Summary
Equity
Security
Sustainability
Build rate
Pipeline
Investment
Smart System

Energy Transition Areas	Measures	Outcomes	Trends	Compare to last year*
How does our energy system compare with the rest of the world?	World ranking[2]	Overall New Zealand ranked 9th among 99 countries. Breakdown of the ranking across the trilemma metrics:		*Down from 8th in 2022*
		- Energy security: 9th		-
		- Energy equity: 6th		-
		- Environmental sustainability: 9th		-
Will my energy remain affordable?	Household energy bill	Down 12% vs 2014, and 4% vs 2024 —as of Q1 2025[6]	*Down 12% vs 2014*	*Down 4% vs 2024*
	Household electricity price	Down 7% vs 2014, and up 1.5% vs 2024 - as of Q1 2025[6]	*Down 7% vs 2014*	*Up 1.5% vs 2024*
Will we meet our emissions targets?[1]	Renewable electricity	86%		*84% in 2023*
	Renewable energy[3]	30%		*30% in 2022*
	Electricity emissions	Down 54% vs 2005		*Up 34% vs 2024*
Will we have enough electricity?	Generation build rate	Occurring at the right pace for the near term		*3 TWh (2025 est.) vs 2 TWh (2024)*
	Peak capacity build rate	Tracking below required build rate		*151 MW (2025) vs 247 MW (2024)*
Will we have enough electricity when we need it?	Peak electricity risk[4]	High to Moderate risk		*Time to breach dropped from 3 years to 2 years between 2024 and 2025*
	Dry year risk[5]	High risk		*Time to breach dropped from 4 years to less than 1 year between 2024 and 2025*

Note: 1. As measured against the Climate Change Commission's Demonstration Path; 2. Based on the World Energy Council Trilemma Index. Breakdown of ranking by categories compares to top 10 countries only; 3. Renewable energy measures the total level of energy consumption, including transport and industry, that comes from renewable sources; 4. Peak electricity demand occurs when demand is highest across New Zealand, usually on winter evenings. The system needs enough flexible capacity to meet needs at these times; 5. A dry year occurs when there are low levels of inflows (rain and snowmelt) into New Zealand's hydroelectricity lakes and lake levels are low. The system needs enough flexible electricity to supply New Zealanders in a dry year; 6. In real terms (i.e. adjusted for inflation). * Where last year data is available.

Last update:
July 2025

Summary
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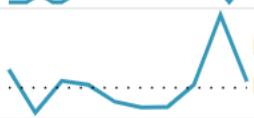
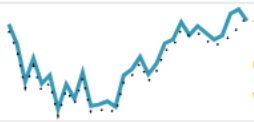
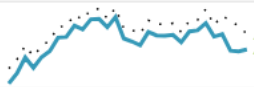
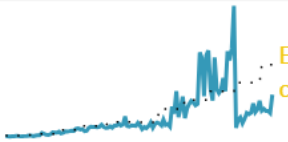
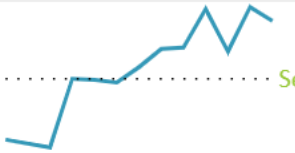
Dimension	Key metrics	Baseline year	Baseline actuals	CCC pathway	Update year	Update	Change vs baseline/tar... (%)	Compare to last year*	Trend	Commentary
Equity	Total household energy bill ($/year)	2014	6,554	n/a	2025	5,803	● -11.8%	-3.9%		Bigger change vs baseline due to cumulative inflation effect. LPG numbers are static.
	Retail electricity price (c/kWh)	2014	37.0	n/a	2025	34	● -7 %	+1%		Prices are down 7% in real terms vs 2014
	Commercial electricity price (c/kWh)	2014	23.1	n/a	2025	23.6	▲ +2 %	+6%		Prices are up 2% in real terms vs 2014
	Industrial electricity price (c/kWh)	2014	16.1	n/a	2025	21.4	◆ +33 %	+19%		Prices up 33% vs 2014
Security	Major controllable outages (# / year)	1998-current	1	n/a	2025	0.4	● -64 %			YTD 2025 5yr average is tracking to 0.4, lower than historical average
	Minutes of lost supply (distribution only) (Mins per customer)	2015-17	276	n/a	2022-24	370	▲ +34%			Minutes of lost supply up 34% vs baseline period (2015-17)
	Dry year risk (Years)	n/a	n/a	Minimal >= 2 years until breach	2025	< 1 years	◆ Less than 1 year			High dry year risk in near future
	Peak reliability risk (Years)	n/a	n/a	Minimal >= 2 years until breach	2025	>2 years	▲ Just above 2 years			High to Moderate peak reliability risk in near future
Sustainability	Renewable energy as % of total consumed energy (%)	2005	27%	29% (2023)	2023	30%	● +2%			Renewable energy share is up 2% compared to 2005, and 1.4% above the CCC forecast for 2023
	Renewable electricity generation % (%)	2005	66%	87% (2024)	2024	85%	▲ +19%			The renewable portion of electricity generation dipped below the CCC forecast by 1% in 2024, while remaining 19% above the 2005 baseline.
	Emissions from electricity generation (Mt CO2-e)	2005	9.3	3.2 (2024)	2024	4.3	● -54%			Electricity emissions down 54% vs 2005, and 34% above the CCC forecast for 2024
	Emissions from energy sector (Mt CO2-e)	2005	31.5	29.4 (2024)	2024	27.3	● -7 %			2024 emissions lower than CCC pathway.

Note: * Applicable to Equity metrics only.

Last update: July 2025

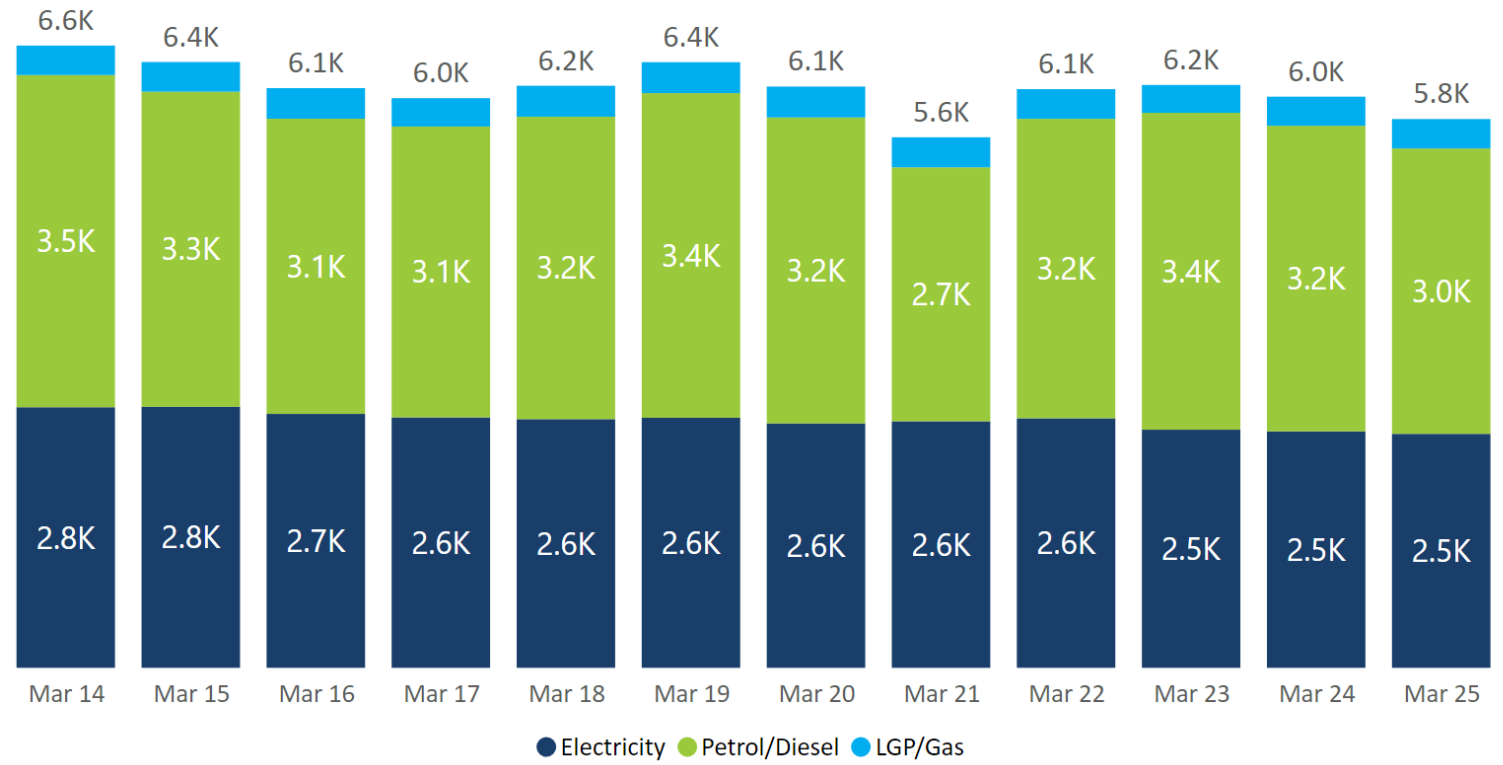
TRANSPOWER Energy Transition Framework | Sector scorecard

On track | Watching brief | Off track

Dimension	Key metrics	Baseline year	Baseline actuals	CCC pathway	Update year	Update	Change vs baseline/target (%)	Trend	Commentary
Build rate	Generation build rate (GWh/year)	2018-20 annual ave.	377	1,150	2023-25 annual ave.	2,049	+78 %		Occurring at the right pace for the near term
	Peak capacity build rate (MW/year)	2018-20 annual ave.	25	151	2023-25 annual ave.	141	-6 %		Below required build rate
	Transport electrification rate (% of EVs)	n/a	n/a	11.1%	Jun-25	6.5%	-4.6%		EV uptake declined in 2024 v CCC forecast, coinciding with removal of Clean car discount
Investment	Total sector investment ($/ year)	2015	1.96	2.0	2024	3.6	+84 %		Sector Investment up 84% in 2024 vs. 2015 level
Smart system	Change in Peak demand (MW)	2016-18 annual ave.	6,755	6,755	2023-25 annual ave.	6,990	+3.5 %		Peak demand continues to growing faster than energy demand
	Change in Energy demand (TWh)	2016-18 annual ave.	41.2	n/a	2023-25 annual ave.	41.5	+0.7 %		Peak 3.5% vs Energy 0.71%% compared to 2016-18
Pipeline	Generation pipeline (GWh)	n/a	n/a	n/a	2025 to 2031	57,874	Not sufficient for 2030		Overall pipeline is growing, but the consented portion may only be sufficient to meet demand through 2027.
	Peak capacity pipeline (MW)	n/a	n/a	n/a	2025 to 2031	4,622	Not sufficient for 2030		Overall pipeline is growing, but the consented portion may only be sufficient to meet demand through 2028.

Last update:
July 2025

Total annual household energy bill - Last Twelve Month (NZ$/household - real)



Total household bill change - *last 12 months*

LTM25 vs LTM24	2024 vs 2014 (real)
-$236	-$777
-3.9%	-11.8%

Household Bill Change by Energy Type

(Dynamic Base last 12 months period)

LPG

LTM22

LTM25 vs LTM22 - LPG

-$5 -3.5%

Explanation:

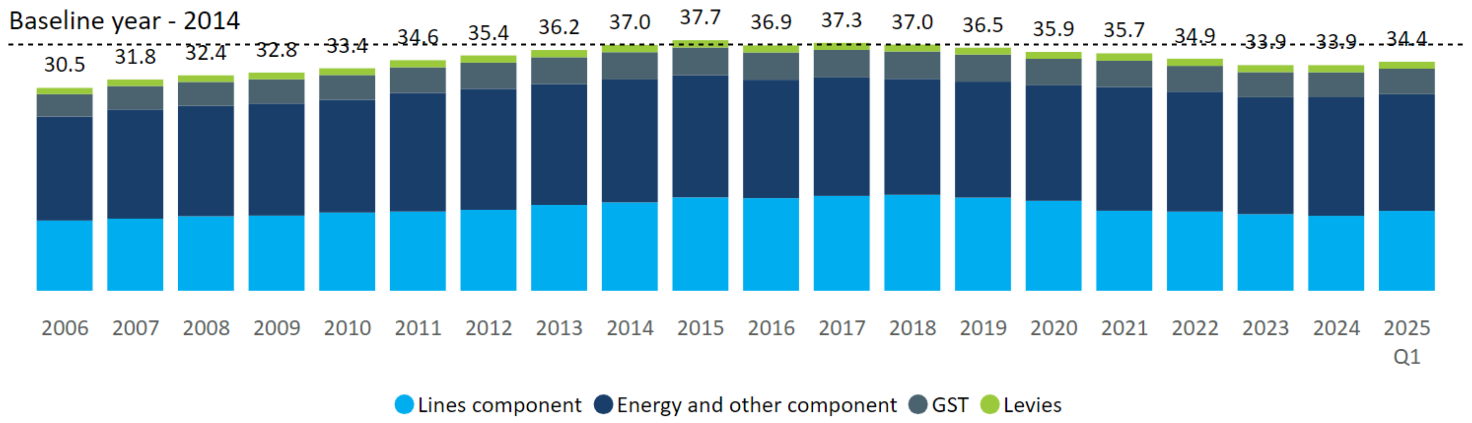
- LTM Mar25 household energy bills are 3.9% lower than 2024 level, electricity bills is 1% lower; while gas bill is 1.3% higher.
- The total household energy bill calculates the average amount that each household in New Zealand pays for all energy use. This includes electricity, petrol/diesel for on-road transport, and gas/LPG. To calculate this, the total amount that households pay for each fuel is added up across the country and this amount is divided by the total number of households in New Zealand.

Notes:

1. Adjusted to March 2025 prices based on Statistics New Zealand - Consumer Price Index; 2. LPG retail price has been assumed to be to be constant at NZ$67.8 per GJ for all years.

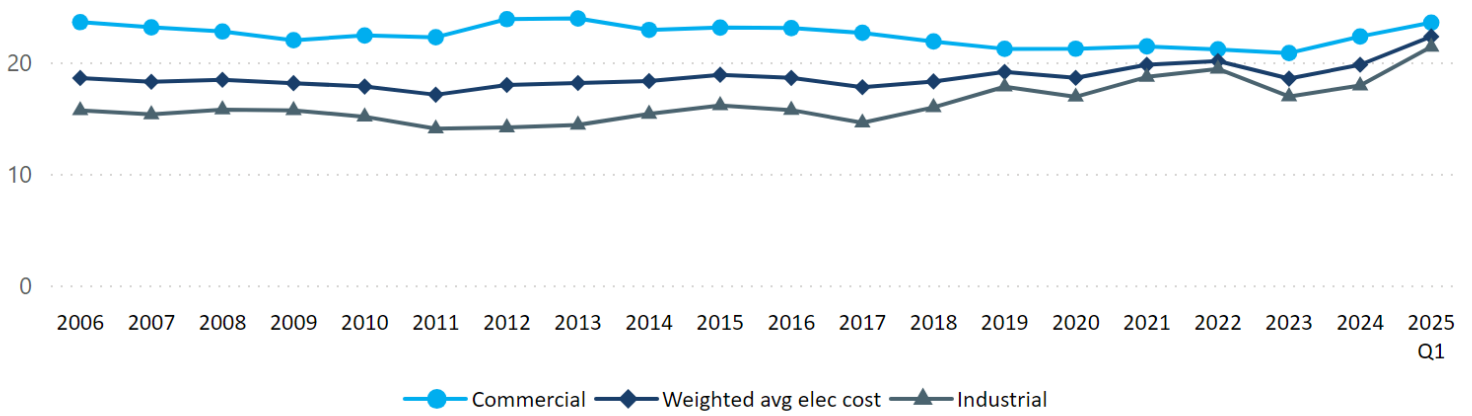
Source: NZ MBIE - Energy Statistics; Stats NZ; NZTA Motor Vehicle Register; NZ Ministry of Transport - 2023 Annual Fleet Statistics; Stats NZ; Transpower analysis

Retail electricity price (NZD c/kWh - real)[1] - March year



- Prices presented in the chart are MBIE-reported sales-based electricity costs for each March year-end, with the latest data collated from report for March 2025.
- 2025 Electricity price up 1.5% vs 2024 level
- The retail electricity price (GST inclusive) represents the average price households pay for electricity in New Zealand. This price includes several components such as transmission, distribution, generation, metering, and retail services. MBIE reports this data in two main components. For clarity in presentation, GST and Electricity Authority levies have been shown separately.
- *Lines component* – covers transmission and distribution network charges.
- *Energy and other component* – includes generation, retail, metering, and other related costs.

Electricity Price (c/kWh - real)[2] - March Year

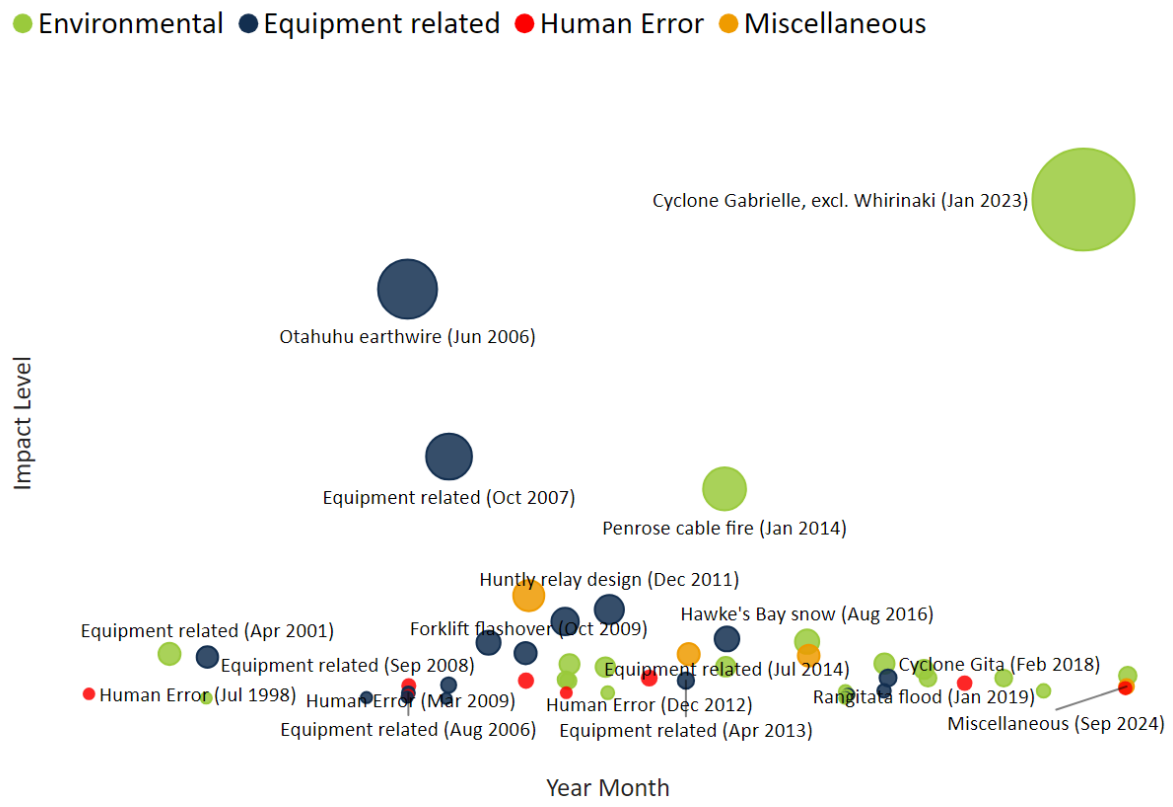


- Prices presented reflect MBIE-reported annual electricity prices for each March year-end, with the latest data collated and published in Q1 2025.
- Commercial electricity price up 6% vs 2023 level
- Industrial electricity price up 19% vs 2023 level
- The commercial and industrial electricity prices are the average prices that businesses pay for their electricity in New Zealand. An industrial customer is a very large user of electricity that is usually connected directly to the transmission network. Their electricity bills are lower than commercial users because they buy in bulk and usually do not have a distribution component to their bill. Commercial customers are small to medium enterprise, commercial buildings or smaller manufacturing facilities that are connected to a distribution network.

Note: 1.Prices are adjusted to March 2025 dollars using Statistics NZ's CPI; Presented prices are adjusted for GST, 13.04% after 2010 and 11.11% prior and a constant 0.5% EA levy, both of which have been presented individually; 2. Consumption weighted average commercial and industrial electricity price; Consumption based on estimated sales

Source: NZ MBIE – Energy Statistics - Sales-based electricity costs (Report for March 2025); MBIE - Energy Prices

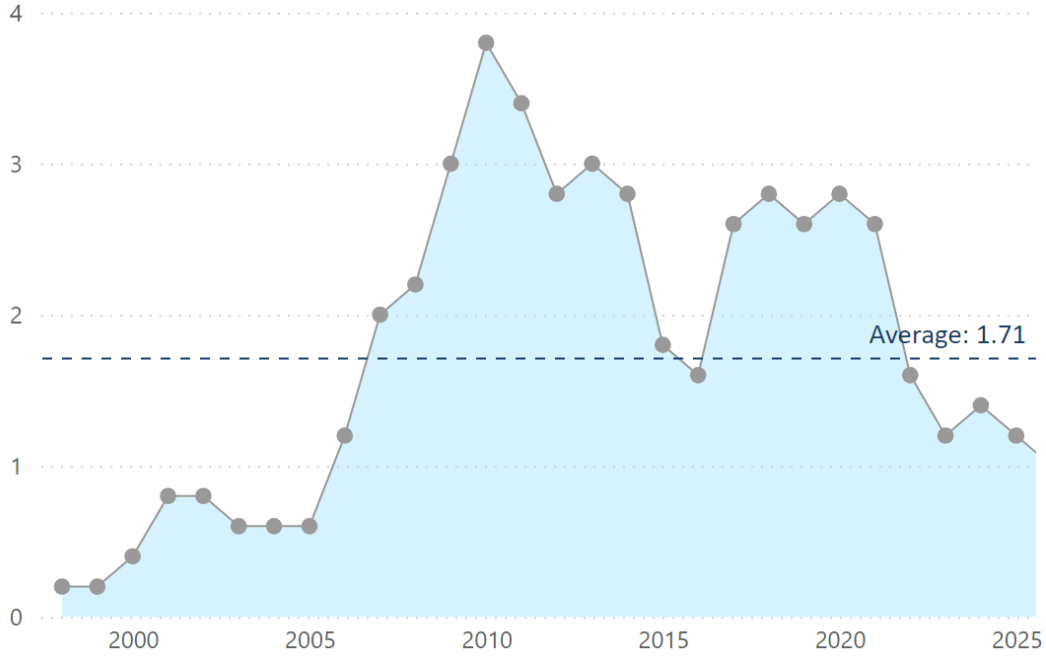
Major power outages in New Zealand



Category

Environmental | Equipment related | Human Error | Miscellaneous

5-year rolling average count of major outages (#)

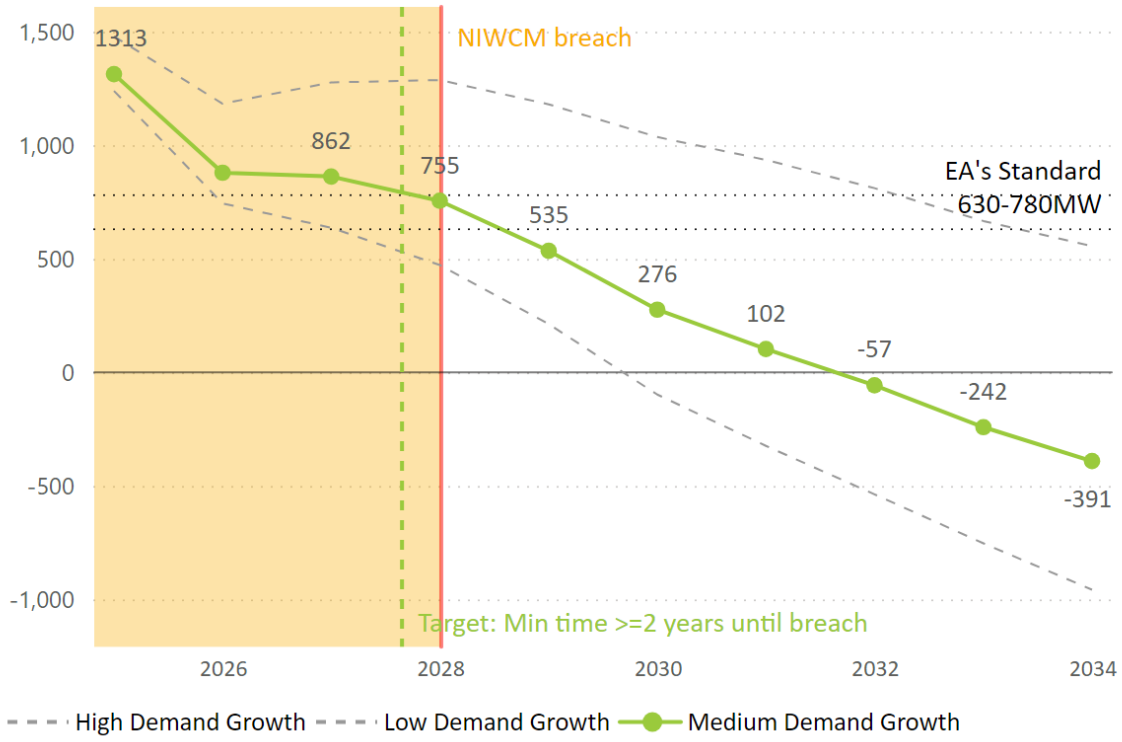


Explanation:

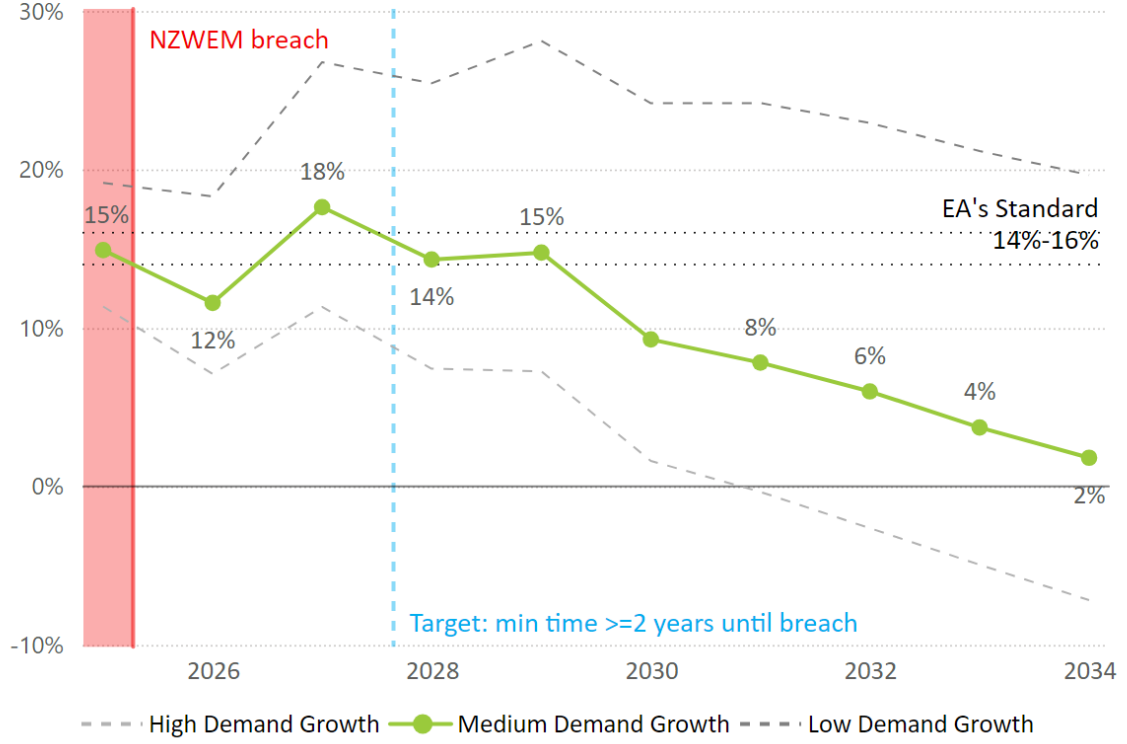
- The 5-year rolling average of major ***non-environmental outages*** from 2022 to year-to-date 2025 is below the historical average of 1.03 per years;
- Major outage event is defined as one with an energy not served value of greater than 100 MWh, which may have a significant impact on households and business. For context, the average annual household energy consumption is 7 MWh in NZ, according to MBIE data as of Mar 2025.

Sources: Transpower data; Transpower analysis

NI Winter capacity margin projections (MW)



NZ winter energy margin (NZ-WEM) projections (%)

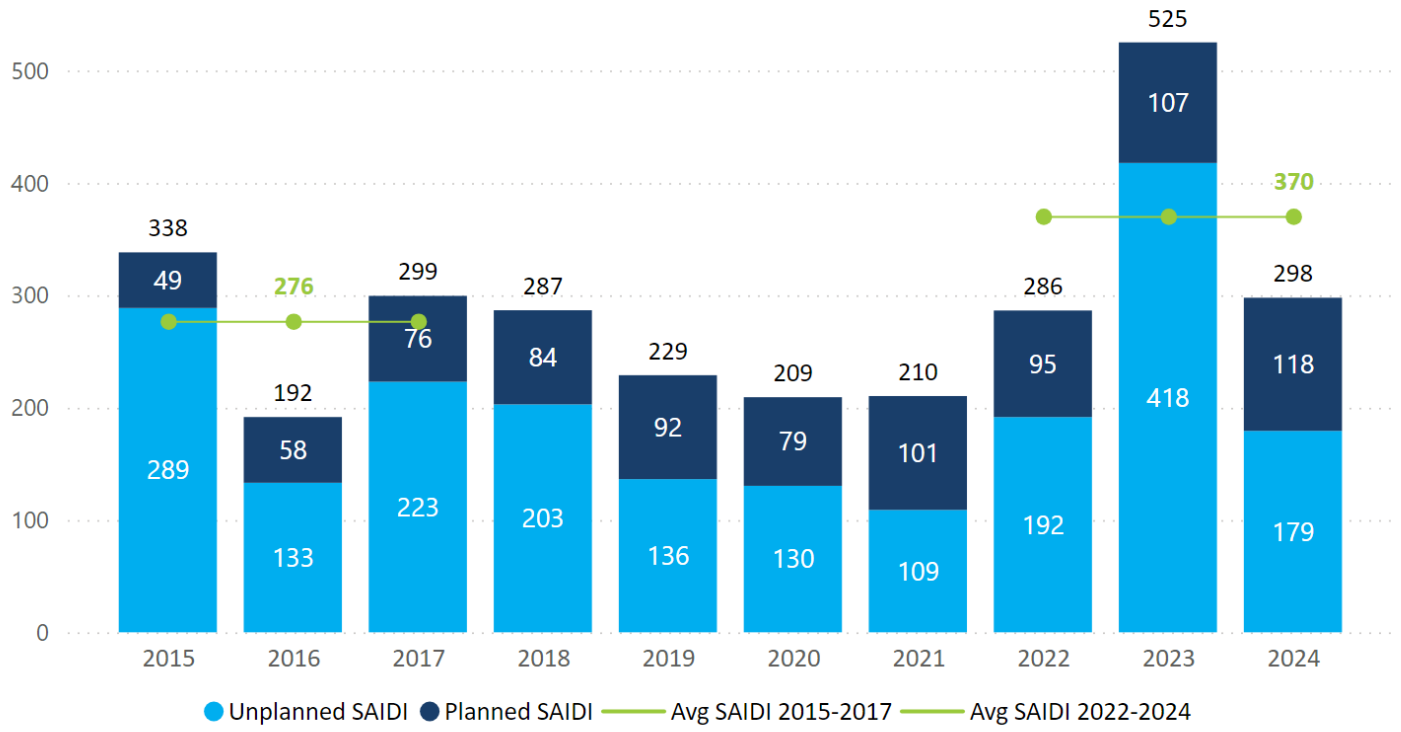


Explanation:

- The North Island Winter Capacity Margin (NI-WCM) represents the level of additional 'peak capacity' that the North Island has to maintain system reliability. It is yellow beacuse we have about 2.5 years before we breach threshold limits. Peak capacity is generation or demand that can be easily controlled (e.g., hydro, gas or batteries) rather than weather-dependent generation like solar and wind. Peak capacity is used to provide power during peak demand periods, which are highest on winter evenings in New Zealand. A time of 2 years until a breach of the Electricity Authority's security standard is recommended for the target, as this is the time it will take to develop new batteries or demand response required to improve margins.
- The winter energy margin measures whether New Zealand has enough electricity to meet its needs in dry years. it red beacuse we have less than 1 year before we breach the limits. New Zealand is highly reliant on hydroelectricity to produce power. However, hydroelectric dams can only store 6 to 8 weeks of water. In a year without much rain (a 'dry year'), the electricity system needs additional electricity to fill the hydroelectricity gap, which is currently supplied by coal and gas.

Sources: Transpower - Security of Supply Assessment 2025

SAIDI (minutes per customer)



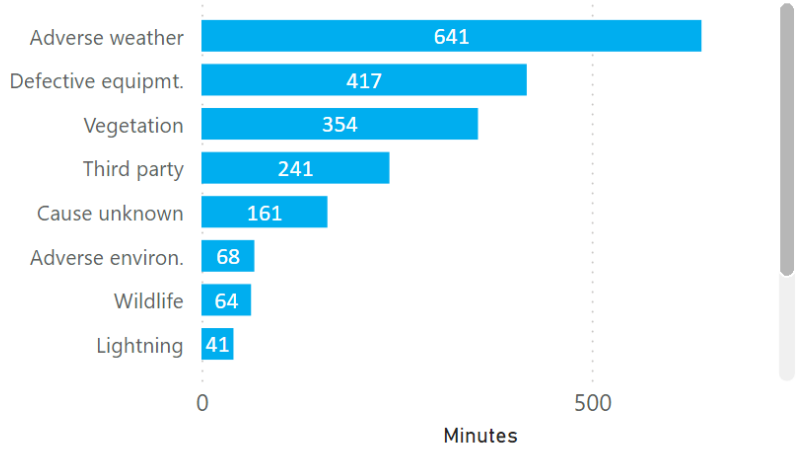
Year

All

Category

Planned SAIDI | Unplanned SAIDI

SAIDI by type (minutes)

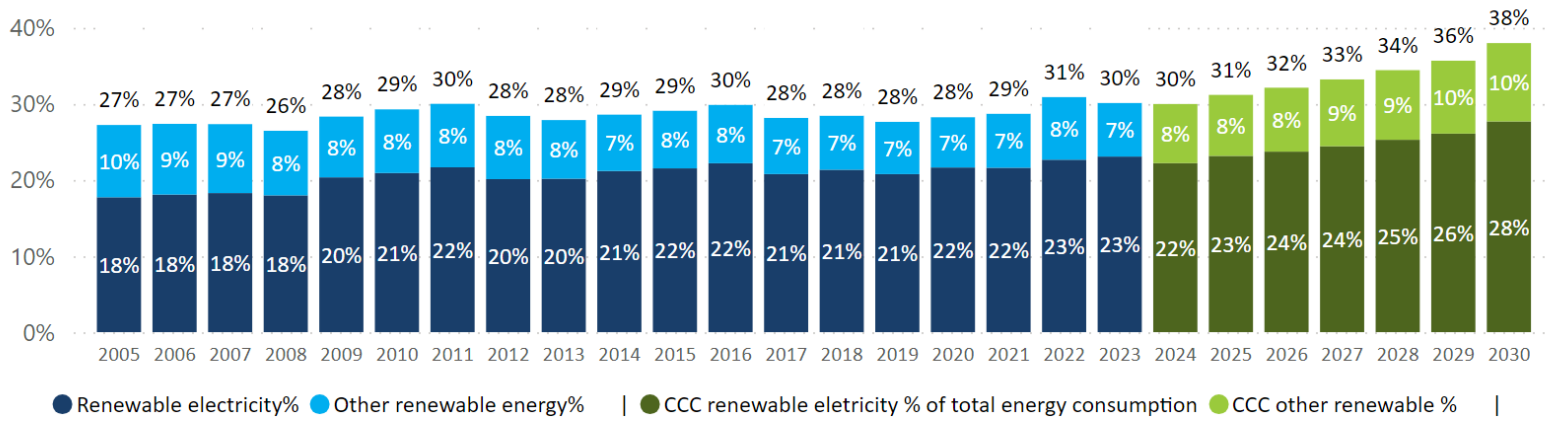


Explanation:

- Lost minutes of supply have increased by 34% over the past three years compared to the 2015–2017 baseline. A portion of this rise is attributable to the impact of Cyclone Gabrielle in 2023.
- The System Average Interruption Duration Index (SAIDI) measures the average number of minutes of electricity supply that each customer in New Zealand loses in a year due to distribution network (lines companies) outages.
- Planned SAIDI is where a lines company reduces electricity supply in a planned way to build or maintain lines – this is less disruptive for customers as it is accompanied by a planned notification.
- Unplanned SAIDI is where electricity supply is disrupted unintentionally and can be caused by a number of factors (e.g., asset failure, human error), which impacts customers more significantly.
- Some outages caused by natural disasters are excluded from SAIDI measurements as it is considered out of the control of the industry.

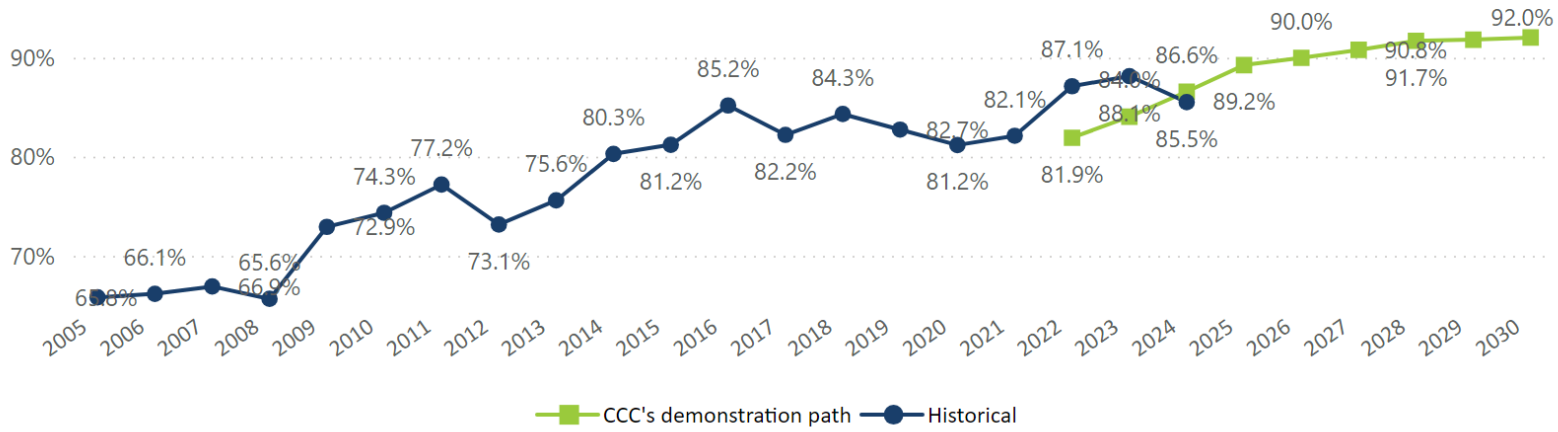
Sources: NZ Commerce Commission - Performance Accessibility Tool

Renewable share of total consumed energy (%)



- Renewable energy share of total consumed energy is 30.1%, higher than CCC forecast of 28.9%.
- Renewable energy share of total consumed energy is the total proportion of all energy (including transport and heating) that is produced by renewable sources. In New Zealand, electricity generation is ~85% renewable today but the total energy consumed is only 28% renewable, because a lot of fossil fuels are still burnt outside of the electricity sector for uses like petrol in cars. Most renewable energy comes from electricity (23%), with nearly all of the rest coming from wood-based biomass (7%).

Renewable electricity generation (%)

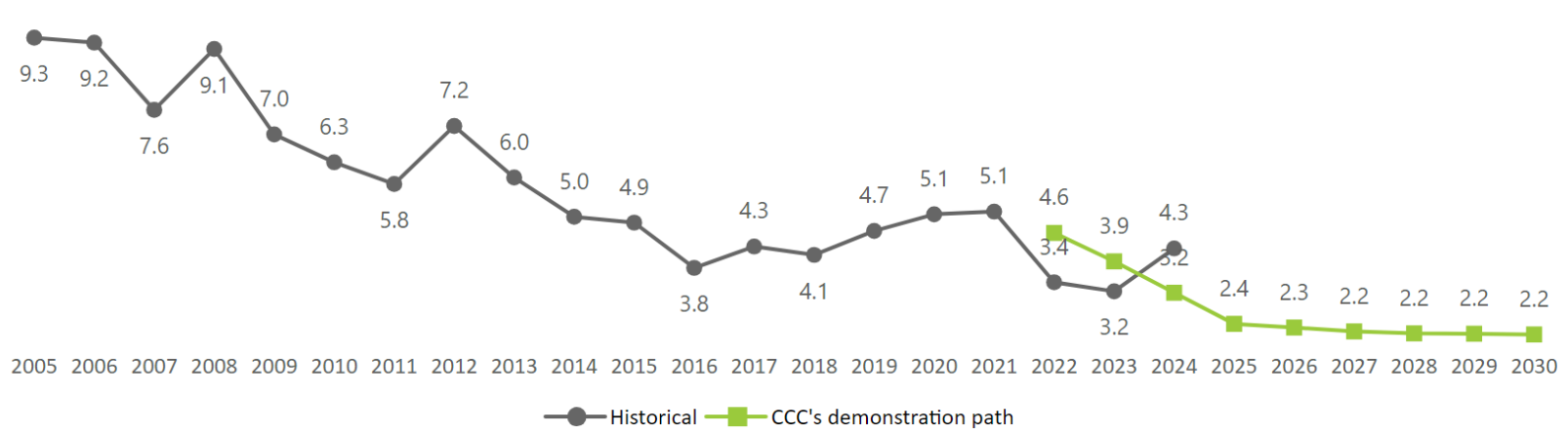


- Renewable electricity 85.5% in 2024, lower than CCC forecast of 86.6%.
- Renewable electricity % is the total proportion of electricity that is produced by renewable sources. In New Zealand, the renewable electricity % can fluctuate up and down year-on-year due to the electricity system's heavy reliance on hydroelectricity. Renewable electricity % tends to be higher in a wet year and lower in a dry year. As a result, it is not necessarily the year-to-year movements that matter most, but that the general trend is increasing through time.

Note 1.Other renewable energy sources include biomass, biogas and geothermal. 2024 data for actual total energy consumption is not publicly available yet

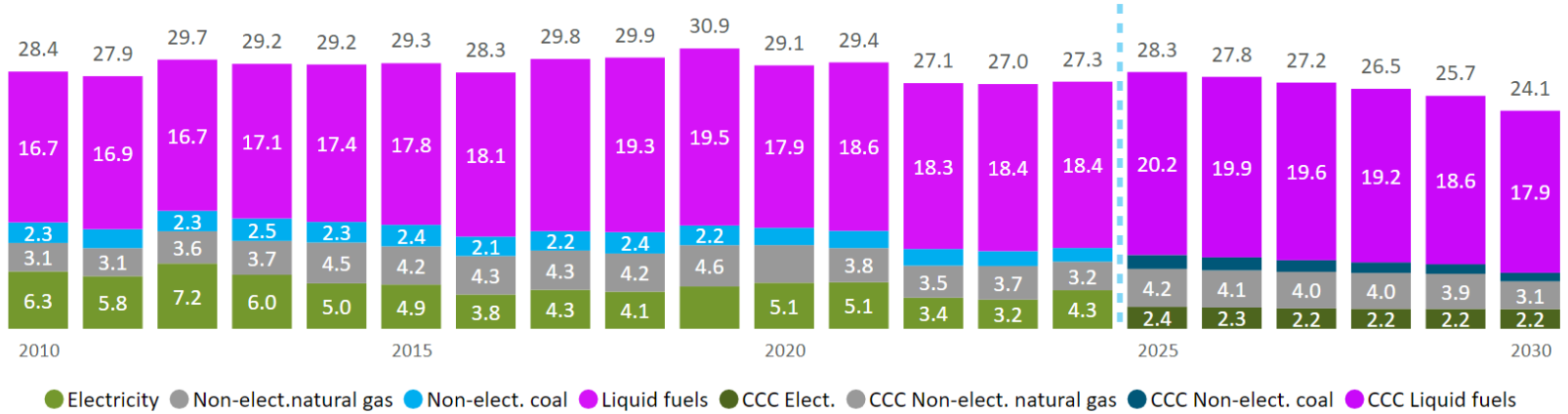
Source: NZ MBIE – Energy Statistics, Climate Change Commission - 2023 Draft advice to inform the strategic direction of the Government's second emissions reduction plan

Total electricity generation emissions (Mt CO2-e)



- Renewable generation emissions of 4.3 MtCO2-e, higher than CCC forecast of 3.2 MtCO2-e. This is due to the dry year in 2024, which leads to high consumption of coal.
- The total emissions from electricity generation measures emissions from all power plants in New Zealand. Electricity sector emissions can fluctuate up and down year-on-year due to the electricity system's heavy reliance on hydroelectricity. Emissions tend to be lower in a wet year and higher in a dry year.

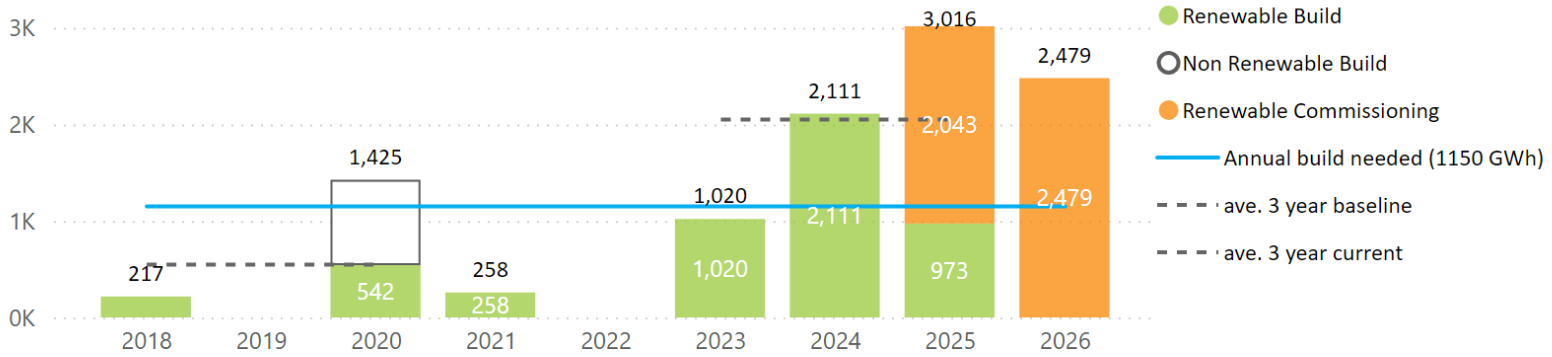
Total emissions from energy sector (Mt CO2-e)



- Total energy emissions in 2024 of 27.3 MtCO2-e lower than CCC forecast of 29.44 MtCO2-e.
- Total emissions from energy measures nearly all emissions across our energy sector including electricity, non-electricity coal and gas (e.g., for heating industry or homes), and oil used transport. This analysis excludes non-CO2 emissions from liquid fuel, natural gas and coal, as well as fugitive emissions from oil and gas extraction, as this is not updated quarterly by MBIE which can result in a lag in data. The electricity sector can reduce its own emissions (predominantly those arising from electricity generation) and it can enable emissions reductions in transport and industry through electrification.

Source: NZ MBIE – Energy Statistics, Climate Change Commission - 2023 Draft advice to inform the strategic direction of the Government's second emissions reduction plan

New generation commissioned (GWh)[1]



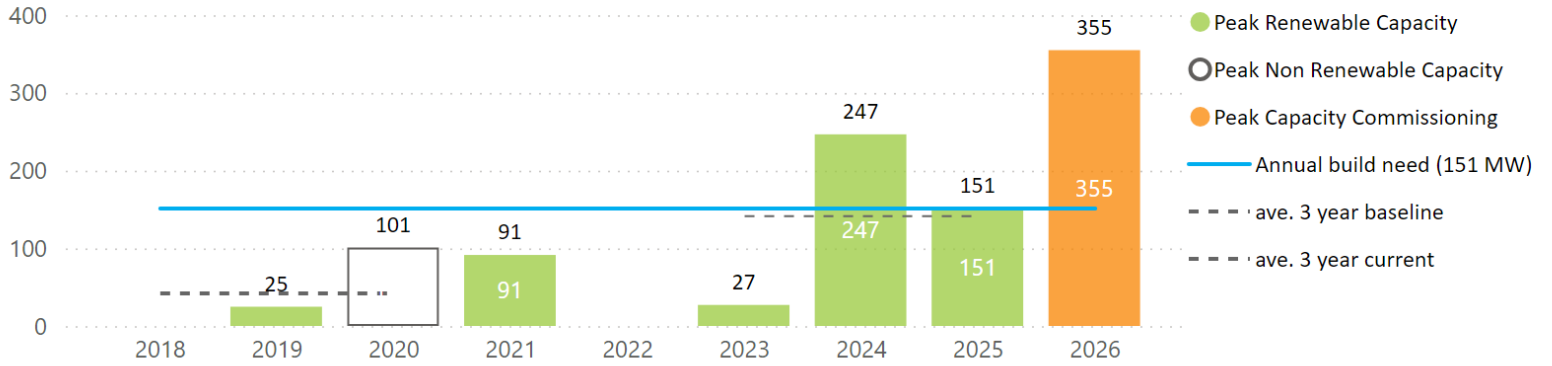
Generation build rate growth

Compares current annual ave. build rate (2023-2025) with baseline build rate (2018-2020)

x2.74
Build rate growth

+2K
Build rate change (GWh)

New peak capacity commissioned (MW)[2]



Peak capacity build rate growth

Compares current annual ave. build rate (2023-2025) with baseline build rate (2018-2020)

x2.38
Peak build rate growth

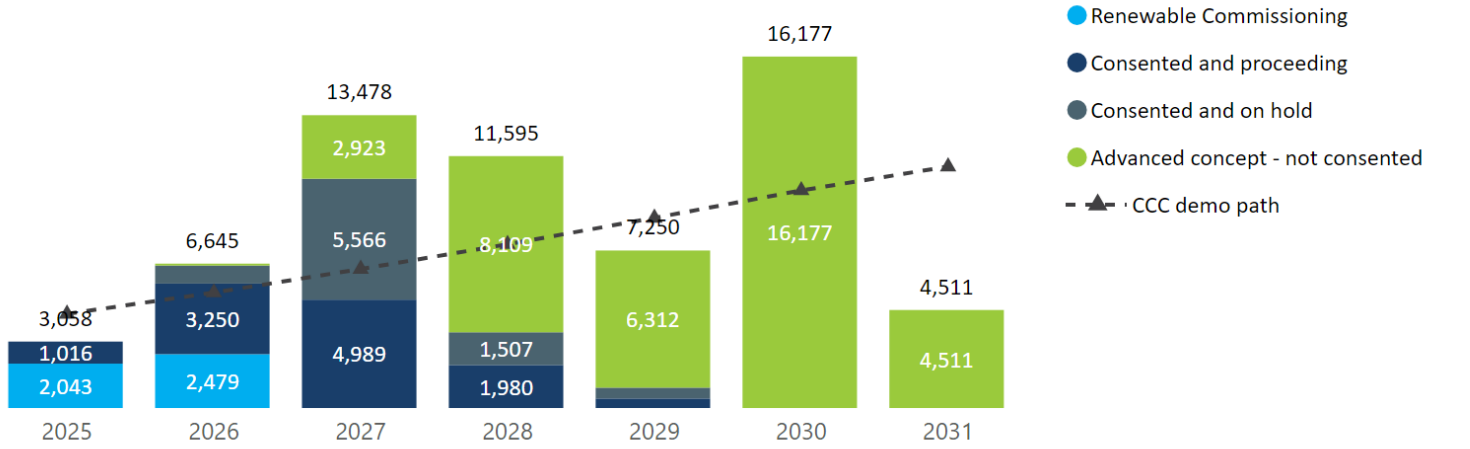
+100
Peak build rate growth (MW)

Explanation: Generation and peak capacity build rates compare current (2023–25) and future (2026–30) periods to assess progress toward electrification targets of annual build needed (CCC) and ensure the North Island Winter Capacity Margin maintains a two-year buffer before breaching the Electricity Authority's security standard.

Notes: 1. Energy and peak capacity are calculated using the capacity factor of new generation by energy type.; Commissioning data includes only new generators with a capacity greater than 10 MW; 2. The commissioning year is adjusted if the commissioning month falls after winter in the respective year.

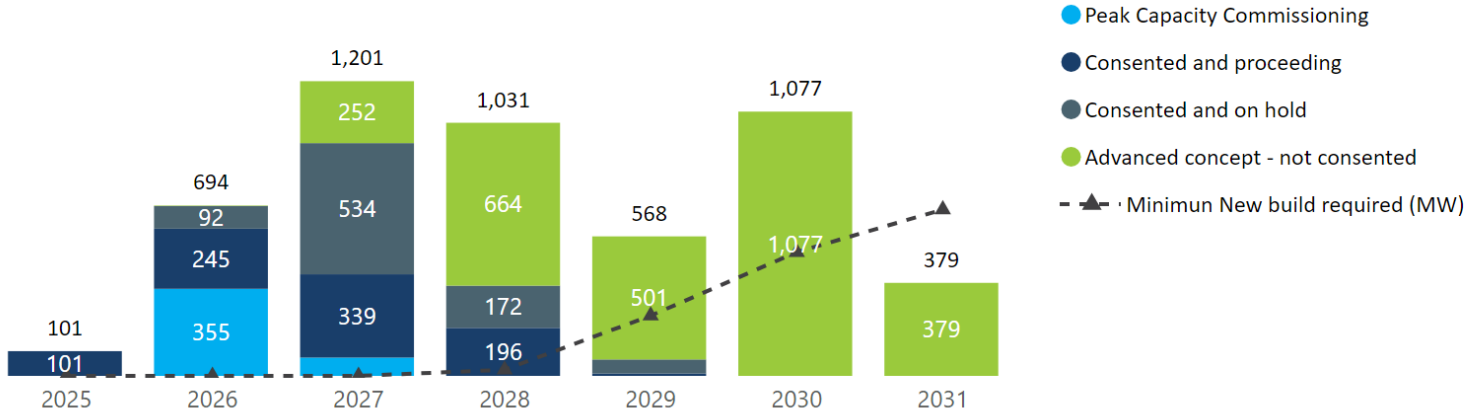
Sources: Transpower data; Transpower Electricity Risk Curve and Simulated Storage Trajectories Assumptions Spreadsheet; Transpower analysis

Generation pipeline (GWh)



- Broadly enough committed energy in the generation pipeline through 2027 — where committed includes projects that are either commissioning or consented and proceeding.
- The pipeline provides a perspective on what is required over time to achieve the electrification and increased renewable electricity targets set out by the CCC.
- The status of the projects from the most advanced (commissioning) to less advanced (advanced concept - not consented).

New peak capacity pipeline (MW)

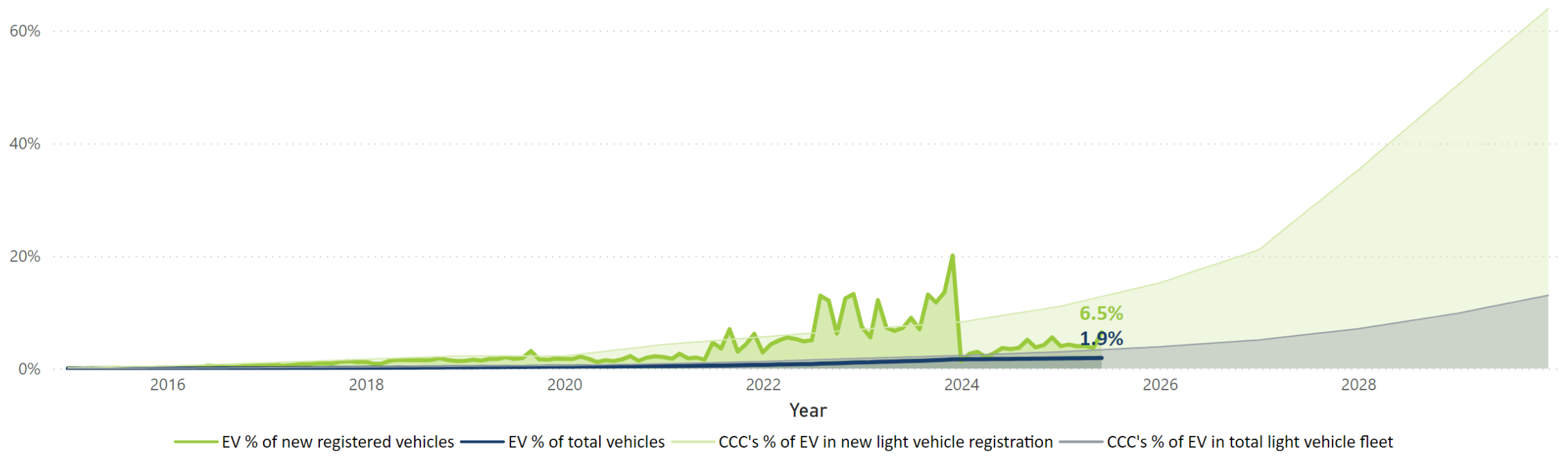


- Broadly enough committed capacity in the generation pipeline through 2028 — where committed includes projects that are either commissioning or consented and proceeding.
- The peak capacity build rate and pipeline provide a time-based perspective on what is required to ensure the North Island Winter Capacity Margin maintains at least a two-year buffer before any projected breach.
- The status of the projects from the most advanced (commissioning) to less advanced (advanced concept - not consented).

Notes: 1. Energy and peak capacity are calculated using the capacity factor of new generation by energy type.;

Sources: Transpower data - SOSA survey conducted in May 2025.

Light vehicle EV adoption (Monthly %)



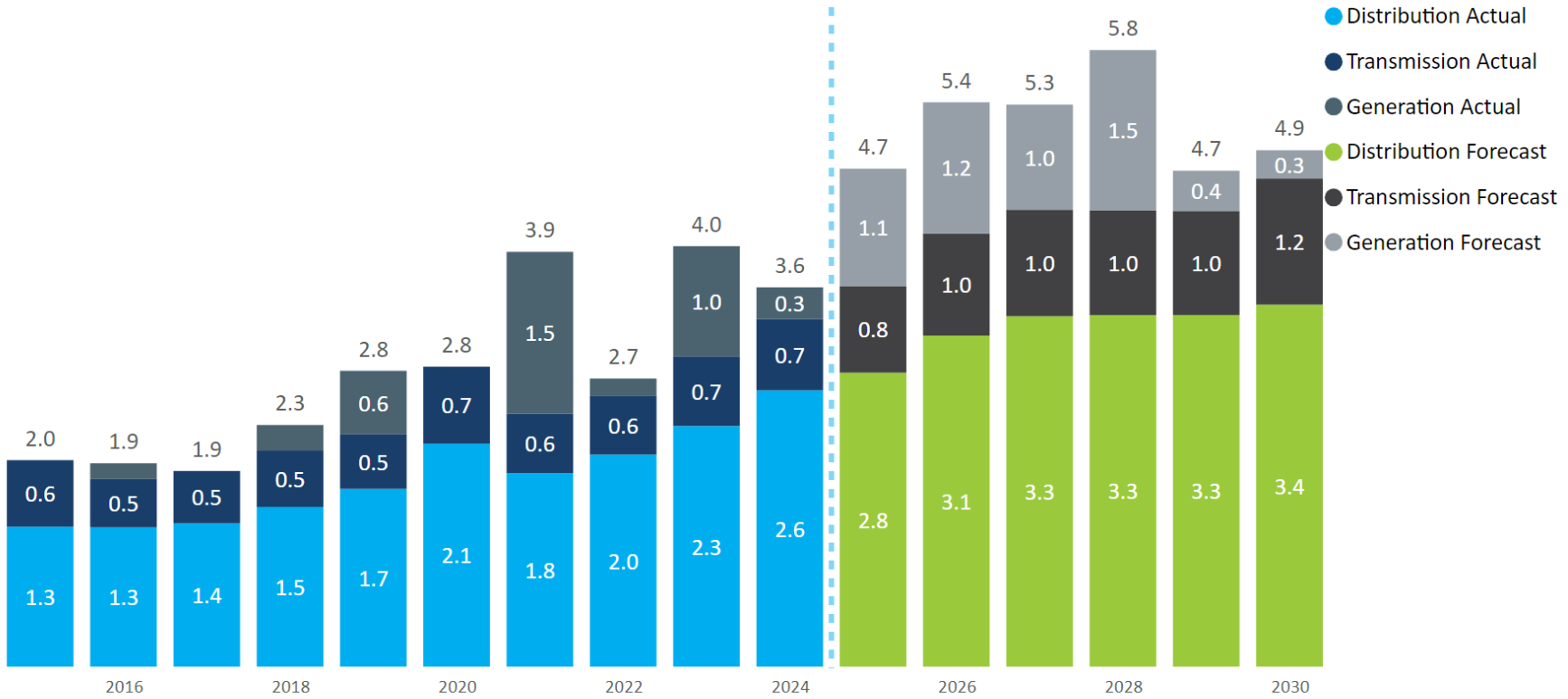
Explanation:

- The transport electrification rate assesses the uptake rate of light electric vehicles against the CCC's forecasts. Both in terms of new vehicles entering the fleet and the total fleet makeup, light electric vehicle uptake are sitting at roughly half the CCC forecast to date.
- The annual light vehicle registrations measures the % of vehicles entering the fleet (both new and used) that are electric. The total light vehicle fleet measures the % of vehicles that are electric in the total New Zealand light vehicle fleet.
- The sharp increase towards the end of 2023 was driven by the end of Clean Car Discount, prompting many people and dealers to register and even pre-register their vehicles.
- The significant decline in EV registrations in Jan 24 can be attributed to policy changes implemented by the government including Termination of the Clean Car Discount effective from Jan 24, introduction of Road User Charges from Apr 24 and increase in ACC levies for EVs

Notes: The Climate Change Commission (CCC) provides annual EV % targets, while the Ministry of Transport (MoT) reports monthly actual registrations. To compare these datasets, we use linear interpolation to estimate monthly CCC targets from the annual values. This gives us a smooth, month-by-month progression that aligns with MoT's data. This method assumes steady growth throughout the year, making it easier to track progress against CCC's long-term goals.

Sources: Ministry of Transport; Climate Change Commission - 2023 Draft advice to inform the strategic direction of the Government's second emissions reduction plan; Transpower analysis

Total expenditure (NZ$b) - nominal



Type

All

Group

All

Investment Growth

84%

Sector Investment up 84% in 2024 vs. 2015 level

Explanation:

- Investment up 29% in 2024 ($3.6b) vs 2020 levels ($2.8b).
- The investment figures outline historic and forecast investment across the sector. It includes both capex and opex for transmission and distribution. It includes capex for new generation projects, but excludes generation Opex. The distribution forecast figures are based on 2024 AMPs which may underestimate required investment.

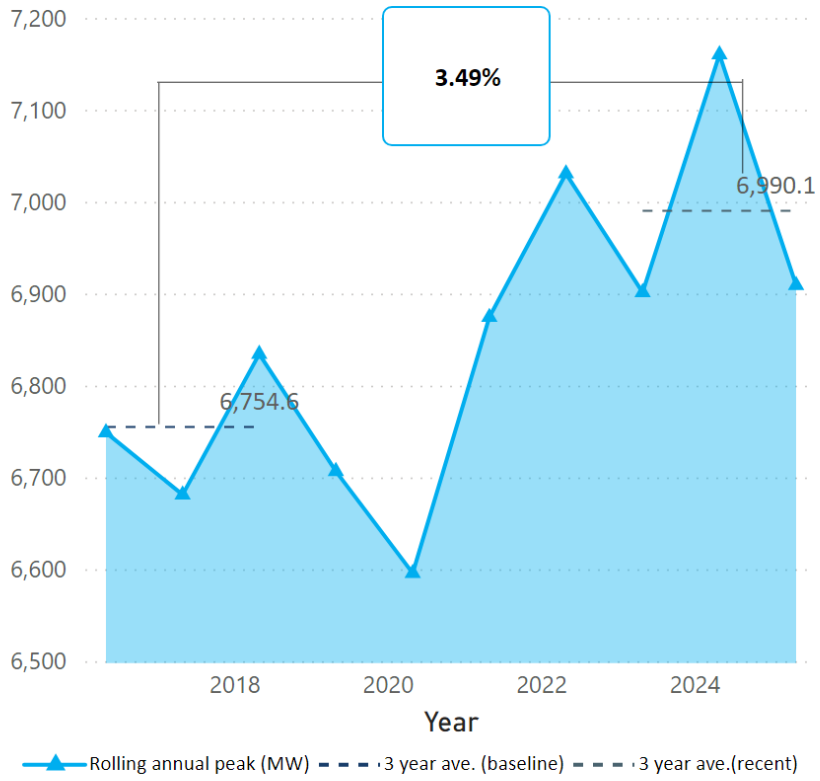
Notes:

1. Dollar values have not been adjusted to real 2024 dollars due to the lack of accurate historical data on generation expenditure. BCG data has been used to represent generation investment prior to 2022.
2. Distribution expenditure comprises data from all 29 electricity distribution businesses in New Zealand; forecast values based on asset management plans (AMPs) submitted by EDBs to the Commerce Commission
3. Generation expenditure is based on BCG analysis for historical data before 2022. Data for 2023–2024 is sourced from press research and forecast values from the MBIE EDGS model, excluding current and generic projects.

Source: NZ Commerce Commission - Performance accessibility tool; New Zealand electricity distributors; Transpower RCP4 consultation document; Transpower disclosures; MBIE EDGS - Generation stack; Press search; Transpower analysis; BCG report

Electricity Demand (TWh) Through May - Rolling 12-Month

Peak electricity demand (MW) Through May - Rolling 12-Month



Total Demand Growth

0.70%

VS

Peak Demand Growth

3.49%

Peak Demand growing faster (x4.92 times) than electricity demand

Explanation: Changes in the growth rates of energy consumption and peak electricity demand can signal shifts in how efficiently electricity infrastructure is being utilised. Currently, peak demand is rising faster than total energy demand, reflecting short-term dynamics like increased electrification, distributed generation (e.g. solar PV), and changing consumption patterns. Over time, a system where energy demand grows faster than peak demand typically indicates smarter, more efficient electricity use—enabled by better load management and demand-side flexibility. BCG estimates that smarter system utilisation could avoid billions in infrastructure investment, as much of the cost is driven by the need to meet peak demand.

Sources: Transpower data.