Gas Asset Management Plan

Embedding resilience into a renewable future.

2024 Update

POWERCO

Contents

Introduction

1. Introduction

Our gas network provides a critical lifeline service to many households and businesses around Aotearoa New Zealand. We see the role of gas as fundamental maintaining the resilience of the energy system and contributing to a growing economy, but also in helping Aotearoa New Zealand meet its target of net-zero emissions by 2050.

We're committed to reducing carbon emissions in our gas network by transitioning to renewable gas. Our decarbonisation efforts will focus on renewable natural gas (biomethane) as the primary solution for our network. Amid significant uncertainty and conflicting drivers, such as the economy, building activity, gas availability and customer response to decarbonisation, we view renewable gas as essential for ensuring security of supply.

Biomethane is a renewable gas that can be used the same way we use natural gas today, without adding additional emissions into the environment. When biogas is cleaned (removal of carbon dioxide, hydrogen sulphide and water), it's known as biomethane (renewable natural gas) and is almost chemically identical to natural gas. This means biomethane can be used interchangeably with natural gas and used the same way, so our customers can continue to enjoy cooking and heating homes, businesses, and hot water with gas for years to come.

Our view of renewable gas has evolved from a 'nice-to-have' opportunity, to considering it a major contributor to security of supply.

We can use our existing gas pipes to supply our customers with renewable natural gas. It also means our customers will still have a choice of how they energise their homes and businesses and maintain resilience during extreme weather events.

While we are committed to reducing carbon emissions in our gas network by transitioning to renewable natural gas, there are two key levers to managing stranded asset risk – continuing with accelerated depreciation and reducing our investment exposure by increasing customer contributions.

As the country's largest dual-energy distributor by kilometre length, we are already experiencing the impacts of climate change. In 2023, Cyclone Gabrielle impacted our gas network in the North Island, particularly our Hawke's Bay network, where our gas pipeline crossing the Ngaruroro River bridge in Napier was pulled from the supporting structures because of flooding and slash.

This tested our operational and response capability. Proving resilient, the pipeline's integrity was maintained, and gas supply to Napier was not interrupted, demonstrating the importance of fuel diversity for energy resilience. However, we anticipate:

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

For more information on the current and anticipated financial impacts associated with Cyclone Gabrielle, please refer to our Climate-related disclosure report 2024, page 22 (published on 31 July 2024) here.

The expenses attributed to Cyclone Gabrielle and the insights from that event, have been used to inform our network resilience review, ensuring that our future expenditure programme adequately addresses climate risks. More information about this review can be found in our Climate Adaptation & Resilience Plan (published on 31 July 2024) here and our update on resilience specific strategies and projects in Section 2.

Purpose of this document

The purpose of this 2024 Gas Asset Management Plan Update (AMP Update) is to inform our stakeholders and customers about the material changes to our most recent full AMP, published in September 2023. This AMP Update covers the 10-year planning period from 1 October 2024 to 30 September 2034.

The material changes described in this AMP Update are where a project has been, relative to the 2023 AMP:

- Identified because of condition or some other reason that was not identified in the 2023 AMP.
- Accelerated, i.e. scheduled capital expenditure (Capex) and reactive Capex.
- Deferred (rolled 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 Strategy.
- Projects identified that specifically relate to adaptation and resilience improvement opportunities.
- Cost change >$50k.

Schedule 12a methodology has been refined as an improvement opportunity, and internal documentation updated to reflect this.
Schedule 13 Report on Asset Management Maturity remains unchanged since our 2023 AMP.

For more detailed information on how we manage our gas assets over the long term, please refer to the 2023 AMP here.

This AMP Update was certified and approved by Powerco's Board of Directors on 25 September 2024.

Compliance with information disclosure requirements

This AMP Update complies with the Gas Distribution Information Disclosure (ID) Determination 2012 (consolidated as of 3 April 2018). We have structured this document to enable the reader to easily match the contents with the disclosure requirements.

The specific requirements and the contents of the AMP Update are included in clauses 2.6.5 and 2.6.6 of the ID Determination. The AMP Update must:

- Relate to the gas distribution services supplied by the gas distribution business (GDB).
- Identify any material changes to the network development plans disclosed in the last full AMP or in the last AMP Update.
- Identify any material changes to the lifecycle asset management (maintenance and renewal) plans disclosed in the last full AMP or in the last AMP Update.
- Provide the reasons for any material changes to the previous disclosures in the Report on Forecast Capital Expenditure, set out in Schedule 11a, and Report on Forecast Operational Expenditure, set out in Schedule 11b.
- Identify any changes to the asset management practices of the GDB that would affect a Schedule 13 Report on Asset Management Maturity disclosure.
- Include the reports set out in Schedule 11a, 11b, 12a, 12b, 12c and 14a, respectively related to:

- Forecast capital expenditure
- Forecast operational expenditure
- Asset condition
- Forecast utilisation
- Forecast demand
- Nominal and constant price difference on capital and operational expenditure.

This AMP Update is designed to meet disclosure requirements. In the interests of brevity, we have not attempted to duplicate the more explanatory style of the full 2023 AMP.

Structure of this AMP Update

This AMP Update has four sections:

- Section 1 introduces the document.
- Section 2 discusses the material changes in the asset lifecycle and network development plans published in Sections 5 and 6 of the 2023 AMP.
- Section 3 provides the justification for the changes in the expenditure forecasts.
- Section 4 provides schedules 11a, 11b, 12a, 12b, 12c and 14a.

Material Changes

Our year at a glance

Embedding resilience into a renewable future.

Kept natural gas flowing

99.99%

We kept natural gas flowing to our communities 99.99% of the time.

km of pipeline surveyed

993km

Using Powerco's new Leak Detection Vehicle.

Resilience and adaptation projects

46 Regulator stations

10 Special crossings

Identified for feasibility analysis and varying stages of project delivery.

New icps connected

Forecast

1,597

Actual

1,013

The number of ICPs that were forecast to be connected during the year versus actual connections.

Preventative versus corrective spend

corrective work order spend.

$7.4m Preventative work order spend.

$1.3m Based on SAP work orders closed out in FY2024.

Asset replacement and renewal fy24 budget uplift

Capex

$8.1m (up from $7.3m)

Opex

$3.2m (up from $2.6m)

Asset replacement and renewal Capex and Opex uplift.

2. Material changes, asset lifecycle and network development

2.1 Introduction

Any significant differences described in this section are where a project has been (relative to the 2023 AMP):

- Identified because of condition or some other reason that was not identified in the 2023 AMP.
- Accelerated, i.e. scheduled capital expenditure (Capex) and reactive Capex.
- Deferred (rolled 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 Strategy.
- Projects identified that specifically relate to adaptation and resilience improvement opportunities.
- Cost change >$50k.

This section provides an overview of the material changes since September 2023 related to the following expenditure type:

- System growth (GRO).
- Asset replacement and renewal (ARR).
- Quality of supply (QOS).
- Other reliability, safety, and environment (ORS).

Planned works have been separated by special work programmes and region. The year in the tables below refers to the financial year, unless stated otherwise. The year is the forecast completion date for future projects, or the actual for completed ones.

2.2 Material changes to strategies and delivery programmes

The material changes presented in this AMP Update are driven by:

- Our Future Ready Networks Strategy.
- Completion of our Network Resilience and Adaptation Review. For more information about our approach to improving our network resilience to climate risks, refer to Section 5 of our Climate Adaptation & Resilience Plan here.
- Our Gas Works Plan (GWP) FY25 representing any significant changes to our delivery programme relative to the 2023 AMP.

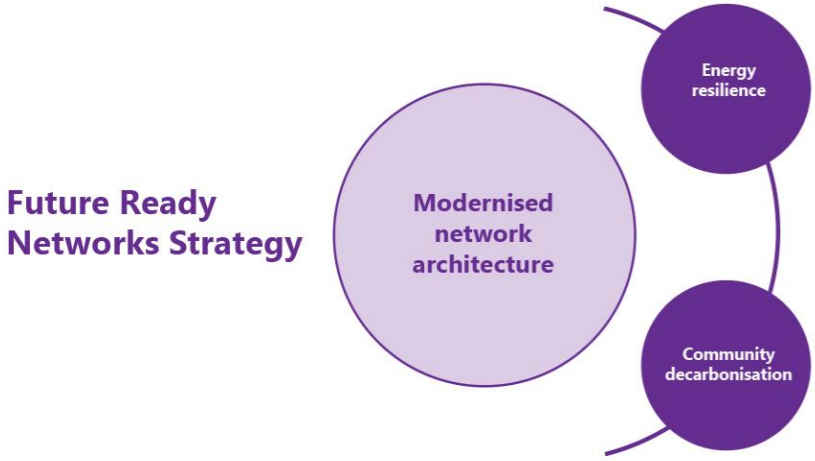
Each of these are described in the sections below.

2.3 Powerco's Future Ready Networks strategic approach

Our Future Ready Networks Strategy outlines how our networks will play a key role in helping strengthen New Zealand's energy resilience, while ensuring energy remains affordable for our customers, is delivered in an environmentally conscious way, and provides security of supply every step of the way. Energy resilience means ensuring Powerco has the capacity to anticipate, withstand, quickly recover, and learn from events that impact our ability to serve our customers. To achieve this, we are investing in our gas network to address the impacts of weather events fuelled by climate change.

Figure 1 shows Powerco's Future Ready Networks strategic priorities.

Figure 1: Powerco's Future Ready Networks strategic priorities (source Powerco Business Plan).



2.4 Network Resilience and Adaptation Review

Our Climate Adaptation & Resilience Plan contains outcomes of our regional wide area asset vulnerability assessment, using geospatial hazard analysis broadly aligned to our climate scenarios. We have modelled our gas network to specifically identify regulator stations and special crossing assets vulnerable to inland flooding and sea level rise (coastal inundation) across our network.

Regulator stations are integral to the supply of gas to our customers as they step pressures down to lower distribution pressures, which are safer, cheaper, and more reliable to reticulate through the network. Station flooding can prevent them from regulating gas pressures effectively.

Special crossings are designed to provide above or below ground passage for a pipeline to ensure that it is kept safe at points of our network that are exposed to external factors, such as a river (bridge), road (national significance) or rail crossings. Our climate analysis focused on above ground bridge crossings on state highways that span rivers. These are generally bridges that span large distances, making them more prone to flooding and damage from slash.

The assets are identified as 'vulnerable' because they are key points of supply to customers. The analysis included assets exposed to inland flooding (1% AEP), and sea level rise scenarios (SSP 1-1.9 and SSP 2-4.5). The worst-case SSP 5-8.5 scenario was not included as it was deemed a reasonable approach to not impose unnecessary costs on our customers given the uncertainty of actual future projections[1]. Table 1 shows the number and percentage of these assets exposed to physical risks.

[1] Annual exceedance probability (AEP) is the probability of an event occurring each year. A 1% AEP means there is a 1% chance in any given year of an event occurring.

Table 1: Total number of gas assets vulnerable to inland flooding and coastal inundation.

	Hazard			
Asset Type	Inland flooding	Coastal inundation	Exposed to both hazards	Total
Regulator stations	29	9	8	46 (24%)
Special crossings	2	3	5	10 (3%)

2.4.1 Gas strategy for regulator stations

Assess and manage the risk of vulnerable stations identified in flood-prone areas based on the number of customers they feed and performance.

Where district regulator stations (DRS) and pressure regulator stations (PRS) have been identified as vulnerable to flooding or sea level rise by 2050, we will consider the following mitigations as part of our asset management planning process:

- Assessment of need, based on the number of customers supplied. If isolation results in a loss of <500 customers, the need may be considered low.
- In cases of high loss (>500 residential or large commercial/industrial), a loss impact and cost to relight study will be undertaken to understand the commercial benefit.

Evaluate and validate different options when understanding investment decisions, while considering alternative solutions.

We will evaluate different options in the planning stages and validate the most economical solution before the asset replacement/maintenance assessment stage, to ensure we are selecting a cost-efficient solution for the remaining life. This will also:

- Consider relocating a vulnerable station at end-of-life or when performance identifies upgrade or renewal.
- Below ground stations (Cocons) will not be installed in flood-prone areas, in alignment with our district/pressure regulator station design standard GDS-DRS-01.
- Where appropriate, consider raised stations to decrease the impact on station assets. Decisions on which stations are of higher importance to the network and should be protected can be prioritised based on variables, such as age, the customers supplied, and flow rate.

Previously completed resilience improvement projects will be used to direct the optioneering required. Potential improvements will be assessed site by site for feasibility.

A feasibility study is planned for completion during 2025 to define specifics around the remediation plan for each site. A number of projects previously completed will be used to direct the optioneering required. Some of the potential improvements that sites will be assessed for include:

- **Raising the height of the SCADA unit.** During previous flooding events, water built up inside SCADA boxes causing significant damage to instrumentation. A simple remediation is to raise the box to a height above expected flood levels but still accessible for inspection/maintenance.
- **Mechanical damage protection.** During flooding events, debris can be carried in the flow, which has been observed to cause significant impact damage to equipment in its path. There are several ways the consequence of these events can be reduced, including the installation of bollards and robust cages surrounding the installation.
- **Vent/stack modification.** Water that accumulates in instrumentation vents/stacks during flood events can pose health and safety risks through over-pressurisation downstream or regulator malfunction. Modification of this equipment can reduce or eliminate the impact of these events.

2.4.2 Gas strategy for special crossings

Special crossings identified through vulnerability assessment as being at risk of flooding will be prioritised for optionality assessment, with the aim of reducing exposure to slash in a major storm event.

The special crossings decision-making framework, summarised in Table 2, helps guide the optionality phase and outlines how the scoping process can consider prioritising bridge crossings for optionality. 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 2: Special crossings decision-making framework supported by the Gas Networks Emergency Response Plan standard 394S012.

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

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. Refer to Section 2.4.5 of this AMP Update for further detail on the adaptation and resilience programme.

2.4.3 Hawke's Bay river crossing improvements

Powerco owns and operates the intermediate pressure (IP) steel gas pipeline that runs between Hastings and Napier. The pipeline is located on the western side of the State Highway 51 (SH51) carriageway and crosses the Esk River, Waitangi (Tūtaekurī) River, Ngaruroro River, and Clive River on the upstream side of the SH51 bridges. It is attached to the underside of the structures by steel support brackets. The pipeline and supports at the Waitangi (Tūtaekurī) Bridge crossing were damaged during the Cyclone Gabrielle flooding in February 2023. The other bridges were also affected, in some form, by the flooding.

This has highlighted the vulnerability of this special crossing arrangement, as outlined in the case study below.

Figure 2: Vulnerability of special crossings in Hawke's Bay.

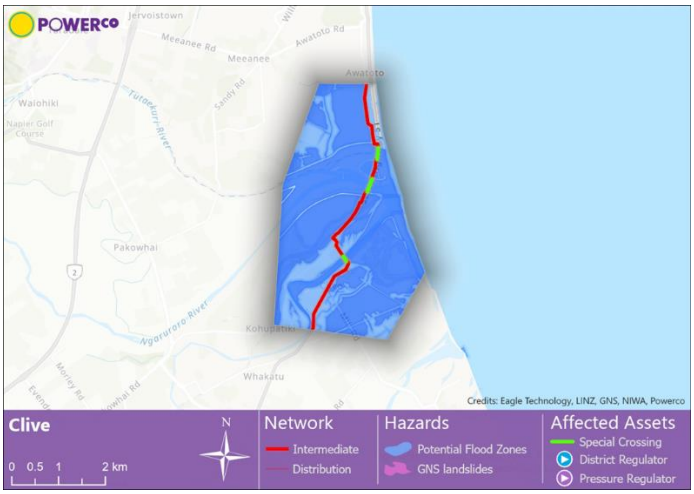


Figure 3: Infrastructure damage on Waitangi (Tūtaekurī) River bridge during Cyclone Gabrielle in 2023.

Hawke's Bay special crossings case study

Figure 2 highlights three special crossings in Clive, just south of Napier. All three face similar climate risks, including inland flooding (once every 20 to 60 years) and coastal inundation (SSP 1-1.9).

These crossings are part of the main pipeline feeding Napier and approximately 3,100 customers, including six major customers. Adaptation works for these assets are a high priority during the next planning cycle. Each crossing is on a bridge vulnerable to being damaged by slash or washed away during a flood.

The Waitangi (Tūtaekurī) River bridge was the most affected during Cyclone Gabrielle in 2023, prompting ongoing investigations into proactive measures.

Future asset resiliency projects should consider the impact of upstream and downstream assets and their ability to perform their primary function.

For special crossings, the primary function is to protect a pipe across a bridge to ensure gas delivery. If one crossing fails, it can disrupt the gas supply to customers. Therefore, if multiple crossings on the same feed are at risk from the same event, all should be protected to maintain customer supply.

External factors, such as bridge design, location, and clearance will be considered during planning.

2.4.4 Georges Drive DRS resiliency reinforcement

In June 2021, the Georges Drive DRS in Napier experienced flooding, validating its designation as an at-risk asset in our 2024 Climate Adaptation & Resilience Plan. The flood did not compromise the station's ability to regulate gas but did inundate the SCADA unit, disrupting its communication and causing a loss of network visibility for Powerco.

Georges Drive solution case study

As a remediation measure, the SCADA unit was elevated above the flood level when replaced. This solution, implemented before the completion of our 2024 resiliency study, now serves as a template for future feasibility studies. Each site will undergo flood risk assessments to determine the necessary elevation for SCADA units, ensuring operational continuity during flood events.

Figure 4: Georges Drive DRS during the 2021 floods, left, and the green raised SCADA cabinet after remediation in 2022. Note, the green cabinet reaches the ceiling of the enclosure in the second photo.

2.4.5 Adaptation and resilience programme

The adaptation and resilience programme, which is summarised in Table 3, has been identified following our climate-related Network Resilience and Adaptation Review. Increased investment was included in our 2023 AMP asset replacement and renewal (ARR) expenditure forecast for managing risk associated with climate adaptation and resilience. This AMP Update includes individual projects, timings, and estimates for resilience and climate change adaptation-related expenditure. These are described in more detail below.

Table 3: Adaptation and resilience projects 2023 AMP v 2024 summary of AMP adjustments.

Type	Project name	2023 AMP	2024 status	2023 AMP $	2024 AMP $
ARR	Esk River bridge replacement and pipe relocation	N/A	Hold	N/A	$1m

Type	Project name	2023 AMP	2024 status	2023 AMP $	2024 AMP $
ARR	Waitangi (Tūtaekurī) River bridge pipe relocation	N/A	2026 design 2027 construct	N/A	$2m
ARR	Ngaruroro River bridge reinforced bracket replacement	2024 design and construct	2025 construct	$300,000	$450,000
ARR	Georges Drive DRS renewal and SCADA relocation	2023 construct	Complete	$150,000	N/A
ARR	DRS sites above ground as major priority (three locations).	N/A	2025 feasibility 2029 construct	N/A	$5,000
ARR	DRS sites above ground as serious priority (12 locations).	N/A	2025 feasibility 2034 construct	N/A	$5,000
ARR	DRS sites above ground as moderate priority (17 locations).	N/A	2025 feasibility 2044 construct	N/A	$5,000
ARR	DRS sites above ground as minor priority (13 locations).	N/A	2025 feasibility 2029 construct	N/A	$5,000

After Cyclone Gabrielle, the Transport Rebuild East Coast (TREC) Alliance began designing a replacement for the **Esk River bridge**. The design included base isolators, which present engineering challenges for attaching a pipeline to the bridge while allowing for movement. This required exploring alternative solutions, such as drilling under the river. However, after a change in government in 2023, the project was paused until funding can be confirmed. We have completed a special crossing feasibility study and are waiting for the TREC Alliance to confirm a plan. Our pipeline, located on the downstream side of the bridge, did not sustain any damage, and has an isolation valve on the upstream side to isolate the network if necessary.

Waitangi (Tūtaekurī) River bridge brackets were replaced following damage caused by slash during Cyclone Gabrielle. This was only a temporary solution, and a long-term solution to strengthen the resilience of this crossing will be investigated though our own feasibility design process and in consultation with the TREC Alliance regarding the timing of works. The pipe sustained damage during Cyclone Gabrielle, but following non-destructive testing, it was deemed safe. However, because of the temporary brackets, and bent and dented pipe, replacement is required to maintain reliability. It will be relocated on the downstream side of the bridge. We are waiting until we have a better understanding of when the TREC Alliance plan to replace this bridge before proceeding with work.

The **Ngaruroro River bridge** special crossing feasibility study has taken longer to complete than initially anticipated because of the number of options investigated. These included the reinforcement of brackets on existing pipeline, the relocation of pipeline to the eastern side of the bridge, and horizontal directional drilling of the strategic low intermediate pressure pipe under the river from the western side of the bridge. Thorough analysis was required to assess the potential benefits, costs, and risks of each option. The feasibility study determined that the reinforcement of the brackets was the best option to improve resilience. Work will be

completed in FY25.

Following Cyclone Gabrielle, a more economical solution to lift water-sensitive SCADA devices at **Georges Drive DRS** was identified and completed under maintenance.

2.4.6 Progress and forward plan

Local council data has been used to identify DRS and special crossings locations that are potentially vulnerable to coastal and/or inland flooding. These sites have been assessed for criticality and grouped by priority for remediation. Factors considered in the criticality assessment included their vulnerability to coastal and inland inundation, the major and minor customers affected, and the equipment's condition and age. Projects are listed by vulnerability grouping below.

All sites are to be placed in our prioritisation tool Te Puni Kāpuni (Issues Register, TPK), with the major and serious priority sites assessed first. Resilience is factored and weighted within the decision-making criteria. Based on the outcome of the TPK assessments, remediation projects will be carried out on a timeline that aligns with the assessed criticality.

A feasibility study is planned for completion during 2025 to define specifics around the remediation plan for each site. A number of projects previously completed will be used to direct the optioneering required. Some of the potential improvements are listed in Table 4 to 7.

Major priority sites

Table 4: Adaptation and resilience major priority sites.

Region	Station name	Station type	Vulnerability
HAB	Waitangi (Tūtaekurī) River bridge	Special crossing (SC)	Coastal inundation emissions scenario: 2020 SSP 1-1.9 and inland flooding occurrence between 1-in-60 and 1-in-100 years.
HAB	Ngaruroro River bridge	SC	Coastal inundation emissions scenario: 2020 SSP 1-1.9 and inland flooding occurrence between 1-in-60 and 1-in-100 years.
HAB	Taradale Road	SC	Coastal inundation emissions scenario: 2020 SSP 1-1.9 and inland flooding occurrence between 1-in-20 and 1-in-60 years.
HAB	Clive River	SC	Coastal inundation emissions scenario: 2020 SSP 1-1.9 and inland flooding occurrence between 1-in-20 and 1-in-60 years.
HAB	Pandora Road	DRS	Coastal inundation emissions scenario: 2020 SSP 1-1.9.
HAB	Georges Drive	DRS	Coastal inundation emissions scenario: 2020 SSP 1-1.9 and inland flooding occurrence between 1-in-20 and 1-in-60 years.

Region	Station name	Station type	Vulnerability
HAB	Logan Avenue	DRS	Coastal inundation emissions scenario: 2020 SSP 1-1.9.
TAR	Queen Street	Cocon	Coastal inundation emissions scenario: 2020 SSP 1-1.9 and inland flooding occurrence between 1-in-60 and 1-in-100 years.

Serious priority sites

Table 5: Adaptation and resilience major serious sites.

Region	Station name	Station type	Vulnerability
HAB	Esk River bridge	SC	Coastal inundation emissions scenario: 2020 SSP 1-1.9 and inland flooding occurrence between 1-in-20 and 1-in-60 years.
HAB	Alex Park Taradale Road	SC	Coastal inundation emissions scenario: 2020 SSP 1-1.9.
MAN	Feilding	DRS	Inland flooding occurrence between 1-in-20 and 1-in-60 years.
HVP	Stokes Valley	DRS	Inland flooding occurrence less than 1-in-100 years.
HAB	Te Awa Avenue	Cocon	Coastal inundation emissions scenario: 2020 SSP 1-1.9 and inland flooding occurrence between 1-in-20 and 1-in-60 years.
TAR	Vickers Road	Cocon	Inland flooding occurrence between 1-in-60 and 1-in-100 years.
MAN	Longburn	DRS	Inland flooding occurrence between 1-in-20 and 1-in-60 years.
MAN	Palmerston North	DRS	Inland flooding occurrence between 1-in-20 and 1-in-60 years.
MAN	Cliff Road	DRS	Inland flooding occurrence between 1-in-20 and 1-in-60 years.
MAN	Department of Scientific Industrial Research (DSIR)	DRS	Inland flooding occurrence between 1-in-20 and 1-in-60 years.
WEL	Queens Wharf	DRS	Coastal inundation emissions scenario: 2050 SSP 1-1.9.
WEL	Wakefield Street	Cocon	Coastal inundation emissions scenario: 2020 SSP 1-1.9 and inland flooding occurrence between 1-in-60 and 1-in-100 years.

Region	Station name	Station type	Vulnerability
WEL	Wellington Railway Station	Cocon	Coastal inundation emissions scenario: 2050 SSP 2-4.5 and inland flooding occurrence between 1-in-60 and 1-in-100 years.
WEL	Kings Wharf	Cocon	Coastal inundation emissions scenario: 2020 SSP 1-1.9.

Moderate priority sites

Table 6: Adaptation and resilience moderate priority sites.

Region	Station name	Station type	Vulnerability
HVP	Paremata Mana	SC	Coastal inundation emissions scenario: 2020 SSP 1-1.9.
HVP	Marina View	SC	Coastal inundation emissions scenario: 2020 SSP 1-1.9.
MAN	East Street	DRS	Inland flooding occurrence less than 1-in-100 years.
HVP	Barnes Street	DRS	Coastal inundation emissions scenario: 2020 SSP 1-1.9.
HVP	UN/AEVERS	DRS	Inland flooding occurrence less than 1-in-100 years.
HVP	Croft Grove 16	DRS	Coastal inundation emissions scenario: 2050 SSP 1-1.9 and inland flooding occurrence between 1-in-60 and 1-in-100 years.
HVP	Croft Grove 15	DRS	Inland flooding occurrence between 1-in-60 and 1-in-100 years.
HVP	Leighton Avenue	Cocon	Inland flooding occurrence between 1-in-60 and 1-in-100 years.
HAB	Meeanee Quay	DRS	Coastal inundation emissions scenario: 2050 SSP 2-4.5.
HAB	Corunna Bay	DRS	Coastal inundation emissions scenario: 2050 SSP 2-4.5.
MAN	Pahīatua Gate Station	DRS	Inland flooding occurrence between 1-in-20 and 1-in-60 years.
MAN	Mangatainoka Gate Station	DRS	Inland flooding occurrence between 1-in-20 and 1-in-60 years.
HVP	Awarua Street	DRS	Inland flooding occurrence between 1-in-60 and 1-in-100 years.

Region	Station name	Station type	Vulnerability
HVP	Plimmerton	DRS	Inland flooding occurrence between 1-in-60 and 1-in-100 years.
HVP	Omapere Street	Cocon	Inland flooding occurrence between 1-in-60 and 1-in-100 years.
WEL	Jervois Quay	DRS	Coastal inundation emissions scenario: 2050 SSP 1-1.9 and inland flooding occurrence between 1-in-60 and 1-in-100 years.
WEL	Clyde Quay Wharf	DRS	Coastal inundation emissions scenario: 2020 SSP 1-1.9.
WEL	Market Lane PRS	DRS	Coastal inundation emissions scenario: 2020 SSP 1-1.9.
HVP	16 Blair Street	DRS	Coastal inundation emissions scenario: 2050 SSP 1-1.9 and inland flooding occurrence between 1-in-60 and 1-in-100 years.

Minor priority sites

Table 7: Adaptation and resilience minor priority sites.

Region	Station name	Station type	Vulnerability
MAN	Kiwitea Stream	SC	Inland flooding occurrence less than 1-in-100 years.
TAR	South Road Rahotū	SC	Inland flooding occurrence between 1-in-20 and 1-in-60 years.
MAN	Ashhurst Gate Station	DRS	Inland flooding occurrence less than 1-in-100 years.
HVP	Croft Grove 18	DRS	Inland flooding occurrence between 1-in-60 and 1-in-100 years.
HVP	Waiwhetū	DRS	Inland flooding occurrence less than 1-in-100 years.
HVP	Adelaide Street	DRS	Inland flooding occurrence less than 1-in-100 years.
MAN	Ngaire Street MP 2	DRS	Inland flooding occurrence between 1-in-20 and 1-in-60 years.
MAN	Kairanga	DRS	Inland flooding occurrence less than 1-in-100 years.
MAN	Ngaire Street MP 1	DRS	Inland flooding occurrence between 1-in-20 and 1-in-60 years.

Region	Station name	Station type	Vulnerability
HVP	Raiha Street North	DRS	Inland flooding occurrence between 1-in-60 and 1-in-100 years.
HVP	Whakatiki Street	DRS	Inland flooding occurrence less than 1-in-100 years.
WEL	Mein Street	Cocon	Inland flooding occurrence between 1-in-60 and 1-in-100 years.
WEL	Mein Street HLP 2	Cocon	Inland flooding occurrence between 1-in-60 and 1-in-100 years.
WEL	Leeds Street apartments	DRS	Inland flooding occurrence between 1-in-60 and 1-in-100 years.
HVP	Linden Avenue	DRS	Inland flooding occurrence between 1-in-60 and 1-in-100 years.

2.5 Gas Works Plan delivery programme

2.5.1 Wellington

The material changes in the Wellington region are summarised in Table 8. The reasons for the material changes are described in more detail below.

Table 8: Wellington 2023 AMP v 2024 summary of AMP adjustments.

Type	Project name	TPK	2023 AMP	2024 status	2023 AMP $	2024 AMP $
ARR	Burma Road DRS renewal	610	Delivery FY25	Paused	$60,000	N/A
ARR	John Sims Dr LIP valve	465	Delivery FY26	Cancelled	$250,000	N/A

Burma Road DRS – testing to determine whether the station is surplus to requirements has been paused because of reprioritisation.

John Sims Drive LIP – involves the installation of an isolation valve, but this will now be incorporated into the Burma Road DRS project when it goes ahead.

2.5.2 Hutt Valley Porirua

The material changes in the Hutt Valley Porirua region are summarised in Table 9. The reasons for the material changes are described in more detail below.

Table 9: Hutt Valley Porirua 2023 AMP v 2024 summary of AMP adjustments.

Type	Project name	TPK	2023 AMP	2024 status	2023 AMP $	2024 AMP $
ARR	Hutt Road, Gear Street, Petone Avenue and Jackson Street pre-85	582	Delivery FY25	Paused	$906,843	N/A
ARR	De Menech Grove pre-85	278	N/A	Delivery FY25	N/A	$250,000
ARR	Grays Road pre-85	574	N/A	Delivery FY25	N/A	$250,000
ARR	Grounsell Crescent pre-85	575	N/A	Delivery FY25	N/A	$250,000
ARR	Amber Grove pre-85	278	N/A	Delivery FY25	N/A	$250,000
ARR	Roband Shanly pre-85	231	N/A	Delivery FY25	N/A	$250,000
ARR	Wairere Road pre-85	684	N/A	Delivery FY25	N/A	$250,000
ORS	The Strand DRS renewal	602	N/A	Delivery FY25	N/A	$150,000
ARR	Maungaraki DRS renewal	214	Delivery FY26	Delivery FY25	$315,000	$315,000
ARR	Sunrise Boulevard DRS renewal	220	Delivery FY27	Delivery FY25	$215,000	$215,000
ARR	Hutt Road DRS renewal	221	Delivery FY27	Delivery FY25	$215,000	$250,000
ARR	Eastern Hutt upgrade	528	Delivery FY26	Paused	$850,000	N/A
ARR	Mohuia Crescent LIP valve	531	Delivery FY25	Paused	$90,000	N/A
ORS	Awamutu Grove LIP Valve	468	Delivery FY27	Delivery FY26	$250,000	$250,000
ORS	Whakatiki Street LIP Valve	470	Delivery FY28	Delivery FY26	$250,000	$250,000
ORS	McLeod Street LIP Valve	469	Delivery FY27	Cancelled	$250,000	N/A
ORS	Semple Street LIP Valve	472	Delivery FY29	Cancelled	$250,000	N/A
ORS	Dowse Drive LIP Valve	472	Delivery FY30	Cancelled	$250,000	N/A
ORS	South Beach bridge crossing	538	Delivery FY24	Delivery FY25	$200,000	$65,000

Hutt Road, Gear Street, Petone Avenue and Jackson Street – delayed until such time as the leakage rate raises the priority of replacing the pre-85 pipe.

De Menech Grove, Grays Road, Grounsell Crescent, Amber Grove, Roband Shanly and Wairere Road – brought forward to offset delayed pre-85 projects that do not meet the replacement criteria.

The Strand DRS renewal – following reactive work undertaken in 2023, the station will be fully renewed in FY25.

Maungaraki DRS, Sunrise Boulevard DRS and Hutt Road DRS renewals – replacement of existing stations in poor condition. Brought forward for delivery in FY25 because of the cancellation of other projects in FY25. Estimated costs to deliver this work are expected to be higher because of higher construction costs and inflation.

Eastern Hutt upgrade – requires a feasibility study to determine the best solution for rationalisation of several PRS in eastern Lower Hutt. Construction works paused until feasibility study can be completed.

Mohuia Crescent LIP valve – decommissioning of a LIP valve has been paused because of reprioritisation.

Awamutu Grove and Whakatiki Street LIP valves – installation of new isolation valves brought forward for delivery in FY25 to offset other paused projects.

McLeod Street, Semple Street and Dowse Drive LIP valves – projects revised to confirm that installation of new isolation valves is no longer required.

South Beach bridge crossing – deferred from FY24 to FY25 to allow for consent requirements to be finalised. A refined solution has enabled cost savings to be realised.

2.5.3 Hawke's Bay

The material changes in the Hawke's Bay region are summarised in Table 10. The reasons for the material changes are described in more detail below.

Table 10: Hawke's Bay 2023 AMP v 2024 summary of AMP adjustments.

Type	Project name	TPK	2023 AMP	2024 status	2023 AMP $	2024 AMP $
ORS	Frimley Road pre-85	411	Delivery FY25	Paused	$160,031	N/A
ARR	Tomoana Road pre-85	251	N/A	Delivery FY25	N/A	$150,000

Frimley Road pre-85 – replacement of mains paused until such time as the leakage rate raises the priority to meet the replacement criteria.

Tomoana Road pre-85 – replacement of mains brought forward as the leakage rate meets the replacement criteria.

2.5.4 Manawatū

The material changes in the Manawatū region are summarised in Table 11. The reasons for the material changes are described in more detail below.

Table 11: Manawatū 2023 AMP v 2024 summary of AMP adjustments.

Type	Project name	TPK	2023 AMP	2024 status	2023 AMP $	2024 AMP $
ORS	Kohinui Road decommission	28	Delivery FY25	Paused	$10,000	N/A
ORS	Oroua Downs pre-85	567	Delivery FY25	Paused	$963,900	N/A
QOS	Amberley Avenue DRS	341	Delivery FY25	Paused	$100,000	N/A
ARR	Hokio Beach PRS	380	Delivery FY24	Delivery FY25	$100,000	$186,000
ARR	Truscott Grove PRS	615	Delivery FY25	Delivery FY24	$10,000	$94,000

Kohinui Road decommission – decommissioning of a redundant mains to an abandoned dairy factory in Mangatainoka has been paused because of reprioritisation.

Oroua Downs pre-85 – replacement of mains paused until such time as the leakage rate raises the priority to meet the replacement criteria.

Amberley Avenue DRS – investigation of high velocities and pressure variations has been paused because of reprioritisation.

Hokio Beach rationalisation – the replacement of one PRS (CD Farm) and the relocation of another PRS (Honiara Road) to the gate station required longer design timeframe than initially anticipated. Costs represent the actual costs incurred.

Truscott Grove PRS rationalisation – brought forward for construction in FY24 as design was completed early, and construction of the new mains to replace PRS could be physically completed before the end of 2024.

2.5.5 Taranaki

The material changes in the Taranaki region are summarised in Table 12. The reasons for the material changes are described in more detail below.

Table 12: Taranaki 2023 AMP v 2024 summary of AMP adjustments.

Type	Project name	TPK	2023 AMP	2024 status	2023 AMP $	2024 AMP $
ARR	Mangati Road DRS renewal	347	N/A	Delivery FY25	N/A	$250,000
ORS	Hutchen Place reinforcement	390	Delivery FY24	Cancelled	$87,000	N/A
ARR	New Plymouth sector valves	491	Delivery FY24	Delivery FY25	$150,000	$102,000
ARR	Fonterra Hāwera HIP valve	410	Delivery FY25	Cancelled	$250,000	N/A
ARR	London Street pre-85 renewal	New	N/A	Delivery FY25	N/A	$565,000
ARR	Lepperton bridge crossing	622	Delivery FY26	Delivery FY25	$80,000	TBC
ARR	Manaia bridge crossing	628	Delivery FY26	Paused	$100,000	N/A

Mangati Road DRS – renewal is an extension of Connett Road DRS renewal (TPK 589) at New Plymouth Gas Gate. This project involves the replacement of the existing above ground station at Mangati Road inside private property. It is expected to begin at the end of 2024 once easement has been confirmed.

Hutchen Place reinforcement – new station installation to increase supply to Port Taranaki cancelled because of reduction in growth.

New Plymouth sector valves – installation of new polyethylene (PE) valves to sectorise the LMP network in New Plymouth. Delayed because of implementation of safety improvements.

Fonterra Hāwera HIP valve – installation of new HIP isolation valve to Fonterra Hāwera where an alternative maintenance solution has been identified.

London Street pre-85 – replacement of mains brought forward as the leakage rate meets the replacement criteria.

Lepperton bridge crossing – replacement of a bridge crossing in poor condition brought forward for delivery in FY25.

Manaia bridge crossing – replacement of poor coating has been paused because of reprioritisation.

2.5.6 Cathodic protection renewal and upgrade

The cathodic protection (CP) programme, which is summarised in Table 13, 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 13: CP renewals and upgrades 2023 AMP v 2024 summary of AMP adjustments.

Type	Project name	TPK	2023 AMP	2024 status	2023 AMP $	2024 AMP $
ARR	HVP Lower Hutt CP renewal	627	Delivery FY25	Cancelled	$312,000	N/A
ARR	HVP Upper Hutt CP renewal	628	Delivery FY24	Delivery FY26	$300,000	$500,000

CP renewal Upper Hutt – has been combined with the CP renewal Lower Hutt to become a combined Hutt Valley CP renewal programme. Detailed design is expected to be completed by an external CP specialist by the end of 2024, and construction to start in early 2025.

2.5.7 Monitoring and control systems

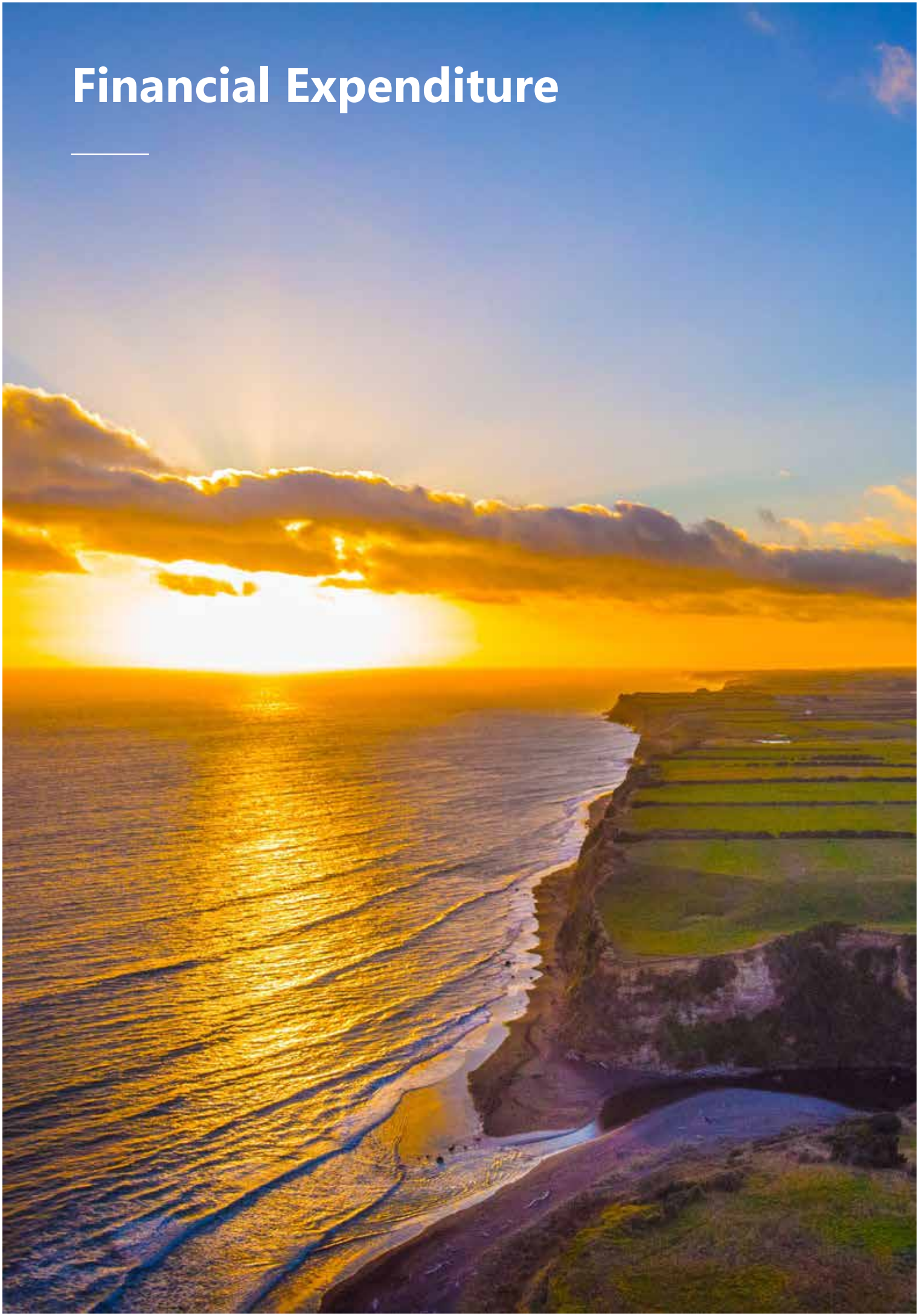
The monitoring and control systems (MCS) programme is summarised in Table 14. MCS are a key part of our network infrastructure, as the information they provide is a fundamental part of our network improvement initiatives and operation. Currently, Powerco is not using any control functions, meaning our 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 14: MCS renewal 2023 AMP v 2024 summary of AMP adjustments.

Type	Project name	TPK	2023 AMP	2024 status	2023 AMP $	2024 AMP $
ARR	SCADA RTU upgrade to 4G	460	N/A	Delivery FY25	N/A	$237,000

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.

Financial Expenditure



3. Material changes to expenditure forecasts

3.1 Introduction

This chapter sets out the changes to our Capex and Opex expenditure that are required to provide a consistently safe, reliable, resilient, and cost-effective gas network now and into the future. It represents the current view based on:

- Expenditure profiles that cover in-year forecasts for regulatory year 2024 and our forecasts for the 10-year AMP planning period from 1 October 2024 to 30 September 2034.
- The gas transmission system continues to operate and develop in line with our strategy to enable a sustainable transition to a low-emissions energy future.
- Our low-carbon transition strategy for the gas network and Volume to Value strategic approach to asset management expenditure outlines how we are considering lower carbon options while continuing to maintain the network in a cost-efficient manner.

The Capex and Opex forecasts reflect our considered view on future network use, customer connections and consumption trends. Forecasting accurately during a period of change and uncertainty is challenging. There has been greater variability than in the past, making it difficult to predict the number of new connections. Allowances have also been made for managing risk associated with climate adaptation, resilience, and renewable gas investment opportunities.

The following sections describe the forecast expenditures through to RY 2034 and are all in constant dollar terms, which means they exclude the allowance made for expected price inflation. A more detailed summary of forecast expenditure is provided as part of the schedules in Section 4.

3.2 Capital expenditure

Our forecast shows a reduction in capital expenditure compared with our 2023 AMP projections. This is primarily driven by a reduction in new customer connections, which we have observed in the past year and has led us to forecast similar connection numbers across the planning period. We anticipate a slight decline in system growth expenditure as we see the number of subdivisions requiring reticulation reduce. Expenditure across the remaining network Capex categories remains relatively unchanged from the 2023 AMP.

Forecasting the timing of economic improvement and near-term gas supply is challenging. Although we expect economic conditions to improve, current gas supply constraints are expected to further impact new connection numbers. Overall, we are predicting lower connection numbers, a steady rate of disconnections in line with the past 12 months, and reduced industrial and commercial volumes through the transition period to 2050.

Capex investment is evaluated to ensure it supports our low-carbon transition strategy for the gas network. Although there is no dedicated biomethane investment confirmed or in progress, our perspective has evolved from viewing renewable gas as a nice-to-have opportunity to considering it a major contributor to security of supply, in alignment with Powerco's renewable gas roadmap[1]. Towards the end of the period, the forecast rises to accommodate renewable gas growth opportunities that extend our network to reach renewable gas sources.

Figure 5 shows the 2024 AMP Update Capex forecast in comparison with our DPP allowance set in 2022 and the 2023 AMP forecast.

[1] Visit The future of gas (powerco.co.nz) to discover how we are working towards a renewable gas future.

Figure 5: 2024 AMP Update Capex forecast in comparison with DPP 2022 allowance and 2023 AMP forecast.

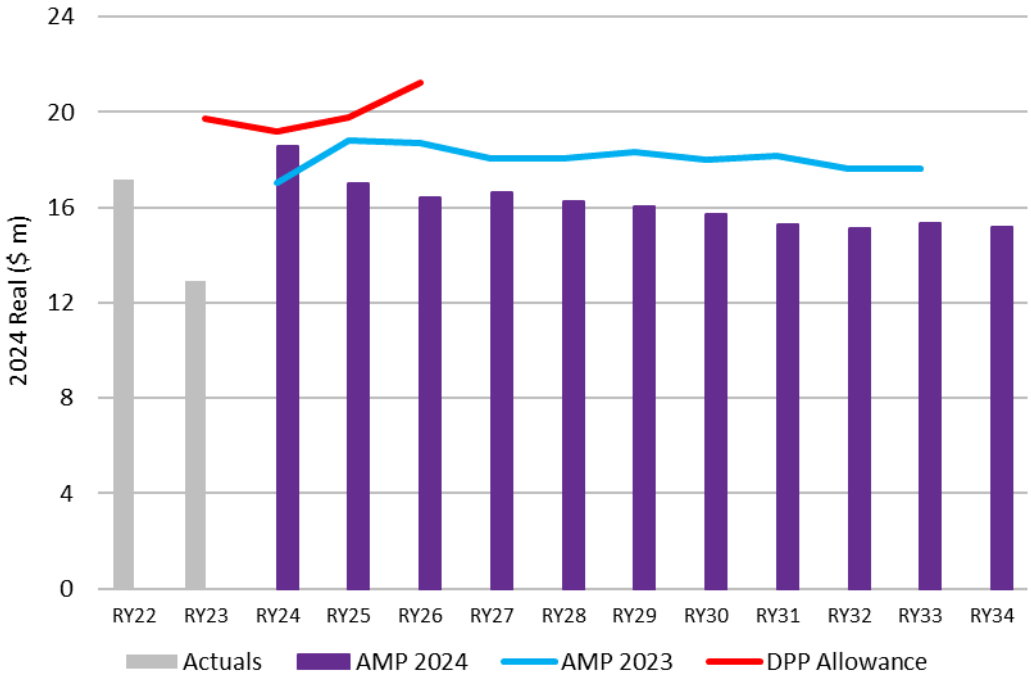
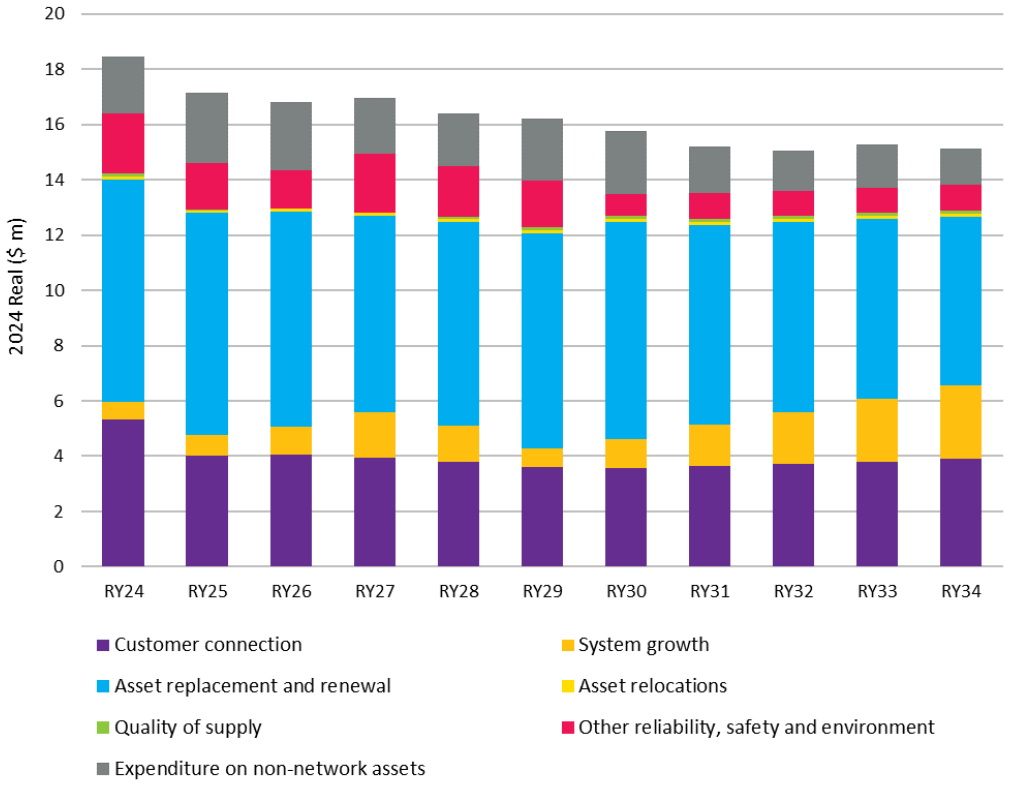


Figure 6: 2024 AMP Update forecast by Capex category.



The reasons for the Capex changes are shown in Table 15.

Table 15: Reasons for Capex changes.

Expenditure category	Rationale for change since 2023	Cost implication
Customer connection	Forecasts have been reduced to align with most recent actual connection numbers and then rolled forward for the remainder of the 10-year planning period.	↓
System growth	Our forecast for the number of residential subdivision developments we connect has reduced to align with customer connections. Towards the end of the period, the forecast allows for renewable gas growth opportunities.	↓
Quality of supply	Our forecast across the remainder of the 10-year AMP period is aligned to where our network modelling indicates reinforcement projects will be required.	→
Asset replacement and renewal	Investment in this category is related to climate mitigation, adaptation, and resilience plans, such as the relocation of pipe on bridge crossings and station improvements. This will support any resilience work required for strategic assets, as well as improving our network leakage to reduce emissions from network losses as we roll out our new leak detection vehicle.	↑

3.3 Operational expenditure

Operational expenditure forecasts have decreased from those disclosed in the 2023 AMP. This reduction is attributed to lower routine and corrective network maintenance costs, offset by a more proactive asset replacement programme, thereby avoiding reactive expenses.

Non-network Opex has decreased across the period with system operations and network support (SONS), while business support costs have increased slightly from RY24 to RY25. This is the result of:

- Increased gas future energy costs to allow for biomethane projects and people capability, gas marketing and field audit costs.
- Forecast headcount growth, software enhancements and strategy costs (RY25 to RY30). These costs are grounded in the need to support our people, and the data and digital strategies that are required to enable our Future Ready Networks Strategy.

Figure 7 shows the 2024 AMP Update Opex forecast in comparison with our DPP allowance set in 2022 and the 2023 AMP forecast.

Figure 7: 2024 AMP Update Opex forecast in comparison with DPP 2022 allowance and 2023 AMP forecast.

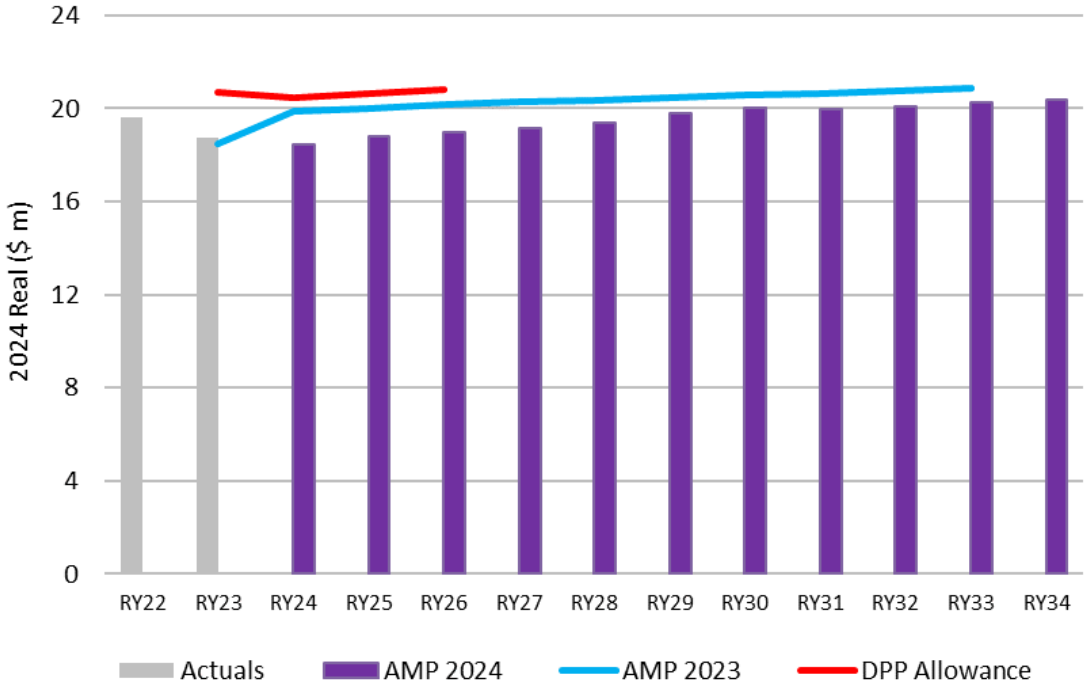
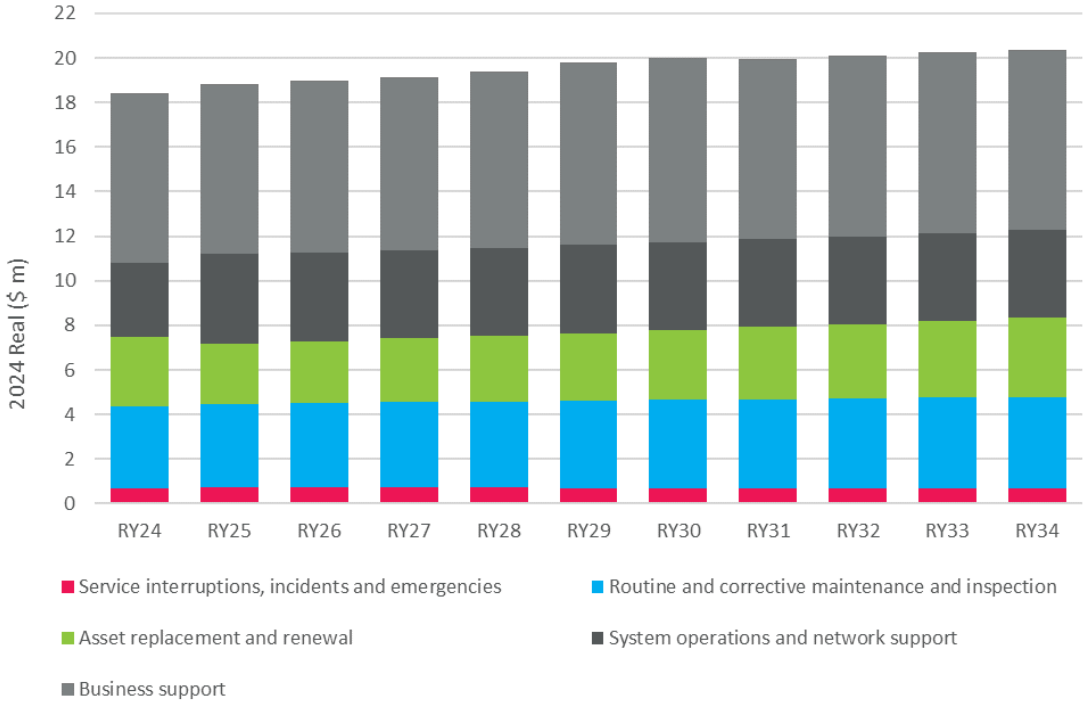


Figure 8: 2024 AMP Update forecast by Opex category.



The reasons for the Opex changes are shown in Table 16.

Table 16: Reasons for Opex changes.

Expenditure category	Rationale for change since 2023	Cost implication
Asset replacement and renewal	Higher expenditure than forecast in FY24 because of the roll-out of our leak detection vehicle, which highlighted network leaks for repair. This step change was predicted, and expenditure is expected to return to 2023 AMP forecasts during the 10-year period.	↑
Routine and corrective maintenance and inspection	Relative to the 2023 AMP forecast, capitalisation guidance has allowed for proactive network maintenance to be capitalised, such has risers, avoiding reactive maintenance repairs.	↓
System operations and network support (SONS), and business support	Overall decrease across the period, while accounting for some slight variances because of increased gas future energy costs and forecast headcount growth from RY25 to RY30.	↓
Research and development – renewable gas	New allowance (DPP3) to support our low-carbon transition strategy is minimal (0.025%), but is included in this category under research and development. In alignment with our roadmap to renewable gas, we will seek support and partnerships to enable future funding.	↑

Schedules

Company Name	**Powerco Limited**
AMP Planning Period	**1 October 2024 – 30 September 2034**

SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10-year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e. the value of RAB additions).
GDBs must provide explanatory comment on the difference between constant price and nominal dollar forecasts of expenditure on assets in Schedule 14a (Mandatory Explanatory Notes).
This information is not part of audited disclosure information.

sch ref

		Current Year CY	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
	for year ended	**30 Sep 24**	**30 Sep 25**	**30 Sep 26**	**30 Sep 27**	**30 Sep 28**	**30 Sep 29**	**30 Sep 30**	**30 Sep 31**	**30 Sep 32**	**30 Sep 33**	**30 Sep 34**
	11a(i): Expenditure on Assets Forecast	**$000 (nominal dollars)**										
	Consumer connection	5,550	4,570	4,747	4,782	4,876	5,023	5,129	5,225	5,320	5,419	5,524
	System growth	723	877	1,204	2,001	1,658	881	1,395	1,950	2,525	3,120	3,761
	Asset replacement and renewal	8,066	8,245	8,193	7,598	8,017	8,612	8,851	8,316	8,052	7,778	7,434
	Asset relocations	322	238	344	346	353	364	371	378	385	393	400
	Reliability, safety and environment:											
	Quality of supply	141	25	-	-	69	140	143	146	149	151	154
	Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
	Other reliability, safety and environment	2,160	1,716	1,448	2,275	2,012	1,867	865	1,051	1,070	1,090	1,111
	Total reliability, safety and environment	2,300	1,742	1,448	2,275	2,081	2,007	1,008	1,197	1,219	1,242	1,266
	Expenditure on network assets	16,961	15,672	15,936	17,002	16,985	16,886	16,753	17,066	17,501	17,951	18,386
	Expenditure on non-network assets	2,037	2,618	2,569	2,114	2,065	2,459	2,604	1,936	1,706	1,860	1,615
	Expenditure on assets	18,998	18,290	18,505	19,116	19,050	19,345	19,358	19,002	19,207	19,812	20,000
plus	Cost of financing	102	45	45	61	74	74	73	76	78	80	82
less	Value of capital contributions	556	723	889	1,056	1,222	1,389	1,555	1,555	1,555	1,555	1,555
plus	Value of vested assets	-	-	-	-	-	-	-	-	-	-	-
	Capital expenditure forecast	18,544	17,612	17,661	18,122	17,902	18,031	17,876	17,523	17,730	18,337	18,528
	Assets commissioned	17,931	17,711	17,548	17,957	17,869	17,945	17,859	17,570	17,699	18,246	18,499

		Current Year CY	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
	for year ended	**30 Sep 24**	**30 Sep 25**	**30 Sep 26**	**30 Sep 27**	**30 Sep 28**	**30 Sep 29**	**30 Sep 30**	**30 Sep 31**	**30 Sep 32**	**30 Sep 33**	**30 Sep 34**
		$000 (in constant prices)										
	Consumer connection	5,550	4,462	4,523	4,480	4,485	4,528	4,543	4,548	4,540	4,534	4,531
	System growth	723	855	1,146	1,875	1,525	794	1,236	1,697	2,154	2,611	3,085
	Asset replacement and renewal	8,066	8,041	7,807	7,119	7,375	7,764	7,840	7,238	6,871	6,507	6,098
	Asset relocations	322	232	328	325	325	328	329	329	329	328	328
	Reliability, safety and environment:											
	Quality of supply	141	25	-	-	63	127	127	127	127	127	127
	Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
	Other reliability, safety and environment	2,160	1,681	1,391	2,145	1,859	1,691	768	915	913	912	912
	Total reliability, safety and environment	2,300	1,705	1,391	2,145	1,922	1,818	895	1,042	1,040	1,039	1,038
	Expenditure on network assets	16,961	15,296	15,194	15,944	15,633	15,232	14,843	14,855	14,935	15,019	15,080
	Expenditure on non-network assets	2,037	2,563	2,468	1,993	1,908	2,227	2,312	1,685	1,456	1,556	1,324
	Expenditure on assets	18,998	17,859	17,662	17,937	17,540	17,459	17,155	16,540	16,391	16,575	16,405
	Subcomponents of expenditure on assets (where known)											
	Research and development	-	-	-	-	-	-	-	-	-	-	-

Company Name	**Powerco Limited**
AMP Planning Period	**1 October 2024 – 30 September 2034**

SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10-year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e. the value of RAB additions).
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sch ref		*Current Year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
	for year ended	**30 Sep 24**	**30 Sep 25**	**30 Sep 26**	**30 Sep 27**	**30 Sep 28**	**30 Sep 29**	**30 Sep 30**	**30 Sep 31**	**30 Sep 32**	**30 Sep 33**	**30 Sep 34**
	Difference between nominal and constant price forecasts	**$000**										
	Consumer connection	-	108	224	302	390	494	585	677	780	885	993
	System growth	-	21	57	125	133	87	159	253	370	510	676
	Asset replacement and renewal	-	204	387	479	642	848	1,010	1,077	1,181	1,271	1,336
	Asset relocations	-	6	16	22	28	36	42	49	57	64	72
	Reliability, safety and environment:											
	Quality of supply	(0)	1	-	-	5	13	16	19	22	25	28
	Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
	Other reliability, safety and environment	-	36	57	130	154	176	97	136	157	178	200
	Total reliability, safety and environment	(0)	37	57	130	159	189	113	155	179	203	228
	Expenditure on network assets	(0)	376	741	1,058	1,352	1,654	1,911	2,211	2,566	2,933	3,305
	Expenditure on non-network assets	-	55	102	121	158	232	292	251	250	304	290
	Expenditure on assets	(0)	430	843	1,179	1,510	1,886	2,203	2,462	2,816	3,237	3,595

		Current Year CY	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
	11a(ii): Consumer Connection for year ended	**30 Sep 24**	**30 Sep 25**	**30 Sep 26**	**30 Sep 27**	**30 Sep 28**	**30 Sep 29**
	*Consumer types defined by GDB**	**$000 (in constant prices)**					
	Residential/small commercial	5,362	4,290	4,348	4,307	4,312	4,354
	Commercial/industrial	188	172	174	173	173	174
	** include additional rows if needed*						
	Consumer connection expenditure	5,550	4,462	4,523	4,480	4,485	4,528
less	Capital contributions funding consumer connection	234	432	472	520	699	921
	Consumer connection less capital contributions	5,316	4,031	4,050	3,960	3,786	3,607
	11a(iii): System Growth						
	Intermediate pressure						
	Main pipe	-	-	-	733	733	-
	Service pipe	-	-	-	-	-	-
	Stations	31	158	429	303	-	-
	Line valve	-	-	-	-	-	-
	Special crossings	-	-	-	-	-	-
	Intermediate Pressure total	31	158	429	1,035	733	-
	Medium pressure						
	Main pipe	447	549	648	745	726	710
	Service pipe	229	139	-	25	62	78
	Stations	-	-	-	-	-	-
	Line valve	13	8	69	71	3	4
	Special crossings	2	1		0	1	1
	Medium Pressure total	691	697	717	840	792	794

Company Name	**Powerco Limited**
AMP Planning Period	**1 October 2024 – 30 September 2034**

SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10-year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e. the value of RAB additions).
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This information is not part of audited disclosure information.

sch ref								
92		**Low Pressure**						
93		Main pipe	1	1	-	0	0	0
94		Service pipe	1	0	-	0	0	0
95		Line valve	0	0	-	0	0	0
96		Special crossings	0	0	-	0	0	0
97		**Low Pressure total**	2	1	-	0	0	1
98		**Other network assets**						
99		Monitoring and control systems	-	-	-	-	-	-
100		Cathodic protection systems	-	-	-	-	-	-
101		Other assets (other than above)	-	-	-	-	-	-
102		**Other network assets total**	-	-	-	-	-	-
103								
104		**System growth expenditure**	723	855	1,146	1,875	1,525	794
105	*less*	Capital contributions funding system growth	94	112	150	245	199	104
106		**System growth less capital contributions**	629	744	997	1,630	1,326	690
107								
108								
109			*Current Year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
		for year ended	**30 Sep 24**	**30 Sep 25**	**30 Sep 26**	**30 Sep 27**	**30 Sep 28**	**30 Sep 29**
110		**11a(iv): Asset Replacement and Renewal**						
111		**Intermediate pressure**	**$000 (in constant prices)**					
112		Main pipe	109	84	61	107	134	150
113		Service pipe	56	43	31	55	69	77
114		Stations	2,088	1,289	1,700	1,450	1,126	949
115		Line valve	765	2	2	3	4	4
116		Special crossings	1	0	0	1	1	1
117		**Intermediate Pressure total**	3,018	1,419	1,794	1,615	1,334	1,181
118		**Medium pressure**						
119		Main pipe	2,684	3,805	3,496	3,325	3,919	4,268
120		Service pipe	1,374	1,948	1,790	1,702	2,007	2,186
121		Station	-	-	-	-	-	-
122		Line valve	68	52	38	67	84	93
123		Special crossings	365	81	7	13	16	18
124		**Medium Pressure total**	4,491	5,887	5,332	5,106	6,025	6,565
125		**Low Pressure**						
126		Main pipe	5	4	3	5	6	7
127		Service pipe	3	2	1	3	3	4
128		Line valve	0	0	0	0	0	0
129		Special crossings	0	0	0	0	0	0
130		**Low Pressure total**	8	6	4	8	10	11

Company Name	**Powerco Limited**
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SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10-year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e. the value of RAB additions).
GDBs must provide explanatory comment on the difference between constant price and nominal dollar forecasts of expenditure on assets in Schedule 14a (Mandatory Explanatory Notes).
This information is not part of audited disclosure information.

sch ref								
131		**Other network assets**						
132		Monitoring and control systems	-	-	-	3	7	7
133		Cathodic protection systems	549	729	676	386	-	-
134		Other assets (other than above)	-	-	-	-	-	-
135		**Other network assets total**	549	729	676	389	7	7
136								
137		**Asset replacement and renewal expenditure**	8,066	8,041	7,807	7,119	7,375	7,764
138	*less*	Capital contributions funding asset replacement and renewal	-	-	-	-	-	-
139		**Asset replacement and renewal less capital contributions**	8,066	8,041	7,807	7,119	7,375	7,764
140								

11a(v): Asset Relocations

142		*Project or programme**						
143		None	-	-	-	-	-	-
144								
145								
146								
147								
148		** include additional rows if needed*						
149		All other projects or programmes - asset relocations	322	232	328	325	325	328
150		**Asset relocations expenditure**	322	232	328	325	325	328
151	*less*	Capital contributions funding asset relocations	228	164	232	230	230	233
152		**Asset relocations less capital contributions**	94	67	95	94	95	95
153								

11a(vi): Quality of Supply

			Current Year CY	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
154		for year ended	**30 Sep 24**	**30 Sep 25**	**30 Sep 26**	**30 Sep 27**	**30 Sep 28**	**30 Sep 29**
155								
156								
157		*Project or programme**	**$000 (in constant prices)**					
158		Dehli Crescent PRS removal and service uplift	25	25	-	-	-	-
159		Woodvale Grove	116	-	-	-	-	-
160								
161								
162								
163		** include additional rows if needed*						
164		All other projects or programmes - quality of supply	-	-	-	-	63	127
165		**Quality of supply expenditure**	141	25	-	-	63	127
166	*less*	Capital contributions funding quality of supply	-	-	-	-	-	-
167		**Quality of supply less capital contributions**	141	25	-	-	63	127
168								

Company Name	**Powerco Limited**
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SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10-year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e. the value of RAB additions).
GDBs must provide explanatory comment on the difference between constant price and nominal dollar forecasts of expenditure on assets in Schedule 14a (Mandatory Explanatory Notes).
This information is not part of audited disclosure information.

sch ref

11a(vii): Legislative and Regulatory

170		*Project or programme*						
171		None	-	-	-	-	-	-
172								
173								
174								
175								
176		** include additional rows if needed*						
177		All other projects or programmes - legislative and regulatory	-	-	-	-	-	-
178		**Legislative and regulatory expenditure**	-	-	-	-	-	-
179	*less*	Capital contributions funding legislative and regulatory	-	-	-	-	-	-
180		**Legislative and regulatory less capital contributions**	-	-	-	-	-	-

11a(viii): Other Reliability, Safety and Environment

182		*Project or programme**						
183		Isolation plans and resilience	780	1,248	823	523	418	211
184		DRS renewals	38	19	-	-	-	-
185		Network rationalisation	241	241	-	-	-	-
186		LIP valve Taranaki Base Hospital	161	161	-	-	-	-
187								
188		** include additional rows if needed*						
189		All other projects or programmes - other reliability, safety and environment	940	12	568	1,622	1,441	1,480
190		**Other reliability, safety and environment expenditure**	2,160	1,681	1,391	2,145	1,859	1,691
191	*less*	Capital contributions funding other reliability, safety and environment	-	-	-	-	-	-
192		**Other Reliability, safety and environment less capital contributions**	2,160	1,681	1,391	2,145	1,859	1,691
193								

11a(ix): Non-Network Assets

Routine expenditure

196		*Project or programme**						
197		ICT capex	1,425	1,653	1,403	1,206	1,266	1,194
198		Facilities	261	326	205	196	187	109
199		Leases	302	242	467	454	318	517
200								
201								
202		** include additional rows if needed*						
203		All other projects or programmes - routine expenditure	-	-	-	-	-	-
204		**Routine expenditure**	1,989	2,222	2,075	1,857	1,772	1,819

Atypical expenditure

206		*Project or programme**						
207		Facilities	48	341	393	136	136	408
208								
209								
210								
211								
212		** include additional rows if needed*						
213		All other projects or programmes - atypical expenditure	-	-	-	-	-	-
214		**Atypical expenditure**	48	341	393	136	136	408
215								
216		**Expenditure on non-network assets**	2,037	2,563	2,468	1,993	1,908	2,227

Company Name	**Powerco Limited**
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SCHEDULE 11b: REPORT ON FORECAST OPERATIONAL EXPENDITURE

This schedule requires a breakdown of forecast operational expenditure for the disclosure year and a 10-year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms.
GDBs must provide explanatory comment on the difference between constant price and nominal dollar operational expenditure forecasts in Schedule 14a (Mandatory Explanatory Notes).
This information is not part of audited disclosure information.

sch ref

		Current year CY	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
	for year ended	**30 Sep 24**	**30 Sep 25**	**30 Sep 26**	**30 Sep 27**	**30 Sep 28**	**30 Sep 29**	**30 Sep 30**	**30 Sep 31**	**30 Sep 32**	**30 Sep 33**	**30 Sep 34**
	Operational Expenditure Forecast	**$000 (in nominal dollars)**										
	Service interruptions, incidents and emergencies	708	737	748	758	770	782	794	807	819	832	844
	Routine and corrective maintenance and inspection	3,642	3,834	3,947	4,061	4,187	4,313	4,443	4,578	4,716	4,858	5,005
	Asset replacement and renewal	3,157	2,761	2,900	3,043	3,200	3,363	3,533	3,713	3,902	4,100	4,308
	Network opex	7,507	7,332	7,594	7,862	8,157	8,458	8,771	9,097	9,436	9,790	10,157
	System operations and network support	3,308	4,097	4,126	4,194	4,279	4,365	4,452	4,541	4,632	4,724	4,819
	Business support	7,604	7,796	8,023	8,247	8,534	9,019	9,309	9,286	9,481	9,672	9,862
	Non-network opex	10,912	11,893	12,149	12,441	12,813	13,384	13,761	13,827	14,112	14,396	14,681
	Operational expenditure	18,419	19,225	19,743	20,304	20,970	21,842	22,532	22,924	23,549	24,186	24,838

		Current year CY	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
	for year ended	**30 Sep 24**	**30 Sep 25**	**30 Sep 26**	**30 Sep 27**	**30 Sep 28**	**30 Sep 29**	**30 Sep 30**	**30 Sep 31**	**30 Sep 32**	**30 Sep 33**	**30 Sep 34**
		$000 (in constant prices)										
	Service interruptions, incidents and emergencies	708	721	718	715	712	708	705	702	699	696	693
	Routine and corrective maintenance and inspection	3,642	3,754	3,791	3,829	3,867	3,906	3,945	3,984	4,024	4,065	4,105
	Asset replacement and renewal	3,157	2,704	2,785	2,869	2,956	3,045	3,137	3,232	3,329	3,430	3,534
	Network opex	7,507	7,179	7,294	7,413	7,535	7,660	7,787	7,918	8,053	8,190	8,331
	System operations and network support	3,308	4,011	3,963	3,954	3,953	3,953	3,953	3,953	3,953	3,953	3,953
	Business support	7,604	7,633	7,706	7,776	7,883	8,168	8,265	8,083	8,091	8,092	8,089
	Non-network opex	10,912	11,644	11,669	11,730	11,835	12,120	12,218	12,035	12,043	12,044	12,042
	Operational expenditure	18,419	18,822	18,963	19,143	19,370	19,780	20,005	19,954	20,096	20,235	20,373
	Subcomponents of operational expenditure (where known)											
	Research and development	45	45	45	-	-	-	-	-	-	-	-
	Insurance	39	42	45	49	53	57	62	67	72	78	84

		Current year CY	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
	for year ended	**30 Sep 24**	**30 Sep 25**	**30 Sep 26**	**30 Sep 27**	**30 Sep 28**	**30 Sep 29**	**30 Sep 30**	**30 Sep 31**	**30 Sep 32**	**30 Sep 33**	**30 Sep 34**
	Difference between nominal and real forecasts	**$000**										
	Service interruptions, incidents and emergencies	-	15	30	43	59	74	89	105	120	136	152
	Routine and corrective maintenance and inspection	-	80	156	232	319	407	498	593	691	794	900
	Asset replacement and renewal	-	58	115	174	244	317	396	481	572	670	774
	Network opex	-	154	300	449	622	798	984	1,179	1,384	1,599	1,826
	System operations and network support	-	86	163	240	326	412	499	588	679	772	866
	Business support	-	163	317	471	651	851	1,044	1,203	1,390	1,580	1,773
	Non-network opex	-	249	480	711	977	1,263	1,543	1,791	2,069	2,352	2,639
	Operational expenditure	-	403	780	1,160	1,600	2,062	2,527	2,970	3,453	3,951	4,465

Company Name	**Powerco Limited**
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SCHEDULE 12a: REPORT ON ASSET CONDITION

This schedule requires a breakdown of asset condition by asset class as at the start of the forecast year. The data accuracy assessment relates to the percentage values disclosed in the asset condition columns. Also required is a forecast of the percentage of units to be replaced in the next five years. All information should be consistent with the information provided in the AMP and the expenditure on assets forecast in Schedule 11a.

sch ref

					Asset condition at start of planning period (percentage of units by grade)						
8	**Operating Pressure**	**Asset category**	**Asset class**	**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**
9	Intermediate Pressure	Main pipe	IP PE main pipe	km	0.0%	0%	0%	99%	1%	3	0%
10	Intermediate Pressure	Main pipe	IP steel main pipe	km	0.0%	1%	0%	78%	20%	3	0%
11	Intermediate Pressure	Main pipe	IP other main pipe	km	0.0%	0%	0%	22%	78%	3	0%
12	Intermediate Pressure	Service pipe	IP PE service pipe	km	0.1%	1%	1%	97%	1%	3	0%
13	Intermediate Pressure	Service pipe	IP steel service pipe	km	0.1%	1%	1%	60%	38%	3	0%
14	Intermediate Pressure	Service pipe	IP other service pipe	km	0.1%	1%	1%	96%	2%	3	0%
15	Intermediate Pressure	Stations	Intermediate pressure DRS	No.	2.0%	21%	21%	56%	0%	3	18%
16	Intermediate Pressure	Line valve	IP line valves	No.	3.0%	7%	21%	68%	0%	3	11%
17	Intermediate Pressure	Special crossings	IP crossings	No.	1.0%	19%	3%	77%	0%	3	0%
18	Medium Pressure	Main pipe	MP PE main pipe	km	0.1%	0.2%	0.0%	99%	1%	3	1%
19	Medium Pressure	Main pipe	MP steel main pipe	km	0.0%	0.1%	0.1%	79%	20%	3	2%
20	Medium Pressure	Main pipe	MP other main pipe	km	0.0%	0%	0%	22%	78%	3	0%
21	Medium Pressure	Service pipe	MP PE service pipe	km	0.1%	1%	1%	97%	1%	3	0%
22	Medium Pressure	Service pipe	MP steel service pipe	km	0.1%	1%	1%	60%	38%	3	0%
23	Medium Pressure	Service pipe	MP other service pipe	km	0.1%	1%	1%	96%	2%	3	0%
24	Medium Pressure	Stations	Medium pressure DRS	No.	0.0%	13%	8%	79%	0%	3	9%
25	Medium Pressure	Line valve	MP line valves	No.	2.0%	15%	25%	59%	0%	3	1%
26	Medium Pressure	Special crossings	MP special crossings	No.	2.0%	19%	5%	75%	0%	3	2%
27	Low Pressure	Main pipe	LP PE main pipe	km	0.0%	0%	0%	99%	1%	3	0%
28	Low Pressure	Main pipe	LP steel main pipe	km	0.0%	0%	1%	78%	20%	3	0%
29	Low Pressure	Main pipe	LP other main pipe	km	0.0%	0%	0%	22%	78%	3	0%
30	Low Pressure	Service pipe	LP PE service pipe	km	0.0%	0%	0%	98%	1%	3	0%
31	Low Pressure	Service pipe	LP steel service pipe	km	0.0%	0%	0%	61%	38%	3	0%
32	Low Pressure	Service pipe	LP other service pipe	km	0.0%	0%	0%	97%	2%	3	0%
33	Low Pressure	Line valve	LP line valves	No.	0.0%	1%	2%	98%	0%	3	0%
34	Low Pressure	Special crossings	LP special crossings	No.	0.0%	0%	0%	0%	0%	3	0%
35	All	Monitoring and control systems	Remote terminal units	No.	40.0%	19%	3%	38%	0%	4	40%
36	All	Cathodic protection systems	Cathodic protection	No.	0.0%	4%	7%	88%	0%	3	23%

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AMP Planning Period	**1 October 2024 – 30 September 2034**

SCHEDULE 12b: REPORT ON FORECAST UTILISATION

This Schedule requires a breakdown of current and forecast utilisation (for heavily utilised pipelines) consistent with the information provided in the AMP and the demand forecast in schedule S12c.

sch ref

Forecast utilisation of heavily utilised pipelines

Utilisation

Region	Network	Pressure system	Nominal operating pressure (NOP) (kPa)	Minimum operating pressure (MinOP) (kPa)	Total capacity at MinOP (scmh)	Remaining capacity at MinOP (scmh)	Unit	*Current Year CY* y/e 30 Sep 24	*CY+1* y/e 30 Sep 25	*CY+2* y/e 30 Sep 26	*CY+3* y/e 30 Sep 27	*CY+4* y/e 30 Sep 28	*CY+5* y/e 30 Sep 29	Comment
Hawkes Bay	Hastings	Hastings LMP	150	75	1303	18	scmh	1252	1329	1358	1400	1442	1484	In FY23 the first stage of a three-staged upgrade was completed to improve supply into Havelock North. With growth expected to continue, a second phase to upgrade the main to LIP with a new supply point into Havelock North is expected in RY30. The third stage is not expected to be required during the planning period. In RY28 we will extend our mains along Middle Rd to better
							kPa	116	107	99	86	88	80	
Hawkes Bay	Hastings	Taradale	150	75	761	46	scmh	722	749	776	803	819	819	Domestic growth is progressing, but at a slower rate than previously forecast. The reduced growth speed is attributed to delays in greenfields development completions. Droop is expected to reach approximately 50% by RY27. We will perform a pressure uplift when a 60% droop is reached. We no longer expect this need during the planning period. Strong growth in small commercial connections may move works forward by an additional year; monitoring is ongoing.
							kPa	92	80	76	70	69	69	
Hutt Valley/Porirua	Belmont	Belmont LIP	860	430	17820	59	scmh	17743	17778	17823	17898	17968	18028	The low pressure point resides at Norfolk DRS (Wainuiomata). After a rebuild of our models to account for evening peaking in Wainuiomata, we have improved modelling accuracy on the Belmont LIP pressure system. Norfolk DRS was renewed in 2022 allowing for pressure down to 300kPa before differential across this station is no longer acceptable. A reinforcement project will be enacted immediately upon a breach of 300kPa via SCADA. We no longer expect a need to reinforce over the planning period.
							kPa	547	542	527	512	496	480	
Hutt Valley/Porirua	Belmont	Lower Hutt LMP	125	63	6732	21	scmh	6717	6717	6717	6717	6717	6717	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 has provided opportunity to increase the diameter of the motorway crossing and improve pressures. We don't expect any issues over the planning period.
							kPa	71	71	71	71	71	71	
Hutt Valley/Porirua	Waitangirua/ Pauatahanui	Elsdon LMP	104	52	467	5	scmh	466	487	507	526	526	526	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.
							kPa	54	54	54	54	54	54	
Hutt Valley/Porirua	Waitangirua/ Pauatahanui	Pauatahanui IP	1050	525	1199	110	scmh	1156	1239	1318	1381	1440	1500	Expected residential growth in Plimmerton will be significant and will exceed the IP capacity if upgrades are not undertaken. A planned RY26 gas gate pressure uplift to 1500kPa will improve the pressures further as the large subdivision progresses.
							kPa	613	458	1073	981	877	752	
Manawatu	Feilding	Feilding LMP	100	50	1425	17	scmh	1318	1375	1456	1543	1628	1700	Due to 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 Street bringing more capacity to the northern part of Feilding. This will only add limited capacity, and we will further need to reinforcement the network in 2030 by uplifting the pressure
							kPa	72	68	61	52	57	50	

Company Name	**Powerco Limited**
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SCHEDULE 12b: REPORT ON FORECAST UTILISATION

This Schedule requires a breakdown of current and forecast utilisation (for heavily utilised pipelines) consistent with the information provided in the AMP and the demand forecast in schedule S12c.

sch ref															
23	Manawatu	Palmerston North	Palmerston North LMP	100	50	6217	12	scmh	6213	6253	6273	6285	6297	6309	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.
24								kPa	52	52	52	52	52	52	
25	Manawatu	Palmerston North	Summerhill	100	50	551	18	scmh	480	515	554	569	584	605	As the biggest identified area for growth in Palmerston North, we will actively monitor demand and pressure levels. Subdivisions identified in the last few AMPs have been deferred, therefore also deferring the need to reinforce this system. Droop of 60% and pressures approaching the capacity limit are forecast in RY2029 if no action is taken and growth continues as projected. To prevent capacity limits being exceeded it is proposed to raise the NOP to approximately
26								kPa	64	59	51	47	43	109	
27	Manawatu	Oroua Downs	Oroua Downs MP	330	165	216	41	scmh	261	261	261	261	261	261	The system is at capacity due to an existing large commercial customer. If local customers require more gas or greater pressures beyond what was delivered further substantial upgrades will be required.
28								kPa	63	63	63	63	63	63	
29	Taranaki	New Plymouth	Bell Block North	225	113	847	14	scmh	828	855	873	903	933	693	Residential growth occurring in the east of this pressure system has slowed. However, as part of a DRS replacement project we, are taking the opportunity to overlay some smaller diameter outlet pipe to larger diameter, which will see a small improvement in performance. No major reinforcement is expected in the first half of the planning
30								kPa	155	165	165	165	165	164	
31	Taranaki	New Plymouth	New Plymouth IP	1250	625	7448	444	scmh	7553	7663	7717	7784	7841	7910	The low point on this system is Tukapa Street DRS. The minimum operating pressure has been reviewed and set to 400kPa. This is not forecast to have any quality of supply impact in the foreseeable future as the regulator station is adequately sized to perform under low inlet pressures. The station is permanently monitored via SCADA.
32								kPa	568	537	524	510	499	480	
33	Taranaki	New Plymouth	New Plymouth MP	245	123	5213	67	scmh	5208	5290	5327	5363	5390	5429	There is a single branch of this network where low pressures have been detected. The localised constraint is due to a relatively long run of a relatively low diameter main supplying industrial customers near Breakwater Road. The remainder of the network has pressures within specifications, even considering reasonable residential demand growth.
34								kPa	126	126	126	126	125	125	
35	Taranaki	Patea	Patea	350	175	357	56	scmh	355	355	355	355	355	355	Gas gate volumes through Pātea have been slowly trending down for the past five years, hence the improvement compared to historical AMP figures. Monitoring is ongoing.
36								kPa	178	178	178	178	178	178	
37	Taranaki	Waitara	Lepperton MP	350	175	374	36	scmh	401	401	401	401	401	401	The network is constrained due to some larger demand chicken sheds at the extremity of the smaller diameter network. There have been no pressure issues and don't anticipate any growth. There are no plans to upgrade capacity further unless demand increases.
38								kPa	85	85	85	85	85	85	
39	Taranaki	Waitara	Waitara MP	250	125	904	7	scmh	801	801	801	801	801	801	A recent load increase at a chicken shed has seen pressures at the network extremity reach a droop of just under 60%. 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 to occur over the planning period.
40								kPa	102	102	102	102	102	102	
41	Wellington	Tawa A	Karori	135	68	1776	14	scmh	1777	1777	1819	1819	1819	1819	Pressures are slightly below minimum operating pressure and with a small development planned for RY26, we expect to see pressures drop more. However, we expect to remain within our allowable pressure tolerance and we will look to reinforce the network if pressures drop below 54kPa.
42								kPa	66	66	57	57	57	57	

Company Name	**Powerco Limited**
AMP Planning Period	**1 October 2024 – 30 September 2034**

SCHEDULE 12b: REPORT ON FORECAST UTILISATION

This Schedule requires a breakdown of current and forecast utilisation (for heavily utilised pipelines) consistent with the information provided in the AMP and the demand forecast in schedule S12c.

sch ref															
43	Wellington	Tawa A	Wellington 25 kPa	25	13	13594	29	scmh	13604	13604	13604	13604	13604	13604	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.
44								kPa	12	12	12	12	12	12	
45	Wellington	Tawa A	Wellington LIP	1200	600	21332	166	scmh	21383	21476	21635	21746	21833	21869	The low point on this system is Karori. The minimum operating pressure could be accepted as low as 335kPa. During our model rebuilding process, we have separated the Wellington IP network from the pressure systems that it supplies to account for diversity within the network. This sees pressure higher than previously published, which more accurately reflects actual pressures measured. We do not expect any issues over the planning period and will continue
46								kPa	535	533	468	466	465	464	
47	Wellington	Tawa A	Wellington North	185	93	5132	90	scmh	5049	5130	5235	5334	5421	5457	The Westchester Drive overlay was completed in RY24 and saw improved pressures to the Churton Park area. Subsequently, we do not expect constraints in Churton Park during the planning period. Subdivision growth in Grenada Village has slowed and we do not expect the need to reinforce the area until RY35 (Mark Avenue overlay). This system is being continuously monitored.
48								kPa	126	126	121	116	111	106	

49 ** 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.*

50

51 **Disclaimer for supply enquiries**

The information in this table contains modelled estimates of utilisation and capacity. Any interested party seeking to invest in supply from Powerco's distribution network should contact Powerco or their retailer and confirm availability of capacity.

52

53

54 **Notes and assumptions**

55 Growth patterns used reflect our knowledge at the time of writing.

56 If growth is expected to spread over multiple years, it is uniformly spread over that period unless specifically known.

57 The number of lots identified is multiplied by 0.6 scmh 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 (unless the development layout plan is known).

58 If the growth specified is inferior to our other supply forecasts, we reconcile these by adding the load at one extremity of the network.

59 Changes in current and forecast utilisation can change year-on-year as we acquire new data from the field and refine our models to be more accurate.

60

Company Name	**Powerco Limited**
AMP Planning Period	**1 October 2024 – 30 September 2034**

SCHEDULE 12c: REPORT ON FORECAST DEMAND

This schedule requires a forecast of new connections (by consumer type), peak demand and energy volumes for the disclosure year and a five-year planning period. The forecasts should be consistent with the supporting information set out in the AMP as well as the assumptions used in developing the expenditure forecasts in Schedule 11a and Schedule 11b and the capacity and utilisation forecasts in Schedule 12b.

sch ref

12c(i) Consumer Connections

Number of ICPs connected in year by consumer type

Consumer types defined by GDB	*Current year CY* **30 Sep 24**	*CY+1* **30 Sep 25**	*CY+2* **30 Sep 26**	*CY+3* **30 Sep 27**	*CY+4* **30 Sep 28**	*CY+5* **30 Sep 29**
Residential	956	956	956	956	956	956
Commercial/industrial	57	57	57	57	57	57
Total	1,013	1,013	1,013	1,013	1,013	1,013

12c(ii): Gas Delivered

	Current year CY **30 Sep 24**	*CY+1* **30 Sep 25**	*CY+2* **30 Sep 26**	*CY+3* **30 Sep 27**	*CY+4* **30 Sep 28**	*CY+5* **30 Sep 29**
Number of ICPs at year end (at year end)	113,832	113,556	113,319	113,082	112,845	112,608
Maximum daily load (GJ per day)	40,343	40,101	39,860	39,621	39,383	39,147
Maximum monthly load (GJ per month)	983,149	977,250	971,387	965,558	959,765	954,006
Number of directly billed ICPs (at year end)	-	-	-	-	-	-
Total gas conveyed (GJ per annum)	8,430,337	8,379,755	8,329,477	8,279,500	8,229,823	8,180,444
Average daily delivery (GJ per day)	23,034	22,958	22,820	22,684	22,486	22,412
Load factor	71.46%	71.46%	71.46%	71.46%	71.46%	71.46%

Schedule 14a – Mandatory explanatory notes on forecast information

Company name: Powerco Limited
For year ended: 30 September 2024

1. This schedule requires gas distribution businesses (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 2024.

For example, the index used for the year ending 30 September 2024 is based on the annual average movement using CPI predictions (actuals where available) as follows:

(Q1 RY25 + Q2 RY25 + Q3 RY25 + Q4 RY25) / (Q1 RY24 + Q2 RY24 + Q3 RY24 + Q4 RY24).

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 2024.

For example, the index used for the year ending 30 September 2024 is based on the annual average movement using CPI predictions (actuals where available) as follows:

(Q1 RY25 + Q2 RY25 + Q3 RY25 + Q4 RY25) / (Q1 RY24 + Q2 RY24 + Q3 RY24 + Q4 RY24).

Appendix

Appendix 1 – Glossary of terms

AMP means Asset Management Plan.
AMMAT means asset management maturity assessment score.
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.
Cocon means below ground regulator station.
CP means cathodic protection.
DPP means default price-quality path.
DRS means district regulator station.
FY means financial year ending 31 March of the year in question.
GDB means gas distribution business.
GRO means System Growth Network Development Plans.
GWP means Gas Works Plan.
HVP means Hutt Valley and Porirua region that is one of our network areas.
ICP means installation control point, which is the point of connection of a customer to our network.
ID means Information Disclosure.
IP means intermediate pressure (700-2000kPa).
LDV means leak detection vehicle.
LIP means low intermediate pressure (700-1,200kPa).
LMP means low medium pressure (25-210kPa).
LP means low pressure (0-7kPa).
MP means medium pressure (7-700kPa).
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.
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.
RCP means representative concentration pathways forecasts adopted from the Intergovernmental Panel on Climate Change (IPCC). They consider a range of possible greenhouse gas (GHG) concentration trajectories in reference to global warming scenarios.
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 systems used for monitoring the network.
SSP means socio-economic shared pathways of the recent IPCC AR6 report in reference to global warming scenarios – aligned to RCP forecasts.
TPK means Te Puni Kāpuni (Issues Register), our tool for identifying projects and prioritising their need.

Directors Certificate
Gas Asset Management Plan Information Disclosure

Certificate for Year-Beginning Disclosures

Pursuant to clause 2.9.1 of Section 2.9

We, Richard Van Breda 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 2.6.3, 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 Limited's corporate vision and strategy and are documented in retained records.

Director:	Director:
Date: 25 September 2024	Date: 25 September 2024