Powerco

Greenhouse Gas Emissions Inventory Report

01 April 2024 – 31 March 2025
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Executive Summary

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

We keep the energy flowing to more than 900,000 people across the North Island of Aotearoa New Zealand. As the country's largest dual-energy distributor by network length, we own and operate over 29,200km of electricity lines and over 6,200km of gas pipes.

From urban and rural homes and businesses to large-scale industrial and commercial operations, we're driven by our purpose of connecting communities to energy that's safe, reliable, and resilient now and into the future.

Our mahi focuses on preparing our networks for change and enabling the aspirations for a net-zero Aotearoa. That means working to ensure that New Zealand's move to a low-emissions future is secure, affordable and environmentally conscious, and helps Kiwis thrive along the way.

As well as enabling our customers to decarbonise, we are also committed to making sustainable choices in our own operations, as detailed in our Climate Change Policy. By measuring and publicly disclosing our annual greenhouse gas (GHG) inventory, we are accountable for the emissions that relate to our business operations.

This GHG inventory report covers the financial year ending 31 March 2025 (FY25).

As detailed in our report, our overall emissions have decreased compared to our base year (FY21) but have increased compared to FY24.

A significant change in this year's reporting is the change in methodology used for calculating our gas line loss emissions. In FY25, Powerco implemented the MARCOGAZ model (adapted to New Zealand conditions) for calculating fugitive gas losses. This aligns Powerco with other New Zealand gas distribution businesses. Due to the significance of this change, we have recalculated our base year (and all other years prior to FY25). Our base year recalculation has resulted in a 77,750tCO_2e increase in reported emissions for gas line losses.

Further detail on this change is provided in Appendix A and in the explanatory text for Table 10.

Table 1 below contains a high-level summary of our emissions for FY25. A more detailed breakdown can be found in Table 6.

Table 1: GHG emissions by scope

Scope	FY25	FY24	Base year FY21	Variance with base year	
	tCO_2e	tCO_2e	tCO_2e	tCO_2e	%
1	59,592.44	54,049.44	85,702.25	-26,109.81	-30.47
2	20,266.91	20,352.92	28,184.97	-7,918.06	-28.09
3	101,650.06	85,285.79	79,858.56	21,791.50	27.29
Total	**181,509.41**	**159,688.15**	**193,745.77**	**-12,236.36**	**-6.32**

FY25 in Summary

Our total reported emissions for FY25 decreased by 6.32% compared with the FY21 base year. The most material changes in emissions are due to our gas and electricity line losses:

- The decrease in scope 1 emissions compared with the base year is mainly driven by a reduction in our reported gas line losses (see Table 10 explanation).
- The decrease in scope 2 emissions compared with the base year is mainly driven by a reduction in our electricity line losses (due to a change in emissions factor).

Our total reported emissions for FY25 have increased compared with FY24. This is largely due to the increase in our scope 3 spend based purchased goods and services. The increase in scope 1 is a result of using an updated Global Warming Potential for gas line losses – without this change, scope 1 reported emissions would have decreased slightly.

Our FY25 GHG inventory shows positive results for our corporate emissions reduction initiatives. It also highlights some harder to abate areas where we are still looking for solutions:

- Positive changes in fleet composition have again resulted in a decrease in mobile combustion emissions. Electricity use and waste in our offices have also both continued to decrease as our efficiency and waste management projects continue to be implemented. These positive results for fleet, office electricity and office waste are all on top of staff increases during FY25.
- Our staff are also changing their behaviours in their personal commuting decisions with a decrease in our employee commute emissions.
- Our use of diesel generators has increased, with two of the main contributors being an increase in cable faults and our focus on energy resilience. An increase in the proportion of overseas travel during FY25 has also seen an increase in our business travel emissions.

Disclaimer

This report includes information, data and forward-looking statements, including plans, assumptions and dependencies, which are based on current expectations that may not unfold as expected. A range of external factors – such as economic conditions, technological developments, climate variability, regulatory changes, consumer behaviour, and market dynamics could cause actual outcomes to vary materially. Powerco, along with its directors, officers, and employees, does not warrant that, and makes no guarantee that, any such data, information, or forward-looking statements are accurate or will remain accurate or unchanged after the release of this report, nor that outcomes will be achieved.

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This disclaimer should be read in conjunction with the methodologies, assumptions, limitations, and uncertainties set out in this report.

Introduction

This Disclosure

This Inventory Report is a complete and accurate account of the GHG emissions that result from Powerco's operations within the declared boundary and scope for the reporting period and utilising all practically available sources of data.[1]

Powerco's reporting processes and emissions categorisation are consistent with international protocols and standards and has been prepared in accordance with:

- Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard Revised Edition (2004).
- Greenhouse Gas Protocol: Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011).
- Global Reporting Index (GRI) - GRI 2 General Disclosures (2021); 305: Emissions (2016).
- ISO14064-1:2018.

This is our sixth public GHG emissions disclosure and relates to the year ended 31 March 2025.

Intended Uses and Audiences of the Report

This report is intended to advise the stakeholders of Powerco on our GHG inventory for the reporting period FY25, along with the steps and measures taken by us to reduce the greenhouse gas emissions associated with our activities.

Stakeholders include shareholders, investors, regulators, customers and communities who we supply energy to, and employees, contractors and members of the public.

Scope and Boundaries

Organisational Boundary

The organisational boundary determines the parameters for GHG reporting and ensures a consistent approach is applied when assessing which factors to include. Powerco applies the operational control consolidation approach. This means we aggregate the emissions from Powerco Limited and its subsidiary companies to a single Powerco value.

Powerco's operations are conducted out of nine locations throughout New Plymouth, Whanganui, Palmerston North, Wellington, Tauranga, Masterton and Te Aroha. The Junction Street premises in New Plymouth is our registered office.

Powerco's operational control starts at grid exit points and gas gate stations, where energy is transferred to our networks from Transpower New Zealand and Firstgas and finishes at the point where the energy reaches our customers[2].

[1] Contact person for GHG is the Sustainability Strategic Lead email: Corporate.sustainability@powerco.co.nz

[2] For the electricity network, this is the pillar box or fuse before the service cable or line that enters the property boundary. For the gas network, this includes the service pipe and may or may not include the gas meter.

Our operational control includes additional off-site locations and all operational activities undertaken by Powerco. These activities include:

- Powerco owned transmission, subtransmission, distribution and service cables and lines, zone substations, distribution transformers and associated network equipment.
- Powerco owned gas pipes, valves, district regulator stations and associated network equipment.
- Administrative activities within the areas occupied by Powerco at each office location.
- The operations of subsidiary companies The Gas Hub Ltd and Base Power Ltd.

Operational Boundary

The GHG emission sources from the Powerco value chain were identified with reference to the methodology described in the GHG Protocol and the GRI 305 Standards. These have been classified as follows.

Scope 1 – Direct GHG emissions that are operationally controlled by Powerco including:

- Stationary combustion emissions relating to direct consumption of natural gas and non-biogenic fuels in generators.
- Mobile consumption emissions relating to non-biogenic fuels.
- Fugitive emissions including sulphur hexafluoride (SF_6) in relation to our electricity network, and carbon dioxide (CO_2) and methane (CH_4) in relation to our gas network and refrigerant losses (HFCs) in our offices and facilities.

Scope 2 – Indirect GHG emissions from imported energy:

- This includes the GHG emissions from distribution network line losses and purchased electricity consumed by Powerco.

Scope 3 – Other indirect GHG emissions not included in Scope 1 or 2 that occur in Powerco's value chain. These have been further categorised as:

- GHG Protocol Category 1 – Purchased goods and services
- GHG Protocol Category 5 – Waste
- GHG Protocol Category 6 – Business travel
- GHG Protocol Category 7 – Employee commuting and working from home
- GHG Protocol Category 9 – Downstream transportation and distribution
- GHG Protocol Category 13 – Downstream leased assets

A full list of exclusions and reasoning is included in Table 4.

Information Management Procedures

Powerco's GHG inventory reporting guidelines were first developed in 2015 and last revised in May 2024. This document details the measurement and reporting requirements for Powerco Limited with the objective of assessing and measuring the greenhouse gas emissions associated with Powerco's activities, but do not yet include our recent changes to the storage and analysis procedures that are included in the bullet list below.

Powerco has developed and maintains GHG information management processes that: ensure conformance with the principles of the GHG Protocol and of ISO 14064-1:2018; provide routine and consistent reviews to ensure completeness and accuracy; ensure consistency with the intended use of the GHG inventory; manage and store documentation in a controlled and accessible manner; and identify and address omissions and errors.

Powerco's key GHG information management procedures are:

- Source data is collected directly from third party suppliers or from Powerco's financial and asset management systems.
- During FY25, Powerco moved to an internal integrated data storage and analysis system for its GHG data. Data is stored and analysed in an internally developed a business intelligence reporting and data warehouse. Further analysis takes place in Analysis for Office (AFO) and in a dashboard using SAP Analytics Cloud (SAC)
- Results are reviewed by the Environment and Sustainability Team.
- Emissions factors and conversion factors are maintained in our internal data warehouse and included in the audit undertaken by Toitu Envirocare.
- The GHG inventory is compiled using activity data and emission factors.
- The report is independently audited by Toitu Environcare.
- The report is reviewed to identify opportunities to improve the information management process.
- Senior management and all employees are kept informed of emissions reduction progress via internal dashboards and reporting.

Methodology

GHG emissions across scopes 1, 2, and 3 are calculated using a bottom-up approach where outputs from our activities are converted to a CO_2e value using an appropriate emission factor.

Emission Factors

Table 2: Emission factors applied to our emission sources

Scope	Grouping/GHG category	Emission source	Emission factor	Reference
1	Stationary combustion	Purchased gas LPG	0.195 $kgCO_2e$ /kWh 2.97 $kgCO_2e$ /kWh	MFE Measuring-Emissions-Guidance Emission Factors Workbook 2024
		Generators - diesel	2.68 $kgCO_2e$ /L	
	Mobile combustion	Petrol	2.37 $kgCO_2e$ /L	
		Diesel	2.68 $kgCO_2e$ /L	
	Fugitive emissions	SF_6	GWP = 23,500 IPCC AR5 GWP	EPA – Emissions Trading Scheme
		Gas network pipeline losses	GWP CH_4 = 28 IPCC AR5 GWP	MARCOGAZ methodology – see Appendix A
		Refrigerants	GWP = varies	MFE Measuring-Emissions-Guidance Emission Factors Workbook 2024
2	Electricity	Electricity network line losses	0.073 $kgCO_2e$ / kWh	MFE Measuring-Emissions-Guidance Emission Factors Workbook 2024
		Purchased electricity (offices, network sites, public chargers	0.073 $kgCO_2e$ / kWh	MFE Measuring-Emissions-Guidance Emission Factors Workbook 2024
3	Purchased goods and services including capital goods and transport	Contractor stationary combustion - Diesel	2.68 $kgCO_2e$ /L	MFE Measuring-Emissions-Guidance Emission Factors Workbook 2024
		Contractor stationary combustion - Petrol	2.08 $kgCO_2e$ /L	UK GHG Conversion Factors for Company Reporting. 2024

Scope	Grouping/GHG category	Emission source	Emission factor	Reference
		Contractor stationary combustion - LPG	2.97 kg/CO_2e/kg	MFE Measuring-Emissions-Guidance Emission Factors Workbook 2024
		Contractor mobile combustion	Petrol 2.37 kgCO_2e /L 0.243 kgCO_2e /km	
			Diesel 2.68 kgCO_2e /L 0.267 kgCO_2e /km	
		Services	Varies kgCO_2e/ Spend NZD	Most applicable factors from M.E Research Consumption Emission Modelling Report - prepared for Auckland Council March 2023
		Purchased products	Varies kgCO_2e/ Spend NZD	
		Base Power units and other customer use (stationary combustion of diesel)	2.68 kgCO_2e/ L	MFE Measuring-Emissions-Guidance Emission Factors Workbook 2024
	Waste	Composting Waste to landfill (general) Waste recycling (mixed) Waste oil from transformers Other network waste (landfill) Other network waste (recycling) Construction waste	1.76 kgCO_2e /kg 0.72 kgCO_2e /kg 0.0065 kgCO_2e /kg 2.97 kgCO_2e/ L 0.72 kgCO_2e/ kg 0.0065 kgCO_2e /kg 0.72 kgCO_2e /kg	MFE Measuring-Emissions-Guidance Emission Factors Workbook 2024 (excluding waste recycling which uses UK Government GHG Conversion Factors for Company Reporting. 2024)
	Business travel	Rental cars - diesel - default - petrol - default - petrol hybrid - default - electric	 0.182 kgCO_2e /km 0.183 kgCO_2e/km 0.144 kgCO_2e/km 0.016kgCO_2e/ kWh	
		Taxis	0.0454 kgCO_2e /$ (incl GST)	

Scope	Grouping/GHG category	Emission source	Emission factor	Reference
		Flights (domestic, international short-haul and long-haul with radiative forcing and aircraft size)	Domestic 0.176 $kgCO_2e$ / km 0.203 $kgCO_2e$ / km 0.194 $kgCO_2e$ / km Short haul 0.151 $kgCO_2e$ / km 0.226 $kgCO_2e$ / km Long haul 0.148 $kgCO_2e$ / km 0.236 $kgCO_2e$ / km 0.429 $kgCO_2e$ / km	
		Accommodation (domestic, Australia, Canada, United States)	11.5 $kgCO_2$/ night 43.2 $kgCO_2$/ night 12.5 $kgCO_2$ e / night 15.1 $kgCO_2$/ night	
	Employee commuting	Travel to and from work in private vehicles (diesel, electric, petrol, hybrid, plug in hybrid, motorbike and public transport bus, public transport rail)	0.265 $kgCO_2$/ km 0.019 $kgCO_2$/ km 0.243 $kgCO_2$/ km 0.192 $kgCO_2$/ km 0.089 $kgCO_2$/ km 0.117 $kgCO_2$/ km 0.155 $kgCO_2$/ km 0.022 $kgCO_2$/ km	
		Working from home Home Charging	0.755 $kgCO_2$/ day 0.073 $kgCO_2e$ / kWh	
	Downstream transportation and distribution	Road freight of scrap metals and plastics	0.135 $kgCO_2$/ tkm	
	Downstream leased assets	Powerco owned leased depots purchased electricity	0.073 $kgCO_2e$/ kWh	MFE Measuring-Emissions-Guidance Emission Factors Workbook 2024

Reporting Period and Base Year

The current reporting period is the financial year ended 31 March 2025 (FY25). The base year is the year ended 31 March 2021 (FY21).

FY21 was selected as the base year due to the availability of data and similarity of scope with our ongoing emissions. The base year will be considered for reassessment or recalculation in any of the following circumstances:

- We significantly change the scope of what we are measuring within our value chain, for example mergers, acquisitions and other structural changes.
- Significant changes in calculation methodology.
- An error or cumulative errors that could be collectively significant are discovered.
- Recalculating the affected emissions source for the base year would provide decision useful information for our key stakeholders.
- Significant has been defined as, where the inventory is affected by changes that in aggregate total 5% of the scope covered by our emissions reduction target (or 5% of the total inventory).

Data Collection and Review Process

Data for this report is collected by Powerco's Sustainability Analyst and uploaded into the business intelligence reporting and data warehouse and analysed as per the Information Management Procedures section of this report. The methodologies are reviewed by the Sustainability Strategic Lead and this report is approved for publication by the General Manager Corporate Services.

Powerco's business intelligence software uses a calculation methodology for quantifying the GHG emissions inventory using emissions source activity data multiplied by the GHG emissions factors.

Data Quality of Reported Emissions

In total, 17 sources of data are obtained from supplier invoices or reports and 11 from internal business units. Most data sources (n=24) are based on usage/quantities, while four scope 3 data sources (taxis, purchased goods and services, network and corporate construction waste) are spend based.

For scope 1 and 2 emissions, 50% of the data sources are internal and 50% are calculated using data obtained from suppliers or other value chain partners.

For scope 3 emissions, 69% of data sources are calculated using data obtained from suppliers or other value chain partners.

There are limitations to some data sources, specifically:

- Electricity line losses are based on a draft figure for electricity throughput (based on the last three years actuals) and subsequent losses in order to publish this report in a timely manner. We estimate the final audited figure could vary by up to 1.7%. Last year the difference in emissions for the actual audited line loss emissions versus the three-year average we used in the GHG report was 0.95% of the total GHG emissions. This was within the (5%) threshold for a restatement.
- Electricity Transmission and Distribution (T&D) losses for energy delivered to ICPs – unmetered loads such as streetlights are estimated.
- There are uncertainties and estimations used to calculate employee commuting, such as averaging of travel range bands.
- Only tier 1 contractors' fuel emissions are calculated from actual usage. The remainder is accounted for in purchased goods and services.
- Stationary combustion figures for one of our major contractors uses three years of data averaged.
- LPG quantities have been estimated based on a minimum of one BBQ bottle at Junction Street and runtime of the generator at our Whanganui office.
- A spend based methodology has been used to calculate emissions for scope 3 category 1 – purchased goods and services, using the most applicable emissions factors from a locally sourced consumption emissions modelling report.
- Refrigerant emissions are based on a default leakage rate from MfE guidelines, average total holdings and deduced refrigerant types.
- Other network waste and construction waste are based on an extrapolation of waste to landfill data from one supplier and based on supplier spend.

Summary of Emission Source Inclusions

Table 3: Data collection and review process

Scope	Grouping/GHG category	ISO category	Emission source	Data	Data source
1	Stationary combustion	1: Direct emission and removals	Purchased gas	Gas usage (kWh)	External invoices
			Office LPG (bottled)	Gas usage (kgs)	Estimate based on less than one bottle used in one location and generator runtime in another
			Diesel	Fuel usage (litres)	External generator hire and servicing contractors
	Mobile combustion	1	Petrol, diesel	Fuel usage (litres)	Automated report from external fuel supplier
	Fugitive emissions	1	SF_6	Identified equipment and quantity[3]	External report from service provider reconciled with internally reported equipment information (based on calendar year, rather than FY)
		1	Gas network pipeline losses	Refer appendix A	Internal report of monthly estimated leakage reports from leak detention vehicle
		1	Refrigerants	Leakage quantities	Internal inventory of equipment located in our offices, substations and communications sites
2	Electricity	2: Indirect emissions from imported energy	Electricity network lines losses	Electricity losses (GWh)	Internally reported average of three years of Powerco's audited electricity information disclosures [4]
		2	Purchased electricity – Public charging	Electricity usage (kWh)	External reporting from public charging provider

[3] Calculated consistent with those specified by the Environmental Protection Authority (EPA) in the Climate Change Response Act Regulations accounting for losses of SF_6 gas to atmosphere and the corresponding tCO_{2e}.
[4] See schedule 9e(ii) in the disclosures here https://www.powerco.co.nz/who-we-are/pricing-and-disclosures/electricity-disclosures

Scope	Grouping/GHG category	ISO category	Emission source	Data	Data source
		2	Purchased electricity – Home charging	Electricity usage (kWh)	External reporting from home charging provider
		2	Purchased electricity	Electricity usage (kWh)	External automated reports from electricity retailer
3	Fuel and energy related activities not included in scope 1 or 2 - Business travel	3	Rental cars (petrol, diesel)	Distance travelled (km)	External report from vehicle rental agency
		3	Taxis	Financial cost including GST	Internal financial report based on staff coding
		3	Flights (domestic, international short haul and long haul)	Distance between departure and arrival airports (km)	External report from travel provider
		3	Accommodation	Number of nights stayed	External report from travel provider
	Employee commuting	3	Travel to and from work (in private vehicles and public transport)	Distance (kms) to work per employee pro-rated across Powerco's total FTEs	Internal employee commute survey
		3	Working from home	Number of days	Internal employee commute survey
	Downstream transportation and distribution	3	Road freight for scrap metal and PVC	Distance travelled (km) per tonne	External report from recycling company
	Purchased goods and services including capital goods and upstream transportation and distribution	4: Indirect emissions from products used by organisation	Other purchased goods and services not already accounted for in this GHG inventory	Cost in $NZD including GST	Internal financial reporting
		4	Petrol, diesel (stationary combustion)	Fuel usage (litres)	External report from most significant contractors
		4	LPG (stationary combustion)	Fuel usage (kg)	External report from most significant contractors

Scope	Grouping/GHG category	ISO category	Emission source	Data	Data source
		4	Contractor fuel (operational maintenance and construction, petrol and diesel (mobile))	Distance travelled (km) and/or fuel (litres)	External report from most significant contractors
		4	Customer use of diesel in Powerco owned Base Power units	Fuel usage (litres)	Internal report from maintenance contractors
		4	Customer use of diesel in other generators	Fuel usage (litres)	External report from supplier
	Waste	4	Waste to landfill from offices	Waste to landfill and recyclables (tonnes)	External report from waste management company and internal waste audits
		4	Waste oil from transformers	Fuel recovered (L)	External report from oil recovery company
		4	Other network waste	Waste to landfill and recyclables (tonnes)	Spend based calculation
		4	Construction waste	Waste to landfill and recyclables (tonnes)	Spend based calculation
	Downstream leased assets	4	Depots leased to contractors	Purchased electricity	External report from leasee

Exclusions

The following data is currently excluded from the FY25 GHG Inventory.

Table 4: GHG emissions excluded from the FY25 GHG Inventory

Scope	GHG category	ISO category	Emissions source	Reasons for exclusion
3		4: Indirect emissions from products used by organisation	Office waste from Masterton and Te Aroha locations	Data not available, small offices >5 people. Will be included in our spend based calculation for "other purchased goods and services"
	Water and wastewater	4		Considered immaterial, but will be included in our spend based calculation for "other purchased goods and services"
	Upstream leased assets	4		Powerco does not have any upstream leased assets.
	Processing of sold products	5: Indirect emissions associated with the use of products from the organisation	Base Power	Seven Base Power units were sold in the FY25 reporting period. We do not capture data on further processing of these products
	Use of sold products	5	Base Power	Seven Base Power units were sold in the FY25 reporting period. Six of these were sold to Powerco (and their use is accounted for in this inventory). Data for one privately sold unit is unavailable and has been excluded from our inventory.
			Distributed natural gas and electricity	Since Powerco does not own the natural gas or electricity we distribute, it is a grey area under the GHG Protocol as to whether this needs to be included in our inventory. However, due to the significance of this category, we are being explicit that we have currently excluded it from our inventory.
	End of life treatment of sold products	5	Base Power	No units have reached end of life
	Downstream leased assets	5	Powerco owned leased depots	Data not available for purchased gas or refrigerants.
	Franchises and investments	5		Powerco does not have any franchises or investments to report on.

GHG Data Improvements for FY25

For our FY25 report, we have continued to enhance our data collection. The following improvements have been included:

- Actual or audit waste from all our main offices has been included for the first time. Emissions have been back dated to base year in order track reduction progress.
- The MARCOGAZ model has been used to calculate gas line losses based on actual leakage data (see Appendix A for more details). Emissions have been backdated to base year in order track reduction progress.
- An estimation of construction (other network and construction) waste emissions has been included.
- Inclusion of electric vehicle home-charging and public charging has been included.
- Inclusion and backdating of emissions from an LPG generator at our Whanganui office that had previously
- An error was found in our FY24 reported figure for Base Power fuel usage. This has been restated based in our FY25 report.

GHG Liabilities (this is a new section based on recommendations from FY24 audit)

The following table summarises Powerco GHG liabilities. These are the potential tCO_2e of stored fuels, refrigerants and gases.

Table 5: FY25 GHG liabilities

Emission Source	Type	Unit	Amount	Emissions factor	Total emissions (tCO_2e)
SF_6 holdings	SF_6	kg	3,159.60	23.50	74,250.60
Refrigerants	Varies	kg	386.89	Varies	700.43
Generators	Diesel	litres	60,653.00	0.003	162.46
LPG	LPG	kg	99.00	0.003	0.29
Total liabilities					75,113.78

FY25 GHG Inventory Analysis

Emissions by GHG Emissions Source

The table below shows Powerco's emissions by category in tCO_2e. Figures highlighted in either green or red indicate a salient change in emissions compared with the previous year (FY24). Changes in emissions not highlighted are because of changes outside of Powerco's control, changes in data collection, where we have low data quality, or an immaterial shift.

Table 6: FY25 GHG emissions (tCO_2e) by activity

GHG emissions source	FY25 tCO_2e	FY24 tCO_2e	FY21 tCO_2e (Base year)	Commentary
Mobile combustion	298.18	345.93	375.02	Even with an increase in staff numbers during FY25, the ongoing implementation of our vehicle fleet decarbonisation plan has resulted in a decrease in vehicle emissions. Our current fleet composition is: 51% HEV, 5% PHEV, 18% ICE and 26% BEV.
Fugitive emissions - SF_6	130.19	158.63	57.23	A third of our SF_6 emissions in FY25 were the result of two network assets suffering complete gas loss. We continue to work with equipment suppliers to understand the failure mode and find viable alternatives to SF_6 based equipment.
Fugitive emissions - gas network pipeline losses	58,312.00	53,088.00	84,997.00	During FY25, we standardised our reporting method for gas line losses with other New Zealand gas distributers. (see App A). Accordingly previous year's figures have been recalculated – based off an average of five years of actual leakage data (see Table 10 explanation). In FY25 (and in line with the latest accepted information from the Intergovernmental Panel on Climate – IPCC), we updated the global warming potential values from IPCC AR4 to IPCC AR5. This change has increased the reported FY25 emissions and has resulted in an increase from FY24.
Stationary combustion – Planned and unplanned (temporary) generation - diesel	584.02	417.79	235.02	The largest contributing factor for our increase in diesel use was due to underground cable faults. Our underground cable asset strategy will continue to specifically target known type issues. Our new contractor model aims to improve resourcing to reduce generator installation time. We also continue to have a focus on battery technology to reduce diesel generation. Powerco's four mobile hybrid SAP units have completed their first year of deployment with potential applications for improved utilisation in FY26.

GHG emissions source	FY25 tCO_2e	FY24 tCO_2e	FY21 tCO_2e (Base year)	Commentary
Stationary combustion – Network generation- diesel	246.85	17.19	13.82	Our strategic focus on energy resilience has resulted in an increase in diesel generator use for our network generator fleet. This is mainly due to two new 11kV generator sites installed on our network during FY25 to support emergency/unplanned outages and network support (peak lopping), and we anticipate their use will continue to increase in FY26. Diesel use from our Whangamatā generator with Battery Energy Storage System (BESS) also increased significantly. This was mainly due to the planned fibre roll out around the Coromandel and emergency outages.
Stationary combustion – Network- LPG, NG	0.06	0.11	0.17	Emissions due to office gas for water heating, BBQ use and backup generation has been included and backdated.
Fugitive emissions - refrigerants/ HVAC	21.14	21.79	23.88	This emission source was included in FY24 reporting for completeness and has been backdated to base year. It is based on a default percentage rate for each refrigerant type we have on our network.
Total Scope 1	**59,592.44**	**54,049.44**	**85,702.25**	
Electricity network line losses	19,966.82	20,052.69	27,784.97	FY25 line losses are based on an averaged figure from Powerco's past three years' audited information disclosures. This figure is lower than the FY24 figure used. The emissions factor used for FY25 was also 2% lower than that used in FY24.
Purchased electricity - Network	219.73	213.57	274.33	Total network electricity usage has increased during FY25, likely influenced by two new substations being added to our network.
Purchased electricity - Office	79.95	88.87	125.67	Efficiency projects have continued to decrease electricity use in our offices, including LED lighting, clearlite roofing, insulation, aircon upgrades and removal of underfloor heating. This decrease is also on top of absorbing staff increases and office electric vehicle charging.
Purchased electricity – Public charging	0.41			This is an emerging source of corporate emissions that we have included for the first time, from company vehicles being charged at public chargers.
Total Scope 2	**20,266.91**	**20,352.92**	**28,184.97**	

GHG emissions source	FY25 tCO_2e	FY24 tCO_2e	FY21 tCO_2e (Base year)	Commentary
Purchased goods and services	86,074.90	76,164.66	74,355.76	Purchased goods and services data is based on spend, using averaged emissions factors based on industry type. We have included these emissions in our reporting for completeness and provide proportionally. However, we have a low level of confidence in any comparisons year on year. FY25 had a higher spend and has resulted in increased reported emissions.
Contractor mobile and stationary combustion	5,910.31	6,134.21	5,009.66	Contractor emissions have decreased but we currently have a low confidence in this data. A programme to address this is currently underway.
Powerco owned leased depots	28.06	28.68	2.40	Slightly lower reported electricity consumption in our leased depots along with a lower emissions factor has resulted in lower emissions compared to FY24. FY21 data was an incomplete data set, so comparison is not possible.
Base Power	26.60	29.99	14.56	We added six new Base Power units to our footprint during FY25. A review of the current units has shown some issues with generator set up and solar array functioning. These will be reviewed during FY26. Our FY24 figure has also been restated based on an error found in our previous reporting.
Purchased electricity – Home charging	0.09			This is an emerging source of emissions from company vehicles being charged at home, that we have included for the first time.
Business travel	513.70	447.45	156.97	During FY24, we continued our focus on maintaining business travel at FY23 spend levels. Although our monetary budget remained largely in line with inflation, a large increase in the proportion of international travel (which has a higher emissions intensity per dollar spend) resulted in exceeding our travel emissions budget for FY25.
Employee commuting and working from home	281.85	311.51	298.22	Responses from our FY25 employee commuter survey resulted in a reduction in recorded emissions from FY24. This was on top of an increase in employee numbers and reflects the shift to lower emissions travel. We have a low confidence in the granularity of the FY21 data to be able to compare.
Waste – network (waste oil combustion and road freight of recyclable materials)	2,806.92	2,161.63		Since FY24 our waste emissions have included the road freight associated with some network recyclable materials. In FY25, compared to FY24, we have sent more scrap metal and oil to recyclers. We note that an increase in recycling emissions is not necessarily a negative as this is deferring landfill.

GHG emissions source	FY25 tCO_2e	FY24 tCO_2e	FY21 tCO_2e (Base year)	Commentary
Waste – other network and construction waste	5,557.85			This is a spend based estimate of the emissions associated with all other network and construction waste not already included in our GHG inventory. It accounts for waste to landfill and recycling and is a new category in our FY25 report. We are working with suppliers to obtain better network waste data to provide a fuller picture of this.
Waste - Office	6.26	7.66	20.97	Office waste continues to trend downwards as we divert more from landfill. During FY25 we widened our office waste data capture to include all but two of our small corporate locations. Waste data has been proxied and backfilled to base year.
Customer diesel use	443.66			One of our major network customers experienced a prolonged outage on the electricity network. This was due to an underground cable fault on the Powerco network. As an interim measure, we installed generators at two sites and in FY25 the impacted customer paid for the diesel used in the generators. Due to the complexities involved in replacing this cable, we expect this to continue well into FY26.
Total scope 3	**101,650.06**	**85,285.79**	**79,858.56**	
Total scope 1, 2, and 3	**181,509.41**	**159,688.15**	**193,745.77**	

Emissions by Greenhouse Gas Type

Table 7: FY25 total greenhouse gas emissions by greenhouse gas

Scope	tCO_2	tCH_4	tN_2O	tSF_6	tCO_2e	Total
1	1,118.06	5.24	8.18	130.19	58,330.77	59,592.44
2	19,523.59	722.89	0.33	0.00	20.10	20,266.91
3	99.25	6.34	0.49	0.00	101,544.00	101,650.10
Total	**20,740.91**	**734.46**	**9.00**	**130.19**	**159,894.88**	**181,509.45**

Emissions Over Time

The figure below shows Powerco's total emissions and breakdown by scope, from FY21 to FY25.

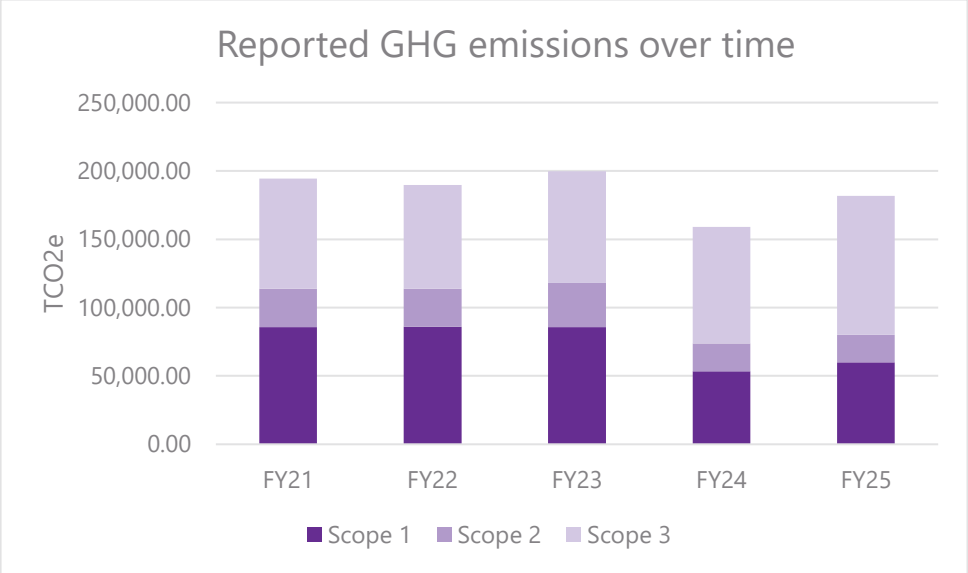

Figure 1: Comparison of total reported GHG emissions over time

GHG Emissions Intensity

Emissions intensity is a measure of carbon emissions in relation to a suitable business metric. The emissions intensity calculation includes scope 1 and 2, with a separate intensity calculation for scope 3 due to the decreased quality of this data. Our FY25 GHG emissions intensity for scope 1 and 2 emissions is 11.06tCO_2e per GWh of energy delivered through our network. This is a decrease from 15.61tCO_2e in our base year of FY21. The decrease in emissions intensity is largely driven by the reduction in gas line loss emissions.

Table 8: GHG intensity

	FY25	Base year FY21	Variance to base year	
	tCO_2e	tCO_2e	tCO_2e	%
Total GWh of energy delivered through networks	7,220.26	7,298.09	-77.84	-1.07
Scope 1 & 2 emissions tCO_2e	79,859.35	113,887.22	-34,027.87	-29.88
Emissions intensity tCO_2e/GWh Scope 1 & 2	**11.06**	**15.61**	-4.54	-29.12
Scope 3 emissions	101,650.06	79,858.56	21791.50	27.29
Emissions intensity tCO_2e/GWh Scope 3	**14.08**	**10.94**	3.14	28.66

Figure 2 shows the emissions intensity over time. The main impact on this is the change in reported emissions from gas line losses.

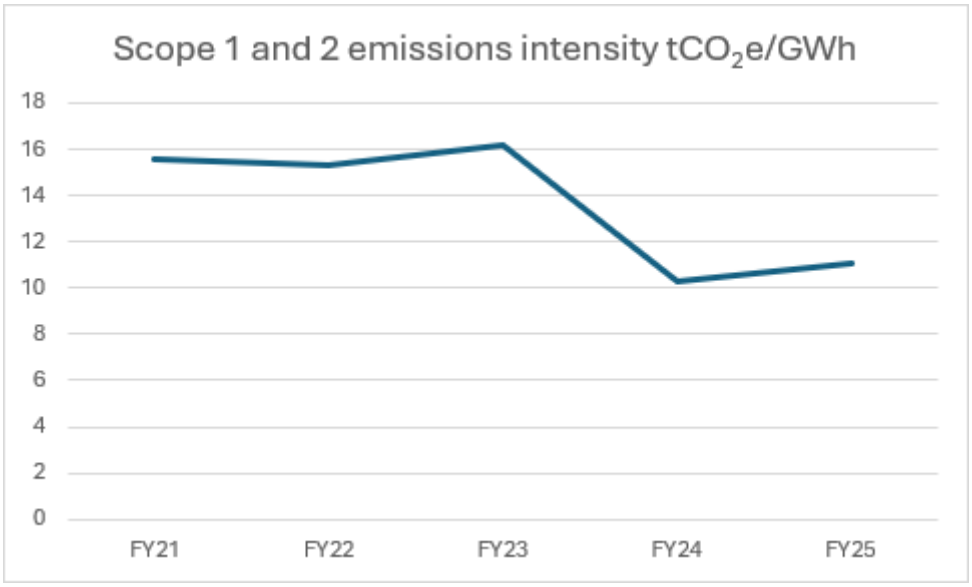

Figure 2: Comparison of scope 1 and 2 emissions intensity over time

GHG Removals and Reductions

Removals

A greenhouse gas removal is defined by ISO14064-1 as the 'total mass of greenhouse gas removed from the atmosphere over a specified period of time'. We had no quantified removals for this reporting period.

During FY25, Powerco supported the planting of over 18,000 trees across our network footprint through the following funding opportunities and partnerships.

- The launch of the Replant for Tomorrow Fund in 2024 enabled us to work with various environmental and community groups to support planting projects that benefited the wider community. Project Parore planted 3,300 natives in two locations in Katikati, Tauranga Rotary Club led a community planting day in Kōpūrererua valley that saw over 150 volunteers plant 4500 native plants in a couple of hours, and South Taranaki District Council and TOPEC led two planting days that saw 650 plants planted in Taranaki.
- Powerco once again partnered with Trees for Survival to support four schools in the Coromandel and Western Bay of Plenty. A total of 2891 native plants were planted as a result of this support.
- For the third year, Powerco supported Pokaiwhenua Catchment Group in Putaruru to plant 7000 trees in Duxfield Reserve.

Emissions Avoided

Some examples of where Powerco has implemented strategies during FY25 to avoid emissions are described below:

- Powerco has four solar arrays – one connected to our Network Operations Centre building, two on our main office buildings in New Plymouth, and a fourth at our Palmerston North office. Our largest solar array was installed at our New Plymouth office during FY25.
- During FY25 57MWh of electricity was generated. This equates to 4.17 tCO_2e avoided from our scope 2 emissions.
- During FY25, we installed six new stand-alone power supplies (Base Power units). Installation of these units is used strategically on our network to assist remote rural customers with energy supply while enabling Powerco to decommission the electricity lines supplying those customers. In addition, during FY24 Powerco purchased four mobile units that have been used during FY25 for unplanned outages.
- In a New Zealand first, Powerco are installing low voltage Battery Energy Storage Systems (BESS) on five power poles in Greerton, Tauranga. This trial is aimed at helping supply power to homes and businesses in the area at peak electricity use times. The pole-mounted batteries are designed to automatically store power during the night when the electricity network has spare capacity and then releasing it to supplement the network and maintain power quality when it would otherwise be short. This should allow us to defer or even avoid installing more power poles, lines, transformers and substations on our network, thus avoiding emissions.

Powerco had no emissions from the combustion of biomass.

Emissions Reduction Target

During FY25, with support from an independent specialist sustainability firm, we set an absolute emissions reduction target of 57% reduction in scope 1 and 2 emissions (excluding electricity distribution line losses) by 2030 from an FY21 base year. This target was developed using Science Based Target Initiative (SBTi) methodology. However, our target has not been validated by SBTi because SBTi's methodology provides for the inclusion of emissions related to electricity distribution losses, which we have excluded. We can therefore not attribute our target to being entirely consistent with keeping global warming to 1.5°C, but we believe to include electricity line losses could inhibit New Zealand's efforts to decarbonise.

Why electricity line losses are excluded from our target

Electrification of Aotearoa New Zealand's economy will play an important role in the country's decarbonisation and net-zero by 2050 ambition. To enable electrification, it is expected that networks like ours will need to increase capacity to meet the additional demand, corelating to potential increases in line losses, a factor which is largely an inevitable by-product of electrical conduction, and outside of Powerco's control.

As we trial emerging technologies such as battery energy storage systems and develop Distribution System Operator (DSO) capabilities that facilitate Distributed Generation/Distribution Energy Resources and flexibility uptake, reduced demand and flattened load profiles can be expected to result in a modest reduction in electricity line losses.

The cost of any significant reduction in line losses needs to be balanced against any possible barrier it creates to this transition and the overall cost of electricity to our customers. As electricity generated from renewable sources increases, this will have an impact on the carbon intensity of electricity supplied and therefore the emissions associated with network line losses. Line losses are therefore currently excluded from our emissions reduction target.

Emission Reduction Plan (ERP)

Our reduction target is underpinned by an emissions reduction plan which outlines emissions pathways for each emissions source. On this basis we believe a 57% reduction is achievable by 2030 and does not include the use of carbon offsets.

Figure 3 demonstrates our anticipated emissions reductions to meet our target.

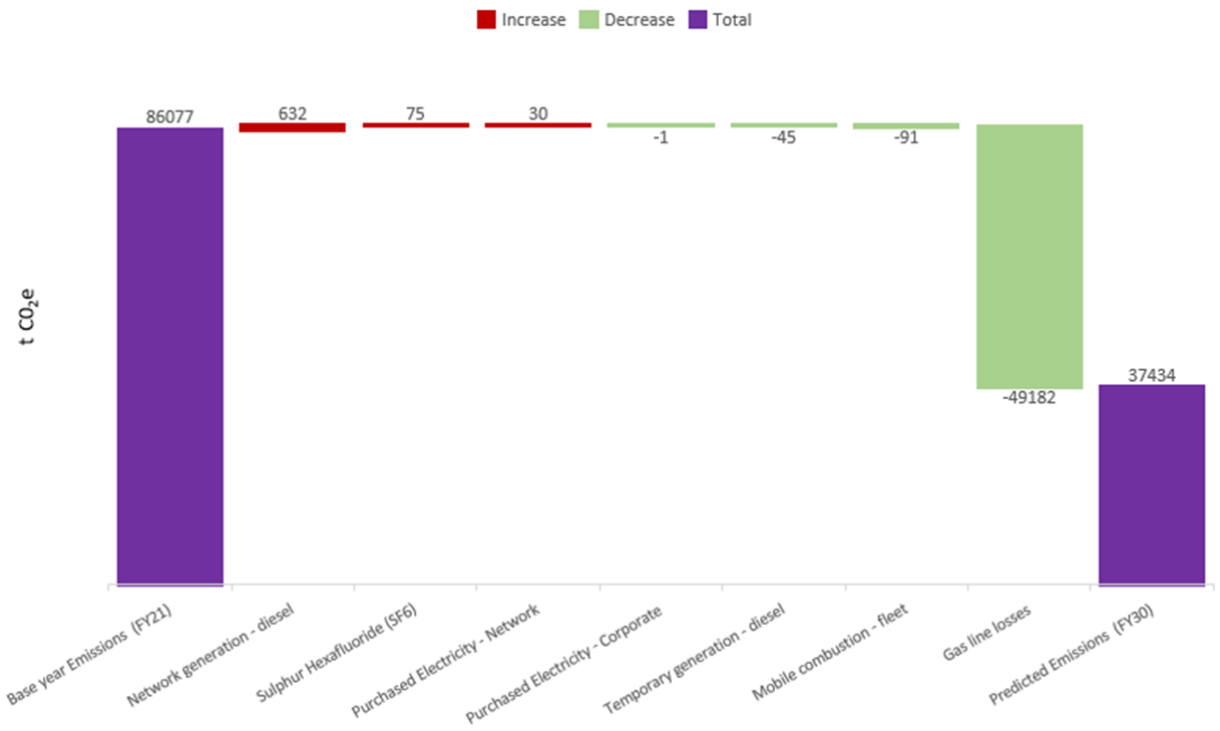

Figure 3: Powerco's anticipated emissions reductions

ERP Assumptions and Dependencies

Meeting our reduction target is reliant on a number of assumptions and dependencies, the largest of which relates to our predicted gas line losses.

Other abatement-related risks, while expected to have a less material impact on overall outcomes, also require active management. The following table replaces our previous emissions initiatives table. This is to provide greater visibility of the assumptions and dependencies that our emissions reduction plan is based on.

Table 9: Emissions reduction plan assumptions and status

GHG emissions source	Reduction plan assumptions and dependencies	FY25 predicted emissions (tCO_2e)		FY25 status compared to ERP
		Predicted	Actual	
Mobile combustion (vehicle fleet)	Assumes: • Vehicles travel 70,000km over a 36-month timeframe (as per lease term) • Fleet pool remains fixed at 77 vehicles • FY30 fleet composition of: - 0 Diesel - 52 HEV - 25 EV	348.9	298.18	Actual emissions were 15% below those predicted in the ERP for FY25, most likely due to fleet composition changes being more advanced than anticipated (diesel utes were predicted to make up 33% of the fleet but only represent 18% due to a greater number of EV / HEV vehicles and the introduction of 4 PHEV utes).
Gas line losses	Assumes: • Future predictions of natural gas emissions are based on global warming potential values as per the IPCC AR4. • Annual full network surveying. • No large-scale gas release events (i.e. natural disaster or third-party damage).	70,883.8	58,312	Despite an emissions factor adjustment to AR5, actual emissions are 18% below ERP predictions.
Stationary combustion –Network generation-diesel	Assumes: • Anticipated generator run times are based on historical unplanned outages plus projected demand (peak lopping) projected out to FY30. • General efficiency ratings for each generator type e.g 50%-75% load. • New network generators as per asset management planning forecasts (29 network generators and 18 community hubs - battery with generator working in hybrid, out to 2030). • No rolling outage scenarios.	337.41	246.85	Emissions for the Network generator fleet increased in FY25 as predicted. However, the newly installed generators were below their annual anticipated run times as these generators are still reaching full operational capacity. Based on this, actual emissions for FY25 were 27% less than what was predicted in the ERP.

GHG emissions source	Reduction plan assumptions and dependencies	FY25 predicted emissions ($tC0_2e$)		FY25 status compared to ERP
		Predicted	Actual	
Stationary combustion – planned and unplanned (temporary) generation - diesel	Assumes: • Historical diesel use from rental generator companies for planned and unplanned outages, static out to FY30. This includes diesel used in Powerco owned mobile hybrid standalone power systems (MHSAPs) generators. • Structured oversight to reduce generator installation and duration. • Use of battery technology to reduce diesel use with the deployment of four Powerco owned MHSAPs. • Implementation of mitigation methods on planned jobs, such as mobile transformers.	380	584.02	Our temporary rental generator emissions increased for FY25, 65% above the ERP due to underground cable faults. Also, low carbon solutions and diesel generator reduction strategies have not shown reductions as anticipated or been utilised as per the ERP assumptions. As part of our continued effort on structured oversight, the new contractor model aims to continue to improve resourcing to reduce generator installation time and potential applications for improved utilisation of the MHSAPs.
Purchased Electricity - Corporate	Assumes: • No increase in usage due to electric fleet vehicles or any additional staff EV's (for office charging). • New 100kW solar array for the Junction St at campus from FY26. • A stable grid mix emissions factor derived from averaging FY21 – FY24 grid mix EF's.	125.9	79.95	Actual FY25 emissions are well below ERP predictions, partly as FY25 consumption was estimated using an average of the previous four years consumption data and an averaged grid mix emissions factor but also reflects emission reduction initiatives implemented.
Purchased Electricity - Network	Assumes: • A grid mix emissions factor of 0.0729 kgC02e • An additional 3.17 substations added to the network per annum • FY24 average kWh consumption of 17,812.5 kWh per new substation.	273.2	219.73	Actual emissions are 20% lower than the emissions reduction pathway predictions. Possibly due to only two of the predicted new substations being commissioned in FY25.
Sulphur Hexafluoride (SF_6)	Assumes: • An average of FY21, FY23 and FY25 SF_6 emissions, as we have high confidence in the data for these years.	74.2	130.19	Actual emissions are approximately twice the emissions reduction pathway predictions, largely due to the fluctuating nature of SF_6 related emissions.

Emission Reduction Target – Progress Update

During FY25, total target emissions were 30.44% lower compared with the FY21 base year (Table 10). This is largely because of a reported decrease in gas line losses.

Compared with the previous year (FY24), our target emissions have increased by 10.19%. This is largely due to the change in global warming potential for natural gas.

Table 10: FY25 Target emissions (tCO_2e)

GHG emissions source	FY25	FY24	FY23	FY22	FY21 Base year	FY25 variance with base year	
	tCO_2e	tCO_2e	tCO_2e	tCO_2e	tCO_2e	tCO_2e	%
Mobile combustion	298.18	345.93	388.99	358.65	375.02	-76.84	-20.49
SF_6	130.19	158.63	10.34	107.16	57.23	72.96	127.49
Purchased gas	0.06	0.11	0.19	0.13	0.17	-0.11	-64.71
Diesel generators - Network	246.85	17.19	22.01	11.35	13.82	233.03	1,686.08
Diesel generators - Planned/ Unplanned	584.02	417.79	326.02	420.91	235.02	349.00	148.49
Refrigerants	21.14	21.79	22.47	23.16	23.88	-2.74	-11.47
Gas line losses	58,312.00	53,088.00	84,997.00	84,997.00	84,997.00	-26,685.00	-31.40
Purchased electricity - Network	219.73	213.57	333.28	273.14	274.33	-54.60	-19.90
Purchased electricity - Office	79.95	88.87	138.80	121.05	125.67	-45.72	-36.38
Purchased electricity - Public Charging	0.41						
Total	**59,892.53**	**54,351.88**	**86,239.10**	**86,312.55**	**86,102.14**	**-6,209.61**	**-30.44**

A note on gas network pipeline losses

Gas network pipeline losses are a significant contributor to Powerco's emissions, and as per the table above, these are included in our target. During FY25, we standardised our reporting method for gas line losses with other New Zealand gas distributers (see App A – MARCOGAZ model). Accordingly previous year's figures for gas network pipeline losses have been recalculated. The base year emissions (FY21) were calculated using an average of five years (FY19-23). This represents a full network survey, as previously it has taken five years to survey the full network (each year surveying approximately one fifth of the network). Due to different parts of the network having very different leakage rates, the leaks found over five years fluctuate significantly so using an averaged number was adopted.

During FY25, we completed our first full survey of the network (in one year) using our new Leak Detection Vehicle (LDV) which has enhanced our ability to survey our network for leaks more frequently.

Comparing our FY25 leakage data with our averaged FY21 data shows a significant reduction. Since FY21, Powerco has been implementing a programme of leakage reduction initiatives including replacing high leakage risk sections such as pre-1985 polyethylene.

As we continue to gather more detailed leakage data and evolve our understanding of gas business emissions modelling, we will continue to make improvements to the MARCOGAZ model. One such improvement occurred in FY24 where the model was updated from the simple to the complex calculation method, a change that was driven by improvements to leakage data. This change means we can calculate emissions for each leak detected, rather than averaging the number of annual leaks across the entire network as was done for years prior to FY24. The impact of this modelling update can be observed between the FY21 averaged value and the results for FY24. Also, in FY25 (and in line with the latest accepted information from the Intergovernmental Panel on Climate – IPCC), we updated the global warming potential values from IPCC AR4 to IPCC AR5. This change has increased the reported FY25 emissions and has resulted in an increase from FY24.

We anticipate that further reductions will be seen with the ongoing implementation of leakage initiatives and with the more frequent surveying of the network using the Leak Detection Vehicle (LDV). This increased survey frequency improves the accuracy of our emissions calculations by providing an opportunity to fix the leaks faster and provides more precise assumptions about leak durations when future leaks are identified.

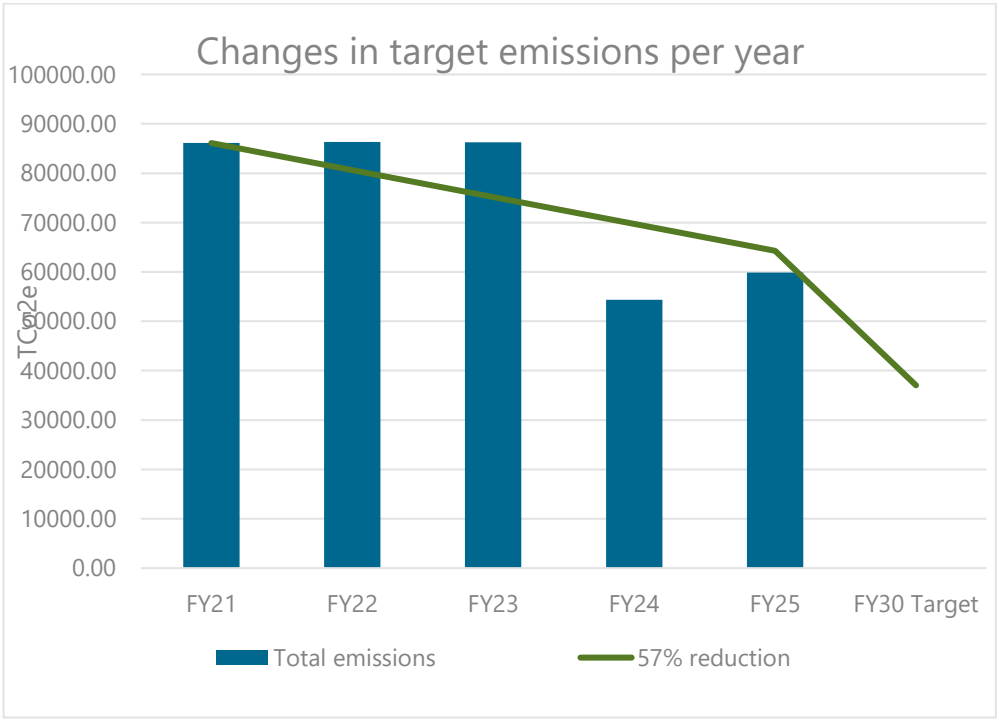

Figure 4: Annual actual and predicted target emissions

Appendices

Appendix A – MARCOGAZ Model

In FY25 Powerco implemented the MARCOGAZ model (adapted to New Zealand conditions) for calculating fugitive gas losses.

The MARCOGAZ methodology provides a standardised approach to address the quantification of methane emissions from the natural gas industry. It was developed as a technical reference for the quantification of methane emissions for the European market and has been adapted for New Zealand conditions; and adopted by Powerco and other New Zealand gas distribution businesses.

It is based on a bottom-up approach, developed to identify and to quantify all types of methane emissions from transmission and distribution systems. This quantification method requires splitting the gas infrastructure into groups of assets and indicating categories of emission that can be expected from these groups to determine the emission factors and the activity factors for each group. These factors are then used with leak and pipeline data to calculate emissions from our gas distribution network.

The MARCOGAZ model replaces Powerco's previous gas pipeline loss calculation which followed the Australian NGER Scheme Method 1, adapted for New Zealand. This method estimated fugitive emissions using total emissions passing through network equipment and a region-specific emissions factor. In cases where a New Zealand-specific emissions factor wasn't available, the formula incorporated the Maunsell Report's (2007) recommended average gas line loss of 0.2%.

The move to using the MARCOGAZ model means that the emissions from Powerco’s gas pipeline losses is now based on actual leakage data and will allow any reductions in emissions to be quantifiable, which was not possible using the previous calculation.

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9.3.2 (k)	Emissions by activity – Table 6	19
9.3.3	N/A	

Audit Report

This GHG Inventory Report has been audited by Toitu Envirocare, a third-party independent assurance provider. The following levels of assurance relate to ISO 14064-1:2018 and GHG Protocol respectively, and have been given for the assertions and quantification included in this report:

- Category 1 and 2/scope 1 and 2 – reasonable assurance
- Category 3 and 4 / scope 3 – limited assurance

The GHG assurance report is on the following page(s).

INDEPENDENT AUDIT OPINION
Toitū Verification

To the intended users

Organisation subject to audit:	Powerco Limited
Audit Criteria:	ISO 14064-1:2018 ISO 14064-3:2019 Technical Requirements – Audit V3
Responsible Party:	Powerco Limited
Intended users:	Stakeholders including shareholders, investors, regulators, customers and communities to whom energy is supplied, employees, contractors, and members of the public
Registered address:	35 Junction Street, Welbourn, New Plymouth, 4312, New Zealand
Inventory period:	01/04/2024 to 31/03/2025
Inventory report:	FY25 GHG inventory report.pdf

We have reviewed the greenhouse gas emissions inventory report ("the inventory report") for the above named Responsible Party for the stated inventory period.

Responsible Party's Responsibilities

The Management of the Responsible Party is responsible for the preparation of the GHG statement in accordance with ISO 14064-1:2018 . This responsibility includes the design, implementation and maintenance of internal controls relevant to the preparation of a GHG statement that is free from material misstatement.

Responsibilities of verifiers

Our responsibility as verifiers is to express a verification opinion to the agreed level of assurance on the GHG statement, based on the evidence we have obtained and in accordance with the audit criteria. We conducted our verification engagement as agreed in the audit letter, which define the scope, objectives, criteria and level of assurance of the verification.

The International Standard ISO 14064-3:2019 requires that we comply with ethical requirements and plan and perform the verification to obtain the agreed level of assurance that the GHG emissions, removals and storage in the GHG statement are free from material misstatement.

Reasonable assurance is a high level of assurance, but is not a guarantee that an audit carried out in accordance with the ISO 14064-3:2019 Standards will always detect a material misstatement when it exists. The procedures performed on a limited level of assurance vary in nature and timing from, and are less in extent compared to reasonable assurance, which is a high level of assurance. The procedures performed on a limited level of assurance vary in nature and timing from, and are less in extent compared to reasonable assurance, which is a high level of assurance. Misstatements are differences or omissions of amounts or disclosures, and can arise from fraud or error. Misstatements are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of readers, taken on the basis of the information we audited.

GHG quantification is subject to inherent uncertainty because of incomplete scientific knowledge used to determine emissions factors and the values needed to combine emissions of different gases.

Basis of verification opinion

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Verification

We have undertaken a verification engagement relating to the Greenhouse Gas Emissions Inventory Report (the 'Inventory Report')/Emissions Inventory and Management Report of the organisation listed at the top of this statement and described in the emissions inventory report for the period stated above.

The Inventory Report provides information about the greenhouse gas emissions of the organisation for the defined measurement period and is based on historical information. This information is stated in accordance with the requirements of International Standard ISO 14064-1 Greenhouse gases – Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals (ISO 14064-1:2018).

Verification strategy

Our verification strategy used a combined data and controls testing approach. Evidence-gathering procedures included but were not limited to:
—activities to inspect the completeness of the inventory;
—interviews of site personnel to confirm operational behaviour and standard operating procedures;
—detailed retracting of gas network line losses;
—recalculation of electricity network line losses;
—examination of purchased goods & services records.
The data examined during the verification were historical in nature.

Basis for modified verification opinion

The following qualifications have been raised in relation to the verification opinion:

Category 1 fugitive emissions from Powerco's gas network are based on the Marco Model that relies on a range of assumptions and conversion factors. A change to the underlying assumptions could significantly impact the measurement of these emissions.

Category 4 emission sources for purchased goods & services are highly variable and use a dollar spend emission factor to calculate emissions.

Verification level of assurance

ISO CATEGORY	LOCATION BASED tCO_2e	LEVEL OF ASSURANCE
Direct Emissions:		
Category 1	59,592.44	Reasonable
Category 2	20,266.91	Reasonable
Category 3	3,502.55	Limited
Category 4	98,147.52	Limited
TOTAL INVENTORY	**181,509.42**	

GHG PROTOCOL CATEGORIES

GHG SCOPE	tCO_2e
Scope 1	59,592.44
Scope 2	20,266.91
Scope 3	101,650.07
TOTAL INVENTORY	**181,509.42**

Responsible party's greenhouse gas assertion (claim)

Powerco Limited has measured its greenhouse gas emissions in accordance with ISO 14064-1:2018 in respect of the operational emissions of its organisation.

Verification conclusion

EMISSIONS - REASONABLE ASSURANCE
We have obtained all the information and explanations we have required. In our opinion, the emissions, removals and storage defined in the inventory report, in all material respects:
• comply with ISO 14064-1:2018 ; and
• provide a true and fair view of the emissions inventory of the Responsible Party for the stated inventory period.

EMISSIONS - LIMITED ASSURANCE
Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the emissions, removals and storage defined in the inventory report:
• do not comply with ISO 14064-1:2018 ; and
• do not provide a true and fair view of the emissions inventory of the Responsible Party for the stated inventory period.

Other information

The responsible party is responsible for the provision of Other Information. The Other Information may include emissions management and reduction plan and purchase of carbon credits, but does not include the information we verified, and our auditor's opinion thereon.

Our opinion on the information we verified does not cover the Other Information and we do not express any form of audit opinion or assurance conclusion thereon. Our responsibility is to read and review the Other Information and consider it in terms of the inventory. In doing so, we consider whether the Other Information is materially inconsistent with the information we verified or our knowledge obtained during the verification.

	VERIFIED BY	AUTHORISED BY
Name:	Pieter Fransen	Billy Ziemann
Position:	Verifier, Toitū Envirocare	Certifier, Toitū Envirocare
Signature:		

Date verification audit:	7 May 2025	
Date opinion expressed:	21 May 2025	29 May 2025