td>514</td><td>514</td><td>514</td><td>56</td><td>56</td><td>56</td><td>56</td><td>56</td><td>56</td><td>Growth in the form of small subdivisions is expected, but the location of the growth is not expected to impact the constrained area's performance. We continue to monitor performance on this system.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>15</td><td></td><td>Hutt Valley/Porirua</td><td>Waitangirua/ Pāuatahanui</td><td>Pāuatahanui IP</td><td>1,050</td><td>525</td><td>1,059</td><td>108</td><td>1,049</td><td>1,074</td><td>1,103</td><td>1,296</td><td>1,316</td><td>1,398</td><td>547</td><td>499</td><td>617</td><td>1,187</td><td>1,078</td><td>972</td><td>Expected residential growth in Plimmerton will be significant and will exceed the IP capacity if upgrades are not undertaken. The Plimmerton DRS will be relocated before subdivision construction commences. Subsequently, a gas gate pressure uplift to 1500kPa and sectorisation of Mana LMP to direct flow into the subdivision will permit subsequent growth in demand.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>16</td><td></td><td>Taranaki</td><td>New Plymouth</td><td>Bell Block North</td><td>225</td><td>113</td><td>850</td><td>36</td><td>781</td><td>841</td><td>899</td><td>968</td><td>1,005</td><td>1,029</td><td>176</td><td>172</td><td>168</td><td>160</td><td>153</td><td>143</td><td>As part of a DRS replacement project, we overlaid some smaller diameter outlet pipe to larger diameter. This has given a small improvement in performance, approximately 20kPa additional capacity in 2030. No major reinforcement is expected during the planning period.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>17</td><td></td><td>Taranaki</td><td>New Plymouth</td><td>New Plymouth MP</td><td>245</td><td>123</td><td>3,871</td><td>67</td><td>3,863</td><td>3,922</td><td>3,993</td><td>4,048</td><td>4,081</td><td>4,090</td><td>128</td><td>128</td><td>128</td><td>128</td><td>128</td><td>128</td><td>There is a single branch of this network where low pressures have been detected. The localised constraint is because of a relatively long run of a relatively low diameter main supplying industrial customers near Breakwater Rd. The remainder of the network has pressures within specifications, even considering reasonable residential demand growth.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>18</td><td></td><td>Hawke's Bay</td><td>Hastings</td><td>Hastings LMP</td><td>150</td><td>75</td><td>1,015</td><td>37</td><td>932</td><td>940</td><td>959</td><td>989</td><td>1,010</td><td>1,040</td><td>111</td><td>111</td><td>109</td><td>106</td><td>103</td><td>99</td><td>In FY23, the first stage of a three-staged upgrade was completed to improve supply into Havelock North. Reinforcements to enable growth in Havelock North have been planned, including upgrading the main to Havelock North to LIP, adding a new supply point into Havelock North, and extending our mains along Middle Rd to better supply the Iona development. These reinforcements are expected later in the planning period, but continual monitoring will provide the trigger for implementation</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>19</td><td></td><td>Hawke's Bay</td><td>Hastings</td><td>Hastings MP</td><td>275</td><td>138</td><td>2,064</td><td>171</td><td>1,671</td><td>2,980</td><td>2,989</td><td>2,989</td><td>2,989</td><td>2,989</td><td>222</td><td>237</td><td>237</td><td>237</td><td>237</td><td>237</td><td>A recent large customer connection request will require a pressure uplift of the Hastings MP pressure system to 350kPa in FY26.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>20</td><td></td><td>Taranaki</td><td>Pātea</td><td>Pātea MP</td><td>350</td><td>175</td><td>318</td><td>54</td><td>294</td><td>294</td><td>294</td><td>294</td><td>294</td><td>294</td><td>210</td><td>210</td><td>210</td><td>210</td><td>210</td><td>210</td><td>Gas gate volumes through Pātea have been slowly trending down for the past five years, hence the improvement compared with historical AMP figures. Monitoring is ongoing.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>21</td><td></td><td>Taranaki</td><td>Waitara</td><td>Lepperton MP</td><td>350</td><td>175</td><td>326</td><td>55</td><td>318</td><td>318</td><td>318</td><td>318</td><td>318</td><td>318</td><td>187</td><td>187</td><td>187</td><td>187</td><td>187</td><td>187</td><td>The network is constrained because of some larger demand chicken sheds at the extremity of the smaller diameter network. There have been no pressure issues and we don't anticipate any growth. There are no plans to upgrade capacity further unless demand increases. The Lepperton MP model has been updated with new reference data which better reflects recent operation of the pressure system.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>22</td><td></td><td>Taranaki</td><td>Waitara</td><td>Waitara MP</td><td>250</td><td>125</td><td>586</td><td>8</td><td>506</td><td>506</td><td>506</td><td>506</td><td>506</td><td>506</td><td>215</td><td>215</td><td>215</td><td>215</td><td>215</td><td>215</td><td>Monitoring is ongoing. If the droop exceeds 60%, we will switch over this section of the system to the Lepperton system where the NOP is higher, to alleviate the low pressures. No growth is expected, so this is not expected to occur during the planning period.</td></tr>
<tr><td>12b: Forecast utilisation of heavily utilised pipelines</td><td>23</td><td></td><td>Manawatū</td><td>Palmerston North</td><td>Palmerston North LMP</td><td>100</td><td>50</td><td>4,007</td><td>2</td><td>3,988</td><td>3,998</td><td>4,010</td><td>4,022</td><td>4,043</td><td>4,076</td><td>77</td><td>77</td><td>77</td><td>78</td><td>78</td><td>78</td><td>During the replacement of a regulator station in southwest Palmerston North city in RY24, we took the opportunity to add a pipe interconnection that saw a significant improvement of local pressures from 60% droop down to 48% droop. We will continue to actively monitor this system. The Palmerston North LMP model has been updated with new reference data, which better reflects recent operation of the pressure system.</td></tr>
<tr><td>12b: Forecast Utilisation of heavily utilised pipelines</td><td>24</td><td></td><td>Manawatū</td><td>Palmerston North</td><td>Summerhill</td><td>100</td><td>50</td><td>504</td><td>13</td><td>353</td><td>367</td><td>382</td><td>410</td><td>439</td><td>454</td><td>86</td><td>85</td><td>84</td><td>77</td><td>63</td><td>62</td><td>As the biggest identified area for growth in Palmerston North, we will actively monitor demand and pressure levels. Subdivisions identified in the past few AMPs have been deferred, thus also deferring the need to reinforce this system. If droop of 60% were to be reached, the Summerhill reinforcement project would be initiated</td></tr>
</table>

* *Current year utilisation figures may be estimates. Year 1–5 figures show the utilisation forecast to occur given the expected system configuration for each year, including the effect of any new investment in the pressure system.*

12b: Forecast Utilisation of Heavily Utilised Pipelines

<table>
<tr><th>Section</th><th>Row</th><th>Context</th><th>Category1 | Disclaimer for supply enquiries</th></tr>
<tr><td>12b: Forecast Utilisation of Heavily Utilised Pipelines</td><td>30</td><td></td><td>The information in this table contains modelled estimates of utilisation and capacity. Any interested party seeking to invest in supply from Powerco's distribution networks should contact Powerco or their retailer and confirm availability of capacity.</td></tr>
</table>

12b: Forecast Utilisation of Heavily Utilised Pipelines

<table>
<tr><th>Section</th><th>Row</th><th>Context</th><th>Category1 |Notes and assumptions</th></tr>
<tr><td>12b: Forecast Utilisation of Heavily Utilised Pipelines</td><td>34</td><td></td><td>Growth patterns used reflect our knowledge at the time of writing.
If the growth is expected to spread over multiple years, it is uniformly spread over that period.
The number of lots identified is multiplied by 0.6scm/h to calculate a diversified load per residential connection. This is summed and placed at a single point in the model where the load is expected to occur.
If the growth specified is inferior to our other supply forecasts, we reconcile these by adding the load at one extremity of the network.</td></tr>
</table>

SCHEDULE 12c: REPORT ON FORECAST DEMAND

12c(i): Consumer connections

Section	Row	Context	Category 1 | Number of ICPs connected in year by consumer typ	*Current year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
12c(i) Consumer connections	4	*Consumer types defined by GDB*	Residential	596	596	596	596	596	596
12c(i) Consumer connections	5	*Consumer types defined by GDB*	Commercial / Industrial	52	52	52	52	52	52
12c(i) Consumer connections	6	*Consumer types defined by GDB*	[GDB consumer type]						
12c(i) Consumer connections	7	*Consumer types defined by GDB*	[GDB consumer type]						
12c(i) Consumer connections	8	*Consumer types defined by GDB*	[GDB consumer type]						
12c(i) Consumer connections	9		Total	648	648	648	648	648	648

12c(ii): Gas delivered

Section	Row	Context	Category 1 | Number of ICPs connected in year by consumer typ	*Current year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
12c(ii) Gas delivered	14		Number of ICPs at year end (at year end)	112727	112308	111986	111587	111072	110400
12c(ii) Gas delivered	15		Maximum daily load (GJ per day)	36557	36862	36591	36214	35958	35515
12c(ii) Gas delivered	16		Maximum monthly load (GJ per month)	944010	951892	944900	935155	928566	917113
12c(ii) Gas delivered	17		Number of directly billed ICPs (at year end)	0	0	0	0	0	0
12c(ii) Gas delivered	18		Total gas conveyed (GJ per annum)	7958456	8024902	7965955	7883808	7828258	7731701
12c(ii) Gas delivered	19		Average daily delivery (GJ per day)	21804	21986	21825	21540	21447	21183
12c(ii) Gas delivered	20		Load factor	70.25%	70.25%	70.25%	70.25%	70.25%	70.25%

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY

13(i): Asset management capability, self assessment questions

Section	Question No.	Function	Question	Score	Evidence - Summary	Why	Who	Record/documented information
13(i): Asset management capability, self assessment questions	3	Asset management policy	To what extent has an asset management policy been documented, authorised and communicated?	3	Powerco has a company-wide published Asset Management Policy that has been approved by the Chief Executive Officer (CEO). The policy is published in the Gas Asset Management Plan (AMP) and made available to all internal staff through DocuHub, Powerco's controlled document platform.	Widely used AM practice standards require an organisation to document, authorise and communicate its asset management policy (eg, as required in PAS 55 para 4.2 i). A key pre-requisite of any robust policy is that the organisation's top management must be seen to endorse and fully support it. Also vital to the effective implementation of the policy, is to tell the appropriate people of its content and their obligations under it. Where an organisation outsources some of its asset-related activities, then these people and their organisations must equally be made aware of the policy's content. Also, there may be other stakeholders, such as regulatory authorities and shareholders who should be made aware of it.	Top management. The management team that has overall responsibility for asset management.	The organisation's asset management policy, its organisational strategic plan, documents indicating how the asset management policy was based upon the needs of the organisation and evidence of communication.
13(i): Asset management capability, self assessment questions	10	Asset management strategy	What has the organisation done to ensure that its asset management strategy is consistent with other appropriate organisational policies and strategies, and the needs of stakeholders?	3.5	In 2025, we developed a Strategic Asset Management Plan (SAMP) to ensure clear alignment between Powerco's Corporate Strategic Framework and our gas business. The SAMP is guided by Powerco's company-wide Asset Management Policy, which shapes our gas asset management strategies, objectives, plans, and activities. We have also updated our Asset Class Strategy (ACS) documents to align with the Corporate Strategic Framework. These updates ensure consistency across organisational policies and strategies while addressing the needs and expectations of our stakeholders.	In setting an organisation's asset management strategy, it is important that it is consistent with any other policies and strategies that the organisation has and has taken into account the requirements of relevant stakeholders. This question examines to what extent the asset management strategy is consistent with other organisational policies and strategies (eg, as required by PAS 55 para 4.3.1 b) and has taken account of stakeholder requirements as required by PAS 55 para 4.3.1 c). Generally, this will take into account the same polices, strategies and stakeholder requirements as covered in drafting the asset management policy but at a greater level of detail.	Top management. The organisation's strategic planning team. The management team that has overall responsibility for asset management.	The organisation's asset management strategy document and other related organisational policies and strategies. Other than the organisation's strategic plan, these could include those relating to health and safety, environmental, etc. Results of stakeholder consultation.
13(i): Asset management capability, self assessment questions	11	Asset management strategy	In what way does the organisation's asset management strategy take account of the lifecycle of the assets, asset types and asset systems over which the organisation has stewardship?	3.5	Our SAMP and ACS consider the full lifecycle of assets, from condition and performance through to maintenance, renewal, and investment planning. ACS and plans provide this lifecycle view, supported by Reliability Centred Maintenance (RCM) and Failure Mode and Effect Analysis (FMEA). Investment decisions are prioritised through our Volume-to-Value Investment Framework, ensuring consistency across asset types and systems while delivering long-term economic value and resilience for investment decisions.	Good asset stewardship is the hallmark of an organisation compliant with widely used AM standards. A key component of this is the need to take account of the lifecycle of the assets, asset types and asset systems (for example, this requirement is recognised in 4.3.1 d) of PAS 55). This question explores what an organisation has done to take lifecycle into account in its asset management strategy.	Top management. People in the organisation with expert knowledge of the assets, asset types, asset systems and their associated lifecycles. The management team that has overall responsibility for asset management. Those responsible for developing and adopting methods and processes used in asset management	The organisation's documented asset management strategy and supporting working documents.

13(i): Asset management capability, self assessment questions	26	Asset management plan(s)	How does the organisation establish and document its asset management plan(s) across the lifecycle activities of its assets and asset systems?	3.5	Our ACS, Technical Standards and defect management practices are well developed and set the basis for all activities required during the lifecycle of our assets. Chapter 4 of the AMP describes how we manage our capital works programme and forecast expenditure (the forecasted projects being contained in Chapter 5). Our maintenance programme is supported by comprehensive technical standards and RCM practices.	The asset management strategy needs to be translated into practical plan(s) so that all parties know how the objectives will be achieved. The development of plan(s) will need to identify the specific tasks and activities required to optimise costs, risks and performance of the assets and/or asset system(s), when they are to be carried out and the resources required.	The management team with overall responsibility for the asset management system. Operations, maintenance and engineering managers.	The organisation's asset management plan(s).
13(i): Asset management capability, self assessment questions	27	Asset management plan(s)	How has the organisation communicated its plan(s) to all relevant parties to a level of detail appropriate to the receiver's role in their delivery?	3.8	Powerco communicates its plans to relevant parties through a range of channels tailored to their role in delivery. The Gas Asset Management Plan (AMP) is published on our website for public access and shared directly with service providers, internal teams, and external stakeholders. We also hold ad-hoc roadshow presentations to build understanding and engagement. Our performance monitoring and improvement processes support continuous refinement of these communications.	Plans will be ineffective unless they are communicated to all those, including contracted suppliers and those who undertake enabling function(s). The plan(s) need to be communicated in a way that is relevant to those who need to use them.	The management team with overall responsibility for the asset management system. Delivery functions and suppliers.	Distribution lists for plan(s). Documents derived from plan(s) which detail the receiver's role in plan delivery. Evidence of communication.
13(i): Asset management capability, self assessment questions	29	Asset management plan(s)	How are designated responsibilities for delivery of asset plan actions documented?	3.6	Designated responsibilities for Asset Management Plan delivery are described in Chapter 4 of the AMP. From an operational viewpoint, further details are documented across the business including the Business Plan, Project Management Framework, position descriptions and employees' annual objectives and development plans. Powerco also uses Gas Field Services Agreements to describe the responsibilities of service providers. We have implemented improvements to our decision-making framework that informs our Gas Works Plan (GWP) and created a workflow diagram that defines how work is planned and implemented. This is outlined in Chapter 4.	The implementation of asset management plan(s) relies on (1) actions being clearly identified, (2) an owner allocated and (3) that owner having sufficient delegated responsibility and authority to carry out the work required. It also requires alignment of actions across the organisation. This question explores how well the plan(s) set out responsibility for delivery of asset plan actions.	The management team with overall responsibility for the asset management system. Operations, maintenance and engineering managers. If appropriate, the performance management team.	The organisation's asset management plan(s). Documentation defining roles and responsibilities of individuals and organisational departments.

13(i): Asset management capability, self assessment questions	31	Asset management plan(s)	What has the organisation done to ensure that appropriate arrangements are made available for the efficient and cost effective implementation of the plan(s)? (Note this is about resources and enabling support)	3.6	We are able to insource or outsource the design and project management of the plans, and have specialist resources available through our consultancy networks. Powerco also uses Gas Field Services Agreements to describe the responsibilities of service providers. These cover the majority of our works. Outside of these we tender the works in order to achieve market rates. Since 2023, we have widened the range of service providers we ask to tender for and undertake works and we actively work with contractors to optimise scope vs cost and minimise risk. Powerco staff are set up to work more closely with contractors in the field than in the past.	It is essential that the plan(s) are realistic and can be implemented, which requires appropriate resources to be available and enabling mechanisms in place. This question explores how well this is achieved. The plan(s) not only need to consider the resources directly required and timescales, but also the enabling activities, including for example, training requirements, supply chain capability and procurement timescales.	The management team with overall responsibility for the asset management system. Operations, maintenance and engineering managers. If appropriate, the performance management team. Where appropriate the procurement team and service providers working on the organisation's asset-related activities.	The organisation's asset management plan(s). Documented processes and procedures for the delivery of the asset management plan.
13(i): Asset management capability, self assessment questions	33	Contingency planning	What plan(s) and procedure(s) does the organisation have for identifying and responding to incidents and emergency situations and ensuring continuity of critical asset management activities?	3.5	Well developed and established procedures for dealing with network incidents and emergencies are in place through our Public Safety Management System, and managed centrally by our Network Operations Centre. Our dedicated Risk and Assurance Team is the custodian of our ISO: 31000-based Risk and Compliance Management Policy. A Safety and Operating Plan and the Emergency Response Plan are reviewed on a regular basis. A comprehensive approach to staff training is taken with a range of courses offered through a planned approach annually. The contingency plans were tested in the course of Cyclone Gabrielle in 2023, and stood up well. We completed an emergency simulation in June 2025 involving both internal and external parties. Delivering regular mini-training sessions.	Widely used AM practice standards require that an organisation has plan(s) to identify and respond to emergency situations. Emergency plan(s) should outline the actions to be taken to respond to specified emergency situations and ensure continuity of critical asset management activities, including the communication to, and involvement of, external agencies. This question assesses if, and how well, these plan(s) triggered, implemented and resolved in the event of an incident. The plan(s) should be appropriate to the level of risk as determined by the organisation's risk assessment methodology. It is also a requirement that relevant personnel are competent and trained.	The manager with responsibility for developing emergency plan(s). The organisation's risk assessment team. People with designated duties within the plan(s) and procedure(s) for dealing with incidents and emergency situations.	The organisation's plan(s) and procedure(s) for dealing with emergencies. The organisation's risk assessments and risk registers.
13(i): Asset Management Capability, Self Assessment Questions	37	Structure, authority and responsibilities	What has the organisation done to appoint member(s) of its management team to be responsible for ensuring that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s)?	3.5	Chapter 4 of the AMP provides an overview of responsibilities and delegations. The Gas Division is led by the General Manager Gas, accountable for delivering AM objectives and investment plans. The Gas Asset Strategy Group are responsible for developing investment plans and Gas Operations are responsible for executing the plans. Responsibilities are reflected in the Business Plan, position descriptions and personal objectives.	In order to ensure that the organisation's assets and asset systems deliver the requirements of the asset management policy, strategy and objectives responsibilities need to be allocated to appropriate people who have the necessary authority to fulfil their responsibilities. (This question, relates to the organisation's assets eg, para b), s 4.4.1 of PAS 55, making it therefore distinct from the requirement contained in para a), s 4.4.1 of PAS 55).	Top management. People with management responsibility for the delivery of asset management policy, strategy, objectives and plan(s). People working on asset-related activities.	Evidence that managers with responsibility for the delivery of asset management policy, strategy, objectives and plan(s) have been appointed and have assumed their responsibilities. Evidence may include the organisation's documents relating to its asset management system, organisational charts, job descriptions of post-holders, annual targets/objectives and personal development plan(s) of post-holders as appropriate.

13(i): Asset management capability, self assessment questions	40	Structure, authority and responsibilities	What evidence can the organisation's top management provide to demonstrate that sufficient resources are available for asset management?	3	Resource needs are reviewed quarterly (and sometimes weekly) as part of regular planning efforts. A pool of engineering consultants and service providers have been contracted to manage the volume of work delivered. There are mechanisms to provide flexibility in resourcing arrangements to cater for extraordinary needs. We are also actively managing supply chains to deal with the availability of materials critical for the delivery of the work programme. In 2025, we have rebuilt monthly reports, including dashboards to demonstrate adherence to and progress against KPIs. Gas is now a part of the Asset Management Steering Committee, giving more visibility of the gas business AM performance. The gas business is also part of the health, safety and environmental (HSE) Operational Safety Governance Group that is integrated with the electricity business to oversee HSE-related topics, behaviours and performance.	Optimal asset management requires top management to ensure sufficient resources are available. In this context the term 'resources' includes manpower, materials, funding and service provider support.	Top management. The management team that has overall responsibility for asset management. Risk management team. The organisation's managers involved in day-to-day supervision of asset-related activities, such as frontline managers, engineers, foremen and chargehands as appropriate.	Evidence demonstrating that asset management plan(s) and/or the process(es) for asset management plan implementation consider the provision of adequate resources in both the short and long term. Resources include funding, materials, equipment, services provided by third parties and personnel (internal and service providers) with appropriate skills competencies and knowledge.
13(i): Asset Management Capability, Self Assessment Questions	42	Structure, authority and responsibilities	To what degree does the organisation's top management communicate the importance of meeting its asset management requirements?	3.2	The requirements are reflected in the Business Plan, which is communicated via road shows, KPI reporting, updates via the Intranet and via an internal publication called 'The Source'. There are also regular communiques from the CEO about how the business is performing. The GM Gas also provides regular briefings on progress. Specific asset management objectives are set up for the business from a board level and reported back. The Gas division has an internal communications process that informs staff of general Gas business, targets and plans. In 2025, the Asset Management Steering committee terms of reference was updated to include gas business representation. This committee provides strategic guidance and oversight on the ongoing development and implementation of Powerco's gas and electricity asset management system.	Widely used AM practice standards require an organisation to communicate the importance of meeting its asset management requirements such that personnel fully understand, take ownership of, and are fully engaged in the delivery of the asset management requirements (eg, PAS 55 s 4.4.1 g).	Top management. The management team that has overall responsibility for asset management. People involved in the delivery of the asset management requirements.	Evidence of such activities as road shows, written bulletins, workshops, team talks and management walk-abouts would assist an organisation to demonstrate it is meeting this requirement of PAS 55.
13(i): Asset management capability, self assessment questions	45	Outsourcing of asset management activities	Where the organisation has outsourced some of its asset management activities, how has it ensured that appropriate controls are in place to ensure the compliant delivery of its organisational strategic plan, and its asset management policy and strategy?	3	Contractual arrangements are in place to provide a clear and accountable set of standards and work instructions, to agree, instruct and review field work. Dedicated roles exist within the Powerco operations team to manage the relationship and field work. The Operations Manager has the responsibility of ensuring the overall delivery is achieved in line with contract documentation, KPIs and agreed actions arising from monthly (and ad hoc) meetings. For HSE matters, every contractor should go through a contractor approval process before executing works on the network to ensure they have the appropriate systems to meet our requirements.	Where an organisation chooses to outsource some of its asset management activities, the organisation must ensure that these outsourced process(es) are under appropriate control to ensure that all the requirements of widely used AM standards (eg PAS 55) are in place, and the asset management policy, strategy objectives and plan(s) are delivered. This includes ensuring capabilities and resources across a time span aligned to lifecycle management. The organisation must put arrangements in place to control the outsourced activities, whether it be to external providers or to other in-house departments. This question explores what the organisation does in this regard.	Top management. The management team that has overall responsibility for asset management. The manager(s) responsible for the monitoring and management of the outsourced activities. People involved with the procurement of outsourced activities. The people within the organisations that are performing the outsourced activities. The people impacted by the outsourced activity.	The organisation's arrangements that detail the compliance required of the outsourced activities. For example, this could form part of a contract or service level agreement between the organisation and the suppliers of its outsourced activities. Evidence that the organisation has demonstrated to itself that it has assurance of compliance of outsourced activities.

13(i): Asset management capability, self assessment questions	48	Training, awareness and competence	How does the organisation develop plan(s) for the human resources required to undertake asset management activities - including the development and delivery of asset management strategy, process(es), objectives and plan(s)?	3	Powerco participates in industry groups in charge of developing field competency frameworks with the Industry Training Organisation (ITO). In 2024-25, we completed a refresh of competency requirements to match the roles in the Gas Asset Strategy Group and completed a restructure of the Operational team to realign with business needs. Ongoing training for internal and external parties. Project managers, coordinators all go through appropriate training courses. External contractor competency framework is well understood and monitored for compliance. Formal development plans pending.	There is a need for an organisation to demonstrate that it has considered what resources are required to develop and implement its asset management system. There is also a need for the organisation to demonstrate that it has assessed what development plan(s) are required to provide its human resources with the skills and competencies to develop and implement its asset management systems. The timescales over which the plan(s) are relevant should be commensurate with the planning horizons within the asset management strategy, eg if the asset management strategy considers 5, 10 and 15-year time scales then the human resources development plan(s) should align with these. Resources include both 'in house' and external resources who undertake asset management activities.	Senior management responsible for agreement of plan(s). Managers responsible for developing asset management strategy and plan(s). Managers with responsibility for development and recruitment of staff (including HR functions). Staff responsible for training. Procurement officers. Contracted service providers.	Evidence of analysis of future work load plan(s) in terms of human resources. Document(s) containing analysis of the organisation's own direct resources and contractors' resource capability over suitable timescales. Evidence, such as minutes of meetings, that suitable management forums are monitoring human resource development plan(s). Training plan(s), personal development plan(s), contract and service level agreements.
13(i): Asset management capability, self assessment questions	49	Training, awareness and competence	How does the organisation identify competency requirements and then plan, provide and record the training necessary to achieve the competencies?	3	Where applicable, employees agree development plans with their reporting manager. These align with Powerco's competency standards, and a generous training budget is available to address training needs. In 2025, we are still working on developing and embedding competency and performance assessment frameworks.	Widely used AM standards require that organisations undertake a systematic identification of the asset management awareness and competencies required at each level and function within the organisation. Once identified, the training required to provide the necessary competencies should be planned for delivery in a timely and systematic way. Any training provided must be recorded and maintained in a suitable format. Where an organisation has contracted service providers in place then it should have a means to demonstrate that this requirement is being met for their employees (eg, PAS 55 refers to frameworks suitable for identifying competency requirements).	Senior management responsible for agreement of plan(s). Managers responsible for developing asset management strategy and plan(s). Managers with responsibility for development and recruitment of staff (including HR functions). Staff responsible for training. Procurement officers. Contracted service providers.	Evidence of an established and applied competency requirements assessment process and plan(s) in place to deliver the required training. Evidence that the training programme is part of a wider, co-ordinated asset management activities training and competency programme. Evidence that training activities are recorded and that records are readily available (for both direct and contracted service provider staff), eg via organisation-wide information system or local records database.
13(i): Asset Management Capability, Self Assessment Questions	50	Training, awareness and competence	How does the organization ensure that persons under its direct control undertaking asset management related activities have an appropriate level of competence in terms of education, training or experience?	3	For internal staff, Powerco matches competency requirements with role, then assesses personal performance annually with a view to designing appropriate development needs. For external resources, Powerco clearly identifies competence requirements, including qualifications and training needs based on industry standards and frameworks. This is used in assessing prospective contractors' ability to conduct the work. These are regularly audited for QSE compliance.	A critical success factor for the effective development and implementation of an asset management system is the competence of persons undertaking these activities. organisations should have effective means in place for ensuring the competence of employees to carry out their designated asset management function(s). Where an organisation has contracted service providers undertaking elements of its asset management system then the organisation shall assure itself that the outsourced service provider also has suitable arrangements in place to manage the competencies of its employees. The organisation should ensure that the individual and corporate competencies it requires are in place and actively monitor, develop and maintain an appropriate balance of these competencies.	Managers, supervisors, persons responsible for developing training programmes. Staff responsible for procurement and service agreements. HR staff and those responsible for recruitment.	Evidence of a competency assessment framework that aligns with established frameworks such as the asset management Competencies Requirements Framework (Version 2.0); National Occupational Standards for Management and Leadership; UK Standard for Professional Engineering Competence, Engineering Council, 2005.

13(i): Asset management capability, self assessment questions	53	Communication, participation and consultation	How does the organisation ensure that pertinent asset management information is effectively communicated to and from employees and other stakeholders, including contracted service providers?	3.5	Powerco ensures asset management information is effectively communicated to employees and service providers through defined data repositories and controlled access rules. Key systems include: - SAP (asset data, maintenance history, defects, and works management) - GIS (geospatial data) - CWMS (customer works management) - Meridian (as-built drawings) - SharePoint (engineering standards and procedures). Field service providers access SAP through BlueWorx, which also interfaces with GIS via the Geospatial Enablement Framework (GEF). In 2025, we introduced SAP Business Warehouse (BW) and SAP Analytics Cloud (SAC) to strengthen both internal and service provider reporting. Together, these systems provide reliable, accessible information that supports the Asset Management System (AMS) and ensures relevant parties receive the appropriate level of detail.	Widely used AM practice standards require that pertinent asset management information is effectively communicated to and from employees and other stakeholders, including contracted service providers. Pertinent information refers to information required in order to effectively and efficiently comply with and deliver asset management strategy, plan(s) and objectives. This will include, for example, the communication of the asset management policy, asset performance information, and planning information as appropriate to contractors.	Top management and senior management representative(s), employee's representative(s), employee's trade union representative(s); contracted service provider management and employee representative(s); representative(s) from the organisation's health, safety and environmental team. Key stakeholder representative(s).	Asset management policy statement prominently displayed on notice boards, intranet and internet; use of organisation's website for displaying asset performance data; evidence of formal briefings to employees, stakeholders and contracted service providers; evidence of inclusion of asset management issues in team meetings and contracted service provider contract meetings; newsletters, etc.
13(i): Asset Management Capability, Self Assessment Questions	59	Asset Management System documentation	What documentation has the organisation established to describe the main elements of its asset management system and interactions between them?	3	Documentation developed includes the: - Asset Management System (AMS), as described chapter 4 of the AMP. This has been refreshed to align with the Institute of Asset Management's (IAM) 10-box Capabilities Model. It shows how all the interrelated parts of the business work together. - Gas AMS is supported by our asset management documentation. Figure 4.2 illustrates our key gas asset management documents. - Gas Strategic Asset Management Plan (SAMP) provides alignment between Powerco's Corporate Strategic Framework and our gas business. Powerco's Corporate Asset Management Policy guides the development of our gas asset management strategies, plans and activities. - Gas Decision-Making Framework and Gas Volume-to-Value Investment Framework enable us to make effective, consistent, robust decision-making, balancing appropriate cost, risk, and performance trade-offs.	Widely used AM practice standards require an organisation maintain up to date documentation that ensures that its asset management systems (ie, the systems the organisation has in place to meet the standards) can be understood, communicated and operated. (eg, s 4.5 of PAS 55 requires the maintenance of up to date documentation of the asset management system requirements specified throughout s 4 of PAS 55).	The management team that has overall responsibility for asset management. Managers engaged in asset management activities.	The documented information describing the main elements of the asset management system (process(es)) and their interaction.
13(i): Asset management capability, self assessment questions	62	Information management	What has the organisation done to determine what its asset management information system(s) should contain in order to support its asset management system?	3.2	Our data repositories are: - SAP for asset data and historical maintenance records, defect management, and works management. Our field service providers use BlueWorx, an SAP interface - GIS, for geospatial data - Customer Works Management System (CWMS) - Meridian for as-built engineering drawings - SharePoint for engineering standards and procedures Each repository is subject to defined document management rules that support the AMS. In 2025, the Data and Digital Innovation Governance Group (DDIG) was set up to oversee what should be in each repository. This group reports to the Asset Management Steering Committee.	Effective asset management requires appropriate information to be available. Widely used AM standards therefore require the organisation to identify the asset management information it requires in order to support its asset management system. Some of the information required may be held by suppliers. The maintenance and development of asset management information systems is a poorly understood specialist activity that is akin to IT management but different from IT management. This group of questions provides some indications as to whether the capability is available and applied. Note: To be effective, an asset information management system requires the mobilisation of technology, people and process(es) that create, secure, make available and destroy the information required to support the asset management system.	The organisation's strategic planning team. The management team that has overall responsibility for asset management. Information management team. Operations, maintenance and engineering managers	Details of the process the organisation has employed to determine what its asset information system should contain in order to support its asset management system. Evidence that this has been effectively implemented.

13(i): Asset management capability, self assessment questions	63	Information management	How does the organisation maintain its asset management information system(s) and ensure that the data held within it (them) is of the requisite quality and accuracy and is consistent?	2.8	To maintain asset management systems and data quality, Powerco uses: - SAP Business Warehouse (BIW) /SAP Analytics Cloud (SAC) Enterprise Data Warehouse (EDW) information system. - The DDIG governance group has responsibility for data governance across the business. - DocuHub is the repository for policies, standards and procedures and automates reminders to documents to ensure they are maintained on a regular basis.	The response to the questions is progressive. A higher scale cannot be awarded without achieving the requirements of the lower scale. This question explores how the organisation ensures that information management meets widely used AM practice requirements (eg, s 4.4.6 (a), (c) and (d) of PAS 55).	The management team that has overall responsibility for asset management. Users of the organisational information systems.	The asset management information system, together with the policies, procedure(s), improvement initiatives and audits regarding information controls.
13(i): Asset management capability, self assessment questions	64	Information management	How has the organisation ensured its asset management information system is relevant to its needs?	3	Powerco uses the Enterprise Asset Management system SAP. This has its own data formatting rules, and self-regulates. Powerco also uses QA processes to oversee inputting, data handling and interpretation processes to ensure that the data is useful. Service providers provide GPS points for asset locations as part of the as-building processes. Contractors issue a master data correction notice when asset information is found to be inaccurate, incomplete or not relevant. Data correction notifications were set up in 2025 to actively address these improvement opportunities.	Widely used AM standards need not be prescriptive about the form of the asset management information system, but simply require that the asset management information system is appropriate to the organisation's needs, can be effectively used, and can supply information that is consistent and of the requisite quality and accuracy.	The organisation's strategic planning team. The management team that has overall responsibility for asset management. Information management team. Users of the organisational information systems.	The documented process the organisation employs to ensure its asset management information system aligns with its asset management requirements. Minutes of information systems review meetings involving users.
13(i): Asset management capability, self assessment questions	69	Risk management process(es)	How has the organisation documented process(es) and/or procedure(s) for the identification and assessment of asset and asset management-related risks throughout the asset lifecycle?	3.2	Powerco has a formal risk management and assurance framework (aligned to AS/NZS ISO: 31000:2018), including a detailed risk register. Specific asset-related risks during their lifecycle are assessed using a Failure Mode and Effect Analysis (FMEA) tool, and Formal Safety Assessment. Planned activities take a risk-based approach in conjunction with our Gas Decision-making Framework that applies a weighting factor to projects using specific asset management drivers (safety, reliability, delivery, partnership and resilience and efficiency value) and Volume-to-Value Investment Framework.	Risk management is an important foundation for proactive asset management. Its overall purpose is to understand the cause, effect and likelihood of adverse events occurring, to optimally manage such risks to an acceptable level, and to provide an audit trail for the management of risks. Widely used standards require the organisation to have process(es) and/or procedure(s) in place that set out how the organisation identifies and assesses asset and asset management related risks. The risks have to be considered across the four phases of the asset lifecycle (eg, para 4.3.3 of PAS 55).	The top management team in conjunction with the organisation's senior risk management representatives. There may also be input from the organisation's health, safety and environment team. Staff who carry out risk identification and assessment.	The organisation's risk management framework and/or evidence of specific process(es) and/or procedure(s) that deal with risk control mechanisms. Evidence that the process(es) and/or procedure(s) are implemented across the business and maintained. Evidence of agendas and minutes from risk management meetings. Evidence of feedback in to process(es) and/or procedure(s) as a result of incident investigation(s). Risk registers and assessments.

13(i): Asset management capability, self assessment questions	79	Use and maintenance of asset risk information	How does the organisation ensure that the results of risk assessments provide input into the identification of adequate resources and training and competency needs?	3.5	Powerco uses the formal risk management and assurance framework to identify asset-related risks (eg asbestos, confined spaces, voltage on the pipelines), and these inform our approach to competency management, including training needs for staff and contractors. Examples: Asbestos, requirements for competencies in dealing with asbestos. Confined spaces, identified and contractors audited for relevant competencies. Employed an external specialist to carry out surveys to give advice and review currency of controls.	Widely used AM standards require that the output from risk assessments is considered and that adequate resource (including staff) and training is identified to match the requirements. It is a further requirement that the effects of the control measures are considered, as there may be implications in resources and training required to achieve other objectives.	Staff responsible for risk assessment and those responsible for developing and approving resource and training plan(s). There may also be input from the organisation's health, safety and environment team.	The organisation's risk management framework. The organisation's resourcing plan(s) and training and competency plan(s). The organisation should be able to demonstrate appropriate linkages between the content of resource plan(s) and training and competency plan(s) to the risk assessments and risk control measures that have been developed.
13(i): Asset management capability, self assessment questions	82	Legal and other requirements	What procedure does the organisation have to identify and provide access to its legal, regulatory, statutory and other asset management requirements, and how are requirements incorporated into the asset management system?	3.4	The semi-independent Risk and Assurance and Regulatory teams monitor regulatory changes and inform the business when there are potential impacts and non-compliances. The Regulatory team audits each AMP to ensure it complies with the Information Disclosure Determination and other regulatory requirements. We conduct regular internal audits and complement these with periodic external audits of our systems and reports. To support audit preparation and legal compliance, we use the tools Resolver and Comply With.	In order for an organisation to comply with its legal, regulatory, statutory and other asset management requirements, the organisation first needs to ensure that it knows what they are (eg, PAS 55 specifies this in s 4.4.8). It is necessary to have systematic and auditable mechanisms in place to identify new and changing requirements. Widely used AM standards also require that requirements are incorporated into the asset management system (eg, procedure(s) and process(es))	Top management. The organisation's regulatory team. The organisation's legal team or advisors. The management team with overall responsibility for the asset management system. The organisation's health and safety team or advisors. The organisation's policy-making team.	The organisational processes and procedures for ensuring information of this type is identified, made accessible to those requiring the information and is incorporated into asset management strategy and objectives
13(i): Asset management capability, self assessment questions	88	Lifecycle activities	How does the organisation establish implement and maintain process(es) for the implementation of its asset management plan(s) and control of activities across the creation, acquisition or enhancement of assets. This includes design, modification, procurement, construction and commissioning activities?	3.3	The lifecycle and investment planning processes are documented in Chapters 4 and 5 of the AMP. Design standards are regularly reviewed for relevance, and whenever regulations change. Procurement is governed by technical standards and managed through our maintenance and project delivery framework, which sets out the processes for design, acquisition, commissioning and maintenance.	Lifecycle activities are about the implementation of asset management plan(s) i.e. they are the "doing" phase. They need to be done effectively and well in order for asset management to have any practical meaning. As a consequence, widely used standards (eg, PAS 55 s 4.5.1) require organisations to have in place appropriate process(es) and procedure(s) for the implementation of asset management plan(s) and control of lifecycle activities. This question explores those aspects relevant to asset creation.	Asset managers, design staff, construction staff and project managers from other impacted areas of the business, eg, procurement	Documented process(es) and procedure(s) that are relevant to demonstrating the effective management and control of lifecycle activities during asset creation, acquisition, and enhancement, including design, modification, procurement, construction and commissioning.

13(i): Asset Management Capability, Self Assessment Questions	91	Life Cycle Activities	How does the organisation ensure that process(es) and/or procedure(s) for the implementation of asset management plan(s) and control of activities during maintenance (and inspection) of assets are sufficient to ensure activities are carried out under specified conditions, are consistent with asset management strategy and control cost, risk and performance?	3.5	Powerco has a clearly structured process for controlling the implementation of asset management plans. This includes: - Prescribed work instructions agreed with service providers. - A field audit programme is in place involving internal staff to conduct field audits for quality and safety; and audits conducted through independent auditors who report non-compliances. - Service provider KPIs are linked to the proper application of work instructions. The KPIs are made available through the Gas Contractor Portal, and discussed on a monthly basis in contract meetings. Our Safety and Operating Plan documents how we design, build, manage and maintain our assets, and how we monitor their performance. This feeds back into the formal safety assessment process. New reporting tools monitor competence and completeness of maintenance activity.	Having documented process(es) which ensure the asset management plan(s) are implemented in accordance with any specified conditions, in a manner consistent with the asset management policy, strategy and objectives and in such a way that cost, risk and asset system performance are appropriately controlled is critical. They are an essential part of turning intention into action (eg, as required by PAS 55 s 4.5.1).	Asset managers, operations managers, maintenance managers and project managers from other impacted areas of the business	Documented procedure for review. Documented procedure for audit of process delivery. Records of previous audits, improvement actions and documented confirmation that actions have been carried out.
13(i): Asset management capability, self assessment questions	95	Performance and condition monitoring	How does the organisation measure the performance and condition of its assets?	3	Asset KPIs measure our overall performance. They are outlined in Chapter 4 of the AMP and reflect the AM Objectives embedded in our strategies. Defects identified in the course of preventative time-based maintenance provides essential information on asset condition, which, together with risk analysis, informs preventative maintenance strategy and reactive maintenance plans. In 2025, we developed asset class performance analysis to better understand past trends. We also introduced new gas defect notification types to more accurately capture asset failure modes and severity. In addition, the introduction of a dedicated leak detection survey vehicle has improved visibility of asset performance.	Widely used AM standards require that organisations establish, implement and maintain procedure(s) to monitor and measure the performance and/or condition of assets and asset systems. They further set out requirements in some detail for reactive and proactive monitoring, and leading/lagging performance indicators together with the monitoring or results to provide input to corrective actions and continual improvement. There is an expectation that performance and condition monitoring will provide input to improving asset management strategy, objectives and plan(s).	A broad cross-section of the people involved in the organisation's asset-related activities from data input to decision-makers, i.e., an end-to end assessment. This should include contactors and other relevant third parties as appropriate.	Functional policy and/or strategy documents for performance or condition monitoring and measurement. The organisation's performance monitoring frameworks, balanced scorecards etc. Evidence of the reviews of any appropriate performance indicators and the action lists resulting from these reviews. Reports and trend analysis using performance and condition information. Evidence of the use of performance and condition information shaping improvements and supporting asset management strategy, objectives and plan(s).

13(i): Asset management capability, self assessment questions	99	Investigation of asset-related failures, incidents and nonconformities	How does the organisation ensure responsibility and the authority for the handling, investigation and mitigation of asset-related failures, incidents and emergency situations and non conformances is clear, unambiguous, understood and communicated?	3	Asset-related failures are recorded and dealt with through SAP and our Outage Management System (OMS). The incident process, which has been rolled out to all our contractors, requires all incidents to be entered into Resolver (for non-conformance) and/or Safety Manager (for incident review). These will allocate the task of assessing, investigating and closing out the incident. Findings, discussions and reports are tabled at the monthly incident review meeting.	Widely used AM standards require that the organisation establishes, implements and maintains process(es) for the handling and investigation of failures, incidents and non-conformities for assets, and sets down a number of expectations. Specifically, this question examines the requirement to clearly define responsibilities and authorities for these activities, and communicate these unambiguously to relevant people, including external stakeholders if appropriate.	The organisation's safety and environment management team. The team with overall responsibility for the management of the assets. People who have appointed roles within the asset-related investigation procedure, from those who carry out the investigations to senior management who review the recommendations. Operational controllers responsible for managing the asset base under fault conditions and maintaining services to consumers. Contractors and other third parties as appropriate.	Process(es) and procedure(s) for the handling, investigation and mitigation of asset-related failures, incidents and emergency situations and non conformances. Documentation of assigned responsibilities and authority to employees. Job descriptions, audit reports. Common communication systems i.e. all job descriptions on internet etc.
13(i): Asset management capability, self assessment questions	105	Audit	What has the organisation done to establish procedure(s) for the audit of its asset management system (process(es))?	3	Powerco has an internal audit function that addresses the three lines of defence (good management, internal audit, and external audit). The audit function includes review of effectiveness of components of the gas Asset Management Systems. In 2025, the Risk and Insurance team has taken a more active role in scoping audits and responding to findings, alongside external audits of regulatory compliance and AMP disclosure information.	This question seeks to explore what the organisation has done to comply with the standard practice AM audit requirements (eg, the associated requirements of PAS 55 s 4.6.4 and its linkages to s 4.7).	The management team responsible for its asset management procedure(s). The team with overall responsibility for the management of the assets. Audit teams, together with key staff responsible for asset management. For example, asset management director, engineering director. People with responsibility for carrying out risk assessments.	The organisation's asset-related audit procedure(s). The organisation's methodology(s) by which it determined the scope and frequency of the audits and the criteria by which it identified the appropriate audit personnel. Audit schedules, reports etc. Evidence of the procedure(s) by which the audit results are presented, together with any subsequent communications. The risk assessment schedule or risk registers.
13(i): Asset Management Capability, Self Assessment Questions	109	Corrective & Preventative action	How does the organisation instigate appropriate corrective and/or preventive actions to eliminate or prevent the causes of identified poor performance and non conformance?	3	Asset performance management is driven by SAP notifications and influence asset class strategy, and engineering standards. Asset related failures are recorded and dealt with through SAP and our Outage Management System (OMS). More recent improvements include capturing staff observations, findings, discussions and reports at the monthly TPK (Gas Works Planning) meetings. These are incorporated into corrective and preventative maintenance programmes. This informs the decision-making process (which considers for example options, costs, safety compliance, risk, stakeholder needs).	Having investigated asset related failures, incidents and non-conformances, and taken action to mitigate their consequences, an organisation is required to implement preventative and corrective actions to address root causes. Incident and failure investigations are only useful if appropriate actions are taken as a result to assess changes to a businesses risk profile and ensure that appropriate arrangements are in place should a recurrence of the incident happen. Widely used AM standards also require that necessary changes arising from preventive or corrective action are made to the asset management system.	The management team responsible for its asset management procedure(s). The team with overall responsibility for the management of the assets. Audit and incident investigation teams. Staff responsible for planning and managing corrective and preventive actions.	Analysis records, meeting notes and minutes, modification records. Asset management plan(s), investigation reports, audit reports, improvement programmes and projects. Recorded changes to asset management procedure(s) and process(es). Condition and performance reviews. Maintenance reviews

13(i): Asset management capability, self assessment questions	113	Continual improvement	How does the organisation achieve continual improvement in the optimal combination of costs, asset-related risks, and the performance and condition of assets and asset systems across the whole lifecycle?	3.3	Current asset management performance is assessed via our Risk Management Framework audit processes, that inform improvement programmes. Additionally, our service provider arrangements encourage identification of opportunities to reduce costs and improve asset management delivery. Strategies are continually refined to reflect political and market changes, shifting economic conditions, changing consumer behaviour, policy uncertainty, and technology trends. We maintain a lessons-learned register for staff to contribute to. Project close-out meetings include lessons-learned discussions. Recent emphasis on customer focus has also resulted in more customer consultation.	Widely used AM standards have requirements to establish, implement and maintain process(es)/procedure(s) for identifying, assessing, prioritising and implementing actions to achieve continual improvement. Specifically, there is a requirement to demonstrate continual improvement in optimisation of cost risk and performance/condition of assets across the lifecycle. This question explores an organisation's capabilities in this area - looking for systematic improvement mechanisms rather than reviews and audit (which are separately examined).	The top management of the organisation. The manager/team responsible for managing the organisation's asset management system, including its continual improvement. Managers responsible for policy development and implementation.	Records showing systematic exploration of improvement. Evidence of new techniques being explored and implemented. Changes in procedure(s) and process(es) reflecting improved use of optimisation tools/techniques and available information. Evidence of working parties and research.
13(i): Asset management capability, self assessment questions	115	Continual improvement	How does the organisation seek and acquire knowledge about new asset management-related technology and practices, and evaluate their potential benefit to the organisation?	3.2	We seek and acquire knowledge by ensuring that: - We remain active in the Gas NZ and Gas industry Co (GIC) and regularly talk with Ara Ake, equipment suppliers and our peers. - Staff regularly attend conferences and are considered knowledgeable and respected industry specialists. We control and drive improved asset technology on our network. - We continually investigate new technology opportunities with specialist consultants. New technology includes introduction of our leak detection vehicle, network construction equipment, renewable gas technology, and adoption of AI. - We continually work to ensure alignment with ISO: 55001 AM and IAM principles.	One important aspect of continual improvement is where an organisation looks beyond its existing boundaries and knowledge base to look at what 'new things are on the market'. These new things can include equipment, process(es), tools, etc. An organisation which does this (eg, by the PAS 55 s 4.6 standards) will be able to demonstrate that it continually seeks to expand its knowledge of all things affecting its asset management approach and capabilities. The organisation will be able to demonstrate that it identifies any such opportunities to improve, evaluates them for suitability to its own organisation and implements them as appropriate. This question explores an organisation's approach to this activity.	The top management of the organisation. The manager/team responsible for managing the organisation's asset management system, including its continual improvement. People who monitor the various items that require monitoring for 'change'. People that implement changes to the organisation's policy, strategy, etc. People within an organisation with responsibility for investigating, evaluating, recommending and implementing new tools and techniques, etc.	Research and development projects and records, benchmarking and participation knowledge exchange, professional forums. Evidence of correspondence relating to knowledge acquisition. Examples of change implementation and evaluation of new tools, and techniques linked to asset management strategy and objectives.

Company Name	Powerco Limited
For Year Ended	30 September 2025

Schedule 14a: Mandatory explanatory notes on forecast information

1. This schedule requires GDBs to provide explanatory notes to reports prepared in accordance with clause 2.6.6.
2. This schedule is mandatory – GDBs must provide the explanatory comment specified below, in accordance with clause 2.7.2. This information is not part of the audited disclosure information, and so is not subject to the assurance requirements specified in section 2.8.

Commentary on difference between nominal and constant price capital expenditure forecasts (Schedule 11a)

3. In the box below, comment on the difference between nominal and constant price capital expenditure for the current disclosure year and the 10-year planning period, as disclosed in Schedule 11a.

Box 1: Commentary on difference between nominal and constant price capital expenditure forecasts

The index used to translate nominal $ forecasts into constant $ forecasts is the Statistics NZ CPI (All Groups). The CPI index applied is the annual average rate of increase based on the CPI index predictions included in the NZIER Quarterly Predictions from June 2025.

For example, the index used for the year ending 30 September 2025 is based on the annual average movement using CPI predictions (actuals where available) as follows:

(Q1 RY26 + Q2 RY26 + Q3 RY26 + Q4 RY26) / (Q1 RY25 + Q2 RY25 + Q3 RY25 + Q4 RY25).

Commentary on difference between nominal and constant price operational expenditure forecasts (Schedule 11b)

4. In the box below, comment on the difference between nominal and constant price operational expenditure for the current disclosure year and the 10-year planning period, as disclosed in Schedule 11b.

Box 2: Commentary on difference between nominal and constant price operational expenditure forecasts

The index used to translate nominal $ forecasts into constant $ forecasts is the Statistics NZ CPI (All Groups). The CPI index applied is the annual average rate of increase based on the CPI index predictions included in the NZIER Quarterly Predictions from June 2025.

For example, the index used for the year ending 30 September 2025 is based on the annual average movement using CPI predictions (actuals where available) as follows:

(Q1 RY26 + Q2 RY26 + Q3 RY26 + Q4 RY26) / (Q1 RY25 + Q2 RY25 + Q3 RY25 + Q4 RY25).

Appendix 4 – General network risk issues

In this appendix, for each hazard in the table below, we describe the risks associated, their controls, and the risk level after mitigation.

Hazards	Details
Gas release	Gas is released into the atmosphere (this is associated with the loss of structural integrity).
Gas release in an insufficient ventilated space	Gas is released and reaches a critical concentration that can cause asphyxiation or has the potential to be ignited if an energy source is present.
Fire and explosion	Gas is released, reaches a critical concentration, and an additional energy source is present (i.e. ignition source).
Electricity	People are harmed because of the use of electrical equipment (e.g. SCADA cabinet) or the presence of stray currents on metallic pipes.
Pneumatic energy	The gas conveyed through the network is pressurised.
Third-party interference	Assets are damaged or operated by an unauthorised person, including vandalism.
Environmental conditions and natural disasters	Assets are damaged during earthquakes, volcanic eruptions, lahars, thunderstorms, flooding, tsunami, or landslides.
Heights	People are harmed by falling, slipping, or tripping on the asset.
Hazardous material	Assets are made of hazardous material.
Confined spaces	Assets are located in a confined space.

Risks are rated against six levels that are dependent on their likelihood and their consequence, as per the following table.

		Consequence						
		1. Negligible	**2. Minor**	**3. Moderate**	**4. Serious**	**5. Major**	**6. Severe**	**7. Catastrophic**
Likelihood	10. Daily	Low	Medium	Extreme	Extreme	Extreme	Extreme	Extreme
	9. Weekly	Low	Low	Very High	Extreme	Extreme	Extreme	Extreme
	8. Monthly	Very Low	Low	High	Very High	Extreme	Extreme	Extreme
	7. Probable	Very Low	Very Low	Medium	High	Very High	Extreme	Extreme
	6. Possible	Very Low	Very Low	Medium	High	High	Very High	Extreme
	5. Unlikely	Very Low	Very Low	Low	Medium	High	Very High	Extreme
	4. Rare	Very Low	Very Low	Low	Medium	Medium	High	Very High
	3. Improbable	Very Low	Very Low	Low	Low	Medium	High	Very High
	2. Highly improbable	Very Low	Very Low	Very Low	Low	Low	Medium	High
	1. Barely credible	Very Low	Very Low	Very Low	Very Low	Low	Low	Medium

Appendix 4.1 – Risks associated with gas release

#	Risk	Description	Controls	Controlled likelihood	Controlled consequence	Controlled risk
1	Gas Measurement System (GMS) equipment venting	Over pressure on the inlet that causes physical damage to the equipment.	- Over pressure protection installed at GMS. - Regulators and GMS settings, inspection and maintenance plans.	3. Improbable	3. Moderate	Low
2	Faulty GMS equipment	Due to a fault (e.g. seat or diaphragm failure), GMS equipment releases gas.	- Equipment choice (token relief or full release equipment or over pressure shut off – OPSO). - Regular inspection and maintenance of venting equipment.	4. Rare	2. Minor	Very Low
3	Contamination	Presence of contamination on the network preventing the good operation of regulators.	- Equipment choice (filter, OPSO, token relief or full release equipment). - Regulator maintenance on GMS and district regulator station – DRS (filter inspection). - Construction procedures.	3. Improbable	2. Minor	Very Low
4	DRS equipment venting	Over pressure on the inlet that causes physical damage to the equipment.	- Equipment rating. - Pressure control and protection on upstream networks. - Regulators and DRS settings, inspection, and maintenance plans. - Operational agreement with the Transmission System Operator (TSO).	3. Improbable	3. Moderate	Low
5	Faulty DRS equipment	Due to a fault (e.g. seat or diaphragm failure), DRS equipment releases gas.	- Equipment choice (OPSO, token relief or full release equipment). - Regular inspection and maintenance of equipment.	3. Improbable	3. Moderate	Low
6	Corrosion on Intermediate Pressure (IP) steel pipeline	Leak on an IP steel pipeline because of corrosion.	- Wall thickness. - Corrosion protection (wrapping, cathodic protection – CP). - Safety and operating plan (design/maintenance/response and recovery criteria).	5. Unlikely	3. Moderate	Low

#	Risk	Description	Controls	Controlled likelihood	Controlled consequence	Controlled risk
7	Corrosion on Medium Pressure (MP) or Low Pressure (LP) steel pipeline	Leak on an MP or LP steel pipeline because of corrosion.	- Wall thickness. - Corrosion protection (wrapping, CP). - Safety and operating plan (design/maintenance/response and recovery criteria).	7. Probable	2. Minor	Very Low
8	Deterioration on PE80 pipeline	Leak on a polyethylene (PE) pipeline because of wear or brittle material.	- Safety and operating plan (design/maintenance/response and recovery criteria). - Pre-85 replacement plan.	3. Improbable	4. Serious	Low
9	Deterioration on PE100 pipeline	Leak on a PE pipeline because of wear or brittle material.	- Safety and operating plan (design/maintenance/response and recovery criteria). - Wall thickness. - Material choice.	3. Improbable	4. Serious	Low
10	Slow plastic deformation of a PE pipeline	Leak on a PE pipeline because of deformation related to pressure cycles.	- Safety and operating plan (design/maintenance/response and recovery criteria). - Material choices.	2. Highly improbable	2. Minor	Very Low
11	Sudden deformation of a PE pipeline	Leak on a PE pipeline because of over pressure on the network creating a permanent deformation of the pipe.	- Material choice (pipe rating). - DRS design, maintenance, and inspection to prevent over pressure.	2. Highly improbable	4. Serious	Low
12	Squeeze-off on PE pipeline	Leak on a PE pipeline because of a plastic deformation following a squeeze-off.	- Safety and operating plan (design/maintenance/response and recovery criteria). - Pre-85 replacement plan. - Defect process. - Squeeze-off minimisation – e.g. limited squeeze-off on PE pipe >100mm.	8. Monthly	2. Minor	Low

#	Risk	Description	Controls	Controlled likelihood	Controlled consequence	Controlled risk
13	Stress point failure on pipeline	Leak on a PE pipeline because of stones, vegetation, other utilities etc.	- Backfill material. - Clearance standards. - Stand-over, work permit and preparation standards.	8. Monthly	2. Minor	Low
14	Compression mechanical joint degradation	Leak on a compression mechanical joint because of age and stress (evaluating older joints, anything newer is of lower risk).	- Construction standards recommending electro-fusion, flange joints, fully automatic butt joining and the limitation of joints. - Replacement practice for mechanical joints. - Safety and operating plan (design/maintenance/response and recovery criteria). Note: Do not allow mechanical compression couplings.	3. Improbable	4. Serious	Low
15	Plastic fused joint degradation	Leak at plastic fused joint because of age and stress.	- Jointing techniques and procedures, including strength and pressure testing.	3. Improbable	4. Serious	Low
16	Steel welded joint degradation	Leak at steel welded joint because of poor quality or degradation.	- Jointing techniques and procedures, including non-destructive testing, strength, and pressure testing. - Safety and operating plan (design/maintenance/response and recovery criteria). - Regulatory compliance.	3. Improbable	4. Serious	Low
17	Electro-fusion joint degradation	Leak at plastic electro-fusion joint.	- Jointing techniques and procedures, including pressure testing. - Safety and operating plan (design/maintenance/response and recovery criteria).	3. Improbable	4. Serious	Low
18	Valve degradation	Leak at a valve because of wear or age.	- Regular inspection and lubrication. - Safety and operating plan (design/maintenance/response and recovery criteria).	8. Monthly	2. Minor	Low

#	Risk	Description	Controls	Controlled likelihood	Controlled consequence	Controlled risk
19	Third-party damage on IP pipeline	Leak on a network asset running at IP after third-party damage (TPD). The asset does not leak at the time, a dent is made on the pipeline or there is damage to the coating.	- Location and record of below ground assets. - Depth of burial. - Wall thickness. - Signage. - TPD prevention. - Standovers. - Safety and operating plan (design/maintenance/response and recovery criteria).	4. Rare	3. Moderate	Low
20	Third-party damage on IP pipeline	TPD on IP pipeline causes immediate minor leak.	- Location and record of below ground assets. - Network material. - Depth of burial. - Signage. - TPD prevention and site support. - Standovers. - Safety and operating plan (design/maintenance/response and recovery criteria).	3. Improbable	4. Serious	Low
21	Third-party damage on LP or MP	Leak on a network asset running at LP or MP after TPD. The asset does not leak at the time, a dent is made on the pipeline or there is damage to the coating.	- Location and record of below ground assets. - Depth of burial. - Physical protection. - Signage. - TPD prevention.	8. Monthly	2. Minor	Low

Appendix 4.2 – Risks associated with gas release in an insufficient ventilated space

#	Risk	Description	Controls	Controlled likelihood	Controlled consequence	Controlled risk
1	Undetected gas release by venting (see gas release)	An equipment vents gas that is not detected until it reaches high concentration in air.	- Gas odorisation. - Regulators, DRS, and equipment maintenance. - Response time to emergency. - Public education, including signage on gas assets and retailer safety messages. - Discharge point design.	3. Improbable	4. Serious	Low
2	Enclosed spaces	Natural gas leaks or travels to an insufficiently ventilated enclosed space where it accumulates and subsequently causes asphyxiation.	- Gas odorisation. - Location standards. - Discharge point design. - Leak survey.	3. Improbable	5. Major	Medium
3	Unenclosed spaces	Natural gas leaks or travels to an insufficiently ventilated unenclosed space where it accumulates and subsequently causes asphyxiation.	- Gas odorisation. - Location standards. - Pressure protection equipment. - Leak survey.	3. Improbable	4. Serious	Low
4	Gas outage	Gas supply reinstated to the customer without checking the effective operation of the downstream equipment.	- Outage and relight management plan (shutdown supply, doorknob notices etc). - Safety and operating plan (emergency response and recovery criteria).	2. Highly improbable	4. Serious	Low

Appendix 4.3 – Risks associated with fire and explosion

#	Risk	Description	Controls	Controlled likelihood	Controlled consequence	Controlled risk
1	Ignition source	Gas explosion caused by any ignition source introduced to an explosive condition (approx. 5 to 15% gas: air).	- Network materials. - Network design standards. - Pressure protection. - Odorisation. - Clearance around gas equipment. - Signage on gas assets. - Safety and operating plan (design/maintenance/response and recovery criteria).	2. Highly improbable	7. Catastrophic	High
2	Naked flame	Uncontrolled gas fire caused by any ignition source.	- Network materials and network design standards. - Odorisation. - Signage on gas assets. - Public education.	3. Improbable	5. Major	Medium
3	Step touch potential difference	The potential difference between the assets and workers acts as an ignition source.	- Usage of equipotential mats. - Bonding continuity on assets. - Safety and operating plan (design/maintenance/response and recovery criteria). - Regulations and standards NZECP.	2. Highly improbable	5. Major	Low

Appendix 4.4 – Risks associated with electricity

#	Risk	Description	Controls	Controlled likelihood	Controlled consequence	Controlled risk
1	Stray and inducted currents	Electric shock caused by low frequency induction (LFI) on a steel pipeline.	- Design standards. - Procedures to work on steel pipelines at risk. - Installation of earthing assets. - Installation of isolation points. - Safety and operating plan (design/maintenance/response and recovery criteria).	3. Improbable	4. Serious	Low
2	Stray and inducted currents	Electric shock from earth potential rise (EPR).	- Procedures to work on steel pipelines at risk. - Coating standards. - Electrical standards. - Safety and operating plan (design/maintenance/response and recovery criteria).	4. Rare	5. Major	Medium
3	Live lines	Electrocution caused by live line coming in direct contact with above ground asset.	- Clearance standards. - Asset location. - Signage. - Safety and operating plan (design/maintenance/response and recovery criteria). - Regulation NZECP34.	3. Improbable	5. Major	Medium
4	Electrical appliances	Electrical appliances bonded to the network by electrician.	- Electrical isolation of the network. - Bonding procedures.	3. Improbable	4. Serious	Low
5	Electrical network equipment	Presence of electrical equipment on the network (e.g. SCADA).	- Construction to standards. - Usage of competent electrician. - Signage.	3. Improbable	4. Serious	Low

Appendix 4.5 – Risks associated with pneumatic energy

#	Risk	Description	Controls	Controlled Likelihood	Controlled Consequence	Controlled Risk
1	Asset failure	The pressure within the network causes asset to fail and to act as a projectile.	- Material standards. - Isolation procedures. - Physical protection. - Choice of operating pressure. - Safety and operating plan (design/maintenance/response and recovery criteria). - Testing standards. Note: Higher the pressure the greater the risk.	4. Rare	5. Major	Medium

Appendix 4.6 – Risks associated with third-party interference

#	Risk	Description	Controls	Controlled likelihood	Controlled consequence	Controlled risk
1	Third-party excavations (LP or MP pipeline)	TPD on LP or MP pipeline causes an immediate leak.	- TPD prevention plan. - Plan issues. - Odorisation. - Site location and records. - Separation. - Signage.	9. Weekly	2. Minor	Low
2	Third-party excavations (IP pipeline)	Hit on below ground asset running at IP by machinery (e.g. digger) leading to a pipeline rupture.	- TPD prevention plan. - Work permits, standovers, plan issues. - Location and records. - Separation. - Signage.	4. Rare	5. Major	Medium

#	Risk	Description	Controls	Controlled likelihood	Controlled consequence	Controlled risk
3	Third-party excavations (IP pipeline)	TPD on IP pipeline causes immediate minor leak.	- TPD prevention plan. - Work permits, standovers, plan issues. - Location and records. - Physical protection. - Separation. - Signage.	3. Improbable	4. Serious	Low
4	Vehicles	Live gas asset damage caused by vehicle impact.	- Location. - Physical protection. - Pipe material. - Safety and operating plan (design/maintenance/response and recovery criteria).	6. Possible	2. Minor	Very Low
5	Usage of tools	Hit on below ground asset by tools.	- TPD prevention plan. - Work permits, standovers, plan issues. - Depth of burial. - Physical protection. - Separation. - Signage.	8. Monthly	2. Minor	Low
6	Light vehicles	Hit on above ground asset by a 'light' vehicle (e.g. cyclist).	- Location. - Physical protection. - Pipe material.	3. Improbable	2. Minor	Very Low
7	Vandalism	Assets damaged by vandalism.	- Location. - Physical protection and locks. - Pipe material. - Security check as part of maintenance inspections. - SCADA monitoring. - Safety and operating plan – SAOP (design/maintenance/criteria).	6. Possible	1. Negligible	Very Low
8	Terrorism	Assets damaged in a terrorist action.	- Physical protection. - Emergency management plan.	1. Barely credible	6. Severe	Low

#	Risk	Description	Controls	Controlled likelihood	Controlled consequence	Controlled risk
9	Vegetation	Vegetation damaging assets.	- Location. - Physical protection. - Safety and operating plan (design/maintenance/response and recovery criteria).	5. Unlikely	2. Minor	Very Low
10	Landslips and rock falls	Foreign objects falling on above ground assets.	- Location. - Design (e.g. crib walls, retaining walls, material selection).	4. Rare	2. Minor	Very Low
11	Other utilities	Water leak blasting on below ground assets.	- Clearance from other utilities.	4. Rare	3. Moderate	Low
12	Access to an asset	Intrusion into an asset site and operation.	- Physical protection and locks. - Usage of special tools.	2. Highly improbable	3. Moderate	Very Low
13	Other assets in the vicinity	Other asset owner changing the operating conditions (e.g. gate station pressure) or altering asset configuration.	- SCADA monitoring. - Physical protection and locks.	2. Highly improbable	5. Major	Low
14	Operator error	Network configuration (e.g. pressure) altered because of an operator error.	- Works procedures. - Training.	4. Rare	2. Minor	Very Low
15	Incorrect information	Network information is wrong and leads to a wrong operation.	- Network records management.	3. Improbable	2. Minor	Very Low
16	Uneven ground	Uneven ground or surface because of the presence of assets (e.g. valve lid).	- Inspections as part of the maintenance programme.	5. Unlikely	3. Moderate	Low

Appendix 4.7 – Risks associated with environmental conditions and natural disasters

#	Risk	Description	Controls	Controlled likelihood	Controlled consequence	Controlled risk
1	Asset crossing fault line	Harm caused by ruptured asset crossing fault line.	- Pipe material. - Pipeline route assessment. - Emergency response plan.	2. Highly improbable	6. Severe	Medium
2	Earth movement during an earthquake	Asset gets damaged by the earth movement.	- Material choice at design stage. - Emergency response plan.	4. Rare	3. Moderate	Low
3	External damage during an earthquake	Foreign objects falling on and damaging above ground assets.	- Physical protection. - Clearances. - Emergency response plan.	7. Probable	2. Minor	Very Low
4	Liquefaction	Liquefaction after an earthquake causing network displacement.	- Anchoring. - Emergency response plan.	4. Rare	2. Minor	Very Low
5	Volcanic eruption	Foreign objects and/or ashes falling on above ground assets.	- Physical protection. - Clearances. - Emergency response plan.	2. Highly improbable	2. Minor	Very Low
6	Lahar	Above ground assets damaged by lahars	- Construction standards. - Isolation valves. - Bridge inspections.	2. Highly improbable	2. Minor	Very Low
7	Lightning	Electrocution caused by lightning travelling on steel pipeline.	- Earthing. - Procedures (weather awareness and stop work).	2. Highly improbable	5. Major	Low
8	Flooding	Above ground or below ground assets damaged by flooding.	- Physical protection (above ground assets). - Clearance and location. - Material choice (steel crossings). - Safety and operating plan (design/maintenance/response and recovery criteria).	6. Possible	2. Minor	Very Low

#	Risk	Description	Controls	Controlled likelihood	Controlled consequence	Controlled risk
9	Tsunami	Above ground asset damaged and below ground assets flooded.	- Location. - Emergency response plan.	3. Improbable	4. Serious	Low
10	Ground movement by erosion/weather	Assets damaged by ground movement.	- Below ground asset design standards. - Response and recovery.	7. Probable	2. Minor	Very Low

Appendix 4.8 – Risks associated with heights

#	Risk	Description	Controls	Controlled likelihood	Controlled consequence	Controlled risk
1	Above ground assets in the public space	Assets can be unnoticed because of their location.	- Location. - Physical protection.	5. Unlikely	3. Moderate	Low
2	Asset with sharp edge	Assets might have sharp edges that can lead to harm to the public.	- Physical protection. - Assets buried. - Inspections as part of the maintenance programme.	5. Unlikely	3. Moderate	Low

Appendix 4.9 – Risks associated with hazardous material

#	Risk	Description	Controls	Controlled likelihood	Controlled consequence	Controlled risk
1	Asset is made of hazardous material	The asset is made of hazardous material. Contractors can be exposed if they work on the asset.	- Material standards. - Hazard maps. - Operational procedures. - Hazard identification process. - Signage. - Issued plans.	3. Improbable	5. Major	Medium
2	Exposure to hazardous materials	The asset location (owned or third-party) may contain hazardous materials. Contractors can be exposed if they work on the asset.	- Safety and operating plan (design/maintenance/response and recovery criteria). - Existing registers.	2. Highly improbable	5. Major	Low
3	Duct made of hazardous material	Harm from inhalation or ingestion of hazardous material from exposed duct.	- Material standards. - Hazard maps. - Operational procedures. - Record management (hazardous material is recorded in GIS). - Hazard identification process. - Information to the wider public, including plan issuing.	3. Improbable	5. Major	Medium

Appendix 4.10 – Risks associated with confined spaces

#	Risk	Description	Controls	Controlled likelihood	Controlled consequence	Controlled risk
1	Exposure to a toxic atmosphere, or fluid engulfment in a confined space or confined location(s)	Harm from exposure to a toxic atmosphere or fluid engulfment in a confined space or location with restricted ingress or egress options.	- Location standards, including access restriction. - Hazard identification process. - Work instructions and specific PPE. - Gas asset class strategy/valves. - Design and engineering of controls would reduce risk, not comfortable that controls are operating as expected. - Operational procedures. - Hazard maps.	4. Rare	6. Severe	High

Appendix 5 – Information disclosure sub-network correlation

In the Gas Distribution Information Disclosure Determination 2012 (IDD), Powerco is required to disclose, for each sub-network, the network configuration. The term 'sub-network' has been defined for Powerco to refer to two specific sub-networks.

1. Lower Network: Wellington, and Hutt Valley & Porirua network assets; and
2. Central Network: Taranaki, Manawatū, and Hawke's Bay network assets.

For the purposes of this AMP, we have network configurations (refer to Table 5.1). Figures in Table 5.1 are as at 30 June 2025.

Our gas network boundaries include the Wellington, Hutt Valley, Porirua, Taranaki, Manawatū, and Hawke's Bay regions, as shown in Figure 5.1. This represents how our network assets are managed within our Asset Management System. The sub-network configurations based on these regions are shown in Table 5.1.

Figure 5.1: Powerco gas distribution network boundary

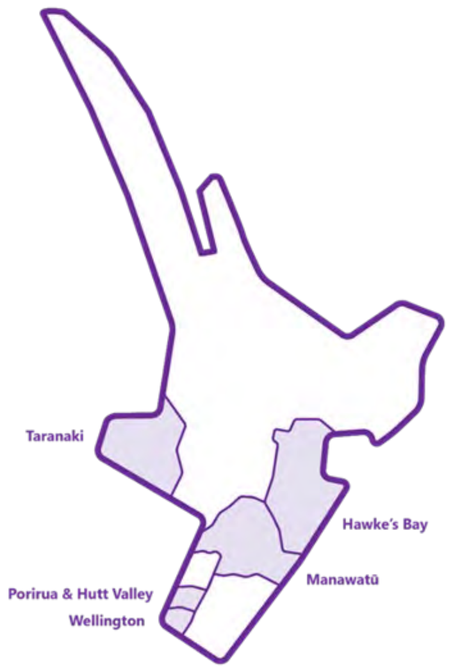


Table 5.1: Sub-network configurations

	Lower Network			Central Network				
Asset class	Wellington	Hutt Valley & Porirua	Subtotal	Taranaki	Manawatū	Hawke's Bay	Subtotal	Total
Main pipes (km)	698	1247	1944	931	845	410	2186	**4130**
Service pipes (km)	486	523	1010	417	633	110	1160	**2169**
Line valves	613	767	1380	350	415	273	1038	**2418**
Stations	47	45	92	22	56	11	89	**181**
Special crossings	27	115	142	101	63	53	217	**359**
Cathodic protection systems	14	26	40	20	28	5	53	**93**
SCADA systems	16	22	38	12	20	6	38	**76**

Appendix 6 – Network maps by region

Below are the accompanying tables for the network maps. There is a table for each region, and each entry pertains to a separate map.

The customer data is accurate to the end of June 2025, while network length and gas gate date is accurate to the end of RY24 (30/09/2024).

Major customers, displayed in red on each map, are defined as any customer of Load Group G30/G40 or Load Shedding Code 5/7.

6.1 Wellington region networks

Network (gas gate)	Description and major customers	Number of customers per type		Total network length by pressure range (km)		Maximum gas gate load (GJ/h)	Gas gate annual volume (TJ)
Tawa A	City network supplying a wide range of customers, from residential to large industrials.	Res./sml. com.	31480	IP	32.3	726.1	1936.8
		Commercial	806	MP	1149.2		
		Industrial	13	LP	1.3		

6.2 Hutt Valley & Porirua region networks

Network (gas gate)	Description and major customers	Number of customers per type		Total network length by pressure range (km)		Maximum gas gate load (GJ/h)	Gas gate annual volume (TJ)
Belmont	City network supplying the whole Hutt Valley region, including the industrial areas in Seaview.	Res./sml. com.	24793	IP	99.2	458.7	1249.7
		Commercial	614	MP	1203.8		
		Industrial	11	LP	0.7		
Waitangirua & Pāuatahanui 1	City network supplying the northern part of the Wellington region, including Tawa, Porirua and Paremata. Both gas gates are linked in Paremata.	Res./sml. com.	8287	IP	32.0	133.7 & 43	370.3
		Commercial	195	MP	433.2		
		Industrial	6	LP	0.1		
Pāuatahanui 2 (Horsefield)	Rural network supplying residential consumers.	Res./sml. com.	4	IP	0.0	0.2	0.3
		Commercial	0	MP	0.3		
		Industrial	0	LP	0.0		

6.3 Manawatū regional networks

Network (gas gate)	Description and major customers	Number of customers per type		Total network length by pressure range (km)		Maximum gas gate load (GJ/h)	Gas gate annual volume (TJ)
Ashhurst	A small-town network supplying residential and commercial customers, including a large pet crematorium.	Res./sml. com.	264	IP	0.0	5.4	10.0
		Commercial	7	MP	28.0		
		Industrial	0	LP	0.0		
Dannevirke	A small-town network also feeding a sawmill, retirement village and an abattoir.	Res./sml. com.	92	IP	3.4	19.2	51.0
		Commercial	14	MP	17.9		
		Industrial	2	LP	0.0		
Feilding	A network supplying two towns, agricultural processing, an abattoir and an Air Force Base.	Res./sml. com.	1710	IP	0.1	60.7	203.6
		Commercial	58	MP	191.4		
		Industrial	6	LP	0.0		
Foxton	A small-town network feeding a poultry farm.	Res./sml. com.	233	IP	1.4	13.4	30.6
		Commercial	9	MP	35.1		
		Industrial	1	LP	0.1		
Kairanga	A small rural network feeding only residential customers.	Res./sml. com.	5	IP	0.0	11.9	0.8
		Commercial	0	MP	2.0		
		Industrial	0	LP	0.0		
Kākāriki	A rural network supplying a meat works.	Res./sml. com.	1	IP	0.0	20.5	87.4
		Commercial	1	MP	10.3		
		Industrial	1	LP	0.0		
Levin	A town network with several large commercial and industrial consumers.	Res./sml. com.	2574	IP	0.0	70.3	246.2
		Commercial	69	MP	235.0		
		Industrial	3	LP	0.1		
Longburn	A small-town network also feeding a number of industrial consumers, a prison and an army base.	Res./sml. com.	328	IP	8.9	54.5	195.1
		Commercial	6	MP	29.2		
		Industrial	7	LP	0.0		
Mangatainoka	A rural network supplying a brewery that is currently out of service. Gas gate to be decommissioned FY26.	Res./sml. com.	0	IP	0.0	0.0	0.0
		Commercial	0	MP	1.2		
		Industrial	0	LP	0.0		

Network (gas gate)	Description and major customers	Number of customers per type		Total network length by pressure range (km)		Maximum gas gate load (GJ/h)	Gas gate annual volume (TJ)
Oroua Downs	A rural network supplying a large commercial nursery.	Res./sml. com.	2	IP	0.0	10.2	6.8
		Commercial	1	MP	3.7		
		Industrial	0	LP	0.0		
Pahiatua	A small-town network also supplying a large dairy factory and retirement village.	Res./sml. com.	106	IP	0.0	2.5	7.1
		Commercial	8	MP	13.5		
		Industrial	0	LP	0.0		
Palmerston North	City network supplying a wide range of consumers, from residential to large industrials.	Res./sml. com.	14787	IP	12.3	276.8	760.4
		Commercial	342	MP	879.0		
		Industrial	6	LP	0.6		
Takapau	A rural network supplying a single meat works.	Res./sml. com.	0	IP	4.0	24.3	94.5
		Commercial	0	MP	0.0		
		Industrial	1	LP	0.0		

6.4 Taranaki regional networks

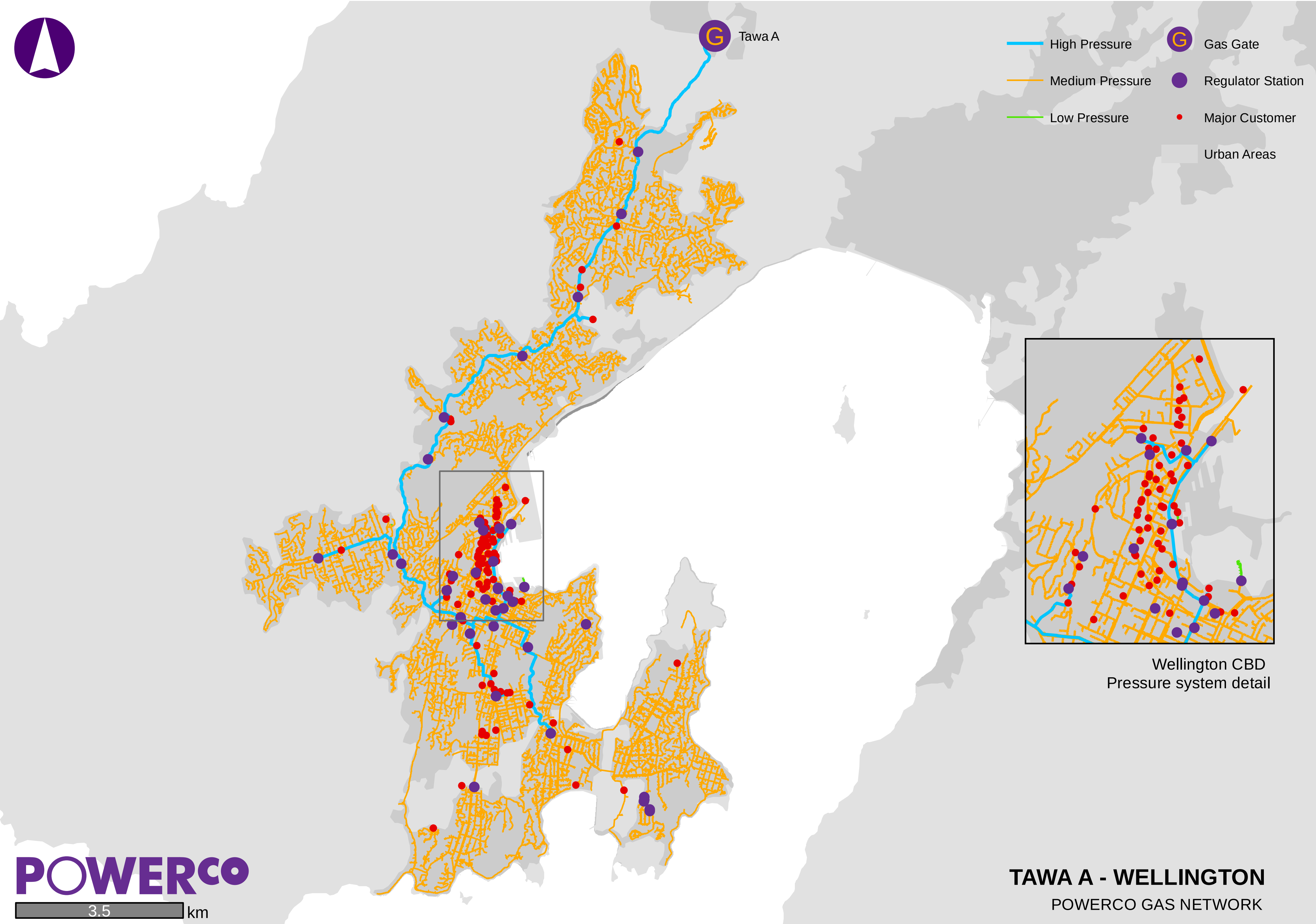
Network (gas gate)	Description and major customers	Number of customers per type		Total network length by pressure range (km)		Maximum gas gate load (GJ/h)	Gas gate annual volume (TJ)
Eltham	Small township network supplying large industrial customers: Two dairy factories and one abattoir.	Res./sml. com.	335	IP	1.6	39.6	142.9
		Commercial	9	MP	30.6		
		Industrial	3	LP	0.0		
Hāwera	A network feeding two towns and a large dairy site outside Hāwera.	Res./sml. com.	2840	IP	3.9	96.0	199.9
		Commercial	38	MP	174.9		
		Industrial	2	LP	0.0		
Inglewood	Town network supplying residential customers.	Res./sml. com.	719	IP	0.0	13.4	29.5
		Commercial	11	MP	49.2		
		Industrial	0	LP	0.0		
Kaponga	Township network supplying residential consumers.	Res./sml. com.	59	IP	0.0	0.7	1.2
		Commercial	1	MP	5.9		
		Industrial	0	LP	0.0		

Network (gas gate)	Description and major customers	Number of customers per type		Total network length by pressure range (km)		Maximum gas gate load (GJ/h)	Gas gate annual volume (TJ)
Kāpuni	Very small township network supplying a dairy factory.	Res./sml. com.	3	IP	0.4	7.3	29.9
		Commercial	1	MP	1.6		
		Industrial	1	LP	0.0		
Manaia	Small township network supplying Ōkaiawa, Manaia and an industrial bakery.	Res./sml. com.	258	IP	0.0	3.5	9.3
		Commercial	0	MP	29.6		
		Industrial	1	LP	0.0		
Matapū	Rural network supplying farming installations.	Res./sml. com.	4	IP	0.0	N/A	0.4
		Commercial	1	MP	2.0		
		Industrial	0	LP	0.0		
New Plymouth	City network supplying a wide range of customers, from residential to large industrials.	Res./sml. com.	12396	IP	17.4	229.2	739.2
		Commercial	241	MP	713.8		
		Industrial	8	LP	0.8		
Ōākura	Small township network supplying residential consumers.	Res./sml. com.	382	IP	0.0	6.8	10.6
		Commercial	6	MP	22.9		
		Industrial	0	LP	0.0		
Ōkato	Small township network supplying residential consumers.	Res./sml. com.	76	IP	0.0	1.4	1.7
		Commercial	2	MP	9.1		
		Industrial	0	LP	0.0		
Ōpunake	Township network with a small number of residential and commercial customers.	Res./sml. com.	210	IP	0.0	3.4	8.1
		Commercial	15	MP	27.0		
		Industrial	0	LP	0.0		
Pātea	Small township network supplying an industrial greenhouse.	Res./sml. com.	180	IP	0.0	9.3	12.9
		Commercial	1	MP	18.4		
		Industrial	1	LP	0.0		
Pungarehu 1	Rural network supplying two ICPs since the dairy plant shut down.	Res./sml. com.	16	IP	0.0	N/A	0.4
		Commercial	1	MP	0.2		
		Industrial	0	LP	0.0		
Pungarehu 2	Very small township network built to supply a dairy plant that has since closed.	Res./sml. com.	2	IP	0.0	0.9	0.1
		Commercial	0	MP	7.4		
		Industrial	0	LP	0.0		
Stratford		Res./sml. com.	1092	IP	5.4	23.1	75.6

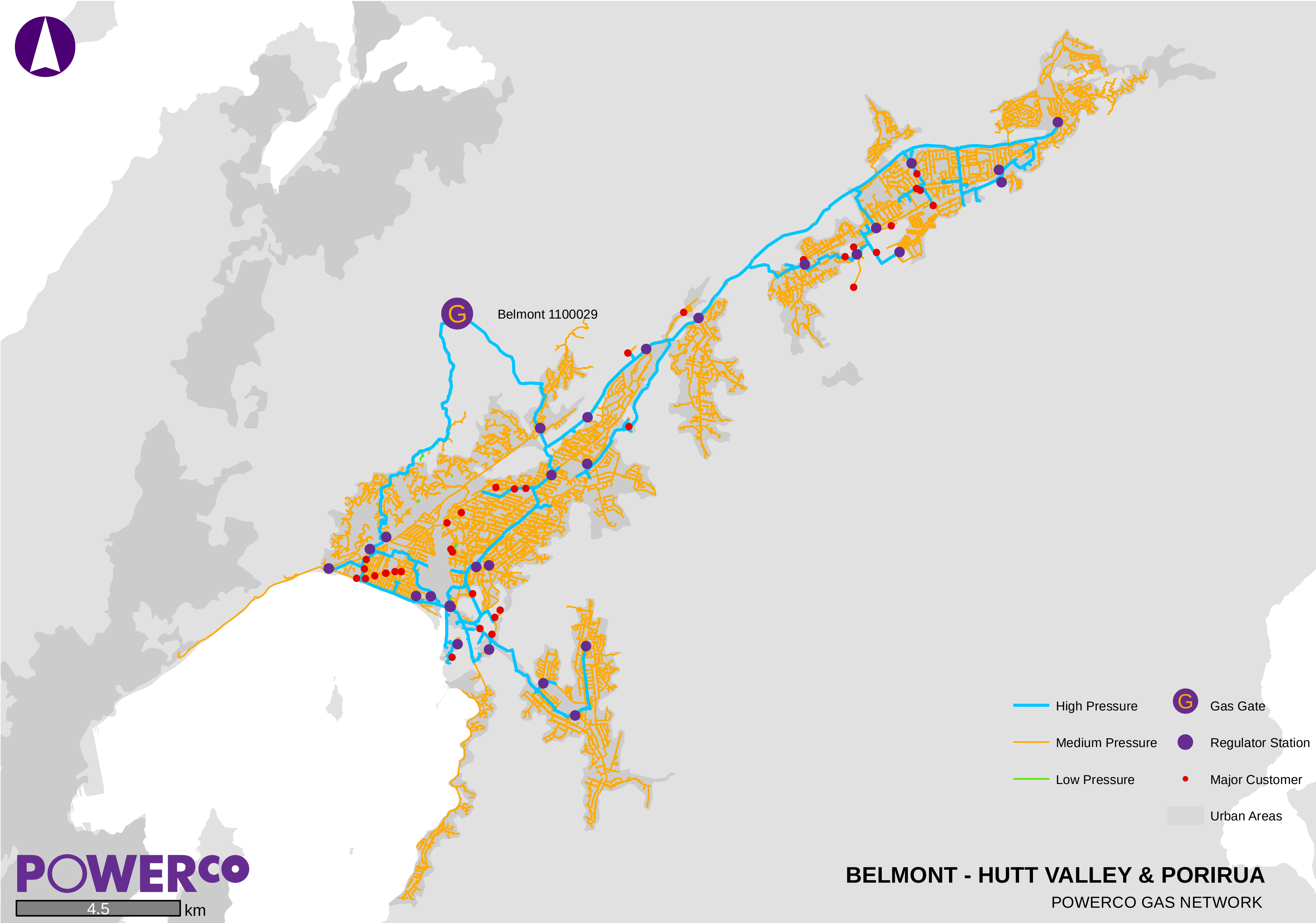
Network (gas gate)	Description and major customers	Number of customers per type		Total network length by pressure range (km)		Maximum gas gate load (GJ/h)	Gas gate annual volume (TJ)
	Small town network supplying residential and small commercial consumers, as well as an abattoir on the outskirts of town.	Commercial	28	MP	98.4		
		Industrial	2	LP	0.0		
Waitara	Small town network with high density residential area (subdivisions) supplying a major food processing plant and the township of Lepperton.	Res./sml. com.	1279	IP	5.8	29.3	93.0
		Commercial	35	MP	114.1		
		Industrial	1	LP	0.0		
Waverley	Very small township network.	Res./sml. com.	8	IP	0.0	0.2	0.2
		Commercial	1	MP	6.1		
		Industrial	0	LP	0.0		

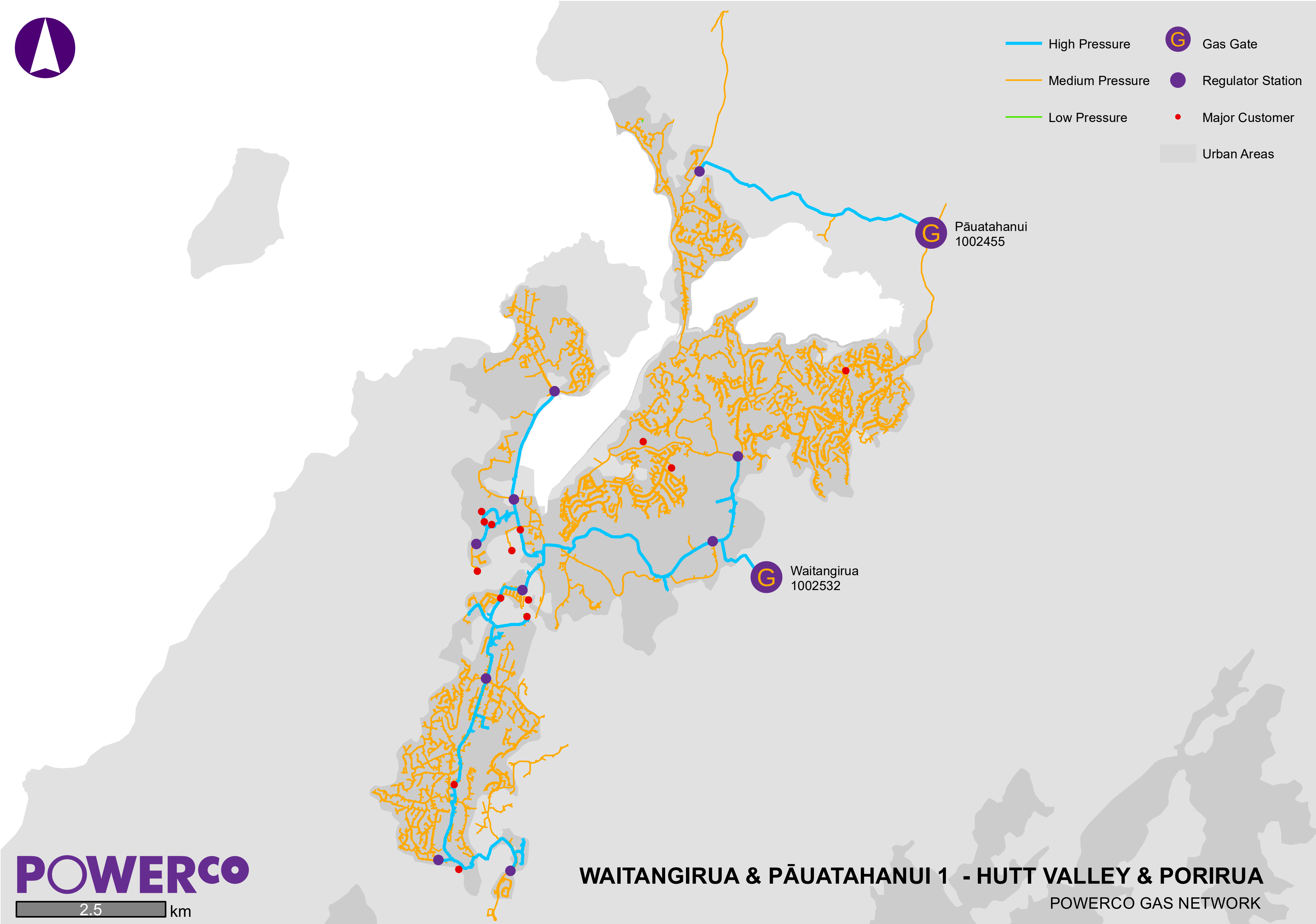
6.5 Hawke's Bay regional networks

Network (gas gate)	Description and major customers	Number of customers per type		Total network length by pressure range (km)		Maximum gas gate load (GJ/h)	Gas gate annual volume (TJ)
Hastings	Network supplying a large number of industrial and large commercial customers as well as the cities of Hastings and Napier.	Res./sml. com.	5150	IP	43.2	410.1	1657.1
		Commercial	380	MP	468.5		
		Industrial	20	LP	8.5		



Tawa A
High Pressure
Medium Pressure
Low Pressure
Gas Gate
Regulator Station
Major Customer
Urban Areas
Wellington CBD
Pressure system detail
TAWA A - WELLINGTON
POWERCO GAS NETWORK
POWERCO
3.5
km


Belmont 1100029
High Pressure
Medium Pressure
Low Pressure
Gas Gate
Regulator Station
Major Customer
Urban Areas
4.5 km
POWERCO
BELMONT - HUTT VALLEY & PORIRUA
POWERCO GAS NETWORK



WAITANGIRUA & PĀUATAHANUI 1 - HUTT VALLEY & PORIRUA

POWERCO GAS NETWORK

PĀUATAHANUI 2 - HUTT VALLEY & PORIRUA

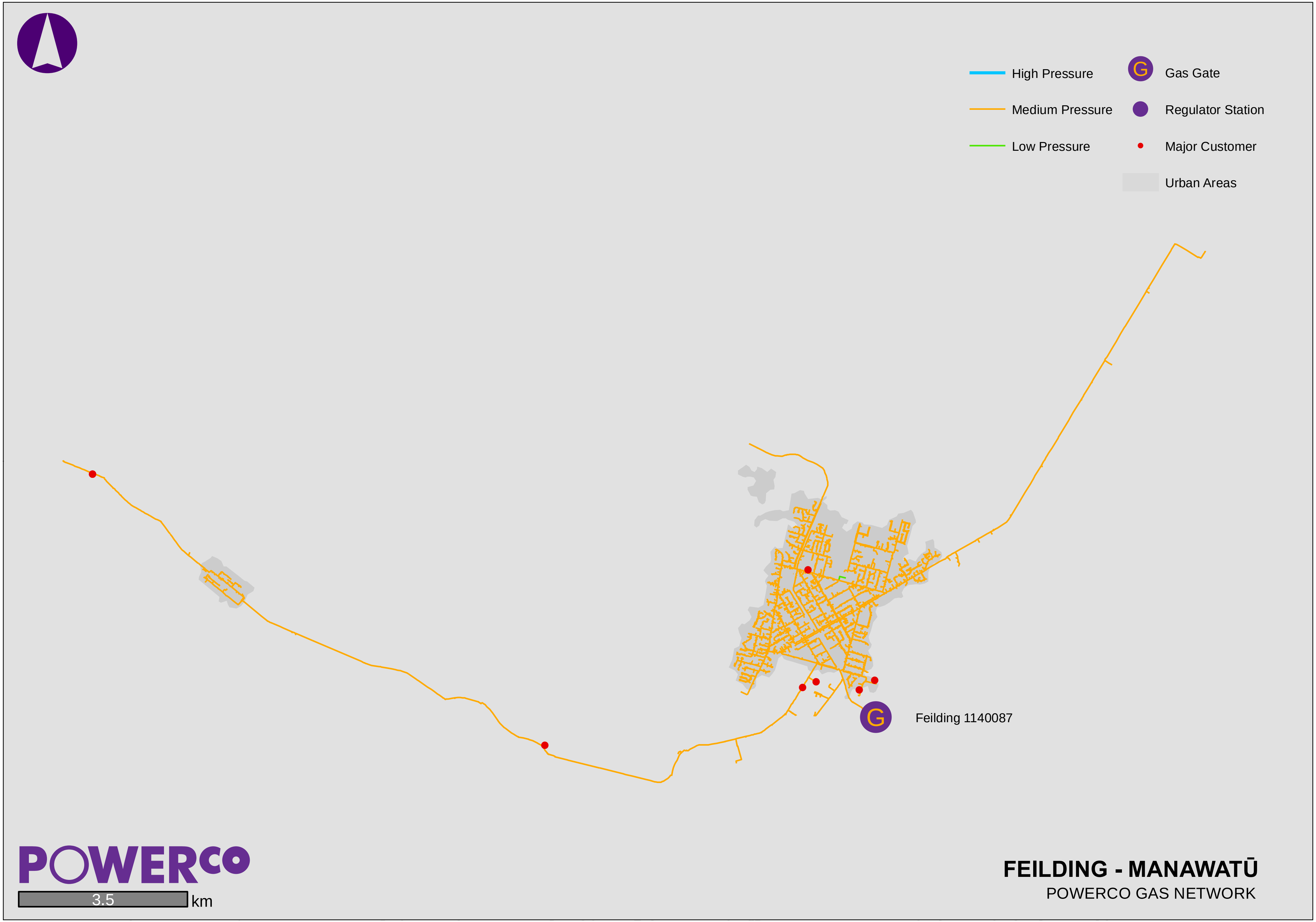
POWERCO GAS NETWORK


Ashhurst 7050001
High Pressure
Medium Pressure
Low Pressure
Gas Gate
Regulator Station
Major Customer
Urban Areas
Ashhurst 7050001
GAS GATE DETAIL
POWERCO
0.55 km
ASHHURST - MANAWATŪ
POWERCO GAS NETWORK

POWERCO

DANNEVIRKE - MANAWATŪ

POWERCO GAS NETWORK



FEILDING - MANAWATŪ
POWERCO GAS NETWORK

FOXTON - MANAWATŪ

POWERCO GAS NETWORK


High Pressure
Medium Pressure
Low Pressure
Gas Gate
Regulator Station
Major Customer
Urban Areas
Kairanga 1070244
0.25
km
KAIRANGA - MANAWATŪ
POWERCO GAS NETWORK

KĀKĀRIKI - MANAWATŪ

POWERCO GAS NETWORK


High Pressure
Medium Pressure
Low Pressure
Gas Gate
Regulator Station
Major Customer
Urban Areas
Levin 1090052
Levin 1090052
POWERCO
1.5 km
LEVIN - MANAWATŪ
POWERCO GAS NETWORK


Longburn 1080068
G
High Pressure
Medium Pressure
Low Pressure
G
Gas Gate
Regulator Station
Major Customer
Urban Areas
POWERCO
1
km
LONGBURN - MANAWATŪ
POWERCO GAS NETWORK

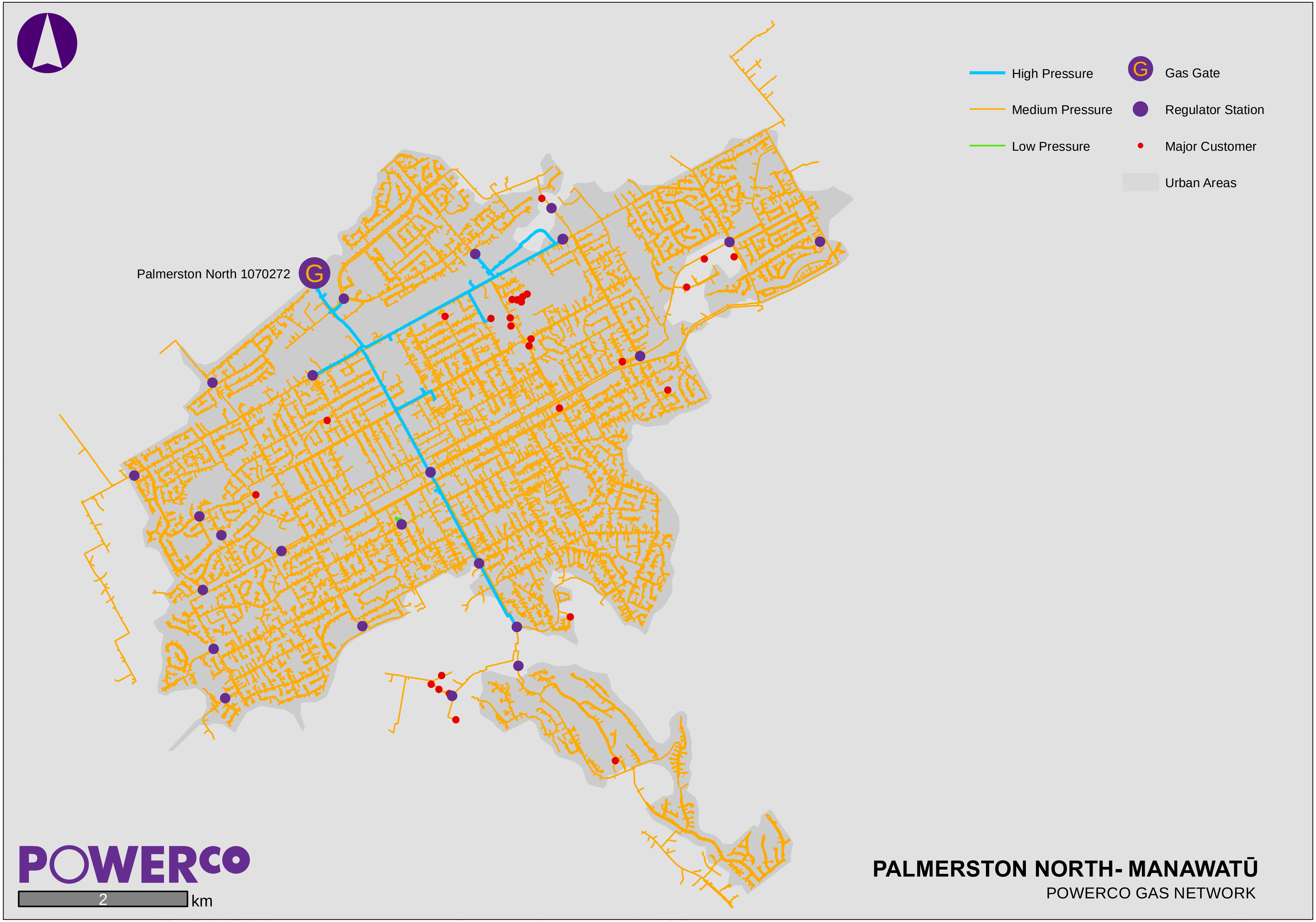
MANGATAINOKA - MANAWATŪ

POWERCO GAS NETWORK


High Pressure
Medium Pressure
Low Pressure
Gas Gate
Regulator Station
Major Customer
Urban Areas
Oroua Downs 1130051
G
POWERCO
0.65
km
OROUA DOWNS - MANAWATŪ
POWERCO GAS NETWORK

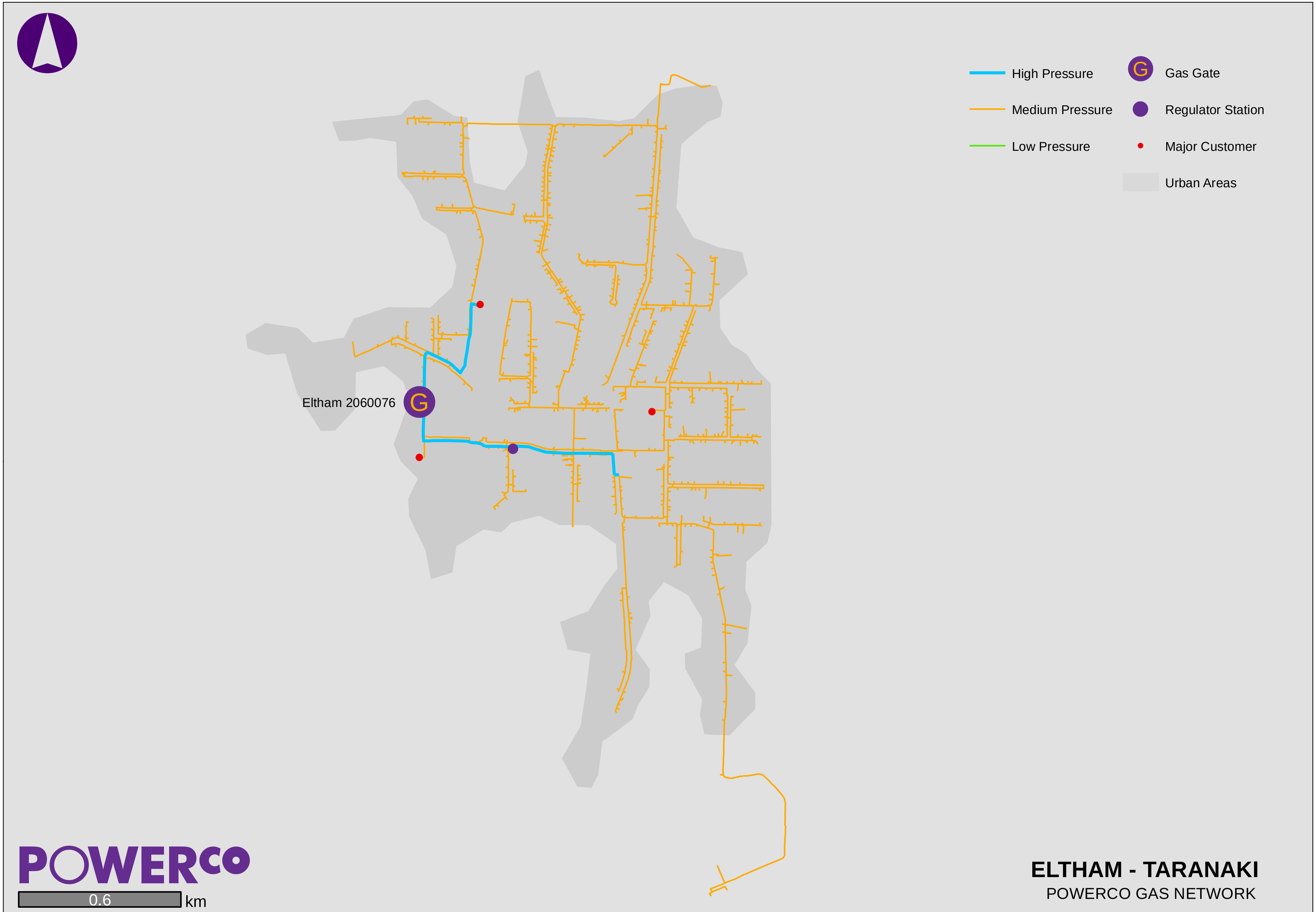
PAHIATUA - MANAWATŪ

POWERCO GAS NETWORK


High Pressure
Medium Pressure
Low Pressure
Gas Gate
Regulator Station
Major Customer
Urban Areas
Palmerston North 1070272
G
POWERCO
2
km
PALMERSTON NORTH- MANAWATŪ
POWERCO GAS NETWORK

TAKAPAU - MANAWATŪ

POWERCO GAS NETWORK



ELTHAM - TARANAKI

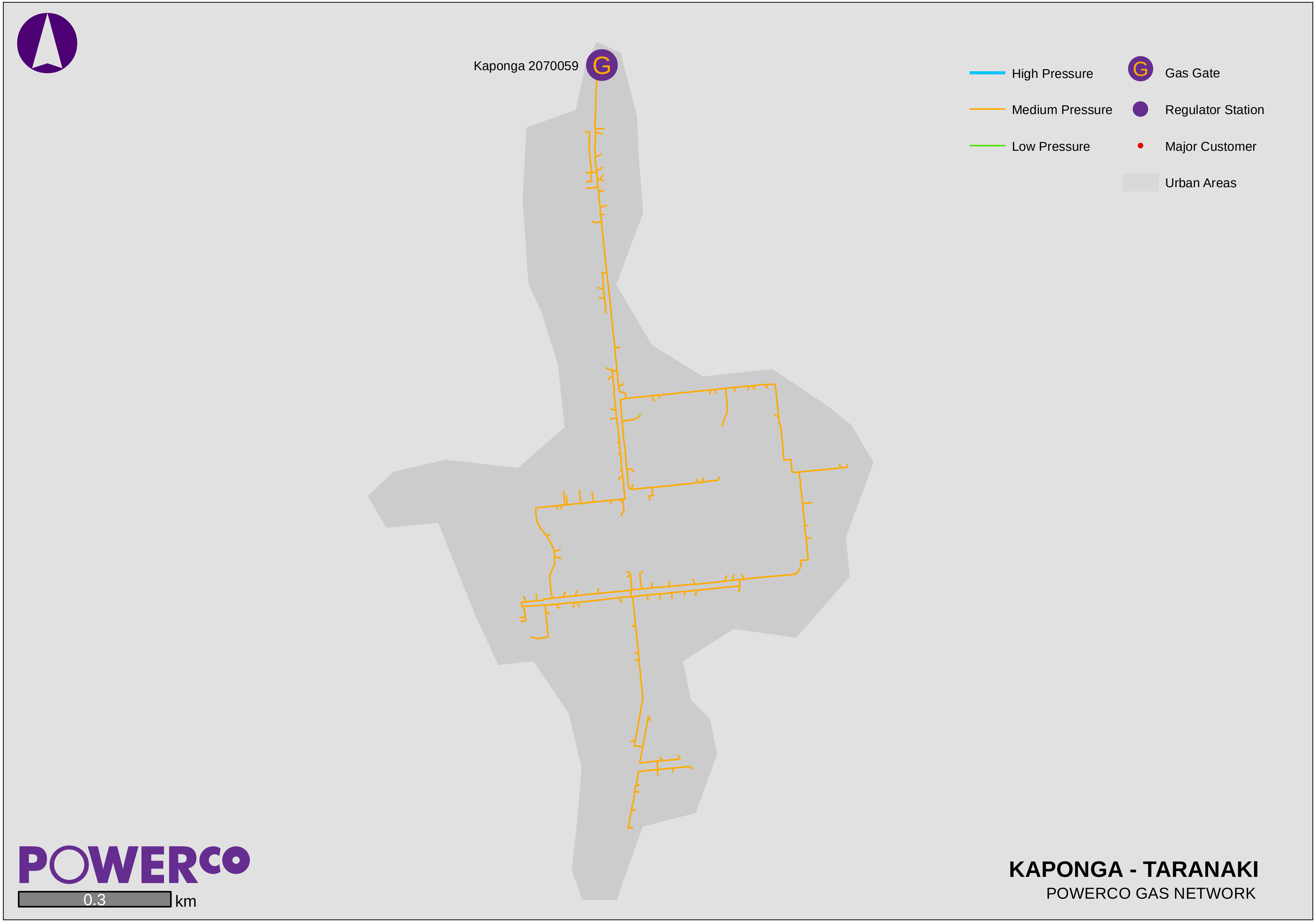
POWERCO GAS NETWORK

HĀWERA - TARANAKI

POWERCO GAS NETWORK

INGLEWOOD - TARANAKI

POWERCO GAS NETWORK



POWERCO

KAPONGA - TARANAKI

POWERCO GAS NETWORK

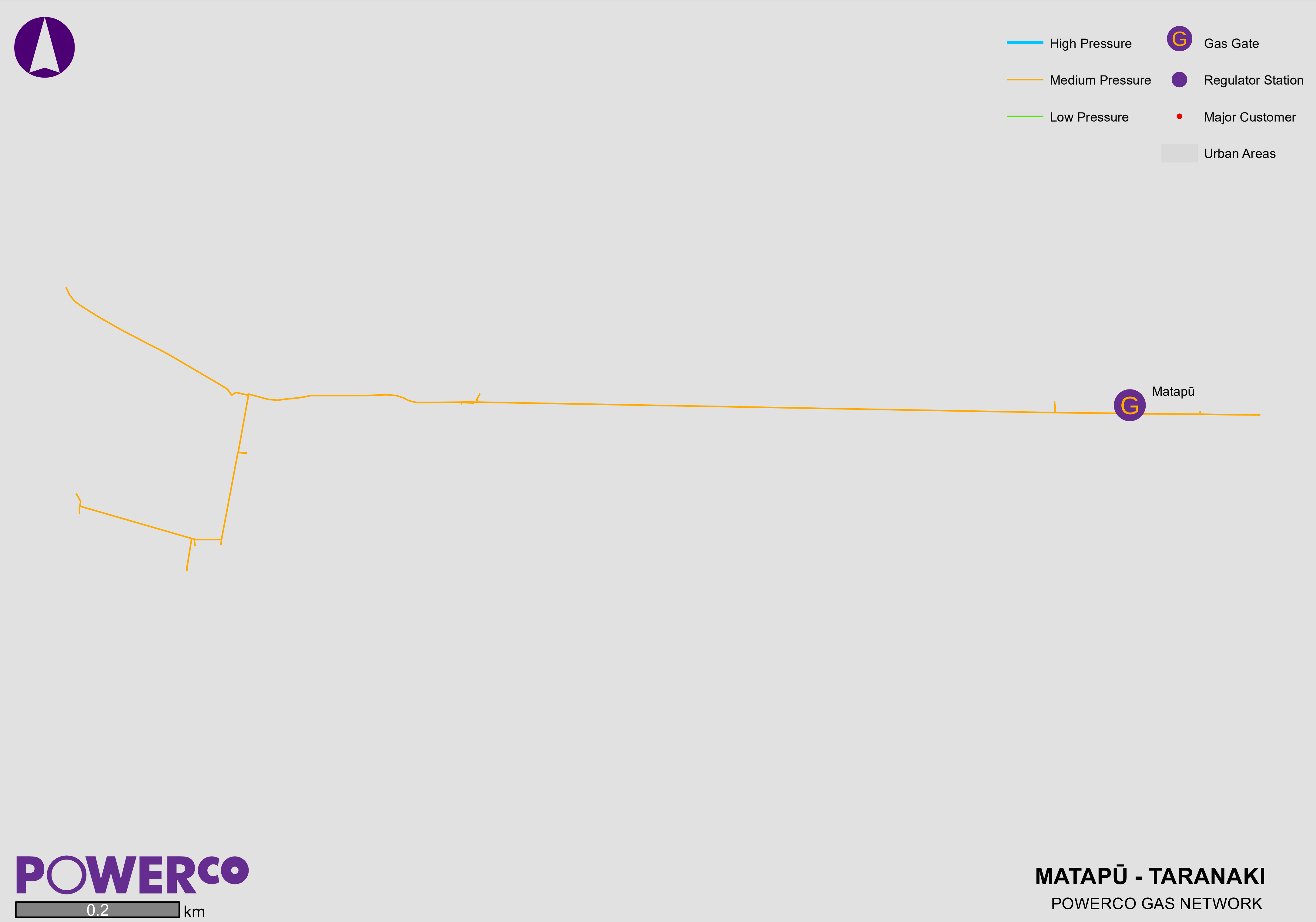
POWERCO

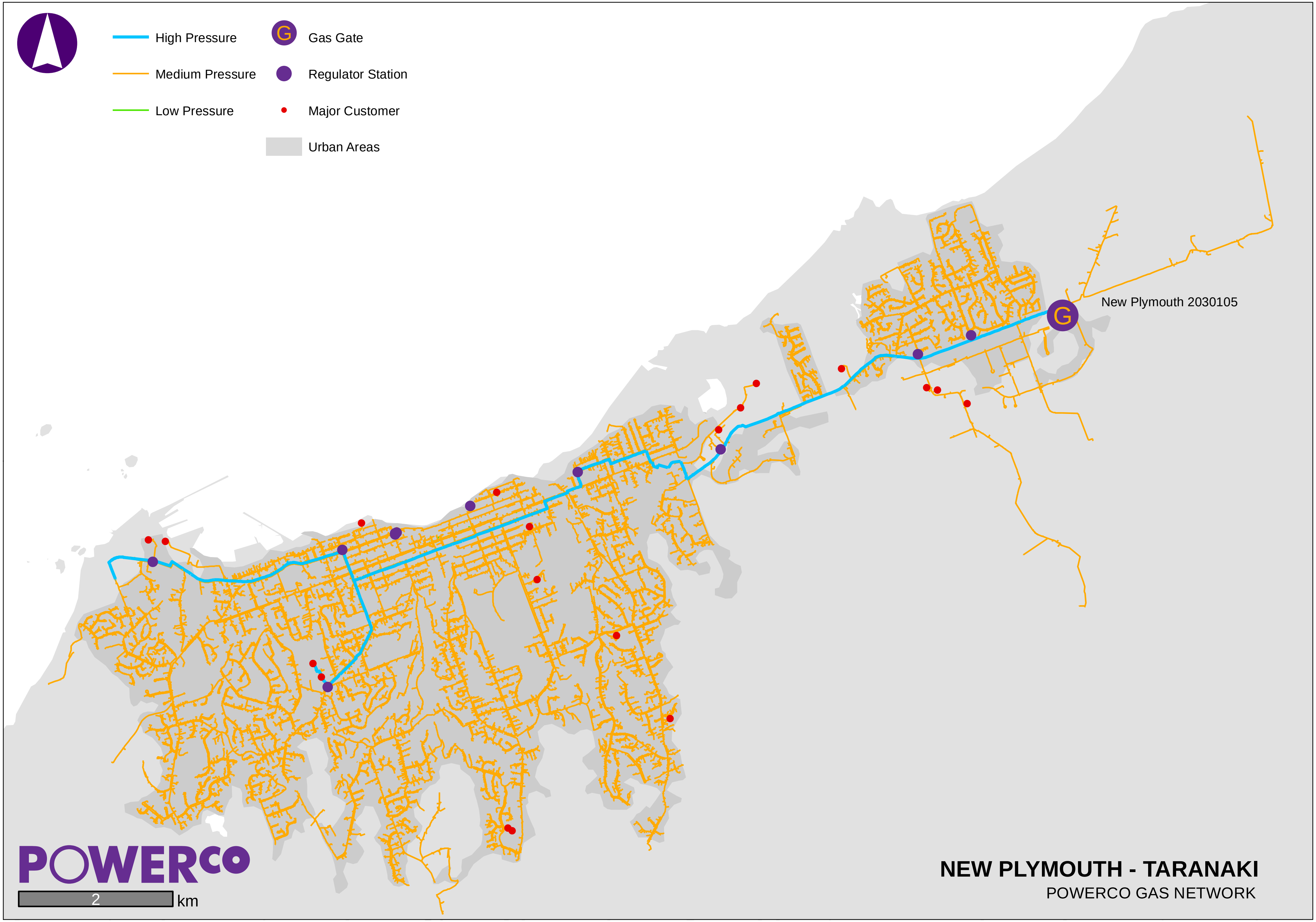
KĀPUNI - TARANAKI

POWERCO GAS NETWORK

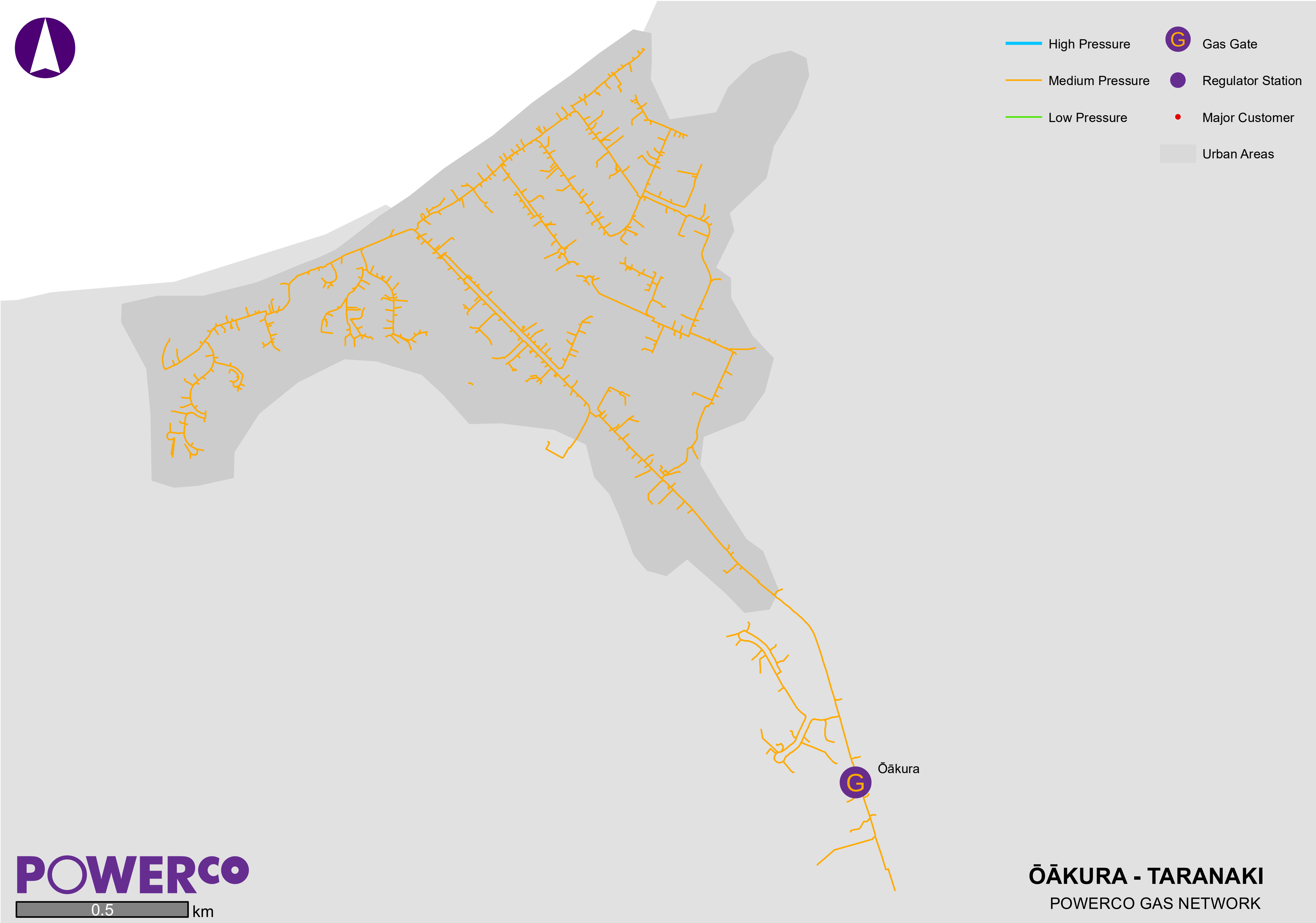
MANAIA - TARANAKI

POWERCO GAS NETWORK


High Pressure
Medium Pressure
Low Pressure
Gas Gate
Regulator Station
Major Customer
Urban Areas
Matapū
0.2
km
POWERCO
MATAPŪ - TARANAKI
POWERCO GAS NETWORK



High Pressure
Medium Pressure
Low Pressure
Gas Gate
Regulator Station
Major Customer
Urban Areas
New Plymouth 2030105
POWERCO
2
km
NEW PLYMOUTH - TARANAKI
POWERCO GAS NETWORK



POWERCO

ŌĀKURA - TARANAKI

POWERCO GAS NETWORK

ŌKATO - TARANAKI

POWERCO GAS NETWORK


Ōpunake
4000001
High Pressure
Medium Pressure
Low Pressure
Gas Gate
Regulator Station
Major Customer
Urban Areas
1
km
ŌPUNAKE - TARANAKI
POWERCO GAS NETWORK

PĀTEA - TARANAKI

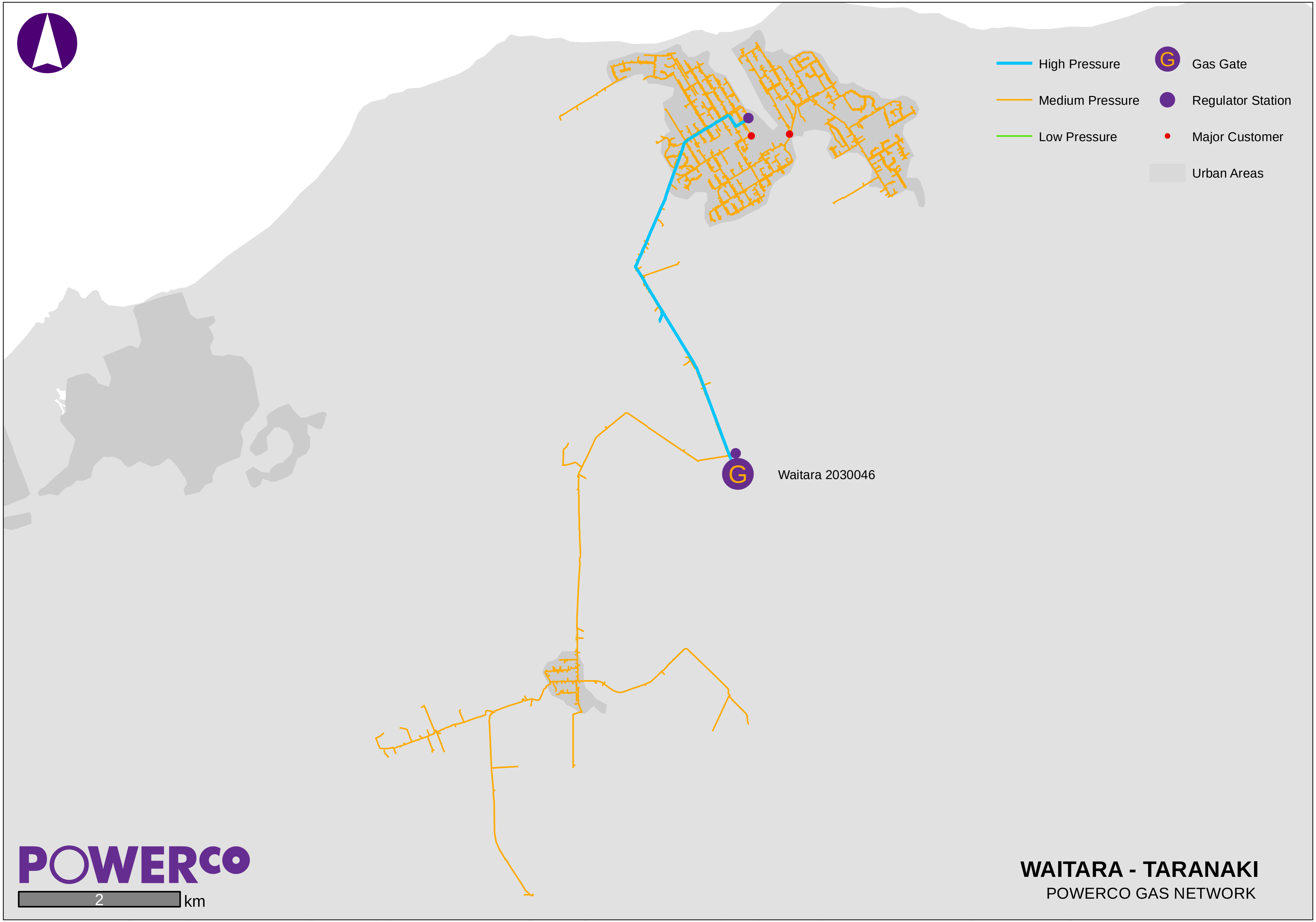
POWERCO GAS NETWORK

PUNGAREHU 1 - TARANAKI

POWERCO GAS NETWORK


Pungarehu No.2 4010054
G
High Pressure
Medium Pressure
Low Pressure
Gas Gate
Regulator Station
Major Customer
Urban Areas
1
km
PUNGAREHU #2 - TARANAKI
POWERCO GAS NETWORK

High Pressure
Medium Pressure
Low Pressure
Gas Gate
Regulator Station
Major Customer
Urban Areas
Stratford 2000192
1
km
STRATFORD - TARANAKI
POWERCO GAS NETWORK

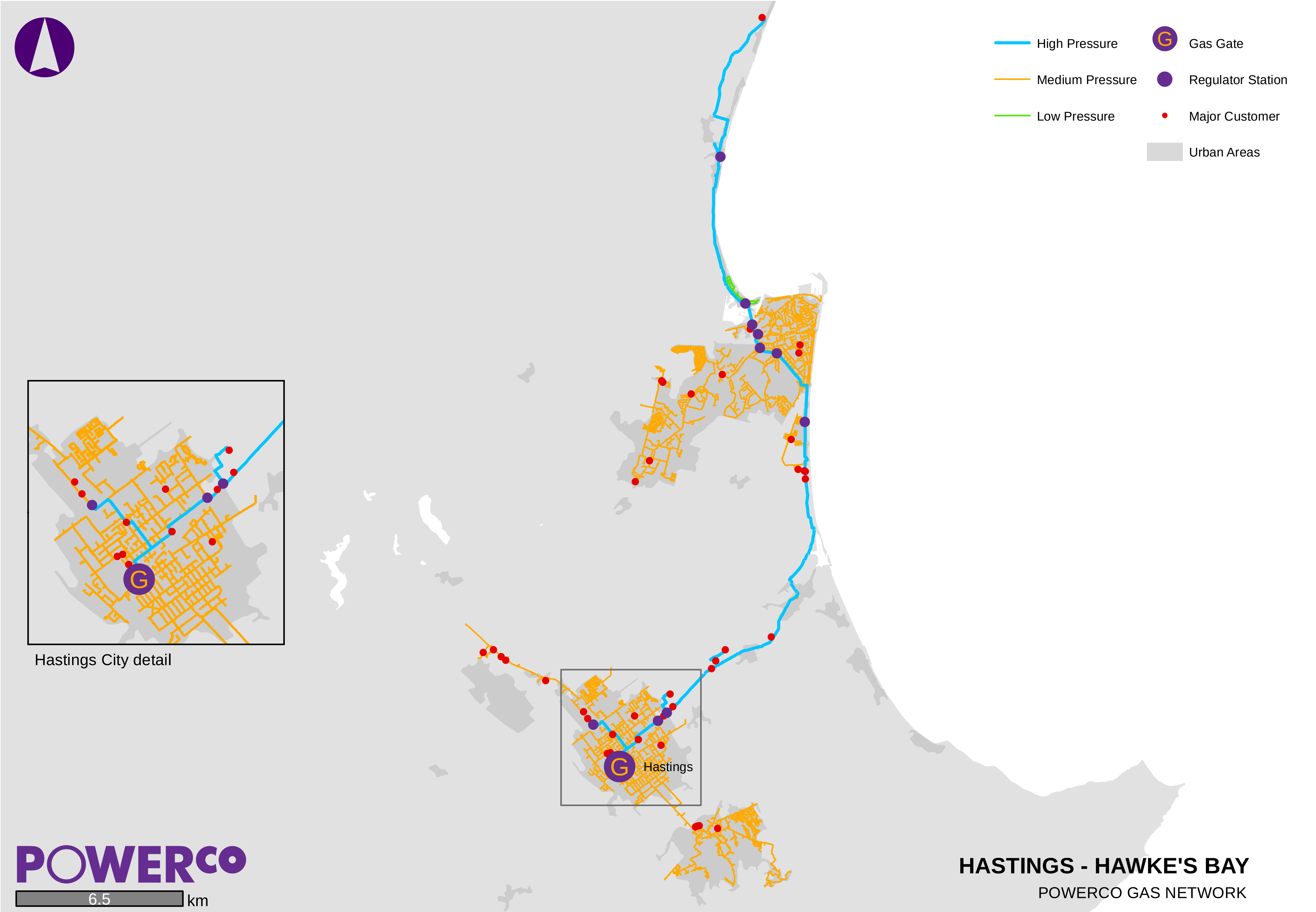


WAITARA - TARANAKI

POWERCO GAS NETWORK

WAVERLEY - TARANAKI

POWERCO GAS NETWORK


High Pressure
Medium Pressure
Low Pressure
Gas Gate
Regulator Station
Major Customer
Urban Areas
Hastings City detail
Hastings
POWERCO
6.5
km
HASTINGS - HAWKE'S BAY
POWERCO GAS NETWORK

Appendix 7 – Works programme completion

This appendix provides an overview of our progress against physical and financial plans set out in the 2024 Gas AMP Update. The year in the tables below refers to the financial year, unless stated otherwise. The year is the forecast completion date for projects, or the actual date for those completed.

7. Overview

Any significant differences described in this appendix are where a project has been (relative to the 2024 Gas AMP Update):

- Identified because of condition or some other reason that was not identified in the 2024 Gas AMP Update.
- Accelerated, i.e. scheduled capital expenditure (Capex) and reactive Capex.
- Deferred (roll over).
- Cancelled, as the need is no longer required or because of a significant change in scope, i.e. slower than anticipated growth has removed the need for some projects.
- Reprioritised because of reduction in capital renewal expenditure requiring reprioritisation of specific programmes of work, or in line with our Volume-to-Value Investment Framework.
- Projects identified that specifically relate to adaptation and resilience improvement opportunities.

Significant changes outlined in this appendix are related to the following expenditure type:

- System growth (GRO).
- Asset replacement and renewal (ARR).
- Quality of supply (QOS).
- Other reliability, safety and environment (ORS).

In summary, we completed 94% of our scheduled capital works programme for FY24 and, overall, completed 114% of our maintenance and inspection programme (refer Section 7.10).

7.1 Wellington

Significant changes in the Wellington region are summarised in Table 7.1. The reasons for the changes are described in more detail below.

Table 7.1: Wellington 2024 AMP Update v 2025 AMP summary of project adjustments

Work type	Project name	TPK ref#	2024 AMP Update	2024 budget	2025 AMP status	2025 AMP budget
ARR	Burma Rd DRS renewal	610	Paused	$15,00	Feasibility FY26	$15,000
GRO	Grenada, Mark Ave overlay	321	TBC	TBC	Cancelled	Nil

Burma Rd: Works paused in 2024. Feasibility study to be carried out for station removal in 2025. If the station cannot be removed, then the DRS pipework will be renewed. OPSOs and composite blocks have already been renewed.

Grenada: The programme of steel services renewal projects was discontinued because of condition findings. This project was part of the cancelled programme.

7.2 Hutt Valley and Porirua

Significant changes in the Hutt Valley and Porirua region are summarised in Table 7.2. The reasons for the changes are described in more detail below.

Table 7.2: Hutt Valley and Porirua 2024 AMP Update v 2025 AMP summary of project adjustments

Work type	Project name	TPK ref#	2024 AMP Update	2024 budget	2025 AMP status	2025 AMP budget
ARR	Maungaraki DRS renewal	214	Delivery FY25	$315,000	Delivery FY26	$50,000
ARR	Sunrise Boulevard DRS renewal	220	Delivery FY25	$215,000	Delivery FY26	$180,000
ARR	Hutt Rd South DRS renewals	221	Delivery FY25	$250,000	Delivery FY26	$5,000
ARR	HVP CP renewal and upgrade – Upper and Lower Hutt	627.28	2025	$312,000	Delivery FY26	$980,000
ORS	IP isolation valve – McLeod St	469	2027	$250,000	Cancelled	Nil
ORS	IP isolation valve – Semple St	472	2029	$250,000	Cancelled	Nil
ARR	De Menech Grv pre-85	278	Delivery FY25	$250,000	Delivery FY26	$410,000
ARR	Roband Shanly pre-85	231	Delivery FY25	$250,000	Paused	Nil
ARR	Wairere Rd pre-85	684	Delivery FY25	$250,000	Delivery FY26	$660,000

Maungaraki DRS, Sunrise Boulevard DRS and Hutt Rd DRS renewals: These renewals involve replacing existing stations in poor condition. The projects were initially brought forward to FY25 after other cancellations and are now scheduled for completion in FY26. Costs are expected to be higher because of construction and inflation pressures. Maungaraki and Hutt have construction planned for FY26, while Sunrise Boulevard was delayed by easement requirements and is now being targeted for delivery in FY26.

HVP CP renewal and upgrade – Upper and Lower Hutt: Was targeted for delivery in FY25, but completion of the works has been rolled over to FY26 because of a larger scope than was previously estimated.

IP isolation valve – McLeod St: This project is no longer required because of other network changes, which have remediated the issue.

IP isolation valve – Semple St: This project is no longer required because of other network changes, which have remediated the issue.

De Menech Grove pre-85: Delivery was planned for FY25, but construction works have been rolled over into FY26 because of consenting delays in design and reprioritisation.

Roband Shanly pre-85: Design was completed in FY25. However, in alignment with our current pre-85 replacement strategy, delivery is paused indefinitely pending discovery of additional leakage.

Wairere Rd pre-85: Delivery was planned for FY25, but construction works have been rolled over into FY26 because of consenting delays in design and reprioritisation.

7.3 Hawke's Bay

Significant changes in the Hawke's Bay region are summarised in Table 7.3. The reasons for the changes are described in more detail below.

Table 7.3: Hawke's Bay 2024 AMP Update v 2025 AMP summary of project adjustments

Work type	Project name	TPK ref#	2024 AMP Update	2024 budget	2025 AMP status	2025 AMP budget
ARR	Ngaruroro Bridge bracket replacement	400	2024	$300,000	Delivery FY26	$1,000,000
ARR	HAB CP renewal and upgrade – Hastings/Napier	627.30	2028	$159,000	Delivery FY27	$600,000

Ngaruroro River Bridge: Special crossing project involves investigating all real options available that would meet the new Network Adaptation and Resilience Strategy. This includes putting the strategic LIP pipe underground, running the LIP pipes on the downstream side of the stream, or replacing the existing brackets with new brackets, like those used at Meeanee Quay and Waione Bridge. Targeting delivery 2026.

HAB CP renewal and upgrade – Hastings/Napier: Works brought forward to FY27 pending progress in other regions currently underway.

7.4 Manawatū

Significant changes in the Manawatū region are summarised in Table 7.4. The reasons for the changes are described in more detail below.

Table 7.4: Manawatū 2024 AMP Update v 2025 AMP summary of project adjustments

Work type	Project name	TPK ref#	2024 AMP Update	2024 budget	2025 AMP status	2025 AMP budget
ARR	Pahiatua DRS renewal	572	2025	$115,000	Delivery FY26	$150,000

Pahiatua DRS renewal: Design was started later in FY25 because of reprioritisation, so construction work has been rolled over into FY26.

7.5 Taranaki

Significant changes in the Taranaki region are summarised in Table 7.5. The reasons for the changes are described in more detail below.

Table 7.5: Taranaki 2024 AMP Update v 2025 AMP summary of project adjustments

Work type	Project name	TPK ref#	2024 AMP Update	2024 budget	2025 AMP status	2025 AMP budget
ARR	Corroded Lepperton special crossing support renewal	622	Delivery FY25	TBC	Delivery FY26	$200,000
ARR	Manaia bridge crossing	628	Paused	Nil	Delivery FY26	$170,000
ARR	Mangati Rd DRS renewal	347	Delivery FY25	$250,000	Delivery FY26	$150,000

Lepperton bridge crossing: Replacement of a bridge crossing in poor condition was brought forward for delivery in FY25. Design completed and construction rolled over into 2026.

Manaia bridge crossing: Replacement of poor coating. It was deferred in FY25 because of budget constraints. Design and construction are planned for FY26.

Mangati Rd DRS: Renewal is an extension of Connett Rd DRS renewal (TPK 589) at New Plymouth gas gate. This project involves the replacement of the existing above ground station at Mangati Rd inside private property. Works began in FY25 and construction has been rolled over into FY26.

7.6 Pressure isolation upgrades

Significant changes to the pressure isolation upgrade programme are summarised in Table 7.6. The reasons for the changes are described in more detail below.

Table 7.6: Pressure isolation upgrades 2024 AMP Upgrade v 2025 AMP summary of project adjustments

Work type	Project name	TPK ref#	2024 AMP Update	2024 budget	2025 AMP status	2025 AMP budget
ARR	Maungaraki offtake, new installation IP isolation valve #14	475	FY26-FY38	Nil	2030	$265,000

Maungaraki offtake, new installation IP isolation valve #14: This valve may still be required to protect the Maungaraki area in the event of damage to the downstream special crossing. Further modelling is planned to assess how many customers would be affected if the Maungaraki DRS failed.

7.7 Pre-85 projects

Significant changes to the pre-85 replacement programme are summarised in Table 7.7. The reasons for the changes are described in more detail below.

Table 7.7: Pre-85 projects 2024 AMP Update v 2025 AMP summary of project adjustments

Work type	Project name	TPK ref#	2024 AMP Update	2024 budget	2025 AMP status	2025 AMP budget
ARR	Waddington Dr pre-85 replacement	281	Completed	$200,000	Delivered 2024	Nil
ARR	Harbour View Rd pre-85 replacement	518	Completed	$360,000	Delivered 2024	Nil
ARR	Stanhope Grv pre-85 replacement	577	Completed	$520,000	Delivered 2024	Nil
ARR	Ōmāpere St pre-85 replacement	580	Completed	$260,000	Delivered 2024	Nil
ARR	Woodvale Grv pre-85	594	2025	$450,000	Delivered 2025	Nil
ARR	California Dr pre-85 replacement	413	Completed	$560,000	Delivered 2025	Nil
ARR	De Menech Grv pre-85 replacement	278	2025	$10,000	2026	$400,000

Work type	Project name	TPK ref#	2024 AMP Update	2024 budget	2025 AMP status	2025 AMP budget
ARR	Grays Rd pre-85 replacement	574	Completed	$570,000	Delivered 2025	Nil
ARR	Grounsell Cre pre-85 replacement	575	2025	$250,000	2026	$240,000
ARR	Gemstone Dr pre-85 replacement	595	Completed	$270,000	Delivered 2024	Nil
ARR	Roband Shanly pre-85 replacement	231	Paused	$250,000	Nil	Nil
ARR	Wairere Rd pre-85 replacement	684	2025	$320,000	2026	$660,000
ARR	Oroua Downs pre-85 renewal	567	2025	$963,900	Cancelled	Nil

De Menech Grv pre-85: Delivery was planned for FY25, but construction works have been rolled over into FY26 because of consenting delays in design and reprioritisation.

Grounsell Cre pre-85: This project was brought forward into the later part of FY25. The construction works were not completed and rolled over into early FY26.

Roband Shanly pre-85 replacement: Design was completed in FY25. However, in alignment with our current pre-85 replacement strategy, delivery is paused indefinitely pending discovery of additional leakage.

Wairere Rd pre-85: Delivery was planned for FY25, but construction works have been rolled over into FY26 because of consenting delays in design and reprioritisation.

Oroua Downs pre-85 renewal: This project has been assessed as no longer viable because of continued low equipment defect rates. Future defects will be captured by the LDV programme.

7.8 Cathodic protection (CP) renewal and upgrade

Significant changes to the CP renewal and upgrade programme are summarised in Table 7.8.

The cathodic protection (CP) programme is required to improve the system protecting the ~410km of in-service steel pipe from corrosion damage. The works programme is progressing, with reprioritisation of projects to ensure that the CP system of the poorest performing steel pipes is replaced first.

The series of CP system renewal projects have been running since FY20. Faults have been traced to various other utility owners' assets imparting or draining the charge off the pipe. Once the fault has been found, it is isolated/repaired, but the investigations have been time consuming. The CP system layout has been reconfigured, which has improved the charge readings, but problems persist in maintaining charge in the desired range. The exact timing for these projects is still in the planning stages.

Table 7.8: CP renewal and upgrade 2024 AMP Update v 2025 AMP summary of project adjustments

Work type	Project name	TPK ref#	2024 AMP Update	2024 budget	2025 AMP status	2025 AMP budget
ARR	HVP Lower/Upper Hutt CP renewal	627.28	Delivery FY26	$500,000	Delivery FY26	$980,000
ARR	New Plymouth IP CP	627.29	Delivery FY26	Nil	Delivery FY26	$300,000
ARR	Hāwera MP CP	627.31	Delivery FY27	Nil	Delivery FY27	$450,000
ARR	Hawke's Bay IP CP	627.30	Delivery FY26	Nil	Delivery FY27	$600,000

7.9 Monitoring and control systems (MCS)

The monitoring and control systems (MCS) programme is summarised in Table 7.9. MCS are a key part of our network infrastructure, as the information they provide is a fundamental part of our network improvement initiatives and operation. Currently, Powerco is not using any control functions, meaning our system is used for real-time monitoring only. The works programme comprises full renewal of all data loggers and an upgrade to our SCADA architecture, a SCADA quality assurance check, and the installation of a permanent logger site.

Table 7.9: MCS renewal 2024 AMP Update v 2025 AMP summary of project adjustments

Type	Project name	TPK	2024 status	2024 AMP $	2025 status	2025 AMP $
ARR	SCADA RTU upgrade to 4G	460	Delivery FY25	$237,000	Delivery FY25	$237,000
ARR	SCADA system replacement	654	N/A	Nil	New multi-year delivery	$1,2000,000

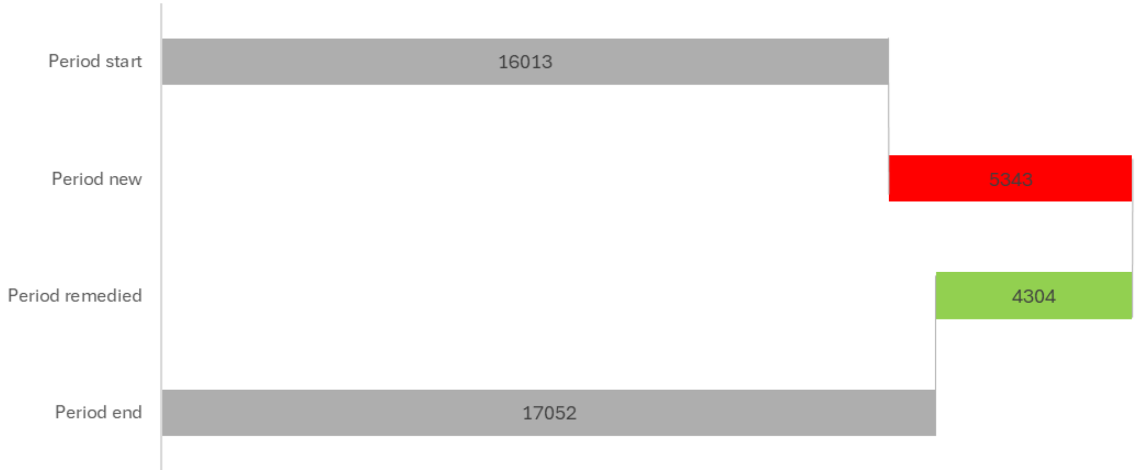
SCADA RTU upgrade to 4G: Replacement of existing 2G modem chip cards with new 4G cards from One NZ at 49 critical sites in the Powerco network. This has been brought forward for delivery.

SCADA system replacement: Multi-year project approved and design starting in FY25.

7.10 Maintenance programme delivery

For the FY25 maintenance programme, we completed 114% of the maintenance we had planned to carry out and 41,720 inspection activities. The additional 14% can be attributed to carried over inspections from 2024 and inspections brought forward from 2026. At the start of the year, we had 16,013 asset defects to address across our network, identified through site visits, fault response and scheduled maintenance activities. Our field crews reported another 5,343 during their work. During the period, 4,304 defects were addressed. The FY25 maintenance programme progress against defects raised is shown in Figure 7.1.

Figure 7.1: FY2025 maintenance programme progress against defects

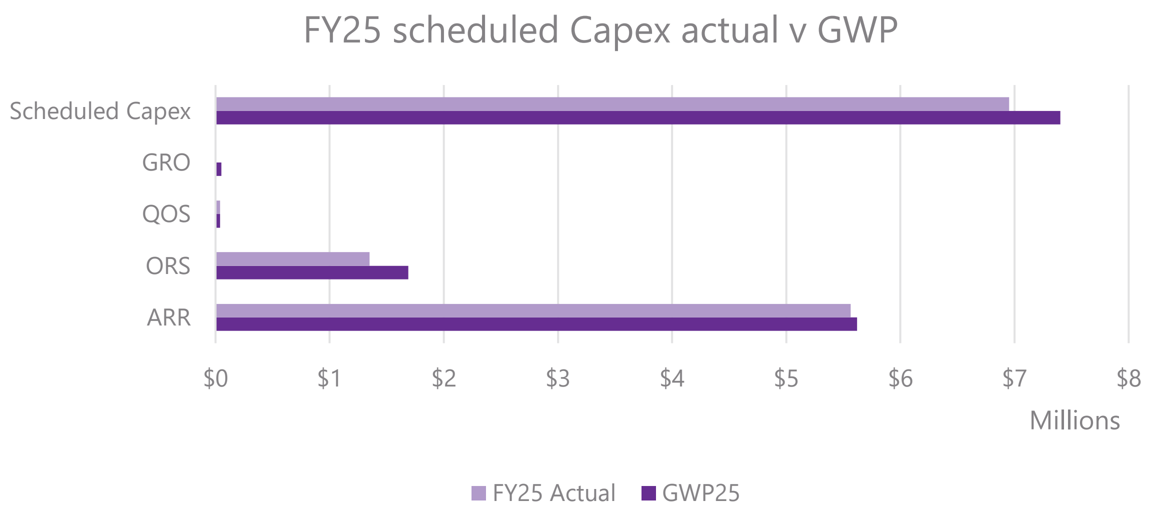


7.11 Financial progress against plan

7.11.1 Scheduled Capex spend

Total scheduled Capex for FY25 of $6.95 million was below the 2024 AMP Update forecast and FY25 Gas Works Plan (GWP) budget of $7.4m by $0.45m (~6%). The underspend was because of an underspend in ARR and ORS, as shown in Figure 7.2.

Figure 7.2: Scheduled Capex variance planned v actual FY25 (1 April to 31 March)



Asset replacement and renewal (ARR) expenditure was slightly below forecast by approximately $0.1m (~2%). This small variance is because of minor changes in project scope and timing, with most planned works delivered as scheduled. Other reliability safety and environment (ORS) expenditure was below forecast by about $0.3m (~17%). Several planned works were deferred following updated risk assessments and the reprioritisation of resources to higher-risk sites.

Growth (GRO) expenditure was below forecast by less than $0.05m. Quality of supply (QOS) expenditure was close to forecast.

Appendix 8 – Regulatory requirements look-up

2.6 Asset management plans and forecast information	**AMP chapter where addressed**
Disclosure relating to asset management plans and forecast information	
2.6.1 Subject to clauses 2.6.3, before the start of each disclosure year commencing with the disclosure year 2014, every GDB must: 1. Complete an AMP that: a) relates to the gas distribution services supplied by the GDB; b) meets the purposes of AMP disclosure set out in clause 2.6.2; c) has been prepared in accordance with Attachment A to this determination; Gas Distribution Information Disclosure Determination 2012 – (consolidated in 2018); d) contains the information set out in the schedules described in clause 2.6.6; e) contains the Report on Asset Management Maturity as described in Schedule 13; 2. Complete the Report on Asset Management Maturity in accordance with the requirements specified in Schedule 13; 3. Publicly disclose the AMP.	1. a) The AMP relates to gas distribution services, as stated in Chapter 3. b) Compliance with 2.6.2 is outlined in the row below. c) Compliance with Attachment A is outlined in the table below. d) The tables required by clause 2.6.6 are in Appendix 3 Disclosure Schedules, and the MS Excel schedules have been supplied to the Commission. e) The report required is provided in Schedule 13, and the MS Excel schedules have been supplied to the Commission. 2. Schedule 13 is provided and is also discussed in Chapter 4. 3. This Asset Management Plan and its appendices are publicly available on Powerco's website (www.powerco.co.nz) and sent to the Commission.
2.6.2 The purposes of AMP disclosure referred to in subclause 2.6.1(1)(b) are that the AMP: 1. Must provide sufficient information for interested persons to assess whether - a) assets are being managed for the long term; b) the required level of performance is being delivered; c) costs are efficient and performance efficiencies are being achieved; 2. Must be capable of being understood by interested persons with a reasonable understanding of the management of infrastructure assets; 3. Should provide a sound basis for the ongoing assessment of asset-related risks, particularly high impact asset-related risks.	1. & 2. Powerco recognises that AMPs are large and complicated documents. To assist with ease of understanding we have: - Structured the AMP, as described in Chapter 4; - Included our Network Asset Management Policy in Chapter 4 to reiterate our commitment to being cost efficient; - Provided a glossary in Appendix 2 to assist with understanding. 3. Risks are discussed in Chapter 4 and Appendix 4

2.6 Asset management plans and forecast information	AMP chapter where addressed
Clauses **2.6.3** to **2.6.5** relate to AMP updates	Not relevant
2.6.6 Before the start of each disclosure year, each GDB must complete and publicly disclose each of the following reports by inserting all information relating to the gas distribution services supplied by the GDB for the disclosure years provided for in the following reports: 1. The Report on Forecast Capital Expenditure in Schedule 11a; 2. The Report on Forecast Operational Expenditure in Schedule 11b; 3. The Report on Asset Condition in Schedule 12a; 4. The Report on Forecast Utilisation in Schedule 12b; 5. The Report on Forecast Demand in Schedule 12c.	These reports are included in Appendix 3 Disclosure Schedules. They are publicly available on Powerco's website (www.powerco.co.nz) as part of the Asset Management Plan by 30 September 2025 and sent to the Commission.
2.7 Explanatory notes to disclosed information	**AMP chapter where addressed**
2.7.2 Before the start of each disclosure year, every GDB must complete and publicly disclose the Mandatory Explanatory Notes on Forecast Information in Schedule 14a by inserting all relevant information relating to information disclosed in accordance with clause 2.6.6.	Schedule 14a is included in Appendix 3

Attachment A: Asset management plans	AMP chapter where addressed
AMP design	
1. The core elements of asset management: 1.1. A focus on measuring network performance, and managing the assets to achieve performance targets; 1.2. Monitoring and continuously improving asset management practices; 1.3. Close alignment with corporate vision and strategy; 1.4. That asset management is driven by clearly defined strategies, business objectives and service level targets; 1.5. That responsibilities and accountabilities for asset management are clearly assigned; 1.6. An emphasis on knowledge of what assets are owned and why, the location of the assets and the condition of the assets; 1.7. An emphasis on optimising asset utilisation and performance; 1.8. That a total lifecycle approach should be taken to asset management; 1.9. That the use of 'non-network' solutions and demand management techniques as alternatives to asset acquisition is considered.	1.1 Chapter 4 outlines asset management objectives and describes the framework to manage assets to meet these targets. Chapters 3, 4, 5 and 6 describe how we manage our assets. 1.2 Chapters 4 and Schedule 13 provide comments on the Asset Management Maturity Assessment (AMMAT) and detail on Powerco's approach to continuous improvement. 1.3 & 1.4 Chapters 4 and 5 detail the alignment between our corporate vision and objectives, and our asset management strategies. These chapters outline our asset management strategies, objectives and service levels. 1.5 Chapter 4 describes accountabilities. 1.6 Chapter 5 and 6 provide an overview of Powerco's assets, their condition, performance, and location. Chapter 5 provides a detailed description of our assets. 1.7 Chapter 5 discusses asset performance. Chapter 6 discusses asset, and network, utilisation. 1.8 This is discussed throughout Chapters 4, 5 and 6. Each asset lifecycle plan has a renewal strategy that considers the whole-of-life cost of each asset and therefore optimal replacement timing. 1.9 This is discussed in Chapter 6 Table 6.1.

Attachment A: Asset management plans	AMP chapter where addressed
2. The disclosure requirements are designed to produce AMPs that: 2.1. Are based on, but are not limited to, the core elements of asset management identified in clause 1; 2.2. Are clearly documented and made available to all stakeholders; 2.3. Contain sufficient information to allow interested persons to make an informed judgement about the extent to which the GDB's asset management processes meet best practice criteria, and outcomes are consistent with outcomes produced in competitive markets; 2.4. Specifically support the achievement of disclosed service level targets; 2.5. Emphasise knowledge of the performance and risks of assets and identify opportunities to improve performance and provide a sound basis for ongoing risk assessment; 2.6. Consider the mechanics of delivery, including resourcing; 2.7. Consider the organisational structure and capability necessary to deliver the AMP; 2.8. Consider the organisational and contractor competencies and any training requirements; 2.9. Consider the systems, integration and information management necessary to deliver the plans; 2.10. To the extent practical, use unambiguous and consistent definitions of asset management processes and terminology consistent with the terms used in this attachment to enhance comparability of asset management practices over time and between GDBs; and 2.11. Promote continual improvements to asset management practices. *Disclosing an AMP does not constrain a GDB from managing its assets in a way that differs from the AMP if its circumstances change after preparing the plan or if the GDB adopts improved asset management practices.*	2.1 This is discussed throughout the AMP, and specifically in Chapter 4. 2.2 This AMP is widely distributed to Powerco's stakeholders and is publicly available on Powerco's website (www.powerco.co.nz). 2.3 Powerco's self-assessment against the AMMAT is provided in Chapter 4 and Schedule 13. Chapter 4 describes how our alignment with ISO: 55000 meets best practice criteria and outcomes are consistent with outcomes produced in competitive markets. 2.4 Powerco's service level objectives are discussed in Chapter 4. 2.5 This is discussed in Chapters 4, 5 and 6. Risks are presented in Chapter 4 and Appendix 4. 2.6 This is discussed in Chapter 4. 2.7 This is discussed in Chapter 4. 2.8 This is discussed in Chapter 4. 2.9 This is discussed in Chapters 4 and 7. 2.10 Powerco has ensured that the terminology used in our AMP is in alignment with attachment A. To enhance clarity and understanding, we have included a glossary of key terms in Appendix 2. 2.11 Development initiatives are included in Chapters 5 and 6. Comments on the AMMAT and detail on Powerco's approach to continuous improvement are found in Chapter 4.

Attachment A: Asset management plans	AMP chapter where addressed
Contents of the AMP	
3. The AMP must include the following: 3.1 A summary that provides a brief overview of the contents, and highlights information that the GDB considers significant; 3.2 Details of the background and objectives of the GDB's asset management and planning processes; 3.3 A purpose statement which - a) makes clear the purpose and status of the AMP in the GDB's asset management practices. The purpose statement must also include a statement of the objectives of the asset management and planning processes; b) states the corporate mission or vision as it relates to asset management; c) identifies the documented plans produced as outputs of the annual business planning process adopted by the GDB; d) states how the different documented plans relate to one another, with particular reference to any plans specifically dealing with asset management; e) includes a description of the interaction between the objectives of the AMP and other corporate goals, business planning processes, and plans. The purpose statement should be consistent with the GDB's vision and mission statements and show a clear recognition of stakeholder interest.	3.1 Chapter 1 is an executive summary. It provides a brief overview and the key messages and themes in the AMP. 3.1 Chapters 3 and 4 describe Powerco's operating context, which is the background to our objectives in Chapter 4. 3.2 The objectives of Powerco's asset management and planning process are provided in Chapters 4 and 5. 3.3 a) The purpose statement is in Chapter 3. b) Powerco's cultural framework Ngā Tikanga - Our Way, vision and purpose statements are discussed in Chapter 4. Their place in the Asset Management System is described in Chapter 4 in the Network Asset Management Policy. c) & d) Chapters 5 and 6, including projects listed in Appendix 6 – Network maps by region. e) This is described in Chapter 4. The purpose statement in Chapter 3 aligns with Powerco's cultural framework Ngā Tikanga - Our Way, vision and purpose statements, and this chapter includes a table of our key stakeholders, such as customers, retailers and investors.
3.4 Details of the AMP planning period, which must cover at least a projected period of 10 years commencing with the disclosure year following the date on which the AMP is disclosed. Good asset management practice recognises the greater accuracy of short-to-medium term planning and will allow for this in the AMP. The asset management planning information for the second five years of the AMP planning period need not be presented in the same detail as the first five years.	3.4 Powerco's AMP planning period is from 1 October 2025 – 31 September 2035 as described in Chapter 3.
3.5 The date that it was approved by the directors.	3.5 The AMP was approved on the 25 September 2025 and is stated in Chapter 3.

Attachment A: Asset management plans	AMP chapter where addressed
3.6 A description of each of the legislative requirements directly affecting management of the assets, and details of - a) how the GDB meets the requirements; b) the impact on asset management.	3.6 a) This is discussed in Chapter 4. b) This is discussed in Chapter 4.
3.7 A description of stakeholder interests (owners, customers etc), which identifies important stakeholders and indicates - a) how the interests of stakeholders are identified; b) what these interests are; c) how these interests are accommodated in asset management practices; d) how conflicting interests are managed.	3.7 a-d) An overview of Powerco's stakeholders is provided in Chapter 3.5 and 4.3
3.8 A description of the accountabilities and responsibilities for asset management on at least three levels, including - a) governance – a description of the extent of director approval required for key asset management decisions and the extent to which asset management outcomes are regularly reported to directors; b) executive – an indication of how the in-house asset management and planning organisation is structured; c) field operations – an overview of how field operations are managed, including a description of the extent to which field work is undertaken in-house and the areas where outsourced contractors are used.	3.8 A description of the accountabilities and responsibilities for asset management is provided in Chapter 4. a) Refer to Chapter 4.7. b) Refer to Chapter 4.7. c) Chapter 4.7 discusses operational excellence, outsourced activities, and field operations.

Attachment A: Asset management plans	AMP chapter where addressed
3.9 All significant assumptions - a) quantified where possible; b) clearly identified in a manner that makes their significance understandable to interested persons, including: c) a description of changes proposed where the information is not based on the GDB's existing business; d) the sources of uncertainty and the potential effect of the uncertainty on the prospective information; e) the price inflator assumptions used to prepare the financial information disclosed in nominal New Zealand dollars in the Report on Forecast Capital Expenditure set out in Schedule 11a, and the Report on Forecast Operational Expenditure set out in Schedule 11b.	3.9 a) Refer to Appendix 1 and Chapter 7 Expenditure forecast assumptions. b) Appendix 1 provides key assumptions in the development of the AMP. Chapter 7 describes assumptions for each expenditure category forecast. c) Not applicable. d) Sources of uncertainty are discussed in Chapter 2. e) The price inflator assumptions are included in Chapter 7.

Attachment A: Asset Management Plans	AMP chapter where addressed
3.10 A description of the factors that may lead to a material difference between the prospective information disclosed and the corresponding actual information recorded in future disclosures.	3.10 This is discussed in Appendix 1
3.11 An overview of Asset Management Strategy and delivery. *To support the Report on Asset Management Maturity disclosure and assist interested persons to assess the maturity of Asset Management Strategy and delivery, the AMP should identify -* a) how the asset management strategy is consistent with the GDB's other strategy and policies; b) how the asset strategy takes into account the lifecycle of the assets; c) the link between the Asset Management Strategy and the AMP; d) processes that ensure costs, risks and system performance will be effectively controlled when the AMP is implemented.	3.11 a) Chapter 4.6-4.10 demonstrates the line of sight from our corporate plans and objectives to our asset management strategies. b) This is discussed in Chapter 4.11. c) Chapter 4 describes the relationship. d) Chapter 4 describes the processes to ensure costs, risks and system performance are effectively controlled. Chapter 5 describes the lifecycle considerations of each asset class.

Attachment A: Asset Management Plans	AMP chapter where addressed
3.12 An overview of systems and information management data. *To support the AMMAT disclosure and assist interested persons to assess the maturity of systems and information management, the AMP should describe –* a) the processes used to identify asset management data requirements that cover the whole lifecycle of the assets; b) the systems used to manage asset data and where the data is used, including an overview of the systems to record asset conditions and operation capacity, and to monitor the performance of assets; c) the systems and controls to ensure the quality and accuracy of asset management information; d) the extent to which these systems, processes and controls are integrated.	3.12 Chapters 4 and 7 provide information on asset management processes for systems and information management data (non-network assets). Chapter 4 describes our asset management performance measures, including our AMMAT score. a) Chapter 5 discusses processes to identify data requirements for each asset class. b) Our information management systems, including the systems used to manage asset data and record asset condition, are described in chapter 4.16. c) Refer to Chapters 4 and 7. d) Refer to Chapters 4 and 7.
3.13 A statement covering any limitations in the availability or completeness of asset management data and disclose any initiatives intended to improve the quality of this data. *Discussion of the limitations of asset management data is intended to enhance the transparency of the AMP and identify gaps in the asset management system.*	3.13 Limitations are described in Chapter 5 within the asset information section for each asset class. Initiatives are discussed in Chapter 4, as well as in Chapter 5 and Chapter 7.
3.14 A description of the processes used within the GDB for – a) managing routine asset inspections and network maintenance; b) planning and implementing network development projects; c) measuring network performance.	3.14 a) Refer to Chapter 5. b) Refer to Chapter 4. c) Refer to Chapter 4.

Attachment A: Asset Management Plans	AMP chapter where addressed
3.15 An overview of asset management documentation, controls and review processes. *To support the Report on Asset Management Maturity disclosure and assist interested persons to assess the maturity of asset management documentation, controls and review processes, the AMP should -* a) identify the documentation that describes the key components of the Asset Management System and the links between the key components; b) describe the processes developed around documentation, control and review of key components of the Asset Management System; c) where the GDB outsources components of the Asset Management System, the processes and controls that the GDB uses to ensure efficient and cost-effective delivery of its Asset Management Strategy; d) where the GDB outsources components of the Asset Management System, the systems it uses to retain core asset knowledge in-house; e) audit or review procedures undertaken in respect of the Asset Management System.	3.15 a) This is discussed in Chapter 4. b) This is discussed in Chapter 4. c) This is discussed in Chapter 4. d) This is discussed in Chapter 4. e) This is discussed in Chapter 4.
3.16 An overview of communication and participation processes. *To support the Report on Asset Management Maturity disclosure and assist interested persons to assess the maturity of asset management documentation, controls and review processes, the AMP should -* a) communicate asset management strategies, objectives, policies and plans to stakeholders involved in the delivery of the asset management requirements, including contractors and consultants; b) demonstrate staff engagement in the efficient and cost-effective delivery of the asset management requirements.	3.16 a) This is discussed in Chapter 4. AMMAT assessment is discussed in Chapter 4.9. b) The asset management planning responsibilities outlined in Chapter 4 highlight the involvement of our staff in the efficient and cost-effective delivery of the asset management requirements.

Attachment A: Asset Management Plans	AMP chapter where addressed
3.17 The AMP must present all financial values in constant price in New Zealand dollars, except where specified otherwise.	3.17 All figures are constant June 2025 dollars.
3.18 The AMP must be structured and presented in a way that the GDB considers will support the purposes of AMP disclosure, set out in clause 2.6.2 of the determination.	3.18 In 2025, we developed a Strategic Asset Management Plan (SAMP) to ensure clear alignment between Powerco's Corporate Strategic Framework and our gas business and alignment with ISO:55001 and IAM's 10-box capabilities model. The SAMP is guided by Powerco's company-wide Asset Management Policy, which shapes our gas asset management strategies, objectives, plans, and activities. We have also updated our Asset Class Strategy (ACS) documents to align with the Corporate Strategic Framework. These updates ensure consistency across organisational policies and strategies while addressing the needs and expectations of our stakeholders.
Contents of the AMP	

Attachment A: Asset Management Plans	AMP chapter where addressed
4. The AMP must provide details of the assets covered, including: 4.1 A map and high-level description of the areas covered by the GDB, including the region(s) covered; 4.2 If subnetworks exist, the network configuration information should be disclosed for each subnetwork - a) A map or maps, with any cross-referenced information contained in an accompanying schedule, showing the physical location of: (i) all main pipes, distinguished by operating pressure; (ii) all ICPs that have a significant impact on network operations or asset management priorities, and a description of that impact; (iii) all gate stations; (iv) all pressure regulation stations; b) If applicable, the locations where a significant change has occurred since the previous disclosure of the information referred to in subclause 4.2(a) above, including: (i) a description of the parts of the network that are affected by the change; (ii) a description of the nature of the change.	4. 4.1 A map and high-level description of our regions are shown in Chapter 3. 4.2 Appendix 5 discusses our subnetwork configurations: a) Network maps by region, displaying the physical location of all required network elements, are located in Appendix 6. b) Network changes are described in Chapter 6.
Network assets by category	
5. The AMP must describe the network assets by providing the following information for each asset category: 5.1 Pressure; 5.2 Description and quantity of assets; 5.3 Age profiles; 5.4 A discussion of the results of formal risk assessments of the assets, further broken down by subcategory as appropriate. Systemic issues leading to the premature replacement of assets or parts of assets should be discussed.	5. Chapter 5 provides an overview of assets, including information on condition, age profiles, quantities, and pressure. Additionally, it provides a lifecycle plan for each asset that discusses asset condition and risk assessments.

Attachment A: Asset Management Plans	AMP chapter where addressed
6. The asset categories discussed in clause 5 above should include at least the following: 6.1 The categories listed in the Report on Forecast Capital Expenditure in Schedule 11a(iii); 6.2 Assets owned by the GDB but installed at gate stations owned by others.	6. The overview of assets in Chapter 5 of the AMP includes the asset categories listed in the Report on Forecast Capital Expenditure in Schedule 11a(iii). Asset quantities detailed in this AMP pertain to Powerco's ownership. In cases where the compound or gas gate housing our assets is under the ownership of a third party, we account for our assets only.
Service levels	
7. The AMP must clearly identify or define a set of performance indicators for which annual performance targets have been defined. The annual performance targets must be consistent with business strategies and Asset Management Objectives and be provided for each year of the AMP planning period. The targets should reflect what is practically achievable given the current network configuration, condition and planned expenditure levels. The targets should be disclosed for each year of the AMP planning period.	7. Chapter 4 details our annual asset management performance measures and their alignment with the business strategies and Asset Management Objectives.
8. Performance indicators for which targets have been defined in clause 7 must include: 8.1 The DPP requirements required under the price quality path determination applying to the regulatory assessment period in which the next disclosure year falls; 8.2 Customer-oriented indicators that preferably differentiate between different customer types; 8.3 Indicators of asset performance, asset efficiency and effectiveness, and service efficiency, such as technical and financial performance indicators related to the efficiency of asset utilisation and operation; 8.4. The performance indicators disclosed in Schedule 10b of the determination.	8. Our asset management performance measures in Chapter 4.9 include the indicators required by clause 8.

Attachment A: Asset Management Plans	AMP chapter where addressed
9. The AMP must describe the basis on which the target level for each performance indicator was determined. Justification for target levels of service includes customer expectations or demands, legislative, regulatory, and other stakeholders' requirements or considerations. The AMP should demonstrate how stakeholder needs were ascertained and translated into service level targets.	9. This is discussed in Chapter 4.9.
10. Targets should be compared with historic values where available to provide context and scale to the reader.	10. Chapter 4.9 provides historical performance.
11. Where forecast expenditure is expected to materially affect performance against a target defined in clause 7 above, the target should be consistent with the expected change in the level of performance.	11. Not relevant.
Network development planning	
12. AMPs must provide a detailed description of network development plans, including:	12. Chapter 6 discusses network development planning and provides details on all network development plans.
12.1 Description of the planning criteria and assumptions for network development.	12.1 Planning criteria is a focus of Chapter 6 and is also discussed in Chapter 4. Planning assumptions are discussed in Chapter 7.
12.2 Planning criteria for network developments should be described logically and succinctly. Where probabilistic or scenario-based planning techniques are used, this should be indicated, and the methodology briefly described.	12.2 Planning criteria is a focus of Chapter 6 and is also discussed in Chapter 4.
12.3 The use of standardised designs may lead to improved cost efficiencies. This chapter should discuss - a) the categories of assets and designs that are standardised; b) the approach used to identify standard designs.	12.3 Network rationalisation is discussed in Chapter 6.8.

Attachment A: Asset Management Plans	AMP chapter where addressed
12.4 A description of the criteria used to determine the capacity of equipment for different types of assets or different parts of the network. The criteria described should relate to the GDB's philosophy in managing planning risks.	12.4 This is discussed in Chapters 4, 5 and 6.
12.5 A description of the process and criteria used to prioritise network development projects and how these processes and criteria align with the overall corporate goals and vision.	12.5 The processes and criteria used to prioritise network development projects are described in Chapter 4.10. Chapter 4 outlines how the overall asset management process aligns with our corporate objectives, vision and purpose statement. *Note individual projects under Network Plans are incorporated in the Gas Works Plan (GWP) projects lists in Chapter 5 for each asset class.*
12.6 Details of demand forecasts, the basis on which they are derived, and the specific network locations where constraints are expected, because of forecast increases in demand - a) explain the load forecasting methodology and indicate all the factors used in preparing the load estimates; b) provide separate forecasts to at least the system level, covering at least a minimum five-year forecast period. Discuss how uncertain but substantial individual projects/developments that affect load are taken into account in the forecasts, making clear the extent to which these uncertain increases in demand are reflected in the forecasts; c) identify any network or equipment constraints that may arise because of the anticipated growth in demand during the AMP planning period. The AMP should include a description of the methodology and assumptions used to produce the utilisation and capacity forecasts and a discussion of the limitations of the forecasts, methodology and assumptions. The AMP should also discuss any capacity limitations identified or resolved in years during which an AMP was not disclosed.	12.6 a) The methodology is provided in Chapters 6.1 and 6.2. b) In Chapter 6.2, we describe forecasted regional demand and its influence on projects. c) In Chapter 6, we highlight where potential constraints are expected to occur during the planning period.

Attachment A: Asset Management Plans	AMP chapter where addressed
12.7 Analysis of the significant network level development options identified, and details of the decisions made to satisfy and meet target levels of service, including - a) the reasons for choosing a selected option for projects where decisions have been made; b) the alternative options considered for projects that are planned to start in the next five years; c) consideration of planned innovations that improve efficiencies within the network, such as improved utilisation, extended asset lives, and deferred investment.	12.7 a) & b) Chapter 6.3 to 6.8 describes projects and rationale for decisions by region. Chapter 4 outlines our investment optimisation approach. c) Chapter 4 discusses new technology.
12.8. A description and identification of the network development programme and actions to be taken, including associated expenditure projections. The network development plan must include - a) a detailed description of the material projects and a summary description of the non-material projects currently under way or planned to start within the next 12 months; b) a summary description of the programmes and projects planned for the following four years (where known); c) an overview of the material projects being considered for the remainder of the AMP planning period. *For projects included in the AMP where decisions have been made, the reasons for choosing the selected option should be stated, which should include how target levels of service will be impacted. For other projects planned to start in the next five years, alternative options should be discussed.*	12.8 Chapter 6 describes the development programme by region with a focus over the five-year horizon and, where possible, 10 years. a) & b) Material projects are discussed in Chapter 6.3 to 6.8 (expenditure summary and project tables) for the 10-year period where known, and Schedule 12B. c) Network strategies provide direction for strategic investment and network performance requirements as described in Table 6.1. Levels of service related to these strategies are discussed in Chapter 4 (performance measures).
Lifecycle asset management planning (maintenance and renewal)	
13. The AMP must provide a detailed description of the lifecycle asset management processes, including: 13.1 The key drivers for maintenance planning and assumptions;	13. The drivers and key challenges are included in Chapters 5. Maintenance-related assumptions are outlined in Chapter 5.

Attachment A: Asset Management Plans	AMP chapter where addressed
13.2. Identification of routine and corrective maintenance and inspection policies and programmes, and actions to be taken for each asset category, including associated expenditure projections. This must include - a) the approach to inspecting and maintaining each category of assets, including a description of the types of inspections, tests and condition monitoring carried out and the intervals at which this is done; b) any systemic problems identified with any particular asset types and the proposed actions to address these problems; c) budgets for maintenance activities broken down by asset category for the AMP planning period.	13.2 Powerco's maintenance strategy is outlined in Chapters 5, and the forecasts are presented in Chapter 7. a) Chapter 5 outlines the inspection and maintenance strategy, detailing the associated tasks and their respective frequencies for every asset class. b) Refer to Chapter 6. c) Chapter 7 provides a breakdown of the budgets for routine and corrective maintenance and inspection, by asset class.
13.3. Identification of asset replacement and renewal policies and programmes and actions to be taken for each asset category, including associated expenditure projections. This must include - a) the processes used to decide when and whether an asset is replaced or refurbished, including a description of the factors on which decisions are based, and consideration of future demands on the network and the optimum use of existing network assets; b) a description of innovations made that have deferred asset replacement; c) a description of the projects currently under way or planned for the next 12 months; d) a summary of the projects planned for the following four years (where known); e) an overview of other work being considered for the remainder of the AMP planning period.	13.3 a) Powerco's renewal strategy is discussed in the asset lifecycle plans in Chapter 5. b) Innovations are discussed in Chapter 5 for each asset class. Chapter 4 discusses specific new technology improvements. c) Projects based on asset replacement and renewal are described in Chapter 5 (GWP26 project tables). d) Projects where future need has been identified are summarised in the Chapter 5 expenditure dashboards for each asset class (projects in the pipeline). e) For more detailed information about projects and the reasoning behind them, see Chapters 5 and 6.
13.4 The asset categories discussed in clauses 13.2 and 13.3 should include at least the categories in clause 6 above.	13.4 The asset lifecycle plans in Chapter 5 include this material.
Non-network development, maintenance and renewal	

Attachment A: Asset Management Plans	AMP chapter where addressed
14. AMPs must provide a summary description of material non-network development, maintenance and renewal plans, including:	
14.1. A description of non-network assets;	14.1 Chapter 4 describes non-network assets.
14.2. Development, maintenance and renewal policies that cover them;	14.2 Chapter 7 describes development, maintenance and renewal policies that cover non-network assets.
14.3. A description of material capital expenditure projects (where known) planned for the next five years;	14.3 Chapter 7 describes the reasons for the forecast trend in expenditure. Chapter 6 details proposed projects. *Note individual projects under Network Plans are incorporated in the Gas Works Plan (GWP) projects listed in Chapter 5 for each asset class.*
14.4. A description of material maintenance and renewal projects (where known) planned for the next five years.	14.4 Chapter 7 describes the reasons for the forecast trend in expenditure. Chapter 6 details proposed projects. *Note individual projects under Network Plans are incorporated in the Gas Works Plan (GWP) projects listed in Chapter 5 for each asset class.*
Risk management	
15. AMPs must provide details of risk policies, assessment, and mitigation, including:	Chapter 4.13 Risk management provides an overview of risk management, including details on Powerco's policies and processes for assessment and mitigation
15.1. Methods, details and conclusions of risk analysis;	Methods are discussed in Chapter 4.13. In Chapter 5 we talk about asset-specific risks, while Chapter 6 outlines network risks.
15.2. Strategies used to identify areas of the network that are vulnerable to high-impact low-probability events, and a description of the resilience of the network and asset management systems for such events.	These are discussed in: • Chapter 4 • Chapter 7 Forecast Expenditure; and Appendix 4 General Network Risks Formal Safety Assessment
15.3. A description of the policies to mitigate or manage the risks of events identified in clause 15.2;	This is discussed in Chapter 4.13. Emergency management procedures are detailed in Chapter 4.13

Attachment A: Asset Management Plans	AMP chapter where addressed
15.4. Details of emergency response and contingency plans. *Asset risk management forms a component of an GDB's overall risk management plan or policy, focusing on the risks to assets and maintaining service levels. AMPs should demonstrate how the GDB identifies and assesses asset-related risks, and describe the main risks within the network. The focus should be on credible low-probability, high-impact risks. Risk evaluation may highlight the need for specific development projects or maintenance programmes. Where this is the case, the resulting projects or actions should be discussed, linking back to the development plan or maintenance programme.*	15.4 This is discussed in Chapter 4.13.
Evaluation of performance	
16. AMPs must provide details of performance measurement, evaluation, and improvement, including:	
16.1. A review of progress against plan, both physical and financial - a) referring to the most recent disclosures made under clause 2.5.1 of this determination, discussing any significant differences and highlighting reasons for substantial variances; b) commenting on the progress of development projects against that planned in the previous AMP and provide reasons for substantial variances along with any significant construction or other problems experienced; c) commenting on progress against maintenance initiatives and programmes and discussing the effectiveness of these programmes noted.	16.1 Appendix 7 provides an overview of our progress against physical and financial plans set out in the 2024 AMP.

Attachment A: Asset Management Plans	AMP chapter where addressed
16.2. An evaluation and comparison of actual service level performance against targeted performance - a) in particular, comparing the actual and target service level performance for all the targets discussed in the previous AMP under clause 7 and explain any significant variances;	16.2 Chapter 4 compares actual service level performance against targeted performance.
16.3. An evaluation and comparison of the results of the asset management maturity assessment disclosed in the Report on Asset Management Maturity set out in Schedule 13 against relevant objectives of the GDB's asset management and planning processes;	16.3 Refer to Chapter 4.
16.4. An analysis of gaps identified in clauses 16.2 and 16.3. Where significant gaps exist (not caused by one-off factors), the AMP must describe any planned initiatives to address the situation.	16.4 This is included in Chapter 4.
Capability to deliver	
17. AMPs must describe the processes used by the GDB to ensure that:	
17.1. The AMP is realistic, and the objectives set out in the plan can be achieved;	17.1 Chapter 1 describes how we have ensured our expenditure forecasts are realistic. Chapter 4 describes how Powerco ensures the AMP is realistic and objectives can be achieved.
17.2. The organisation structure and the processes for authorisation and business capabilities will support the implementation of the AMP plans.	17.2 Chapter 4 describes the processes and organisational structure Powerco uses for implementing the AMP.

Directors Certificate
Gas Asset Management Plan Information Disclosure

POWERCO

Certificate for year-beginning disclosures

Pursuant to clause 2.9.1 of Section 2.9

We, Bopha Ly and John Loughlin, being Directors of Powerco Limited certify that, having made all reasonable enquiry, to the best of our knowledge:

a) the following attached information of Powerco Limited prepared for the purposes of clauses 2.6.1, 2.6.3, 2.6.6 and 2.7.2 of the Gas Distribution Information Disclosure Determination 2012 in all material respects complies with that determination.

b) The prospective financial or non-financial information included in the attached information has been measured on a basis consistent with regulatory requirements or recognised industry standards.

c) The forecasts in Schedules 11a, 11b, 12a, 12b and 12c are based on objective and reasonable assumptions which both align with Powerco's corporate vision and strategy and are documented in retained records.

Director: [signature]	Director: [signature]
Date: 25 September 2025	Date: 25 September 2025

Management Certificate
Gas Asset Management Plan Information Disclosure

POWERCO

Certificate for year-beginning disclosures

Pursuant to clause 2.9.1 of Section 2.9

We, Don Elers and Stuart Dickson, being executive managers of Powerco Limited certify that, having made all reasonable enquiry, to the best of our knowledge:

a) The following attached information of Powerco Limited prepared for the purposes of clauses 2.6.1, 2.6.3, 2.6.6 and 2.7.2 of the Gas Distribution Information Disclosure Determination 2012 in all material respects complies with that determination.

b) The prospective financial or non-financial information included in the attached information has been measured on a basis consistent with regulatory requirements or recognised industry standards.

c) The forecasts in Schedules 11a, 11b, 12a, 12b and 12c are based on objective and reasonable assumptions which both align with Powerco's corporate vision and strategy and are documented in retained records.

Name: Don Elers	Name: Stuart Dickson
Position: General Manager Gas	Position: General Manager Customer
Date: 25/09/2025	Date: 25 September 2025