

K. Glossary



Agriculture	The agriculture sector includes all types of farming, hunting, forestry, logging and fishing. For electricity, it excludes separately metered farm houses which are included in the residential sector but includes houses where separate metering is not available and farming activity is the dominant use.
All sectors	In the Electricity section (Table G.12), this refers to the total electricity used in the residential, commercial and industrial sectors. Refer also to definitions of Residential, Commercial and Industrial sectors.
ANZSIC	Australia-New Zealand Standard Industrial Classification. In this publication, end uses of electricity are identified by ANZSIC codes as shown in Table G.13.
Aviation fuels	Avgas, Avtur, Jet-A1 and Jet-4 aviation fuels, light kerosene and premium kerosene.
Biogas	Energy produced from the anaerobic digestion of sewage and industrial waste. Includes landfill gas and sewage.
c/kWh	New Zealand cents per kilowatt hour – see Units Used.
Calorific value	See Units Used.
Capacity	See Units Used.
CIF	Cost, insurance and freight.
CNG	Compressed Natural Gas. Natural gas which has been compressed, or contained under pressure, in a small volume. Mainly used as a transport fuel.
Cogeneration	The simultaneous or sequential production of two or more forms of useful energy from a single primary energy source. In this publication, a cogenerator is an electricity generating facility that produces electricity and a form of useful thermal energy (such as heat or steam for industrial or commercial heating or cooling purposes). In the energy balances, only the electrical output is accounted for.
Commercial	The commercial sector includes non-manufacturing business establishments such as hotels, motels, restaurants, wholesale businesses, retail stores and health, social and educational institutions (see Tables G.10 and G.13). It also includes electricity used in public lighting, railway and urban traction. In the energy balances, direct use of geothermal energy for commercial consumption is included in the residential figure, because of data limitations.
Condensate	A light crude oil which is present in natural gas deposits.
Consumer energy	The amount of energy consumed by final users. It excludes energy used or lost in the process of transforming energy into other forms and in bringing the energy to the final consumers. For example, natural gas is a primary energy source (see Total Primary Energy Supply), some of which is transformed into electricity, of which some is lost in transmission to consumers. Consumer energy statistics can be either calculated from supply-side data or observed from usage data. The calculated figures are generally more accurate, but the observed figures are consistent with observed usage by each sector.
Contact Energy Limited	On 1 February 1996, ECNZ was split into two competing generation companies with the establishment of Contact Energy Limited as a State-owned enterprise. Contact Energy operates two hydro stations, three geothermal stations and five thermal stations. Contact Energy also has rights to 43% of the Maui gas field. It

	has a generation capacity share of about 22%. The Government sold a cornerstone stake in Contact Energy to Edison Mission Energy.
Crude oil	A mineral oil consisting of a mixture of hydrocarbons of natural origins, yellow to black in colour, of variable density and viscosity.
Diesel	Automotive gas oil, marine diesel and blended heating oil.
Direct sales	Sales direct to final users.
Distribution companies	DCs. For electricity, companies involved in the distribution of electricity, the line businesses.
Domestic	In this publication, the term domestic is used in the sense of national (as opposed to foreign) rather than residential.
Domestic transport	Includes road, off-road and rail land transport, coastal shipping and national air transport. Excludes international transport. In the energy balances, domestic transport demand includes transport fuel used for agricultural, industrial, commercial or residential purposes, where data could not be accurately allocated to those sectors.
ECNZ	The Electricity Corporation of New Zealand Limited (ECNZ). In April 1987, the Government, as part of its public sector restructuring programme, restructured the Ministry of Energy's Electricity Division into ECNZ – a State-owned enterprise (SOE). On 1 February 1996, around 26% of New Zealand's generation capacity was vested in a new SOE (see Contact Energy). Legislation was passed which further split ECNZ into three SOEs. The formal separation occurred on 1 April 1999 when Mighty River Power Limited, Genesis Power Limited and Meridian Energy Limited came into existence.
EDF	<i>Energy Data File</i> (this publication).
Electric power company	EPC. This term describes the companies involved in local distribution and retailing of electricity between 1993 and 1999. Some of them are also involved in electricity generation. Prior to 1993, these activities were the responsibility of local electric power boards (EPB) or municipal electricity divisions (MED) of the territorial local authorities. The Boards and MEDs were corporatised to become electric power companies. Since 1 April 1999, EPCs are not allowed to own distribution assets. See Distribution companies.
Energy balances	See Section B.
Energy efficiency	The ratio of total useful output to energy input.
Energy intensity	Energy use (primary or consumer) per unit of GDP.
Energy transformation	See Transformation.
FOB	Free on board.
Fossil fuels	Coal, natural gas, LPG, crude oil and fuels derived from crude oil (including petrol and diesel). They are called fossil fuels because they have been formed over long periods of time from ancient organic matter.
Fractionation	A distillation process used for the separation of the various components of a liquid.
Fuel oil	Light fuel oil, heavy fuel oil and other fuel oils.
Gas production	Includes both manufactured and natural gas.
Genesis Power Limited	Genesis Power Limited owns seven hydro stations, Huntly thermal station, Te Awamutu cogeneration plant and Hau Nui wind farm. Genesis generating stations are all in the North Island, with a generation capacity share of about 18%.

Geothermal energy	In the energy balances, an efficiency of 15% is assumed for geothermal electricity generation from year 2000 onwards (10% is assumed from 1974 to 1999) and direct use of geothermal for commercial consumption is included in the residential figure, because of data limitations.
GJ	Gigajoules.
Greenhouse gases	Atmospheric gases that increase the temperature of the earth's surface. They include water vapour, tropospheric ozone, chlorofluorocarbons, carbon dioxide (CO ₂), carbon monoxide (CO), methane (CH ₄) and nitrous oxide (N ₂ O). Around 90% of the gross CO ₂ emissions in New Zealand are caused by energy production and use.
Gross and net generation	Gross generation is the total electricity output from a station's generators. Net generation is the generation left after the amount used within the station for auxiliary plants to run is subtracted from the gross generation. Auxiliary plants that include pumps, fans, crushers, excitation, lighting and heating allow the station to generate.
Gross and net PJ	See Units Used.
Gross and net production	For gas (including LPG/NGL), gross gas production is defined as the quantity after the first separation point. Net gas production (also known as sale gas) is gross production less any gas flared, gas reinjected, LPG extracted, own use or losses. See Figure H.1.
GST	Goods and Services Tax. GST is charged at the rate of 12.5% for supplies made on or after 1 July 1989. From 1 October 1986 to 30 June 1989, GST was charged at the rate of 10%.
IEA	International Energy Agency.
Industrial waste	Waste heat produced as a by-product of a main process in a plant to produce steam for its steam turbines to generate electricity.
Imported oil and oil products	Calculated as: imports (crude, condensate, oil products, refinery blendstocks) – exports (oil products, refinery blendstocks) – stock changes (crude, condensate, LPG, oil products, refinery blendstocks) – international transport (oil products, refinery blendstocks).
Importer margin	The difference between New Zealand and international prices, expressed in real terms. See Section I.9.
Indigenous oil (net)	Calculated as indigenous production (crude, condensate, naphtha, LPG) – exports (crude, condensate, naphtha, LPG).
Industrial	In the Electricity section (Section G), industrial refers to all uses listed except Residential and Commercial, ie, all categories from Agriculture and Hunting to Ancillary Construction Services inclusive (see Tables G.11 and G.13) and includes forestry, logging and fishing. In the energy balances, it includes all uses listed (see Section B) and excludes agriculture (farming, hunting, forestry, logging and fishing).
International transport	Includes international sea and air transport. Excludes coastal shipping, domestic air transport and all land transport.
Kilowatt hour (kWh)	Unit of electrical energy – see Units Used.
kt	Thousand tonnes.
Line losses	For electricity, this refers to the losses incurred by Transpower and DCs in conveying electricity to their bulk and retail consumers. It results mainly from transformer and other losses of the network.

LNG	Liquefied Natural Gas.
Losses and own use	In the energy balances, excludes transformation losses but includes losses both before and after transformation: losses and own use in production, transmission and distribution losses, oil industry losses and own use (see below) and electricity own use free of charge. In the energy balances and the tables in Section D, oil industry losses and own use includes distribution tankage losses, stocks, accounts adjustment and own consumption.
LPG/NGL	Liquefied Petroleum Gas (LPG) and Natural Gas Liquids (NGL). NGL accounts for only a small proportion of this total (7% to 9% over the last five years). LPG consists of propane (60%) and butane (about 40%).
M-co	The Marketplace Company, where electricity trading takes place.
Megawatt (MW)	Capacity of generator – see Units Used.
Meridian Energy Limited	Meridian Energy Limited owns nine hydro stations in the South Island that belonged to the former ECNZ, and a small wind turbine in Wellington, with a generation capacity share of about 29%.
Mighty River Power Limited	Mighty River Power Limited owns eight hydro stations, one geothermal station and three landfill gas plants in the North Island with a generation capacity share of about 13%.
Mt	Million tonnes.
Municipal waste	This includes waste materials from factories and processing plants from which other forms of energy, mainly heat, are derived.
n.a.	Not available.
Natural gas	Consists mainly of methane occurring naturally in underground deposits. It may be associated or free gas.
Net	See Gross and Net.
Network	For electricity, this refers to the interconnected transmission or distribution lines or cables and associated power transformers for supplying power to customers.
NGC	The Natural Gas Corporation Limited was established as a State-owned entity in 1967 to buy process and wholesale gas from the Kapuni field. NGC passed into private sector hands in 1988 as part of the sale of state energy enterprise Petrocorp. NGC has an entitlement to 27.5% of Maui gas production and an entitlement to Kapuni gas. NGC manages over 3,400 km of high-pressure gas transmission pipeline (including Maui Development Limited (MDL)'s pipeline).
Non-energy use	Use of primary energy for other purposes (eg, bitumen for roads) and natural gas used as feedstock for the production of methanol and ammonia/urea.
Non-metallic minerals	In electricity, an end-use category including manufacture of concrete, clay, glass, plaster, masonry, asbestos, and related mineral products.
Non-residential	For electricity (see Table G.13), this refers to all uses listed except Residential, ie, all commercial and industrial uses.
NZ	New Zealand.
NZSIC	New Zealand Standard Industrial Classification (now replaced by the ANZSIC system combined with Australia).

Oil	Oil includes crude oil, condensate or oil products unless otherwise specified.
Oil production	Oil refinery operations (intake crude and production of oil products) and the input of gas for the production of synthetic gasoline.
Other bituminous coal	This category in the energy balance tables excludes coking coal but includes anthracite.
Other oil	This category in the energy balances includes other petroleum products such as bitumen, lubes, solvents, waxes, petroleum coke, white spirit, other liquid fuels and sulphur.
Other primary industry	Includes forestry and logging, coal mining, crude petroleum and natural gas production, metal ore mining and other mining and quarrying.
Own use	For electricity, this refers to the electricity used by an electricity supplier or generating plants free of charge.
Petrol production	Premium and regular grade petrol production. Production is net – ie, production at the refinery plus synfuels production less synfuels production used as refinery feedstock (synfuel production nil since February 1997).
PJ	Petajoules – see Units Used.
Primary energy	Energy as it is first obtained from natural sources. See Total Primary Energy Supply.
Private plants	In electricity, this refers to commercial and industrial organisations which generate electricity for their own use. The amount of electricity shown in this publication are the quantities of energy generated over and above the organisation's own requirements, and fed into their local EPC's network.
Purchases	In electricity, this refers to the electricity bought in bulk from state or privately owned generators, EPCs, M-co or private plants.
Refinery blendstocks and other feedstocks	Include refinery naphtha, mid distillate and motor gasoline blending components, eg, alkylate mix, offgrade regular, offgrade premium, reformat, cracked spirit. Synfuels used as refinery feedstock are also included in this category.
Reserves	Oil and gas reserves are expected reserves, estimated as “proven and probable” or P50 (ie, with a greater than 50% probability of being technically and economically producible) reserves by the field operators. Ultimately recoverable reserves are estimates of the total amounts of oil and gas that can be extracted during the lifetime of each field. These may differ from initial reserves estimates made at the commencement of production.
Residential	This refers to each separately metered private dwelling, ie, private houses. It excludes hotels, hostels, institutions, etc (which are included in the commercial sector) but does include normally unoccupied holiday homes, beach houses, etc. (See Tables G.9 and G.13.)
Reticulated demand sales	Demand or sales through the reticulation (gas distribution) network.
Self-sufficiency	Defined in primary energy terms in this publication as the proportion of energy supply met indigenously, calculated as indigenous production/total primary energy supply. For oil, consumer self-sufficiency is also a useful concept, because it includes synthetic petrol production.
Separation	Splitting wellhead gas into a gas stream and a liquid stream.

Stock change	Change in stocks between ends of months, quarters or years. By convention, an increase in stock levels is defined as a positive stock change.
Sub-bitum.	Sub-bituminous coal.
Total primary energy supply	The amount of energy available for use in New Zealand for energy transformation and end use. It includes energy as it is first obtained from natural sources, which means that coal is accounted for as it is mined, indigenous oil and natural gas as they are extracted from wells, imported oil and oil products as they are imported, and hydro as it is used for electricity generation (assuming efficiency of 100%). Geothermal is accounted for on the basis of its use as an input to electricity generation (assuming efficiency of 10% from years 1974 to 1999 and 15% from year 2000) including cogeneration, plus an estimate of losses, own use and geothermal used directly as a heat source. It accounts for imports and exports, and makes allowance for any stock change. By convention, fuels used for international transport are excluded from total primary energy supply. Thus, Total primary energy supply = Indigenous production + Imports – Exports – Stock change – International transport.
Transformation	Transformation of energy from one form to another always results in conversion losses. Transformation losses are shown as the (negative) totals at the right of the energy balance tables. Transformation losses in electricity generation are derived from the net electricity generated, assuming efficiencies of 100% for hydro and wind, 15% for geothermal from year 2000 (10% is assumed from years 1974 to 1999), 35% for gas plants and 33% for coal plants. Cogeneration efficiencies are assumed at 15% for geothermal, 30% for gas plants, 30% for coal plants, 30% for biogas, 25% for wood and 15% for steam (waste).
Transport	See Domestic transport or International transport.
Transpower	Transpower New Zealand Limited operates the national electricity network (the national grid), which includes the high-voltage direct current (HVDC) link running between the North and South Islands. Until 1 July 1994, Transpower was a subsidiary of ECNZ. On 1 July 1994, Transpower was separated from ECNZ and is now a stand-alone State-owned enterprise.
Unallocated	In the energy balance tables, a category within the industry sector for those items whose industrial disaggregation is either unknown or confidential.
Waste heat	Includes waste heat from industries, factories and processing plants that is used to generate electricity from steam turbines.
Wood	Includes wood supplied as fuel, wood waste and residues. Wood supply and demand are estimated.
Wood residues	Includes arisings, hog fuel, bark and black liquor.