

JUNE 2026

Insights

Energy End Use Database

2024 data



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1 Summary

1.1 The Energy End Use Database is now updated with 2024 data – key insights

- Energy consumption in New Zealand continues to be dominated by fossil fuels, making up about two-thirds of the total share.
- Transport in particular is almost exclusively fossil fuel driven with diesel making up about half of total transport energy consumption. 52% of the diesel consumed on our roads is used by trucks and 33% is used by vans and utes. The remainder is used in light passenger vehicles (11%) and in buses (4%).
- For road transport, 96% of energy consumption is by internal combustion engine vehicles, and 4% is electrified vehicles
- Industry energy consumption is roughly half made up of fossil fuels, but data indicates both the Dairy and Meat sectors showing trending reductions in coal consumption over time.
- Data Centres, while still a relatively small portion of electricity consumption (about 0.5% for 2024), have shown significant consumption increases since 2022, and are expected to continue growing.

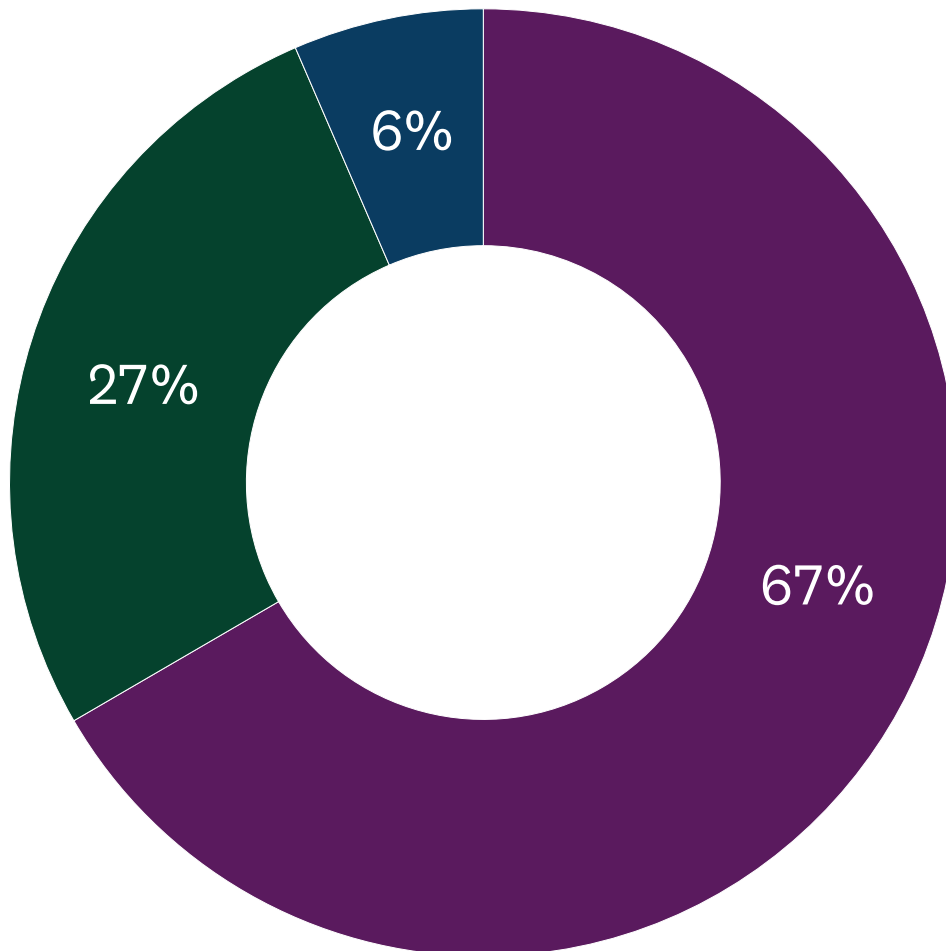
2 High level insights – 2024 energy data

2.1 NZ energy consumption by fuel type (2024)

Chart 1 shows fossil fuels continue to dominate the total consumption picture making up about two thirds of energy consumed. This highlights an opportunity to shift towards fuels with more stable pricing and improved system efficiency such as electricity. Locally-produced fuels can also build resilience in the energy system.

Chart 1: Energy comparison by fuel group 2024

■ Fossil fuels ■ Electricity ■ Renewables



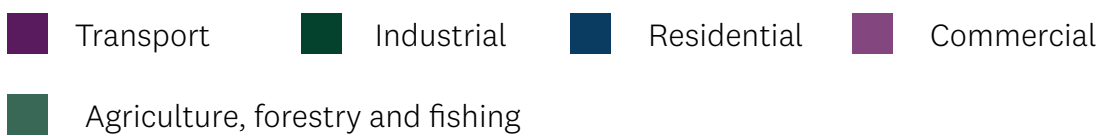
2.2 Energy consumption by sector group (2024)

Chart 2 shows the breakdown of energy consumption by sector group – transport using mainly petrol and diesel making up 39%. Industry (manufacturing) making up 28% is roughly half made up of fossil fuels.

The Commercial and Residential sector groups are mainly electricity, 62% and 58% electricity fuelled respectively. And the Agriculture, Forestry and Fishing sector is roughly half fuelled by diesel.

Transport remains the largest energy-consuming sector and the least electrified, suggesting the greatest opportunity to improve energy efficiency and reduce exposure to volatile fuel costs.

Chart 1: Energy consumption by sector group 2024

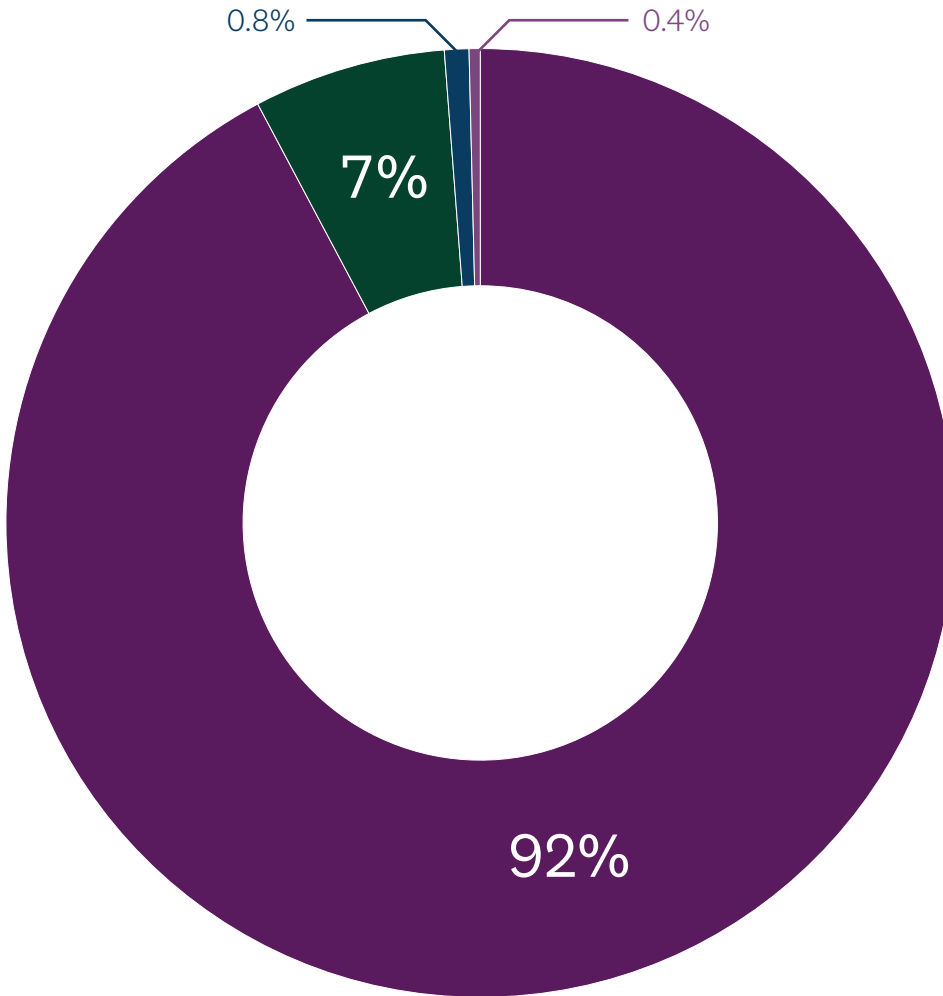


2.3 Transport energy use by mode (2024)

Chart 3 shows where energy is being consumed for transport. Road transport dominates energy use.

Chart 3: Energy consumption by transport type 2024

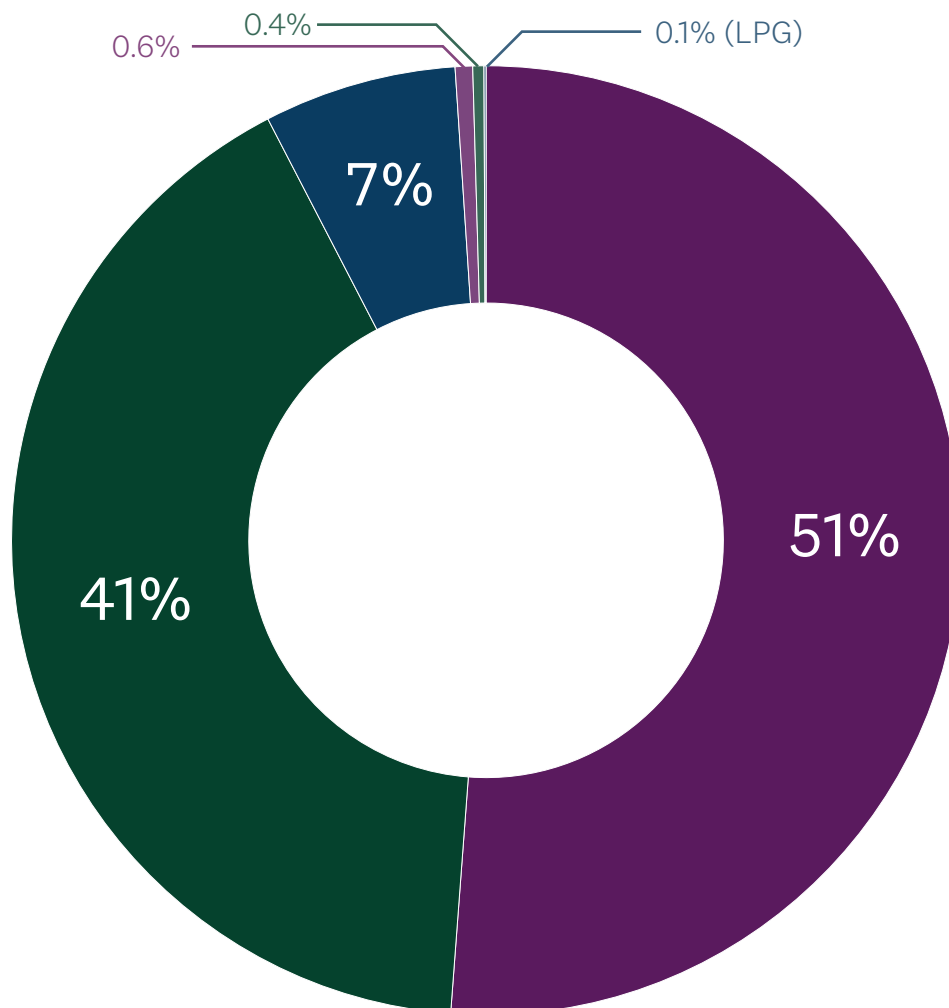
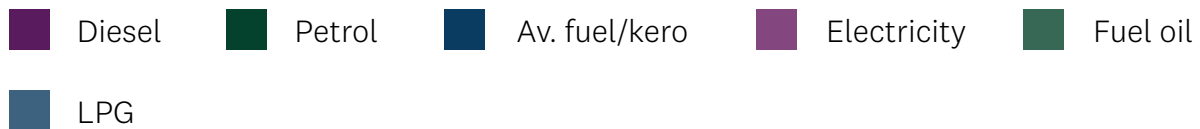
■ Road transport ■ Air transport ■ Rail transport ■ Sea transport



2.4 Transport fuel mix (2024)

Chart 4 shows how much diesel for trucks and petrol for cars dominate our transport needs. Planes use aviation fuel/kerosene, ships use fuel oil. The small amount of electricity usage is mainly for trains but also the small proportion of electric cars in the fleet. The reliance on diesel and petrol exposes the sector to fuel price volatility, while increased electrification offers more predictable energy costs and improved energy conversion efficiency (meaning less energy is required to power the equivalent vehicle).

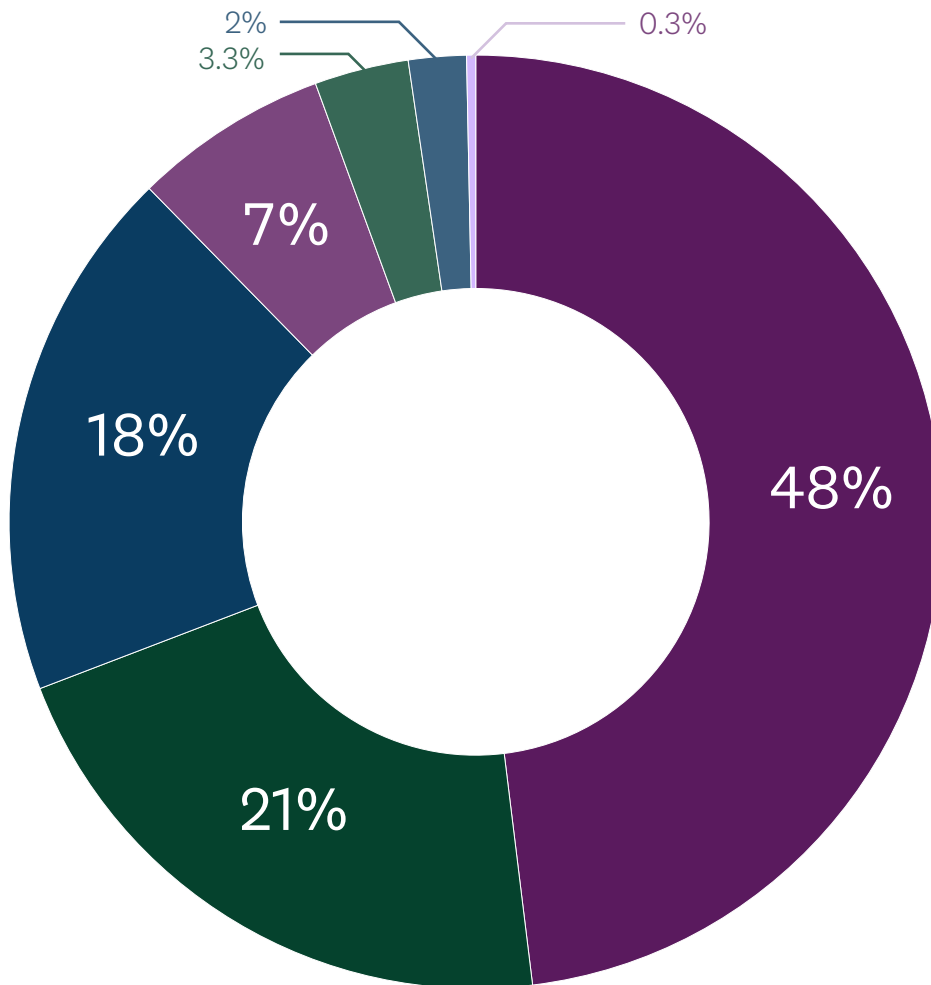
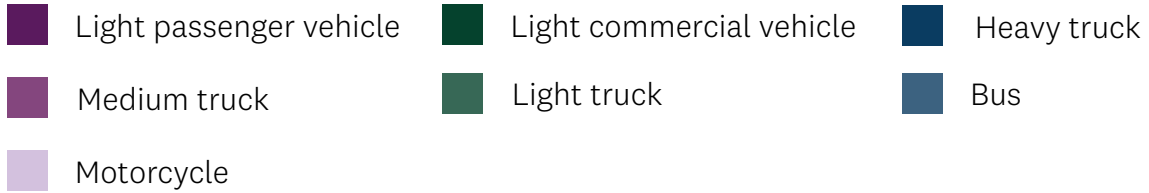
Chart 4: Transport energy consumption by fuel type 2024



2.5 Road transport energy by vehicle type

Chart 5 shows which vehicle modes are consuming energy. Light passenger and commercial vehicles consume about two thirds of all energy in the sector.

Chart 5: Energy consumption in road transport by vehicle mode 2024



2.6 Over 96% of road transport is from petrol and diesel

Conventional (non-plug in) hybrid vehicles (HEV) (3.4%), plug-in hybrids (PHEVs) (less than 1%) and fully battery electric vehicles (BEVs) (less than 1%) together contribute about 4% of road transport energy. This reflects a fleet that is changing gradually, with early electrification not yet significantly shifting overall energy use. In addition, because electric vehicles are typically much more efficient than petrol or diesel engines, they use less energy per vehicles than fossil-fuelled alternatives, further lowering their share of transport energy consumption.

The dominance of hybrids suggests the full efficiency and cost benefits of electric transport are not being realised.

Note: Most electric and hybrid vehicles are in the commercial and light passenger vehicle categories (vans, utes, and cars). Only a very small proportion of trucks and motorcycles are electrified.

Chart 6: Energy consumption in road transport by technology type 2024

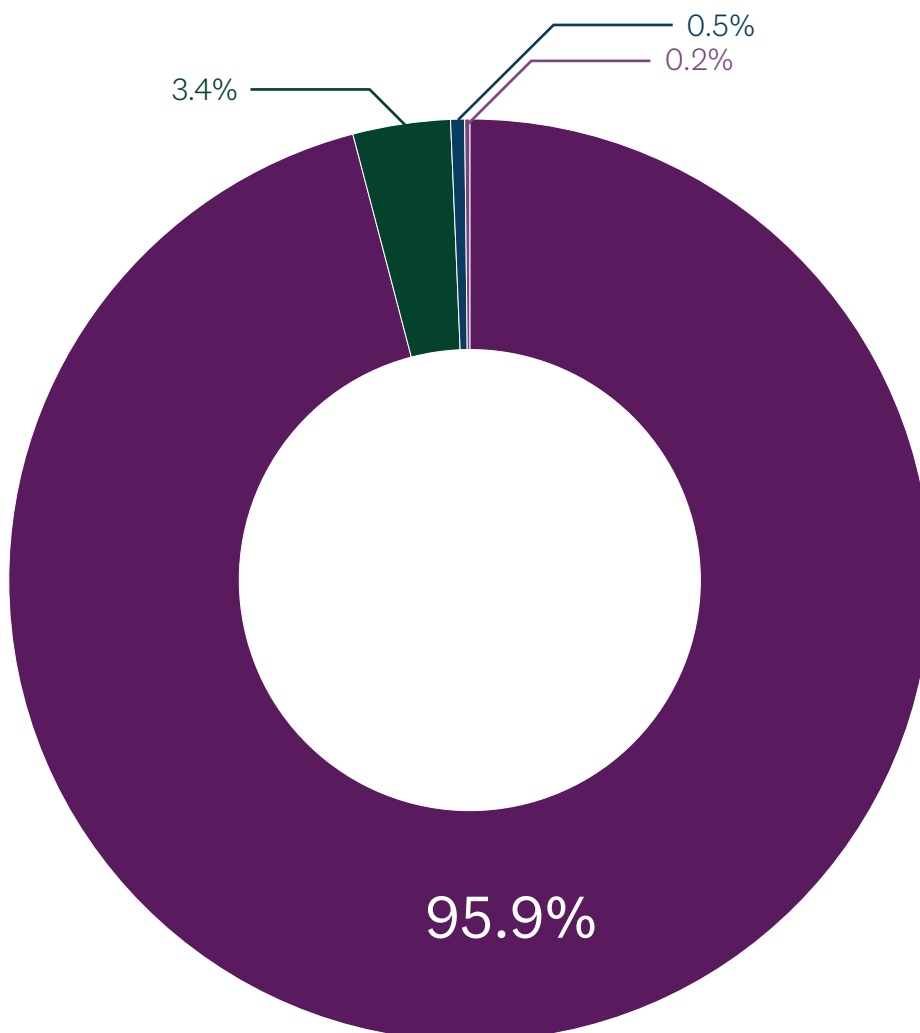
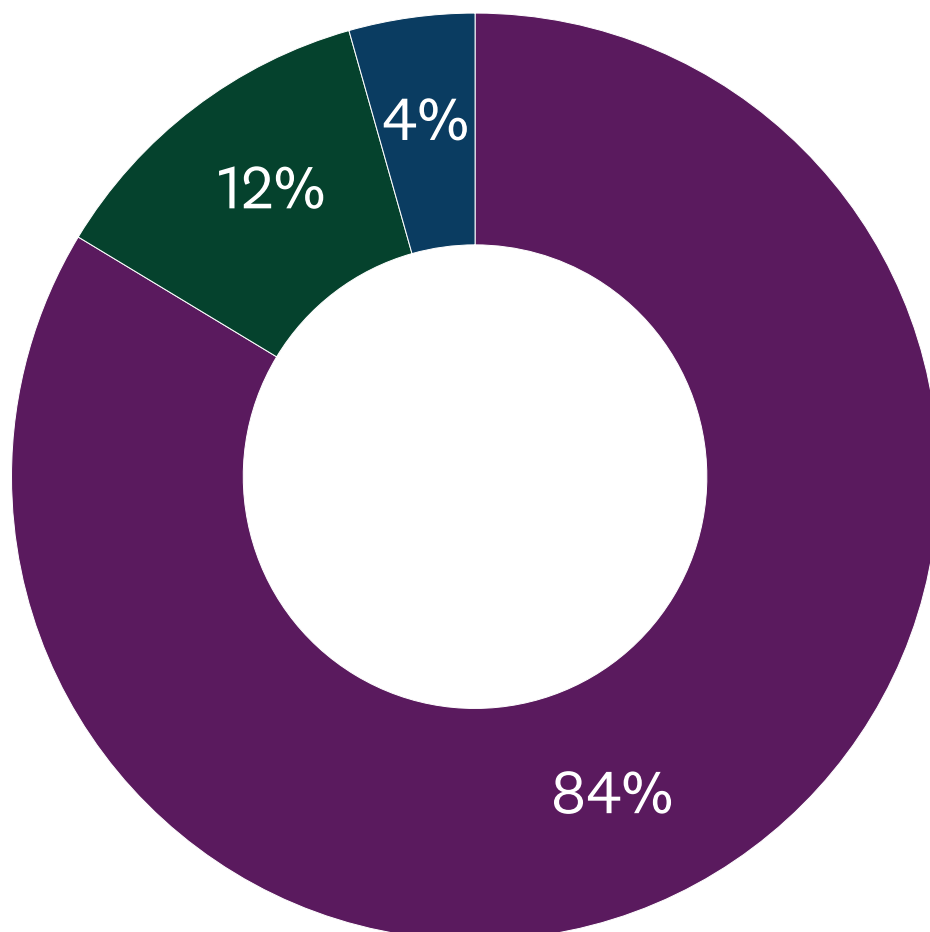
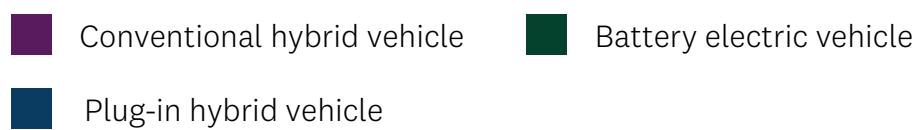


Chart 7: Energy consumed in road transport for HEVs, PHEVs and BEVs 2024

Business sector insights

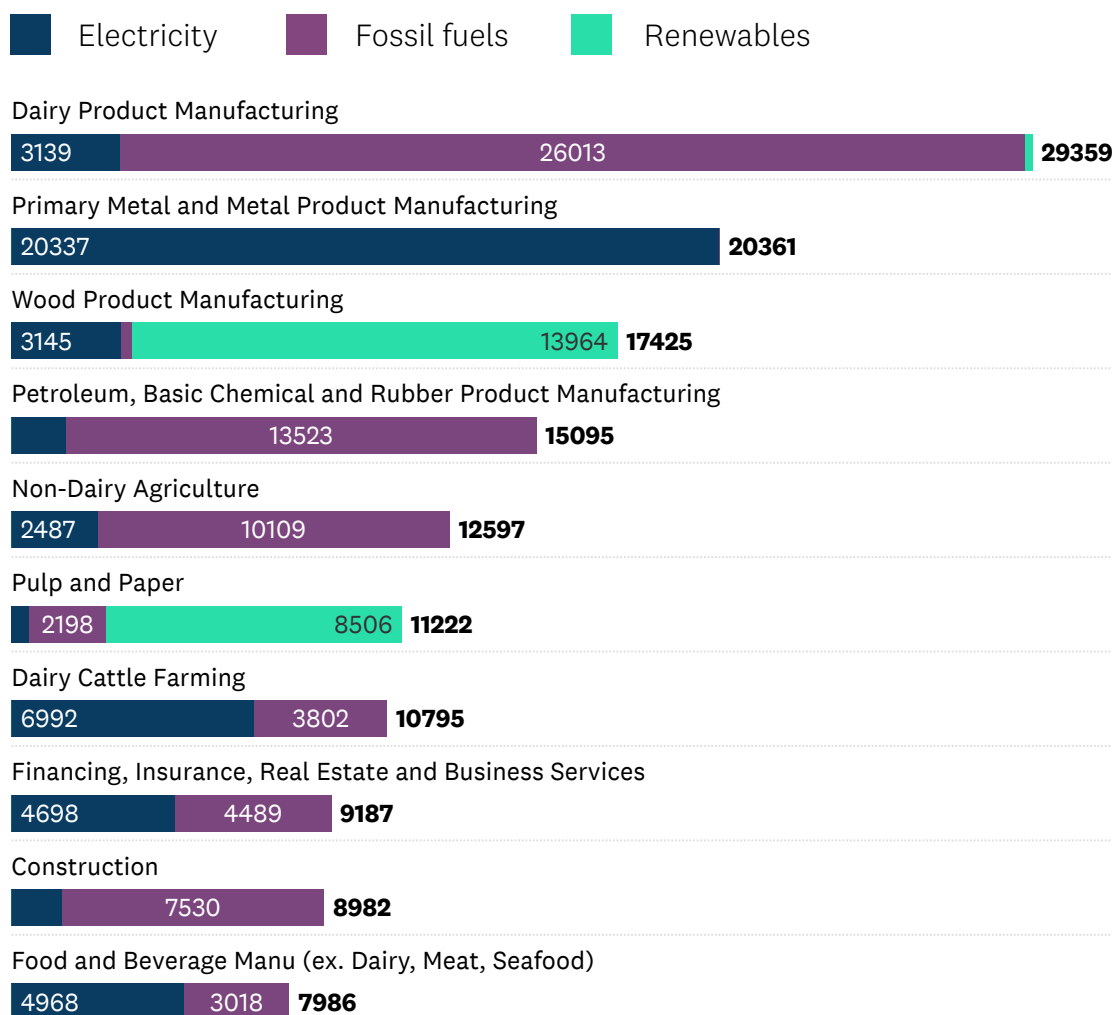
2.7 Stationary energy use by business sector

Stationary energy refers to the energy consumed by systems or processes that are fixed in one place, rather than being used in the transport context. This includes uses such as process heat for manufacturing, space heating, water heating, lighting, refrigeration, pumping and electronics. Stationary energy is the metric used in the insight graphs to follow.

Chart 8 shows the top 10 business sectors by stationary energy consumption. Dairy product manufacturing and the primary metals sectors (aluminium and steel manufacturing) are New Zealand's largest energy consuming industrial sectors making up 23% of business stationary energy consumption. Renewables, primarily in the form of biomass and geothermal, are used significantly in the wood, pulp and paper sectors. However, these sectors have had a number of site closures during 2024 which will change their energy profile in the future¹.

In general, energy use is concentrated in a small number of sectors, creating targeted opportunities to improve operational efficiency and energy cost management.

Chart 8: Top 10 business sectors - stationary energy consumption (terajoules)

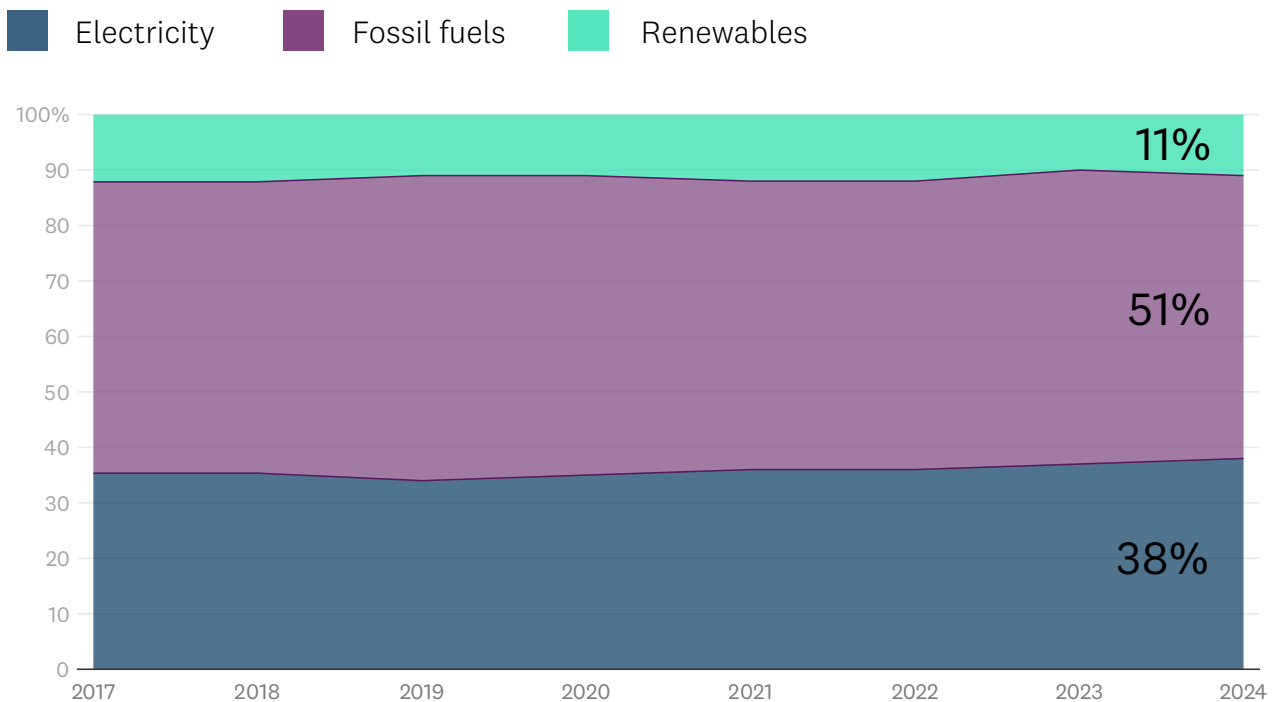


¹ - Winstone Pulp closures: 'It's just a really bad day for those communities' - local MP | RNZ News; More than 200 jobs to be axed as Kinleith Mill closes paper division | RNZ News; [ojifs.com/ojifs-confirms-penrose-mill-closure/](https://www.rnz.com/our-jobs-confirms-penrose-mill-closure/)

2.8 Business energy mix trends (2017–2024)

Chart 9 shows that the fuel mix for all businesses in aggregate has remained relatively constant across the past eight years, although fossil fuels reached their peak share at 55% in 2019 and have trended down slightly since to 51% in 2024. Inversely, from 2019 electricity has increased by 4 percentage points from 34% to 38% of the fuel mix. Consistent increases in renewables remain a challenge. The gradual shift toward electricity reflects a move to more stable and potentially lower-cost energy sources, though the pace of change remains moderate.

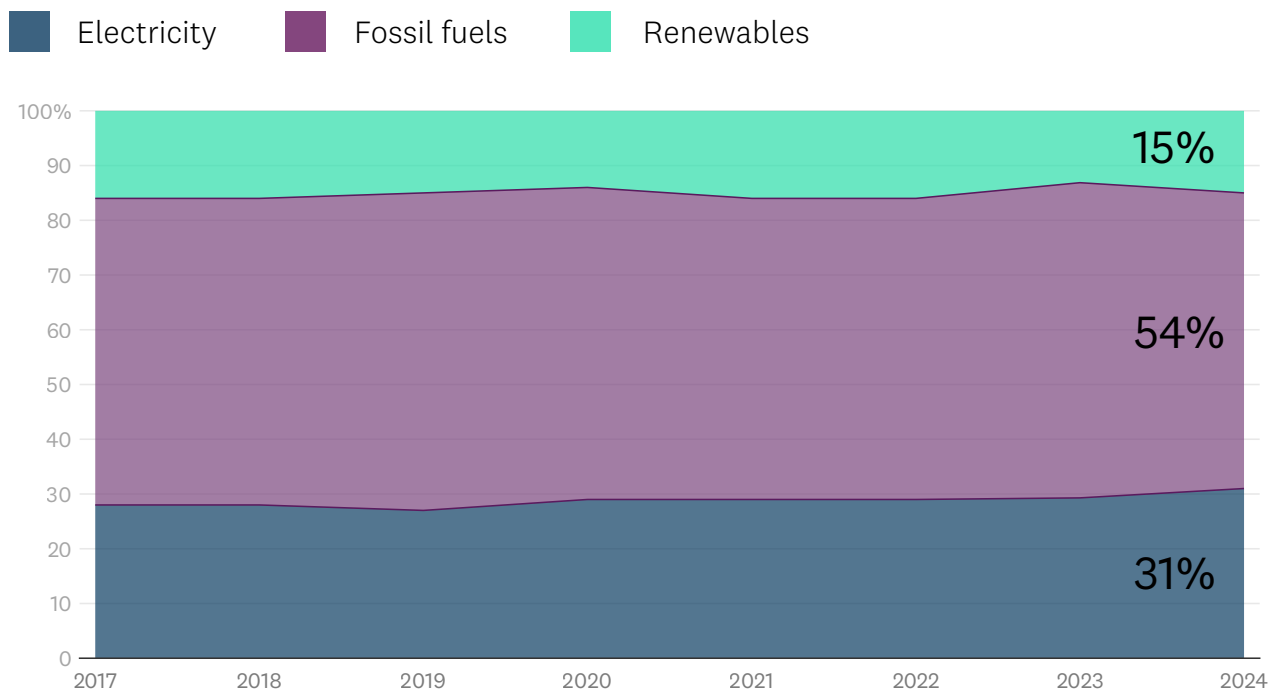
Chart 9: Stationary energy consumption by all businesses



2.9 Industrial/manufacturing energy mix: fossil fuel share at 8-Year low

Chart 10 shows industrial sectors by fuel grouping (fossil fuels, electricity and renewables) for stationary energy use. The renewables share is steady around 15%, while fossil fuels have dipped to 54%, the lowest share in eight years. New Zealand is yet to see consistent increases in the use of renewable energy sources such as biomass however further electric and biomass boiler conversions after 2024 are expected to show up in the data in the next few years.

Chart 10: Stationary energy consumption by industry/manufacturing

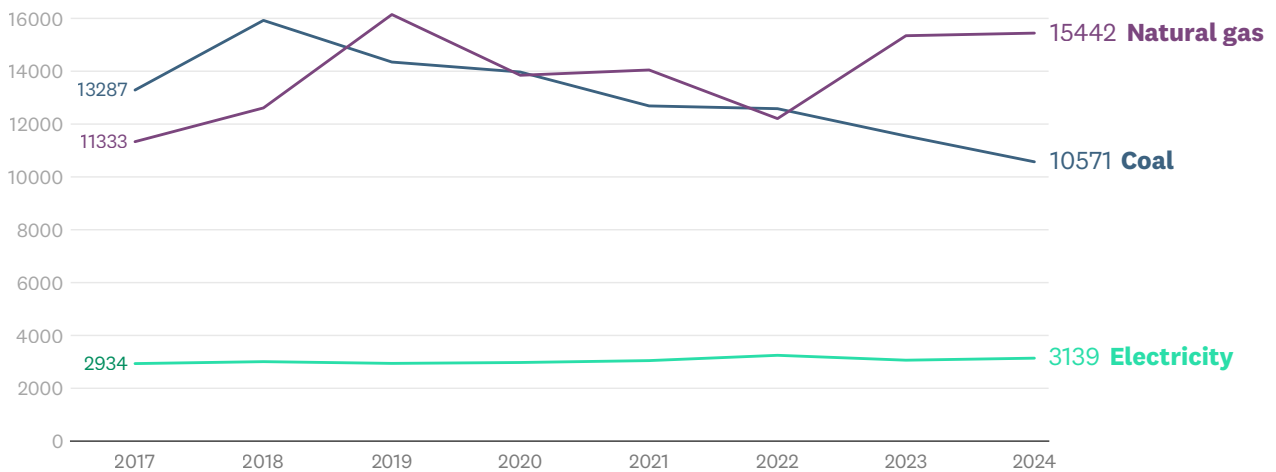


2.10 Dairy manufacturing sector: declining coal use

The dairy product manufacturing sector is one of the largest energy-using sectors in New Zealand, accounting for around 14% of all business stationary energy use in 2024. Reductions in coal use are being supported by fuel-switching investments, with electrification expected to improve process efficiency and provide more predictable long-term energy costs.

Fossil gas use saw an upswing in 2023 and appears stable into 2024. In 2025 Fonterra² announced a plan to convert two of its gas boilers to electricity, so this should impact gas usage in the future. EECA co-funded industrial projects continue to become operational across the sector. We expect to see more renewable energy projects trending across future years.

Chart 11: Dairy product manufacturing (terajoules)

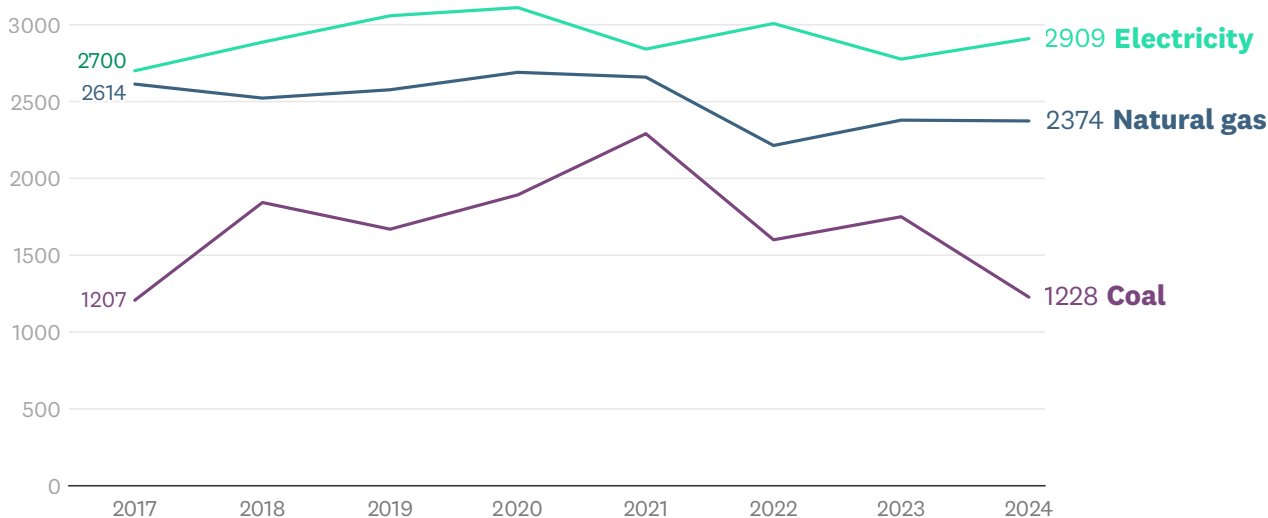


2 - [Fonterra announces plans to slash fossil gas use by 38% | RNZ News](#)

2.11 Meat & seafood sector: declining coal use

Recent fuel-switching projects indicate growing adoption of electric and low-emissions technologies, which can improve operational reliability and reduce dependence on fossil fuel supply chains. Fuel switching projects from coal to high temperature heat pumps and electrode boilers at ANZCO’s Kokiri site³ and AFFCO’s Awarua site became operational in 2023, and these would have likely contributed to the coal reduction the data shows. Further projects are still being implemented at Silver Fern Farms⁴, Alliance Group⁵ and ANZCO Ashburton⁶ and we expect to see more of a decrease in fossil fuels across future years.

Chart 12: Meat/seafood product manufacturing (terajoules)



3 - [Helping some of New Zealand’s highest energy users slash their emissions](https://www.beehive.govt.nz/helping-some-of-new-zealand-s-highest-energy-users-slash-their-emissions) | Beehive.govt.nz
 4 - [Cutting coal and carbon emissions at Silver Fern Farms](https://www.eeca.govt.nz/cutting-coal-and-carbon-emissions-at-silver-fern-farms) | EECA
 5 - [Red meat, green energy](https://www.eeca.govt.nz/red-meat-green-energy) | EECA
 6 - [Out With The Coal](https://www.anzcofoods.co.nz/out-with-the-coal) | ANZCO Foods

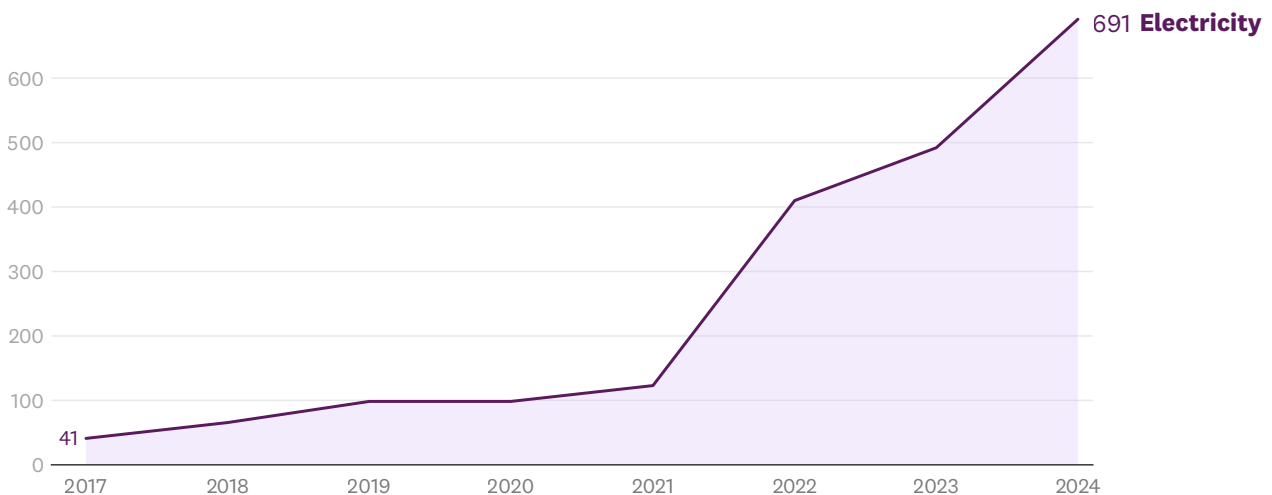
2.12 Data centres: rapid growth in electricity demand

Data centres, whilst only consuming about 0.5% of NZ's total electricity demand in 2024, have increased energy consumption rapidly in recent years, following a period of steady growth between 2017 and 2020.

From 2022 onwards, demand rose sharply, reflecting the development of large-scale hyperscale data centres. These include facilities built by specialist operators such as Canberra Data Centres (CDC) and Data Centre Investments (DCI), as well as the establishment of cloud regions⁷ by global technology companies such as Microsoft (2024) and Amazon Web Services (2025).

As a result, data centre electricity use has grown to become a more material component of New Zealand's overall electricity demand, and is expected to continue increasing as further capacity is developed⁸. This highlights the need for reliable electricity supply and efficient energy use to manage operating costs.

Chart 13: Data centres (terajoules)



7 - Cloud regions are networks of multiple data centres located within the same area and operated together to deliver cloud services reliably and at scale. These systems are significantly larger and more energy-intensive than earlier data centres, as they support cloud computing, artificial intelligence, and a wide range of digital services.

8 - [nztech-data-centres-report.pdf](#)