

Embargoed until 3:00pm – 14 January 2008

New Zealand Energy Statistics: September 2007 quarter

Revised 14 January 2008 – See attached Erratum

Highlights

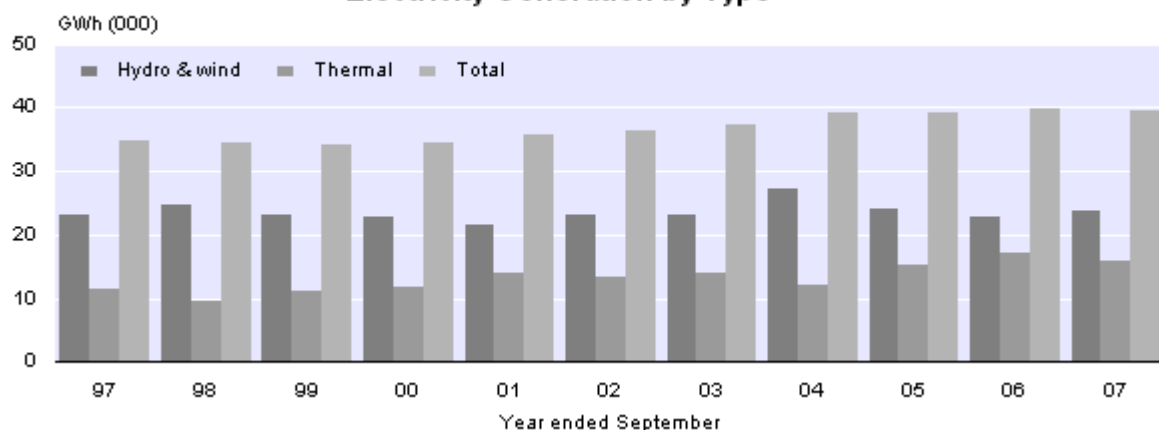
In the September 2007 quarter:

- Total electricity generation fell 4.5 percent compared with the September 2006 quarter.
- Hydro and wind generation fell 7.1 percent and thermal generation fell 0.9 percent.
- The amount of crude petroleum produced was the largest for any quarter since records began in 1986.

In the September 2007 year:

- Total electricity generation fell 0.8 percent compared with the September 2006 year.
- Gas production increased for the first time in a September year since 2001.
- Diesel deliveries increased again – they've increased every September year since 1996.

Electricity Generation by Type



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There is a companion Media Release published – [New Zealand Energy Statistics: September 2007 quarter](#).

Commentary

Transfer of responsibility for the publication of energy statistics

This is the last quarterly New Zealand Energy Statistics information release that Statistics New Zealand will publish. The Ministry of Economic Development (MED) will take over the dissemination of energy statistics and they will publish information relating to the December 2007 quarter on 18 March 2008. The *New Zealand Energy Quarterly* publication will be published on the MED website at: www.med.govt.nz/energy/nzeq/. This product will be similar to the Statistics NZ Hot Off The Press, and will include information relating to oil, gas, coal, and electricity.

Energy statistics have always been of general interest. However, in this era of environmental concern, the need for robust, easy-to-interpret information about energy production, generation, use, pricing, and emissions has increased significantly.

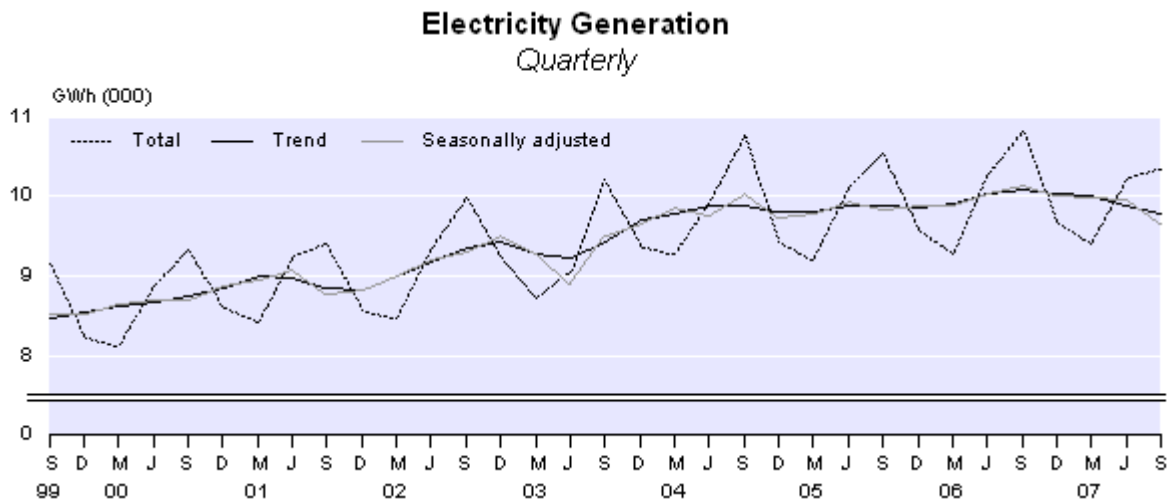
For a long time, both Statistics NZ and MED have been collecting and publishing energy statistics. This information was collected for slightly different purposes and so produced slightly different numbers. Over the past few months, officials from both agencies have been working together to eliminate the resulting confusion and duplication of effort, while maintaining the continuity of supply to all users of this information.

It has been agreed that MED will take over as the primary agency for energy production and generation statistics. Statistics NZ will remain the primary agency for energy end-use statistics, like those collected in the Manufacturing Energy Use Survey.

Electricity

Quarter

Total electricity generation in the September 2007 quarter was 10,322 gigawatt hours; 487 gigawatt hours (4.5 percent) lower than in the September 2006 quarter, when the highest level of electricity generated for any quarter was reached. The September quarter generally has the highest level of electricity generation in the annual cycle. After adjusting for seasonal variations, the volume of electricity generated in the September 2007 quarter fell 3.0 percent compared with the previous quarter.



Thermal generation fell 43 gigawatt hours (0.9 percent) in the September 2007 quarter. Although the overall decrease in thermal generation was small, there were some significant movements within the different types of thermal generation, with a fall in coal generation of 900 gigawatt hours and increased gas generation of 852 gigawatt hours. In June 2007, a new 400MW gas turbine was commissioned at the Huntly plant which reduced its reliance on coal-fired generation.

Hydro and wind generation decreased 443 gigawatt hours (7.1 percent) and supplied 56 percent of total electricity generation this quarter. Hydro lake levels were below average over the whole of the latest quarter, but were at similar levels to those of the September 2006 quarter.

In the September 2007 quarter, 65 percent of electricity for sale to consumers was generated from renewable resources, which include hydro, wind, geothermal, and biomass. This compares with 66 percent in the September 2006 quarter and 62 percent in the September 2005 quarter.

Annual

In the September 2007 year, total electricity generation was 39,611 gigawatt hours, a decrease of 309 gigawatt hours (0.8 percent) compared with the September 2006 year. Despite the small fall, electricity generated in the latest year still reached the second highest level for a September year following the highest-ever level reached last September.

Thermal generation fell 1,304 gigawatt hours (7.6 percent) with a decline in coal-fired generation more than accounting for the decrease, while gas generation increased. Hydro and wind generation rose 1,000 gigawatt hours (4.4 percent) and provided 60 percent of total electricity generation in the September 2007 year.

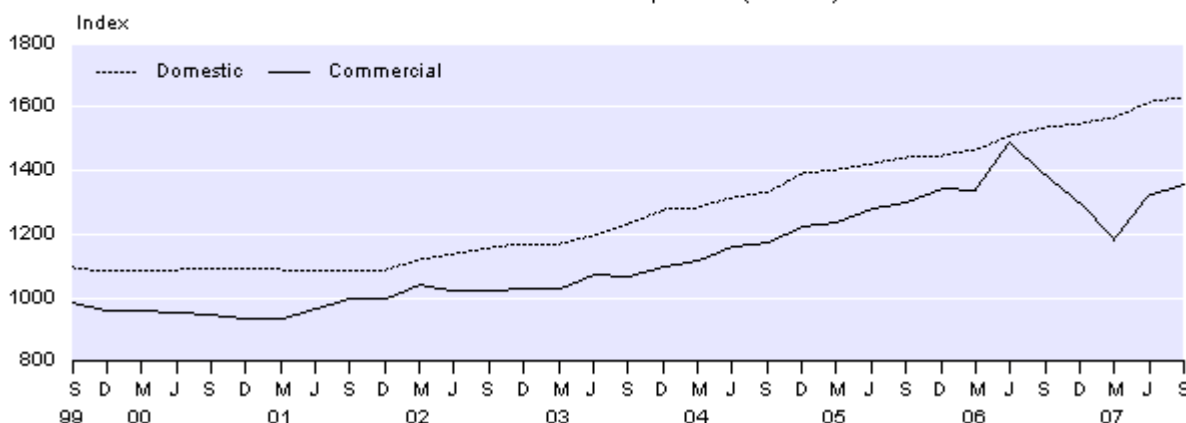
In the latest September year, 68 percent of electricity for sale to consumers was generated using renewable resources. This compares with 65 percent in September 2006, and 68 percent in September 2005.

Prices

In the September 2007 quarter, prices for commercial electricity users rose 2.4 percent compared with the June 2007 quarter but were 2.1 percent lower compared with the September 2006 quarter. Over the same periods, prices for household electricity consumers were up 0.8 percent compared with the previous quarter and were 6.2 percent higher compared with the same quarter last year.

Electricity Price Index

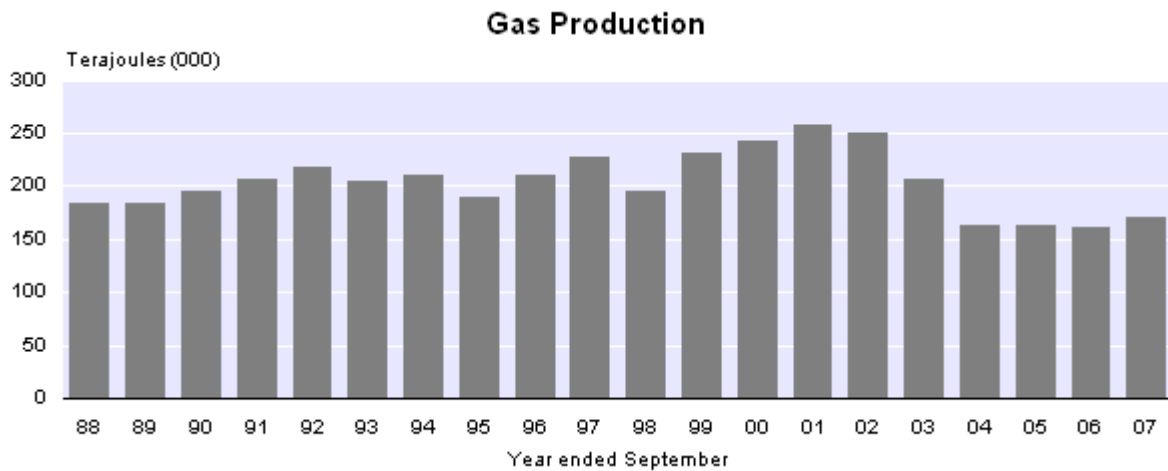
Base: December 1996 quarter (=1000)



Gas

Gas production in the September 2007 quarter increased 19.9 percent compared with the September 2006 quarter. At 50,171 terajoules, this is the largest amount of gas produced for any quarter since September 2003. With the Pohokura field starting operation in the later half of last year, gas production has increased every quarter so far this year.

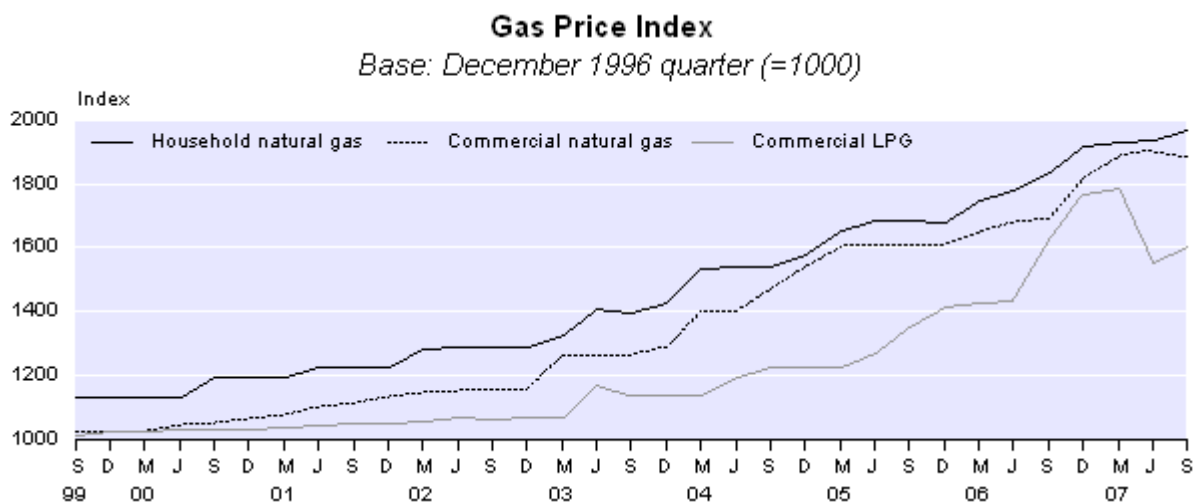
Gas production for the September 2007 year was 169,701 terajoules, 5.7 percent higher than in the September 2006 year. This is the first September annual increase since 2001 when the highest-ever level of gas production for a September year (258,073 terajoules) was reached.



Prices

Commercial liquid petroleum gas (LPG) prices increased 3.0 percent this quarter, following a 13.0 percent decrease in the previous quarter. Comparing the September 2007 quarter with the September 2006 quarter shows that the price fell 1.3 percent – the first decrease between September quarters since 1998.

For commercial consumers, the price of natural gas decreased 0.9 percent compared with the June 2007 quarter and increased 11.6 percent compared with the September 2006 quarter. Natural gas prices for household consumers rose 1.5 percent from the June 2007 quarter to the September 2007 quarter and were 7.3 percent higher than in the September 2006 quarter.



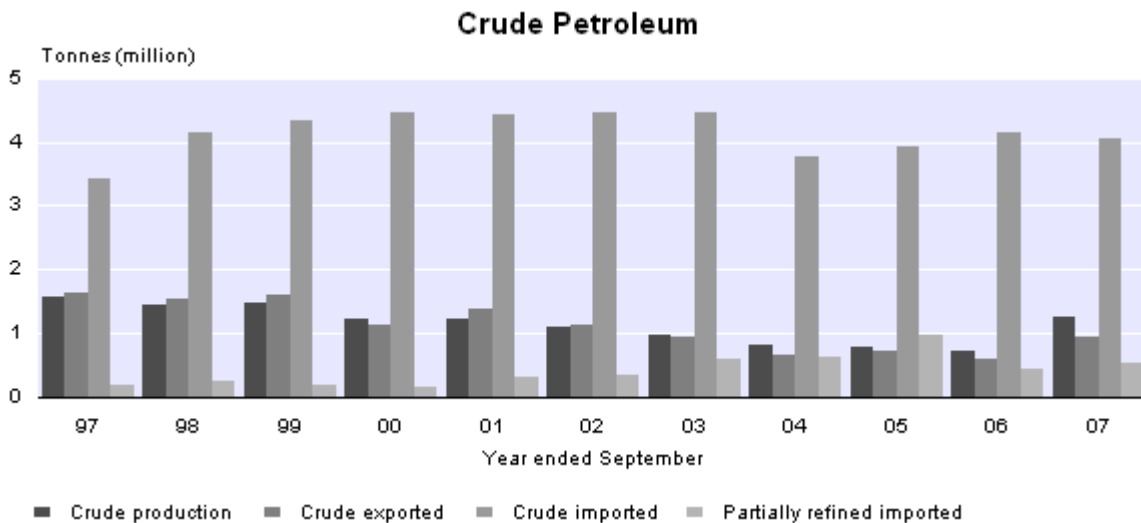
Petroleum

Crude petroleum production

Crude petroleum production of 597 thousand tonnes in the September 2007 quarter is the largest amount produced in any quarter since records began in 1986. This quarter's production increased 232.2 percent compared with the lowest recorded September quarter production in 2006. Of the total crude petroleum produced in the latest quarter, 74 percent was exported.

The volume of crude petroleum produced in the year ended September 2007 was 1.3 million tonnes, an increase of 75.1 percent compared with the year ended September 2006. This is the largest amount of crude petroleum produced for a September year since 1999. Crude petroleum production has been increasing since the later half of 2006 when the Pohokura field began production and has increased significantly since the Tui field started production recently. As with the September quarter, 74 percent of the crude petroleum produced was exported in the September 2007 year; the remainder was available for use as feedstock in the production of refined petroleum products.

The provisional figure for imports of crude petroleum in the September 2007 year was 4.0 million tonnes, 2.5 percent less than in the September 2006 year. Over the same period, provisional figures for imports of partly-refined petroleum for further processing increased 20.4 percent to 525 thousand tonnes.

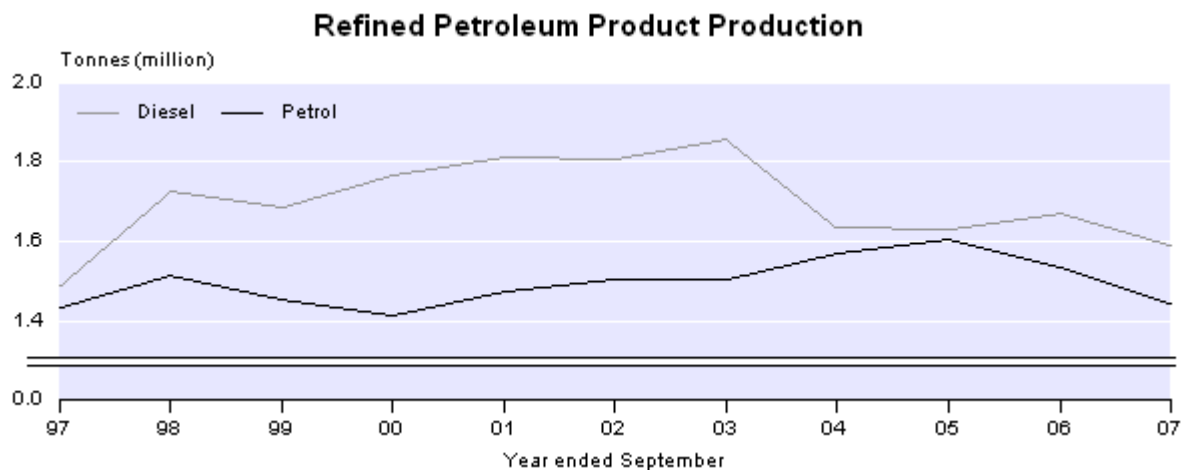


Refined petroleum production

Diesel production in the September 2007 quarter was up 12.9 percent on the September 2006 quarter – the first increase for a September quarter since 2001. At 458 thousand tonnes, this is the largest amount of diesel produced in any quarter since March 2003.

In the September 2007 quarter, there was a 10.0 percent decrease in the production of petrol compared with the previous September quarter. A decrease in the production of regular petrol more than accounted for the fall while premium petrol production recorded an increase.

The total volume of diesel produced in the year ended September 2007 was 1.6 million tonnes, 4.8 percent less than in the year ended September 2006. Over the same period, petrol production also decreased, down 5.9 percent. Again, a decrease in the production of regular petrol more than accounted for the fall, while premium petrol production increased.

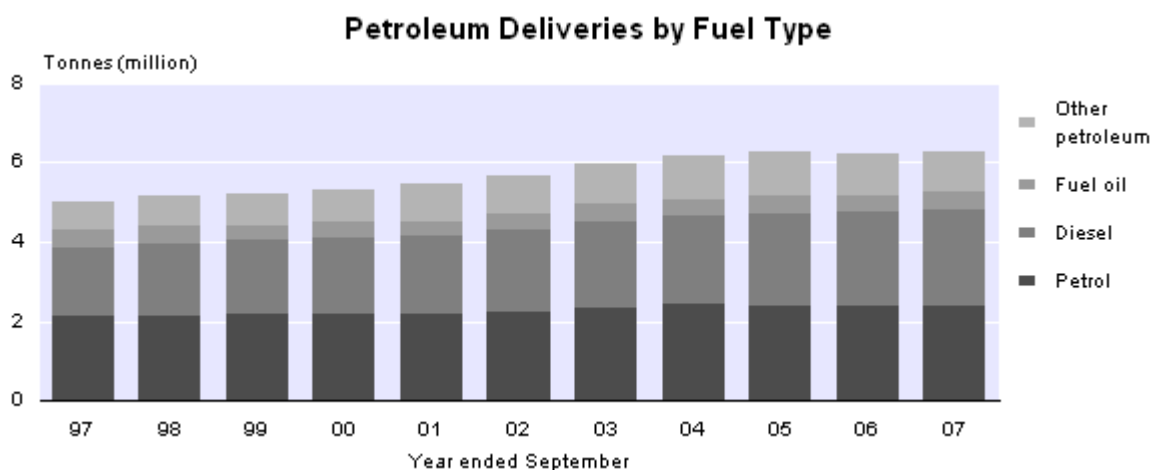


Petroleum deliveries

In the September 2007 quarter, deliveries of petrol and diesel were both 592 thousand tonnes, an increase of 4.8 percent and 4.7 percent, respectively, on the September 2006 quarter. Increases in both premium and regular petrol deliveries contributed to the total increase in petrol deliveries, while diesel delivery volumes increased and reached a new high for a September quarter.

The total volume of petrol delivered in the September 2007 year was 2.4 million tonnes, 1.5 percent higher than in the previous September year. Increased deliveries of both premium and regular petrol contributed to the overall increase in petrol deliveries, up 2.1 percent and 1.3 percent respectively.

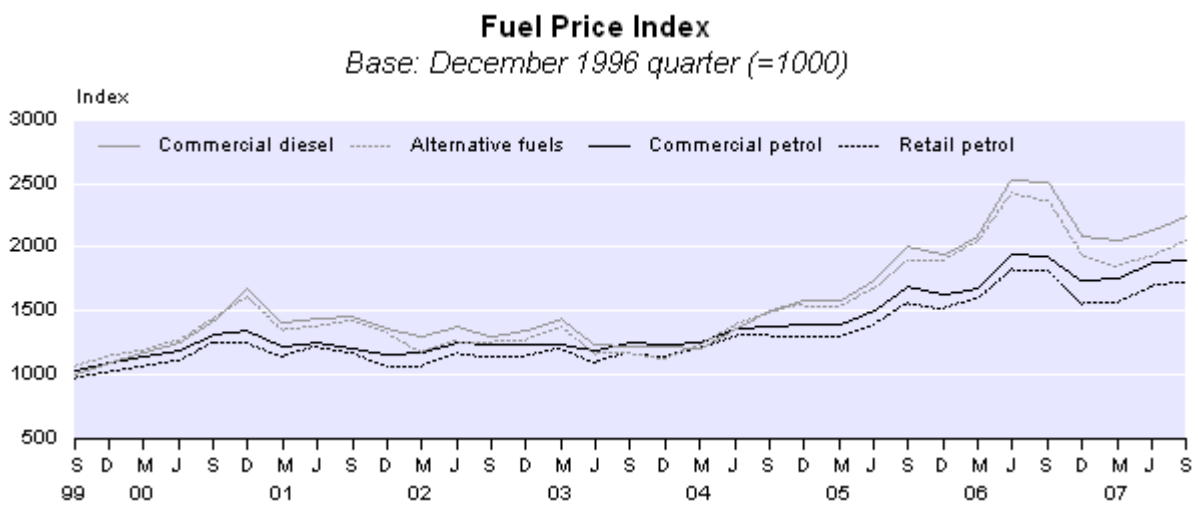
Diesel deliveries in the September 2007 year were 2.4 million tonnes, up 2.0 percent compared with the September 2006 year. Deliveries of diesel have recorded consecutive increases for September years since 1996.



Prices

In the September 2007 quarter, petrol prices for commercial and household consumers rose 0.9 and 1.8 percent, respectively, compared with the June 2007 quarter. Petrol price increases have been recorded in every quarter so far this year, following the decreases that were recorded in the last six months of 2006. Comparing the September 2007 quarter to the September 2006 quarter shows that petrol prices fell 1.7 percent for commercial consumers and fell 5.9 percent for household consumers.

The price of diesel (for commercial consumers) and alternative motor fuels (for household consumers) also rose, up 4.9 and 6.5 percent, respectively, in the September 2007 quarter compared with the previous quarter. Price decreases were recorded for diesel, down 10.5 percent, and alternative motor fuels, down 13.1 percent compared with the September 2006 quarter.



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Technical notes

Background

The New Zealand Energy Statistics comprise six surveys of the production of energy commodities:

- Electricity Generation
- Geothermal Steam Production by End Use
- Gas Production
- Crude Petroleum Production
- Petrol Production
- Petroleum Deliveries by Fuel Type

plus the indexes relating to energy commodities from the Consumers Price Index and Producers Price Index.

The information contained within this release is intended for use as a short-term indicator of energy statistics. More comprehensive, but less timely, information and data on New Zealand's energy sector is available through the Ministry of Economic Development's website at: www.med.govt.nz/energy/info/ or www.med.govt.nz/energy/data/.

Definitions

Biomass

Energy generated from any organic matter that is available on a renewable or recurring basis, including dedicated energy crops and trees, agricultural food and feed crop residues, wood and wood wastes, animal wastes and other waste materials.

Renewables

Energy generated from sources that are not depleted by use, or which can be renewed after use, including solar, wind, hydro, biomass, tidal, wave, and ocean current sources. Geothermal energy is considered renewable, although geothermal fields can be depleted if fluids are extracted at a higher rate than they are replenished.

Electricity generation

This survey is a monthly census of electricity generators, and measures the volume in gigawatt hours (GWh) of electricity generated, by fuel source type, as represented by sales to external users. Small private cogeneration plants that supply electricity for on-site users with no sales to external users are not captured in the Electricity Generation Survey. The published series record the volumes of hydro and wind, thermal, and total electricity generation, as well as providing seasonally adjusted and trend series. Figures for hydro generation have included a small quantity of generation by wind. As part of an updated electricity series, reference has now been made to the inclusion of this generation type. See below for details of seasonally adjusted estimates.

Geothermal steam production

Production of geothermal steam data are collected quarterly from enterprises engaged in extracting geothermal steam to supply to external users. The production of geothermal steam harnessed for purposes such as generating electricity for on-site users is not captured in the Geothermal Steam Production by End Use Survey.

Gas production

The Gas Production Survey measures the monthly volume of gas extracted in New Zealand. The survey in its present form began in 1974, and additional oil/gas fields have been added to the survey when they start producing commercially. Data previously available from production censuses are not strictly comparable with data from the present monthly survey. Prior to 1990, data for gas production included gas manufactured at gas works, but this has been discontinued following the cessation of this form of production.

Crude petroleum production

This survey records the volume of crude petroleum condensate and naphtha (excluding natural gas and liquid petroleum gas (LPG)) extracted in New Zealand.

Petroleum production by fuel type

The Petroleum Production Survey measures the monthly volume of petroleum products refined in New Zealand from indigenous crude petroleum, imported crude, and imported semi-refined petroleum:

- Refined petrol
 - Premium (95 octane or greater)
 - Regular (91 octane)
- Diesel (auto gas oil)
- Other oil products (for example aviation fuel, kerosene, heavy and light fuel oils).

Petroleum deliveries by fuel type

The Petroleum Deliveries by Fuel Type Survey collates the volumes of petroleum fuel products which are distributed to resellers and direct to industry by all the oil companies operating in New Zealand. The fuel products delivered include the outputs of the refinery plus imported fully-refined petroleum products.

Energy price indexes

The energy price indexes measure changes in prices paid by commercial or household consumers.

Coverage and calculation

The household price indexes are collected as part of the Consumers Price Index and represent prices that householders pay. Prices are surveyed in 15 urban areas. Monthly prices are collected for electricity, gas, and alternative motor fuels. Coal and firewood prices are collected in the middle part of the quarter. Petrol prices are collected weekly, having been collected twice monthly prior to April 2002.

The commercial price indexes are collected as part of the Commodity Price Survey (Producers Price Index). Prices are collected mainly by postal survey, with respondents supplying the price at the mid-point of the quarter. Electricity, LPG and natural gas prices are collected from local supply companies and include delivery costs. Bulk diesel and petrol prices, including delivery, are collected from oil companies for several locations around New Zealand. Coal prices are collected from mining companies and exclude delivery costs.

Indexes for commercial electricity and natural gas have been redeveloped as part of the redevelopment of the Producers Price Index. These indexes are now based on a 'typical-consumer' approach. Power companies are asked to supply a single price for each of three specified levels of consumption. The three levels represent small, medium and large consumers. The amount of electricity, time of consumption and line capacity are specified.

The indexes are Laspeyres base-weighted price index series. The weightings are determined by the relative importance of commodities and businesses within the industry. Information from various surveys, censuses and other sources has been used to determine the weightings.

Other price indexes

Other energy price indexes and energy industry indexes are published as part of the Producers Price Index, the Farm Expenses Price Index and the Consumers Price Index. Unpublished energy price indexes at a lower level of aggregation are also available, at a small charge to cover dissemination.

Seasonally adjusted estimates

Seasonal adjustment aims to eliminate the impact of regular seasonal events (such as winter) on time series. This makes the data for adjacent quarters more comparable. All seasonally adjusted figures are subject to revision each quarter. This enables the seasonal component to be better estimated and removed from the series. The largest revisions will occur in the quarters prior to the current quarter.

From September 1998, X-12-ARIMA has been used to produce the seasonally adjusted and trend estimates, rather than X-11-ARIMA. X-12-ARIMA is an updated version of X-11-ARIMA, developed at the U.S. Census Bureau. For completeness and for comparative purposes, the back series has been revised using X-12-ARIMA also. This methodology change has resulted in some additional revisions to previously released figures, due to the slightly different treatment of outliers in the newer package. An extra adjustment has been made for the outliers in 1992 due to the power 'crisis'. These changes have been implemented to ensure that the high quality of the seasonal adjustment process is maintained.

More information

Follow the links from the Technical notes of this release on the Statistics New Zealand website for more information on:

[Electricity](#)

[Gas](#)

[Geothermal](#)

[Petrol](#)

[Crude Petroleum](#)

[Petroleum Deliveries](#)

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Timing

Timed statistical releases are delivered using postal and electronic services provided by third parties. Delivery of these releases may be delayed by circumstances outside the control of Statistics NZ. Statistics NZ accepts no responsibility for any such delays.

Next release ...

New Zealand Energy Quarterly: December 2007 quarter will be published on 18 March 2008 by the Ministry of Economic Development at www.med.govt.nz/energy/nzeq/.

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Erratum

Error in New Zealand Energy Statistics: September 2007 quarter

An erratum for the New Zealand Energy Statistics: September 2007 quarter, was issued by Statistics New Zealand today. The Hot Off The Press and media release for this quarter have been corrected and re-released, with details of the corrections.

The error was due to an incorrect value for crude petroleum production for the September 2007 quarter and year ended September 2007.

There is no impact on any of the other Statistics New Zealand publications previously released, including Gross Domestic Product (GDP): September 2007 quarter.

We regret any inconvenience this error may have caused.

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Tables

The following tables can be downloaded from the Statistics New Zealand website in Excel format. If you do not have access to Excel, you may use the [Excel file viewer](#) to view, print and export the contents of the file.

List of tables

1. Quarterly New Zealand energy statistics
2. Year ended September New Zealand energy statistics
3. Energy price indexes



[New Zealand Energy Statistics: September 2007 quarter \(36KB\) \(xls\)](#)