



Environmental Health Indicators for New Zealand

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TOTAL ENERGY CONSUMED IN NEW ZEALAND

New Zealand has a variety of energy sources, including renewable sources (e.g., hydro-electricity, geothermal energy, biogas, and wind and solar power) as well as non-renewable sources of energy (e.g., fossil fuels like coal, oil and gas). The consumption of energy is a major source of air pollution, as the burning of fossil fuels releases particulate matter (such as PM₁₀) and gases, which can have negative effects on health (Kjellström 2004). Furthermore, the use of fossil fuels adds to carbon dioxide in the atmosphere, contributing to greenhouse gases and potentially climate change, which has the potential to affect health.

Energy consumed is defined as the amount of energy consumed by final users, and does not include energy used or lost while generating more energy, or bringing energy to final users (Ministry of Economic Development 2008). Energy is measured in petajoules (PJ = 1x10¹⁵ J). The indicator examines consumption of energy in New Zealand, by fuel type and sector, for the years 1990–2010. These data are available from the MED (Ministry of Economic Development 2011), as part of the Energy Data File publications.

ENERGY CONSUMPTION BY FUEL TYPE AND SECTOR

Energy consumption rose continuously from 1990 to 2002, but fluctuated over the next eight years, with the highest consumption recorded in 2004 (Figure 1). The main type of energy consumed is oil, although electricity also represents a large proportion of energy used. Oil is the dominant energy source used in the transport and agriculture sectors, while electricity is the main energy source in the industrial, commercial and residential sectors.

Transport use of energy accounts for about a third of total energy consumption in New Zealand (Figure 2). Another third is accounted for by the industrial sector.

References

- Kjellström T. (2004). Air Quality and Health. In: Cromar N, Cameron S, Fallowfield H. (eds). Environmental Health in Australia and New Zealand. Melbourne: Oxford University Press:274-92.
- Ministry of Economic Development. (2011). New Zealand Energy Data File. Wellington: Ministry of Economic Development.
- Ministry of Economic Development. (2008). Climate change solutions. Wellington: Ministry of Economic Development.

FIGURE 1: NEW ZEALAND TOTAL ENERGY CONSUMED, BY FUEL TYPE, 1990-2010

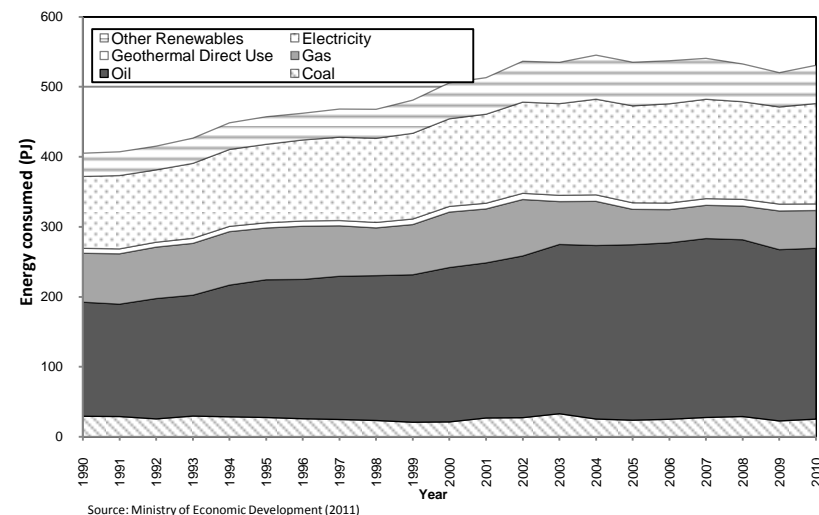


FIGURE 2: NEW ZEALAND TOTAL ENERGY CONSUMED, BY SECTOR, 1990-2010

