

# APEC Energy Statistics 2020

Energy Working Group  
February 2023

EGEDA Secretariat  
Energy Statistics and Training Office  
Asia Pacific Energy Research Centre

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Asia-Pacific  
Economic Cooperation

# APEC Energy Statistics 2020

Energy Working Group

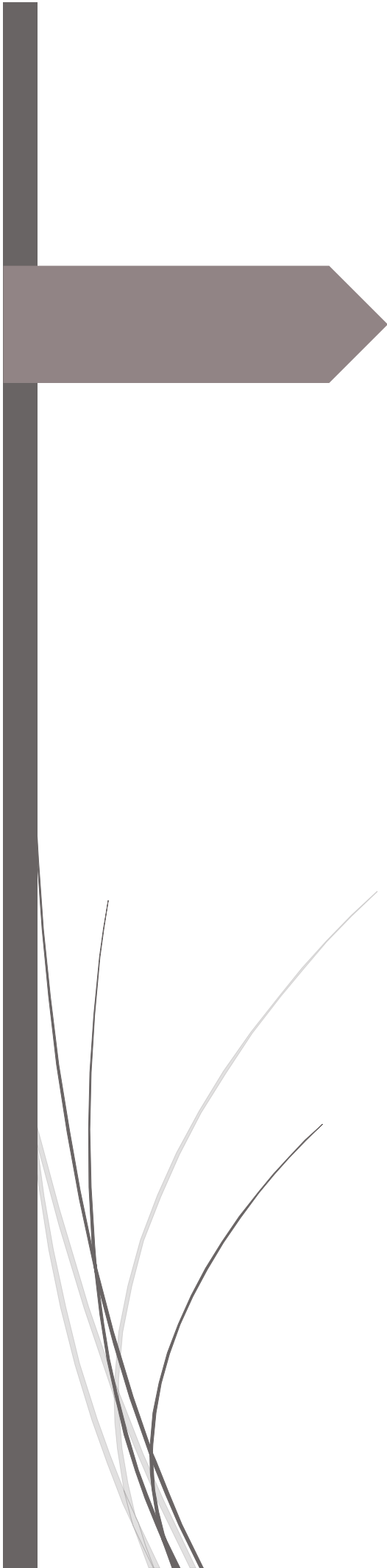
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ENERGY STATISTICS AND TRAINING OFFICE  
ASIA PACIFIC ENERGY RESEARCH CENTRE

APEC Energy Statistics 2020

Energy Working Group February 2023





**APEC  
ENERGY  
STATISTICS  
2020**

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## PREFACE

The APEC Energy Statistics 2020 consists of the following chapters:

1. Background information on APEC energy statistics
2. Overview of APEC energy situation
3. Member economy tables

The statistics cover the 21 APEC member economies, i.e. Australia; Brunei Darussalam; Canada; Chile; People's Republic of China; Hong Kong, China; Indonesia; Japan; Republic of Korea; Malaysia; Mexico; New Zealand; Papua New Guinea; Peru; The Republic of the Philippines; Russia; Singapore; Chinese Taipei; Thailand; The United States and Viet Nam.

**Chapter 1** describes the methodology for collecting and standardising the energy data and for producing the secondary data such as the energy balances and other tables. The preparation of socio-economic data is also explained.

**Chapter 2** provides an analysis of energy demand and supply in the APEC region and contains figures and tables showing trends of energy demand and supply.

**Chapter 3** consists of annual tables of each member economy. The annual tables contain energy balance tables for 2020 and 2019 and energy prices from 200 to 2020. The annual tables also include major energy indicators such as primary energy supply, final energy consumption, demand and supply by energy sources as well as major economic indicators such as population, GDP, balance of payments, foreign exchange rate, purchasing power parity, price indices and so on. These tables cover the data from 1990 to 2020. The objective is to report the most recently updated data.

APEC Energy Statistics 2020 is derived from the APEC energy database, the purpose of which is to establish a comprehensive and consistent energy database within the APEC region. This database will be used to assist in the identification of significant trends in energy supply and demand consistent with projects and priorities under the APEC Energy Working Group, which include final energy intensity and shares of renewable energy in total primary energy supply and total final energy consumption. It is prepared in close cooperation with member economies.

Inquiries about the data should be addressed to the EGEDA secretariat, the Energy Statistics and Training Office (ESTO) of the Asia Pacific Energy Research Centre (APEREC).

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**1**

# **Background Information on APEC Energy Statistics**

## Background

Data collection in APEC started in 1991 with the creation of the Expert Group on Energy Data and Analysis (EGEDA) under the Energy Working Group (EWG). This is in consideration of the importance of energy data collection for enhanced energy security and environmental sustainability in the APEC region. The expert group designated the Energy Data and Modeling Centre (EDMC) of the Institute of Energy Economics, Japan (IEEJ) as coordinating agency with the role of secretariat and implementer of data collection and maintenance of the APEC energy database. The role of secretariat was transferred to the Energy Statistics and Training Office (ESTO) of the Asia Pacific Energy Research Centre (APEREC) in 2015.

The secretariat compiled energy data as far back as 1970 from the 21 member economies depending on data availability. The APEC Energy Statistics was published annually since 1993 and this year's publication is the 30<sup>th</sup> edition.

This publication consists of energy data submitted by each member economy as well as socio-economic data collected by the secretariat for this APEC activity. The energy balance tables, which give detailed description of all energy products and flows, and other tables (primary energy supply, final energy consumption, etc.) included in the statistics, are secondary data compiled by ESTO.

## APEC energy data and APEC energy goals

APEC energy data has become essential in tracking the APEC energy intensity reduction and doubling the share of renewable energy goals. The EWG, based on the suggestions of APERC, approved the use of APEC energy data in tracking these goals.

### Energy intensity reduction goal

In the Honolulu Declaration in 2011, APEC leaders aspired to reduce APEC's aggregate energy intensity by 45 percent by 2035 based on the 2005 levels. APERC has been reporting the progress since 2011 but it was only in 2016 that the Energy Working Group (EWG) decided to track the progress using APEC energy data and World Bank's GDP data. It was decided that energy intensity would be measured based on final energy consumption excluding non-energy uses and GDP values at constant purchasing power parities (PPP).

### Doubling the share of renewables in the APEC energy mix, from 2010 levels by 2030

In 2014, during their 11<sup>th</sup> meeting, the APEC energy ministers set a goal of doubling the share of renewables in the APEC energy mix, including power generation, from 2010 levels by 2030. EGEDA proposed an indicator to track the progress of the doubling goal in October 2017 using APEC energy data. The indicator is the share of renewables in final energy consumption. Traditional biomass uses in the commercial,

residential and agriculture sectors are excluded in the calculation of the total renewables share.

## Energy data

**A**PEC member economies regularly submit energy demand and supply data to the secretariat. These data are called “original data”. Details for collection of the data are given below:

### Collection format for original energy data

Most of the items found in the APEC energy statistics are based on data submitted by the APEC member economies using a set of questionnaires for oil, coal, natural gas, electricity and heat, as well as new and renewable energy (NRE). These questionnaires were developed in 2005 for the collection of annual data for the year 2004. These are simplified forms of the annual energy questionnaires of the International Energy Agency (IEA) through the harmonisation efforts of the secretariat with IEA. Slight revisions are made to the questionnaires from time to time to catch up with the developments in the energy sector. Tables 1.1a and 1.1b show the energy products and flows to be reported in the questionnaires. The definition of energy products and flows can be found in the Appendices.

Using the reporting format or the APEC annual energy questionnaires, the member economies submitted the following information:

- Supply and demand information for all types of energy products
- Power generating capacity by type of power plants

The data are reported in the following required units:

Coal and solid coal products	1000 Metric tons
Gaseous coal products	10 <sup>10</sup> kcal (gross)
Oil and oil products	1000 Metric tons
Natural gas	Million cubic meters
LNG	1000 Metric tons
Solid and liquid biofuels	1000 Metric tons
Biogas	10 <sup>10</sup> kcal (gross)
Electricity	GWh
Heat	10 <sup>10</sup> kcal (gross)

With regard to calorific values (both gross and net), the required units are the following:

Coal, oil, NRE	kcal/kg
Natural gas	kcal/cubic meter

Power generating capacity data are reported in megawatt (MW).

Table 1.1a • Energy products in the APEC energy database

<p><b>Coal</b></p> <ul style="list-style-type: none"> <li>Coking coal</li> <li>Other bituminous coal</li> <li>Sub-bituminous coal</li> <li>Anthracite</li> <li>Lignite</li> </ul> <p><b>Coal products</b></p> <ul style="list-style-type: none"> <li>Coke oven coke</li> <li>Coke oven gas</li> <li>Blast furnace gas</li> <li>Other recovered gases</li> <li>Patent fuel</li> <li>Coal tar</li> <li>BKB/PB</li> <li>Gas works gas</li> </ul> <p><b>Peat</b></p> <p><b>Crude Oil &amp; NGL</b></p> <ul style="list-style-type: none"> <li>Crude oil</li> <li>Natural gas liquids</li> <li>Refinery feedstocks</li> <li>Additives / oxygenates</li> <li>Other hydrocarbons</li> </ul>	<p><b>Petroleum Products</b></p> <ul style="list-style-type: none"> <li>Gasoline</li> <li>Motor gasoline</li> <li>Aviation gasoline</li> <li>Naphtha</li> <li>Jet fuel</li> <li>Gasoline type jet fuel</li> <li>Kerosene type jet fuel</li> <li>Other kerosene</li> <li>Gas/diesel oil</li> <li>Fuel oil</li> <li>LPG</li> <li>Refinery gas</li> <li>Ethane</li> <li>White spirit SBP</li> <li>Lubricants</li> <li>Bitumen</li> <li>Paraffin waxes</li> <li>Petroleum coke</li> <li>Other petroleum products</li> </ul> <p><b>Gas</b></p> <ul style="list-style-type: none"> <li>Natural gas</li> <li>LNG</li> </ul> <p><b>Nuclear</b></p>	<p><b>Hydro</b></p> <p><b>New and renewable energy</b></p> <ul style="list-style-type: none"> <li>Geothermal</li> <li>Solar</li> <li>Tide, wave and ocean</li> <li>Wind</li> <li>Fuelwood</li> <li>Wood waste</li> <li>Wood straw pellets/briquettes</li> <li>Bagasse</li> <li>Rise husks</li> <li>Straw</li> <li>Charcoal</li> <li>Other vegetal and agricultural wastes</li> <li>Other primary solid biomass</li> <li>Biogases</li> <li>Industrial wastes</li> <li>Municipal solid wastes</li> <li>Black liquor</li> <li>Liquid biofuels</li> </ul> <p><b>Electricity</b></p> <p><b>Heat<sup>1</sup></b></p>
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<sup>1</sup> Heat data in China, Japan and Korea include chilled water from district cooling facilities.

Table 1.1b • Energy flows in the APEC energy database

<p><b>Indigenous production</b></p> <p><b>Imports</b></p> <p><b>Exports</b></p> <p><b>International marine bunkers</b></p> <p><b>International aviation bunkers</b></p> <p><b>Stock changes</b></p> <p><b>Total primary energy supply</b></p> <p><b>Transfers</b></p> <ul style="list-style-type: none"> <li>Recycled products</li> <li>Inter-product transfers</li> <li>Products transferred</li> <li>Gas separation</li> </ul>	<p><b>Total transformation sector</b></p> <p><b>Main activity producer</b></p> <ul style="list-style-type: none"> <li>Electricity plants</li> <li>CHP plants</li> <li>Heat plants</li> <li>District cooling plants</li> </ul> <p><b>Autoproducer</b></p> <ul style="list-style-type: none"> <li>Electricity plants</li> <li>CHP plants</li> <li>Heat plants</li> <li>District cooling plants</li> </ul> <p><b>Gas Processing</b></p> <ul style="list-style-type: none"> <li>Gas works</li> <li>Liquefaction</li> <li>Re-gasification</li> <li>Natural gas blending plants</li> <li>Gas-to-liquid plants</li> </ul> <p><b>Refineries</b></p> <p><b>Coal transformation</b></p> <ul style="list-style-type: none"> <li>Coke ovens</li> <li>Blast furnaces</li> <li>Patent fuel plants</li> <li>BKB/PB plants</li> <li>Liquefaction (coal to oil)</li> </ul> <p><b>Petrochemical industry</b></p> <p><b>Biofuel processing</b></p> <p><b>Charcoal processing</b></p> <p><b>Non-specified transformation</b></p> <p><b>Losses and own use</b></p> <ul style="list-style-type: none"> <li>Own use</li> <li>Transmission and distribution losses</li> </ul>	<p><b>Total final energy consumption</b></p> <p><b>Industry sector</b></p> <ul style="list-style-type: none"> <li>Iron and steel</li> <li>Chemical including petrochemicals</li> <li>Non-ferrous metals</li> <li>Non-metallic minerals</li> <li>Transportation equipment</li> <li>Machinery</li> <li>Mining and quarrying</li> <li>Food, beverages and tobacco</li> <li>Pulp, paper and printing</li> <li>Wood and wood products</li> <li>Construction</li> <li>Textiles and leather</li> <li>Non-specified Industry</li> </ul> <p><b>Transport sector</b></p> <ul style="list-style-type: none"> <li>Domestic air transport</li> <li>Road</li> <li>Rail</li> <li>Inland waterways</li> <li>Pipeline transport</li> <li>Non-specified transport</li> </ul> <p><b>Other sector</b></p> <ul style="list-style-type: none"> <li>Commerce and public services</li> <li>Residential</li> <li>Agriculture</li> <li>Fishing</li> <li>Non-specified others</li> </ul> <p><b>Non-energy use</b></p> <ul style="list-style-type: none"> <li>Transformation sector</li> <li>Industry sector</li> <li>Transport sector</li> <li>Other sector</li> </ul>
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However, in 2017, ESTO decided to allow member economies to report data in the original units used by the respective economies. Primary and secondary oil products can be reported in litres, barrels and cubic meters or in any other volume or mass units. For example, gaseous products can be reported in joules, BTU, kilocalorie, etc. Calorific values can be reported in joules, BTU, kilocalorie per unit of volume or mass. The purpose of this flexibility is to minimise data errors resulting from conversion of original volume units to mass units. In order for ESTO to convert the original data to mass units, member economies were also requested to report the densities of each product.

For OECD member economies that also submit annual energy demand and supply data to IEA, ESTO accepts data submission using the IEA format and also downloads the revised questionnaires from IEA's Energy Validation Outlet (EVO). Computer programs were developed to transfer data from the IEA format to APEC format and to generate energy balance tables. This reduces the reporting burden of these economies to IEA, APEC and other international energy organisations.

### Collection schedule and actual dates of submission

ESTO set the deadline for submission of 2019 data on 31 March 2021. In principle, all 21 APEC members are expected to submit annual data by this deadline. Three economies were able to submit the five energy questionnaires on time. These were Hong Kong, China (preliminary data); Singapore and Chinese Taipei. ESTO does not require OECD member economies to submit on the set deadline in consideration of the fact that these economies are submitting data to IEA to reduce their reporting burden.

Data collection was completed by September 2021 with the submission of Hong Kong, China's final data.

### Method of data submission

ESTO developed an online data submission system for all the data collected from member economies. Several economies are now using the system, but some economies still submit the data files as email attachments. Correspondence for the improvement of data consistency and accuracy were conducted through email communication.

### Method of estimation

For economies that lack detailed data as well as those that did not submit the questionnaires, ESTO estimated the data, filled-out the questionnaires or adopted IEA estimates.

For instance, as Papua New Guinea was not able to submit its annual energy questionnaires, ESTO estimated its energy data using various references. The references include the JODI Oil and JODI Gas data, renewable energy data from the International Renewable Energy Agency (IRENA), Papua New Guinea Power Limited (PPL), and the annual report of Oil Search Limited, an oil company based in the economy, and information from the economy's privately-operated geothermal power plant. From those data and the economic indicators collected from the World Bank and Asian Development Bank (ADB) for the year 2019, ESTO estimated the final energy consumption, autoproducer electricity generation and inputs as well as imports of petroleum products. ESTO is hoping that Papua New Guinea would be able to produce its own energy statistics and balances in the future.

While Singapore submitted the questionnaires, Singapore was unable to provide a complete set of the energy balance due to data unavailability. Hence, ESTO referenced IEA's energy statistics and energy balance to bridge these data gaps.

## Standardisation

The APEC reporting format used in the collection of 2019 annual data, gives member economies the flexibility to report data in the original units used in their respective economies. The format also requires the submission of densities of each product to allow conversion of all data to a uniform mass unit. ESTO however, does not standardise the conversion factor from physical to energy units in view of the peculiarities in the thermal quantity of each energy product from the different economies. In this regard, calorific value data reported by each economy are used as opposed to using typical conversion factors.

### Conversion factors for fossil energy from physical to thermal units

Between two calorific values, namely gross and net calorific values, APEC adopted the net calorific value agreed from the third experts meeting held in Singapore in 1993, to facilitate comparisons with international energy statistics such as those of the IEA and United Nations Statistics Division. Therefore, gross calorific values used by some members must be converted to net calorific values. If only gross calorific values are reported, these are converted to net calorific values:

Coal / Oil	multiplying the value by 95%
Gas	multiplying the value by 90%

### Conversion factors for primary electricity

Table 1.2 shows the factors applied to convert primary electricity—power generated from non-fossil fuel sources such as hydro, nuclear, geothermal and other power generation—to primary energy units. To allow comparisons of primary energy supplies, in the light of differences in conversion coefficients, standardisation is required. APEC adopted the following efficiency of primary electricity generation for compatibility with IEA and UN statistics.

**Table 1.2 • Efficiency of primary electricity generation**

Primary Electricity	Efficiency
Hydro power	100%
Nuclear power	33%
Geothermal power*	10%
Other new power	100%

\*Excluding Mexico; New Zealand; and the United States. These economies can provide the primary energy equivalent of geothermal electricity outputs.

The original energy data contained in these statistics have been processed using the adjustments mentioned above.

### Secondary data

Using the original data submitted by the member economies, the following tables are prepared through the standardisation process.

- (1) Energy balance table
- (2) Primary energy supply table
- (3) Final energy consumption table
- (4) Demand and supply by energy source table
- (5) Electricity table



The energy balance table gives a detailed description of energy sources and their flows.

APEC energy statistics contains the five tables mentioned above. Tables 2 through 5 are collectively referred to as “other tables” and are compiled from the energy balance table and data obtained from the original data tables after adjustments. Tables 2 through 5 allow comparisons among member economies.

## Energy balance table

The structure of energy balance table, in principle, is the same as that of IEA's but with some differences. These are as follows:

APEC statistics are basically based on official data provided by government agencies of the member economies, and thus, agencies exclude any data not reported to the government. It is assumed that IEA estimates these quantities.

For this reason, some data for private power generations are missing in some member economies. Likewise, some economies have no consumption of biomass in the residential sector.

The reporting period differs in APEC and IEA surveys.

## Other tables

Other tables such as primary energy supply, final energy consumption, demand and supply by energy source, and electricity, are all designed to allow comparisons among member economies.

The primary energy supply table constitutes information on the primary energy supply,

namely, production, imports, exports, stock change, and international marine and aviation bunkers in terms of calorific values (PJ), for each of the four categories of coal, petroleum, gas, and primary electricity (hydro, nuclear, geothermal power, etc.).

The final consumption table illustrates the consumption of coal (including coal products), petroleum, gas, electricity and other energy sources for each final consumption sector (agriculture, residential, commercial, industry and transport).

The demand and supply table for each energy source emphasises coal, petroleum and gas, and shows how the primary supply quantity is consumed in the transformation and final energy consumption sectors.

The electricity table illustrates the power generation and fossil fuel input for each of the five categories of thermal, hydro, nuclear, geothermal and other sources of power generation.

## Notes on member economies

### General notes

Most of the member economies' annual data are calculated by calendar year (1 January - 31 December) except for Australia and Japan. These economies account their energy statistics by fiscal year (1 July - 30 June for Australia and 1 April to 31 March for Japan).

In view of harmonisation efforts with the IEA, ESTO accepts submission from OECD members using the IEA format. Likewise, to reduce the burden of member economies' statisticians, ESTO decided to leave the verification of APEC

OECD member economies data to IEA and just used the processed and updated data from IEA.

### Specific notes

#### **Papua New Guinea**

ESTO estimated the energy balance tables of Papua New Guinea from 2004 to 2020. Data were taken from the crude oil and natural gas production, refinery intake and output data as well as crude oil exports that PNG submits monthly to Joint Organisations Data Initiative (JODI). Data on geothermal electricity production were obtained via online research. On biomass use especially in the household sector, ESTO used the data obtained from IRENA.

#### **Singapore**

Singapore's energy supply and demand data are submitted by the Energy Market Authority (EMA). However, Singapore was only able to disaggregate refinery outputs into light distillates, middle distillates, and heavy distillates residuum. Final energy consumption was also disaggregated into industrial-related, commerce and services-related, transport-related and households. ESTO used IEA's estimates of refinery production and final energy consumption to have the same disaggregation to fit the format of the APEC energy balances.

### **Socio-economic data**

The socio-economic data of each member economy shown in the APEC Energy Statistics are not part of the reports provided by the member economies. These were, obtained from the *World Development Indicators* of the World Bank and *The International Financial Statistics Yearbook*

of the International Monetary Fund (IMF) and summarised by ESTO. Meanwhile, as macroeconomic data of Chinese Taipei are not available in these international data providers, statistics were derived from Chinese Taipei's statistics website (DGBAS).

In addition to downloading GDP in Chinese Taipei's local currency and constant dollar values, ESTO/APERC provides estimates of Chinese Taipei's GDP in PPP, constant 2017 USD.

### **APEC energy database**

The online APEC energy database, which contains all the data in the APEC energy statistics can be accessed at: <https://www.egeda.ewg.apec.org/>.

The data are as follows:

1. Annual energy supply and demand (energy balances)
2. Annual energy prices
3. Annual CO<sub>2</sub> emissions from energy combustion
4. Quarterly energy supply
5. Monthly oil and gas supply and demand



**2**

# **Overview of the APEC Energy Situation**



## Background

The 2022 edition of the APEC Energy Statistics covers the energy demand and supply situation in APEC using 2020 data. It would be worthy to note that this edition of the publication has the latest data that was officially submitted by the EGEDA members that would contain energy consumption during the height of COVID-19 pandemic. It also included a general comparison of APEC situation with the world in terms of gross domestic product (GDP), population and total primary energy supply (TPES).

This chapter also included analyses on the progress of APEC twin goals—the energy intensity reduction goal from 2005 to 2020 and the RE share doubling from 2010 to 2020. For a better understanding of the terms used in the analyses, the readers may refer to the definitions of products and flows provided in the Appendices.

As in the previous publications, regional disaggregation follows the groupings used in the APEC Energy Demand and Supply Outlook. Unless otherwise specified, China, Russia and the US, were considered as regions in the analyses in view of the big differences in scales with other APEC economies. The groupings are, as follows:

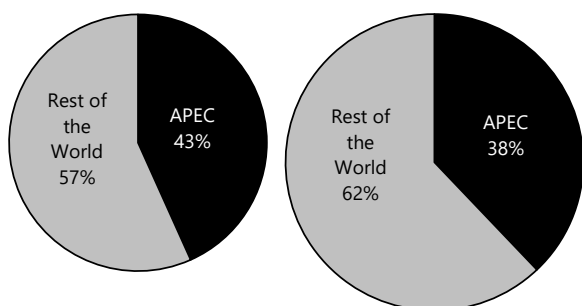
- **Other Americas**  
Canada; Chile; Mexico; and Peru
- **South-East Asia**  
Brunei Darussalam; Indonesia; Malaysia; the Philippines; Singapore; Thailand; and Viet Nam
- **Oceania**  
Australia; New Zealand; and Papua New Guinea
- **Other north-east Asia**  
Hong Kong, China; Japan; Korea; and Chinese Taipei
- **China**
- **Russia, and**
- **United States**

## APEC and the rest of the world

The world’s population reached 7.8 billion people in 2020, a 0.1% percentage point slower than the previous year (1.1%). The compound annual growth rate (CAGR) between 1990 and 2020 was maintained at 1.3%.

APEC’s population grew as much as the previous year to reach 2.943 billion people in 2020. Its share of the world population in 2020 was likewise unchanged at 38%. The CAGR between 1990 to 2020 was down to 0.8%. The rest of the world increased 1.4% to 4.82 billion people in 2020 and CAGR was maintained at 1.6% (Figure 2.1).

Figure 2.1 • World population, 1990 and 2020



Sources: World Bank, ESTO analysis

Oceania remained to post the highest growth in 2020 at 1.6% although its share of total APEC population was the smallest (1%). Population in Russia and other north-east Asia in 2020 continued to decline both by 0.2%.

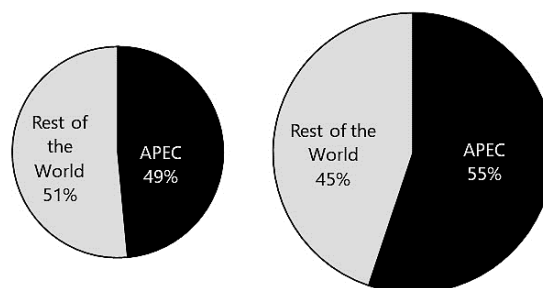
The world has been put in a Great Lockdown in March 2020 to contain the effect of COVID-19 pandemic. The magnitude and speed of collapse in activity that followed has brought the worst effect to the world economy since the Great Depression<sup>1</sup>. The world’s gross domestic

<sup>1</sup> Gopinath, Gita (2020). The Great Lockdown: Worst Economic Downturn Since the Great Depression. IMFBlog. International Monetary Fund

product (GDP) measured in terms of purchasing power parities (PPP)<sup>2</sup> fell 3.1% in 2020 from 2019 to USD 126 319 billion (PPP constant 2017 USD). The rest of the world’s GDP slumped even faster at 4.7% .

APEC experienced the same drop but a slower pace at 1.8% in 2020 to USD 69 642 billion (PPP constant 2017 USD). Albeit the decline, APEC consistently dominated global economic output and accounted for 55% of the world’s GDP (Figure 2.2). CAGR between 1990 to 2020 was maintained at 3.7%.

Figure 2.2 • World GDP (PPP constant 2017 USD), 1990 and 2019



Sources: World Bank, ESTO analysis

The top three regions were unchanged in terms of economic output in 2020 namely, China (33%), United States [US (28%)] and other north-East Asia (13%). Together they accounted for three-fourths of APEC GDP in 2020. While most of the regions’ GDP declined in 2020 during the Great Lockdown, China registered a positive 2.2% increase from 2019. Other Americas bore the greatest economic strains with GDP contracting 7.2% from 2019 to 2020.

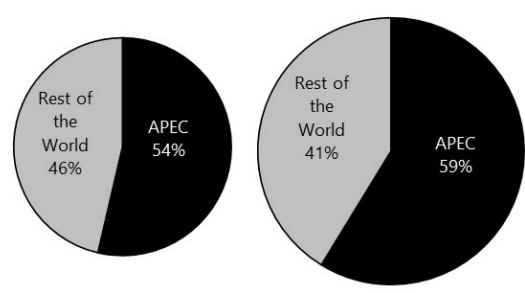
Energy supply was not spared from the effect of the Great Lockdown. In 2020, the world’s total primary energy supply slumped by 3.8% to 585 exajoule (EJ). The rest of the world felt the

<sup>2</sup> A purchasing power parity (PPP) is defined as the number of units of B’s currency that are needed in B to purchase the same quantity of individual good or service as one unit of A’s currency will purchase in A.

biggest brunt with a 5.9% drop to 241 EJ from 2019 to 2020. As a result of the decline, The CAGR between 1990 to 2020 was down to 1.2% from the previous year's 1.4%.

While not as strong as the rest of the world, the same impact was experienced in APEC. Total primary energy supply (TPES) in 2020 was down by 2.3% to reach 344 EJ. The CAGR between 1990 to 2020 likewise fell to 1.9%. Albeit the decline, APEC's share of the world's TPES was one percentage point higher (59%) than the previous year. Figure 2.3 shows the share of APEC to world's TPES in 1990 and 2020.

Figure 2.3 • World TPES, 1990 and 2020



Sources IEA and APEC (TPES), ESTO analysis

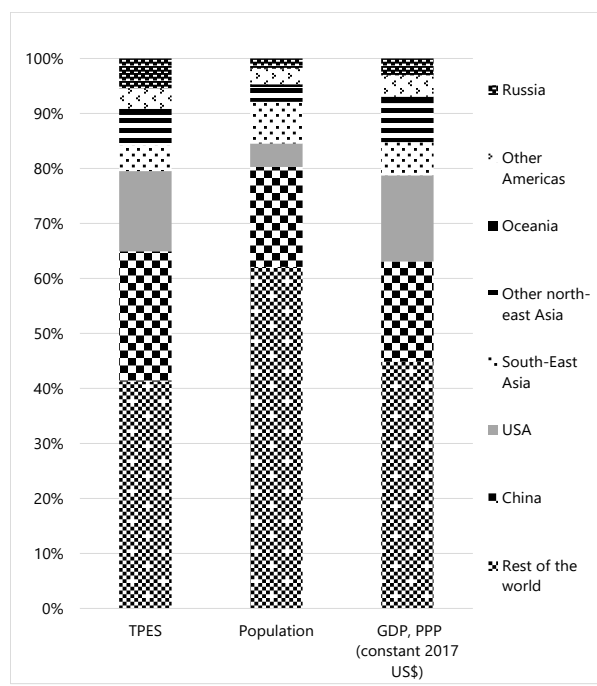
In terms of relative shares<sup>3</sup>, the combined primary energy supply of the top three large consuming regions was relatively higher than the rest of the world. China, US and other north-East Asia together formed 43% of the world's total energy supply, compared to the rest of the world's 41%. (Figure 2.4).

Similarly, the combined GDP in 2017 PPP of APEC's top four regions (47%) in 2020 was relatively equal as the share of the rest of the world (45%). Considering that these four regions comprised only 33% of the world population as compared with the rest of the world's 62%.

<sup>3</sup> Relative shares within the APEC regions differ from shares in the world total.

Within APEC, the relative shares of the regions varied with each other. For example, China was the leading region in terms of TPES, population and GDP (in PPP constant 2017 USD). China's TPES (40%) was relatively equal to USA, other north-east Asia and Russia's combined TPES (44%). Although relatively, the combined population of the three regions was only 23% to China's 48%. In addition, China's GDP (PPP constant 2017 USD) in 2020 was relatively equal to the total GDP (PPP constant 2017 USD) of US and Russia.

Figure 2.4 • Relative shares, APEC and the rest of the world, 2020



Sources: APEC, IEA, WB, ESTO analysis

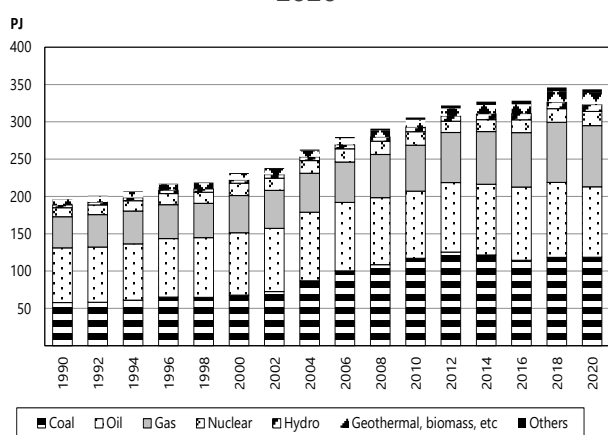
Discussion on key energy trends in APEC is found in the following sections. The COVID-19 shock has redefined the energy sector. The unprecedented declines in supply, consumption and production were the largest drops that were never seen before.

## Energy supply trends

### COVID-19 pandemic disrupted the supply chains

The COVID-19 pandemic has brought new trends in energy supply. The total primary energy supply (TPES) in APEC dropped 2.3% to 343 505 PJ in 2020 from 2019 (Figure 2.5).

Figure 2.5 • Total primary energy supply, 1990-2020



Sources: APEC data, ESTO analysis

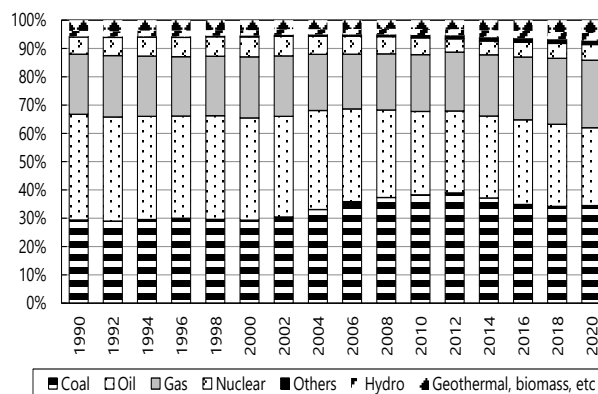
The CAGR between 1990 to 2020 was down to 1.9%. Most regions took the brunt of the Great Lockdown, especially the United States, falling 8% from the 2019 level to 85 324 PJ in 2020 driving the decline of APEC TPES. This was followed by other Americas and South-East Asia which fell 6.7% (21 833 PJ) and 5.1% (27 146 PJ), respectively. In contrast, China and Oceania’s primary energy supply, though minimal, increased 3.2% and 0.7%, respectively.

#### Primary energy mix by source

APEC TPES is consistently dominated by fossil fuels (86% of TPES) which declined 2.8% to 294 907 PJ in 2020 from 2019. CAGR of fossil fuel from 1990 to 2020 was 1.8%, slightly lower than the CAGR posted between 1990 and 2019 (2%). Among fossil fuel sources, oil was the hardest hit by the pandemic, which plunged 6.6% from 2019 to 2020, the largest drop ever recorded

historically. Nevertheless, it maintained its place as the second largest fuel supply in 2020 (27%). Coal and gas fell 1.0% and 0.8% respectively. Coal continued to be the largest fuel source (34%) and gas comprised 24% of TPES. (Figure 2.6).

Figure 2.6 • Primary energy mix, 1990-2020



Sources: APEC data, ESTO analysis

Renewable energy sources including hydropower and combined geothermal and biomass were the only sources spared by the pandemic, growing 3% and 2.9%, respectively. The renewable energy sources accounted for a modest share of TPES in 2020 at 7%.

In addition to the recorded declines in primary energy supply, nuclear and all other sources dipped 0.8% and 4.3% respectively.

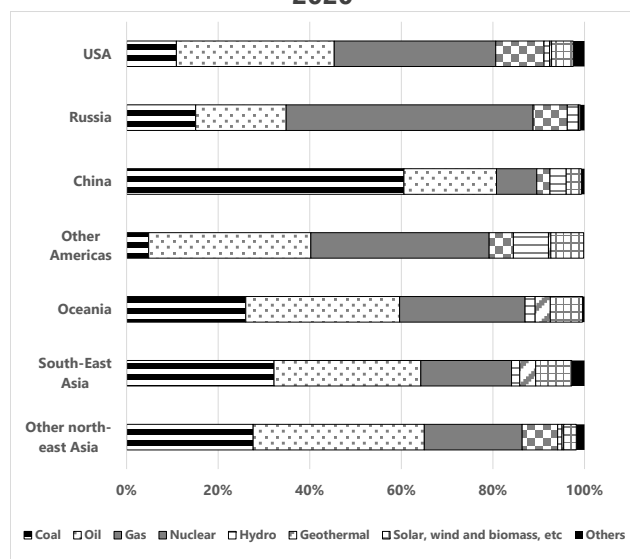
#### Primary energy mix by region

In 2020, China’s share of APEC TPES increased to 40% and remained to dominate the regions. The US accounted for 25%, one percentage point lower than the previous year but still the second largest consuming region in APEC in 2020. The third spot was occupied by north-east Asia and Russia, both accounting for 9% of APEC TPES.

Energy mixes by region were dominated mostly by oil except China and Russia, where oil

comprised one-third of their respective primary energy supplies. Coal accounted for a lion's share of China's energy mix with 61% share, while Russia's energy mix was dominated by gas with 54%. (Figure 2.7)

**Figure 2.7 • Primary energy mix by region, 2020**



Sources: APEC data, ESTO analysis

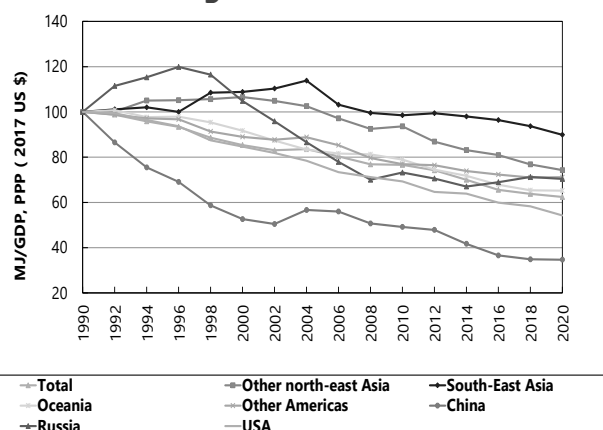
The main sources of primary energy supply were largely from China and the US. Seventy-one percent (71%) of coal, 53% of hydropower and 33% of solar, wind and biomass supplies in APEC were attributed to China. The US was still the major source of nuclear supply (47%) and overtook Russia as top gas supplier (37%); oil (31%) and all other energy supply (45%) were also attributable to the US. Albeit the three percentages point drop from the previous years' level, South-East Asia remained to account for the largest geothermal supply (53%) in APEC in 2020.

### Primary energy intensity

Primary energy intensity is defined as the ratio of total primary energy (petajoules) and GDP (PPP constant 2017 USD). In 2020 primary energy intensity was 5 MJ/USD (PPP constant 2017 USD), a 0.5% reduction from the previous year. Over the years, primary energy intensity has improved

constantly, posting a 37.6% reduction from 1990 to 2020 (Figure 2.8).

**Figure 2.8 • Primary energy intensity by region, 1990-2020**



Sources: APEC data (TPES), World Bank (GDP), ESTO analysis

### Production

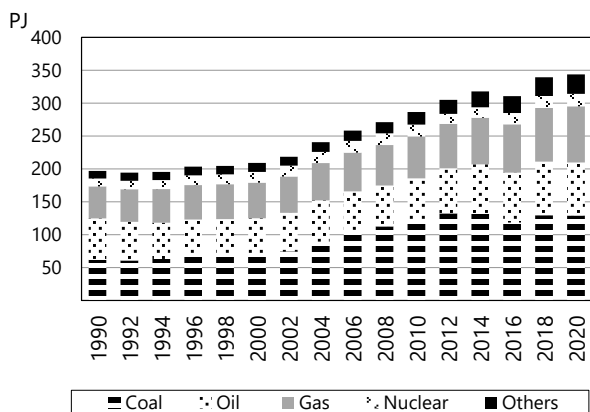
Although there were decreases in production in the past, COVID-19 pandemic has similarly greatly impacted energy production in APEC in 2020. After its growth for the last three years, production fell 3.2% to 343 808 PJ in 2020 (Figure 2.9). Oil contributed mainly to the decline, plunging a historic 5.2% in 2020. Most regions had likewise attributed to the huge dip in production, due largely to the decline in South-East Asia (-8.7%) and in part by Russia and the US, with production both plummeted by 6.5% in 2020.

### Self-sufficiency

Although there was a huge drop in production, APEC self-sufficiency level in 2020 was still 100%. Likewise, APEC is more than self-sufficient on coal (109%), gas (104%) and nuclear (100%). Oil remained well below the sufficient level (85%) in 2020 (Figure 2.10)

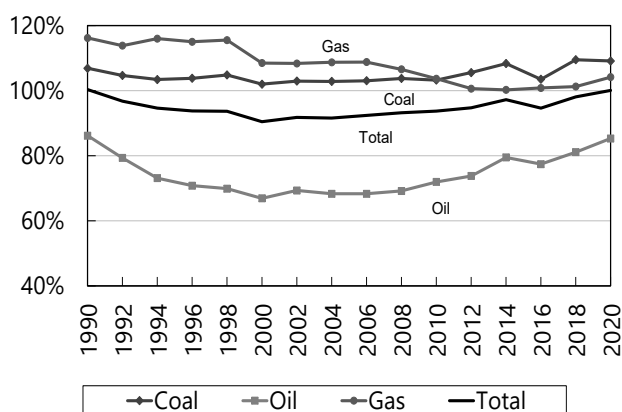


Figure 2.9 • APEC production, 1990-2020



Sources: APEC data, ESTO analysis

Figure 2.10 • APEC energy self-sufficiency, 1990-2020

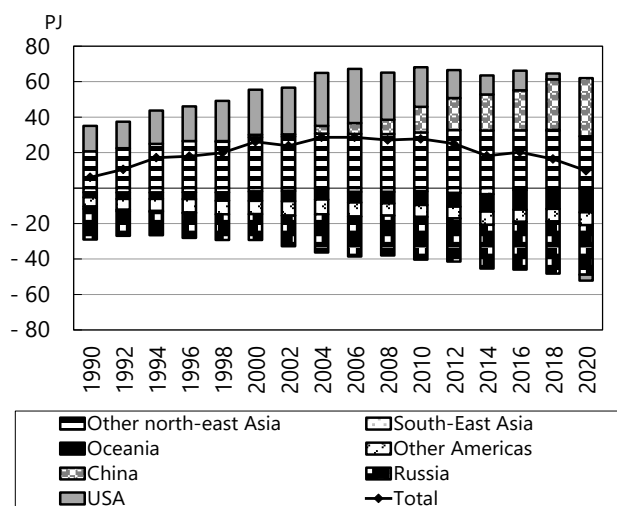


Sources: APEC data, ESTO analysis

Net imports by region

The net imports (Imports – Exports) in 2020 was 10.7% more than the previous year’s level. (Figure 2.11). The structures in 2020 were the same, China and other north-East Asia were net importers, and the rest of the regions were net exporters. The CAGR between 1990 to 2020 was 1.6%.

Figure 2.11 • Net imports by region, 1990-2020



Sources: APEC data, ESTO analysis

Power generation

Renewables were the winners during the pandemic

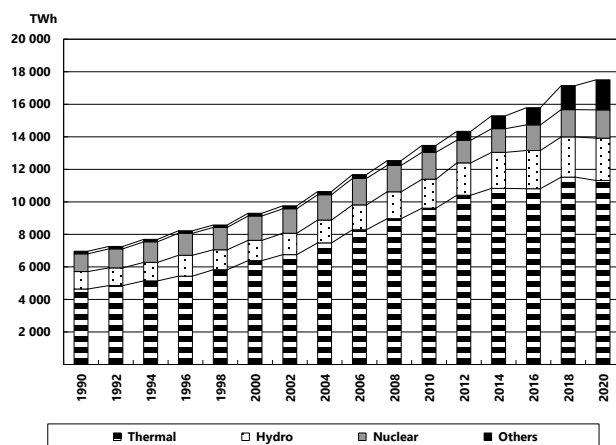
Power generation in APEC grew modestly by 0.2% to 17 476 TWh in 2020. The robust electricity generation from renewables (excluding hydro) offset the declines in thermal power generation and all other sources (Figure 2.12).

Amidst the height of the pandemic, the growth in renewables such as solar, wind and biomass remained steadfast and rose 15.3% to 1 636 TWh. This can be attributed to Russia’s solar and wind power generation that more than doubled in 2020. Alongside renewables, power generation from geothermal and hydro likewise grew 3.5% and 3%, respectively. Altogether, renewables’ share to the total electricity generation jumped from 23% in 2019 to 25% (4 283 TWh) in 2020, the highest annual increase ever recorded. The CAGR between 1990 to 2020 was likewise significant (4.4%).

Thermal electricity generation took the brunt of the pandemic and dropped 2% in 2020, the highest annual decline since 1990. Although

historically declining, oil in particular accounted for the 4% dip in electricity output from thermal. Coal and gas contributed 2.8% and 0.1%, respectively, to the total thermal power generation declines. The share of electricity output from thermal in 2020 was way below the 2019 level (65%), the lowest volume on record.

**Figure 2.12 • Power generation by type, 1990-2020**

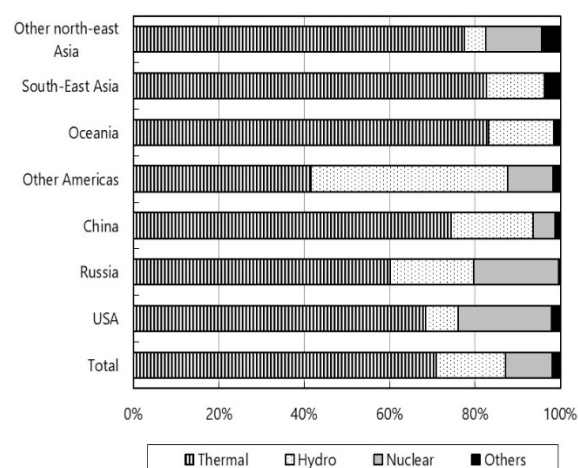


Sources: APEC data, ESTO analysis

On a regional basis, most of the regions felt the impact of the pandemic and posted declines in electricity generation in 2020. In particular, the top three regions were other Americas which slid 3.1%, followed by the US and Russia which dropped 3% and 2.8%, respectively. In contrast, China and Oceania's power generation increased 3.7% and 0.1%, respectively. This can be attributed to the strong electricity demand in both regions despite the pandemic.

The structure of power generation mixes by region in 2020 was unchanged. Except for other Americas, electricity output from fossil fuels remained the bulk—over 60%—of most of the regions' respective power generation mixes. In other Americas, electricity generation mix was still dominated by hydropower accounting for 42% of the region's electricity generation (Figure 2.13) as in the past.

**Figure 2.13 • Power generation mix by region, 2020**



Sources: APEC data, ESTO analysis

## Energy demand trends in APEC

### Transport sector took the biggest hit of the Great Lockdown

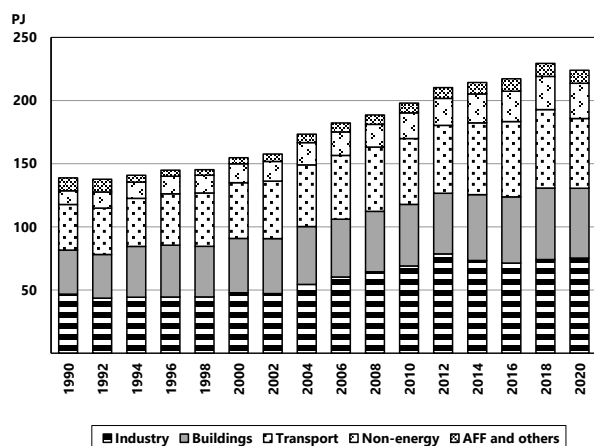
Total final consumption in APEC [TFC (including non-energy use)] dropped 3% to 224 004 PJ in 2020. Non-energy consumption that comprised TFC posted the biggest growth among the sectors with 2.6% rise to 27 906 PJ in 2020. China (40%) and the US (21%) comprised the bulk of non-energy consumption in APEC, accounting for 61% of the total non-energy. The compound annual growth rate (CAGR) between 1990-2020 was 1.6%, a rate lower than the CAGR recorded in the previous year (Figure 2.14).

#### Total final energy consumption by sector

March 2020 marked the period when COVID-19 pandemic was declared by the World Health Organization and the Great Lockdown ensued, reshaping the demand sector.

APEC’s total final energy consumption [TFEC (excluding non-energy)] experienced a historic 3.8% drop to 196 097 PJ in 2020. The transport sector contributed largely to the decline, plummeting 11.4% from 62 311 PJ in 2019.

**Figure 2.14 • Total final consumption by sector, 1990-2020**



Sources: APEC data, ESTO analysis

The COVID-19 shock has resulted in the closing of borders globally, including the APEC region, limiting mobility and stagnating all other activities. This has led to a record high decrease of energy consumption in all modes of transport, in particular, demand for International aviation plummeted 47.4% while domestic air transport plunged 30.4% in 2020. In addition road and rail transport both attributed 10% to the decline of consumption in transport.

The energy consumption of the buildings sector (services and residential sectors combined) in APEC dropped 2.1% to 55 328 PJ in 2020. The work forces’ place of activity has shifted from offices to residential due to the work-from-home/teleworking scheme imposed during the Great Lockdown. This has led to the decline of energy consumption in the services sector by 6% in 2020, the largest drop ever recorded since 1990. The household energy consumption on the other hand increased a modest 0.1% in 2020. Electricity was the major fuel source of both

sectors in 2020. The 4.7% drop in electricity consumption in the services sector was offset by a 4.8% gain in the household sector.

The industry sector was the least affected by the pandemic, although at a slower pace, grew 0.5% in 2020. This can be attributed to the increases posted by iron and steel (1.7%) and chemical (3.4%) industries in 2020, two of the largest manufacturing industries in APEC (both accounted for 21% of energy consumption in manufacturing).

The energy consumption of the agriculture sector was not spared by the pandemic, slowing by 1.6% in 2020.

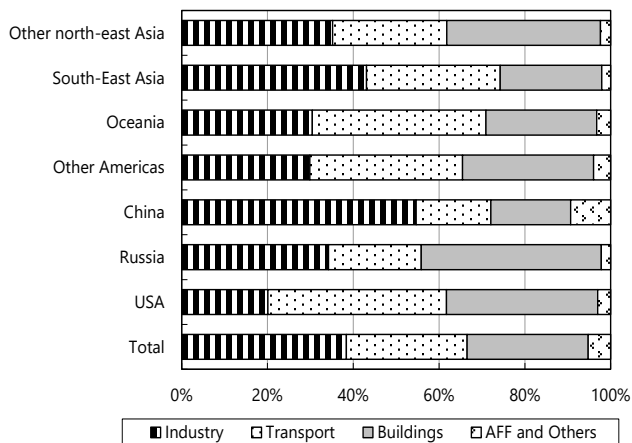
**Total final energy consumption by region**

Energy consumption in all regions in APEC, except China, dipped in 2020 due to the pandemic. Despite comprising more than a third of energy demand in APEC, China’s 1.9% increase fail to offset the decreases in all the other regions

The top three regions that were largely hit by the pandemic were other Americas, US and South-East Asia, their respective energy consumption fell 11.3%, 7.8% and 6.4%. These regions shared a similar structure of energy demand by sector. Energy consumption in the transport sector, which was largely impacted by the pandemic, represented more than 30% of their total energy consumption in 2020 and each had declined to a historic high. Other Americas’ fuel consumed for transport in 2020 dropped a staggering 19.7%, while the US and South-East Asia declined 13.9% and 13.5%, respectively. (Figure 2.15).

For the rest of the regions, Russia posted a 4.6% decline while other north-East Asia and Oceania both fell 3.8% in 2020.

**Figure 2.15 • Total final energy consumption, by region by sector, 2020**



Sources: APEC data, ESTO analysis

### Final energy consumption by energy source

Among fuel sources, oil accounted for the biggest chunk of the total final energy consumption (32%), and three-quarters of which was used for transport in 2020. Consequently, the drop in total final energy consumption was primarily driven by oil which contributed well over 60% of the net decline (Figure 2.16).

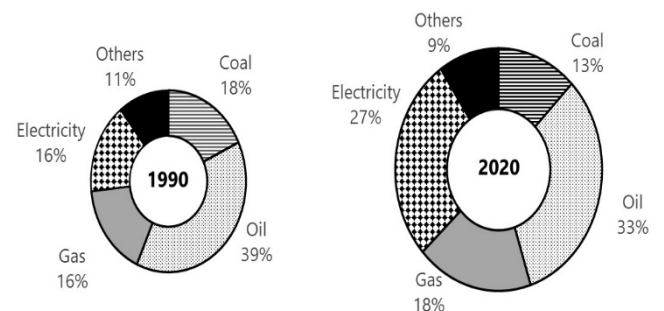
Amidst the decrease in most of the fuel sources, electricity has proven to be resilient among them. Backed by strong demand for electricity in the household despite the falling demand for commercial use, electricity consumption grew 1% in 2020. Although not as strong as it was historically but in view of the nature of lockdowns, electricity has provided the energy source needed by the consumers.

Worthy to note also was that heat, which accounted for only 5% of total final energy consumption grew a significant 2.3% in 2020. Heat was primarily used for industrial processes and in part in buildings for space and water heating,

Gas likewise fell 1.4% in 2020 as demand for commercial and transport uses declined during the pandemic.

Renewables, which accounted for 4% of final energy consumption fell 9.1%, expectedly attributable to the decline of biofuel consumption for transport. Likewise, the reduced activities in industrial processes such as pulp and paper translated to the lower demand for biogas and other wastes.

**Figure 2.16 • Total final energy consumption by source, 1990 and 2020**

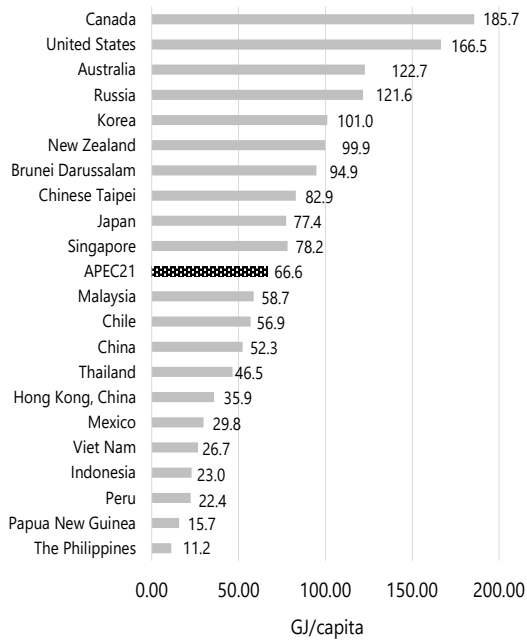


Sources: APEC data, ESTO analysis

### Final energy consumption per capita

Energy per capita in APEC decreased by an all-time high 4.3% reduction to 66.62 GJ in 2020. Canada (185.74 GJ) the US (166.53 GJ) and Australia were the top three energy users in APEC in 2020. Eleven economies were well below the APEC average energy per capita, including China (in the 14<sup>th</sup> place with 52.34 GJ). (Figure 2.17).

Figure 2.17 • Energy consumption per capita, 2020

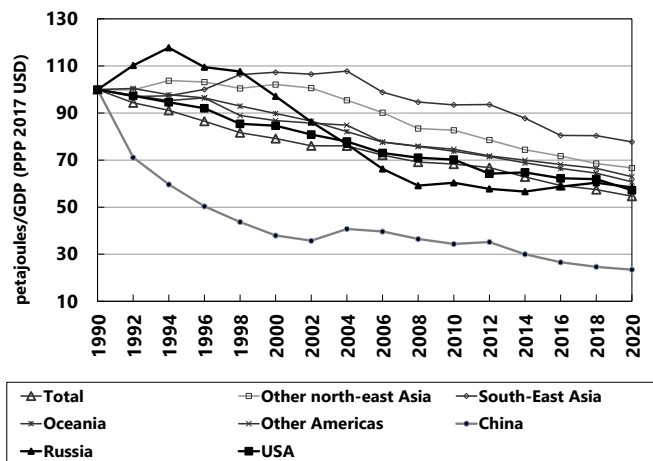


Sources: APEC data (TFEC), World Bank (Population), DGBAS (CT data), ESTO analysis

Final energy intensity

Final energy intensity [Total final energy consumption (PJ)/GDP (PPP, constant 2017 USD)] in APEC continued to show improvement over the last two decades. Between the periods 1990 and 2020, energy intensity reduced 45.3% to 2.8 MJ/USD (PPP, constant 2017 (Figure 2.18). (**Note:** this is not the APEC energy intensity goal with 2005 as base year.)

Figure 2.18 • Final energy intensity by region, 1990-2020



Sources: APEC data (TFEC), World Bank (GDP PPP), ESTO analysis

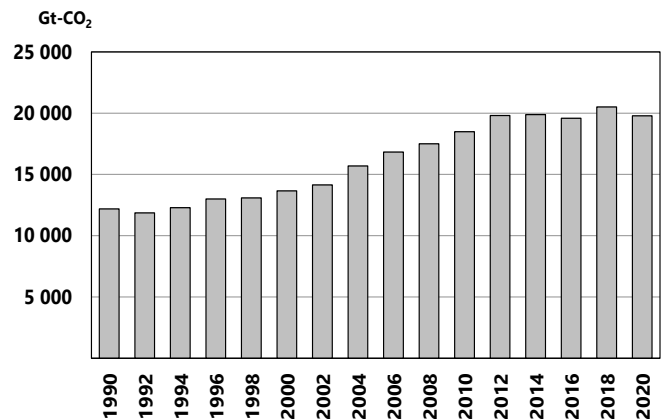
CO<sub>2</sub> emissions

COVID-19 pandemic has resulted to historic CO<sub>2</sub> emissions drop

As highly expected, the unusually huge drop in fossil fuel consumption brought by the Great Lockdowns led to the biggest-ever decline of carbon emissions. CO<sub>2</sub> emissions in APEC in 2020 fell 3.5% to a level first seen in 2011 (19 780 GtCO<sub>2</sub>).

The collapse of energy consumption in transport in 2020 contributed largely to the decrease. A staggering 12.5% decline was recorded in other Americas, US likewise posted a never seen before 10.3% drop of CO<sub>2</sub> emissions in 2020.

Figure 2.19 • CO<sub>2</sub> Emission in the APEC region, 1990-2020



Sources: APEC data, ESTO analysis

APEC goals

Energy intensity goal

The APEC region made progress toward its 45% improvement in energy intensity goal by 2035 (relative to 2005) for the last 15 years (2005 to 2020). Given the staggering drop in energy consumption as well as GDP in 2020, it became uncertain as to whether the final intensity reduction was due to efficiency improvement alone. Nevertheless, from 2005 to 2020, the APEC-wide energy intensity has

improved 26.1%, leaving only less than 20% to meet the 2035 goal. Assuming these trends on final energy consumption and GDP continue, APEC goal of 45% energy intensity reduction will be achieved by 2031. However, once all restrictions are lifted post pandemic, there could be a rebound in both consumption and economic output. It would be interesting to see what happens in the next couple of years.

#### *RE doubling goal*

Progress has also been made in doubling the share of modern renewables in the energy mix by 2030 (relative to 2010). With just 50% of the time to the goal, the modern renewable share of final consumption has increased 57% from 6.02% in 2010 to 9.47% in 2020. Given this growth of renewables utilisation, the APEC RE share doubling goal in the final energy demand is expected to be achieved in 2030.

In terms of total primary energy supply (TPES), RE share increased from 4.79% in 2010 to 7.32% in 2020. Like in TFEC, for just 50% of the time to 2030, RE share had increased by more than 50%.

The increase of electricity output from renewables to the total power generation during the COVID-19 pandemic increased from 15.58% in 2010 to 24.69% in 2020. As in TFEC and TPES, RE share in electricity generation increased more than 50% for just 50% of the time to 2030.

Trends until 2020 show that that the APEC twin energy goals will likely be met. But this does not mean that APEC should stop its efforts in energy efficiency improvements and in the deployment of RE. Studies and further analyses are currently ongoing whether there's a need to increase the goals. Nevertheless, more aggressive programs supporting the APEC aspirational goals should continue to be put in place.

## Energy balance table

This section presents the 2020 aggregate energy balance table (EBT) of APEC (*Table 2.1*). Note that the export/import row does not imply the volume of trade between the APEC region and the rest of the world.

Total final energy consumption comprises industry, transport, buildings and agriculture sector, while total final consumption includes non-energy. The EBT is a tool to see a glimpse of an economy or the region's energy trends. EBT is helpful in developing simple indicators, such as net imports (import plus exports), import dependency (net imports divided by total primary energy supply) or self-sufficiency level (production divided by total primary energy supply). For example, gas sufficiency level column 8, row 1 divided by row 7, gives 104%, meaning the APEC was more than self-sufficient on gas in 2020.

Table 2.1 • APEC Energy balance table (PJ), 2020

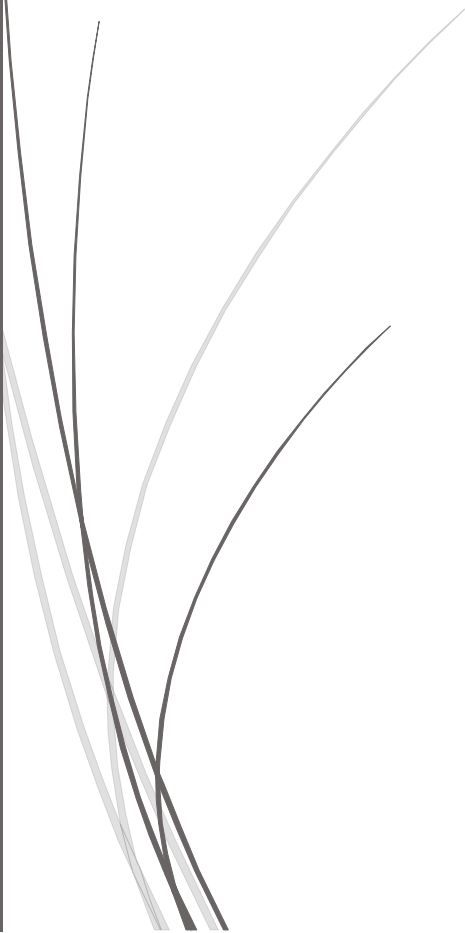
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Coal	Coal products	Crude Oil, NGL and condensate	Petroleum products	Gas	Nuclear	Hydro	Geothermal	Solar	Tide, Wave, Ocean	Wind	Solid Biomass	Others	Electricity	Heat	Total	Total Renewables
1 Indigenous production	129 223		77 058		72 185	16 603	8 059	1 588	633	1.8	1 587	8 309	4 708		2.2	343 808	28 017
2 Import	19 094	453	55 365	21 777	15 252							90	162	491		118 692	251
3 Export	-28 788	-423	-24 550	-25 201	-15 941							-57	-176	-458		-108 877	-232
4 International marine bunkers				-4 256									-15			-4 074	-15
5 International aviation bunkers				-3 163													-1 913
6 Stock change	-1 368	-56	-653	-364	-784							2.0	-4.3			-4 131	-5.4
7 Total primary energy supply	118 161	-25	107 219	-11 208	70 712	16 603	8 059	1 588	633	1.8	1 587	8 343	4 673	33	2.2	343 505	28 015
8 Transfers			-4 312	2 171													-3 508
9 Main activity producer	-73 095	-1 676	-211	-1 933	-25 822	-16 603	-7 862	-1 532	-305	-1.8	-1 542	-1 586	-1 374	60 274	9 630	-71 966	-16 669
10 Autoproducer	-1 323	-409	-25	-925	-4 589		-197	-25	-186		-45	-643	-389	2 508	4 244	-1 867	-1 327
11 Gas processing	-819	-3.6		60	-91								-0.1			-757	-0.1
12 Petroleum refineries			-101 948	103 228												2 995	
13 Coal transformation	-23 275	10 506		-20									-5.0			-10 790	
14 Other transformation			948	-671	-406							-221	-320	-14	16	-1 012	-541
15 Losses & own-use	-1 065	-721	-541	-5 219	-7 157							-18	-9.0	-9 137	-2 007	-26 499	-21
16 Discrepancy	-1 364	-19	-560	-379	-404							31	14	-22	-2 571	-7 854	39
17 Total final consumption	19 138	7 652	571	85 105	32 243			31	141			5 733	2 649	53 772	9 895	224 002	8 241
18 Total final energy consumption	15 999	6 862	113	68 817	29 009			31	141			5 733	2 649	53 772	9 895	196 097	8 241
19 Industry sector	12 793	6 651	110	6 152	11 837			5.2	0.5			2 847	360	24 223	5 275	75 255	2 931
20 Transport sector	64	0.9		52 519	3 045								2 414	1 131		62 311	2 414
21 Other sector	3 152	210	2.9	10 146	14 126			25	141			2 886	132	28 449	4 619	65 632	3 154
21.1 Residential & commercial	2 062	190		5 842	13 806			23	137			2 590	96	24 114	4 290	55 328	2 838
21.2 Agriculture	512	14	0.4	2 349	149			1.8				248	15	1 056	115	4 181	263
21.3 Other	579	5.5	2.4	1 955	171			0.4	3.2			48	21	3 278	214	6 124	54
22 Non-energy	3 139	790	458	16 288	3 234											27 906	

Sources: APEC data, ESTO analysis

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**3**

# **Energy Balances and Other Tables by Member Economy**

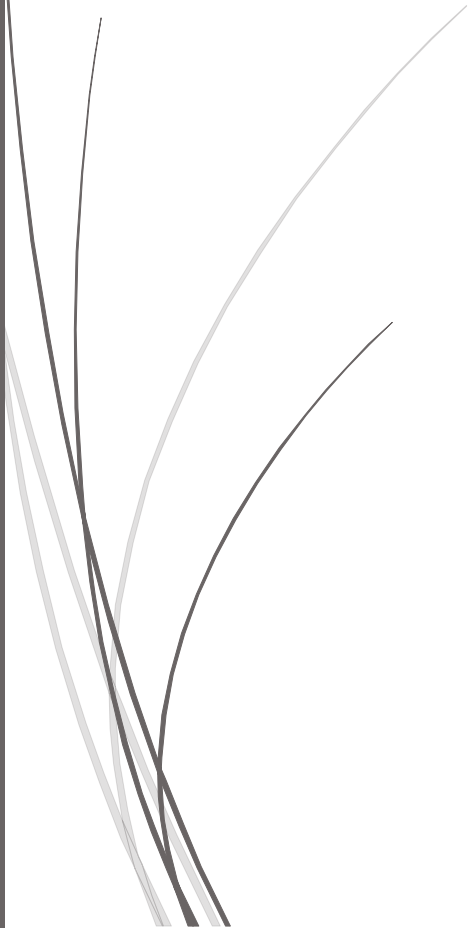
Several thin, light grey lines curve upwards from the bottom left corner of the page, resembling stylized grass or reeds.







# Australia



## Energy balance table of Australia

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	Fuel oil
<b>2020</b>										
Production	12 335		866							
Import	8.3	11	631	1 276	193		171	0.2	789	26
Export	-10 483	-22	-595	-165	-3.3		-5.5		-3.0	-11
International marine bunkers				-29					-4.3	-24
International aviation bunkers				-162			-162			
Stock changes	-220		-0.2	26	5.0		7.9		7.0	4.1
<b>Total primary energy supply</b>	<b>1 641</b>	<b>-11</b>	<b>902</b>	<b>946</b>	<b>194</b>		<b>11</b>	<b>0.2</b>	<b>789</b>	<b>-5.8</b>
Transfers			-87	224						
Total transformation sector	-1 633	65	-930	878	319		104		260	30
Main activity producers	-1 515			-8.3					-5.9	-0.9
Autoproducers				-35					-33	-0.7
Gas processing										
Petroleum refineries			-930	921	319		104		299	32
Coal transformation	-118	65								
Other transformation										
Losses & own use		-35	-1.5	-187				-0.1	-129	-2.8
Discrepancy	91		118	-113	8.9	0.1	-17	0.2	-32	-13
<b>Total final consumption</b>	<b>99</b>	<b>20</b>		<b>1 748</b>	<b>523</b>	<b>0.1</b>	<b>97</b>	<b>0.4</b>	<b>887</b>	<b>8.6</b>
<b>Total final energy consumption</b>	<b>99</b>	<b>20</b>		<b>1 572</b>	<b>523</b>		<b>97</b>	<b>0.2</b>	<b>887</b>	<b>8.6</b>
Industry sector	98	20		181	0.5			0.2	153	3.2
Iron and steel	0.1	11		0.9					0.5	0.1
Chemical & petrochemical	6.1	0.6		4.8				0.1	4.5	0.2
Non-metallic minerals	19	0.1		6.8					1.0	0.5
Other industries	73	8.8		168	0.5			0.1	147	2.3
Transport sector				1 274	517		97		639	5.4
Domestic air transport				99	1.9		97			
Road				1 089	504				572	
Rail				47					47	
Inland waterways				30	11				13	5.4
Other transport				8.5	0.2				6.6	
Other sector	0.8			118	5.3				95	
Residential				15						
Commerce and public services	0.8			27					27	
Agriculture				74	5.2				67	
Non-specified others				1.3					1.3	
Non-energy				176		0.1		0.2		
<b>2019</b>										
Production	12 596		719							
Import	4.9	12	745	1 272	198		206	0.1	739	30
Export	-10 611	-18	-518	-111	-6.9		-0.6		-4.0	-8.7
International marine bunkers				-32					-3.3	-29
International aviation bunkers				-211			-211			
Stock changes	-240		-12	-14	-1.5		-8.1	0.1	-11	
<b>Total primary energy supply</b>	<b>1 750</b>	<b>-5.6</b>	<b>933</b>	<b>904</b>	<b>189</b>		<b>-15</b>	<b>0.2</b>	<b>721</b>	<b>-7.5</b>
Transfers			-38	178						
Total transformation sector	-1 722	62	-1 039	982	366		139		281	36
Main activity producers	-1 609			-9.2					-6.5	-1.1
Autoproducers				-39					-36	-1.2
Gas processing										
Petroleum refineries			-1 039	1 030	366		139		324	39
Coal transformation	-113	62								
Other transformation										
Losses & own use		-34	-2.1	-194				-0.2	-127	-4.6
Discrepancy	77		146	-24	34	0.1	-2.5	0.4	19	-15
<b>Total final consumption</b>	<b>105</b>	<b>22</b>	<b>0.6</b>	<b>1 846</b>	<b>589</b>	<b>0.1</b>	<b>122</b>	<b>0.4</b>	<b>893</b>	<b>9.1</b>
<b>Total final energy consumption</b>	<b>105</b>	<b>22</b>	<b>0.6</b>	<b>1 671</b>	<b>589</b>		<b>122</b>	<b>0.2</b>	<b>893</b>	<b>9.1</b>
Industry sector	105	22	0.6	175	0.4			0.2	147	3.2
Iron and steel	0.6	12		0.9					0.6	0.1
Chemical & petrochemical	6.1	0.5		4.4				0.1	4.2	0.1
Non-metallic minerals	19	0.1		7.2					1.1	0.4
Other industries	79	9.1	0.6	163	0.4			0.1	141	2.5
Transport sector				1 369	583		122		643	5.8
Domestic air transport				124	2.1		122			
Road				1 160	569				576	
Rail				48					48	
Inland waterways				29	11				12	5.7
Other transport				8.1	0.2		0.4		7.2	0.1
Other sector	0.5			128	6.1				103	0.1
Residential				15						
Commerce and public services	0.5			27					26	
Agriculture				84	6.1				76	
Non-specified others				1.3					1.2	0.1
Non-energy				174		0.1		0.2		

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			5 331	53		168	198			18 950	415
19		79	162							2 088	
- 134		-8.3	-3 905							-15 169	
										- 29	
										- 162	
-0.5		2.3								- 194	
- 115		73	1 588	53		168	198			5 485	415
144		80								137	
25	34	106	- 529	- 53		- 149	- 45	953		-1 443	- 247
		-1.4	- 327	- 53		- 98	- 19	810		-1 210	- 170
		-0.8	- 202			- 52	- 26	143		- 171	- 77
25	34	108								-9.3	
										- 52	
-0.2	- 34	- 20	- 397					- 173		- 794	
-7.3		- 53	- 103							-8.3	
46		185	558			18	153	780		3 377	168
40		16	509			18	153	780		3 152	168
7.6		16	279				101	280		959	97
		0.2	8.7					12		32	
			58				4.0	14		87	0.4
3.8		1.5	43				2.7	11		83	2.7
3.7		15	169				94	243		757	94
15			20				4.4	23		1 321	4.4
										99	
13			2.9				4.4	0.1		1 097	4.4
								12		59	
1.6			17					11		30	
										37	
17			210			18	48	478		872	66
15			157			18	47	218		455	65
0.5			52			0.4	0.5	252		333	0.9
2.0			1.1					7.3		83	
										1.3	
6.5		169	49							224	
			4 938	56		135	207			18 651	394
20		80	182							2 216	
- 77		- 14	-3 686							-14 944	
										- 32	
										- 211	
1.2		5.5								- 266	
-56		72	1 434	56		135	207			5 413	394
98		80								140	
25	39	95	- 511	- 56		- 117	- 45	949		-1 497	- 219
		-1.6	- 315	- 56		- 73	- 20	816		-1 267	- 149
		-1.7	- 196			- 44	- 26	133		- 172	- 70
25	39	99								-8.5	
										- 51	
-0.4	- 39	- 22	- 375					- 170		- 775	
- 19		- 41	1.5							201	
48		184	549			17	161	780		3 481	175
42		16	503			17	161	780		3 261	175
8.2		16	278				108	281		969	104
		0.2	8.3					12		35	
			57				3.9	14		86	0.5
4.3		1.5	46				3.1	12		87	3.1
3.9		15	166				101	243		762	101
16			19				5.4	23		1 416	5.4
										124	
15			3.1				5.4	0.1		1 168	5.4
								12		59	
										29	
0.3			16					11		35	
18			207			17	48	476		876	66
15			152			17	48	211		443	65
0.6			53			0.5	0.6	257		339	1.1
2.0			1.2					7.8		93	
										1.3	
6.2		168	46							220	

## Major energy indicators of Australia

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	3 606	4 526	4 751	5 285	5 300	5 284	5 354	5 390	5 413	5 485
Production	6 595	9 779	11 102	13 538	16 033	16 204	16 978	17 266	18 651	18 950
Import	603	1 105	1 302	1 754	2 002	2 040	2 090	2 229	2 216	2 088
Export	-3 304	-6 428	-7 530	-9 584	-12 476	-12 937	-13 366	-13 929	-14 944	-15 169
Final energy consumption	2 207	2 728	2 815	3 016	3 161	3 210	3 234	3 286	3 261	3 152
Industry	809	996	933	946	940	968	964	978	969	959
Transport	884	1 074	1 136	1 256	1 355	1 369	1 384	1 415	1 416	1 321
Residential	314	379	389	429	439	443	441	442	443	455
Commerce & public services	146	211	261	292	328	328	334	339	339	333
Others	54	67	97	92	99	103	110	112	94	84
<b>Coal</b>										
Primary energy supply	1 493	2 023	2 155	2 124	1 819	1 878	1 880	1 807	1 750	1 641
Production	4 442	6 891	8 440	10 323	12 501	12 224	12 264	12 035	12 596	12 335
Import				1.4	3.5	0.8	2.9	6.4	4.9	8.3
Export	-2 800	-5 083	-6 322	-7 961	-10 609	-10 532	-10 235	-10 318	-10 611	-10 483
Transformation sector	-1 393	-1 868	-2 055	-2 126	-1 819	-1 880	-1 850	-1 770	-1 722	-1 633
Power generation	-1 208	-1 722	-1 898	-1 959	-1 704	-1 753	-1 723	-1 647	-1 609	-1 515
Final energy consumption	106	109	102	89	80	93	96	106	105	99
Industry	100	105	93	84	80	93	95	106	105	98
Transport	3.0	3.7	7.6	3.9						
Residential	0.3		0.1							
Commerce & public services	3.5	1.0	1.3	0.5	0.2	0.3	0.5	0.5	0.5	0.8
Others										
<b>Coal products</b>										
Primary energy supply	-32	-7.0	-19	-11	-22	-15	-7.5	-9.2	-5.6	-11
Production										
Import			0.6	0.4	3.5	6.0	5.0	6.4	12	11
Export	-16	-0.6		-10	-25	-20	-13	-16	-18	-22
Transformation sector	123	84	100	76	76	72	69	68	62	65
Power generation	-3.4	-2.2	-5.3	-4.7	-0.7	-0.5	-0.2			
Final energy consumption	77	64	55	17	18	20	23	23	22	20
Industry	75	63	54	17	18	20	23	23	22	20
Transport										
Residential	0.3	0.1	0.1							
Commerce & public services	1.8	0.9	1.6							
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply	1 385	1 531	1 422	1 336	1 082	939	890	925	933	902
Production	1 215	1 420	1 075	1 069	757	735	641	612	719	866
Import	427	934	895	925	847	682	697	767	745	631
Export	-245	-811	-552	-634	-533	-489	-450	-458	-518	-595
Transformation sector	-1 284	-1 572	-1 427	-1 340	-1 176	-1 008	-978	-1 042	-1 039	-930
Petroleum refineries	-1 284	-1 572	-1 427	-1 340	-1 180	-1 008	-978	-1 042	-1 039	-930
<b>Petroleum products</b>										
Primary energy supply	-78	-102	123	406	695	855	906	922	904	946
Import	175	170	407	667	967	1 147	1 199	1 281	1 272	1 276
Export	-144	-145	-138	-102	-80	-74	-96	-96	-111	-165
Transformation sector	1 301	1 578	1 404	1 288	1 068	906	874	919	982	878
Power generation	-40	-22	-35	-58	-57	-51	-51	-48	-48	-43
Petroleum refineries	1 342	1 602	1 439	1 347	1 125	957	925	967	1 030	921
Final energy consumption	1 067	1 282	1 350	1 476	1 609	1 624	1 649	1 690	1 671	1 572
Industry	121	149	129	132	162	157	157	170	175	181
Transport	874	1 049	1 100	1 219	1 311	1 325	1 343	1 372	1 369	1 274
Residential	16	15	12	15	15	17	15	15	15	15
Commerce & public services	11	13	21	26	33	30	31	31	27	27
Others	46	57	88	83	89	95	102	103	85	76
<b>Gas</b>										
Primary energy supply	619	807	794	1 146	1 387	1 277	1 310	1 363	1 434	1 588
Production	718	1 195	1 313	1 862	2 436	2 894	3 696	4 237	4 938	5 331
Import				160	181	204	186	168	182	162
Export	-98	-388	-518	-876	-1 229	-1 822	-2 572	-3 042	-3 686	-3 905
Transformation sector	-163	-182	-238	-409	-501	-503	-503	-515	-511	-529
Power generation	-145	-170	-226	-409	-498	-503	-503	-515	-511	-529
Final energy consumption	351	465	493	485	491	509	503	503	503	509
Industry	238	300	321	299	280	292	284	282	278	279
Transport	0.4	13	15	13	13	15	16	17	19	20
Residential	81	107	116	130	146	149	149	149	152	157
Commerce & public services	31	45	40	44	51	52	53	54	53	52
Others			0.1	0.1	1.2	1.2	1.0	1.0	1.2	1.1
<b>Electricity</b>										
Power generation	555	756	822	909	905	923	928	939	949	953
Thermal	502	692	750	831	784	789	783	779	763	739
Hydro	51	59	55	49	48	54	58	57	56	53
Nuclear										
Others	2.7	4.4	17	30	72	80	87	103	130	161
Final energy consumption	465	622	681	763	765	770	767	775	780	780
Industry	213	277	267	303	281	286	277	280	281	280
Transport	6.5	8.4	12	13	21	22	21	21	23	23
Residential	139	176	197	218	213	213	213	213	211	218
Commerce & public services	98	150	196	220	242	242	249	252	257	252
Others	8.5	10	8.6	8.9	9.2	6.3	7.1	7.6	7.8	7.3

## Major economic indicators of Australia

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	17.07	19.15	20.39	22.03	23.82	24.19	24.60	24.98	25.37	25.69
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	631	873	1 027	1 180	1 351	1 388	1 419	1 460	1 491	1 491
GDP, billion USD (PPP, constant 2017)	529	732	861	990	1 133	1 164	1 191	1 225	1 251	1 251
Nominal, billion USD (current)	311	416	695	1 148	1 351	1 207	1 327	1 429	1 392	1 328
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	36 974	45 559	50 333	53 543	56 707	57 359	57 696	58 447	58 781	58 030
GDP, PPP (constant 2017 USD)	31 016	38 217	42 222	44 915	47 569	48 116	48 399	49 029	49 309	48 679
Nominal (current USD)	18 243	21 698	34 081	52 088	56 707	49 882	53 934	57 181	54 875	51 680
Nominal GDP & its components (billions of current AUD) <sup>1</sup>										
Gross domestic product	405	662	925	1 303	1 623	1 658	1 759	1 843	1 946	1 981
Households and NPISHs final consumption expenditure	223	383	532	730	923	958	991	1 032	1 065	1 049
General government final consumption expenditure	70	119	163	236	298	316	335	352	379	413
Gross fixed capital formation	112	172	250	353	426	420	422	449	454	449
Stock change	5.2	2.1	4.1	-3.3	0.9	1.1	1.9	3.1	-0.8	-7.6
Exports of goods and services	61	128	169	258	326	319	373	403	470	475
Imports of goods and services	69	143	194	270	350	357	364	396	422	397
Real GDP & its components (billions of 2019 AUD) <sup>1</sup>										
Gross Domestic Product	838	1 159	1 364	1 567	1 794	1 843	1 886	1 940	1 981	1 981
Households and NPISHs final consumption expenditure	435	600	733	865	989	1 014	1 038	1 066	1 083	1 049
General government final consumption expenditure	157	212	247	286	322	337	354	367	385	413
Gross fixed capital formation	168	248	323	411	462	445	445	466	460	449
Stock change	8.4	2.9	8.5	-2.7	1.2	1.0	2.0	3.7	-1.1	-7.6
Exports of goods and services	109	232	264	316	398	423	447	465	484	475
Imports of goods and services	79	153	222	314	383	381	401	429	430	397
Sectoral shares of Real GDP (%) <sup>1</sup>										
Agriculture, Fishery and Forestry	3.2	3.3	3.1	3.0	2.8	2.5	2.7	2.5	2.2	2.0
Industry	29	25	25	25	24	22	23	24	25	25
Services, etc.	59	64	64	66	67	68	67	67	66	66
Industrial production index (2010=100) <sup>2</sup>	59.0	73.7	86.7	100.0	103.1	107.8	110.9	110.9	112.1	117.5
External trade (billions of current USD) <sup>1</sup>										
Exports, f.o.b.	39.8	63.9	106.1	212.6	187.7	192.5	231.1	257.1	271.0	250.8
Imports, c.i.f.	42.0	71.5	125.3	201.6	208.5	196.3	228.8	235.4	221.6	211.8
Balance of payments (billions of current USD) <sup>2</sup>										
Trade balance	0.5	-4.9	-14.3	11.3	-19.0	-5.8	10.5	20.8	48.1	40.5
Current account	-15.5	-15.5	-43.3	-44.7	-57.0	-41.2	-36.1	-29.9	7.7	36.2
Overall balance	1.3	-2.1	6.0	-0.5	0.7	4.0	10.9	-11.3	0.6	-11.4
Foreign exchange rate (AUD/USD) <sup>1</sup>	1.28	1.72	1.31	1.09	1.33	1.35	1.30	1.34	1.44	1.45
PPP conversion factor, GDP (AUD/USD) <sup>1</sup>	1.37	1.31	1.39	1.50	1.47	1.45	1.48	1.47	1.48	1.45
Price Indices										
GDP Deflator (2019=100) <sup>3</sup>	48.3	57.1	67.8	83.1	90.5	89.9	93.3	95.0	98.2	100.0
Producer Price Index (2010=100) <sup>2</sup>	63.3	72.3	84.2	100.0	103.1	101.7	110.3	116.0	117.2	112.9
Consumer Price Index (2010=100) <sup>2</sup>	59.8	74.4	86.3	100.0	112.0	113.5	115.7	117.9	119.8	120.8
Growth rate (%) <sup>3</sup>										
Real GDP	3.6	3.9	3.2	2.2	2.2	2.7	2.3	2.9	2.1	0.0
Population	1.5	1.2	1.3	1.6	1.4	1.6	1.7	1.5	1.5	1.3
Price										
Producer prices	6.0	7.1	6.0	7.1	-4.9	-1.4	8.5	5.2	1.0	-3.7
Consumer prices	7.3	4.5	2.7	2.9	1.5	1.3	1.9	1.9	1.6	0.8

Source <sup>1</sup>: *World Development Indicators*, World Bank

<sup>2</sup>: *International Financial Statistics*, International Monetary Fund

<sup>3</sup>: Calculated from <sup>1</sup> and <sup>2</sup> by ESTO

Note

: N.A. means "not available"

: AUD means Australian Dollar, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Energy prices in Australia

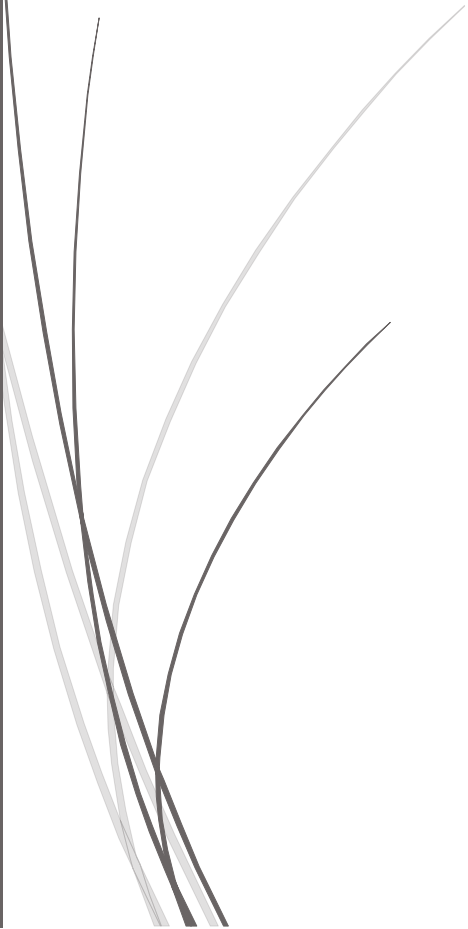
## CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency exchange rate	AUD / US Dollar	1.09	0.97	0.97	1.04	1.11	1.33	1.35	1.30	1.34	1.44	1.45
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG	AUD/L	0.59	0.70	0.72	0.72	0.79	0.59	0.61	0.72	0.79	0.73	0.72
Naphtha												
Motor Gasoline												
Regular	AUD/L	1.53	1.43	1.43	1.45	1.47	1.28	1.17	1.29	1.43	1.42	1.24
Premium												
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene												
Gas/Diesel Oil	AUD/L	1.28	1.48	1.50	1.52	1.55	1.29	1.18	1.30	1.50	1.47	1.25
Fuel Oil												
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas												
Compressed Natural Gas												
<b>Electricity</b>												
Industrial												
Commercial												
Residential	AUD/MWh					314.27	282.48	271.81	309.36	332.64	333.85	304.92
Others												
<b>Other energy products</b>												



**Brunei**

**Darussalam**





## Energy balance table of Brunei Darussalam

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products				
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil
<b>2020</b>									
Production			244						
Import	29		281	18	9.9		5.2		2.9
Export			- 178	- 295	- 58		- 14		- 109
International marine bunkers									
International aviation bunkers				-3.4			-3.4		
Stock changes			2.3	- 15	-7.1		-2.7		1.1
<b>Total primary energy supply</b>	<b>29</b>		<b>349</b>	<b>- 295</b>	<b>- 55</b>		<b>- 15</b>		<b>- 105</b>
Transfers			31						
Total transformation sector	- 29		- 380	318	67		15	0.2	116
Main activity producers				-0.5					-0.5
Autoproducers	- 29								
Gas processing				0.8					
Petroleum refineries			- 380	318	67		15	0.2	116
Coal transformation									
Other transformation									
Losses & own use				-0.1					
Discrepancy				1.0					
<b>Total final consumption</b>				<b>24</b>	<b>12</b>		<b>0.2</b>		<b>11</b>
<b>Total final energy consumption</b>				<b>24</b>	<b>12</b>		<b>0.2</b>		<b>11</b>
Industry sector				5.1			0.2		4.7
Iron and steel									
Chemical & petrochemical				0.1					
Non-metallic minerals									
Other industries				5.0			0.2		4.7
Transport sector				17	12				5.1
Domestic air transport									
Road				17	12				5.1
Rail									
Inland waterways									
Other transport									
Other sector				1.5					0.7
Residential				0.8					
Commerce and public services									
Agriculture									
Non-specified others				0.7					0.7
Non-energy				0.2					
<b>2019</b>									
Production			268						
Import	8.1		66	20	8.1		2.5		8.5
Export			- 258	- 37	- 10		-6.4		- 10
International marine bunkers									
International aviation bunkers				-4.8			-4.8		
Stock changes			2.9	-10.0	0.2		-2.3		-3.9
<b>Total primary energy supply</b>	<b>8.1</b>		<b>79</b>	<b>- 32</b>	<b>- 1.8</b>		<b>- 11</b>		<b>- 5.6</b>
Transfers			5.7	-0.4					
Total transformation sector	-8.1		- 85	60	15		11	0.1	18
Main activity producers				-0.6					-0.6
Autoproducers	-8.1								
Gas processing				4.3					
Petroleum refineries			- 85	56	15		11	0.1	18
Coal transformation									
Other transformation									
Losses & own use				-0.2					
Discrepancy				-1.2					-1.3
<b>Total final consumption</b>				<b>25</b>	<b>13</b>		<b>0.1</b>		<b>11</b>
<b>Total final energy consumption</b>				<b>25</b>	<b>13</b>		<b>0.1</b>		<b>11</b>
Industry sector				5.6			0.1		5.0
Iron and steel									
Chemical & petrochemical				0.4					
Non-metallic minerals									
Other industries				5.1			0.1		5.0
Transport sector				19	13				5.9
Domestic air transport									
Road				19	13				5.9
Rail									
Inland waterways									
Other transport									
Other sector				0.8					
Residential				0.8					
Commerce and public services									
Agriculture									
Non-specified others									
Non-energy				0.4					



## Major energy indicators of Brunei Darussalam

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	48	127	120	127	160	165	196	192	195	194
Production	655	858	921	809	725	690	712	692	695	659
Import	0.6	1.0	2.1	5.9	14	16	19	16	94	329
Export	-605	-734	-797	-690	-576	-540	-535	-505	-581	-780
Final energy consumption	16	24	28	34	38	36	38	39	40	42
Industry	2.6	3.0	2.7	5.4	5.9	4.9	6.3	5.9	8.1	10
Transport	8.1	12	14	17	19	18	19	19	19	17
Residential	4.2	4.6	5.7	6.5	6.4	6.5	6.2	6.4	6.4	6.5
Commerce & public services	1.0	4.9	4.6	5.1	6.6	6.2	6.1	6.4	6.7	7.0
Others							1.0	1.3		0.7
<b>Coal</b>										
Primary energy supply									8.1	29
Production										
Import									8.1	29
Export										
Transformation sector										
Power generation									-8.1	-29
Final energy consumption										
Industry										
Transport										
Residential										
Commerce & public services										
Others										
<b>Coal products</b>										
Primary energy supply										
Production										
Import										
Export										
Transformation sector										
Power generation										
Final energy consumption										
Industry										
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply	4.7	28	23	27	18	15	13	16	79	349
Production	340	451	488	366	280	270	250	246	268	244
Import		0.3	0.5	0.7	0.4	0.2	0.2	0.4	66	281
Export	-334	-428	-462	-347	-267	-256	-240	-224	-258	-178
Transformation sector	-14	-24	-26	-25	-18	-11	-13	-16	-85	-380
Petroleum refineries	-14	-24	-26	-25	-18	-11	-13	-16	-85	-380
<b>Petroleum products</b>										
Primary energy supply	-1.2	-2.1	-1.7	0.7	10	13	15	12	-32	-295
Import	0.6	0.6	1.6	5.3	13	16	19	16	20	18
Export	-0.2				-0.4				-37	-295
Transformation sector	13	21	23	24	16	11	10	14	60	318
Power generation	-0.1	-0.2	-0.3	-0.4	-0.5	-0.5	-0.5	-0.6	-0.6	-0.5
Petroleum refineries	13	21	22	23	16	11	10	14	56	318
Final energy consumption	10	14	17	22	25	23	26	26	25	24
Industry	1.7	1.9	1.9	4.6	5.2	4.3	5.8	5.2	5.6	5.1
Transport	8.1	12	14	17	19	18	19	19	19	17
Residential	0.5	0.6	0.7	0.6	0.7	0.8	0.8	0.8	0.8	0.8
Commerce & public services										
Others							1.0	1.3		0.7
<b>Gas</b>										
Primary energy supply	45	101	98	100	132	137	168	163	140	111
Production	316	407	433	443	445	419	463	446	427	415
Import										
Export	-271	-306	-334	-343	-309	-284	-295	-281	-286	-306
Transformation sector	-20	-40	-47	-51	-52	-64	-87	-94	-85	-45
Power generation	-20	-40	-47	-51	-52	-50	-52	-54	-53	-55
Final energy consumption	1.3	1.1	1.0	1.1	0.7	0.6	0.8	0.9	0.8	0.8
Industry										
Transport										
Residential	1.3	1.1	1.0	1.1	0.7	0.6	0.8	0.9	0.8	0.8
Commerce & public services										
Others										
<b>Electricity</b>										
Power generation	4.7	11	13	15	17	17	15	15	18	21
Thermal	4.7	11	13	15	17	17	15	15	18	21
Hydro										
Nuclear										
Others										
Final energy consumption	4.2	8.9	10	11	12	12	11	12	14	17
Industry	0.9	1.0	0.8	0.9	0.7	0.6	0.6	0.7	2.6	5.0
Transport										
Residential	2.4	2.9	4.1	4.8	4.9	5.0	4.6	4.7	4.8	4.9
Commerce & public services	1.0	4.9	4.6	5.1	6.6	6.2	6.1	6.4	6.7	7.0
Others										

## Major economic indicators of Brunei Darussalam

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	0.26	0.33	0.37	0.39	0.41	0.42	0.42	0.43	0.43	0.44
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	9.1	11	13	13	13	13	13	13	13	13
GDP, billion USD (PPP, constant 2017)	18	23	25	26	26	26	26	26	27	27
Nominal, billion USD (current)	3.5	6.0	9.5	14	13	11	12	14	13	12
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	35 154	34 064	34 441	33 437	31 164	30 039	30 102	29 803	30 646	30 697
GDP, PPP (constant 2017 USD)	71 233	69 023	69 788	67 753	63 147	60 867	60 995	60 389	62 098	62 201
Nominal (current USD)	13 608	18 013	26 105	35 271	31 164	27 158	28 572	31 628	31 086	27 443
Nominal GDP & its components (billions of current BND) <sup>1</sup>										
Gross domestic product	6.4	10	16	19	18	16	17	18	18	17
Households and NPISHs final consumption expenditure	1.7	2.6	3.6	2.8	3.5	3.3	3.4	3.6	3.8	3.9
General government final consumption expenditure	1.4	2.7	2.9	4.1	4.5	4.1	4.4	4.4	4.6	4.2
Gross fixed capital formation	1.2	1.3	1.8	4.4	6.2	5.4	5.8	7.5	7.1	6.7
Stock change										
Exports of goods and services	3.9	7.0	11	13	9.3	7.8	8.3	9.5	11	9.5
Imports of goods and services	2.4	3.7	4.3	5.2	6.7	5.9	6.0	7.7	9.3	8.8
Real GDP & its components (billions of 2010 BND) <sup>1</sup>										
Gross Domestic Product	13	16	18	19	19	18	18	18	19	19
Households and NPISHs final consumption expenditure	1.4	1.8	2.4	2.7	3.4	3.3	3.5	3.6	3.8	4.0
General government final consumption expenditure	2.2	2.7	2.9	4.1	4.5	4.2	4.5	4.5	4.6	4.2
Gross fixed capital formation	2.8	2.5	3.1	4.4	6.4	5.7	6.1	7.9	7.5	6.8
Stock change										
Exports of goods and services	11	15	16	13	10	10	10	10	12	13
Imports of goods and services	2.8	3.5	4.0	5.2	5.9	6.0	6.1	7.8	8.9	8.7
Sectoral shares of Real GDP (%) <sup>1</sup>										
Agriculture, Fishery and Forestry	0.6	0.7	0.9	0.7	0.9	0.8	0.8	0.8	0.8	0.9
Industry	82.7	83.2	80.0	68.7	63.4	63.1	63.2	62.9	63.1	64.2
Services, etc.	25.2	24.8	26.3	32.5	37.7	38.0	37.9	38.2	38.0	36.8
Industrial production index (2010=100) <sup>2</sup>	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
External trade (billions of current USD) <sup>1</sup>										
Exports, f.o.b.	2.2	3.9	6.2	8.9	6.4	4.9	5.6	6.6	7.0	6.6
Imports, c.i.f.	1.0	1.1	1.5	2.5	3.2	2.7	3.1	4.2	5.1	5.3
Balance of payments (billions of current USD) <sup>2</sup>										
Trade balance	N.A.	N.A.	4.8	6.2	2.9	2.2	2.4	2.4	2.2	1.4
Current account	N.A.	N.A.	4.0	5.0	2.2	1.5	2.0	0.9	0.9	0.5
Overall balance	N.A.	N.A.	3.9	0.2	-2.4	-4.9	0.5	0.9	1.3	0.3
Foreign exchange rate (BND/USD) <sup>1</sup>	1.81	1.72	1.66	1.36	1.37	1.38	1.38	1.35	1.36	1.38
PPP conversion factor, GDP (BND/USD) <sup>1</sup>	0.44	0.47	0.58	0.60	0.69	0.67	0.65	0.69	0.66	0.58
Price Indices										
GDP Deflator (2010=100) <sup>3</sup>	48.8	63.4	87.7	100.0	95.6	86.8	91.1	99.5	96.2	85.8
Producer Price Index	N.A.	N.A.	N.A.	N.A.	N.A.	186.9	201.7	221.7	N.A.	N.A.
Consumer Price Index (2010=100) <sup>2</sup>	78.0	95.0	95.5	100.0	99.9	99.7	98.4	99.4	99.0	100.9
Growth rate (%) <sup>3</sup>										
Real GDP	1.1	2.8	0.4	2.6	-0.4	-2.5	1.3	0.1	3.9	1.1
Population	2.9	2.1	1.6	1.2	1.3	1.2	1.1	1.1	1.0	1.0
Price										
Producer prices	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	7.9	9.9	N.A.	N.A.
Consumer prices	2.1	1.6	1.2	0.4	-0.5	-0.3	-1.3	1.0	-0.4	1.9

Sources <sup>1</sup>: World Development Indicators, World Bank

<sup>2</sup>: International Financial Statistics, International Monetary Fund

<sup>3</sup>: Calculated from <sup>1</sup> and <sup>2</sup> by ESTO

: N.A. means "not available"

: BND means Brunei Dollar, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Source

\*1: "World Development Indicators", World Bank

\*2: "International Financial Statistics", International Monetary Fund

\*3: Estimation from \*1, \*2 and \*3 by the Coordinating Agency

Note : N.A. shows "not available"

: BND shows Brunei Dollar, USD shows United States Dollar

: PPP shows Purchasing Power Parity

: 1995-2000 GDP are from "Brunei Darussalam Statistical Yearbook", Statistical Division, Department of Economic Planning and Development, Ministry of Finance

## Energy prices in Brunei Darussalam

## IMPORT PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	BND											
Exchange Rate	/ US Dollar				1.25	1.27	1.41	1.40	1.38	1.38	1.36	1.38
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												54.18
Lignite	USD/tonne										63.73	
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
<b>Oil and Oil Products</b>												
Crude Oil	USD/tonne										513.71	305.09
Natural Gas Liquids												
Ethane												
LPG												
Naphtha	USD/tonne										595.27	461.88
Motor Gasoline						0.79						381.02
Regular	USD/L				0.69							
Premium	USD/L				0.76							
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel	USD/L				0.77	0.75						244.08
Other Kerosene	USD/L				0.77							
Gas/Diesel Oil	USD/L				0.78	0.76						
Fuel Oil												
White Spirit SBP												
Lubricants												2 161.99
Bitumen												489.50
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas												
Compressed Natural Gas												
<b>Electricity</b>												
Electricity												
<b>Other Energy Products</b>												

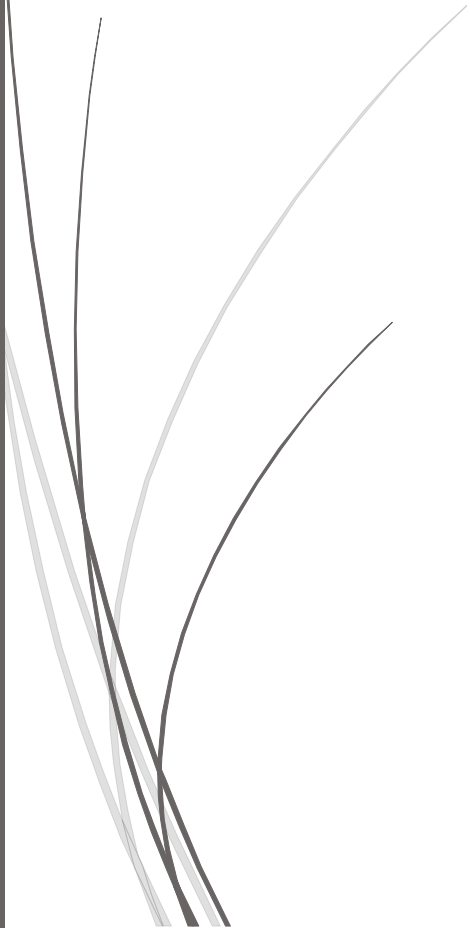
## Energy prices in Brunei Darussalam

## CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency Exchange Rate	BND / US Dollar				1.25	1.27	1.41	1.40	1.38	1.38	1.36	1.38
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil	USD/barrel				115.03	104.44	53.88	44.63	55.93	73.17	68.45	43.33
<b>Natural Gas Liquids</b>												
Ethane												
LPG Cylinder 12 kg	BND/cylinder				10.00	10.00	10.00	10.00	10.00	10.00	10.00	10.00
Cylinder 44 kg	BND/cylinder				34.56	34.56	34.56	34.56	34.56	34.56	34.56	34.56
Naphtha												
Motor Gasoline RON97												
RON97	BND/L				0.53	0.53	0.53	0.53	0.53	0.53	0.53	0.53
RON92	BND/L					0.52	0.52	0.52	0.52	0.52	0.52	0.52
RON85	BND/L				0.36	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel					0.98	0.95						
Other Kerosene					0.20	0.20			0.18			
Gas/Diesel Oil	BND/L				0.31	0.31	0.31	0.31	0.31	0.31	0.31	0.31
Fuel Oil												
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas (export)	USD/million Btu				16.38	16.61	9.63	7.27	8.28	10.45	9.14	6.66
Compressed Natural Gas												
<b>Electricity</b>												
<b>Industrial</b>												
Commercial - The first 10 units	BND/kVA				0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20
Next 100 units	BND/kVA				0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07
Next 100 units	BND/kVA				0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
Remaining units	BND/kVA				0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Minimum charge	BND				0.20	0.20	2.00	2.00	2.00	2.00	2.00	2.00
Residential - 1-600 kWh	BND/kWh				0.25		0.01	0.01	0.01	0.01	0.01	0.01
601-2000 kWh	BND/kWh				0.15		0.08	0.08	0.08	0.08	0.08	0.08
2001-4000 kWh	BND/kWh				0.10		0.10	0.10	0.10	0.10	0.10	0.10
4001 kWh above	BND/kWh				0.05		0.12	0.12	0.12	0.12	0.12	0.12
Others (Government)	BND/kWh				0.10		0.10	0.10	0.10	0.10	0.10	0.10
Other Energy Products												



**Canada**



## Energy balance table of Canada

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					Fuel oil
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	
<b>2020</b>										
Production	1 005		11 030							
Import	160	21	1 703	394	190		49	13	35	22
Export	- 793	-2.2	- 8 211	- 957	- 291	-9.6	- 19		- 319	- 33
International marine bunkers				- 19					-5.3	- 14
International aviation bunkers				- 14			- 14			
Stock changes	-9.5	2.9	- 73	-1.5	-4.4	0.2	1.8	-0.6	-3.1	-0.5
<b>Total primary energy supply</b>	<b>362</b>	<b>22</b>	<b>4 449</b>	<b>- 598</b>	<b>- 106</b>	<b>-9.4</b>	<b>17</b>	<b>13</b>	<b>- 293</b>	<b>- 26</b>
Transfers			- 141	228		-0.5	-2.9		90	- 14
Total transformation sector	- 436	49	- 4 198	4 100	1 292	43	116	9.6	1 341	133
Main activity producers	- 353			- 48					-8.1	- 15
Autoproducers		-1.6		- 18					-4.4	-1.7
Gas processing										
Petroleum refineries			- 4 345	4 181	1 292	43	116	9.6	1 353	150
Coal transformation	- 83	51								
Other transformation			147	- 15						
Losses & own use				- 537	-0.6			-0.1	- 102	-0.5
Discrepancy	107	2.9	- 110	245	125	58	11	-5.9	28	- 56
<b>Total final consumption</b>	<b>34</b>	<b>74</b>		<b>3 439</b>	<b>1 310</b>	<b>92</b>	<b>142</b>	<b>16</b>	<b>1 065</b>	<b>36</b>
<b>Total final energy consumption</b>	<b>32</b>	<b>73</b>		<b>2 658</b>	<b>1 310</b>		<b>142</b>	<b>16</b>	<b>1 065</b>	<b>36</b>
Industry sector	31	73		230	35			1.1	151	18
Iron and steel	6.4	69		0.1						
Chemical & petrochemical				1.0						
Non-metallic minerals	9.8	0.7		13						0.8
Other industries	15	3.8		216	35			1.1	151	17
Transport sector				2 119	1 231		142		718	18
Domestic air transport				143	1.3		141			
Road				1 834	1 228				597	
Rail				88					88	
Inland waterways				50					32	18
Other transport				4.4	1.7		0.4		2.3	
Other sector	0.6			309	44			15	195	0.7
Residential				58				1.8	43	
Commerce and public services				52				13	6.5	0.4
Agriculture	0.6			199	44			0.4	146	0.2
Non-specified others										
Non-energy	1.8	0.6		781		92				
<b>2019</b>										
Production	1 163		11 583							
Import	213	18	1 865	652	306		140	17	51	31
Export	- 887	-3.3	- 8 584	- 1 089	- 342	-9.5	- 47		- 333	- 75
International marine bunkers				- 23					-4.7	- 19
International aviation bunkers				- 36			- 36			
Stock changes	-3.3	-3.2	69	14	0.9	0.6	0.7	0.3	3.9	0.8
<b>Total primary energy supply</b>	<b>486</b>	<b>12</b>	<b>4 933</b>	<b>- 482</b>	<b>- 35</b>	<b>-8.9</b>	<b>58</b>	<b>18</b>	<b>- 283</b>	<b>- 62</b>
Transfers			- 119	199		- 10	-3.5		99	-7.7
Total transformation sector	- 520	57	- 4 695	4 550	1 397	52	245	11	1 365	181
Main activity producers	- 431			- 51					-8.2	- 18
Autoproducers		-1.7		- 18					-5.5	-1.4
Gas processing										
Petroleum refineries			- 4 842	4 634	1 397	52	245	11	1 379	201
Coal transformation	- 88	58								
Other transformation			147	- 15						
Losses & own use				- 600	-0.7			-0.4	- 100	-0.2
Discrepancy	73	-1.7	- 119	264	89	69	-9.4	-8.5	68	- 61
<b>Total final consumption</b>	<b>39</b>	<b>67</b>		<b>3 931</b>	<b>1 450</b>	<b>103</b>	<b>290</b>	<b>19</b>	<b>1 149</b>	<b>49</b>
<b>Total final energy consumption</b>	<b>37</b>	<b>66</b>		<b>3 066</b>	<b>1 450</b>		<b>290</b>	<b>19</b>	<b>1 149</b>	<b>49</b>
Industry sector	36	66		266	38			1.2	170	20
Iron and steel	9.4	60		0.2						
Chemical & petrochemical				0.9						
Non-metallic minerals	10	0.7		21						0.8
Other industries	17	5.2		244	38			1.2	170	19
Transport sector				2 459	1 363		290		773	21
Domestic air transport				290	2.1		288			
Road				2 015	1 359				645	
Rail				94					94	
Inland waterways				53					32	21
Other transport				6.1	1.8		2.2		2.1	
Other sector	0.9			342	49			18	206	7.8
Residential				67				2.3	49	
Commerce and public services				60				15	7.7	0.5
Agriculture	0.9			215	49			0.6	149	7.2
Non-specified others										
Non-energy	1.8	0.4		865		103			0.1	



unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			6 488	1 391	1 071	148	548			21 682	2 077
		86	831				48	35		3 192	48
-6.6		-278	-2 492				-69	-243		-12 768	-69
										-19	
-0.1		5.1	-114				-1.3			-196	-1.3
-6.7		-186	4 713	1 391	1 071	148	526	-207		11 877	2 054
236	176	-257								87	
66	143	957	-823	-1 391	-1 071	-146	-109	2 346	19	-1 660	-1 643
		-25	-427	-1 291	-1 071	-136	-40	2 126	18	-1 223	-1 464
	-9.6	-2.0	-266	-100		-9.5	-69	220	0.9	-243	-179
66	153	998								-164	
										-32	
		-15	-130							1.8	
-0.9	-329	-104	-1 650				-0.1	-318		-2 505	-0.1
-99	9.9	173	-155				6.5	62	-1.0	158	6.5
196		582	2 085			1.8	423	1 883	18	7 957	418
74		16	1 977			1.8	423	1 883	18	7 065	418
9.7		16	638				229	661	17	1 879	222
		0.1	55				0.1	24	0.1	154	0.1
		1.0	142				0.1	75	10	228	0.1
		12	36				7.2	6.9		73	0.5
9.7		2.8	404				222	556	6.3	1 423	222
9.8			139				80	27		2 365	80
										143	
9.8			2.0				80	4.5		1 921	80
										88	
										50	
			137					23		164	
54			1 200			1.8	114	1 194	1.2	2 821	116
13			585				113	636		1 393	113
32			576				0.6	521	0.4	1 149	0.6
8.6			39					38		276	
						1.8			0.8	2.6	1.8
122		566	109							892	
			6 647	1 374	1 104	136	581			22 588	2 081
		106	916				56	48		3 768	56
-8.4		-273	-2 693				-59	-217		-13 533	-59
										-23	
										-36	
1.0		6.2	53				-1.8			128	-1.8
-7.4		-161	4 923	1 374	1 104	136	576	-169		12 892	2 076
257	178	-313								81	
77	176	1 045	-792	-1 374	-1 104	-134	-118	2 349	22	-1 759	-1 622
		-25	-408	-1 270	-1 104	-125	-38	2 129	22	-1 278	-1 430
	-9.3	-2.2	-254	-104		-8.5	-80	220	0.9	-245	-192
77	185	1 087								-208	
										-30	
		-15	-131							1.8	
-3.5	-363	-132	-1 765				-0.1	-331		-2 696	-0.1
-101	9.6	208	-175				-2.3	67	0.7	107	-2.3
223		647	2 190			1.8	456	1 916	23	8 624	451
84		24	2 082			1.8	456	1 916	23	7 648	451
12		24	676				254	681	22	2 001	247
		0.2	75				0.1	29	0.1	174	0.1
		0.9	146				0.1	75	11	233	0.1
		20	37				7.1	7.7		83	0.6
12		2.9	419				246	568	11	1 511	246
11			153				88	28		2 727	88
										290	
11			2.1				88	4.6		2 110	88
										94	
										53	
			150					23		180	
61			1 253			1.8	114	1 208	1.1	2 920	116
15			621				113	625		1 426	113
36			592				0.6	545	0.3	1 197	0.6
9.8			40					38		294	
						1.8				2.6	1.8
139		623	109							976	

## Major energy indicators of Canada

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	8 846	10 620	11 405	10 853	11 638	12 141	12 652	12 848	12 892	11 877
Production	11 575	15 696	16 762	16 615	19 701	20 285	21 613	22 518	22 588	21 682
Import	1 943	3 018	3 665	3 533	3 662	3 800	3 600	3 544	3 768	3 192
Export	-4 427	-8 364	-9 085	-9 547	-11 528	-12 102	-12 572	-13 038	-13 533	-12 768
Final energy consumption	6 005	7 010	7 110	6 835	7 226	7 244	7 509	7 767	7 648	7 065
Industry	1 978	2 313	2 122	1 774	1 839	1 904	1 962	1 978	2 001	1 879
Transport	1 805	2 183	2 459	2 539	2 663	2 676	2 755	2 855	2 727	2 365
Residential	1 316	1 375	1 340	1 337	1 420	1 361	1 406	1 476	1 426	1 393
Commerce & public services	770	962	972	948	1 017	1 016	1 092	1 151	1 197	1 149
Others	136	176	217	237	287	287	295	307	297	279
<b>Coal</b>										
Primary energy supply	1 024	1 322	1 236	941	745	705	714	566	486	362
Production	1 588	1 441	1 447	1 421	1 292	1 223	1 294	1 220	1 163	1 005
Import	390	614	510	312	196	164	195	199	213	160
Export	-892	-799	-703	-842	-764	-760	-774	-801	-887	-793
Transformation sector	-973	-1 245	-1 098	-909	-664	-664	-661	-542	-520	-436
Power generation	-836	-1 126	-977	-799	-581	-583	-580	-451	-431	-353
Final energy consumption	43	54	58	59	48	39	43	36	37	32
Industry	41	52	56	57	47	38	42	36	36	31
Transport										
Residential	2.0	1.5	1.8	1.3	0.3	0.3	0.3			
Commerce & public services	0.2	0.1								
Others				0.9	0.9	0.9	0.9	0.9	0.9	0.6
<b>Coal products</b>										
Primary energy supply	-8.1	5.1	24	26	29	28	40	32	12	22
Production										
Import	9.3	17	35	30	33	34	33	30	18	21
Export	-5.3	-8.2	-6.6	-2.0	-2.1	-1.2	-0.1	-1.1	-3.3	-2.2
Transformation sector	84	70	79	59	51	46	45	57	57	49
Power generation	-0.5	-3.3	-0.8	-0.3	-1.8	-1.8	-2.1	-1.6	-1.7	-1.6
Final energy consumption	77	85	85	68	58	63	65	69	66	73
Industry	77	85	85	68	58	63	65	69	66	73
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply	3 467	4 048	4 305	4 357	4 843	4 499	4 830	4 770	4 933	4 449
Production	3 942	5 377	5 985	6 999	9 475	9 446	10 413	11 188	11 583	11 030
Import	1 136	1 965	2 056	1 773	2 159	2 173	1 898	1 827	1 865	1 703
Export	-1 583	-3 284	-3 636	-4 350	-6 781	-7 149	-7 468	-8 212	-8 584	-8 211
Transformation sector	-3 582	-3 992	-4 209	-3 991	-3 770	-3 822	-4 037	-3 931	-4 695	-4 198
Petroleum refineries	-3 596	-3 989	-4 284	-4 108	-3 911	-3 953	-4 165	-4 076	-4 842	-4 345
<b>Petroleum products</b>										
Primary energy supply	-263	-401	-327	-326	-463	-353	-586	-433	-482	-598
Import	321	308	657	542	501	560	484	566	652	394
Export	-496	-624	-914	-857	-952	-902	-1 013	-929	-1 089	-957
Transformation sector	3 469	3 931	4 179	4 067	3 717	3 778	3 942	3 806	4 550	4 100
Power generation	-159	-101	-148	-87	-87	-81	-78	-79	-70	-66
Petroleum refineries	3 628	4 032	4 327	4 155	3 804	3 859	4 020	3 885	4 634	4 181
Final energy consumption	2 267	2 541	2 894	2 936	2 998	3 003	3 106	3 193	3 066	2 658
Industry	284	270	250	213	230	234	256	254	266	230
Transport	1 672	1 962	2 257	2 373	2 410	2 417	2 501	2 585	2 459	2 119
Residential	195	136	131	114	80	77	71	70	67	58
Commerce & public services	31	56	94	60	66	62	58	55	60	52
Others	84	117	162	176	211	212	220	228	215	199
<b>Gas</b>										
Primary energy supply	2 292	3 109	3 398	3 169	3 577	4 336	4 659	4 889	4 923	4 713
Production	3 709	6 212	6 473	5 419	5 826	6 457	6 696	6 910	6 647	6 488
Import	22	56	328	784	693	786	892	819	916	831
Export	-1 383	-3 462	-3 659	-3 314	-2 749	-2 975	-3 005	-2 816	-2 693	-2 492
Transformation sector	-102	-369	-415	-598	-762	-730	-687	-794	-792	-823
Power generation	-78	-308	-342	-484	-622	-601	-562	-650	-662	-693
Final energy consumption	1 672	2 066	1 817	1 643	1 869	1 920	1 969	2 093	2 082	1 977
Industry	706	809	583	531	607	685	663	672	676	638
Transport	121	199	180	103	150	154	136	151	153	139
Residential	476	580	582	554	621	584	627	674	621	585
Commerce & public services	348	453	454	431	456	459	507	558	592	576
Others	21	25	18	24	35	37	36	39	40	39
<b>Electricity</b>										
Power generation	1 735	2 180	2 234	2 171	2 368	2 397	2 388	2 370	2 349	2 346
Thermal	390	597	566	503	485	475	433	442	436	418
Hydro	1 068	1 291	1 303	1 265	1 376	1 387	1 420	1 389	1 374	1 391
Nuclear	263	262	331	326	367	365	365	363	364	354
Others	14	31	34	76	141	170	170	175	174	184
Final energy consumption	1 505	1 733	1 758	1 716	1 794	1 779	1 853	1 888	1 916	1 883
Industry	605	732	741	632	628	628	659	665	681	661
Transport	12	16	15	15	24	27	28	29	28	27
Residential	467	498	544	578	613	598	604	621	625	636
Commerce & public services	390	453	421	457	492	492	526	537	545	521
Others	31	35	37	34	36	34	35	37	38	38

## Major economic indicators of Canada

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	27.69	30.69	32.24	34.00	35.70	36.11	36.55	37.07	37.60	38.04
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	810	1 047	1 244	1 399	1 557	1 572	1 620	1 665	1 696	1 607
GDP, billion USD (PPP, constant 2017)	891	1 141	1 356	1 526	1 697	1 714	1 766	1 815	1 849	1 752
Nominal, billion USD (current)	594	745	1 173	1 617	1 557	1 528	1 649	1 725	1 742	1 645
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	29 237	34 122	38 573	41 155	43 596	43 537	44 325	44 917	45 109	42 259
GDP, PPP (constant 2017 USD)	32 163	37 194	42 047	44 862	47 522	47 458	48 317	48 962	49 172	46 064
Nominal (current USD)	21 448	24 271	36 383	47 562	43 596	42 316	45 129	46 549	46 329	43 258
Nominal GDP & its components (billions of current CAD) <sup>1</sup>										
Gross domestic product	693	1 106	1 422	1 666	1 990	2 026	2 141	2 236	2 311	2 207
Households and NPISHs final consumption expenditure	388	603	772	950	1 151	1 185	1 241	1 293	1 335	1 261
General government final consumption expenditure	157	211	271	358	416	426	443	462	482	500
Gross fixed capital formation	151	217	310	391	475	461	486	503	515	513
Stock change	-2.8	11	11	0.3	-0.6	-0.2	18	14	16	-22
Exports of goods and services	174	489	524	486	634	638	673	722	738	648
Imports of goods and services	173	426	468	517	683	686	720	764	774	693
Real GDP & its components (billions of 2015 CAD) <sup>1</sup>										
Gross Domestic Product	891	1 339	1 590	1 790	1 990	2 010	2 071	2 129	2 169	2 056
Households and NPISHs final consumption expenditure	583	753	882	1 025	1 151	1 175	1 218	1 249	1 270	1 190
General government final consumption expenditure	296	314	351	403	416	423	432	445	453	454
Gross fixed capital formation	233	303	399	440	475	453	468	476	478	466
Stock change	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Exports of goods and services	245	554	577	522	634	643	652	676	685	625
Imports of goods and services	227	449	528	591	683	683	715	739	742	661
Sectoral shares of Real GDP (%) <sup>1</sup>										
Agriculture, Fishery and Forestry	N.A.	2.1	2.0	1.7	1.9	1.9	1.9	1.9	1.9	2.0
Industry	N.A.	30.4	28.1	24.0	24.4	23.8	24.0	24.1	23.6	23.4
Services, etc.	N.A.	70.3	68.4	66.9	67.0	67.6	67.5	67.5	67.9	68.1
Industrial production index (2010=100) <sup>2</sup>	80.8	111.5	109.5	100.0	111.5	111.6	115.7	119.7	119.5	109.9
External trade (billions of current USD) <sup>1</sup>										
Exports, f.o.b.	127.6	276.6	360.5	387.5	410.1	390.0	420.7	450.7	446.2	391.0
Imports, c.i.f.	123.2	244.8	322.4	402.7	430.1	412.9	443.7	470.5	464.0	414.8
Balance of payments (billions of current USD) <sup>2</sup>										
Trade balance	9.4	44.4	50.6	-9.4	-18.6	-19.2	-19.1	-15.3	-11.6	-27.9
Current account	-20.3	18.5	21.9	-58.2	-54.7	-47.3	-46.2	-40.4	-35.7	-29.7
Overall balance	2.5	8.0	2.7	3.8	6.0	3.8	-1.2	-7.1	1.4	-3.0
Foreign exchange rate (CAD/USD) <sup>1</sup>	1.17	1.49	1.21	1.03	1.28	1.33	1.30	1.30	1.33	1.34
PPP conversion factor, GDP (CAD/USD) <sup>1</sup>	1.24	1.23	1.21	1.22	1.25	1.21	1.21	1.21	1.25	1.25
Price Indices										
GDP Deflator (2015=100) <sup>3</sup>	N.A.	82.6	89.4	93.1	100.0	100.8	103.3	105.0	106.6	107.4
Producer Price Index (2010=100) <sup>2</sup>	71.2	90.0	94.2	100.0	110.3	110.1	113.5	117.9	117.9	117.9
Consumer Price Index (2010=100) <sup>2</sup>	67.3	81.9	91.9	100.0	108.7	110.2	112.0	114.5	116.8	117.6
Growth rate (%) <sup>3</sup>										
Real GDP	N.A.	4.9	5.0	3.1	0.7	1.0	3.0	2.8	1.9	-5.2
Population	3.6	9.7	6.4	6.0	-0.2	1.8	5.7	4.4	3.4	-4.5
Price										
Producer prices	9.6	8.5	4.6	3.7	2.8	2.6	4.0	4.3	4.1	3.8
Consumer prices	-8.0	8.3	11.1	12.3	-6.7	-4.8	7.3	1.0	0.9	-9.8

Source <sup>1</sup>: *World Development Indicators*, World Bank

<sup>2</sup>: *International Financial Statistics*, International Monetary Fund

<sup>3</sup>: Calculated from <sup>1</sup> and <sup>2</sup> by ESTO

Note

: N.A. means "not available"

: CAD means Canadian Dollar, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Energy prices in Canada

### IMPORT PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	CAD											
Exchange Rate	/ US Dollar	1.03	0.99	1.00	1.03	1.10	1.28	1.33	1.30	1.30	1.33	1.34
<b>Coal and Coal Products</b>												
Coking Coal						109.86	140.91					
Anthracite	USD/tonne					127.37	178.58					
Other bituminous coal	USD/tonne					91.63	98.03					
Sub-bituminous Coal	USD/tonne					24.76	15.12					
Lignite	USD/tonne					47.92	58.26					
Peat	USD/tonne											
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
<b>Oil and Oil Products</b>												
Crude Oil	CAD/Imp BBL*		94.88	94.05	97.98	102.62	71.89					
Natural Gas Liquids	CAD Cents/L					56.00	32.00					
Ethane	CAD Cents/L					10.00	9.00					
LPG	CAD Cents/L					39.00	21.00					
Naphtha	CAD Cents/L					72.00	72.00					
Motor Gasoline	CAD Cents/L					82.00	82.00					
Aviation Gasoline												
Gasoline Type Jet Fuel	USD/L					1.21	1.21					
Kerosene Type Jet Fuel	CAD Cents/L					81.00	81.00					
Other Kerosene	CAD Cents/L					88.00	88.00					
Gas/Diesel Oil	CAD Cents/L					87.00	87.00					
Fuel Oil	CAD Cents/L					67.00	67.00					
White Spirit SBP	USD/L					1.26	1.26					
Lubricants	USD/L					1.98	1.98					
Bitumen	CAD Cents/kg					64.00	64.00					
Paraffin Waxes												
Petroleum Coke	USD/tonne					174.97	174.97					
<b>Natural Gas</b>												
Natural Gas	CAD Cents/m <sup>3</sup>					25.00	16.00					
Liquefied Natural Gas	USD/m <sup>3</sup>					4.34	4.07					
Compressed Natural Gas	CAD Cents/m <sup>3</sup>					23.00	15.00					
Electricity	USD/MWh					48.52	35.14					

\* USD/BBL in 2011 and 2012

## Energy prices in Canada

## WHOLESALE PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	CAD											
Exchange Rate	/ US Dollar	1.03	0.99	1.00	1.03	1.10	1.28	1.33	1.30	1.30	1.33	1.34
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil	CAD/BBL					93.99	48.66					
Natural Gas Liquids												
Ethane	CAD/BBL					12.46	7.49					
Propane	CAD/BBL					44.42						
Butane	CAD/BBL					68.02						
Naphtha												
Motor Gasoline	CAD Cents/L		78.01	80.61	81.08	80.50	61.70					
Aviation Gasoline												
Gasoline Type Jet Fuel							63.00					
Kerosene Type Jet Fuel						88.90	63.00					
Other Kerosene												
Gas/Diesel Oil	CAD Cents/L		83.64	85.28	87.78	91.30	65.90					
Fuel Oil	CAD Cents/L		63.65	84.99	86.43	86.60	64.07					
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	CAD Cents/m <sup>3</sup>					18.64	13.70					
Liquefied Natural Gas												
Compressed Natural Gas												
Electricity	CAD Cents/kWh					7.31	6.86					

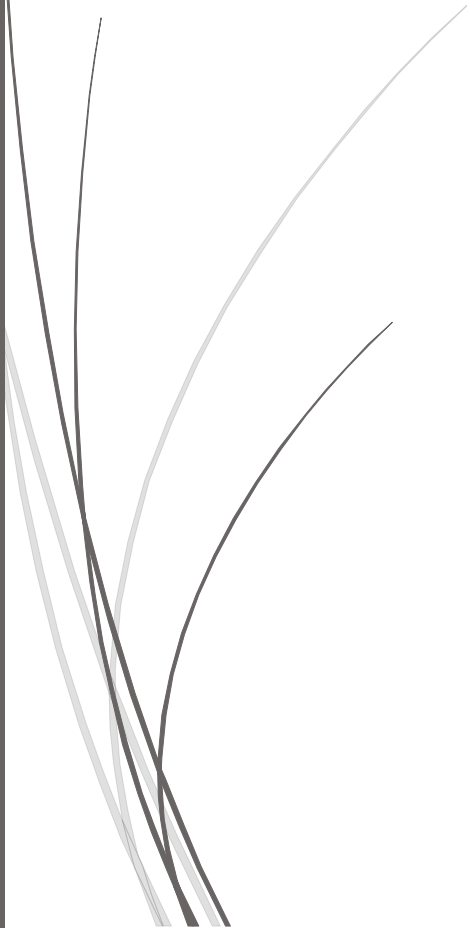
## Energy prices in Canada

### CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	CAD											
Exchange Rate	/ US Dollar	1.03	0.99	1.00	1.03	1.10	1.28	1.33	1.30	1.30	1.33	1.34
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG	CAD Cents/L					78.80	59.13					
Naphtha												
Motor Gasoline (regular)	CAD Cents/L		124.94	126.59	128.15	128.27	108.82					
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene												
Gas/Diesel Oil	CAD Cents/L		124.08	126.06	128.53	134.10	109.22					
Fuel Oil	CAD Cents/L					125.30	105.03					
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	CAD Cents/m <sup>3</sup>		36.71	34.34	34.83	40.87	36.19					
Liquefied Natural Gas (export)												
Compressed Natural Gas	CAD Cents/kg					118.74						
<b>Electricity</b>												
Industrial	CAD Cents/kWh					9.43	8.74					
Commercial	CAD Cents/kWh					13.79	13.82					
Residential	CAD Cents/kWh					11.04	11.85					
Others												
Other Energy Products												



**Chile**



## Energy balance table of Chile

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	Fuel oil
<b>2020</b>										
Production	8.0		17							
Import	266		318	339	15	1.3	9.4		252	0.5
Export		-3.7		-25	-0.4				-0.7	-9.5
International marine bunkers				-1.3						-1.3
International aviation bunkers				-17			-17			
Stock changes	11	0.6	2.5	3.3	0.7	0.5	1.0	0.1		-0.1
<b>Total primary energy supply</b>	<b>285</b>	<b>-3.1</b>	<b>337</b>	<b>299</b>	<b>15</b>	<b>1.8</b>	<b>-6.8</b>	<b>0.1</b>	<b>252</b>	<b>-10</b>
Transfers			36	-34	-2.7	-4.5		-0.7	-7.6	-6.7
Total transformation sector	-309	9.8	-362	350	118	2.7	22	6.7	99	38
Main activity producers	-295			-11					-6.8	
Autoproducers				-5.2					-3.3	-1.9
Gas processing										
Petroleum refineries			-362	367	118	2.7	22	6.7	109	40
Coal transformation	-15	9.8								
Other transformation										
Losses & own use		-6.6		-8.6			1.4	0.1	3.3	-0.1
Discrepancy	30	0.1	-11	1.0	-4.6					-1.1
<b>Total final consumption</b>	<b>5.9</b>	<b>0.2</b>		<b>607</b>	<b>126</b>		<b>16</b>	<b>6.2</b>	<b>347</b>	<b>20</b>
<b>Total final energy consumption</b>	<b>5.9</b>	<b>0.2</b>		<b>589</b>	<b>126</b>		<b>16</b>	<b>6.2</b>	<b>347</b>	<b>20</b>
Industry sector	5.8	0.2		151			2.4	0.6	115	14
Iron and steel				0.6					0.5	
Chemical & petrochemical										
Non-metallic minerals	0.1			8.4						
Other industries	5.8	0.2		142			2.4	0.6	114	14
Transport sector				352	126		14	0.3	209	2.1
Domestic air transport				14	0.2		14			
Road				322	126			0.3	196	0.1
Rail				1.7					1.7	
Inland waterways				14					12	2.0
Other transport										
Other sector	0.1			86				5.3	23	3.4
Residential				48				5.3		
Commerce and public services				22					13	0.2
Agriculture				6.8					2.9	0.6
Non-specified others	0.1			9.8					7.1	2.6
Non-energy				18						
<b>2019</b>										
Production	24		22							
Import	314		410	329	12	1.5	21		238	0.6
Export		-1.5		-22	-3.1				-0.7	-7.2
International marine bunkers				-4.1						-4.1
International aviation bunkers				-32			-32			
Stock changes	6.8	0.9	-1.3	-9.3	-0.7	-0.9	-0.5	-0.1		-2.2
<b>Total primary energy supply</b>	<b>345</b>	<b>-0.6</b>	<b>431</b>	<b>262</b>	<b>8.4</b>	<b>0.6</b>	<b>-12</b>	<b>-0.1</b>	<b>238</b>	<b>-13</b>
Transfers			37	-36	-1.3	-6.7		-2.1	-7.6	-2.3
Total transformation sector	-336	11	-469	428	149	6.2	39	7.1	126	38
Main activity producers	-320			-12					-4.6	
Autoproducers				-4.0					-2.2	-1.8
Gas processing										
Petroleum refineries			-469	444	149	6.2	39	7.1	133	40
Coal transformation	-16	11								
Other transformation										
Losses & own use		-6.6		-16						-2.4
Discrepancy	-3.2	0.3	1.9	4.5	-3.9		0.4	0.1	1.3	3.0
<b>Total final consumption</b>	<b>6.0</b>	<b>3.7</b>		<b>642</b>	<b>152</b>		<b>28</b>	<b>4.9</b>	<b>358</b>	<b>23</b>
<b>Total final energy consumption</b>	<b>6.0</b>	<b>3.7</b>		<b>640</b>	<b>152</b>		<b>28</b>	<b>4.9</b>	<b>358</b>	<b>23</b>
Industry sector	6.0	3.7		150			1.9	0.5	116	13
Iron and steel				0.4					0.3	
Chemical & petrochemical										
Non-metallic minerals	0.1			9.0						
Other industries	5.9	0.3		141			1.9	0.5	115	13
Transport sector				398	152		26	0.3	213	6.5
Domestic air transport				27	0.4		26		0.3	
Road				355	152			0.3	203	0.1
Rail				1.9					1.9	
Inland waterways				14					7.7	6.4
Other transport										
Other sector				92				4.1	30	3.9
Residential				46				4.1		
Commerce and public services				28					18	0.2
Agriculture				9.0					4.8	0.9
Non-specified others				9.6					6.6	2.8
Non-energy				2.3						



unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			41	79		60	331			535	469
53		7.2	159							1 082	
- 11		-3.9								- 29	
										- 1.3	
										- 17	
0.6		0.6	1.6							19	
43		3.9	202	79		60	331			1 589	469
-1.3		- 11								1.3	
22	8.4	34	- 106	- 79		- 57	- 187	302		- 437	- 322
		-4.5	- 101	- 79		- 57	- 25	279		- 289	- 160
			-4.4	-0.2		-0.1	- 155	24		- 141	- 156
22	8.4	38								4.3	
										-4.8	
							-6.5			-6.5	-6.5
-0.1	-8.4		- 14					- 23		- 52	
1.7		0.2	5.9				13	- 12		28	13
65		27	88			2.9	157	268		1 130	160
65		9.2	64			2.9	157	268		1 087	160
9.8		9.2	36				76	161		431	76
0.1			0.6					2.2		3.4	
			4.2					0.1		4.3	
0.1		8.3	0.4					2.1		11	
9.6		0.9	31				76	157		413	76
0.6			0.3					4.6		357	
										14	
0.6			0.3					2.8		325	
								1.8		3.5	
										14	
55			27			2.9	81	102		299	84
43			21				79	53		201	79
8.7			4.7				1.1	40		68	1.1
3.3			0.7				0.4	8.6		16	0.4
0.2			0.3			2.9		0.5		14	2.9
			18	25						42	
			54	81		51	341			572	473
47		8.0	169							1 222	
-6.2		-4.5								- 23	
										-4.1	
										- 32	
-2.5		-2.3	-1.9				1.8			-3.0	1.8
39		1.2	220	81		51	343			1 732	474
-2.5		- 13								1.0	
26	12	25	- 110	- 81		- 48	- 190	304		- 491	- 319
		-7.2	- 106	- 81		- 48	- 31	281		- 317	- 160
			-4.4	-0.1			- 153	23		- 138	- 153
26	12	32								- 26	
										-5.0	
							-5.3			-5.3	-5.3
-1.9	- 12		- 11					- 24		- 58	
3.5		0.1	1.4				10	- 13		2.0	10
63		13	100			2.9	163	267		1 185	166
63		11	67			2.9	163	267		1 150	166
8.6		11	39				84	160		442	84
0.1			0.6					2.6		7.0	
			5.9					0.1		6.1	
0.1		8.9	0.4					2.3		12	
8.4		1.6	32				84	155		418	84
0.5			0.6					4.7		403	
										27	
0.5			0.6					2.9		359	
								1.7		3.6	
										14	
54			28			2.9	80	102		304	83
42			21				78	49		194	78
9.2			6.2				1.0	44		79	1.0
3.3			0.8				0.3	8.0		18	0.3
0.2			0.2			2.9		0.6		13	2.9
			2.3	33						36	

## Major energy indicators of Chile

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	587	1 054	1 188	1 292	1 487	1 584	1 605	1 636	1 732	1 589
Production	332	359	391	386	506	525	543	571	572	535
Import	303	780	931	960	1 050	1 146	1 143	1 152	1 222	1 082
Export	-8.8	-37	-73	-26	-36	-50	-45	-45	-23	-29
Final energy consumption	426	753	813	956	1 038	1 086	1 103	1 146	1 150	1 087
Industry	143	278	305	365	439	444	424	443	442	431
Transport	128	237	258	299	354	370	383	397	403	357
Residential	131	204	205	223	166	183	184	193	194	201
Commerce & public services	20	26	39	57	67	75	84	80	79	68
Others	5.3	8.0	5.7	12	11	13	29	33	31	30
<b>Coal</b>										
Primary energy supply	104	128	112	188	277	300	309	300	345	285
Production	61	10	11	11	53	42	41	38	24	8.0
Import	46	122	100	159	238	278	280	275	314	266
Export					-14	-15	-15	-7.0		
Transformation sector	-84	-107	-92	-176	-290	-307	-304	-294	-336	-309
Power generation	-70	-87	-72	-161	-275	-291	-290	-280	-320	-295
Final energy consumption	21	21	18	14	6.7	5.7	9.1	6.7	6.0	5.9
Industry	18	20	17	14	6.6	5.7	9.0	6.6	6.0	5.8
Transport										
Residential	0.6									
Commerce & public services	0.1	0.1	0.1		0.1					
Others	1.6	0.4	0.5	0.2		0.1	0.1	0.1		0.1
<b>Coal products</b>										
Primary energy supply	1.0	0.8	1.1	-1.2	-1.5	-2.1	-1.4	-2.4	-0.6	-3.1
Production										
Import	1.2	0.7	1.9		0.1					
Export		-1.1	-1.1		-1.1	-4.2	-1.5	-0.9	-1.5	-3.7
Transformation sector	6.5	9.4	11	9.3	10	11	10	11	11	10
Power generation										
Final energy consumption	3.5	4.4	6.7	3.1	2.1	3.1	2.9	3.0	3.7	0.2
Industry	3.5	4.4	6.7	3.1	2.1	3.1	2.9	3.0	3.7	0.2
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply	275	426	456	388	375	373	385	397	431	337
Production	49	18	15	26	12	11	13	17	22	17
Import	233	418	441	363	364	360	373	377	410	318
Export										
Transformation sector	-263	-419	-471	-414	-432	-424	-422	-440	-469	-362
Petroleum refineries	-263	-419	-471	-414	-432	-424	-423	-440	-469	-362
<b>Petroleum products</b>										
Primary energy supply	-4.2	13	28	240	265	302	284	288	262	299
Import	23	81	159	307	316	354	343	356	329	339
Export	-8.8	-36	-72	-26	-20	-19	-21	-31	-22	-25
Transformation sector	241	389	422	298	383	373	393	402	428	350
Power generation	-20	-19	-41	-73	-32	-32	-22	-17	-16	-16
Petroleum refineries	263	408	464	372	415	405	415	419	444	367
Final energy consumption	222	381	393	494	575	607	623	639	640	589
Industry	56	86	87	127	165	163	151	151	150	151
Transport	127	236	256	297	349	365	379	392	398	352
Residential	32	46	37	39	34	42	44	46	46	48
Commerce & public services	5.1	6.7	10	19	18	26	30	30	28	22
Others	3.2	7.0	4.1	12	8.8	11	18	19	19	17
<b>Gas</b>										
Primary energy supply	48	218	285	187	167	182	182	183	220	202
Production	59	67	67	65	35	42	43	44	54	41
Import		154	221	126	131	153	147	145	169	159
Export						-13	-7.4	-5.6		
Transformation sector	-0.6	-70	-114	-73	-81	-89	-97	-91	-110	-106
Power generation	-2.6	-69	-113	-73	-81	-89	-95	-91	-110	-106
Final energy consumption	8.7	43	53	69	58	60	62	65	67	64
Industry	0.1	28	33	46	32	34	34	36	39	36
Transport	0.2	0.3	1.3	0.7	1.1	1.0	0.7	0.6	0.6	0.3
Residential	7.2	11	15	17	19	19	20	21	21	21
Commerce & public services	1.2	3.0	3.7	5.4	5.8	5.4	6.8	6.0	6.2	4.7
Others			0.6	0.1	0.2		0.9	1.3	1.0	1.0
<b>Electricity</b>										
Power generation	66	144	189	218	271	286	286	296	304	302
Thermal	31	74	87	130	153	162	160	159	163	155
Hydro	32	67	95	78	86	84	77	84	81	79
Nuclear										
Others	3.5	3.4	6.5	10	32	40	49	53	61	68
Final energy consumption	56	132	174	197	241	253	251	263	267	268
Industry	37	92	117	129	152	157	149	159	160	161
Transport	0.8	0.8	0.9	1.6	3.9	3.5	3.5	4.1	4.7	4.6
Residential	16	22	30	34	42	49	45	48	49	53
Commerce & public services	2.5	16	26	32	42	43	46	43	44	40
Others	0.3	0.6	0.4	0.3	0.4	0.3	6.6	9.2	8.6	9.0

## Major economic indicators of Chile

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>*1</sup>	13.27	15.34	16.18	17.06	17.97	18.21	18.47	18.73	18.95	19.12
Gross domestic product <sup>*3</sup>										
Real term, billion USD (constant 2015)	72	131	165	200	242	247	250	260	262	246
GDP, billion USD (PPP, constant 2017)	129	237	298	361	437	445	451	469	472	444
Nominal, billion USD (current)	33	78	122	217	242	249	276	295	279	253
GDP per capita <sup>*3</sup>										
Real term (constant 2015 USD)	5 409	8 556	10 210	11 733	13 495	13 551	13 540	13 886	13 829	12 890
GDP, PPP (constant 2017 USD)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Nominal (current USD)	2 495	5 100	7 558	12 724	13 495	13 691	14 963	15 772	14 699	13 221
Nominal GDP & its components (billions of current CLP) <sup>*1</sup>										
Gross domestic product	10 096	42 215	68 468	110 778	158 623	168 765	179 315	189 435	195 816	200 344
Households and NPISHs final consumption expenditure	6 246	26 225	39 362	62 687	97 990	104 904	111 315	117 562	120 584	115 732
General government final consumption expenditure	985	5 315	7 500	13 898	21 560	24 205	26 267	28 143	29 813	32 127
Gross fixed capital formation	2 421	9 305	16 000	25 496	40 402	40 722	39 911	43 664	48 079	46 097
Stock change	199	721	- 69	1 950	205	- 709	680	2 185	982	-2 754
Exports of goods and services	3 281	12 717	27 507	41 989	46 304	47 124	50 802	54 044	54 504	63 175
Imports of goods and services	2 953	12 069	21 832	35 243	47 838	47 481	49 661	56 164	58 145	54 034
Real GDP & its components (billions of 2013 CLP) <sup>*1</sup>										
Gross Domestic Product	52 300	95 614	120 348	145 815	176 630	179 726	182 166	189 435	190 895	179 482
Households and NPISHs final consumption expenditure	24 516	49 561	63 224	82 554	105 894	109 391	113 278	117 562	118 425	108 986
General government final consumption expenditure	10 019	13 779	15 847	20 304	24 246	26 087	27 305	28 143	28 288	27 154
Gross fixed capital formation	6 699	15 527	25 088	34 631	43 438	42 412	41 002	43 664	45 697	41 427
Stock change	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Exports of goods and services	4 577	12 717	27 507	41 989	46 304	47 124	50 802	54 044	54 504	63 175
Imports of goods and services	3 958	12 069	21 832	35 243	47 838	47 481	49 661	56 164	58 145	54 034
Sectoral shares of Real GDP (%) <sup>*1</sup>										
Agriculture, Fishery and Forestry	3.9	3.5	4.0	4.1	3.8	3.8	3.9	3.9	3.9	4.1
Industry	44.5	41.9	35.3	29.8	28.8	28.1	27.6	27.9	27.5	28.2
Services, etc.	51.5	46.3	52.2	56.6	57.5	58.0	58.3	58.0	58.5	57.7
Industrial production index (2010=100) <sup>*2</sup>	N.A.	78.4	98.1	100.0	111.7	110.6	109.9	N.A.	N.A.	N.A.
External trade (billions of current USD) <sup>*1</sup>										
Exports, f.o.b	8.4	19.2	41.3	71.1	62.0	60.7	68.8	74.7	68.8	73.5
Imports, c.i.f.	7.9	18.5	32.7	59.2	62.4	59.4	65.2	74.7	69.9	59.2
Balance of payments (billions of current USD) <sup>*2</sup>										
Trade balance	1.3	2.2	11.3	15.9	3.4	4.9	7.4	4.2	3.0	18.4
Current account	-0.5	-0.9	1.8	3.1	-5.7	-5.0	-6.4	-11.6	-10.5	3.4
Overall balance	2.4	-0.1	2.7	3.9	0.2	-0.1	-4.4	1.1	-0.7	-0.5
Foreign exchange rate (CLP/USD) <sup>*1</sup>	304.90	539.59	559.77	510.25	654.12	676.96	648.83	641.28	702.90	792.73
PPP conversion factor, GDP (CLP/USD) <sup>*1</sup>	168.87	287.05	333.69	359.84	391.18	397.25	397.69	396.23	408.02	417.72
Price Indices										
GDP Deflator (2018=100) <sup>*3</sup>	19.3	44.2	56.9	76.0	89.8	93.9	98.4	100.0	102.6	111.6
Producer Price Index (2010=100) <sup>*2</sup>	N.A.	N.A.	1.4	100.0	91.8	91.1	100.0	104.9	106.9	N.A.
Consumer Price Index (2010=100) <sup>*2</sup>	30.0	73.7	83.7	100.0	118.4	122.9	125.6	128.6	131.9	135.9
Growth rate (%) <sup>*3</sup>										
Real GDP	3.3	5.0	5.8	5.9	2.2	1.8	1.4	4.0	0.8	-6.0
Population	1.7	1.2	1.0	1.0	1.2	1.3	1.4	1.4	1.2	0.9
Price										
Producer prices	N.A.	N.A.	N.A.	23.0	-1.2	-0.7	9.7	4.9	1.9	N.A.
Consumer prices	26.0	3.8	3.1	1.4	4.3	3.8	2.2	2.4	2.6	3.0

Source <sup>\*1</sup>: *World Development Indicators*, World Bank

<sup>\*2</sup>: *International Financial Statistics*, International Monetary Fund

<sup>\*3</sup>: Calculated from <sup>\*1</sup> and <sup>\*2</sup> by ESTO

Note

: N.A. means "not available"

: CLP means Chilean Peso, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Energy prices in Chile

## IMPORT PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	CHP											
Exchange Rate	/ US Dollar	510.25	483.67	486.47	495.27	570.35	654.12	676.96	648.83	641.28	702.90	792.73
<b>Coal and Coal Products</b>												
Coking Coal	USD/tonne		269.22	222.36								
Anthracite												
Other bituminous coal	USD/tonne		106.95	96.22								
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
<b>Oil and Oil Products</b>												
Crude Oil	USD/m <sup>3</sup>		651.19	647.92								
Natural Gas Liquids												
Ethane												
LPG												
Naphtha												
Motor Gasoline												
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene												
Gas/Diesel Oil												
Fuel Oil												
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas												
Compressed Natural Gas												
Electricity												

\* USD/BBL in 2011 and 2012

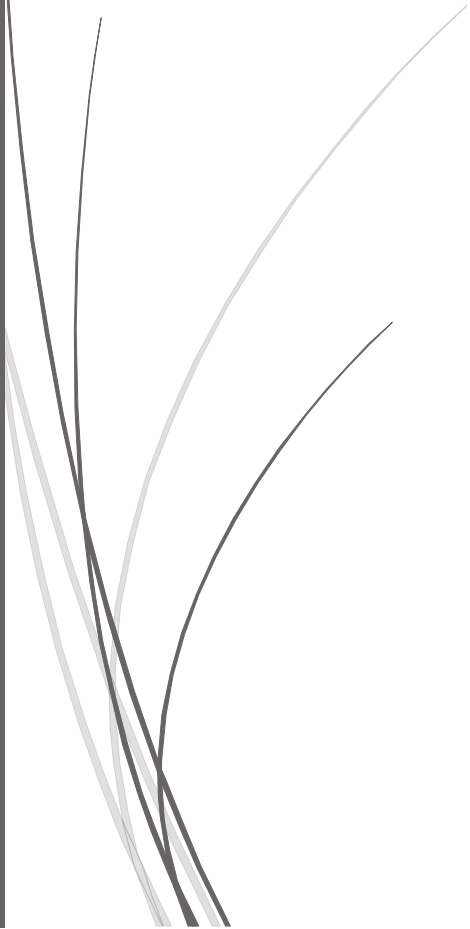
## Energy prices in Chile

## CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	CHP											
Exchange Rate	/ US Dollar	510.25	483.67	486.47	495.27	570.35	654.12	676.96	648.83	641.28	702.90	792.73
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG	CHP/L		563.00	565.14								
Naphtha												
Motor Gasoline (regular)	CHP/L		733.80	786.11								
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene	CHP/L		585.74	609.35								
Gas/Diesel Oil	CHP/L		579.58	606.73								
Fuel Oil												
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	CHP/MWh		66 649	60 753								
Liquefied Natural Gas (export)												
Compressed Natural Gas												
<b>Electricity</b>												
Industrial	CHP/MWh		74 614	61 573								
Commercial	CHP/MWh		105 632	95 068								
Residential	CHP/MWh		101 902	90 093								
Others												
Other Energy Products												



**China**



## Energy balance table of China

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	Fuel oil
<b>2020</b>										
Production	79 809		8 155							
Import	5 414	85	22 693	2 642	21	303	115		51	525
Export	- 80	- 100	- 69	-2 785	- 690		- 430		- 844	- 663
International marine bunkers				- 245					- 15	- 230
International aviation bunkers				- 99			- 99			
Stock changes	-1 279	49	-1 484	- 823	54	-6.2	-2.1		- 84	- 27
<b>Total primary energy supply</b>	<b>83 864</b>	<b>34</b>	<b>29 295</b>	<b>-1 310</b>	<b>- 616</b>	<b>297</b>	<b>- 416</b>		<b>- 892</b>	<b>- 395</b>
Transfers				-4 280		603			- 50	-1 160
Total transformation sector	-66 522	7 144	-28 906	33 299	6 148	2 763	1 677	104	7 046	2 311
Main activity producers	-48 022	-2 185	-6.9	- 371					- 13	- 109
Autoproducers										
Gas processing	- 745	- 77		- 12						
Petroleum refineries			-28 899	33 684	6 148	2 763	1 677	104	7 059	2 420
Coal transformation	-17 755	9 406		-1.4						
Other transformation										
Losses & own use	-1 028	- 382	- 133	-2 105	- 21	- 55		-0.3	- 82	-0.5
Discrepancy	-1 376	357	- 206	-2 594	- 28	-1 233	- 26		- 86	- 38
<b>Total final consumption</b>	<b>14 939</b>	<b>7 153</b>	<b>50</b>	<b>23 010</b>	<b>5 483</b>	<b>2 374</b>	<b>1 234</b>	<b>103</b>	<b>5 937</b>	<b>718</b>
<b>Total final energy consumption</b>	<b>11 837</b>	<b>6 315</b>	<b>50</b>	<b>16 034</b>	<b>5 482</b>	<b>165</b>	<b>1 234</b>	<b>103</b>	<b>5 928</b>	<b>702</b>
Industry sector	8 764	6 203	50	1 829	275	165		7.3	491	51
Iron and steel	2 096	4 349		24	1.1				17	0.1
Chemical & petrochemical		748	50	910	4.2	165		0.1	4.1	
Non-metallic minerals	5 157	514	0.2	163	5.6			0.2	99	24
Other industries	1 510	592	0.2	733	264			7.0	370	26
Transport sector	54			10 446	4 125		1 234		4 389	642
Domestic air transport				1 234			1 234			
Road				7 119	3 731				3 328	3.8
Rail	54			170	5.6				163	2.0
Inland waterways				1 323	89				605	629
Other transport				600	299				293	8.1
Other sector	3 019	112		3 758	1 083			95	1 048	8.5
Residential	1 414	79		1 442				5.4		
Commerce and public services	518	24		59				6.4	4.1	5.3
Agriculture	507	6.6		759	111			4.7	639	0.5
Non-specified others	579	2.4		1 498	972			79	404	2.8
Non-energy	3 102	838		6 976	1.1	2 209		0.8	8.9	16
<b>2019</b>										
Production	78 453		7 997							
Import	5 345	15	21 172	2 723	14	270	158		51	622
Export	- 150	- 186	- 34	-3 044	- 706		- 760		- 913	- 468
International marine bunkers				- 202					- 22	- 180
International aviation bunkers				- 206			- 206			
Stock changes	-1 907	- 49	- 662	- 183	178	- 17	-4.3		41	- 57
<b>Total primary energy supply</b>	<b>81 741</b>	<b>- 220</b>	<b>28 473</b>	<b>- 913</b>	<b>- 513</b>	<b>253</b>	<b>- 812</b>		<b>- 843</b>	<b>- 83</b>
Transfers				-3 539		518			- 35	- 972
Total transformation sector	-65 563	7 429	-28 013	31 571	6 417	2 543	2 183	112	7 379	1 856
Main activity producers	-47 279	-1 866	-6.7	- 287					- 13	- 31
Autoproducers										
Gas processing	- 554	-4.7		-1.9						
Petroleum refineries			-28 006	31 860	6 417	2 543	2 183	112	7 392	1 887
Coal transformation	-17 731	9 299								
Other transformation										
Losses & own use	-1 512	- 413	- 150	-1 910	- 28	- 57		-0.3	- 95	-0.9
Discrepancy	- 92	60	- 309	-2 571	- 29	-1 049	- 23		- 201	- 79
<b>Total final consumption</b>	<b>14 574</b>	<b>6 855</b>	<b>0.8</b>	<b>22 637</b>	<b>5 847</b>	<b>2 208</b>	<b>1 348</b>	<b>112</b>	<b>6 204</b>	<b>721</b>
<b>Total final energy consumption</b>	<b>11 733</b>	<b>6 273</b>	<b>0.8</b>	<b>16 863</b>	<b>5 846</b>	<b>93</b>	<b>1 348</b>	<b>111</b>	<b>6 197</b>	<b>708</b>
Industry sector	8 549	6 118	0.8	2 052	298	93		10	613	78
Iron and steel	1 970	4 170		30	1.4				22	0.3
Chemical & petrochemical	90	947	0.6	969	6.2	93		0.3	12	6.6
Non-metallic minerals	4 756	474		217	6.4			0.4	134	40
Other industries	1 732	527	0.2	837	284			9.6	444	31
Transport sector	64	0.1		11 062	4 473		1 348		4 542	621
Domestic air transport				1 348			1 348			
Road				7 572	4 046				3 444	3.6
Rail	64	0.1		176	6.1				168	1.9
Inland waterways				1 330	96				626	607
Other transport				635	324				303	7.9
Other sector	3 121	155		3 748	1 076			101	1 042	9.4
Residential	1 474	93		1 444				10		
Commerce and public services	566	40		62				6.7	4.8	5.0
Agriculture	496	17		748	109			4.7	630	0.5
Non-specified others	585	5.2		1 493	966			79	407	3.9
Non-energy	2 841	582		5 775	0.9	2 115		0.5	7.4	13

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			7 172	4 879	3 996	2 618	3 004			109 633	9 929
1 007		621	5 210					17		36 061	
- 48		- 110	- 192					- 78		- 3 304	
										- 245	
										- 99	
-8.9		- 749								- 3 537	
951		- 238	12 190	4 879	3 996	2 618	3 004	- 61		138 509	9 929
		- 3 673								- 4 280	
2 250	975	10 026	- 2 069	- 4 879	- 3 996	- 2 618	- 1 378	28 005	8 525	- 33 395	- 8 291
- 3.9	- 99	- 146	- 2 172	- 4 879	- 3 996	- 2 618	- 1 378	28 005	7 247	- 30 377	- 8 291
									1 278	1 278	
- 1.9	- 7.3	- 2.8	103							- 731	
2 255	1 082	10 176								4 785	
		- 1.4								- 8 350	
- 1 062	- 872	- 13	- 1 175				- 18	- 4 300	- 891	- 10 032	- 18
- 67	- 15	- 1 101	540				60		- 2 562	- 5 782	47
2 071	88	5 002	9 486				1 668	23 643	5 072	85 021	1 668
1 635	30	756	9 231				1 668	23 643	5 072	73 851	1 668
55	30	756	5 283				278	14 650	3 300	40 357	278
4.4	0.4	0.2	533				14	2 443	187	9 646	14
	29	708	2 030				78	2 398	1 889	8 103	78
27		6.0	846				24	1 415	48	8 167	24
24		42	1 875				162	8 394	1 175	14 441	162
56			1 292				453	630		12 875	453
										1 234	
56			1 292				453	136		9 000	453
								355		580	
										1 323	
								139		739	
1 524			2 656				937	8 363	1 772	20 618	937
1 437			2 149				630	4 103	1 413	11 231	630
43			295				64	1 403	146	2 509	64
3.3			4.8				195	512	1.1	1 986	195
41			207				48	2 346	212	4 892	48
435	59	4 246	254							11 171	
			6 564	4 696	3 800	2 270	2 995			106 775	9 325
1 060		548	4 967					17		34 239	
- 71		- 127	- 134					- 78		- 3 627	
										- 202	
										- 206	
- 9.0		- 316								- 2 801	
980		106	11 397	4 696	3 800	2 270	2 995	- 60		134 178	9 325
		- 3 050								- 3 539	
2 111	903	8 066	- 1 833	- 4 696	- 3 800	- 2 270	- 1 213	27 012	7 734	- 33 643	- 7 540
- 2.1	- 104	- 137	- 1 996	- 4 696	- 3 800	- 2 270	- 1 213	27 012	6 617	- 29 784	- 7 540
									1 116	1 116	
- 1.9			163							- 397	
2 115	1 008	8 203								3 853	
										- 8 431	
- 852	- 861	- 16	- 1 318				- 5.0	- 4 277	- 840	- 10 425	- 5.0
- 47	- 7.1	- 1 136	452				50	- 0.1	- 2 233	- 4 642	47
2 192	36	3 969	8 698				1 827	22 675	4 661	81 929	1 827
1 939	12	608	8 469				1 827	22 675	4 661	72 502	1 827
340	12	608	4 784				288	14 091	3 041	38 923	288
4.8	0.7	0.3	508				30	2 325	195	9 228	30
279	12	560	1 761				38	2 264	1 669	7 738	38
31	0.1	5.0	670				26	1 354	25	7 523	26
26		43	1 846				194	8 147	1 152	14 435	194
78			1 226				539	631		13 521	539
										1 348	
78			1 226				539	136		9 473	539
								356		596	
										1 330	
								139		774	
1 520			2 459				1 001	7 953	1 620	20 057	1 001
1 434			1 930				686	3 829	1 288	10 745	686
46			311				69	1 388	139	2 575	69
3.9			4.6				198	481	0.7	1 945	198
36			214				48	2 255	192	4 792	48
253	23	3 361	229							9 427	



## Major energy indicators of China

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	28 077	39 840	70 165	101 494	118 154	118 130	122 714	128 541	134 178	138 509
Production	30 453	39 361	63 943	88 887	98 271	92 776	96 499	101 916	106 775	109 633
Import	375	4 044	7 713	16 572	22 191	25 611	28 538	31 875	34 239	36 061
Export	-1 733	-2 643	-1 959	-2 149	-2 440	-3 068	-3 235	-3 398	-3 627	-3 304
Final energy consumption	22 159	22 682	39 063	55 998	67 887	67 832	69 205	71 517	71 973	73 150
Industry	14 241	13 390	24 014	35 704	38 219	36 840	36 881	38 295	38 395	39 656
Transport	1 245	2 960	5 205	7 603	11 966	12 320	12 932	13 365	13 521	12 875
Residential	4 432	3 596	5 307	6 788	9 274	9 945	10 475	10 803	10 745	11 231
Commerce & public services	278	567	1 034	1 379	2 273	2 378	2 420	2 433	2 575	2 509
Others	1 963	2 170	3 502	4 524	6 156	6 349	6 497	6 621	6 738	6 878
<b>Coal</b>										
Primary energy supply	22 321	28 617	52 608	73 987	78 832	75 952	77 157	79 618	81 741	83 864
Production	23 636	30 051	51 557	71 214	74 753	68 742	71 438	75 305	78 453	79 809
Import	50	54	654	3 963	3 639	4 557	4 831	5 030	5 345	5 414
Export	-398	-1 205	-411	-433	-133	-219	-202	-123	-150	-80
Transformation sector	-9 135	-18 208	-33 778	-46 796	-55 691	-56 713	-59 100	-62 905	-65 563	-66 522
Power generation	-6 461	-13 829	-25 081	-33 092	-39 427	-40 480	-43 116	-45 936	-47 279	-48 022
Final energy consumption	13 916	9 193	16 316	21 101	20 113	18 247	16 167	13 629	11 733	11 837
Industry	8 349	6 286	12 393	17 110	15 420	13 596	11 760	9 986	8 549	8 764
Transport	464	189	175	130	111	91	79	72	64	54
Residential	3 933	1 806	2 118	1 959	2 167	2 137	2 090	1 737	1 474	1 414
Commerce & public services	241	331	596	689	888	880	794	622	566	518
Others	930	581	1 034	1 213	1 527	1 544	1 444	1 212	1 081	1 086
<b>Coal products</b>										
Primary energy supply	-69	-367	-407	14	-231	145	161	-428	-220	34
Production			0.2	3.1	1.0	1.0	0.5	2.6	15	85
Import			-364	-95	-277	-291	-231	-279	-186	-100
Export	-37	-433								
Transformation sector	2 272	1 565	2 171	4 283	6 030	5 809	5 770	7 156	7 429	7 144
Power generation	-26	-32	-86	-822	-1 340	-1 404	-1 438	-1 694	-1 866	-2 185
Final energy consumption	2 154	1 072	1 521	3 685	4 845	4 766	5 043	5 944	6 273	6 315
Industry	2 090	797	1 200	3 449	4 665	4 594	4 904	5 791	6 118	6 203
Transport	1.2	3.3	0.3		0.9	0.9	1.7	0.1	0.1	
Residential	39	228	271	205	134	129	99	95	93	79
Commerce & public services	3.0	14	25	8.6	25	23	23	22	40	24
Others	21	29	26	22	20	20	15	35	22	9.0
<b>Crude oil &amp; NGL</b>										
Primary energy supply	4 928	8 953	12 598	17 983	22 857	24 004	25 108	26 732	28 473	29 295
Production	5 791	6 824	7 593	8 531	8 983	8 360	8 018	7 927	7 997	8 155
Import	122	2 942	5 310	9 951	14 046	15 952	17 562	19 338	21 172	22 693
Export	-1 004	-431	-338	-127	-120	-123	-204	-110	-34	-69
Transformation sector	-4 650	-8 543	-12 177	-17 564	-22 572	-23 637	-24 699	-26 221	-28 013	-28 906
Petroleum refineries	-4 589	-8 501	-12 159	-17 562	-22 567	-23 631	-24 693	-26 215	-28 006	-28 899
<b>Petroleum products</b>										
Primary energy supply	-136	299	706	-48	47	-253	-102	-533	-913	-1 310
Import	196	1 042	1 732	2 021	2 203	2 298	2 595	2 836	2 723	2 642
Export	-294	-421	-694	-1 275	-1 722	-2 241	-2 397	-2 686	-3 044	-2 785
Transformation sector	3 867	7 574	10 945	16 163	25 044	26 299	27 872	29 393	31 571	33 299
Power generation	-607	-633	-691	-389	-285	-302	-262	-278	-287	-371
Petroleum refineries	4 491	8 218	11 641	16 552	25 329	26 604	28 137	29 673	31 860	33 684
Final energy consumption	3 036	6 317	9 428	12 295	15 800	16 058	16 670	17 026	16 877	16 048
Industry	1 405	2 191	2 587	3 191	1 966	1 863	1 871	1 949	2 067	1 843
Transport	735	2 584	4 630	6 567	10 149	10 374	10 825	11 195	11 062	10 446
Residential	125	462	679	781	1 293	1 496	1 632	1 592	1 444	1 442
Commerce & public services	4.2	39	63	55	60	59	66	60	62	59
Others	768	1 041	1 470	1 701	2 331	2 266	2 276	2 230	2 242	2 257
<b>Gas</b>										
Primary energy supply	570	897	1 727	4 034	7 174	7 754	8 911	10 490	11 397	12 190
Production	570	1 013	1 838	3 569	5 016	5 100	5 516	5 968	6 564	7 172
Import				615	2 280	2 780	3 527	4 648	4 967	5 210
Export		-117	-111	-150	-121	-126	-132	-125	-134	-192
Transformation sector	-37	-151	-420	-825	-1 131	-1 339	-1 609	-1 881	-1 952	-2 251
Power generation	-37	-151	-405	-798	-1 321	-1 321	-1 321	-1 321	-1 321	-1 321
Final energy consumption	543	825	1 864	2 566	4 451	4 797	5 677	7 013	7 926	8 516
Industry	463	637	1 336	1 102	1 805	2 015	2 611	3 695	4 241	4 568
Transport	1.9	15	115	362	840	896	1 000	1 018	1 226	1 292
Residential	73	156	336	902	1 430	1 486	1 630	1 806	1 930	2 149
Commerce & public services	0.8	14	43	101	203	216	235	273	311	295
Others	4.5	2.8	34	99	173	184	202	220	218	212
<b>Electricity</b>										
Power generation	2 236	4 880	9 001	15 146	20 932	22 079	23 776	25 798	27 012	28 054
Thermal	1 780	4 011	7 370	11 995	15 163	15 694	16 790	18 016	18 503	18 883
Hydro	456	801	1 429	2 600	4 069	4 263	4 312	4 434	4 696	4 879
Nuclear		60	191	266	615	768	893	1 060	1 254	1 319
Others		8.1	10	285	1 085	1 355	1 780	2 288	2 559	2 973
Final energy consumption	1 767	3 729	7 173	12 420	17 393	18 333	19 857	21 603	22 675	23 643
Industry	1 302	2 539	4 946	8 611	11 553	11 863	12 797	13 643	14 091	14 650
Transport	38	101	155	264	405	451	510	579	631	630
Residential	173	523	1 039	1 845	2 723	3 031	3 266	3 621	3 829	4 103
Commerce & public services	27	151	271	465	926	1 013	1 104	1 255	1 388	1 403
Others	227	416	762	1 234	1 785	1 975	2 180	2 505	2 736	2 858

## Major economic indicators of China

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	1 135.19	1 262.65	1 303.72	1 337.71	1 379.86	1 387.79	1 396.22	1 402.76	1 407.75	1 411.10
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	1 027	2 770	4 421	7 554	11 062	11 819	12 640	13 493	14 296	14 617
GDP, billion USD (PPP, constant 2017)	1 616	4 358	6 955	11 885	17 403	18 595	19 887	21 229	22 493	22 996
Nominal, billion USD (current)	361	1 211	2 286	6 087	11 062	11 233	12 310	13 895	14 280	14 688
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	905	2 194	3 391	5 647	8 016	8 517	9 053	9 619	10 155	10 358
GDP, PPP (constant 2017 USD)	1 424	3 452	5 335	8 885	12 612	13 399	14 244	15 134	15 978	16 297
Nominal (current USD)	318	959	1 753	4 550	8 016	8 094	8 817	9 905	10 144	10 409
Nominal GDP & its components (billions of current CNY) <sup>11</sup>										
Gross domestic product	1 887	10 028	18 732	41 212	68 886	74 640	83 204	91 928	98 652	101 357
Households and NPISHs final consumption expenditure	944	4 686	7 415	14 147	26 020	28 867	32 069	35 412	38 719	38 719
General government final consumption expenditure	258	1 689	2 772	6 012	11 172	12 214	13 583	15 201	16 544	17 363
Gross fixed capital formation	453	3 267	7 385	18 104	28 997	31 014	34 830	39 385	42 245	43 062
Stock change	192	100	172	1 083	786	805	959	874	423	893
Exports of goods and services	235	2 095	6 337	11 204	14 710	14 618	16 385	17 569	18 162	18 793
Imports of goods and services	184	1 857	5 316	9 698	12 475	12 920	14 927	16 964	17 244	16 266
Real GDP & its components (billions of 2015 CNY) <sup>11</sup>										
Gross Domestic Product	6 398	17 251	27 529	47 043	68 886	73 604	78 717	84 030	89 030	91 025
Households and NPISHs final consumption expenditure	N.A.	6 436	9 572	16 028	26 020	28 346	31 048	33 632	35 795	34 900
General government final consumption expenditure	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Gross fixed capital formation	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Stock change	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Exports of goods and services	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Imports of goods and services	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Sectoral shares of Real GDP (%) <sup>11</sup>										
Agriculture, Fishery and Forestry	34.4	18.4	13.9	10.1	8.4	8.1	7.9	7.6	7.4	7.5
Industry	28.3	37.2	39.0	40.7	40.8	40.5	40.1	39.8	39.4	39.4
Services, etc.	47.0	46.3	47.9	49.3	50.8	51.4	52.0	52.6	53.2	53.1
Industrial production index (2010=100) <sup>14</sup>	9.3	11.2	15.9	100.0	158.4	168.0	179.0	190.1	201.1	206.3
External trade (billions of current USD) <sup>11</sup>										
Exports, f.o.b.	62.1	249.2	762.0	1 577.8	2 273.5	2 097.6	2 263.3	2 486.7	2 499.5	2 590.0
Imports, c.i.f.	53.3	225.1	660.0	1 396.2	1 679.6	1 587.9	1 843.8	2 135.7	2 078.4	2 066.0
Balance of payments (billions of current USD) <sup>12</sup>										
Trade balance	9.2	-13.6	130.1	238.1	576.2	488.9	475.9	380.1	393.0	511.1
Current account	12.0	20.5	132.4	237.8	293.0	191.3	188.7	24.1	102.9	248.8
Overall balance	15.3	22.5	227.7	524.7	-141.1	-225.1	298.1	196.2	109.9	187.6
Foreign exchange rate (CNY/USD) <sup>11</sup>	4.78	8.28	8.19	6.77	6.23	6.64	6.76	6.62	6.91	6.90
PPP conversion factor, GDP (CNY/USD) <sup>11</sup>	1.69	2.72	2.84	3.33	3.87	3.99	4.18	4.23	4.21	4.18
Price Indices										
GDP Deflator (2015=100) <sup>14</sup>	29.5	58.1	68.0	87.6	100.0	101.4	105.7	109.4	110.8	111.4
Producer Price Index (2000=100) <sup>13</sup>	101.3	100.0	102.0	100.0	95.4	99.1	105.3	109.1	108.7	106.7
Consumer Price Index (2010=100) <sup>12</sup>	40.4	81.0	86.5	100.0	114.9	117.2	119.1	121.6	125.1	128.1
Growth rate (%) <sup>13</sup>										
Real GDP <sup>14</sup>	3.9	8.5	11.4	10.6	7.0	6.8	6.9	6.7	6.0	2.2
Population <sup>14</sup>	1.5	0.8	0.6	0.5	0.6	0.6	0.6	0.5	0.4	0.2
Price <sup>14</sup>										
Producer prices <sup>13</sup>	-12.2	5.3	-1.1	8.7	-5.2	3.9	6.3	3.5	-0.3	-1.9
Consumer prices	3.1	0.3	1.8	3.2	1.4	2.0	1.6	2.1	2.9	2.4

Source <sup>11</sup>: *World Development Indicators*, World Bank

<sup>12</sup>: *International Financial Statistics*, International Monetary Fund

<sup>13</sup>: Calculated from <sup>11</sup> and <sup>12</sup> by ESTO

<sup>14</sup>: Calculated from <sup>11</sup>, <sup>12</sup> and <sup>13</sup> by ESTO

Note : N.A. means "not available"

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)



# **Hong Kong, China**

Energy balance table of Hong Kong, China

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	Fuel oil
<b>2020</b>										
Production										
Import	145			632	20	11	139	0.1	200	248
Export				-6.4	-0.2				-2.1	-4.1
International marine bunkers				-302					-80	-222
International aviation bunkers				-142			-142			
Stock changes	-7.1			-26	0.2		3.7		-9.4	-21
<b>Total primary energy supply</b>	<b>138</b>			<b>155</b>	<b>20</b>	<b>11</b>	<b>0.2</b>	<b>0.1</b>	<b>109</b>	
<b>Transfers</b>										
Total transformation sector	-138			-15		-11			-2.1	
Main activity producers	-138			-3.6					-2.1	
Autoproducers										
Gas processing				-11		-11				
Petroleum refineries										
Coal transformation										
Other transformation										
Losses & own use										
Discrepancy				-58	3.9		0.2		-62	
<b>Total final consumption</b>				<b>82</b>	<b>24</b>		<b>0.3</b>	<b>0.1</b>	<b>45</b>	
<b>Total final energy consumption</b>				<b>82</b>	<b>24</b>		<b>0.3</b>	<b>0.1</b>	<b>45</b>	
<b>Industry sector</b>										
Iron and steel				3.2	0.2		0.2		2.8	
Chemical & petrochemical										
Non-metallic minerals										
Other industries				3.2	0.2		0.2		2.8	
<b>Transport sector</b>										
Domestic air transport				75	24		0.2		41	
Road				0.2			0.2			
Rail				68	22				36	
Inland waterways				7.1	1.7				5.4	
Other transport										
<b>Other sector</b>										
Residential				3.5				0.1	0.3	
Commerce and public services				2.7						
Agriculture				0.8					0.3	
Non-specified others										
<b>Non-energy</b>										
<b>2019</b>										
Production										
Import	265			876	20	11	275	0.1	275	280
Export				-12	-0.5				-3.7	-7.7
International marine bunkers				-410					-143	-267
International aviation bunkers				-280			-280			
Stock changes	-6.4			-11	0.8	1.8	5.1		-15	-5.1
<b>Total primary energy supply</b>	<b>258</b>			<b>163</b>	<b>20</b>	<b>12</b>	<b>0.2</b>	<b>0.1</b>	<b>113</b>	
<b>Transfers</b>										
Total transformation sector	-258			-17		-12			-2.2	
Main activity producers	-258			-4.3					-2.2	
Autoproducers										
Gas processing				-12		-12				
Petroleum refineries										
Coal transformation										
Other transformation										
Losses & own use										
Discrepancy				-56	4.4		0.1	0.1	-60	
<b>Total final consumption</b>				<b>91</b>	<b>25</b>		<b>0.3</b>	<b>0.2</b>	<b>51</b>	
<b>Total final energy consumption</b>				<b>91</b>	<b>25</b>		<b>0.3</b>	<b>0.2</b>	<b>51</b>	
<b>Industry sector</b>										
Iron and steel				3.2	0.1		0.1		2.8	
Chemical & petrochemical										
Non-metallic minerals										
Other industries				3.2	0.1		0.1		2.8	
<b>Transport sector</b>										
Domestic air transport				83	24		0.1		46	
Road				0.1			0.1			
Rail				75	23				40	
Inland waterways				7.3	1.6				5.7	
Other transport										
<b>Other sector</b>										
Residential				5.1				0.2	1.7	
Commerce and public services				2.7						
Agriculture				2.3				0.1	1.7	
Non-specified others										
<b>Non-energy</b>										

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
						0.2	4.4			4.6	4.6
14			192				0.2	46		1 014	0.2
										-6.4	
										-302	
										-142	
0.9										-33	
15			192			0.2	4.6	46		535	4.8
-1.5			-178			-0.2	-2.7	127	0.5	-207	-2.9
-1.5			-178				-0.3	126	0.5	-193	-0.3
						-0.2	-1.9	0.5		-1.6	-2.1
										-11	
							-0.5			-0.5	-0.5
								-13		-13	
			11							-47	
13			25				1.9	159	0.5	268	1.9
13			25				1.9	159	0.5	268	1.9
0.1			1.2				0.1	7.3		12	0.1
0.1			1.2				0.1	7.3		12	0.1
10.0							0.2	2.9		78	0.2
										0.2	
10.0							0.2	0.1		68	0.2
								2.7		2.7	
										7.1	
3.1			24				1.6	149	0.5	178	1.6
2.7			15					47		64	
0.4			8.8				1.6	102	0.5	114	1.6
								0.1		0.1	
						0.1	4.5			4.6	4.6
16			128				0.1	45		1 313	0.1
										-12	
										-410	
										-280	
1.4										-17	
17			128			0.1	4.7	45		599	4.8
-2.1			-115			-0.1	-2.6	133	0.5	-259	-2.6
-2.1			-115					132	0.5	-245	
						-0.1	-2.1	0.4		-1.8	-2.2
										-12	
							-0.4			-0.4	-0.4
								-16		-16	
			12							-43	
15			25				2.1	162	0.5	281	2.1
15			25				2.1	162	0.5	281	2.1
0.1			1.3					7.4		12	
0.1			1.3					7.4		12	
12							0.3	3.2		86	0.3
										0.1	
12							0.3	0.1		75	0.3
								3.1		3.1	
										7.3	
3.2			24				1.8	151	0.5	183	1.9
2.7			13					43		59	
0.4			11				1.8	108	0.5	123	1.9
								0.1		0.1	

## Major energy indicators of Hong Kong, China

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	392	579	590	559	590	605	600	600	599	535
Production			3.4	2.3	4.1	4.6	4.7	4.6	4.6	4.6
Import	567	896	1 055	1 333	1 303	1 318	1 347	1 365	1 313	1 014
Export	-93	-68	-74	-30	-34	-20	-17	-11	-12	-6.4
Final energy consumption	214	374	282	280	279	279	277	279	281	268
Industry	65	74	24	16	13	12	12	13	12	12
Transport	64	159	98	90	88	88	86	85	86	78
Residential	31	47	54	58	58	60	58	59	59	64
Commerce & public services	51	91	106	116	120	120	120	122	123	114
Others	1.7	2.6			0.1	0.1	0.1	0.1	0.1	0.1
<b>Coal</b>										
Primary energy supply	264	182	287	261	280	280	263	270	258	138
Production										
Import	236	160	285	272	295	294	277	287	265	145
Export	-0.1	-0.1								
Transformation sector	-264	-181	-287	-261	-280	-280	-263	-270	-258	-138
Power generation	-264	-181	-287	-261	-280	-280	-263	-270	-258	-138
Final energy consumption	0.5	0.2								
Industry										
Transport										
Residential										
Commerce & public services										
Others	0.5	0.2								
<b>Coal products</b>										
Primary energy supply										
Production										
Import		1.0								
Export		-1.0								
Transformation sector										
Power generation										
Final energy consumption										
Industry										
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply										
Production										
Import										
Export										
Transformation sector										
Petroleum refineries										
<b>Petroleum products</b>										
Primary energy supply	134	247	190	134	144	155	166	159	163	155
Import	331	581	645	901	842	855	899	909	876	632
Export	-87	-63	-58	-21	-29	-15	-12	-9.2	-12	-6.4
Transformation sector	-22	-30	-32	-15	-14	-18	-17	-16	-17	-15
Power generation	-5.5	-1.6	-1.6	-1.6	-2.6	-3.8	-4.2	-3.1	-4.3	-3.6
Petroleum refineries										
Final energy consumption	113	218	112	100	93	93	91	91	91	82
Industry	40	56	8.5	4.1	3.3	3.2	3.4	3.4	3.2	3.2
Transport	61	155	93	87	84	84	83	82	82	75
Residential	8.3	4.9	4.8	3.4	2.8	2.8	2.7	3.7	2.7	2.7
Commerce & public services	3.3	2.2	5.7	5.6	2.6	2.5	2.4	2.4	2.3	0.8
Others						0.2		-1.0	0.3	
<b>Gas</b>										
Primary energy supply		117	85	132	124	127	126	123	128	192
Production										
Import		117	85	119	124	127	126	123	128	192
Export										
Transformation sector	12	-96	-61	-117	-110	-115	-113	-110	-115	-178
Power generation		-117	-85	-117	-110	-115	-113	-110	-115	-178
Final energy consumption	12	21	25	28	25	26	26	26	25	25
Industry	0.5	0.8	0.8	0.9	1.1	1.0	1.1	1.2	1.3	1.2
Transport										
Residential	5.8	10	14	15	13	14	14	14	13	15
Commerce & public services	4.8	8.2	10	11	11	11	11	11	11	8.8
Others	1.2	2.0								
<b>Electricity</b>										
Power generation	104	113	139	138	137	138	133	132	133	127
Thermal	104	113	139	138	137	137	133	131	132	126
Hydro										
Nuclear										
Others			0.3	0.3	0.3	0.3	0.3	0.4	0.4	0.6
Final energy consumption	88	134	144	151	158	159	158	159	162	159
Industry	25	18	15	11	8.3	7.8	7.9	7.8	7.4	7.3
Transport	2.8	4.0	5.2	2.5	3.0	3.0	3.2	3.3	3.2	2.9
Residential	17	32	36	39	42	43	42	42	43	47
Commerce & public services	43	81	89	98	105	105	105	106	108	102
Others		0.3			0.1	0.1	0.1	0.1	0.1	0.1

## Major economic indicators of Hong Kong, China

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	5.70	6.67	6.81	7.02	7.29	7.34	7.39	7.45	7.51	7.48
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	122	180	221	268	309	316	328	337	332	310
GDP, billion USD (PPP, constant 2017)	164	242	298	361	417	426	442	455	447	418
Nominal, billion USD (current)	77	172	182	229	309	321	341	362	363	345
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	21 357	26 933	32 401	38 090	42 432	43 087	44 381	45 280	44 192	41 470
GDP, PPP (constant 2017 USD)	28 798	36 316	43 689	51 360	57 215	58 098	59 842	61 055	59 589	55 918
Nominal (current USD)	13 486	25 757	26 650	32 550	42 432	43 734	46 160	48 538	48 356	46 101
Nominal GDP & its components (billions of current HKD) <sup>1</sup>										
Gross domestic product	599	1 338	1 412	1 776	2 398	2 491	2 660	2 835	2 845	2 675
Households and NPISHs final consumption expenditure	344	784	812	1 090	1 593	1 650	1 784	1 936	1 974	1 777
General government final consumption expenditure	41	125	131	157	231	248	261	281	309	340
Gross fixed capital formation	157	355	302	387	537	535	576	612	521	455
Stock change	5.7	14	-4.8	38	-21	0.4	11	11	-3.1	52
Exports of goods and services	703	1 686	2 506	3 647	4 698	4 658	5 024	5 340	5 054	4 717
Imports of goods and services	652	1 627	2 333	3 543	4 641	4 601	4 997	5 346	5 010	4 666
Real GDP & its components (billions of 2019 HKD) <sup>1</sup>										
Gross Domestic Product	1 045	1 539	1 893	2 294	2 653	2 710	2 813	2 893	2 845	2 660
Households and NPISHs final consumption expenditure	664	1 004	1 100	1 374	1 756	1 791	1 890	1 990	1 974	1 767
General government final consumption expenditure	119	184	204	229	266	275	283	295	309	334
Gross fixed capital formation	250	399	430	500	584	584	602	612	521	462
Stock change	9.9	21	-6.7	49	-20	0.4	12	11	-3.1	47
Exports of goods and services	876	2 016	3 189	4 198	4 876	4 908	5 195	5 385	5 054	4 716
Imports of goods and services	835	2 028	3 007	4 059	4 807	4 849	5 170	5 402	5 010	4 666
Sectoral shares of Real GDP (%) <sup>1</sup>										
Agriculture, Fishery and Forestry	N.A.	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Industry	N.A.	10.6	7.4	6.2	6.8	6.9	6.6	6.6	6.3	5.9
Services, etc.	N.A.	84.0	88.4	89.8	89.0	89.1	88.8	89.0	90.0	89.8
Manufacturing production index (2010=100) <sup>2</sup>	162.5	135.6	112.0	100.0	98.1	97.7	98.1	99.3	99.8	93.9
External trade (billions of current USD) <sup>1</sup>										
Exports, f.o.b.	82.4	202.7	292.1	400.7	510.5	516.6	549.9	568.5	534.9	548.8
Imports, c.i.f.	84.7	214.0	300.2	441.4	558.8	546.5	588.9	626.6	577.8	569.8
Balance of payments (billions of current USD) <sup>2</sup>										
Trade balance	N.A.	20.5	31.1	3.3	-22.9	-16.7	-22.9	-32.3	-15.4	-5.3
Current account	N.A.	7.5	21.6	16.0	10.3	12.7	15.6	13.5	21.2	24.1
Overall balance	N.A.	12.5	0.4	12.2	30.0	0.8	38.0	-7.8	-10.2	26.5
Foreign exchange rate (HKD/USD) <sup>1</sup>	7.79	7.79	7.78	7.77	7.75	7.76	7.79	7.84	7.84	7.76
PPP conversion factor, GDP (HKD/USD) <sup>1</sup>	5.76	7.11	5.44	5.14	5.83	5.93	6.01	6.09	6.10	6.06
Price Indices										
GDP Deflator (2019=100) <sup>3</sup>	57.4	86.9	74.6	77.4	90.4	91.9	94.5	98.0	100.0	100.6
Producer Price Index (2010=100) <sup>2</sup>	N.A.	87.7	86.2	100.0	100.5	101.8	105.6	107.7	108.8	111.3
Consumer Price Index (2010=100) <sup>2</sup>	57.0	95.9	89.5	100.0	123.0	125.9	127.8	130.9	134.6	135.0
Growth rate (%) <sup>3</sup>										
Real GDP	3.8	7.7	7.4	6.8	2.4	2.2	3.8	2.8	-1.7	-6.5
Population	0.3	0.9	0.4	0.7	0.9	0.6	0.8	0.8	0.7	-0.4
Price										
Producer prices	N.A.	0.2	0.8	6.0	-2.7	1.3	3.8	2.0	1.0	2.3
Consumer prices	10.4	-3.7	0.8	2.3	3.0	2.4	1.5	2.4	2.9	0.3

Source <sup>1</sup>: *World Development Indicators*, World Bank

<sup>2</sup>: *International Financial Statistics*, International Monetary Fund

<sup>3</sup>: Calculated from <sup>1</sup> and <sup>2</sup> by ESTO

Note : N.A. means "not available"

: HKD means Hong Kong Dollar, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Energy prices in Hong Kong, China

## IMPORT PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	HKD											
Exchange Rate	/ US Dollar	7.77	7.78	7.76	7.76	7.75	7.75	7.76	7.79	7.84	7.84	7.76
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite	HKD/tonne	1 875	6 275	5 373	2 180	2 373	2 407			6 133	3 073	
Other bituminous coal	HKD/tonne	594	726	654	572	519	447	397	584	683	535	419
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG	HKD/kg	5.95	7.40	7.89	7.58	7.16	4.58	3.64	4.50	4.89	4.21	4.08
Naphtha												
Motor Gasoline	HKD/L	4.71	6.33	6.58	6.34	5.93	4.16	3.16	3.73	4.35	4.08	2.66
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel	HKD/L	4.41	6.10	6.25	6.04	5.65	3.30	2.56	3.19	4.16	3.74	2.54
Other Kerosene												
Gas/Diesel Oil												
Fuel Oil	HKD/L	3.58	4.95	5.21	4.78	4.43	2.36	1.71	2.46	3.22	3.12	2.51
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	HKD/kg	2.33	2.57	3.13	4.09	4.64	4.58	3.47	3.47	4.12	4.29	3.61
Liquefied Natural Gas												
Compressed Natural Gas												
<b>Electricity</b>												
<b>Other energy</b>												
Gas oil, diesel oil and naphtha	HKD/L	4.39	6.12	6.24	5.99	5.61	3.37	2.60	3.26	4.19	4.29	2.46



## Energy prices in Hong Kong, China

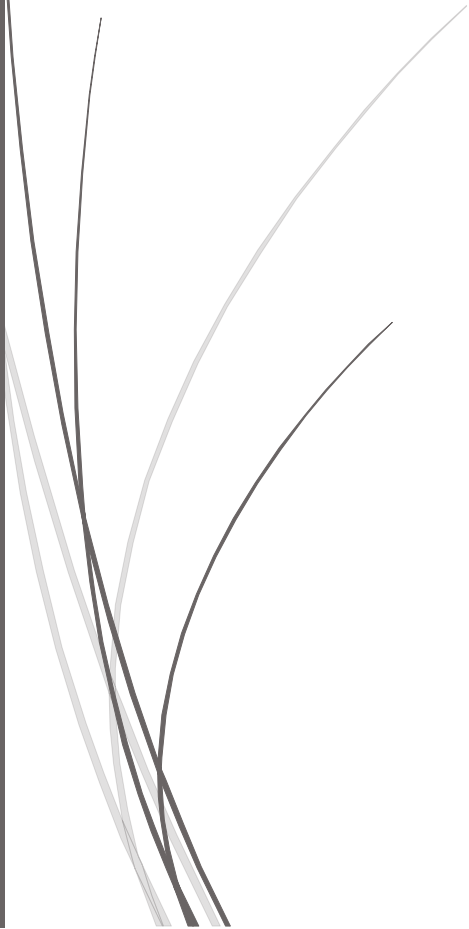
## CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	HKD											
Exchange Rate	/ US Dollar	7.77	7.78	7.76	7.76	7.75	7.75	7.76	7.79	7.84	7.84	7.76
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG	HKD/kg	18.14	20.01	21.78	22.94	24.33	23.47	23.47	24.07	25.75	27.74	28.93
Naphtha												
Motor Gasoline (regular)	HKD/L	13.55	15.29	15.82	15.69	15.62	13.70	13.70	13.19	13.96	15.66	15.62
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene												
Gas/Diesel Oil*	HKD/L	9.68	11.61	12.16	12.46	12.56	10.86	10.67	11.87	13.50	14.29	14.23
Fuel Oil												
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas (export)												
Compressed Natural Gas												
<b>Electricity</b>												
Industrial												
Commercial												
Residential												
Others												
Other Energy Products												

\*Environmental diesel oil (road)



# Indonesia



## Energy balance table of Indonesia

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products				
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil
<b>2020</b>									
Production	13 878		1 534						
Import	216		467	1 277	553			122	8.8
Export	-9 972		- 184	- 120			- 17	-4.1	
International marine bunkers									
International aviation bunkers									
Stock changes	78		5.3	- 26	- 24		-1.0	-9.5	35
<b>Total primary energy supply</b>	<b>4 200</b>		<b>1 822</b>	<b>1 131</b>	<b>529</b>		<b>- 18</b>	<b>-9.5</b>	<b>153</b>
<b>Transfers</b>									
Total transformation sector	-2 582	1.1	-1 787	1 783	538		114	28	655
Main activity producers	-2 581			- 83					- 76
Autoproducers									
Gas processing				99					
Petroleum refineries			-1 787	1 863	538	96	114	28	731
Coal transformation	-1.3	1.1							
Other transformation				- 96		- 96			
Losses & own use			- 35	-4.5	-2.1				-2.2
Discrepancy									-0.1
<b>Total final consumption</b>	<b>1 618</b>	<b>1.1</b>		<b>2 909</b>	<b>1 065</b>		<b>96</b>	<b>18</b>	<b>805</b>
<b>Total final energy consumption</b>	<b>1 618</b>	<b>1.1</b>		<b>2 795</b>	<b>1 065</b>		<b>96</b>	<b>18</b>	<b>805</b>
Industry sector	1 618	1.1		122				1.0	65
Iron and steel	325								
Chemical & petrochemical									
Non-metallic minerals	160								
Other industries	1 133	1.1		122				1.0	65
Transport sector				1 851	1 056		96		698
Domestic air transport				96			96		
Road				1 755	1 056				698
Rail									
Inland waterways									
Other transport									
Other sector				821	8.8			17	42
Residential				742				16	
Commerce and public services				30				0.9	9.2
Agriculture									
Non-specified others				49	8.8			0.7	33
Non-energy				115					
<b>2019</b>									
Production	15 169		1 638						
Import	182		524	1 394	656		9.8		148
Export	-11 189		- 152	- 95			-4.7		
International marine bunkers									
International aviation bunkers									
Stock changes	23		37	134	9.7		-5.6	- 21	122
<b>Total primary energy supply</b>	<b>4 184</b>		<b>2 046</b>	<b>1 432</b>	<b>665</b>		<b>-0.5</b>	<b>- 21</b>	<b>271</b>
<b>Transfers</b>									
Total transformation sector	-2 426	0.2	-2 006	1 871	556		174	41	689
Main activity producers	-2 426			- 143					- 116
Autoproducers									
Gas processing				106					
Petroleum refineries			-2 006	2 020	556	112	174	41	806
Coal transformation	-0.2	0.2							
Other transformation				- 112		- 112			
Losses & own use			- 39	-5.0	-2.4				-2.4
Discrepancy									-0.1
<b>Total final consumption</b>	<b>1 758</b>	<b>0.2</b>		<b>3 298</b>	<b>1 219</b>		<b>174</b>	<b>20</b>	<b>958</b>
<b>Total final energy consumption</b>	<b>1 758</b>	<b>0.2</b>		<b>3 163</b>	<b>1 219</b>		<b>174</b>	<b>20</b>	<b>958</b>
Industry sector	1 758	0.2		150				1.1	76
Iron and steel	248								
Chemical & petrochemical									
Non-metallic minerals	554								
Other industries	956	0.2		150				1.1	76
Transport sector				2 215	1 207		174		833
Domestic air transport				174	0.1		174		
Road				2 041	1 207				833
Rail									
Inland waterways									
Other transport									
Other sector				798	12			19	48
Residential				707				17	
Commerce and public services				31				0.9	11
Agriculture									
Non-specified others				60	12			0.8	38
Non-energy				135					

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			2 132	82		563	926			19 115	1 571
593								5.6		1 966	
		- 99	- 716				-1.4			-10 993	-1.4
- 14							-6.0			51	-6.0
579		- 99	1 417	82		563	918	5.6		10 139	1 563
178	213		- 491	- 82		- 563	- 551	1 045		-3 227	-1 196
			- 408	- 82		- 563	- 231	1 045		-2 903	- 876
99			- 84							15	
80	213									76	
										-0.2	
							- 319			- 415	- 319
			- 192					- 125		- 357	
			- 40					27		- 13	
757	115		694				367	952		6 542	367
757			554				367	952		6 288	367
11			548				272	318		2 879	272
			22							347	
			216							216	
			38							199	
11			272				272	318		2 118	272
			0.4					1.1		1 853	
										96	
			0.4							1 756	
								1.1		1.1	
746			5.7				95	633		1 555	95
726			4.2				87	424		1 256	87
20			1.5				8.9	209		250	8.9
										49	
		115	140							254	
530	36		2 420	70		510	954			20 760	1 534
	- 90		- 791				- 50	6.1		2 105	
										-12 277	- 50
8.3							- 26			167	- 26
538	- 54		1 628	70		510	878	6.1		10 755	1 458
182	189		- 643	- 70		- 510	- 454	1 058		-3 181	-1 034
			- 592	- 70		- 510	- 211	1 058		-2 894	- 791
106			- 51							55	
76	189									14	
							- 243			- 356	- 243
			- 260					- 129		- 433	
			- 43					8.8		- 34	
720	135		683				424	943		7 106	424
720			538				424	943		6 826	424
10			528				289	339		3 065	289
			27							275	
			207							207	
			44							598	
10			251				289	339		1 985	289
			1.1					1.1		2 217	
										174	
			1.1							2 042	
								1.1		1.1	
710			8.3				135	603		1 544	135
690			7.0				126	374		1 214	126
19			1.3				8.9	229		270	8.9
										60	
		135	145							280	

## Major energy indicators of Indonesia

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	3 138	5 056	5 881	7 274	8 501	9 483	9 401	10 223	10 755	10 139
Production	6 317	8 602	9 552	13 080	16 885	16 958	16 905	19 519	20 760	19 115
Import	426	1 066	1 675	1 683	2 270	2 214	2 429	2 392	2 105	1 966
Export	-3 468	-4 647	-5 499	-7 616	-10 977	-10 050	-8 758	-10 355	-12 277	-10 993
Final energy consumption	2 282	3 900	4 232	5 175	5 903	5 639	5 924	6 474	6 826	6 288
Industry	872	1 645	1 779	2 458	2 372	2 201	2 331	2 705	3 065	2 879
Transport	432	849	1 065	1 342	1 990	1 886	2 035	2 200	2 217	1 853
Residential	830	1 103	1 057	1 061	1 182	1 191	1 207	1 229	1 214	1 256
Commerce & public services	54	131	156	183	231	245	252	260	270	250
Others	94	172	174	131	127	116	100	80	60	49
<b>Coal</b>										
Primary energy supply	144	565	1 235	1 912	2 657	2 842	3 086	3 588	4 184	4 200
Production	266	1 897	3 760	6 774	11 363	11 231	11 355	13 731	15 169	13 878
Import	15	3.4	2.4	1.4	75	101	116	135	182	216
Export	-106	-1 439	-2 727	-5 125	-9 007	-8 152	-7 064	-8 774	-11 189	-9 972
Transformation sector	-110	-339	-633	-848	-1 726	-1 857	-2 044	-2 244	-2 426	-2 582
Power generation	-109	-338	-632	-847	-1 725	-1 856	-2 043	-2 244	-2 426	-2 581
Final energy consumption	34	227	602	1 064	931	985	1 042	1 344	1 758	1 618
Industry	34	227	602	1 064	931	985	1 042	1 344	1 758	1 618
Transport										
Residential										
Commerce & public services										
Others										
<b>Coal products</b>										
Primary energy supply		-0.1								
Production										
Import										
Export										
Transformation sector	0.6	0.8	0.6	0.7	0.3	0.6	0.6	0.2	0.2	1.1
Power generation										
Final energy consumption	0.6	0.4	0.6	0.7	0.3	0.6	0.6	0.2	0.2	1.1
Industry	0.6	0.4	0.6	0.7	0.3	0.6	0.6	0.2	0.2	1.1
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply	1 672	2 188	2 138	1 824	1 672	2 511	1 985	2 043	2 046	1 822
Production	3 162	3 067	2 265	2 057	1 731	1 889	1 766	1 696	1 638	1 534
Import	271	461	693	593	801	870	830	739	524	467
Export	-1 680	-1 310	-936	-788	-674	-736	-602	-437	-152	-184
Transformation sector	-1 640	-2 145	-2 096	-1 789	-1 641	-2 464	-1 947	-2 004	-2 006	-1 787
Petroleum refineries	-1 640	-2 145	-2 096	-1 789	-1 641	-2 464	-1 947	-2 004	-2 006	-1 787
<b>Petroleum products</b>										
Primary energy supply	-466	113	501	797	1 565	1 380	1 570	1 578	1 432	1 131
Import	140	601	979	1 089	1 394	1 240	1 478	1 513	1 394	1 277
Export	-581	-449	-316	-196	-127	-78	-90	-85	-95	-120
Transformation sector	1 542	1 879	1 626	1 475	1 543	1 602	1 652	1 766	1 871	1 783
Power generation	-167	-196	-285	-284	-306	-301	-283	-240	-143	-83
Petroleum refineries	1 595	2 052	1 946	1 723	1 776	1 853	1 936	2 016	2 020	1 863
Final energy consumption	1 062	1 971	2 109	2 229	2 990	2 892	3 062	3 202	3 163	2 795
Industry	247	450	399	303	243	243	232	199	150	122
Transport	432	848	1 065	1 340	1 988	1 884	2 033	2 198	2 215	1 851
Residential	255	435	403	415	590	608	658	690	707	742
Commerce & public services	35	66	68	40	42	41	40	35	31	30
Others	94	172	174	131	127	116	100	80	60	49
<b>Gas</b>										
Primary energy supply	843	1 093	1 212	1 603	1 572	1 624	1 609	1 624	1 628	1 417
Production	1 945	2 542	2 733	3 110	2 729	2 691	2 604	2 615	2 420	2 132
Import										
Export	-1 102	-1 449	-1 520	-1 507	-1 157	-1 066	-995	-991	-791	-716
Transformation sector	-89	-286	-310	-351	-585	-646	-585	-617	-643	-491
Power generation	-41	-233	-266	-312	-528	-587	-530	-550	-592	-408
Final energy consumption	206	450	617	622	675	440	506	543	538	554
Industry	205	447	615	615	665	431	497	534	528	548
Transport		1.0	0.2	1.1	1.4	1.2	0.5	1.3	1.1	0.4
Residential	0.2	0.8	1.1	5.5	8.2	7.2	6.8	6.9	7.0	4.2
Commerce & public services	0.5	0.8	0.7	0.8	0.7	0.8	1.0	1.2	1.3	1.5
Others										
<b>Electricity</b>										
Power generation	119	328	459	611	842	890	913	1 016	1 058	1 044
Thermal	92	282	397	514	755	785	802	847	891	860
Hydro	23	36	39	63	49	65	63	73	70	82
Nuclear										
Others	4.1	10	24	34	38	41	48	96	97	101
Final energy consumption	100	287	385	533	730	778	803	922	943	952
Industry	51	122	153	184	231	245	260	337	339	318
Transport		0.2	0.2	0.3	0.7	0.8	0.8	1.0	1.1	1.1
Residential	32	110	148	215	319	337	340	370	374	424
Commerce & public services	16	55	84	133	180	194	202	214	229	209
Others										

## Major economic indicators of Indonesia

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>*1</sup>	181.41	211.51	226.29	241.83	258.38	261.56	264.65	267.67	270.63	273.52
Gross domestic product <sup>*3</sup>										
Real term, billion USD (constant 2015)	270	395	498	658	861	904	950	999	1 049	1 028
GDP, billion USD (PPP, constant 2017)	823	1 203	1 516	2 004	2 622	2 754	2 894	3 044	3 197	3 131
Nominal, billion USD (current)	106	165	286	755	861	932	1 016	1 042	1 119	1 059
GDP per capita <sup>*3</sup>										
Real term (constant 2015 USD)	1 490	1 868	2 199	2 720	3 332	3 457	3 590	3 733	3 877	3 757
GDP, PPP (constant 2017 USD)	4 538	5 689	6 699	8 287	10 150	10 531	10 936	11 372	11 812	11 446
Nominal (current USD)	585	780	1 263	3 122	3 332	3 563	3 838	3 894	4 135	3 871
Nominal GDP & its components (quadrillions of current IDR) <sup>*1</sup>										
Gross domestic product	196	1 390	2 774	6 864	11 526	12 402	13 590	14 839	15 833	15 438
Households and NPISHs final consumption expenditure	124	857	1 786	3 859	6 622	7 172	7 784	8 455	9 172	9 101
General government final consumption expenditure	19	91	225	618	1 124	1 182	1 239	1 339	1 395	1 474
Gross fixed capital formation	60	276	656	2 128	3 782	4 040	4 371	4 791	5 121	4 897
Stock change	4.2	33	40	129	144	159	211	339	227	98
Exports of goods and services	53	569	945	1 668	2 439	2 367	2 742	3 117	2 944	2 666
Imports of goods and services	50	423	830	1 538	2 395	2 274	2 606	3 275	3 014	2 424
Real GDP & its components (quadrillions of 2010 IDR) <sup>*1</sup>										
Gross Domestic Product	2 820	4 122	5 193	6 864	8 983	9 435	9 913	10 426	10 949	10 723
Households and NPISHs final consumption expenditure	1 510	2 527	3 079	3 859	4 980	5 232	5 492	5 774	6 072	5 910
General government final consumption expenditure	261	286	424	618	775	774	791	829	856	873
Gross fixed capital formation	871	1 061	1 513	2 128	2 911	3 042	3 229	3 444	3 598	3 419
Stock change	5 270	- 7 109	- 7 157	129	113	133	127	197	130	51
Exports of goods and services	458	884	1 232	1 668	2 004	1 971	2 147	2 286	2 275	2 090
Imports of goods and services	477	783	1 183	1 538	1 863	1 818	1 965	2 203	2 046	1 704
Sectoral shares of Real GDP (%) <sup>*1</sup>										
Agriculture, Fishery and Forestry	19.5	16.5	15.3	13.9	13.0	12.8	12.7	12.5	12.4	12.9
Industry	42.2	47.7	45.8	42.8	41.0	40.5	40.2	39.8	39.4	39.1
Services, etc.	391.4	494.2	451.8	451.5	495.8	524.7	542.8	548.0	564.6	545.7
Industrial production index (2010=100) <sup>*2</sup>	43.3	74.3	88.3	100.0	126.1	131.2	137.4	144.9	N.A.	N.A.
External trade (billions of current USD) <sup>*1</sup>										
Exports, f.o.b.	25.7	65.4	87.0	157.8	150.4	144.5	168.8	180.1	167.7	163.3
Imports, c.i.f.	21.8	43.6	75.7	135.7	142.7	135.7	156.9	188.7	171.3	141.6
Balance of payments (billions of current USD) <sup>*2</sup>										
Trade balance	5.4	25.0	17.6	31.0	14.0	15.3	18.8	-0.2	3.5	28.2
Current account	-3.0	8.0	0.3	5.1	-17.5	-17.0	-16.2	-30.6	-30.3	-4.5
Overall balance	1.5	0.1	-2.0	31.7	-0.7	12.4	12.5	-5.4	6.3	3.4
Foreign exchange rate (IDR/USD) <sup>*1</sup>	1 843	8 422	9 705	9 090	13 389	13 308	13 381	14 237	14 148	14 582
PPP conversion factor, GDP (IDR/USD) <sup>*1</sup>	350	1 387	1 959	3 337	4 353	4 518	4 696	4 761	4 752	4 675
Price Indices										
GDP Deflator (2010=100) <sup>*3</sup>	6.9	33.7	53.4	100.0	128.3	131.4	137.1	142.3	144.6	144.0
Producer Price Index (2010=100) <sup>*2</sup>	29.0	55.0	78.8	100.0	117.6	118.7	120.9	123.3	125.3	128.3
Consumer Price Index (2010=100) <sup>*2</sup>	12.7	44.0	68.7	100.0	132.3	137.0	142.2	146.7	151.2	154.1
Growth rate (%) <sup>*3</sup>										
Real GDP	7.2	4.9	5.7	6.2	4.9	5.0	5.1	5.2	5.0	-2.1
Population	1.8	1.4	1.3	1.3	1.3	1.2	1.2	1.1	1.1	1.1
Price										
Producer prices	8.5	5.8	11.3	5.9	1.6	0.9	1.9	1.9	1.6	2.4
Consumer prices	7.8	3.7	10.5	5.1	6.4	3.5	3.8	3.2	3.0	1.9

Source <sup>\*1</sup>: *World Development Indicators*, World Bank

<sup>\*2</sup>: *International Financial Statistics*, International Monetary Fund

<sup>\*3</sup>: Calculated from <sup>\*1</sup> and <sup>\*2</sup> by ESTO

Note

: N.A. means "not available"

: IDR means Rupiah, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Energy prices in Indonesia

## IMPORT PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	IDR											
Exchange Rate	/ US Dollar	9 090	8 770	9 387	10 461	11 865	13 389	13 308	13 381	14 237	14 148	14 582
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal	USD/tonne						108.09	104.13	157.56	83.27	161.78	
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG												
Naphtha												
Motor Gasoline												
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene												
Gas/Diesel Oil												
Fuel Oil												
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas												
Compressed Natural Gas												
Electricity												

\* USD/BBL in 2011 and 2012

## Energy prices in Indonesia

## WHOLESALE PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	IDR											
Exchange Rate	/ US Dollar	9 090	8 770	9 387	10 461	11 865	13 389	13 308	13 381	14 237	14 148	14 582
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal	USD/tonne						60.13	66.30	85.92	98.96	77.89	
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil	USD/BBL						49.21	40.13	51.19	67.47	62.37	
Natural Gas Liquids												
Ethane												
Propane												
Butane												
Naphtha												
Motor Gasoline												
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene												
Gas/Diesel Oil												
Fuel Oil												
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas												
Compressed Natural Gas												
Electricity												



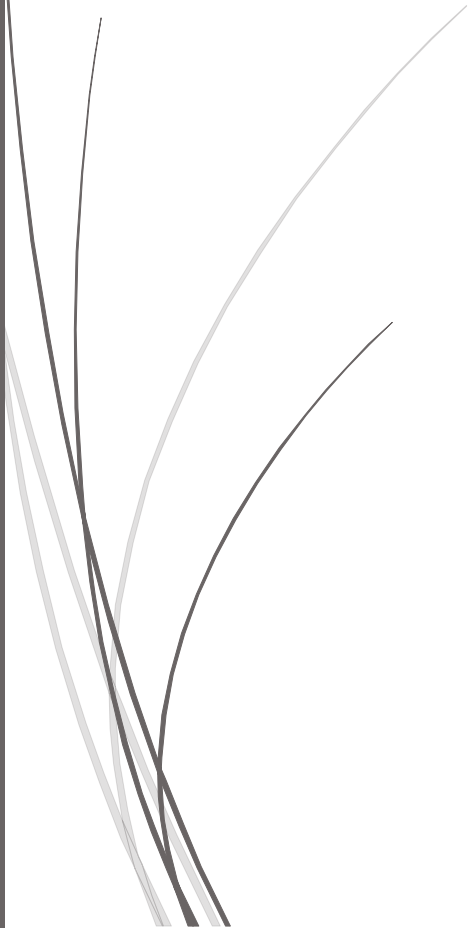
## Energy prices in Indonesia

## CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	IDR											
Exchange Rate	/ US Dollar	9 090	8 770	9 387	10 461	11 865	13 389	13 308	13 381	14 237	14 148	14 582
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal	USD/BOE						11.23	10.64	13.51	12.78		12.90
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG (12 kg)	USD/BOE						0.10	0.10	97.00	103.76		104.78
Naphtha												
Motor Gasoline (regular)	USD/BOE						90.50					
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel	USD/BOE						113.21					
Other Kerosene												
Gas/Diesel Oil	USD/BOE						97.30					
Fuel Oil												
White Spirit SBP	USD/BOE						37.59					
Lubricants	USD/BOE						37.59					
Bitumen	USD/BOE						37.59					
Paraffin Waxes	USD/BOE						37.59					
Petroleum Coke	USD/BOE						37.59					
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas (export)												
Compressed Natural Gas												
<b>Electricity</b>												
Industrial	USD/BOE						135.13	127.71	131.10	126.12		
Commercial	USD/BOE						151.86	145.84	149.99	144.56		
Residential	USD/BOE						98.98	102.44	127.15	128.11		
Others												
Other Energy Products												



**Japan**



## Energy balance table of Japan

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					Fuel oil
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	
<b>2020</b>										
Production	18		18							
Import	4 325	26	4 904	1 841	99	919	22	98	56	23
Export	-0.1	-94		-403	-81		-33	-45	-148	-58
International marine bunkers				-208				-3.0	-2.5	-201
International aviation bunkers				-117			-117			
Stock changes		-0.2	154	5.2	-4.1	2.0	4.5	-1.4	-2.5	-0.7
<b>Total primary energy supply</b>	<b>4 342</b>	<b>-69</b>	<b>5 076</b>	<b>1 118</b>	<b>14</b>	<b>921</b>	<b>-125</b>	<b>48</b>	<b>-97</b>	<b>-237</b>
Transfers			-53	57	-0.2	45	-7.3	-4.8	0.2	-6.0
Total transformation sector	-3 953	615	-4 989	4 653	1 427	254	224	444	1 552	418
Main activity producers	-2 340	-109	-11	-208				-7.4	-18	-78
Autoproducers	-162	-94		-143		-0.1		-6.2	-9.7	-41
Gas processing				-73						
Petroleum refineries			-5 150	5 270	1 427	393	224	457	1 580	536
Coal transformation	-1 450	818		-14						
Other transformation			173	-179		-139				
Losses & own use	-17	-102		-230				-3.6	-3.0	-43
Discrepancy	-6.3	-27	-34	-50	14	-138	2.7	16	36	36
<b>Total final consumption</b>	<b>366</b>	<b>417</b>	<b>0.1</b>	<b>5 548</b>	<b>1 456</b>	<b>1 081</b>	<b>95</b>	<b>499</b>	<b>1 488</b>	<b>168</b>
<b>Total final energy consumption</b>	<b>366</b>	<b>387</b>	<b>0.1</b>	<b>4 349</b>	<b>1 456</b>	<b>247</b>	<b>95</b>	<b>474</b>	<b>1 483</b>	<b>152</b>
Industry sector	366	382	0.1	689		247		42	174	59
Iron and steel	85	333		41				3.6	9.0	2.6
Chemical & petrochemical	101	28	0.1	341		247		5.1	22	19
Non-metallic minerals	118	12		75				2.9	20	16
Other industries	62	9.3		232				30	122	21
Transport sector				2 534	1 456		74		903	84
Domestic air transport				74	0.1		74			
Road				2 326	1 456				854	
Rail				6.7					6.7	
Inland waterways				127					43	84
Other transport										
Other sector		5.2		1 126			21	432	406	8.8
Residential				491				295		
Commerce and public services		5.2		452			21	117	244	8.8
Agriculture				129				20	108	
Non-specified others				54					54	
Non-energy		30		1 199		834		25	5.1	16
<b>2019</b>										
Production	18		18							
Import	4 693	21	6 213	1 764	81	841	52	55	33	20
Export	-0.1	-46		-799	-102	-0.1	-109	-35	-386	-127
International marine bunkers				-188					-5.3	-182
International aviation bunkers				-306			-306			
Stock changes		0.9	36	-12	-6.2	-3.1	-0.3	-3.3	1.2	10
<b>Total primary energy supply</b>	<b>4 711</b>	<b>-25</b>	<b>6 267</b>	<b>459</b>	<b>-28</b>	<b>838</b>	<b>-363</b>	<b>17</b>	<b>-356</b>	<b>-278</b>
Transfers			-58	68	-0.1	30	-2.8	-3.9	5.3	-3.4
Total transformation sector	-4 252	654	-6 166	5 761	1 607	401	544	459	1 858	482
Main activity producers	-2 404	-137	-7.3	-221				-1.6	-20	-84
Autoproducers	-168	-112		-153				-1.8	-7.9	-44
Gas processing				-73						
Petroleum refineries			-6 337	6 411	1 607	542	544	462	1 887	610
Coal transformation	-1 680	904		-16						
Other transformation			178	-185		-141				
Losses & own use	-9.3	-114	-1.8	-293				-0.9	-2.5	-41
Discrepancy	-5.6	-42	-39	-21	5.8	-6.6	0.7	3.4	37	21
<b>Total final consumption</b>	<b>394</b>	<b>473</b>	<b>1.9</b>	<b>5 975</b>	<b>1 585</b>	<b>1 202</b>	<b>180</b>	<b>474</b>	<b>1 542</b>	<b>180</b>
<b>Total final energy consumption</b>	<b>394</b>	<b>440</b>	<b>0.2</b>	<b>4 616</b>	<b>1 585</b>	<b>257</b>	<b>180</b>	<b>448</b>	<b>1 537</b>	<b>162</b>
Industry sector	394	435	0.2	711		257		39	171	70
Iron and steel	96	381		52				3.7	9.2	3.1
Chemical & petrochemical	109	30	0.2	356		257		4.9	21	24
Non-metallic minerals	121	14		80				2.7	20	20
Other industries	68	9.5		223				28	121	24
Transport sector				2 813	1 585		148		962	89
Domestic air transport				148	0.1		148			
Road				2 528	1 585				913	
Rail				6.7					6.7	
Inland waterways				131					42	89
Other transport										
Other sector		5.2		1 092			32	408	403	3.5
Residential				476				282		
Commerce and public services		5.2		439			32	107	247	3.5
Agriculture				127				20	106	
Non-specified others				50					50	
Non-energy		34	1.8	1 359		945		26	5.2	18

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			81	284	423	437	556			1 816	1 037
482		142	3 761				84			14 941	84
-2.7		-35								-497	
		-0.7								-208	
										-117	
2.2		5.1	16							175	
481		112	3 858	284	423	437	639			16 109	1 120
-29		58								4.1	
18	140	177	-2 668	-284	-423	-425	-384	3 629	23	-4 205	-933
-2.6	-47	-54	-2 595	-273	-423	-169	-268	3 057	15	-3 323	-587
-6.4	-48	-31	-143	-11		-256	-111	576		-344	-345
-68	-4.8		70				-0.1			-3.5	-0.1
136	240	276								119	
		-14					-4.9			-651	
-41							-0.5	-3.6	7.6	-3.2	-0.5
-3.8	-148	-27	-39					-379		-766	
0.5	8.7	-25	-29				-2.4	16		-133	-1.7
467		294	1 123			12	253	3 267	23	11 009	185
346		96	1 113			12	253	3 267	23	9 770	185
73		95	424				140	1 145		3 146	96
12		13	87				1.5	219		767	0.2
2.3		46	79				7.4	191		748	1.2
6.1		29	28				30	58		321	6.2
52		6.5	229				101	678		1 312	89
17			1.1				18	62		2 615	18
										74	
17			1.1				18			2 346	18
								62		69	
										127	
257		0.7	688			12	94	2 059	23	4 008	71
196			390			8.8	0.3	952	1.1	1 844	9.1
61			298			2.8	72	1 095	22	1 947	61
0.1		0.3				0.3		10		140	0.4
		0.4				0.4	22	1.5		78	0.8
120		199	9.5							1 239	
			88	288	696	393	591			2 091	1 024
498		183	3 767				69			16 526	69
-2.6		-38								-845	
		-0.8								-188	
										-306	
-6.8		-3.1	-2.8							23	
489		141	3 852	288	696	393	660			17 301	1 093
-26		69								9.2	
33	197	179	-2 597	-288	-696	-380	-393	3 715	23	-4 618	-893
-8.5	-24	-82	-2 524	-276	-696	-152	-264	3 134	15	-3 532	-558
-7.0	-54	-39	-143	-12		-228	-124	584		-355	-334
-69	-4.5		70				-0.1			-3.5	-0.1
162	281	316								74	
		-16					-4.9			-798	
-45							-0.5	-3.6	7.6	-3.6	-0.5
-4.8	-205	-38	-37					-372		-828	
3.5	7.5	-34	-3.3				-1.2	-4.8		-167	-1.2
495		317	1 214			13	266	3 338	23	11 697	199
338		109	1 205			13	266	3 338	23	10 293	199
64		109	454				155	1 217		3 364	110
13		22	97				1.7	243		870	0.3
2.1		47	83				7.6	202		787	1.2
5.1		33	32				31	61		338	6.2
43		7.0	242				115	711		1 368	103
30			1.4				17	62		2 894	17
										148	
30			1.4				17			2 546	17
								62		69	
										131	
244		0.7	750			13	94	2 059	23	4 035	72
195			366			9.4	0.3	907	1.1	1 760	9.8
49			384			2.9	73	1 140	22	2 065	61
0.1		0.3				0.3		10		137	0.4
		0.4				0.4	21	1.6		73	0.8
157		208	9.0							1 403	

## Major energy indicators of Japan

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	18 293	21 599	21 754	20 915	18 103	17 942	18 049	17 771	17 301	16 109
Production	3 106	4 374	4 258	4 232	1 321	1 446	1 703	2 084	2 091	1 816
Import	15 967	18 153	18 583	17 846	17 964	17 644	17 573	17 033	16 526	14 941
Export	- 213	- 266	- 426	- 751	- 796	- 805	- 776	- 784	- 845	- 497
Final energy consumption	10 800	12 569	12 703	11 668	10 779	10 635	10 729	10 527	10 293	9 770
Industry	4 528	4 329	4 270	3 832	3 540	3 465	3 473	3 491	3 364	3 146
Transport	3 026	3 732	3 638	3 292	3 049	3 016	2 991	2 954	2 894	2 615
Residential	1 575	2 043	2 107	2 090	1 847	1 849	1 926	1 776	1 760	1 844
Commerce & public services	1 412	2 192	2 401	2 202	2 116	2 070	2 105	2 109	2 065	1 947
Others	258	274	287	251	227	236	235	197	210	218
<b>Coal</b>										
Primary energy supply	3 251	4 066	4 609	4 819	4 928	4 847	4 872	4 780	4 711	4 342
Production	187	64	27	25	31	31	32	23	18	18
Import	3 062	4 004	4 582	4 794	4 897	4 816	4 840	4 759	4 693	4 325
Export	- 0.1	- 0.1	- 0.1	- 0.1	- 0.1	- 0.1	- 0.1	- 0.8	- 0.1	- 0.1
Transformation sector	- 2 972	- 3 492	- 4 114	- 4 231	- 4 419	- 4 407	- 4 431	- 4 311	- 4 252	- 3 953
Power generation	- 799	- 1 649	- 2 277	- 2 401	- 2 735	- 2 695	- 2 729	- 2 621	- 2 572	- 2 503
Final energy consumption	418	427	448	423	428	408	419	410	394	366
Industry	418	427	447	415	423	405	416	410	394	366
Transport										
Residential										
Commerce & public services	0.5	0.5	0.8	8.0	5.0	3.3	3.0	0.6		
Others										
<b>Coal products</b>										
Primary energy supply	- 40	- 3.9	15	14	57	27	3.8	3.2	- 25	- 69
Production	15	76	81	30	80	60	38	47	21	26
Import	- 57	- 78	- 49	- 20	- 23	- 30	- 36	- 42	- 46	- 94
Export										
Transformation sector	888	629	693	666	564	611	635	635	654	615
Power generation	- 333	- 325	- 289	- 305	- 296	- 278	- 264	- 254	- 250	- 203
Final energy consumption	655	416	459	489	445	439	454	441	440	387
Industry	652	416	459	487	442	435	450	437	435	382
Transport										
Residential	2.8									
Commerce & public services				2.1	3.0	3.8	4.4	4.2	5.2	5.2
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply	8 500	9 127	8 937	7 698	7 048	6 955	6 743	6 362	6 267	5 076
Production	23	26	31	29	20	19	18	17	18	18
Import	8 605	9 182	8 935	7 664	6 980	6 871	6 664	6 371	6 213	4 904
Export										
Transformation sector	- 8 215	- 8 897	- 8 844	- 7 543	- 6 969	- 6 892	- 6 652	- 6 313	- 6 166	- 4 989
Petroleum refineries	- 7 538	- 8 905	- 8 853	- 7 624	- 6 949	- 6 991	- 6 783	- 6 489	- 6 337	- 5 150
<b>Petroleum products</b>										
Primary energy supply	1 918	1 470	1 150	725	663	470	649	607	459	1 118
Import	2 513	2 229	2 138	1 883	1 879	1 705	1 871	1 833	1 764	1 841
Export	- 156	- 187	- 376	- 731	- 773	- 775	- 740	- 741	- 799	- 403
Transformation sector	5 965	7 573	7 563	6 741	6 183	6 167	6 007	5 822	5 761	4 653
Power generation	- 1 400	- 920	- 899	- 650	- 598	- 617	- 544	- 448	- 375	- 351
Petroleum refineries	7 683	8 958	8 876	7 746	7 059	7 078	6 838	6 566	6 411	5 270
Final energy consumption	6 249	7 143	6 752	5 548	5 008	4 898	4 855	4 759	4 616	4 349
Industry	1 643	1 572	1 337	973	851	790	756	759	711	689
Transport	2 966	3 664	3 566	3 214	2 968	2 934	2 908	2 872	2 813	2 534
Residential	574	728	690	612	508	505	541	461	476	491
Commerce & public services	821	942	922	541	492	470	450	501	439	452
Others	245	236	236	207	189	199	199	165	177	183
<b>Gas</b>										
Primary energy supply	1 847	2 748	2 958	3 601	4 206	4 310	4 186	4 010	3 852	3 858
Production	80	96	121	134	100	103	107	94	88	81
Import	1 771	2 657	2 841	3 460	4 096	4 154	4 112	3 966	3 767	3 761
Export										
Transformation sector	- 1 248	- 1 861	- 1 816	- 2 366	- 2 959	- 3 056	- 2 903	- 2 758	- 2 597	- 2 668
Power generation	- 1 411	- 2 005	- 1 907	- 2 432	- 3 021	- 3 119	- 2 972	- 2 827	- 2 667	- 2 738
Final energy consumption	557	885	1 088	1 198	1 192	1 176	1 229	1 208	1 205	1 113
Industry	183	305	434	453	438	452	453	477	454	424
Transport		1.0	3.6	4.2	3.0	2.5	2.2	1.8	1.4	1.1
Residential	309	377	392	384	360	368	386	361	366	390
Commerce & public services	66	202	258	357	391	353	389	369	384	298
Others	0.1	0.1	0.1			0.1	0.1		0.1	0.1
<b>Electricity</b>										
Power generation	3 102	3 798	3 958	4 190	3 796	3 833	3 865	3 820	3 719	3 633
Thermal	1 951	2 217	2 437	2 665	3 128	3 090	3 006	2 823	2 694	2 656
Hydro	316	303	277	302	314	286	302	291	288	284
Nuclear	728	1 159	1 097	1 038	34	65	118	234	230	140
Others	106	119	147	186	321	392	439	472	507	554
Final energy consumption	2 753	3 502	3 689	3 728	3 418	3 423	3 473	3 404	3 338	3 267
Industry	1 535	1 506	1 466	1 364	1 241	1 234	1 246	1 250	1 217	1 145
Transport	61	67	68	66	63	63	63	62	62	62
Residential	638	903	997	1 074	965	963	986	943	907	952
Commerce & public services	508	1 015	1 147	1 213	1 137	1 151	1 164	1 138	1 140	1 095
Others	11	11	11	12	12	11	13	12	12	12

## Major economic indicators of Japan

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	123.48	126.84	127.77	128.07	127.14	127.08	126.97	126.81	126.63	126.26
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	3 510	3 987	4 229	4 219	4 445	4 478	4 553	4 580	4 569	4 363
GDP, billion USD (PPP, constant 2017)	4 056	4 607	4 887	4 876	5 137	5 176	5 262	5 293	5 280	5 042
Nominal, billion USD (current)	3 133	4 968	4 831	5 759	4 445	5 004	4 931	5 038	5 123	5 040
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	28 422	31 431	33 099	32 942	34 961	35 242	35 862	36 117	36 081	34 556
GDP, PPP (constant 2017 USD)	32 846	36 323	38 251	38 070	40 403	40 728	41 444	41 739	41 697	39 935
Nominal (current USD)	25 371	39 169	37 813	44 968	34 961	39 375	38 834	39 727	40 458	39 918
Nominal GDP & its components (billions of current JPY) <sup>1</sup>										
Gross domestic product	453 609	535 418	532 516	505 531	538 032	544 365	553 073	556 294	558 491	538 155
Households and NPISHs final consumption expenditure	232 791	287 352	291 829	287 488	300 065	297 776	302 054	304 902	304 634	289 499
General government final consumption expenditure	61 441	88 607	94 489	97 075	105 550	107 007	107 361	108 898	111 288	113 185
Gross fixed capital formation	161 251	152 525	137 927	114 349	134 355	134 788	138 309	140 301	142 822	136 498
Stock change	2 285	- 373	806	- 148	1 043	408	1 148	2 082	1 361	274
Exports of goods and services	46 361	56 023	73 572	75 418	93 815	87 414	97 294	101 947	97 431	83 729
Imports of goods and services	42 834	48 717	66 107	68 651	96 796	83 028	93 092	101 835	99 045	85 029
Real GDP & its components (billions of 2015 JPY) <sup>1</sup>										
Gross Domestic Product	424 806	482 573	511 907	510 674	538 032	542 088	551 170	554 389	553 057	528 131
Households and NPISHs final consumption expenditure	230 754	267 139	285 863	291 408	300 065	298 785	301 929	302 635	300 998	285 181
General government final consumption expenditure	63 081	85 057	92 111	97 239	105 550	107 254	107 345	108 431	110 503	113 042
Gross fixed capital formation	149 170	145 351	140 029	117 490	134 355	135 912	138 101	138 589	139 968	133 569
Stock change	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Exports of goods and services	32 988	52 290	70 747	82 441	93 815	95 334	101 644	105 465	103 927	91 662
Imports of goods and services	44 684	63 081	76 446	77 486	96 796	95 658	98 821	102 590	103 604	96 181
Sectoral shares of Real GDP (%) <sup>1</sup>										
Agriculture, Fishery and Forestry	N.A.	1.7	1.2	1.2	1.0	0.9	0.9	0.9	0.9	0.9
Industry	N.A.	31.0	29.8	29.1	28.6	28.6	29.3	29.8	29.3	29.4
Services, etc.	N.A.	68.3	70.1	69.6	69.8	69.8	69.5	69.0	68.9	68.9
Industrial production index (2010=100) <sup>2</sup>	103.9	103.2	105.9	100.0	97.3	97.2	100.0	101.0	98.3	87.9
External trade (billions of current USD) <sup>1</sup>										
Exports, f.o.b.	287.6	479.2	594.9	769.8	624.9	645.1	698.3	738.1	705.6	641.3
Imports, c.i.f.	235.4	379.5	515.9	694.1	648.1	607.7	672.1	748.5	721.0	635.5
Balance of payments (billions of current USD) <sup>2</sup>										
Trade balance	N.A.	118.0	107.0	108.5	-7.3	51.2	43.8	10.6	1.4	26.6
Current account	N.A.	130.7	170.1	220.9	136.5	197.0	203.2	177.3	176.6	147.0
Overall balance	N.A.	32.1	38.6	12.9	-41.6	-79.6	56.5	16.2	-29.6	26.8
Foreign exchange rate (JPY/USD) <sup>1</sup>	144.79	107.77	110.22	87.78	121.04	108.79	112.17	110.42	109.01	106.77
PPP conversion factor, GDP (JPY/USD) <sup>1</sup>	183.93	154.69	129.55	111.71	103.47	105.52	105.10	104.16	104.31	101.24
Price Indices										
GDP Deflator (2015=100) <sup>3</sup>	106.8	111.0	104.0	99.0	100.0	100.4	100.3	100.3	101.0	101.9
Producer Price Index (2010=100) <sup>2</sup>	107.7	99.5	97.2	100.0	102.7	99.1	101.4	103.9	N.A.	N.A.
Consumer Price Index (2010=100) <sup>2</sup>	94.5	102.7	100.4	100.0	103.6	103.5	104.0	105.0	105.5	105.5
Growth rate (%) <sup>3</sup>										
Real GDP	4.8	2.8	1.8	4.1	1.6	0.8	1.7	0.6	-0.2	-4.5
Population	0.3	0.2	0.0	0.0	-0.1	-0.1	-0.1	-0.1	-0.1	-0.3
Price										
Producer prices	1.5	0.0	1.7	-0.1	-2.3	-3.5	2.3	2.5	N.A.	N.A.
Consumer prices	3.1	-0.7	-0.3	-0.7	0.8	-0.1	0.5	1.0	0.5	0.0

Source <sup>1</sup>: *World Development Indicators*, World Bank

<sup>2</sup>: *International Financial Statistics*, International Monetary Fund

<sup>3</sup>: Calculated from <sup>1</sup> and <sup>2</sup> by ESTO

Note

: N.A. means "not available"

: JPY means Yen, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Energy prices in Japan

## IMPORT PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	JPY											
Exchange Rate	/ US Dollar	86.09	78.98	82.64	99.95	109.20	120.38	108.42	111.06	110.63	108.78	106.01
<b>Coal and Coal Products</b>												
Coking Coal	JPY/tonne	15 081	18 680	14 319	13 495	11 863	10 557	12 015	16 325	17 716	14 980	11 034
Anthracite												
Other bituminous coal	JPY/tonne	9 818	11 334	10 493	10 788	10 115	9 096	8 772	11 405	13 346	11 018	8 413
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
<b>Oil and Oil Products</b>												
Crude Oil	JPY/kL	45 399	56 684	59 358	69 226	61 273	37 035	32 523	39 822	50 272	46 388	28 862
<b>Natural Gas Liquids</b>												
Ethane												
LPG	JPY/tonne	66 137	73 099	80 213	93 177	80 574	52 957	44 734	57 814	61 587	50 171	47 273
Naphtha	JPY/kL	45 484	52 957	55 253	65 454	61 155	40 843	33 110	40 135	47 764	40 906	29 648
Motor Gasoline	JPY/kL	49 112	62 378	63 093	74 638	70 623	48 319	37 539	46 167	55 432	47 978	31 259
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel	JPY/kL	62 264	68 431	70 646	81 522	71 333	45 793	47 585	53 127	60 899	54 260	38 832
Other Kerosene	JPY/kL	61 096	67 694	77 377	89 167	66 146	46 303	50 491	57 100	61 089	55 220	39 337
Gas/Diesel Oil	JPY/kL	53 659	66 654	66 631	79 522	75 763	42 902	39 425	51 491	63 012	53 220	38 075
Fuel Oil	JPY/kL	45 900	62 351	64 234	71 187	65 425	42 970	37 456	42 952	54 007	51 236	41 225
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas	JPY/tonne	50 299	64 970	71 538	83 693	87 061	54 382	39 364	48 591	60 362	53 527	41 212
Compressed Natural Gas												
Electricity												

\* USD/BBL in 2011 and 2012

## Energy prices in Japan

## WHOLESALE PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	JPY											
Exchange Rate	/ US Dollar	86.09	78.98	82.64	99.95	109.20	120.38	108.42	111.06	110.63	108.78	106.01
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
<b>Natural Gas Liquids</b>												
Ethane												
LPG	JPY/kg	134.7	138.0	146.80	160.1	155.1	126.7	114.0	129.2	137.4	131.6	126.7
Naphtha	JPY/kL	44 542	51 352	54 685	64 788	62 614	41 951	34 183	42 338	51 182	44 886	32 749
Motor Gasoline	JPY/kL	120 921	132 183	133 880	143 076	141 577	114 892	109 051	117 943	128 527	123 620	108 213
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene	JPY/kL	68 294	78 059	80 500	89 250	85 869	59 310	54 513	64 080	76 410	72 491	56 916
Gas/Diesel Oil	JPY/kL	100 026	110 404	111 244	120 799	118 374	92 247	85 902	95 298	108 735	104 681	89 199
Fuel Oil	JPY/kL	61 192	61 192	61 944	69 446	64 150	41 106	36 208	42 191	50 336	47 426	32 233
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas												
Compressed Natural Gas												
Electricity												



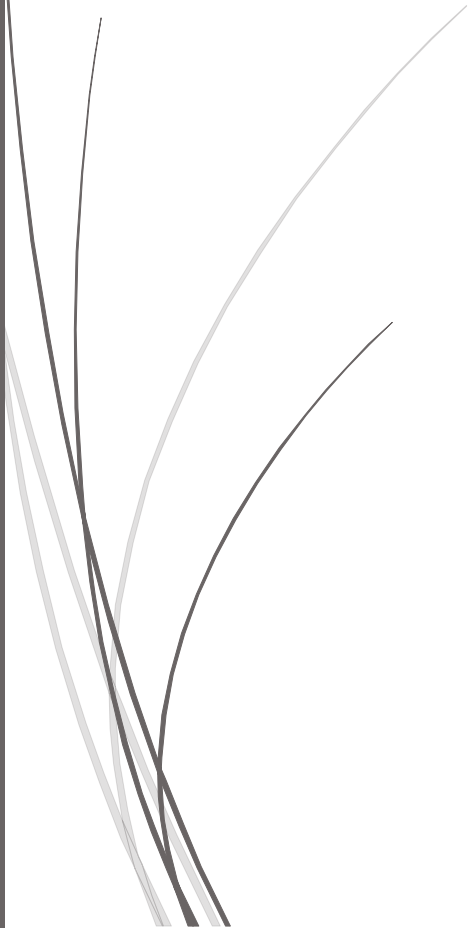
## Energy prices in Japan

## CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	JPY											
Exchange Rate	/ US Dollar	86.09	78.98	82.64	99.95	109.20	120.38	108.42	111.06	110.63	108.78	106.01
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG	JPY/m <sup>3</sup>	713.2	728.6	750.6	762.8	798.6	774.9	755.0	762.4	773.4	780.9	786.9
Naphtha												
Motor Gasoline (regular)	JPY/L	136	149	149	157	158	131	125	137	150	147	135
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene	JPY/L	87.7	98.3	100.7	107.9	108.1	84.8	74.4	88.4	100.6	100.2	89.3
Gas/Diesel Oil	JPY/L	116	128	129	137	137	112	105	115	129	128	115
Fuel Oil												
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas (export)												
Compressed Natural Gas												
<b>Electricity</b>												
Industrial												
Commercial												
Residential	JPY/kWh	21.4	22.3	23.3	25.2	26.8	24.6	22.0	23.0	24.1	24.0	22.5
Others												
<b>Other Energy Products</b>												



**Korea**



## Energy balance table of Korea

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					Fuel oil
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	
<b>2020</b>										
Production	20		41							
Import	3 045	7.7	5 636	1 692		1 095		0.4	5.3	189
Export			-2.7	-2 582	- 388	- 186	- 450	- 35	-1 140	- 85
International marine bunkers				- 417					- 64	- 354
International aviation bunkers				- 126			- 126			
Stock changes	37		-5.3	6.4	6.4	- 28	14	5.6	15	0.1
<b>Total primary energy supply</b>	<b>3 101</b>	<b>7.7</b>	<b>5 669</b>	<b>-1 427</b>	<b>- 381</b>	<b>881</b>	<b>- 561</b>	<b>- 29</b>	<b>-1 183</b>	<b>- 249</b>
Transfers			287	- 253	59	- 190	8.7	- 117	72	- 153
Total transformation sector	-2 783	290	-6 039	5 827	748	1 054	632	246	2 007	457
Main activity producers	-1 712	- 77		- 24					-3.0	- 21
Autoproducers	- 133	- 92		- 57		- 32				
Gas processing				-4.9					-0.2	
Petroleum refineries			-6 519	6 358	748	1 457	632	246	2 010	477
Coal transformation	- 938	459								
Other transformation			480	- 445		- 372				
Losses & own use		- 133		- 244				-0.1	-0.1	- 12
Discrepancy	- 168	-8.2	83	- 21	-1.8	- 57	- 20	-4.8	22	-0.5
<b>Total final consumption</b>	<b>150</b>	<b>157</b>		<b>3 882</b>	<b>423</b>	<b>1 688</b>	<b>59</b>	<b>95</b>	<b>917</b>	<b>42</b>
<b>Total final energy consumption</b>	<b>150</b>	<b>136</b>		<b>1 828</b>	<b>423</b>		<b>59</b>	<b>95</b>	<b>917</b>	<b>42</b>
Industry sector	150	127		172				4.8	50	29
Iron and steel	49	127		2.8					0.2	
Chemical & petrochemical	3.1			56				0.3	1.2	10
Non-metallic minerals	88			22					5.3	10
Other industries	10			92				4.5	43	8.7
Transport sector				1 349	423		41	0.3	754	3.6
Domestic air transport				41			41		0.1	
Road				1 291	423				741	0.1
Rail				3.3					3.3	
Inland waterways				13				0.2	9.6	3.5
Other transport										
Other sector		9.9		307			18	90	113	9.6
Residential		9.9		117				66	13	7.4
Commerce and public services				89			0.5	14	28	1.1
Agriculture				19				7.5	11	0.2
Non-specified others				83			18	1.5	61	0.9
Non-energy		21		2 054		1 688				
<b>2019</b>										
Production	21		34							
Import	3 343	8.9	6 126	1 739	0.7	1 150		0.2	10	202
Export			-4.7	-2 898	- 460	- 241	- 643	- 23	-1 116	- 113
International marine bunkers				- 348					- 62	- 286
International aviation bunkers				- 236			- 236			
Stock changes	- 22		- 71	31	6.9	17	-4.7	-1.3	4.0	13
<b>Total primary energy supply</b>	<b>3 342</b>	<b>8.9</b>	<b>6 084</b>	<b>-1 712</b>	<b>- 452</b>	<b>926</b>	<b>- 884</b>	<b>- 24</b>	<b>-1 164</b>	<b>- 184</b>
Transfers			331	- 296	7.1	- 241	-9.8	4.7	6.4	- 95
Total transformation sector	-3 179	303	-6 472	6 262	880	1 155	958	119	2 098	332
Main activity producers	-2 060	- 82		- 39					-7.7	- 32
Autoproducers	- 140	- 94		- 64		- 32				
Gas processing				-4.2						
Petroleum refineries			-6 982	6 836	880	1 588	958	119	2 106	363
Coal transformation	- 979	480								
Other transformation			510	- 466		- 401				
Losses & own use		- 138		- 248					-0.2	- 14
Discrepancy	-6.0	-2.7	57	76	-2.4	- 13	0.1	-7.3	30	13
<b>Total final consumption</b>	<b>157</b>	<b>171</b>		<b>4 082</b>	<b>433</b>	<b>1 828</b>	<b>64</b>	<b>92</b>	<b>970</b>	<b>51</b>
<b>Total final energy consumption</b>	<b>157</b>	<b>150</b>		<b>1 899</b>	<b>433</b>		<b>64</b>	<b>92</b>	<b>970</b>	<b>51</b>
Industry sector	157	137		153				3.4	49	34
Iron and steel	54	128		3.0					0.1	0.2
Chemical & petrochemical	2.9			32				0.3	1.2	10
Non-metallic minerals	90			24				0.1	5.3	11
Other industries	11	8.9		93				3.0	43	13
Transport sector				1 447	433		46	0.2	816	5.7
Domestic air transport				46			46		0.1	
Road				1 381	433				802	0.2
Rail				3.8					3.8	
Inland waterways				16				0.2	10	5.6
Other transport				0.1					0.1	
Other sector		12		299	0.1		18	89	104	12
Residential		12		130				67	23	7.9
Commerce and public services				69			0.5	12	10	2.1
Agriculture				15				5.0	8.7	0.6
Non-specified others				86	0.1		18	3.9	62	1.0
Non-energy		22		2 184		1 828				

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			6.9	14	1 747	90	286		2.2	2 206	247
398		3.6	2 012							12 392	
- 23		- 275								-2 585	
										- 417	
										- 126	
-3.9		-3.3	53				-1.4			89	-1.4
371		- 275	2 072	14	1 747	90	284		2.2	11 560	246
6.3	52	10								34	
73	187	424	-1 148	- 14	-1 747	- 78	- 129	2 071	235	-3 515	- 174
			-1 093	- 14	-1 747	- 73	- 80	1 961	96	-2 763	- 154
		- 25	- 59			-4.9	- 50	110	140	- 146	- 21
-4.0	-0.7		4.2							-0.7	
118	210	459								- 162	
										- 479	
- 41	- 23	-9.5						0.4	-1.1	34	
-8.5	- 210	- 14	-5.6					- 204	-6.7	- 593	
2.7	9.0	30	- 34				1.4	- 21	-5.0	- 173	1.4
445	37	176	884			12	156	1 846	225	7 313	73
249	37	5.6	884			12	156	1 846	225	5 238	73
45	37	5.6	290			0.3	97	945	128	1 910	17
2.5			64				0.7	166	0.2	409	
6.9	37		38				18	182	84	381	0.2
0.6		5.6	23				30	43	0.1	206	0.2
36			165			0.3	48	554	44	913	17
127			45				27	12		1 433	27
										41	
127			45				27	1.3		1 365	27
								10		14	
										13	
76			548			12	32	889	97	1 896	28
30			400			2.4	5.0	255	84	874	7.5
45			148			7.9	27	574	13	859	20
0.2						1.3	0.2	50		70	1.4
1.0								11		93	
196		170								2 075	
			9.0	10	1 592	69	284		2.2	2 021	230
376		0.4	2 018							13 235	
- 23		- 279								-2 903	
										- 348	
										- 236	
-3.1		-0.6	19				-0.1			- 43	-0.1
350		- 279	2 046	10	1 592	69	284		2.2	11 726	230
11	23	-2.7								34	
92	205	424	-1 040	- 10	-1 592	- 58	- 127	2 081	235	-3 596	- 154
			- 983	- 10	-1 592	- 54	- 77	1 966	91	-2 840	- 133
		- 32	- 61			-4.3	- 50	114	145	- 154	- 21
-4.2			3.6							-0.6	
137	227	457								- 146	
										- 499	
- 42	- 23							0.4	-1.1	44	
-8.7	- 212	- 14	-4.6					- 205	-6.6	- 603	
13	-0.1	43	- 89				0.1	9.9	-0.8	45	0.1
456	16	171	912			11	157	1 886	230	7 607	76
265	16	7.6	912			11	157	1 886	230	5 402	76
43	16	7.6	311			0.3	95	981	133	1 968	19
2.7			65				0.4	191	0.2	442	
4.9	16		37				17	191	86	366	0.4
0.6		7.6	25				30	45	0.1	214	
34			183			0.3	48	555	47	945	19
146			50				27	11		1 535	27
										46	
146			50				27	0.9		1 458	27
								10		14	
										16	
										0.1	
76			552			11	35	893	97	1 900	30
31			384			2.4	5.5	243	83	861	7.8
44			167			7.4	29	589	13	875	20
0.2			0.2			1.2	0.7	51		67	1.9
1.0								11		97	
192		164								2 205	

## Major energy indicators of Korea

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	3 890	7 811	8 804	10 468	11 414	11 820	11 814	11 805	11 726	11 560
Production	947	1 442	1 799	1 882	2 150	2 150	2 052	1 890	2 021	2 206
Import	3 096	8 587	8 847	11 173	12 552	13 012	13 237	13 542	13 235	12 392
Export	- 159	-1 714	-1 496	-1 917	-2 628	-2 691	-2 798	-2 970	-2 903	-2 585
Final energy consumption	2 436	4 274	4 609	4 996	5 271	5 391	5 472	5 503	5 402	5 238
Industry	806	1 611	1 635	1 883	2 013	2 002	2 028	2 069	1 968	1 910
Transport	610	1 100	1 222	1 254	1 418	1 462	1 492	1 472	1 535	1 433
Residential	542	630	771	832	797	868	895	899	861	874
Commerce & public services	364	721	805	858	876	903	891	898	875	859
Others	114	213	176	169	167	155	166	165	164	163
<b>Coal</b>										
Primary energy supply	1 063	1 690	2 070	3 057	3 373	3 401	3 449	3 363	3 342	3 101
Production	317	152	53	40	33	32	29	22	21	20
Import	658	1 572	1 956	3 036	3 385	3 397	3 410	3 332	3 343	3 045
Export										
Transformation sector	- 991	-1 593	-2 034	-2 851	-3 199	-3 187	-3 303	-3 305	-3 179	-2 783
Power generation	- 164	-1 006	-1 421	-2 051	-2 181	-2 178	-2 313	-2 307	-2 200	-1 845
Final energy consumption	113	267	174	189	201	211	170	183	157	150
Industry	111	267	174	189	201	211	170	183	157	150
Transport										
Residential										
Commerce & public services										
Others	1.1									
<b>Coal products</b>										
Primary energy supply			9.3	18	11	10	10	9.4	8.9	7.7
Production										
Import			9.3	18	11	10	10	9.4	8.9	7.7
Export										
Transformation sector	439	202	175	293	371	308	311	329	303	290
Power generation	- 86	- 93	- 100	- 144	- 179	- 176	- 181	- 182	- 176	- 169
Final energy consumption	378	113	150	194	228	160	171	191	150	136
Industry	16	89	110	158	201	137	151	172	137	127
Transport										
Residential										
Commerce & public services										
Others	362	24	40	36	27	23	21	19	12	10
<b>Crude oil &amp; NGL</b>										
Primary energy supply	1 810	5 296	4 974	5 066	5 903	6 218	6 407	6 504	6 084	5 669
Production		28	22	29	28	29	32	34	34	41
Import	1 787	5 267	4 913	5 090	5 950	6 250	6 399	6 406	6 126	5 636
Export		-4.1	-0.1	- 20	- 14	- 22	- 15	- 26	-4.7	-2.7
Transformation sector	-1 780	-5 141	-4 968	-4 939	-5 784	-6 083	-6 382	-6 521	-6 472	-6 039
Petroleum refineries	-1 780	-5 358	-5 190	-5 232	-6 193	-6 526	-6 885	-7 041	-6 982	-6 519
<b>Petroleum products</b>										
Primary energy supply	272	-1 149	-1 102	-1 083	-1 604	-1 621	-1 840	-1 884	-1 712	-1 427
Import	538	1 031	875	1 383	1 574	1 697	1 593	1 716	1 739	1 692
Export	- 159	-1 710	-1 496	-1 897	-2 614	-2 669	-2 782	-2 944	-2 898	-2 582
Transformation sector	1 634	4 713	4 652	4 652	5 476	5 691	6 037	6 226	6 262	5 827
Power generation	- 189	- 337	- 271	- 213	- 177	- 195	- 127	- 135	- 104	- 80
Petroleum refineries	1 823	5 260	5 167	5 169	6 050	6 321	6 630	6 850	6 836	6 358
Final energy consumption	1 546	2 296	2 063	1 839	1 822	1 871	1 898	1 856	1 899	1 828
Industry	456	459	334	247	143	150	150	153	153	172
Transport	606	1 092	1 199	1 189	1 343	1 381	1 409	1 383	1 447	1 349
Residential	80	162	133	125	127	148	153	142	130	117
Commerce & public services	296	388	248	144	99	99	81	78	69	89
Others	108	194	150	133	110	94	105	100	100	101
<b>Gas</b>										
Primary energy supply	114	712	1 146	1 618	1 647	1 730	1 809	1 990	2 046	2 072
Production			18	20	7.1	5.8	13	11	9.0	6.9
Import	112	715	1 093	1 645	1 630	1 658	1 827	2 078	2 018	2 012
Export										
Transformation sector	- 85	- 241	- 464	- 739	- 800	- 856	- 892	-1 080	-1 040	-1 148
Power generation	- 85	- 241	- 464	- 754	- 803	- 860	- 896	-1 087	-1 044	-1 152
Final energy consumption	28	457	669	862	858	901	928	938	912	884
Industry	3.1	121	175	297	310	314	313	315	311	290
Transport			14	43	49	50	50	51	50	45
Residential	19	261	351	374	342	371	393	400	384	400
Commerce & public services	5.7	76	130	148	157	166	172	172	167	148
Others		0.5	1.0	0.2	0.1	0.1	0.1	0.1	0.2	
<b>Electricity</b>										
Power generation	379	1 039	1 396	1 788	1 977	2 012	2 026	2 110	2 081	2 071
Thermal	166	632	853	1 229	1 339	1 364	1 416	1 537	1 445	1 357
Hydro	23	14	13	13	7.7	10	10	12	10	14
Nuclear	190	392	528	535	593	583	534	481	525	577
Others		0.4	1.7	11	37	54	66	81	100	124
Final energy consumption	340	947	1 287	1 618	1 783	1 862	1 884	1 913	1 886	1 846
Industry	208	541	662	821	945	955	988	1 004	981	945
Transport	3.6	7.3	9.4	7.9	8.0	10	10	11	11	12
Residential	64	134	183	221	230	248	240	244	243	255
Commerce & public services	59	246	407	532	548	592	588	595	589	574
Others	5.2	19	25	36	53	58	58	60	62	61

## Major economic indicators of Korea

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	42.87	47.01	48.18	49.55	51.01	51.22	51.36	51.59	51.76	51.84
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	401	799	1 021	1 261	1 466	1 509	1 557	1 602	1 638	1 624
GDP, billion USD (PPP, constant 2017)	543	1 079	1 380	1 704	1 981	2 039	2 104	2 165	2 213	2 195
Nominal, billion USD (current)	283	576	935	1 144	1 466	1 500	1 624	1 725	1 651	1 638
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	9 365	16 992	21 193	25 451	28 732	29 462	30 307	31 054	31 640	31 327
GDP, PPP (constant 2017 USD)	12 656	22 964	28 641	34 394	38 829	39 815	40 957	41 966	42 759	42 336
Nominal (current USD)	6 610	12 257	19 403	23 087	28 732	29 289	31 617	33 437	31 902	31 598
Nominal GDP & its components (billions of current KRW) <sup>1</sup>										
Gross domestic product	200 556	651 634	957 448	1322 611	1658 020	1740 780	1835 698	1898 193	1924 498	1933 152
Households and NPISHs final consumption expenditure	100 738	355 141	500 911	667 061	804 812	834 805	872 791	911 576	935 934	897 449
General government final consumption expenditure	22 008	71 028	123 149	187 875	250 088	265 295	283 046	304 693	328 663	349 123
Gross fixed capital formation	74 874	206 895	291 800	399 786	481 002	517 350	578 457	576 587	579 002	601 465
Stock change	4 452	7 451	19 449	30 752	8 600	7 368	14 255	21 100	27 117	14 457
Exports of goods and services	50 128	221 159	337 817	622 999	712 776	698 621	751 429	791 799	755 863	704 554
Imports of goods and services	51 655	209 540	316 357	585 862	599 257	582 659	664 279	707 562	702 082	633 488
Real GDP & its components (billions of 2015 KRW) <sup>1</sup>										
Gross Domestic Product	454 146	903 551	1155 130	1426 618	1658 020	1706 880	1760 812	1812 005	1852 666	1836 881
Households and NPISHs final consumption expenditure	279 924	511 607	617 417	725 119	804 812	825 676	848 589	875 578	894 075	849 072
General government final consumption expenditure	77 174	115 735	151 963	205 739	250 088	261 162	271 429	285 893	304 190	319 321
Gross fixed capital formation	175 602	306 030	369 229	425 635	481 002	512 635	562 777	550 387	538 654	552 730
Stock change	6 575	10 058	17 797	17 171	8 600	7 662	13 945	18 509	20 531	14 016
Exports of goods and services	55 318	218 958	359 712	549 438	712 776	729 685	747 784	777 515	779 368	765 016
Imports of goods and services	84 743	231 805	343 052	485 464	599 257	630 267	686 089	697 841	684 517	661 725
Sectoral shares of Real GDP (%) <sup>1</sup>										
Agriculture, Fishery and Forestry	4.9	3.0	2.3	2.2	2.0	1.8	1.8	1.8	1.8	1.7
Industry	31.1	32.6	34.2	34.9	34.1	34.2	34.6	34.3	33.7	33.8
Services, etc.	53.4	54.9	54.6	54.6	55.6	55.6	55.3	55.8	56.4	56.3
Industrial production index (2010=100) <sup>2</sup>	40.0	93.6	99.5	100.0	93.9	95.7	98.7	100.2	100.1	100.1
External trade (billions of current USD) <sup>1</sup>										
Exports, f.o.b.	65.0	172.3	284.4	466.4	526.8	495.4	573.7	604.9	542.2	512.5
Imports, c.i.f.	69.8	160.5	261.2	425.2	436.5	406.2	478.5	535.2	503.3	467.6
Balance of payments (billions of current USD) <sup>2</sup>										
Trade balance	-3.7	15.4	32.5	47.9	120.3	116.5	113.6	110.1	79.8	80.6
Current account	-2.8	10.2	12.2	28.0	105.1	97.9	75.2	77.5	59.7	75.9
Overall balance	-0.5	24.5	13.5	33.3	14.2	5.6	-5.0	18.8	1.9	11.5
Foreign exchange rate (KRW/USD) <sup>1</sup>	707.77	1 130.36	1 024.33	1 156.46	1 130.95	1 160.77	1 131.00	1 100.16	1 165.36	1 180.27
PPP conversion factor, GDP (KRW/USD) <sup>1</sup>	559.92	747.74	788.92	840.99	857.48	858.81	872.62	854.87	864.63	824.60
Price Indices										
GDP Deflator (2015=100) <sup>3</sup>	44.2	72.1	82.9	92.7	100.0	102.0	104.3	104.8	103.9	105.2
Producer Price Index (2010=100) <sup>2</sup>	56.4	79.1	86.9	100.0	100.9	99.1	102.5	104.5	104.5	104.0
Consumer Price Index (2010=100) <sup>2</sup>	44.6	73.1	86.2	100.0	109.8	110.9	113.1	114.7	115.2	115.8
Growth rate (%) <sup>3</sup>										
Real GDP	9.9	9.1	4.3	6.8	2.8	2.9	3.2	2.9	2.2	-0.9
Population	1.0	0.8	0.2	0.5	0.5	0.4	0.3	0.4	0.3	0.1
Price										
Producer prices	4.2	2.1	2.1	3.8	-4.0	-1.8	3.5	1.9	0.0	-0.5
Consumer prices	8.6	2.3	2.8	2.9	0.7	1.0	1.9	1.5	0.4	0.5

Source <sup>1</sup>: *World Development Indicators*, World Bank

<sup>2</sup>: *International Financial Statistics*, International Monetary Fund

<sup>3</sup>: Calculated from <sup>1</sup> and <sup>2</sup> by ESTO

Note : N.A. means "not available"

: KRW means Won, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Energy prices in Korea

## IMPORT PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	KRW											
Exchange Rate	/ US Dollar	1 156	1 108	1 127	1 095	1 053	1 132	1 160	1 130	1 101	1 166	1 180
<b>Coal and Coal Products</b>												
Coking Coal	USD/tonne	178.02	250.20	202.89	150.33	125.43	100.71	104.97	184.31	182.94	171.52	120.05
Anthracite	USD/tonne	137.13	201.17	168.91	134.74	111.04	90.91	80.54	133.23	146.24	135.20	97.19
Other bituminous coal	USD/tonne	92.40	112.12	106.47	88.66	81.99	65.20	59.48	83.61	95.0	83.44	66.45
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
<b>Oil and Oil Products</b>												
Crude Oil	USD/BBL	78.73	108.0	112.79	108.27	101.24	53.29	41.08	53.36	71.48	65.51	45.32
<b>Natural Gas Liquids</b>												
Ethane												
LPG	USD/BBL	61.86	76.59	79.61	77.28	76.43	41.93	30.85	41.07	48.0	37.49	32.58
Naphtha	USD/BBL	80.42	104.23	105.72	102.95	101.78	55.78	44.09	54.16	70.59	58.46	45.32
<b>Motor Gasoline</b>												
Aviation Gasoline	USD/BBL	136.67	145.87	142.17	189.88	184.33	155.75	138.71	158.67	151.33	179.67	144.20
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene	USD/BBL	102.44	129.65	128.55	126.67	125.56	124.93	47.69	62.81	61.97	82.89	37.76
Gas/Diesel Oil	USD/BBL	93.49	130.46	127.49	127.25	122.53	75.38	55.49	68.67	86.59	79.76	39.06
Fuel Oil	USD/BBL	74.11	102.69	109.15	101.33	95.51	47.98	37.97	54.62	70.70	66.67	50.91
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas	USD/tonne	521.60	650.39	756.26	768.52	846.26	562.83	363.79	416.01	526.84	504.72	393.08
Compressed Natural Gas												
Electricity												

## Energy prices in Korea

## WHOLESALE PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	KRW											
Exchange Rate	/ US Dollar	1 156	1 108	1 127	1 095	1 053	1 132	1 160	1 130	1 101	1 166	1 180
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
<b>Natural Gas Liquids</b>												
Ethane												
LPG	KRW/kg	1 056.32	1 230.05	1 261.72	1 216.68	1 154.77	727.05	584.41	733.70	812.50	720.71	666.91
Naphtha												
Motor Gasoline	KRW/L	1 732.70	1 940.16	1 999.32	1 935.97	1 847.24	1 553.50	1 459.89	1 541.00	1 621.29	1 562.86	1 464.60
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene	KRW/L	908.06	1 144.18	1 185.50	1 126.88	963.61	630.92	542.41	650.03	765.44	752.20	532.21
Gas/Diesel Oil	KRW/L	1 393.05	1 630.62	1 682.19	1 609.17	1 484.96	1 164.48	1 068.66	1 161.41	1 277.05	1 227.85	1 057.18
Fuel Oil	KRW/L	710.49	917.83	1 053.51	918.71	853.38	541.87	442.78	564.74	658.87	678.23	518.28
White Spirit SBP	KRW/L				829.06	782.09						
Lubricants												
Bitumen	KRW/kg	592.50	723.00	795.92	716.61	611.08	379.96	293.19	404.45	533.41	547.31	427.08
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	KRW/MJ	656.31	768.06	18.56	19.53	20.52	16.00	12.99	12.47	13.23	13.86	11.86
Liquefied Natural Gas												
Compressed Natural Gas												
Electricity												



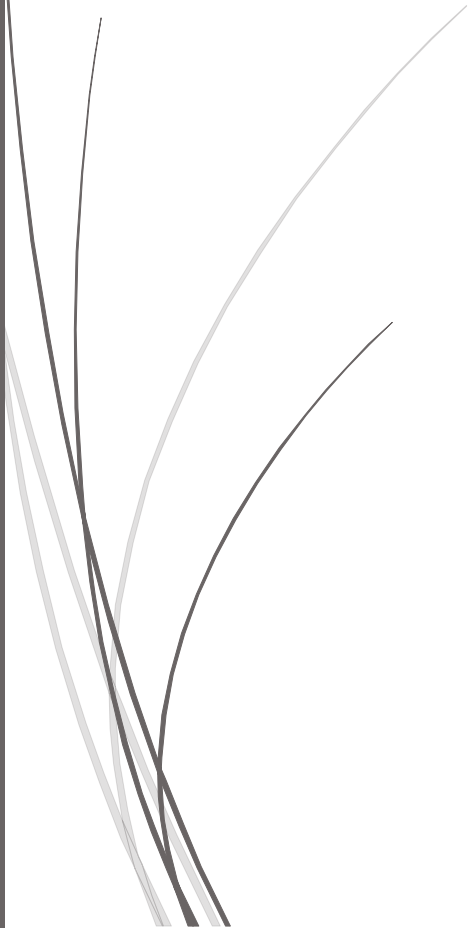
## Energy prices in Korea

## CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	KRW											
Exchange Rate	/ US Dollar	1 156	1 108	1 127	1 095	1 053	1 132	1 160	1 130	1 101	1 166	1 180
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG												
Naphtha												
Motor Gasoline (regular)	KRW/L	1 710.41	1 929.26	1 985.76	1 924.48	1 827.28	1 510.40	1 402.64	1 491.30	1 581.37	1 472.44	1 381.39
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene	KRW/L	1 076.00	1 321.22	1 394.07	1 366.68	1 296.72	947.39	784.48	853.08	942.34	961.66	853.80
Gas/Diesel Oil	KRW/L	1 502.80	1 745.71	1 806.34	1 729.61	1 636.68	1 299.57	1 182.54	1 282.53	1 391.90	1 340.52	1 189.65
Fuel Oil	KRW/L	772.27	987.21	1 088.66	935.12	885.51	604.23	523.78	619.75	724.33	733.62	570.06
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	KRW/MJ*	704.94	815.78	20.63	21.75	17.24	14.25	13.82	14.58	14.58	15.21	13.30
Liquefied Natural Gas (export)												
Compressed Natural Gas												
<b>Electricity</b>												
Industrial	KRW/kWh	76.63	81.23	92.83	100.70	106.83	107.41	107.11	107.41	106.46	106.56	107.35
Commercial	KRW/kWh	98.93	101.69	112.50	121.98	129.75	130.46	130.41	130.42	129.97	130.33	131.60
Residential	KRW/kWh	119.85	119.99	123.69	127.02	125.14	123.69	121.52	108.50	106.87	104.95	107.89
Others												
Other Energy Products												



# Malaysia



## Energy balance table of Malaysia

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products				
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil
<b>2020</b>									
Production	79		1 205						
Import	931		295	527	289		32	118	9.0
Export			- 444	- 443	- 74		- 49	- 1.7	- 19
International marine bunkers				- 23				- 5.5	- 17
International aviation bunkers									
Stock changes	30		- 1.0	54	38		- 35	0.3	- 7.7
<b>Total primary energy supply</b>	<b>1 039</b>		<b>1 055</b>	<b>115</b>	<b>253</b>		<b>- 52</b>	<b>- 1.3</b>	<b>- 25</b>
Transfers			- 83	84					
Total transformation sector	- 982		- 965	880	213		103	2.0	380
Main activity producers	- 982			- 6.9					- 0.5
Autoproducers				- 2.4					- 2.4
Gas processing				21			1.5	3.9	
Petroleum refineries			- 965	869	213		103	0.5	385
Coal transformation									50
Other transformation									
Losses & own use			- 5.3	- 7.3					
Discrepancy	- 1.4		- 1.9	- 11	2.4		- 0.9	0.7	1.8
<b>Total final consumption</b>	<b>56</b>			<b>1 060</b>	<b>468</b>		<b>50</b>	<b>1.3</b>	<b>357</b>
<b>Total final energy consumption</b>	<b>56</b>			<b>950</b>	<b>468</b>		<b>50</b>	<b>1.3</b>	<b>14</b>
Industry sector	56			110	4.2			1.3	84
Iron and steel									12
Chemical & petrochemical									
Non-metallic minerals									
Other industries	56			110	4.2			1.3	84
Transport sector				744	462		50		232
Domestic air transport				50			50		
Road				694	462				232
Rail									
Inland waterways									
Other transport									
Other sector				97	2.4		0.1		40
Residential				40			0.1		
Commerce and public services				23					1.7
Agriculture				11					11
Non-specified others				23	2.4				21
Non-energy				109					
<b>2019</b>									
Production	91		1 339						
Import	822		435	739	368		24	260	3.3
Export	- 0.1		- 523	- 493	- 15		- 28	- 2.0	- 17
International marine bunkers				- 17				- 5.7	- 11
International aviation bunkers									
Stock changes	- 28		- 86	79	8.5		- 5.8	0.3	- 8.9
<b>Total primary energy supply</b>	<b>885</b>		<b>1 165</b>	<b>308</b>	<b>362</b>		<b>- 9.5</b>	<b>- 1.8</b>	<b>- 34</b>
Transfers			- 88	88					
Total transformation sector	- 810		- 1 058	960	223		145	2.3	335
Main activity producers	- 810			- 22					- 0.8
Autoproducers				- 3.0					- 3.0
Gas processing				19			2.0	4.1	
Petroleum refineries			- 1 058	966	223		145	0.3	355
Coal transformation									58
Other transformation									
Losses & own use				- 6.7					
Discrepancy	- 3.6		- 18	- 17	- 6.0		0.8	- 0.1	11
<b>Total final consumption</b>	<b>71</b>			<b>1 333</b>	<b>578</b>		<b>137</b>	<b>0.5</b>	<b>443</b>
<b>Total final energy consumption</b>	<b>71</b>			<b>1 215</b>	<b>578</b>		<b>137</b>	<b>0.5</b>	<b>19</b>
Industry sector	71			116	3.8			0.2	90
Iron and steel									16
Chemical & petrochemical									
Non-metallic minerals									
Other industries	71			116	3.8			0.2	90
Transport sector				1 014	572		137		305
Domestic air transport				137			137		
Road				877	572				305
Rail									
Inland waterways									
Other transport									
Other sector				86	2.4		0.3		48
Residential				26			0.3		
Commerce and public services				23					2.1
Agriculture				8.9					8.7
Non-specified others				28	2.4				25
Non-energy				118					

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			2 322	98		7.4	54			3 766	160
23		56	358					0.1		2 111	
- 11		- 128	- 1 159				- 12	- 5.7		- 2 065	- 12
										- 23	
15		19					7.4			90	7.4
27		- 52	1 521	98		7.4	49	- 5.6		3 879	155
84										0.9	
30	6.5	95	- 535	- 98		- 7.4	- 16	627		- 1 097	- 122
			- 412	- 98		- 7.4	- 8.1	604		- 910	- 114
			- 59			- 0.1	- 7.8	23		- 47	- 7.9
2.1		13	- 64							- 43	
28	6.5	82								- 96	
	- 6.5	- 0.7	- 37					- 49		- 98	
2.3		- 16	- 253					- 25		- 292	
143		26	696				33	548		2 393	33
60			311				33	548		1 899	33
7.5			308					267		741	
7.5			308					267		741	
			2.7				33	1.4		781	33
										50	
			2.7				33			730	33
								1.4		1.4	
52			0.6					279		376	
40								131		171	
12			0.6					146		169	
								2.5		13	
										23	
84		26	385							494	
			2 573	94		5.3	70			4 173	170
19		65	334					0.1		2 331	
- 25		- 191	- 1 263				- 26	- 6.1		- 2 311	- 26
										- 17	
23		2.6					- 3.3			- 38	- 3.3
17		- 123	1 644	94		5.3	41	- 6.0		4 137	140
88											
25	6.2	167	- 606	- 94		- 5.3	- 13	643		- 985	- 113
			- 547	- 94		- 5.2	- 6.8	618		- 868	- 106
			- 56				- 6.7	25		- 41	- 6.7
1.3		12	- 3.2							16	
23	6.2	155								- 92	
	- 6.2	- 0.5	- 34					- 55		- 96	
- 3.3		- 14	- 223					- 10		- 272	
126		30	781				27	571		2 783	27
38			328				27	571		2 213	27
5.5			323					283		792	
5.5			323					283		792	
			4.1				27	1.7		1 047	27
										137	
			4.1				27			909	27
								1.7		1.7	
33			1.0					287		374	
26								114		140	
6.8			1.0					171		195	
								2.4		11	
										28	
88		30	453							571	

## Major energy indicators of Malaysia

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	857	1 999	2 745	2 848	3 748	3 905	3 948	4 020	4 137	3 879
Production	1 948	3 170	3 926	3 493	4 087	4 176	4 301	4 113	4 173	3 766
Import	406	681	1 009	1 552	1 946	2 101	2 078	2 376	2 331	2 111
Export	-1 490	-1 827	-2 198	-2 202	-2 292	-2 399	-2 413	-2 466	-2 311	-2 065
Final energy consumption	514	1 149	1 512	1 582	1 922	2 030	2 092	2 152	2 213	1 899
Industry	221	478	652	541	585	671	731	797	792	741
Transport	226	505	640	705	981	1 005	1 006	986	1 047	781
Residential	31	69	91	111	132	138	157	140	140	171
Commerce & public services	37	93	124	180	186	200	170	186	195	169
Others		4.4	4.2	45	37	17	28	43	39	36
<b>Coal</b>										
Primary energy supply	57	97	286	611	733	785	868	947	885	1 039
Production	2.9	10	18	63	68	64	79	70	91	79
Import	60	81	277	547	672	716	803	868	822	931
Export	-1.2	-0.8	-1.9	-2.6	-6.5	-0.6	-16		-0.1	
Transformation sector	-34	-63	-232	-542	-654	-710	-794	-857	-810	-982
Power generation	-34	-63	-232	-542	-654	-710	-794	-857	-810	-982
Final energy consumption	21	41	56	76	74	75	76	76	71	56
Industry	21	41	56	76	74	75	76	76	71	56
Transport										
Residential										
Commerce & public services										
Others										
<b>Coal products</b>										
Primary energy supply										
Production										
Import										
Export										
Transformation sector										
Power generation										
Final energy consumption										
Industry										
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply	420	947	1 120	1 046	1 086	1 237	1 244	1 165	1 165	1 055
Production	1 282	1 353	1 568	1 443	1 407	1 475	1 456	1 424	1 339	1 205
Import	94	323	342	340	351	456	428	388	435	295
Export	-961	-722	-795	-723	-675	-697	-627	-629	-523	-444
Transformation sector	-418	-928	-1 025	-951	-1 030	-1 152	-1 144	-1 071	-1 058	-965
Petroleum refineries	-418	-928	-1 025	-951	-1 030	-1 152	-1 144	-1 071	-1 058	-965
<b>Petroleum products</b>										
Primary energy supply	82	-80	-8.3	97	177	152	81	159	308	115
Import	253	277	333	434	595	642	555	827	739	527
Export	-164	-357	-353	-353	-428	-511	-463	-671	-493	-443
Transformation sector	311	844	916	895	1 018	1 053	1 143	1 041	960	880
Power generation	-125	-40	-24	-31	-18	-15	-20	-15	-25	-9.4
Petroleum refineries	436	877	898	888	1 017	1 042	1 140	1 033	966	869
Final energy consumption	402	789	937	937	1 141	1 160	1 180	1 156	1 215	950
Industry	146	221	232	117	91	101	113	102	116	110
Transport	226	505	636	693	953	979	983	961	1 014	744
Residential	31	28	33	30	28	25	47	33	26	40
Commerce & public services		30	32	52	32	39	11	19	23	23
Others		4.4	4.2	44	36	15	26	41	36	34
<b>Gas</b>										
Primary energy supply	285	1 010	1 334	1 072	1 676	1 635	1 641	1 624	1 644	1 521
Production	648	1 782	2 318	1 964	2 524	2 533	2 641	2 477	2 573	2 322
Import			56	231	327	286	293	291	334	358
Export	-364	-747	-1 040	-1 123	-1 176	-1 185	-1 293	-1 144	-1 263	-1 159
Transformation sector	-100	-784	-1 000	-750	-1 027	-793	-752	-684	-606	-535
Power generation	-57	-507	-552	-572	-633	-601	-541	-537	-603	-471
Final energy consumption	19	98	228	192	213	260	293	352	328	311
Industry	19	97	223	180	201	251	286	346	323	308
Transport		0.3	4.0	10	11	8.7	6.2	5.1	4.1	2.7
Residential		0.2	0.2	0.3						
Commerce & public services	0.3	0.5	1.0	1.3	1.0	1.0	1.0	1.0	1.0	0.6
Others										
<b>Electricity</b>										
Power generation	83	231	315	398	540	564	592	614	643	627
Thermal	68	206	293	374	487	488	492	512	539	517
Hydro	14	25	22	23	50	72	96	95	94	98
Nuclear										
Others				0.8	3.7	3.9	4.2	7.1	9.3	12
Final energy consumption	72	220	291	377	477	519	528	551	571	548
Industry	35	117	141	167	218	244	257	274	283	267
Transport		0.5	1.0	0.8	1.0	1.2	1.0	1.0	1.0	0.6
Residential		41	58	81	103	112	109	107	114	131
Commerce & public services	37	62	91	126	153	160	158	166	171	146
Others		-0.3	-0.7	1.0	1.7	2.0	2.7	3.0	3.1	3.3

## Major economic indicators of Malaysia

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	18.03	23.19	25.69	28.21	30.27	30.68	31.10	31.53	31.95	32.37
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	75	148	187	233	301	315	333	349	365	344
GDP, billion USD (PPP, constant 2017)	186	369	465	579	750	784	829	869	908	857
Nominal, billion USD (current)	44	94	144	255	301	301	319	359	365	337
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	4 139	6 393	7 275	8 248	9 955	10 258	10 708	11 076	11 415	10 632
GDP, PPP (constant 2017 USD)	10 306	15 917	18 114	20 536	24 788	25 542	26 662	27 577	28 421	26 472
Nominal (current USD)	2 442	4 044	5 587	9 041	9 955	9 818	10 259	11 380	11 433	10 412
Nominal GDP & its components (billions of current MYR) <sup>1</sup>										
Gross domestic product	119	356	544	821	1 177	1 250	1 372	1 448	1 513	1 417
Households and NPISHs final consumption expenditure	62	156	240	395	635	685	760	831	904	862
General government final consumption expenditure	16	36	62	103	154	157	167	173	177	184
Gross fixed capital formation	39	90	121	184	304	319	344	350	347	297
Stock change	-0.8	5.6	0.5	7.8	-5.2	6.0	6.6	-4.4	-29	-17
Exports of goods and services	89	427	614	714	817	834	961	993	987	870
Imports of goods and services	86	359	494	583	729	751	867	895	874	779
Real GDP & its components (billions of 2015 MYR) <sup>1</sup>										
Gross Domestic Product	291	579	730	909	1 177	1 229	1 301	1 364	1 424	1 344
Households and NPISHs final consumption expenditure	137	236	328	451	635	672	719	776	836	799
General government final consumption expenditure	31	53	85	111	154	156	164	170	173	180
Gross fixed capital formation	78	142	157	205	304	312	331	336	329	281
Stock change	5.3	50	-2.6	34	-5.2	0.3	1.0	-8.7	-14	-4.3
Exports of goods and services	163	523	679	756	817	828	900	917	908	827
Imports of goods and services	135	398	528	625	729	739	815	827	807	739
Sectoral shares of Real GDP (%) <sup>1</sup>										
Agriculture, Fishery and Forestry	20.2	11.1	10.3	9.4	8.3	7.6	7.7	7.3	7.1	7.4
Industry	48.5	51.3	49.0	40.1	38.4	38.4	38.0	37.4	36.8	36.6
Services, etc.	31.6	38.5	41.4	49.4	52.0	52.6	53.0	54.0	54.9	54.9
Industrial production index (2010=100) <sup>2</sup>	31.6	78.4	100.0	100.0	121.5	126.5	132.1	136.1	N.A.	N.A.
External trade (billions of current USD) <sup>1</sup>										
Exports, f.o.b.	29.5	98.2	141.6	198.6	200.0	189.7	218.1	247.5	238.2	234.1
Imports, c.i.f.	29.3	82.0	114.3	164.6	176.0	168.7	195.4	217.6	205.0	189.9
Balance of payments (billions of current USD) <sup>2</sup>										
Trade balance	2.5	20.7	33.0	38.4	27.9	24.5	27.3	28.4	30.1	32.8
Current account	-0.9	8.5	20.0	25.6	9.1	7.1	9.0	8.0	12.8	14.1
Overall balance	0.9	2.2	10.2	19.6	-5.8	7.3	7.9	11.0	3.7	-4.3
Foreign exchange rate (MYR/USD) <sup>1</sup>	2.70	3.80	3.79	3.22	3.91	4.15	4.30	4.04	4.14	4.20
PPP conversion factor, GDP (MYR/USD) <sup>1</sup>	0.97	1.19	1.29	1.42	1.57	1.59	1.65	1.63	1.60	1.57
Price Indices										
GDP Deflator (2015=100) <sup>3</sup>	40.9	61.5	74.5	90.4	100.0	101.7	105.5	106.2	106.2	105.4
Producer Price Index (2010=100) <sup>2</sup>	50.4	69.0	82.4	100.0	102.2	101.1	107.9	106.7	N.A.	N.A.
Consumer Price Index (2010=100) <sup>2</sup>	56.8	80.5	87.8	100.0	112.8	115.1	119.6	120.7	121.5	120.1
Growth rate (%) <sup>3</sup>										
Real GDP	9.0	8.9	5.3	7.4	5.1	4.4	5.8	4.8	4.4	-5.6
Population	2.9	2.4	2.0	1.7	1.4	1.4	1.4	1.4	1.3	1.3
Price										
Producer prices	0.7	3.1	6.9	5.6	-7.5	-1.1	6.7	-1.1	N.A.	N.A.
Consumer prices	2.6	1.5	3.0	1.6	2.1	2.1	3.9	0.9	0.7	-1.1

Source <sup>1</sup>: *World Development Indicators*, World Bank

<sup>2</sup>: *International Financial Statistics*, International Monetary Fund

<sup>3</sup>: Calculated from <sup>1</sup> and <sup>2</sup> by ESTO

Note

: N.A. means "not available"

: MYR means Malaysian Ringgit, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Energy prices in Malaysia

## IMPORT PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	MYR											
Exchange Rate	/ US Dollar	3.22	3.06	3.09	3.15	3.27	3.91	4.15	4.30	4.04	4.14	4.20
<b>Coal and Coal Products</b>												
Coking Coal	MYR/tonne	1 485										
Anthracite	MYR/tonne	1 295										
Other bituminous coal	MYR/tonne	295										
Sub-bituminous Coal	MYR/tonne							248	332	336	383	
Lignite	MYR/tonne	865										
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
<b>Oil and Oil Products</b>												
Crude Oil	MYR/tonne	2 029						1 184	1 627	2 169	1 976	
Natural Gas Liquids	MYR/tonne	24 510										
Ethane	MYR/tonne	8 114										
LPG	MYR/tonne	3 000								5 708	2 977	
Naphtha	MYR/tonne	1 963										
Motor Gasoline	MYR/tonne	2 463								5 708		
Aviation Gasoline											2 977	
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel	MYR/tonne	7 380								2 806	2 662	
Other Kerosene										2 772	5 091	
Gas/Diesel Oil	MYR/tonne	2 240								2 469	2 424	
Fuel Oil	MYR/tonne	1 625								1 580	1 729	
White Spirit SBP												
Lubricants	MYR/tonne	13 678								5 162	5 162	
Bitumen	MYR/tonne	1 471										
Paraffin Waxes	MYR/tonne	7 569										
Petroleum Coke	MYR/tonne	2 910										
<b>Natural Gas</b>												
Natural Gas	MYR/tonne	492						1 377	1 525	1 436	1 526	
Liquefied Natural Gas	MYR/tonne							1 540	1 844	2 258	2 222	
Compressed Natural Gas												
Electricity												

## Energy prices in Malaysia

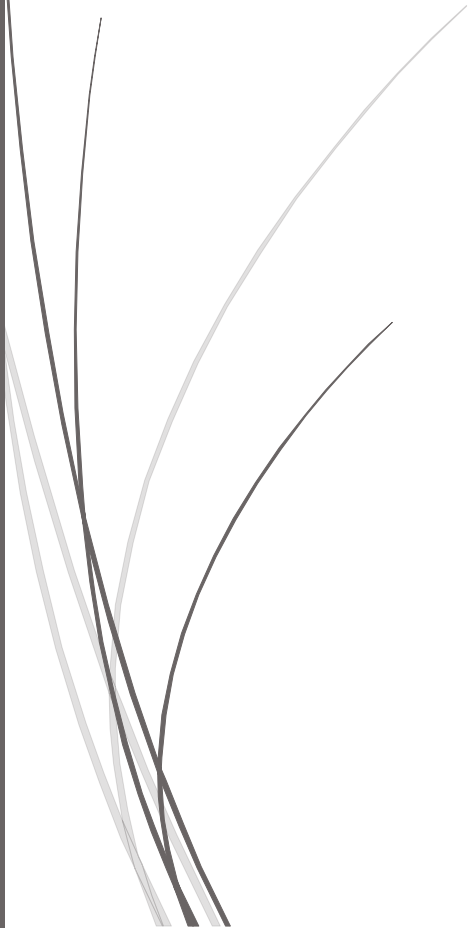
## CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	MYR											
Exchange Rate	/ US Dollar	3.22	3.06	3.09	3.15	3.27	3.91	4.15	4.30	4.04	4.14	4.20
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG	MYR/L	1.85										
Naphtha												
Motor Gasoline	MYR/L	1.90										
RON97	MYR/L								2.43	2.55	2.50	
RON95	MYR/L								2.15	2.22	2.04	
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene												
Gas/Diesel Oil	MYR/L	1.75							2.09	2.20	2.17	
Fuel Oil												
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas												
Compressed Natural Gas												
<b>Electricity</b>												
Industrial	MYR/kWh	0.2546										
Commercial	MYR/kWh	0.3284										
Residential	MYR/kWh	0.2726										
Others												





**Mexico**



## Energy balance table of Mexico

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	Fuel oil
<b>2020</b>										
Production	184		4 099							
Import	149	29	18	1 846	864	19	54		400	19
Export	-0.1		-2 590	-306			-21		-33	-250
International marine bunkers				-6.6					-5.8	-0.8
International aviation bunkers				-81	-0.3		-81			
Stock changes	7.2		-64	-27	-13		-0.6		0.5	-16
<b>Total primary energy supply</b>	<b>340</b>	<b>29</b>	<b>1 464</b>	<b>1 425</b>	<b>851</b>	<b>-1.8</b>	<b>-28</b>		<b>361</b>	<b>-248</b>
Transfers			-166	194			-14			
Total transformation sector	-231	8.5	-1 427	901	358	76	36		239	39
Main activity producers	-184			-382					-30	-352
Autoproducers		-2.6		-54					-4.5	-12
Gas processing				-29						
Petroleum refineries			-1 430	1 369	358	79	36		274	403
Coal transformation	-46	11								
Other transformation			2.9	-2.4		-2.4				
Losses & own use		-14		-131						-24
Discrepancy	-34	0.9	130	-142	-101	-18	-7.4		-124	240
<b>Total final consumption</b>	<b>76</b>	<b>24</b>		<b>2 247</b>	<b>1 108</b>	<b>42</b>			<b>477</b>	<b>6.6</b>
<b>Total final energy consumption</b>	<b>76</b>	<b>20</b>		<b>2 069</b>	<b>1 108</b>	<b>0.9</b>			<b>477</b>	<b>6.6</b>
Industry sector	76	20		201		0.9			55	4.7
Iron and steel		20		2.8					0.7	0.3
Chemical & petrochemical				10		0.9			5.6	0.5
Non-metallic minerals	2.2			100					0.3	0.4
Other industries	74			88					48	3.5
Transport sector				1 512	1 108				344	1.9
Domestic air transport				0.4	0.4					
Road				1 477	1 108				312	
Rail				16					16	
Inland waterways				18					16	1.9
Other transport										
Other sector				356					78	
Residential				217						
Commerce and public services				60					1.9	
Agriculture				79					76	
Non-specified others										
Non-energy		3.1		178		41				
<b>2019</b>										
Production	207		4 109							
Import	237	34	18	2 240	1 077	26	117		518	95
Export	-0.1		-2 586	-246			-59		-26	-161
International marine bunkers				-33					-30	-3.0
International aviation bunkers				-177	-0.4		-176			
Stock changes	16		86	66	31		14		18	2.7
<b>Total primary energy supply</b>	<b>460</b>	<b>34</b>	<b>1 628</b>	<b>1 849</b>	<b>1 108</b>	<b>-32</b>	<b>-45</b>		<b>481</b>	<b>-66</b>
Transfers			-184	215			-8.1			
Total transformation sector	-342	12	-1 451	908	368	97	55		263	-24
Main activity producers	-302			-382					-30	-352
Autoproducers		-2.4		-56					-4.5	-12
Gas processing				-30						
Petroleum refineries			-1 455	1 379	368	99	55		297	341
Coal transformation	-40	15								
Other transformation			3.5	-2.4		-2.4				
Losses & own use		-13		-148						-33
Discrepancy	-46	1.0	8.2	109	22	-14	-11		-6.8	132
<b>Total final consumption</b>	<b>71</b>	<b>34</b>		<b>2 933</b>	<b>1 498</b>	<b>42</b>			<b>737</b>	<b>9.2</b>
<b>Total final energy consumption</b>	<b>71</b>	<b>31</b>		<b>2 771</b>	<b>1 498</b>	<b>0.9</b>			<b>737</b>	<b>9.2</b>
Industry sector	71	31		224		0.9			39	6.6
Iron and steel		31		3.2					0.5	0.4
Chemical & petrochemical				9.1		0.9			4.1	0.7
Non-metallic minerals	4.3			132					0.2	0.6
Other industries	67			80					35	4.9
Transport sector				2 130	1 498				570	2.7
Domestic air transport				0.5	0.5					
Road				2 074	1 497				517	
Rail				27					27	
Inland waterways				29					26	2.7
Other transport										
Other sector				417					127	
Residential				226						
Commerce and public services				62					1.3	
Agriculture				129					125	
Non-specified others										
Non-energy		2.6		162		41				



## Major energy indicators of Mexico

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	5 179	6 315	7 561	7 475	7 741	7 742	7 565	7 698	7 633	7 407
Production	8 187	9 601	11 032	9 317	7 938	7 556	6 928	6 655	6 250	6 199
Import	244	1 076	1 327	2 009	2 959	3 536	3 939	4 396	4 259	4 289
Export	-3 172	-4 105	-4 660	-3 698	-3 024	-3 151	-3 066	-3 081	-2 843	-2 917
Final energy consumption	3 108	3 683	4 190	4 602	4 793	4 872	4 928	4 618	4 706	3 843
Industry	1 078	1 166	1 291	1 372	1 480	1 468	1 589	1 331	1 404	1 287
Transport	1 185	1 501	1 852	2 139	2 139	2 217	2 153	2 097	2 136	1 517
Residential	659	755	740	745	744	744	740	745	741	682
Commerce & public services	62	143	143	148	167	166	165	183	180	170
Others	123	119	164	197	263	278	281	263	245	187
<b>Coal</b>										
Primary energy supply	169	270	498	544	459	487	500	482	460	340
Production	157	238	296	335	242	291	276	252	207	184
Import	6.6	65	193	207	202	204	254	227	237	149
Export	-0.1	-0.1	-0.1	-3.2	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
Transformation sector	-169	-269	-428	-433	-439	-433	-395	-357	-342	-231
Power generation	-72	-183	-345	-341	-366	-380	-345	-309	-302	-184
Final energy consumption			78	131	126	44	110	72	71	76
Industry			78	131	126	44	110	72	71	76
Transport										
Residential										
Commerce & public services										
Others										
<b>Coal products</b>										
Primary energy supply	3.4	18	11	11	20	32	31	32	34	29
Production										
Import	3.5	18	11	11	20	32	34	34	34	29
Export	-0.1	-0.1	-0.1				-2.8	-1.3		
Transformation sector	60	31	43	45	33	17	17	16	12	8.5
Power generation		-16	-6.7	-7.5	-5.9	-5.1	-3.6	-2.6	-2.4	-2.6
Final energy consumption	39	32	34	32	32	30	29	32	31	20
Industry	39	32	34	32	32	30	29	32	31	20
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply	3 449	3 234	3 851	3 263	2 907	2 484	1 999	1 620	1 628	1 464
Production	6 418	7 167	8 270	6 500	5 483	5 220	4 721	4 425	4 109	4 099
Import	10	16	14	14	17	21	26	31	18	18
Export	-2 966	-3 910	-4 429	-3 253	-2 608	-2 752	-2 724	-2 768	-2 586	-2 590
Transformation sector	-3 114	-2 927	-3 286	-3 003	-2 753	-2 411	-1 969	-1 465	-1 451	-1 427
Petroleum refineries	-3 117	-2 929	-3 290	-3 008	-2 762	-2 416	-1 972	-1 469	-1 455	-1 430
<b>Petroleum products</b>										
Primary energy supply	-66	506	421	690	875	1 197	1 594	1 721	1 849	1 425
Import	207	873	788	1 247	1 451	1 782	2 122	2 241	2 240	1 846
Export	-198	-186	-215	-405	-407	-391	-332	-302	-246	-306
Transformation sector	2 226	1 757	2 258	2 226	2 063	1 800	1 477	1 054	908	901
Power generation	-633	-973	-678	-444	-318	-341	-377	-334	-438	-436
Petroleum refineries	2 862	2 780	2 983	2 707	2 420	2 157	1 889	1 422	1 379	1 369
Final energy consumption	1 861	2 292	2 608	2 836	2 847	2 949	2 857	2 710	2 771	2 069
Industry	312	313	307	246	262	296	268	181	224	201
Transport	1 182	1 497	1 847	2 134	2 134	2 212	2 147	2 091	2 130	1 512
Residential	275	320	288	276	252	243	241	234	226	217
Commerce & public services	23	73	64	63	67	65	65	64	62	60
Others	70	90	102	117	131	133	135	140	129	79
<b>Gas</b>										
Primary energy supply	968	1 486	1 930	2 271	2 707	2 771	2 621	3 035	2 874	3 357
Production	953	1 398	1 610	1 783	1 439	1 274	1 112	1 174	1 148	1 138
Import	15	101	322	529	1 263	1 489	1 495	1 849	1 717	2 212
Export		-8.7	-8.8	-3.3	-1.0	-0.9	-0.6	-0.4	-0.4	
Transformation sector	-144	-410	-810	-1 200	-1 428	-1 506	-1 603	-1 520	-1 342	-1 285
Power generation	-144	-449	-847	-1 227	-1 448	-1 516	-1 604	-1 528	-1 351	-1 295
Final energy consumption	487	491	459	524	563	576	617	500	503	459
Industry	453	465	420	482	519	534	574	460	464	425
Transport		0.2	0.7	0.4	0.7	1.0	2.0	2.5	1.9	1.6
Residential	34	19	31	32	33	31	30	27	27	23
Commerce & public services		6.2	7.3	9.1	11	11	11	11	10	8.5
Others										
<b>Electricity</b>										
Power generation	417	740	903	992	1 119	1 154	1 159	1 287	1 239	1 132
Thermal	303	564	727	806	906	939	934	998	952	876
Hydro	85	119	100	134	111	111	115	117	85	97
Nuclear	11	30	39	21	42	38	39	49	40	29
Others	18	27	37	31	60	67	71	123	161	131
Final energy consumption	361	523	683	776	927	973	979	985	1 008	932
Industry	192	298	394	442	504	525	531	527	552	511
Transport	2.9	4.0	3.9	4.3	4.1	4.1	3.9	3.9	4.0	3.7
Residential	73	130	153	175	202	212	213	228	232	215
Commerce & public services	39	63	70	75	86	86	85	103	103	96
Others	53	28	62	81	132	145	146	123	116	108

## Major economic indicators of Mexico

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	83.94	98.90	106.01	114.09	121.86	123.33	124.78	126.19	127.58	128.93
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	626	876	941	1 013	1 172	1 203	1 228	1 255	1 253	1 150
GDP, billion USD (PPP, constant 2017)	1 255	1 756	1 886	2 030	2 348	2 410	2 461	2 515	2 510	2 305
Nominal, billion USD (current)	261	708	877	1 058	1 172	1 078	1 159	1 222	1 269	1 087
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	7 461	8 862	8 878	8 879	9 617	9 752	9 842	9 946	9 820	8 923
GDP, PPP (constant 2017 USD)	14 949	17 757	17 789	17 790	19 269	19 539	19 721	19 928	19 675	17 878
Nominal (current USD)	3 112	7 158	8 278	9 271	9 617	8 745	9 288	9 687	9 950	8 432
Nominal GDP & its components (billions of current MXN) <sup>11</sup>										
Gross domestic product	735	6 694	9 563	13 366	18 572	20 129	21 934	23 524	24 453	23 357
Households and NPISHs final consumption expenditure	514	4 548	6 563	8 735	12 148	13 189	14 305	15 238	15 866	14 740
General government final consumption expenditure	62	637	1 006	1 573	2 288	2 418	2 548	2 722	2 785	2 935
Gross fixed capital formation	132	1 438	1 980	2 885	4 166	4 590	4 846	5 179	5 038	4 421
Stock change	39	98	90	162	164	165	178	164	135	55
Exports of goods and services	137	1 701	2 509	3 970	6 412	7 456	8 259	9 235	9 490	9 250
Imports of goods and services	146	1 809	2 649	4 152	6 791	7 854	8 656	9 716	9 552	8 772
Real GDP & its components (billions of 2013 MXN) <sup>11</sup>										
Gross Domestic Product	9 241	12 933	13 887	14 948	17 292	17 747	18 122	18 520	18 486	16 976
Households and NPISHs final consumption expenditure	5 779	8 398	9 635	10 052	11 349	11 764	12 139	12 450	12 495	11 184
General government final consumption expenditure	1 300	1 657	1 635	1 853	2 075	2 129	2 143	2 204	2 165	2 167
Gross fixed capital formation	1 810	2 664	2 774	3 163	3 730	3 761	3 716	3 746	3 569	2 933
Stock change	90	156	123	172	156	146	143	130	101	24
Exports of goods and services	1 349	3 104	3 691	4 381	5 910	6 122	6 377	6 760	6 859	6 359
Imports of goods and services	1 132	3 477	4 014	4 647	5 928	6 097	6 485	6 902	6 851	5 910
Sectoral shares of Real GDP (%) <sup>11</sup>										
Agriculture, Fishery and Forestry	3.9	3.2	3.2	3.3	3.1	3.2	3.2	3.2	3.2	3.5
Industry	36.8	36.3	35.2	32.9	31.1	30.4	29.7	29.2	28.7	28.2
Services, etc.	55.2	56.7	57.8	59.9	61.7	62.1	62.7	63.2	63.7	64.1
Industrial production index (2010=100) <sup>12</sup>	68.0	95.7	100.2	100.0	109.5	109.7	109.7	110.1	108.1	97.3
External trade (billions of current USD) <sup>11</sup>										
Exports, f.o.b.	40.7	166.4	214.2	298.3	380.6	373.9	409.4	450.7	460.6	417.0
Imports, c.i.f.	43.5	179.5	228.2	310.2	405.3	397.5	432.2	476.8	467.4	393.3
Balance of payments (billions of current USD) <sup>12</sup>										
Trade balance	-4.4	-8.4	-7.7	-2.9	-14.6	-13.1	-11.0	-13.8	5.2	34.2
Current account	-7.5	-18.8	-5.6	-4.8	-30.9	-24.2	-20.0	-24.3	-3.3	27.2
Overall balance	1.0	6.6	6.7	43.9	-12.9	8.3	8.6	7.6	15.7	17.2
Foreign exchange rate (MXN/USD) <sup>11</sup>	2.81	9.46	10.90	12.64	15.85	18.66	18.93	19.24	19.26	21.49
PPP conversion factor, GDP (MXN/USD) <sup>11</sup>	1.35	6.10	7.13	7.68	8.33	8.45	8.91	9.28	9.65	9.70
Price Indices										
GDP Deflator (2013=100) <sup>13</sup>	8.0	51.8	68.9	89.4	107.4	113.4	121.0	127.0	132.3	137.6
Producer Price Index (2010=100) <sup>12</sup>	11.9	57.7	77.8	100.0	117.9	124.6	133.2	140.5	N.A.	N.A.
Consumer Price Index (2010=100) <sup>12</sup>	11.8	63.3	80.5	100.0	119.4	122.8	130.2	136.6	141.5	146.4
Growth rate (%) <sup>13</sup>										
Real GDP <sup>13</sup>	5.2	4.9	2.3	5.1	3.3	2.6	2.1	2.2	-0.2	-8.2
Population <sup>13</sup>	1.9	1.5	1.4	1.4	1.2	1.2	1.2	1.1	1.1	1.1
Price <sup>12</sup>										
Producer prices	21.7	7.8	4.7	4.2	2.9	5.7	6.9	5.5	N.A.	N.A.
Consumer prices	26.7	9.5	4.0	4.2	2.7	2.8	6.0	4.9	3.6	3.4

Source <sup>11</sup>: *World Development Indicators*, World Bank

<sup>12</sup>: *International Financial Statistics*, International Monetary Fund

<sup>13</sup>: Calculated from <sup>11</sup> and <sup>12</sup> by ESTO

Note : N.A. means "not available"

: MXN means Mexican Nuevo Peso, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

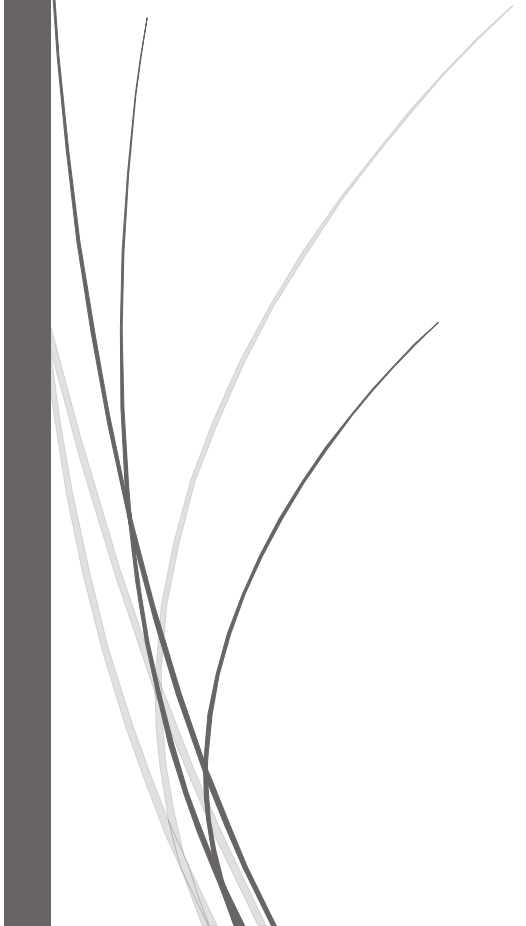
## Energy prices in Mexico

## WHOLESALE PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	MXN											
Exchange Rate	/ US Dollar			13.31	12.77	13.31						
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG	MXN/tonne			7.36	8.29	9.03						
Naphtha												
Motor Gasoline												
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene												
Gas/Diesel Oil	MXN/L			9.16	10.22	11.43						
Fuel Oil	MXN/tonne			7 927	7 160	6 006						
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	MXN/GJ			33.78	30.92	53.19						
Liquefied Natural Gas												
Compressed Natural Gas												
Electricity												



# **New Zealand**



## Energy balance table of New Zealand

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products				
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil
<b>2020</b>									
Production	70		49						
Import	25		159	128	49		4.6	62	0.9
Export	-33		-39						
International marine bunkers				-7.4				-5.0	-2.4
International aviation bunkers				-22			-22		
Stock changes	3.8		-3.8	-6.3	-0.9		-0.8	0.4	0.7
<b>Total primary energy supply</b>	<b>66</b>		<b>165</b>	<b>92</b>	<b>48</b>		<b>-18</b>	<b>58</b>	<b>-0.8</b>
Transfers			29	-27	-9.3		-0.9	-6.9	-0.3
Total transformation sector	-33	4.2	-200	199	55		28	75	3.4
Main activity producers	-16			-1.3				-1.3	
Autoproducers	-0.1	-7.1							
Gas processing									
Petroleum refineries			-200	200	55		28	77	3.4
Coal transformation	-17	11							
Other transformation									
Losses & own use	-0.4	-2.6		-11					
Discrepancy	-9.8		5.7	4.4	2.2		0.4	0.3	1.2
<b>Total final consumption</b>	<b>23</b>	<b>1.7</b>		<b>257</b>	<b>96</b>		<b>9.5</b>	<b>126</b>	<b>3.4</b>
<b>Total final energy consumption</b>	<b>23</b>	<b>1.7</b>		<b>244</b>	<b>96</b>		<b>9.5</b>	<b>126</b>	<b>3.4</b>
Industry sector	20	1.7		18	0.1			14	0.4
Iron and steel		1.7							
Chemical & petrochemical									
Non-metallic minerals	1.9								
Other industries	18			18	0.1			14	0.4
Transport sector				193	93		9.5	89	1.5
Domestic air transport				9.9	0.3		9.5		
Road				178	93			85	
Rail				1.4				1.4	
Inland waterways				3.6				2.1	1.5
Other transport									
Other sector	2.7			33	2.6			23	1.6
Residential	0.3			3.6				0.1	
Commerce and public services	0.6			9.7	1.1			5.5	1.6
Agriculture	1.8			17	1.5			16	
Non-specified others				2.3	0.1			2.2	
Non-energy				13					
<b>2019</b>									
Production	76		56						
Import	26		219	119	43		8.5	54	1.0
Export	-42		-48	-5.5				-1.3	-4.1
International marine bunkers				-14				-1.9	-1.2
International aviation bunkers				-54			-54		
Stock changes	3.0		7.3	2.9	-3.9		3.9	-2.0	0.1
<b>Total primary energy supply</b>	<b>63</b>		<b>235</b>	<b>48</b>	<b>39</b>		<b>-42</b>	<b>48</b>	<b>-15</b>
Transfers			13	-12	-5.0			-1.0	-0.4
Total transformation sector	-32	4.6	-256	263	66		59	86	18
Main activity producers	-15								
Autoproducers	-0.2	-7.9							
Gas processing									
Petroleum refineries			-256	263	66		59	86	18
Coal transformation	-17	12							
Other transformation									
Losses & own use	-0.7	-2.8		-15					
Discrepancy	-3.9		8.1	5.8	7.7		-3.3	2.4	0.5
<b>Total final consumption</b>	<b>26</b>	<b>1.8</b>		<b>291</b>	<b>108</b>		<b>14</b>	<b>136</b>	<b>3.3</b>
<b>Total final energy consumption</b>	<b>26</b>	<b>1.8</b>		<b>271</b>	<b>108</b>		<b>14</b>	<b>136</b>	<b>3.3</b>
Industry sector	23	1.8		19	0.1			15	0.8
Iron and steel		1.8							
Chemical & petrochemical									
Non-metallic minerals	4.1								
Other industries	19			19	0.1			15	0.8
Transport sector				226	106		14	103	2.0
Domestic air transport				14	0.4		14		
Road				205	106			99	
Rail				1.6				1.6	
Inland waterways				4.4				2.4	2.0
Other transport									
Other sector	3.2			26	1.8			18	0.4
Residential	0.3			3.7				0.1	
Commerce and public services	0.8			7.0	0.7			4.2	0.4
Agriculture	2.1			13	1.1			12	
Non-specified others				2.1				2.1	
Non-energy				20					



unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			163	87		210	38			617	334
0.4		11					3.0			315	3.0
										-72	
										-7.4	
										-22	
		-5.7	-0.5							-6.8	
0.4		5.3	162	87		210	41			824	337
8.1		-18								2.1	
	8.8	28	-48	-87		-202	-22	160		-229	-310
			-47	-87		-200	-2.0	155		-199	-289
			-1.6			-2.0	-20	5.6	1.0	-24	-20
	8.8	28								0.2	
										-5.3	
									-1.0	-1.0	
	-8.8	-2.3	-7.5					-18		-40	
0.4		-0.1	2.2				6.0	-2.8		5.7	6.0
8.8		13	109			8.1	25	140		563	33
8.8			67			8.1	25	140		508	33
3.5			52			4.7	16	48		161	21
			0.1					4.4		6.2	
			26					1.5		28	
			0.8					0.9		3.6	
3.5			25			4.7	16	41		124	21
0.1							0.2	0.4		193	0.2
										9.9	
0.1							0.2	0.1		178	0.2
								0.2		1.6	
										3.6	
5.3			15			3.4	9.1	91		154	13
3.5			6.5			0.6	8.9	46		66	9.4
1.6			7.1			2.4	0.2	33		53	2.6
0.1			1.3			0.4		9.5		30	0.5
								2.2		4.5	
		13	42							55	
			167	92		210	41			642	342
1.1		11					2.9			366	2.9
										-95	
										-14	
										-54	
		4.8	0.6							14	
1.1		16	168	92		210	44			859	345
8.2		-13								1.6	
	12	21	-45	-92		-202	-22	163		-219	-314
			-43	-92		-200	-1.9	157		-195	-294
			-1.7			-1.9	-20	5.9	1.2	-24	-20
	12	21								6.8	
										-5.0	
										-1.2	
	-12	-2.1	-10					-19		-47	
-0.2		-1.4	5.5				6.3	-1.0		21	6.3
9.1		20	118			8.3	28	143		616	37
9.1			73			8.3	28	143		550	37
3.6			58			4.9	19	51		176	24
			0.1					4.7		6.7	
			28					1.5		29	
			1.9					1.0		7.0	
3.6			28			4.9	19	44		133	24
0.1							0.3	0.4		226	0.3
										14	
0.1							0.3	0.1		206	0.3
								0.3		1.9	
										4.4	
5.4			15			3.4	9.1	91		148	12
3.6			6.2			0.6	8.8	46		65	9.4
1.7			7.7			2.4	0.2	34		52	2.6
0.1			1.2			0.4		9.0		26	0.4
								2.5		4.7	
		20	46							66	

## Major energy indicators of New Zealand

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	536	708	698	748	847	838	838	824	859	824
Production	481	590	527	684	675	657	646	630	642	617
Import	160	249	311	302	330	355	350	362	366	315
Export	-71	-108	-104	-180	-125	-111	-104	-92	-95	-72
Final energy consumption	370	455	483	488	521	525	536	534	550	508
Industry	139	159	152	155	168	170	169	166	176	161
Transport	124	170	190	191	202	206	219	224	226	193
Residential	51	58	62	62	63	63	63	64	65	66
Commerce & public services	34	39	48	48	52	52	52	50	52	53
Others	23	29	32	32	37	34	33	30	30	35
<b>Coal</b>										
Primary energy supply	50	46	92	54	57	48	48	52	63	66
Production	60	87	132	130	81	68	69	78	76	70
Import		0.5	24	5.5	9.1	10	10	14	26	25
Export	-10	-47	-70	-71	-41	-36	-35	-37	-42	-33
Transformation sector	-19	-24	-67	-31	-30	-23	-24	-27	-32	-33
Power generation	-5.7	-10	-51	-13	-12	-4.8	-5.6	-9.2	-15	-16
Final energy consumption	28	19	22	24	25	22	23	25	26	23
Industry	22	17	19	20	21	20	19	22	23	20
Transport	0.1	0.1	0.1							
Residential	3.6	1.0	0.8	0.5	0.4	0.3	0.3	0.3	0.3	0.3
Commerce & public services	1.5	1.2	1.3	1.4	0.9	1.0	0.9	0.7	0.8	0.6
Others	0.4	0.6	1.2	1.8	2.0	1.1	2.6	2.0	2.1	1.8
<b>Coal products</b>										
Primary energy supply										
Production										
Import										
Export										
Transformation sector	6.4	3.7	3.9	4.1	4.0	3.7	3.9	3.8	4.6	4.2
Power generation	-1.4	-6.3	-7.0	-7.6	-7.5	-7.0	-7.4	-7.1	-7.9	-7.1
Final energy consumption	0.5	1.5	1.6	1.7	1.7	1.6	1.7	1.6	1.8	1.7
Industry	0.5	1.5	1.6	1.7	1.7	1.6	1.7	1.6	1.8	1.7
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply	183	227	218	229	249	238	236	238	235	165
Production	82	81	45	115	90	77	70	55	56	49
Import	138	198	202	219	228	233	230	227	219	159
Export	-40	-53	-27	-103	-76	-66	-59	-47	-48	-39
Transformation sector	-177	-218	-216	-224	-243	-238	-238	-239	-256	-200
Petroleum refineries	-204	-218	-216	-224	-243	-238	-238	-239	-256	-200
<b>Petroleum products</b>										
Primary energy supply	-36	12	38	30	35	38	41	29	48	92
Import	22	51	84	77	91	110	108	119	119	128
Export	-21	-8.8	-7.7	-5.6	-8.2	-9.2	-10	-8.5	-5.5	
Transformation sector	208	220	227	225	245	241	233	233	263	199
Power generation	-0.3						-0.1	-0.1		-1.3
Petroleum refineries	208	220	227	225	245	241	234	233	263	200
Final energy consumption	155	209	238	229	246	252	264	268	271	244
Industry	12	14	18	15	18	19	18	19	19	18
Transport	121	170	190	191	201	205	219	224	226	193
Residential	0.5	2.1	2.8	2.9	3.0	3.3	3.6	3.6	3.7	3.6
Commerce & public services	7.0	5.0	6.3	5.3	5.9	6.4	7.3	6.5	7.0	10
Others	15	18	21	16	18	18	16	16	15	20
<b>Gas</b>										
Primary energy supply	162	212	135	156	171	176	178	161	168	162
Production	162	212	135	161	169	177	175	155	167	163
Import										
Export										
Transformation sector	-83	-79	-72	-74	-51	-44	-54	-48	-45	-48
Power generation	-52	-79	-72	-74	-51	-44	-54	-44	-45	-48
Final energy consumption	63	70	44	51	68	70	69	62	73	67
Industry	51	56	29	39	52	55	55	49	58	52
Transport	2.4									
Residential	3.1	6.5	5.9	5.4	6.1	5.7	6.1	5.4	6.2	6.5
Commerce & public services	4.0	5.7	7.0	6.2	8.0	7.3	7.1	6.3	7.7	7.1
Others	1.8	1.9	1.9	1.3	1.5	1.4	1.3	1.2	1.2	1.3
<b>Electricity</b>										
Power generation	117	142	155	162	161	159	161	161	163	160
Thermal	23	40	54	43	31	24	30	26	29	31
Hydro	83	88	84	89	88	93	91	95	92	87
Nuclear										
Others	11	14	16	30	41	41	41	40	41	42
Final energy consumption	103	123	136	144	144	142	141	141	143	140
Industry	41	50	55	55	50	50	50	50	51	48
Transport	0.2	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.4	0.4
Residential	37	40	44	45	45	45	45	46	46	46
Commerce & public services	19	25	30	32	34	34	34	34	34	33
Others	5.5	7.6	8.0	12	15	14	12	11	12	12

## Major economic indicators of New Zealand

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>11</sup>	3.33	3.86	4.13	4.35	4.61	4.71	4.81	4.90	4.98	5.09
Gross domestic product <sup>13</sup>										
Real term, billion USD (constant 2015)	88	119	145	154	178	185	191	198	202	200
GDP, billion USD (PPP, constant 2017)	93	126	154	164	189	196	203	210	215	212
Nominal, billion USD (current)	45	53	115	147	178	189	207	212	213	212
GDP per capita <sup>13</sup>										
Real term (constant 2015 USD)	26 399	30 863	35 052	35 394	38 631	39 196	39 759	40 365	40 599	39 216
GDP, PPP (constant 2017 USD)	28 032	32 773	37 220	37 583	41 020	41 620	42 219	42 862	43 110	41 642
Nominal (current USD)	13 663	13 641	27 751	33 677	38 631	40 058	42 925	43 250	42 865	41 597
Nominal GDP & its components (billions of current NZD) <sup>11</sup>										
Gross domestic product	76	120	163	203	255	271	291	306	324	327
Households and NPISHs final consumption expenditure	46	69	95	118	146	157	167	177	185	188
General government final consumption expenditure	14	20	29	40	47	49	52	56	61	67
Gross fixed capital formation	16	25	40	40	58	61	67	72	76	74
Stock change	-0.2	1.4	1.1	0.9	0.7	1.5	2.1	1.5	0.9	-0.5
Exports of goods and services	20	43	46	62	71	72	80	85	89	72
Imports of goods and services	20	39	48	57	69	70	77	86	88	73
Real GDP & its components (billions of 2015 NZD) <sup>11</sup>										
Gross Domestic Product	126	171	208	221	255	265	274	284	290	286
Households and NPISHs final consumption expenditure	69	90	113	124	146	156	163	171	175	176
General government final consumption expenditure	26	30	38	43	47	48	50	52	54	58
Gross fixed capital formation	21	30	46	43	58	60	64	67	69	66
Stock change	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Exports of goods and services	26	46	54	61	71	72	75	77	77	63
Imports of goods and services	20	34	50	54	69	72	78	81	82	69
Sectoral shares of Real GDP (%) <sup>11</sup>										
Agriculture, Fishery and Forestry	5.9	5.5	5.0	4.1	4.5	4.3	4.0	4.2	4.0	4.1
Industry	26.7	24.5	23.9	22.2	21.2	21.0	21.0	20.8	20.7	20.6
Services, etc.	60.1	62.4	63.0	65.5	66.0	66.2	66.4	66.4	66.7	66.9
Manufacturing production index (2010=100) <sup>12</sup>	74.5	90.3	102.0	100.0	102.4	104.4	106.5	N.A.	N.A.	N.A.
External trade (billions of current USD) <sup>11</sup>										
Exports, f.o.b.	9.4	13.3	21.7	31.4	34.4	33.8	38.1	39.7	39.5	38.9
Imports, c.i.f.	9.5	13.9	26.2	30.6	36.6	36.1	40.1	43.8	42.4	37.2
Balance of payments (billions of current USD) <sup>12</sup>										
Trade balance	N.A.	0.5	-3.0	2.0	-1.3	-1.9	-1.5	-3.5	-2.4	1.9
Current account	N.A.	-1.7	-8.0	-3.4	-4.7	-4.1	-5.8	-8.1	-6.0	-2.0
Overall balance	N.A.	0.7	3.3	1.0	-6.5	5.8	-1.9	-8.0	-1.9	-1.5
Foreign exchange rate (NZD/USD) <sup>11</sup>	1.68	2.20	1.42	1.39	1.43	1.44	1.41	1.45	1.52	1.54
PPP conversion factor, GDP (NZD/USD) <sup>11</sup>	1.54	1.44	1.54	1.50	1.48	1.44	1.43	1.47	1.43	1.44
Price Indices										
GDP Deflator (2015=100) <sup>13</sup>	60.4	70.2	78.4	92.1	100.0	102.4	106.0	108.0	111.8	114.1
Producer Price Index (2010=100) <sup>12</sup>	61.4	73.1	82.1	100.0	105.1	105.6	110.4	115.0	117.6	117.6
Consumer Price Index (2010=100) <sup>12</sup>	64.7	77.0	87.0	100.0	107.9	108.6	110.7	112.4	114.2	116.2
Growth rate (%) <sup>13</sup>										
Real GDP	0.2	2.9	3.3	1.5	3.7	3.8	3.6	3.4	2.2	-1.3
Population	0.9	0.6	1.1	1.1	2.1	2.3	2.1	1.8	1.6	2.2
Price										
Producer prices	4.6	7.6	4.6	2.7	-2.1	0.5	4.5	4.2	2.2	0.1
Consumer prices	6.1	2.6	3.0	2.3	0.3	0.6	1.9	1.6	1.6	1.7

Source <sup>11</sup>: *World Development Indicators*, World Bank

<sup>12</sup>: *International Financial Statistics*, International Monetary Fund

<sup>13</sup>: Calculated from <sup>11</sup> and <sup>12</sup> by ESTO

Note

: N.A. means "not available"

: NZD means New Zealand Dollar, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Energy prices in New Zealand

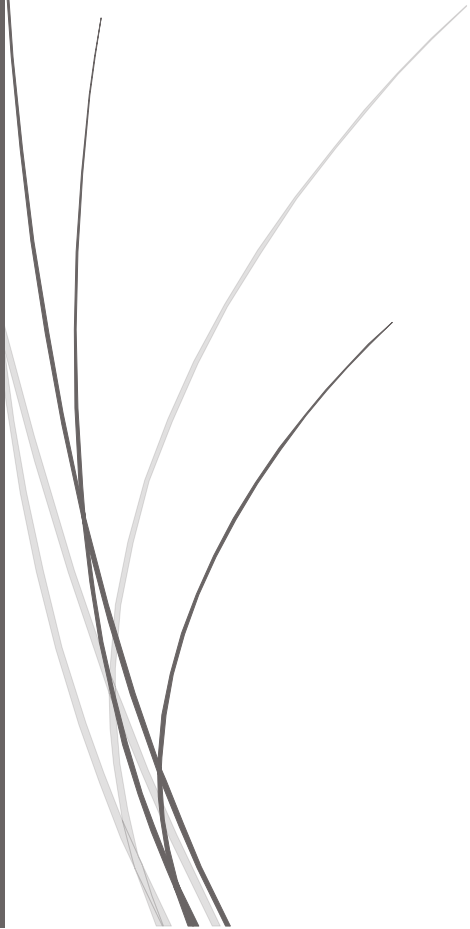
## CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	NZD											
Exchange Rate	/ US Dollar	1.39	1.27	1.23	1.22	1.21	1.43	1.44	1.41	1.45	1.52	1.54
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG												
Naphtha												
Motor Gasoline (regular)	NZ/L	1.77	2.06	2.09	2.10	2.08	1.88	1.76	1.89	2.10	2.10	1.92
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene												
Gas/Diesel Oil	NZ/L	1.17	1.49	1.50	1.47	1.41	1.14	1.01	1.18	1.43	1.45	1.21
Fuel Oil	NZ/L	0.76	0.77	0.87	0.81	0.78	0.55	0.42	0.58	0.70	0.68	0.53
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Households	NZ/GJ	33.17	36.48	36.95	37.86	36.81	36.90	38.46	35.60	39.93	40.15	39.38
Industry	NZ/GJ	8.03	7.60	7.82	8.02	7.44	7.04	6.12	6.99	7.37	6.80	7.14
<b>Electricity</b>												
Industrial	NZD/MWh	97.76	103.12	105.90	114.82	120.57	114.97	107.12	122.21	142.22	138.06	152.76
Commercial	NZD/MWh	153.62	168.18	173.57	171.09	169.17	166.85	166.02	167.09	168.57	171.15	173.40
Residential	NZD/MWh	247.14	260.55	268.94	278.28	286.11	281.13	287.11	289.60	290.81	291.09	293.61
Others												
Other Energy Products												

\* NZD/L in 2018



# **Papua New Guinea**



## Energy balance table of Papua New Guinea

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	Fuel oil
<b>2020</b>										
Production			33							
Import			61	47	1.6		5.3		21	19
Export			- 31	- 29		- 28				
International marine bunkers										
International aviation bunkers										
Stock changes			2.5	1.4		0.5		0.2	1.0	-0.4
<b>Total primary energy supply</b>			<b>65</b>	<b>19</b>	<b>1.6</b>	<b>- 28</b>	<b>5.3</b>	<b>0.2</b>	<b>22</b>	<b>19</b>
Transfers			-0.2	2.2	3.0	-0.8	0.7	-0.6		
Total transformation sector			- 62	34		29		2.8	18	- 17
Main activity producers				-4.8					-1.0	-3.9
Autoproducers				- 21					-4.3	- 17
Gas processing				1.9		1.9				
Petroleum refineries			- 62	59		27		2.8	23	4.1
Coal transformation										
Other transformation										
Losses & own use										
Discrepancy			-3.3							
<b>Total final consumption</b>				<b>55</b>	<b>4.6</b>	<b>0.5</b>	<b>6.0</b>	<b>2.3</b>	<b>40</b>	<b>1.7</b>
<b>Total final energy consumption</b>				<b>55</b>	<b>4.6</b>	<b>0.5</b>	<b>6.0</b>	<b>2.3</b>	<b>40</b>	<b>1.7</b>
Industry sector				24		0.5			22	1.5
Iron and steel										
Chemical & petrochemical										
Non-metallic minerals										
Other industries				24		0.5			22	1.5
Transport sector				25	4.6		6.0		14	0.3
Domestic air transport				6.0			6.0			
Road				18	4.6				14	
Rail										
Inland waterways				0.3						0.3
Other transport										
Other sector				6.8				2.3	4.3	
Residential				1.5				1.4		
Commerce and public services				1.0				0.9		
Agriculture				4.3					4.3	
Non-specified others										
Non-energy										
<b>2019</b>										
Production			28							
Import			55	59	4.2		3.9		28	23
Export			- 28	- 21		- 20				
International marine bunkers										
International aviation bunkers										
Stock changes			-0.1	0.9		0.4		-0.3	0.5	0.4
<b>Total primary energy supply</b>			<b>55</b>	<b>40</b>	<b>4.2</b>	<b>- 20</b>	<b>3.9</b>	<b>-0.3</b>	<b>29</b>	<b>23</b>
Transfers				0.1	0.8	-0.7	2.4	-2.3		
Total transformation sector			- 55	18		21		4.8	12	- 21
Main activity producers				-6.5					-1.3	-5.2
Autoproducers				- 24					-4.8	- 19
Gas processing				1.5		1.5				
Petroleum refineries			- 55	47		19		4.8	18	3.2
Coal transformation										
Other transformation										
Losses & own use										
Discrepancy			0.6							
<b>Total final consumption</b>				<b>57</b>	<b>5.0</b>	<b>0.5</b>	<b>6.3</b>	<b>2.3</b>	<b>41</b>	<b>1.9</b>
<b>Total final energy consumption</b>				<b>57</b>	<b>5.0</b>	<b>0.5</b>	<b>6.3</b>	<b>2.3</b>	<b>41</b>	<b>1.9</b>
Industry sector				25		0.5			22	1.6
Iron and steel										
Chemical & petrochemical										
Non-metallic minerals										
Other industries				25		0.5			22	1.6
Transport sector				26	5.0		6.3		14	0.3
Domestic air transport				6.3			6.3			
Road				19	5.0				14	
Rail										
Inland waterways				0.3						0.3
Other transport										
Other sector				6.7				2.3	4.3	
Residential				1.5				1.4		
Commerce and public services				1.0				0.9		
Agriculture				4.3					4.3	
Non-specified others										
Non-energy										

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			474	3.2		14	72			597	90
										107	
		-0.8	-438							-499	
										3.9	
		-0.8	35	3.2		14	72			209	90
										2.0	
0.8		0.8	-23	-3.2		-14	-1.1	16		-53	-19
			-4.6	-2.4			-0.4	5.4		-6.8	-2.8
			-5.5	-0.7		-14	-0.2	10		-32	-15
			-13							-11	
0.8		0.8								-2.9	
							-0.6			-0.6	-0.6
			-12					-1.3		-14	
			0.1							-3.2	
0.8							71	14		141	71
0.8							71	14		141	71
0.6							3.7	10		38	3.7
0.6							3.7	10		38	3.7
										25	
										6.0	
										18	
										0.3	
0.2							67	4.2		78	67
0.1							57	1.7		60	57
0.1							10	2.2		13	10
								0.3		4.6	
			463	3.2		15	71			581	89
0.1										114	
		-0.6	-445							-494	
										0.8	
0.1		-0.6	18	3.2		15	71			202	89
										0.1	
0.7		0.6	-6.3	-3.2		-15	-1.1	16		-47	-20
			-0.6	-2.4			-0.4	5.2		-4.8	-2.8
			-5.5	-0.8		-15	-0.2	11		-35	-16
			-0.1							1.4	
0.7		0.6								-8.5	
							-0.6			-0.6	-0.6
			-12					-1.3		-14	
			0.1					0.3		0.9	
0.8							69	15		142	69
0.8							69	15		142	69
0.6							3.7	11		39	3.7
0.6							3.7	11		39	3.7
										26	
										6.3	
										19	
										0.3	
0.2							66	4.5		77	66
0.1							56	1.7		59	56
0.1							9.9	2.6		13	9.9
								0.3		4.5	

## Major energy indicators of Papua New Guinea

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	83	117	142	166	179	188	191	196	202	209
Production	240	222	179	128	544	569	585	531	581	597
Import	33	49	78	85	79	97	107	110	114	107
Export	-189	-154	-116	-44	-444	-482	-499	-443	-494	-499
Final energy consumption	70	98	112	125	135	137	139	139	142	141
Industry	8.5	21	27	32	36	37	38	38	39	38
Transport	8.7	12	15	19	23	24	25	25	26	25
Residential	4.1	5.0	5.4	5.7	5.9	5.9	5.9	5.9	5.9	6.0
Commerce & public services	8.2	11	12	13	13	13	13	13	13	13
Others	3.5	4.3	4.4	4.8	4.5	4.5	4.5	4.5	4.5	4.6
<b>Coal</b>										
Primary energy supply										
Production										
Import										
Export										
Transformation sector										
Power generation										
Final energy consumption										
Industry										
Transport										
Residential										
Commerce & public services										
Others										
<b>Coal products</b>										
Primary energy supply										
Production										
Import										
Export										
Transformation sector										
Power generation										
Final energy consumption										
Industry										
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply			43	41	26	59	56	54	55	65
Production	188	154	103	37	51	49	43	41	28	33
Import			38	42	26	58	59	56	55	61
Export	-188	-154	-98	-37	-51	-49	-43	-41	-28	-31
Transformation sector			-42	-40	-26	-60	-59	-53	-55	-62
Petroleum refineries			-42	-40	-26	-60	-59	-53	-55	-62
<b>Petroleum products</b>										
Primary energy supply	32	49	22	35	48	21	27	38	40	19
Import	33	49	40	43	53	39	48	54	59	47
Export	-0.5		-18	-6.7	-5.0	-20	-22	-16	-21	-29
Transformation sector	-14	-20	15	6.3	-3.6	25	22	13	18	34
Power generation	-14	-20	-26	-28	-27	-27	-28	-30	-31	-26
Petroleum refineries			41	35	23	52	50	43	47	59
Final energy consumption	17	30	37	44	52	54	55	55	57	55
Industry	3.6	12	16	19	23	24	24	24	25	24
Transport	8.7	12	15	19	23	24	25	25	26	25
Residential	1.0	0.9	1.0	1.2	1.3	1.4	1.4	1.4	1.5	1.5
Commerce & public services		0.6	0.7	0.8	0.9	0.9	0.9	1.0	1.0	1.0
Others	3.3	4.1	4.1	4.6	4.2	4.2	4.2	4.3	4.3	4.3
<b>Gas</b>										
Primary energy supply	3.0	5.0	5.2	5.1	17	20	21	16	18	35
Production	3.0	5.0	5.2	5.1	405	432	454	402	463	474
Import										
Export					-387	-412	-433	-386	-445	-438
Transformation sector	-3.0	-5.0	-5.0	-4.9	-6.7	-8.5	-8.8	-6.8	-6.3	-23
Power generation	-3.0	-5.0	-5.0	-4.9	-6.6	-8.4	-8.7	-6.7	-6.2	-10
Final energy consumption										
Industry										
Transport										
Residential										
Commerce & public services										
Others										
<b>Electricity</b>										
Power generation	6.4	9.2	12	15	15	15	16	16	16	16
Thermal	4.8	6.5	9.3	10	10	11	11	11	11	11
Hydro	1.7	2.7	2.6	3.0	3.2	3.0	2.9	3.0	3.2	3.2
Nuclear										
Others		0.1	0.5	1.6	1.7	1.7	1.7	1.7	1.7	1.6
Final energy consumption	5.9	8.5	12	14	14	14	15	15	15	14
Industry	4.3	5.9	8.5	10	10	10	10	10	11	10
Transport										
Residential	0.2	0.6	1.1	1.2	1.6	1.7	1.6	1.7	1.7	1.7
Commerce & public services	1.2	1.8	1.8	2.1	2.3	2.4	2.5	2.5	2.6	2.2
Others	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3



## Major economic indicators of Papua New Guinea

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	4.62	5.85	6.49	7.31	8.11	8.27	8.44	8.61	8.78	8.95
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	7	11	12	16	22	23	24	24	25	24
GDP, billion USD (PPP, constant 2017)	11	17	19	25	33	35	36	36	38	36
Nominal, billion USD (current)	3	4	5	14	22	21	23	24	25	25
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	1 597	1 884	1 888	2 235	2 679	2 770	2 812	2 749	2 817	2 666
GDP, PPP (constant 2017 USD)	2 434	2 871	2 877	3 406	4 083	4 222	4 285	4 190	4 293	4 063
Nominal (current USD)	698	602	749	1 949	2 679	2 510	2 695	2 801	2 820	2 757
Nominal GDP & its components (billions of current PGK) <sup>1</sup>										
Gross domestic product	3.1	9.7	15	39	60	65	73	79	84	85
Households and NPISHs final consumption expenditure	1.8	4.3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
General government final consumption expenditure	0.8	1.6	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Gross fixed capital formation	0.8	2.0	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Stock change		0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Exports of goods and services	1.2	6.4	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Imports of goods and services	1.5	4.8	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Real GDP & its components (billions of 2013 PGK) <sup>1</sup>										
Gross Domestic Product	20	29	33	43	58	61	63	63	66	63
Households and NPISHs final consumption expenditure	3.1	3.3	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
General government final consumption expenditure	1.1	1.4	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Gross fixed capital formation	1.3	1.8	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Stock change		0.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Exports of goods and services	2.5	5.2	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Imports of goods and services	2.9	4.1	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Sectoral shares of Real GDP (%) <sup>1</sup>										
Agriculture, Fishery and Forestry	10.3	10.4	N.A.	18.9	16.0	15.6	15.4	16.2	N.A.	N.A.
Industry	6.0	8.3	N.A.	31.9	38.6	41.0	41.4	38.4	N.A.	N.A.
Services, etc.	N.A.	N.A.	N.A.	51.5	39.5	37.4	34.0	32.6	N.A.	N.A.
Industrial production index (2010=100) <sup>2</sup>	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
External trade (billions of current USD) <sup>1</sup>										
Exports, f.o.b.	1.2	2.1	3.3	5.7	8.5	8.2	10.0	10.5	11.4	9.3
Imports, c.i.f.	1.2	1.2	1.7	3.5	2.6	2.1	3.1	3.5	3.9	3.3
Balance of payments (billions of current USD) <sup>2</sup>										
Trade balance	0.1	1.1	1.8	2.2	5.9	6.1	6.9	7.0	N.A.	N.A.
Current account	-0.1	0.3	0.3	-1.1	4.0	4.8	4.9	5.1	N.A.	N.A.
Overall balance	0.1	0.1	-0.3	0.0	-1.0	-0.6	-0.9	-0.4	N.A.	N.A.
Foreign exchange rate (PGK/USD) <sup>1</sup>	0.96	2.78	3.10	2.72	2.77	3.13	3.19	3.29	3.39	3.46
PPP conversion factor, GDP (PGK/USD) <sup>1</sup>	0.73	1.26	1.56	1.82	1.87	1.90	2.01	2.15	2.14	2.23
Price Indices										
GDP Deflator (2013=100) <sup>3</sup>	15.7	33.2	46.3	89.2	104.1	106.8	115.0	126.2	127.6	134.6
Wholesale Price Index	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Consumer Price Index (2010=100) <sup>2</sup>	21.4	52.9	77.1	100.0	127.8	136.3	143.7	150.0	155.9	163.5
Growth rate (%) <sup>3</sup>										
Real GDP	-3.0	-2.5	6.3	10.1	6.6	5.5	3.5	-0.3	4.5	-3.5
Population	2.4	2.3	2.2	2.3	2.0	2.0	2.0	2.0	2.0	1.9
Price										
Wholesale prices	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Consumer prices	7.0	15.6	1.8	6.0	6.0	6.7	5.4	4.4	3.9	4.9

Source <sup>1</sup>: *World Development Indicators*, World Bank

<sup>2</sup>: *International Financial Statistics*, International Monetary Fund

<sup>3</sup>: Calculated from <sup>1</sup> and <sup>2</sup> by ESTO

Note : N.A. means "not available"

: PGK means Kina, USD means United States Dollar

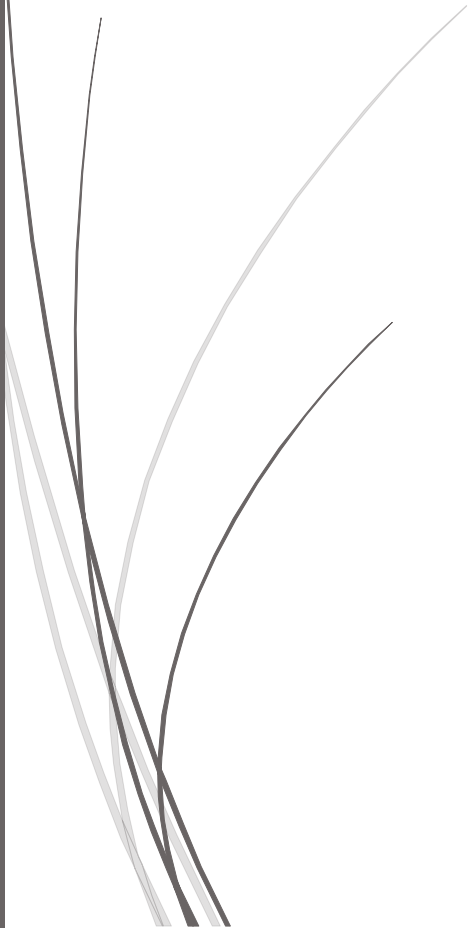
: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)



**Peru**



## Energy balance table of Peru

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	Fuel oil
<b>2020</b>										
Production	3.3		232							
Import	8.0	0.9	86	210	45	3.2	7.1		136	1.2
Export	-0.6		-24	-98	-68	-1.5			-13	-13
International marine bunkers				-10					-0.4	-9.7
International aviation bunkers				-11			-11			
Stock changes	8.9	0.8	7.6	-8.6	-0.5	-0.5	-1.1		-3.6	-2.8
<b>Total primary energy supply</b>	<b>20</b>	<b>1.7</b>	<b>302</b>	<b>82</b>	<b>-24</b>	<b>1.2</b>	<b>-5.1</b>		<b>119</b>	<b>-24</b>
Transfers			-86	87	55	1.1			-25	-4.5
Total transformation sector	-5.3		-205	215	73	11	9.1		97	21
Main activity producers	-0.2			-3.9					-0.9	-3.0
Autoproducers	-5.1			-1.5					-0.9	-0.6
Gas processing										
Petroleum refineries			-205	220	73	11	9.1		99	24
Coal transformation										
Other transformation										
Losses & own use				-2.8						
Discrepancy			-12	-20	-32	-8.1	2.3		1.4	11
<b>Total final consumption</b>	<b>14</b>	<b>1.7</b>		<b>361</b>	<b>72</b>	<b>5.0</b>	<b>6.3</b>		<b>192</b>	<b>3.7</b>
<b>Total final energy consumption</b>	<b>14</b>	<b>1.7</b>		<b>356</b>	<b>72</b>		<b>6.3</b>		<b>192</b>	<b>3.7</b>
Industry sector	14	1.7		40	1.2				21	3.1
Iron and steel										
Chemical & petrochemical										
Non-metallic minerals										
Other industries	14	1.7		40	1.2				21	3.1
Transport sector				263	71		6.3		161	0.6
Domestic air transport				6.3			6.3			
Road				256	71				161	
Rail										
Inland waterways				0.6						0.6
Other transport										
Other sector				53	0.2				10	
Residential				39						
Commerce and public services				11					6.9	
Agriculture				2.0	0.1				1.8	
Non-specified others				1.9	0.2				1.8	
Non-energy				5.0		5.0				
<b>2019</b>										
Production	5.0		263							
Import	11	2.8	222	210	34	3.8	17		137	1.3
Export	-18		-12	-156	-80	-0.5			-11	-65
International marine bunkers				-49			-31		-0.8	-17
International aviation bunkers										
Stock changes	30	-1.3	-4.7	25	2.0	-1.9	-0.3		8.4	7.5
<b>Total primary energy supply</b>	<b>28</b>	<b>1.6</b>	<b>468</b>	<b>29</b>	<b>-44</b>	<b>1.4</b>	<b>-14</b>		<b>134</b>	<b>-73</b>
Transfers			-151	89	57	0.4	-0.1	0.1	-7.9	-17
Total transformation sector	-5.9		-317	337	88	10.0	30		98	93
Main activity producers	-0.4			-4.8					-1.0	-3.7
Autoproducers	-5.4			-7.9					-5.5	-2.5
Gas processing										
Petroleum refineries			-317	349	88	10.0	30		105	100
Coal transformation										
Other transformation										
Losses & own use				-7.9						
Discrepancy				-4.3	-7.5				3.1	-0.4
<b>Total final consumption</b>	<b>22</b>	<b>1.6</b>		<b>443</b>	<b>93</b>	<b>12</b>	<b>16</b>	<b>0.1</b>	<b>227</b>	<b>2.9</b>
<b>Total final energy consumption</b>	<b>22</b>	<b>1.6</b>		<b>431</b>	<b>93</b>		<b>16</b>	<b>0.1</b>	<b>227</b>	<b>2.9</b>
Industry sector	22	1.6		45	3.9				22	2.1
Iron and steel										
Chemical & petrochemical										
Non-metallic minerals										
Other industries	22	1.6		45	3.9				22	2.1
Transport sector				333	88		16		195	0.8
Domestic air transport				16			16			
Road				316	88				195	0.8
Rail										
Inland waterways										
Other transport										
Other sector				53	0.6			0.1	10	
Residential				38						
Commerce and public services				11				0.1	7.0	
Agriculture				2.0	0.2				1.7	
Non-specified others				2.2	0.4				1.7	
Non-energy				12		12				

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			487	110		11	153			997	274
17							15	0.1		320	15
-2.0			-220				-0.7			-342	-0.7
										-10	
										-11	
-0.1			-1.3							7.3	
15			266	110		11	168	0.1		961	288
60										1.1	
2.2	2.5		-150	-110		-9.6	-40	190		-116	-160
			-140	-108		-9.4	-27	182		-106	-144
			-10	-2.2		-0.2	-6.0	7.7		-18	-8.4
2.2	2.5									15	
							-7.8			-7.8	-7.8
	-2.5	-0.3	-39					-26		-68	
4.8		0.3	-1.3				-0.6	-0.1		-34	-0.6
82			76			1.5	126	164		745	128
82			76			1.5	126	164		740	128
15			41				18	92		207	18
15			41				18	92		207	18
24			21				12	0.3		296	12
										6.3	
24			21				12			288	12
								0.3		0.3	
										0.6	
43			14			1.5	96	72		237	98
39			8.3			0.9	91	37		176	92
3.9			5.8			0.6	5.0	29		51	5.6
0.1							0.2	4.8		7.0	0.2
			0.2				0.1	0.9		3.1	0.1
										5.0	
			543	113		10	149			1 083	272
16							18	0.2		463	18
			-224				-0.6			-412	-0.6
										-49	
8.8							2.6			51	2.6
25			319	113		10	169	0.2		1 137	292
57										-62	
10	7.4		-178	-113		-8.7	-44	206		-123	-166
			-167	-111		-8.5	-30	196		-125	-149
			-11	-2.5		-0.2	-6.3	11		-23	-9.0
10	7.4									32	
							-7.7			-7.7	-7.7
	-7.4	-0.5	-38					-26		-72	
		0.5	-1.3				-3.3	-1.1		-10.0	-3.3
92			102			1.5	121	179		870	123
92			102			1.5	121	179		858	123
18			56				23	103		251	23
18			56				23	103		251	23
32			31				14	0.3		378	14
										16	
32			31				14			361	14
								0.3		0.3	
42			15			1.5	84	76		230	86
38			8.8			0.9	79	37		163	80
3.7			6.5			0.6	5.4	33		57	6.0
0.1			0.1				0.2	4.6		6.8	0.2
			0.1				0.1	1.1		3.5	0.1
										12	

## Major energy indicators of Peru

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	418	519	580	752	1 072	1 081	1 095	1 096	1 137	961
Production	446	385	454	820	1 043	1 081	1 032	1 039	1 083	997
Import	70	226	284	309	333	448	519	492	463	320
Export	-95	-88	-159	-305	-350	-464	-502	-442	-412	-342
Final energy consumption	363	452	464	637	776	804	831	832	858	740
Industry	81	122	141	169	212	209	230	240	251	207
Transport	105	142	146	249	335	369	378	360	378	296
Residential	151	149	137	165	158	155	155	169	163	176
Commerce & public services	14	11	19	37	52	54	58	54	57	51
Others	14	27	21	17	19	17	9.3	9.5	10	10
<b>Coal</b>										
Primary energy supply	4.4	21	31	32	33	34	29	26	28	20
Production	2.8	0.5	1.2	2.7	7.1	7.3	8.3	5.8	5.0	3.3
Import	1.3	19	28	28	12	18	14	10	11	8.0
Export				-3.1	-7.4	-4.8	-10	-19	-18	-0.6
Transformation sector	-1.1	-5.4	-10	-12	-6.9	-13	-9.4	-4.9	-5.9	-5.3
Power generation		-4.2	-10	-12	-6.9	-13	-9.4	-4.9	-5.9	-5.3
Final energy consumption	2.7	16	22	26	29	23	20	21	22	14
Industry	2.4	16	22	25	29	23	20	21	22	14
Transport										
Residential	0.3									
Commerce & public services					0.1					
Others		0.3	0.2	0.7	0.1					
<b>Coal products</b>										
Primary energy supply	1.7	5.6	7.1	1.8	1.1	2.5	2.1	2.1	1.6	1.7
Production										
Import	1.7	5.5	6.3	1.7	1.0	3.4	1.7	2.1	2.8	0.9
Export										
Transformation sector	-0.5	-4.7	-5.9							
Power generation										
Final energy consumption	1.1	1.0	1.3	1.8	1.1	2.5	2.1	2.1	1.6	1.7
Industry	1.1	1.0	1.3	1.8	1.1	2.5	2.1	2.1	1.6	1.7
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply	302	312	401	463	445	451	509	486	468	302
Production	274	210	222	298	268	232	250	252	263	232
Import	37	129	203	201	181	223	265	238	222	86
Export	-6.3	-29	-27	-40	-17	-4.9	-3.3	-14	-12	-24
Transformation sector	-311	-324	-345	-432	-301	-304	-356	-338	-317	-205
Petroleum refineries	-311	-324	-345	-432	-301	-304	-356	-338	-317	-205
<b>Petroleum products</b>										
Primary energy supply	-58	6.6	-90	-178	16	-25	-17	-9.0	29	82
Import	30	72	48	75	126	182	217	224	210	210
Export	-88	-59	-132	-172	-125	-212	-258	-198	-156	-98
Transformation sector	277	288	313	391	327	335	362	357	337	215
Power generation	-32	-29	-25	-22	-12	-17	-21	-14	-13	-5.4
Petroleum refineries	309	317	338	412	339	352	383	371	349	220
Final energy consumption	207	282	264	330	409	429	433	413	431	356
Industry	42	70	67	52	50	40	39	44	45	40
Transport	105	142	146	230	299	329	336	316	333	263
Residential	36	43	25	27	35	36	37	40	38	39
Commerce & public services	12	10	11	13	19	19	17	11	11	11
Others	12	17	14	7.1	7.0	5.5	4.3	3.4	4.2	3.9
<b>Gas</b>										
Primary energy supply	19	21	68	230	330	347	301	304	319	266
Production	19	21	68	319	531	588	523	514	543	487
Import										
Export				-89	-201	-241	-229	-210	-224	-220
Transformation sector	-3.1	-9.5	-45	-131	-182	-200	-166	-168	-178	-150
Power generation	-3.1	-9.5	-45	-131	-182	-200	-166	-168	-178	-150
Final energy consumption	3.1		6.3	48	81	80	90	96	102	76
Industry	1.2		5.9	29	45	48	56	52	56	41
Transport				15	27	27	29	30	31	21
Residential				2.1	4.6	0.9	1.0	8.9	8.8	8.3
Commerce & public services	1.9			0.3	2.5	3.2	4.0	5.0	6.5	5.8
Others			0.4	0.3	1.7		0.1	0.2	0.2	0.2
<b>Electricity</b>										
Power generation	50	72	92	129	174	186	190	198	206	190
Thermal	12	13	25	55	82	92	79	78	82	69
Hydro	38	58	65	72	85	87	105	111	113	110
Nuclear										
Others	0.5	0.6	1.3	2.4	6.6	7.2	6.7	10	11	11
Final energy consumption	42	62	82	114	152	163	167	174	179	164
Industry	26	35	45	60	84	94	96	100	103	92
Transport					0.2	0.2	0.2	0.2	0.3	0.3
Residential	15	23	25	27	33	34	34	36	37	37
Commerce & public services		1.1	7.4	23	30	31	32	32	33	29
Others	1.3	3.4	4.0	2.8	4.4	4.5	4.6	5.6	5.6	5.7

## Major economic indicators of Peru

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	22.07	26.46	27.87	29.03	30.47	30.93	31.44	31.99	32.51	32.97
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	60	87	108	150	190	197	202	210	215	191
GDP, billion USD (PPP, constant 2017)	116	170	210	292	369	384	393	409	418	372
Nominal, billion USD (current)	26	52	76	148	190	192	211	223	228	202
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	2 700	3 304	3 868	5 178	6 229	6 380	6 433	6 574	6 614	5 807
GDP, PPP (constant 2017 USD)	5 249	6 422	7 519	10 066	12 110	12 404	12 507	12 781	12 858	11 290
Nominal (current USD)	1 197	1 956	2 729	5 082	6 229	6 205	6 711	6 958	7 023	6 117
Nominal GDP & its components (billions of current PEN) <sup>1</sup>										
Gross domestic product	5.5	181	251	417	604	648	688	732	762	705
Households and NPISHs final consumption expenditure	4.1	128	163	257	395	421	441	467	494	452
General government final consumption expenditure	0.4	21	29	44	78	85	91	96	101	113
Gross fixed capital formation	0.9	36	43	98	140	139	142	153	160	140
Stock change		-0.1	0.6	1.0	7.4	3.7	0.7	2.8	-1.0	-9.2
Exports of goods and services	0.9	30	67	116	129	146	170	184	183	158
Imports of goods and services	0.8	34	51	99	144	148	157	171	175	149
Real GDP & its components (billions of 2007 PEN) <sup>1</sup>										
Gross Domestic Product	151	222	274	382	483	502	514	535	547	487
Households and NPISHs final consumption expenditure	106	143	167	236	311	323	331	344	355	320
General government final consumption expenditure	16	25	30	41	59	62	64	65	68	74
Gross fixed capital formation	21	38	44	96	116	111	113	118	121	102
Stock change	1.1	-0.1	-3.1	3.9	11	8.7	7.3	8.3	5.4	-2.6
Exports of goods and services	27	58	93	108	118	131	143	148	148	121
Imports of goods and services	20	42	57	103	132	134	144	149	151	128
Sectoral shares of Real GDP (%) <sup>1</sup>										
Agriculture, Fishery and Forestry	6.9	7.7	6.9	6.1	5.6	5.5	5.5	5.8	5.8	6.6
Industry	34.6	35.2	38.2	36.6	33.9	34.0	33.8	33.5	32.7	31.9
Services, etc.	N.A.	48.7	46.5	48.2	51.3	51.4	51.6	51.7	52.5	52.6
Manufacturing Production Index (2010=100) <sup>2</sup>	41.2	61.6	75.1	100.0	109.8	108.3	108.0	N.A.	N.A.	N.A.
External trade (billions of current USD) <sup>1</sup>										
Exports, f.o.b.	3.3	7.0	17.4	35.8	34.4	37.1	45.4	49.1	48.0	42.9
Imports, c.i.f.	2.6	7.4	12.5	30.0	37.9	36.3	39.9	43.3	42.3	36.1
Balance of payments (billions of current USD) <sup>2</sup>										
Trade balance	0.4	-0.1	5.6	7.4	-2.9	2.0	6.7	7.2	6.9	8.2
Current account	-1.4	-1.5	1.1	-3.6	-8.9	-4.4	-2.0	-2.9	-1.7	2.4
Overall balance	-2.0	-0.5	1.2	9.3	1.5	1.1	0.6	-0.9	5.6	9.0
Foreign exchange rate (PEN/USD) <sup>1</sup>	0.19	3.49	3.30	2.83	3.18	3.38	3.26	3.29	3.34	3.49
PPP conversion factor, GDP (PEN/USD) <sup>1</sup>	0.07	1.35	1.36	1.48	1.71	1.74	1.75	1.75	1.75	1.80
Price Indices										
GDP Deflator (2007=100) <sup>3</sup>	3.6	81.3	91.5	109.1	125.3	129.1	133.8	136.8	139.4	144.8
Wholesale Price Index (2010=100) <sup>2</sup>	4.7	79.0	86.8	100.0	112.6	114.5	115.7	117.6	118.9	N.A.
Consumer Price Index (2010=100) <sup>2</sup>	3.1	79.2	87.1	100.0	117.7	121.9	125.5	127.4	130.3	132.9
Growth rate (%) <sup>3</sup>										
Real GDP	-5.0	2.7	6.3	8.3	3.3	4.0	2.5	4.0	2.2	-11.0
Population	2.1	1.5	0.9	0.8	1.3	1.5	1.7	1.7	1.6	1.4
Price										
Producer prices	6 737.4	4.3	2.3	1.8	1.8	1.7	1.0	1.7	1.2	N.A.
Consumer prices	7 481.7	3.8	1.6	1.5	3.4	3.6	3.0	1.5	2.3	2.0

Source <sup>1</sup>: *World Development Indicators*, World Bank

<sup>2</sup>: *International Financial Statistics*, International Monetary Fund

<sup>3</sup>: Calculated from <sup>1</sup> and <sup>2</sup> by ESTO

Note : N.A. means "not available"

: PEN means Nuevo Sol, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Energy prices in Peru

### IMPORT PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	PEN											
Exchange Rate	/ US Dollar	2.83	2.75	2.64	2.70	2.84	3.18	3.38	3.26	3.29	3.34	3.49
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
<b>Oil and Oil Products</b>												
Crude Oil	USD/BBL							42				
<b>Natural Gas Liquids</b>												
Ethane												
LPG	USD/BBL							38				
Naphtha												
Motor Gasoline												
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene												
Gas/Diesel Oil	USD/BBL							59				
Fuel Oil												
White Spirit SBP												
Lubricants	USD/BBL							210				
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas												
Compressed Natural Gas												
Electricity												

## Energy prices in Peru

## WHOLESALE PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	PEN											
Exchange Rate	/ US Dollar	2.83	2.75	2.64	2.70	2.84	3.18	3.38	3.26	3.29	3.34	3.49
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG	PEN/L							1.36				
Naphtha												
Motor Gasoline	PEN/Gallon							12.01				
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene												
Gas/Diesel Oil	PEN/Gallon							8.78				
Fuel Oil												
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	PEN/m <sup>3</sup>							1.50				
Liquefied Natural Gas												
Compressed Natural Gas												
Electricity	US cent/kWh							6.55				



## Energy prices in Peru

### CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	PEN											
Exchange Rate	/ US Dollar	2.83	2.75	2.64	2.70	2.84	3.18	3.38	3.26	3.29	3.34	3.49
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG	PEN/L							1.37				
Naphtha												
Motor Gasoline (regular)	PEN/Gallon							11.63				
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene												
Gas/Diesel Oil	PEN/Gallon							9.11				
Fuel Oil												
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	PEN/m <sup>3</sup>							1.52				
Liquefied Natural Gas (export)												
Compressed Natural Gas												
<b>Electricity</b>												
Industrial (monthly consumption of 50 000 kWh)	US cent/kWh							8.32				
Commercial (monthly consumption of 50 000 kWh)	US cent/kWh							11.11				
Residential (monthly consumption of 125 kWh)	US cent/kWh							15.21				



# **The Philippines**

## Energy balance table of the Philippines

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					Fuel oil
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	
<b>2020</b>										
Production	286		19							
Import	652		185	537	131	39	18	1.6	237	39
Export	- 166		- 29	- 40	-5.7	-4.1	-0.6		-6.2	- 10
International marine bunkers				-4.2					-0.8	-3.4
International aviation bunkers				- 24			- 24			
Stock changes	- 46		41	21	3.8	2.2	1.8	0.2	13	2.6
<b>Total primary energy supply</b>	<b>726</b>		<b>216</b>	<b>491</b>	<b>129</b>	<b>37</b>	<b>-4.4</b>	<b>1.8</b>	<b>242</b>	<b>28</b>
<b>Transfers</b>										
Total transformation sector	- 658		- 195	165	42	3.9	14	1.0	72	5.1
Main activity producers	- 658			- 21					- 12	-9.1
Autoproducers										
Gas processing										
Petroleum refineries			- 195	186	42	3.9	14	1.0	84	14
Coal transformation										
Other transformation										
Losses & own use				-5.2					13	-7.0
Discrepancy	-5.7		- 16	- 101	5.0	- 41	-0.7	0.1	13	-7.0
<b>Total final consumption</b>	<b>63</b>			<b>555</b>	<b>176</b>		<b>9.0</b>	<b>2.9</b>	<b>327</b>	<b>26</b>
<b>Total final energy consumption</b>	<b>63</b>			<b>549</b>	<b>176</b>		<b>9.0</b>	<b>2.9</b>	<b>327</b>	<b>26</b>
Industry sector	63			64				0.7	35	21
Iron and steel	9.8			4.8				0.1	0.5	3.6
Chemical & petrochemical	1.6			7.8				0.6	1.8	4.6
Non-metallic minerals	29			9.4					3.0	5.6
Other industries	22			42					30	7.4
Transport sector				395	175		9.0		206	5.2
Domestic air transport				9.2	0.1		9.0			
Road				355	169				185	
Rail				0.1					0.1	
Inland waterways				31	5.8				20	5.2
Other transport										
Other sector				89	0.4			2.2	87	
Residential				2.1				2.1		
Commerce and public services				79					79	
Agriculture				2.8	0.3				2.5	
Non-specified others				5.9	0.1				5.8	
Non-energy				5.7						
<b>2019</b>										
Production	304		22							
Import	612		341	573	98	31	62	0.7	279	31
Export	- 221		- 23	- 41	-2.1	-5.2			-3.0	- 11
International marine bunkers				-2.3					-0.6	-1.7
International aviation bunkers				- 68			- 68			
Stock changes	37		-3.4	-1.9	2.4	-1.7	0.8	0.2	-5.5	1.0
<b>Total primary energy supply</b>	<b>732</b>		<b>337</b>	<b>461</b>	<b>99</b>	<b>24</b>	<b>-5.2</b>	<b>0.9</b>	<b>270</b>	<b>18</b>
<b>Transfers</b>										
Total transformation sector	- 633		- 335	287	76	7.3	33	1.3	115	12
Main activity producers	- 633			- 33					- 17	- 16
Autoproducers										
Gas processing										
Petroleum refineries			- 335	320	76	7.3	33	1.3	132	28
Coal transformation										
Other transformation										
Losses & own use				-9.4						
Discrepancy	-5.9		7.5	- 10	32	- 31	-2.2	0.9	-1.0	2.4
<b>Total final consumption</b>	<b>93</b>			<b>738</b>	<b>207</b>		<b>26</b>	<b>3.1</b>	<b>383</b>	<b>33</b>
<b>Total final energy consumption</b>	<b>93</b>			<b>732</b>	<b>207</b>		<b>26</b>	<b>3.1</b>	<b>383</b>	<b>33</b>
Industry sector	93			58				0.1	32	19
Iron and steel	4.6			5.5					0.8	3.9
Chemical & petrochemical	0.7			5.6				0.1	1.7	3.5
Non-metallic minerals	61			7.0					2.3	3.9
Other industries	26			40					27	7.7
Transport sector				512	206		26		271	8.2
Domestic air transport				26	0.2		26			
Road				448	199				249	
Rail				0.1					0.1	
Inland waterways				38	7.3				22	8.2
Other transport										
Other sector				162	0.4			3.0	81	5.8
Residential				55				3.0		
Commerce and public services				98					71	5.7
Agriculture				1.8	0.1				1.7	
Non-specified others				7.7	0.3				7.4	
Non-energy				5.7						

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			138	26		396	430			1 295	852
66		6.0					5.6			1 380	5.6
		- 13								- 235	
										- 4.2	
										- 24	
		-2.1					2.5			19	2.5
66		-9.0	138	26		396	438			2 430	860
6.8		20	- 129	- 26		- 396	- 122	366		- 994	- 544
			- 129	- 26		- 396	- 21	366		- 884	- 442
6.8		20								-8.3	
							- 102			- 102	- 102
			-7.4					- 67		- 79	
- 65		-5.5								- 123	
7.7		5.7	1.6				316	300		1 235	316
7.7			1.6				316	300		1 229	316
7.5			1.6				38	92		259	38
0.7								19		33	
0.8								5.6		15	
0.8							0.1	7.0		46	0.1
5.2			1.6				38	61		165	38
0.2							18	0.3		413	18
										9.2	
0.2							17			372	17
								0.3		0.3	
							0.3			32	0.3
							260	207		557	260
							245	123		370	245
							15	75		168	15
								8.2		11	
							0.1	1.1		7.1	0.1
		5.7								5.7	
			152	29		393	439			1 338	860
62		11					5.0			1 532	5.0
-0.2		- 19								- 284	
										- 2.3	
										- 68	
0.2		0.8					3.0			34	3.0
62		-6.5	152	29		393	447			2 550	868
13		30	- 143	- 29		- 393	- 116	382		- 980	- 538
			- 143	- 29		- 393	- 17	382		- 866	- 439
13		30								- 15	
							- 99			- 99	- 99
			-6.5					- 68		- 84	
5.8		- 18								- 8.7	
80		5.7	2.6				330	314		1 477	330
80			2.6				330	314		1 472	330
7.2			2.6				51	101		306	51
0.8								21		31	
0.3								6.2		13	
0.9								7.7		76	
5.2			2.6				51	67		187	51
0.4							21	0.4		534	21
										26	
0.4							21			469	21
								0.4		0.4	
							0.3			38	0.3
73							258	212		632	258
52							242	110		407	242
21							16	92		206	16
								8.8		11	
							0.1	1.2		9.1	0.1
		5.7								5.7	

## Major energy indicators of the Philippines

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	1 110	1 621	1 589	1 734	2 172	2 319	2 453	2 532	2 550	2 430
Production	685	790	885	1 050	1 151	1 265	1 262	1 286	1 338	1 295
Import	496	916	799	908	1 242	1 347	1 448	1 580	1 532	1 380
Export	-28	-76	-81	-165	-154	-231	-220	-204	-284	-235
Final energy consumption	780	955	942	1 042	1 249	1 351	1 419	1 438	1 472	1 229
Industry	173	190	207	249	283	312	332	315	306	259
Transport	197	348	345	337	443	480	497	514	534	413
Residential	370	331	296	330	366	378	385	395	407	370
Commerce & public services	34	71	78	111	141	162	184	195	206	168
Others	5.6	15	16	15	17	19	22	18	20	18
<b>Coal</b>										
Primary energy supply	53	194	223	294	486	548	648	685	732	726
Production	26	27	64	147	163	248	264	260	304	286
Import	30	151	147	242	382	443	492	581	612	652
Export				-90	-68	-150	-136	-111	-221	-166
Transformation sector	-23	-158	-173	-213	-388	-428	-515	-577	-633	-658
Power generation	-23	-158	-173	-213	-388	-428	-515	-577	-633	-658
Final energy consumption	22	29	44	77	93	112	126	101	93	63
Industry	22	29	44	77	93	112	126	101	93	63
Transport										
Residential										
Commerce & public services										
Others										
<b>Coal products</b>										
Primary energy supply										
Production										
Import										
Export										
Transformation sector										
Power generation										
Final energy consumption										
Industry										
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply	422	643	445	372	437	435	447	483	337	216
Production	10	2.3	26	38	30	29	26	25	22	19
Import	413	639	437	375	438	442	436	482	341	185
Export			-24	-36	-30	-28	-25	-24	-23	-29
Transformation sector	-436	-626	-424	-358	-426	-440	-428	-484	-335	-195
Petroleum refineries	-436	-626	-424	-358	-426	-440	-428	-484	-335	-195
<b>Petroleum products</b>										
Primary energy supply	-15	23	126	198	284	342	376	354	461	491
Import	53	126	215	288	414	456	514	511	573	537
Export	-28	-76	-57	-38	-55	-52	-59	-69	-41	-40
Transformation sector	326	532	359	285	347	366	366	428	287	165
Power generation	-107	-88	-59	-62	-59	-52	-41	-30	-33	-21
Petroleum refineries	433	620	418	347	406	417	407	459	320	186
Final energy consumption	330	527	492	475	587	647	686	710	732	549
Industry	94	83	70	59	58	61	62	61	58	64
Transport	196	348	344	329	426	461	477	494	512	395
Residential	33	60	44	39	41	47	49	53	55	2.1
Commerce & public services	4.6	24	21	39	54	68	87	93	98	79
Others	2.1	12	12	9.0	8.1	10	12	8.7	10	8.7
<b>Gas</b>										
Primary energy supply		0.4	113	127	119	137	135	151	152	138
Production		0.4	113	127	119	137	135	151	152	138
Import										
Export										
Transformation sector		-0.4	-107	-121	-113	-129	-129	-139	-143	-129
Power generation		-0.4	-107	-121	-113	-129	-129	-139	-143	-129
Final energy consumption			0.5	2.9	2.1	2.7	2.2	2.5	2.6	1.6
Industry			0.5	2.9	2.1	2.7	2.2	2.5	2.6	1.6
Transport										
Residential										
Commerce & public services										
Others										
<b>Electricity</b>										
Power generation	95	163	204	244	297	327	340	359	382	411
Thermal	52	93	138	180	221	248	256	275	302	289
Hydro	22	28	30	28	31	29	35	34	29	70
Nuclear										
Others	21	42	36	36	44	50	49	50	50	52
Final energy consumption	76	132	163	199	244	267	280	297	314	300
Industry	36	47	57	67	81	87	92	99	101	92
Transport	0.1	0.2	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.3
Residential	20	46	58	68	82	92	96	102	110	123
Commerce & public services	17	34	44	59	72	78	82	86	92	75
Others	3.5	3.2	3.9	5.4	8.5	9.1	9.2	10	10	9.3

## Major economic indicators of the Philippines

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	61.90	77.99	86.33	93.97	102.11	103.66	105.17	106.65	108.12	109.58
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	107	143	179	229	306	328	351	373	396	359
GDP, billion USD (PPP, constant 2017)	261	347	436	556	745	799	854	908	964	872
Nominal, billion USD (current)	51	84	107	208	306	319	328	347	377	362
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	1 730	1 831	2 078	2 433	3 001	3 168	3 338	3 501	3 665	3 272
GDP, PPP (constant 2017 USD)	4 209	4 454	5 054	5 918	7 300	7 705	8 121	8 516	8 915	7 958
Nominal (current USD)	816	1 073	1 244	2 217	3 001	3 074	3 123	3 252	3 485	3 301
Nominal GDP & its components (billions of current PHP) <sup>1</sup>										
Gross domestic product	1 228	3 698	5 917	9 399	13 944	15 132	16 557	18 265	19 518	17 952
Households and NPISHs final consumption expenditure	834	2 652	4 376	6 598	10 106	10 979	11 951	13 250	14 288	13 476
General government final consumption expenditure	118	409	525	914	1 522	1 704	1 875	2 200	2 433	2 740
Gross fixed capital formation	N.A.	716	1 076	1 918	3 100	3 783	4 246	4 983	5 300	3 824
Stock change	N.A.	- 137	21	1.9	- 125	- 58	- 15	- 27	- 149	- 695
Exports of goods and services	238	1 603	2 440	3 090	3 794	4 036	4 893	5 519	5 540	4 524
Imports of goods and services	289	1 546	2 522	3 123	4 453	5 312	6 394	7 662	7 897	5 918
Real GDP & its components (billions of 2018 PHP) <sup>1</sup>										
Gross Domestic Product	5 240	6 985	8 774	11 184	14 991	16 063	17 176	18 265	19 383	17 538
Households and NPISHs final consumption expenditure	3 732	5 356	6 821	8 215	11 035	11 823	12 528	13 250	14 027	12 911
General government final consumption expenditure	715	829	863	1 206	1 665	1 821	1 940	2 200	2 400	2 652
Gross fixed capital formation	N.A.	1 278	1 435	2 222	3 301	3 991	4 412	4 983	5 176	3 762
Stock change	N.A.	- 146	34	2.3	24	27	43	- 27	- 45	- 387
Exports of goods and services	844	1 770	2 377	2 952	3 849	4 204	4 935	5 519	5 664	4 750
Imports of goods and services	1 044	2 103	2 760	3 416	4 885	5 804	6 683	7 662	7 841	6 151
Sectoral shares of Real GDP (%) <sup>1</sup>										
Agriculture, Fishery and Forestry	16.8	15.2	14.8	13.4	11.3	10.4	10.1	9.7	9.2	10.2
Industry	33.2	32.0	30.8	30.0	30.0	30.3	30.3	30.6	30.4	29.2
Services, etc.	49.9	52.8	54.4	56.6	58.8	59.3	59.6	59.8	60.4	60.7
Manufacturing Production Index (2010=100) <sup>2</sup>	N.A.	72.0	86.1	100.0	135.0	150.8	150.3	107.6	98.1	58.4
External trade (billions of current USD) <sup>1</sup>										
Exports, f.o.b.	8.1	38.1	41.3	51.5	58.8	56.3	68.7	67.5	70.3	63.9
Imports, c.i.f.	13.0	37.0	49.5	58.5	74.8	85.9	101.9	115.1	112.9	90.8
Balance of payments (billions of current USD) <sup>2</sup>										
Trade balance	-4.0	-8.2	-12.1	-16.9	-23.3	-35.5	-40.2	-51.0	-49.3	-33.8
Current account	-2.7	-2.2	2.0	7.2	7.3	-1.2	-2.1	-8.9	-3.0	11.6
Overall balance	-0.6	1.1	-0.5	21.0	5.0	-1.3	0.7	0.5	5.1	18.5
Foreign exchange rate (PHP/USD) <sup>1</sup>	24.31	44.19	55.09	45.11	45.50	47.49	50.40	52.66	51.80	49.62
PPP conversion factor, GDP (PHP/USD) <sup>1</sup>	7.49	13.80	15.68	17.78	19.00	18.95	19.39	19.64	19.43	19.52
Price Indices										
GDP Deflator (2018=100) <sup>3</sup>	23.4	52.9	67.4	84.0	93.0	94.2	96.4	100.0	100.7	102.4
Producer Price Index (2010=100) <sup>2</sup>	N.A.	59.5	92.8	100.0	85.7	81.6	80.9	60.8	59.4	56.7
Consumer Price Index (2010=100) <sup>2</sup>	28.6	63.7	78.7	100.0	115.4	116.9	120.2	126.6	129.6	132.7
Growth rate (%) <sup>3</sup>										
Real GDP	3.1	4.4	4.9	7.3	6.3	7.1	6.9	6.3	6.1	-9.5
Population	2.6	2.2	1.9	1.7	1.6	1.5	1.5	1.4	1.4	1.4
Price										
Producer prices	N.A.	12.5	9.0	-4.9	-6.7	-4.8	-0.9	-24.8	-2.3	-4.6
Consumer prices	12.2	4.0	6.5	3.8	0.7	1.3	2.9	5.3	2.4	2.4

Source <sup>1</sup>: *World Development Indicators*, World Bank

<sup>2</sup>: *International Financial Statistics*, International Monetary Fund

<sup>3</sup>: Calculated from <sup>1</sup> and <sup>2</sup> by ESTO

Note : N.A. means "not available"

: PHP means Philippine Peso, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Energy prices in the Philippines

## IMPORT PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	PHP											
Exchange Rate	/ US Dollar	45.11	43.31	42.23	42.45	44.40	45.50	47.49	50.40	52.66	51.80	49.62
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite											355.40	124.03
Other bituminous coal												
Sub-bituminous Coal	USD/tonne			102.57			87.85	87.85	94.00			
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
<b>Oil and Oil Products</b>												
Crude Oil	USD/BBL	78.04	106.19	109.00	105.00	97.00	50.91	42.16	54.22	69.42	66.76	49.82
<b>Natural Gas Liquids</b>												
Ethane												
LPG	USD/BBL			90.05			39.50	37.78			44.36	43.18
Naphtha								43.25			58.59	42.41
Motor Gasoline	USD/BBL			119.99			64.62	55.36			71.57	48.07
Aviation Gasoline	USD/BBL			204.94			183.91	111.41			71.63	125.50
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel	USD/BBL			128.38			55.74	52.46			77.07	56.92
Other Kerosene	USD/BBL			126.71			47.71	54.42			77.82	48.37
Gas/Diesel Oil	USD/BBL			127.16			51.05	51.49			75.89	49.14
Fuel Oil	USD/BBL			113.44			55.97	36.28			64.65	46.75
White Spirit SBP											101.65	77.03
<b>Lubricants</b>												
Bitumen	USD/BBL			111.96			26.83	38.03			69.34	69.68
Paraffin Waxes												
Petroleum Coke												2.36
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas												
Compressed Natural Gas												
Electricity												

## Energy prices in the Philippines

## WHOLESALE PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	PHP											
Exchange Rate	/ US Dollar	45.11	43.31	42.23	42.45	44.40	45.50	47.49	50.40	52.66	51.80	49.62
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal	PHP/tonne			2 174.85			2 990.00	3 212.50	3 494.28			
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG	PHP/L			38.12			49.18	46.61	56.44			
Naphtha												
Motor Gasoline	PHP/L			58.77			50.13	49.49	57.45			
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel	PHP/L			56.99			56.45	38.72	44.27			
Other Kerosene	PHP/L			49.18			33.58	30.51	36.06			
Gas/Diesel Oil	PHP/L			47.77			34.06	32.38	40.11			
Fuel Oil	PHP/L			40.05			31.78	32.00	37.20			
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	USD/GJ			12.10			8.20		7.01		8.20	6.99
Liquefied Natural Gas												
Compressed Natural Gas												
Electricity	PHP/kWh		4.82	7.04	7.93	5.58	4.46	3.33	3.37	3.69	5.43	2.45



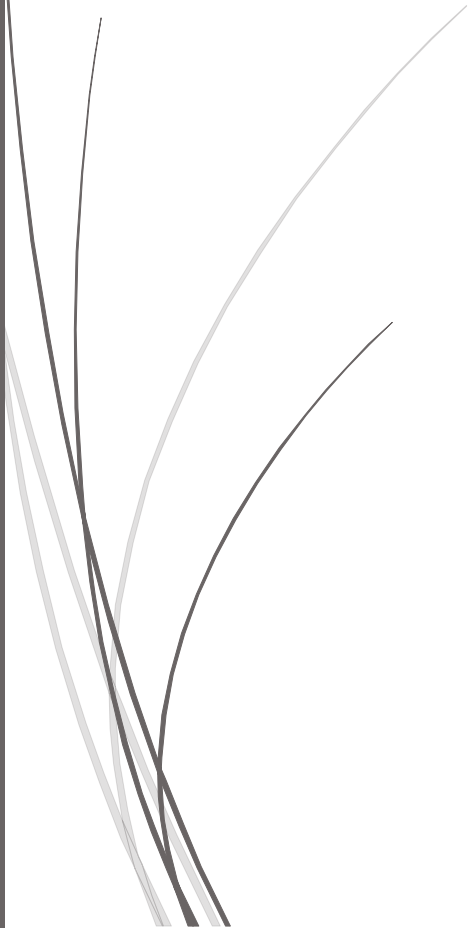
## Energy prices in the Philippines

## CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	PHP											
Exchange Rate	/ US Dollar	45.11	43.31	42.23	42.45	44.40	45.50	47.49	50.40	52.66	51.80	49.62
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal	PHP/tonne						3 900					
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG	PHP/L		41.02				30.40	28.96	61.63			
LPG (transport)	PHP/L						30.00	28.64	34.19			
Naphtha												
Motor Gasoline (regular)	PHP/L		59.23				50.05	39.80	45.89			
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel	PHP/L		56.96				41.77	38.72				
Other Kerosene	PHP/L		50.42				34.84	31.78	37.32			
Gas/Diesel Oil	PHP/L		49.19				33.32	25.36	32.14			
Fuel Oil	PHP/L		40.05				31.78	32.00				
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	USD/GJ							6.06				
Liquefied Natural Gas (export)												
Compressed Natural Gas	PHP/dL		14.52									
<b>Electricity</b>												
Industrial	PHP/kWh	7.48	7.84	7.66	6.78	6.82	5.99	5.80	6.98	7.90	7.13	6.39
Commercial	PHP/kWh	9.07	9.86	9.43	10.41	8.72	7.60	7.32	8.12	9.00	8.38	7.79
Residential	PHP/kWh	10.17	11.14	10.78	12.85	10.05	8.87	8.65	9.55	10.45	9.66	8.97
Others	PHP/kWh		10.74									



**RUSSIA**



## Energy balance table of Russia

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products				
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil
<b>2020</b>									
Production	9 713		21 719						
Import	607	2.3		62	0.8	0.8	1.2	17	4.8
Export	-5 536	- 78	-9 948	-5 079	- 230	- 738	- 85	-1 708	-1 784
International marine bunkers				-285					
International aviation bunkers				-201			-201		
Stock changes	60	17	8.1	-5.4	-9.0	8.8			
<b>Total primary energy supply</b>	<b>4 844</b>	<b>- 58</b>	<b>11 779</b>	<b>-5 509</b>	<b>- 238</b>	<b>- 728</b>	<b>- 285</b>	<b>-1 920</b>	<b>-1 835</b>
Transfers				-0.1			-10	10	
Total transformation sector	-4 607	1 166	-11 551	10 956	1 668	1 100	470	3 317	1 900
Main activity producers	-1 845			-27					-27
Autoproducers	-614	-135	-20	-190				-53	-106
Gas processing									
Petroleum refineries			-11 531	11 173	1 668	1 100	470	3 370	2 033
Coal transformation	-2 148	1 301							
Other transformation									
Losses & own use	-19	-49	-227	-162				-145	-15
Discrepancy	21	1.3		146		26	26	84	3.6
<b>Total final consumption</b>	<b>238</b>	<b>1 060</b>	<b>0.6</b>	<b>5 431</b>	<b>1 430</b>	<b>399</b>	<b>201</b>	<b>1 346</b>	<b>54</b>
<b>Total final energy consumption</b>	<b>230</b>	<b>1 060</b>	<b>0.6</b>	<b>3 702</b>	<b>1 430</b>		<b>201</b>	<b>1 346</b>	<b>54</b>
Industry sector	131	1 060	0.1	404				265	23
Iron and steel	91	1 054		11					10
Chemical & petrochemical	7.6	0.9		16				6.7	1.4
Non-metallic minerals	25	3.1		22				18	2.9
Other industries	6.2	2.1	0.1	355				240	8.2
Transport sector				2 512	1 430		201	816	10
Domestic air transport				201			201		
Road				2 065	1 418			592	
Rail				159	1.1			158	0.1
Inland waterways				18	0.6			11	6.4
Other transport				69	9.7			56	3.8
Other sector	99		0.5	785				264	21
Residential	69			594				97	0.5
Commerce and public services	28			59				53	4.8
Agriculture	2.1		0.4	108				106	
Non-specified others			0.1	25				9.2	16
Non-energy	8.6			1 729		399			
<b>2019</b>									
Production	10 565		23 600						
Import	599	1.9		52	0.1	0.8	1.2	2.6	4.3
Export	-5 673	-81	-11 326	-5 430	-228	-768	-103	-1 725	-2 004
International marine bunkers				-452				-364	-88
International aviation bunkers				-245			-245		
Stock changes	-200	-0.4	66	-7.6	-4.7	-4.2		-17	9.2
<b>Total primary energy supply</b>	<b>5 292</b>	<b>- 80</b>	<b>12 340</b>	<b>-6 084</b>	<b>- 233</b>	<b>- 772</b>	<b>- 347</b>	<b>-2 104</b>	<b>-2 079</b>
Transfers				-0.1			-14	14	
Total transformation sector	-4 764	1 167	-12 090	11 628	1 738	1 134	566	3 414	2 185
Main activity producers	-1 971			-31					-31
Autoproducers	-647	-138	-23	-218				-60	-121
Gas processing									
Petroleum refineries			-12 067	11 876	1 738	1 134	566	3 474	2 337
Coal transformation	-2 147	1 305							
Other transformation									
Losses & own use	-25	-42	-249	-171				-151	-18
Discrepancy	-251	0.3		87		25	40	235	-22
<b>Total final consumption</b>	<b>251</b>	<b>1 046</b>	<b>1.3</b>	<b>5 460</b>	<b>1 505</b>	<b>388</b>	<b>245</b>	<b>1 408</b>	<b>66</b>
<b>Total final energy consumption</b>	<b>244</b>	<b>1 046</b>	<b>1.3</b>	<b>3 912</b>	<b>1 505</b>		<b>245</b>	<b>1 408</b>	<b>66</b>
Industry sector	140	1 046	0.8	426				276	28
Iron and steel	99	1 040	0.5	13					13
Chemical & petrochemical	6.7	0.8		17				6.9	1.7
Non-metallic minerals	28	3.3		23				19	3.5
Other industries	6.4	2.2	0.3	372				250	10
Transport sector				2 675	1 505		245	856	13
Domestic air transport				245			245		
Road				2 165	1 493			616	
Rail				166	1.2			165	0.1
Inland waterways				26	0.6			17	7.9
Other transport				73	10			58	4.7
Other sector	104		0.5	811				275	26
Residential	71			608				101	0.6
Commerce and public services	31			62				55	5.9
Agriculture	2.1		0.5	113				110	0.1
Non-specified others			0.1	29				9.5	19
Non-energy	7.6			1 548		388			

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			24 843	765	2 368	16	444			59 868	901
5.3		32	309				0.9	13		994	0.4
- 143		- 392	- 8 216				- 4.2	- 44		- 28 906	- 1.5
										- 285	
										- 201	
		- 5.2	175				3.2			258	2.0
- 138		- 365	17 111	765	2 368	16	444	- 31		31 729	902
										- 0.1	
1 270	1 230		- 8 588	- 765	- 2 368	- 16	- 212	3 906	5 114	- 6 966	- 808
			- 5 454	- 761	- 2 368	- 16	- 6.0	3 660	2 316	- 4 500	- 777
- 0.8	- 31		- 2 684	- 4.6			- 203	256	2 787	- 809	- 28
1 271	1 261									- 358	
							- 0.1			- 847	
			- 450				- 2.5	- 10	11	- 452	- 2.5
- 2.3			- 960				- 6.1	- 1 176	- 880	- 3 480	
7.3			- 263				- 0.9			- 95	4.4
1 137	864		7 300				225	2 699	4 234	21 187	98
568	103		5 375				225	2 699	4 234	17 524	98
13	103		1 518				128	1 199	1 561	6 002	8.7
0.5			467				55	221	248	2 147	
8.3			333				7.3	189	580	1 135	0.7
0.7			310				3.2	60	89	512	
3.9	103		407				63	729	644	2 207	8.0
55			995					279		3 786	
										201	
55			7.3							2 072	
0.1								181		340	
0.1										18	
0.3			988					98		1 155	
500			2 862				97	1 221	2 673	7 737	90
496			2 595				44	588	1 870	5 760	43
1.0			210				50	561	688	1 595	45
2.3			57				3.2	70	114	355	1.4
								1.1	0.7	27	
569	761		1 925							3 663	
			26 439	701	2 294	10	446			64 056	838
5.6	37		314				0.8	5.8		973	0.4
- 204	- 396		- 8 941				- 4.0	- 72		- 31 526	- 1.8
										- 452	
										- 245	
8.7	0.9		- 310				- 3.7			- 456	- 1.7
- 190	- 359		17 502	701	2 294	10	439	- 66		32 349	835
										- 0.1	
1 337	1 253		- 9 085	- 701	- 2 294	- 10	- 211	4 019	5 322	- 7 020	- 738
			- 5 801	- 697	- 2 294	- 10	- 6.8	3 755	2 418	- 4 637	- 707
- 0.9	- 35		- 2 808	- 4.2			- 202	275	2 892	- 872	- 28
1 338	1 289									- 191	
							- 0.1			- 842	
			- 477				- 3.0	- 12	13	- 478	- 3.0
- 2.3			- 1 046				- 6.1	- 1 233	- 916	- 3 688	
- 191			353				- 0.1			190	
953	895		7 725				222	2 720	4 406	21 832	97
580	108		5 822				222	2 720	4 406	18 373	97
14	108		1 630				126	1 226	1 512	6 108	8.6
0.5			489				54	223	254	2 172	
8.5			352				6.9	172	519	1 075	0.7
0.7			340				3.1	61	89	546	
3.9	108		450				62	770	651	2 315	7.9
56			1 182					294		4 151	
										245	
56			8.7							2 174	
0.1								190		356	
0.1										26	
0.3			1 174					103		1 350	
510			3 009				95	1 200	2 894	8 114	88
506			2 721				44	579	1 996	6 020	44
1.0			236				48	550	791	1 718	43
2.3			52				3.2	70	106	346	1.4
								1.1	0.6	31	
373	786		1 903							3 458	

## Major energy indicators of Russia

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	36 816	25 932	27 287	29 027	28 978	29 857	30 410	32 302	32 349	31 729
Production	54 145	40 952	50 383	53 571	55 870	57 513	59 840	62 138	64 056	59 868
Import	5 043	1 377	971	706	1 156	939	1 031	1 037	973	994
Export	-22 318	-16 013	-23 551	-24 773	-27 196	-27 894	-28 938	-30 490	-31 526	-28 906
Final energy consumption	24 487	15 976	15 395	15 922	16 467	16 912	17 525	18 206	18 373	17 524
Industry	8 737	5 352	5 151	5 289	5 833	6 244	6 261	5 818	6 108	6 002
Transport	4 852	3 118	3 708	4 040	3 930	3 948	4 013	4 229	4 151	3 786
Residential	3 496	5 873	4 629	4 667	4 803	4 793	5 216	6 207	6 020	5 760
Commerce & public services	1 519	948	1 454	1 550	1 524	1 559	1 646	1 550	1 718	1 595
Others	5 883	684	453	375	376	369	389	402	376	382
<b>Coal</b>										
Primary energy supply	7 955	5 065	4 794	4 488	4 921	4 755	4 733	4 992	5 304	4 855
Production	8 055	5 382	6 591	6 965	8 385	8 757	9 304	10 065	10 579	9 726
Import	1 330	639	567	383	596	538	625	624	600	608
Export	-1 596	-1 021	-2 251	-3 099	-4 126	-4 507	-4 975	-5 508	-5 675	-5 539
Transformation sector	-5 857	-4 383	-4 369	-4 257	-4 490	-4 271	-4 272	-4 686	-4 776	-4 618
Power generation	-4 235	-3 174	-3 021	-2 748	-2 575	-2 418	-2 366	-2 735	-2 628	-2 469
Final energy consumption	1 730	481	282	212	265	264	235	235	244	230
Industry	78	65	45	42	116	132	128	139	140	131
Transport										
Residential	470	374	118	65	87	78	64	71	71	69
Commerce & public services	862	16	112	103	58	52	40	23	31	28
Others	320	27	7.3	3.3	3.9	2.7	2.2	2.0	2.1	2.1
<b>Coal products</b>										
Primary energy supply	47	-41	-80	-61	-65	-65	-80	-76	-80	-58
Production										
Import	139	4.8	4.4	5.7	2.6	2.1	3.0	3.5	1.9	2.3
Export	-96	-46	-84	-67	-71	-66	-85	-79	-81	-78
Transformation sector	530	302	345	497	983	1 002	1 005	1 039	1 168	1 166
Power generation	-158	-171	-197	-218	-131	-130	-138	-135	-138	-135
Final energy consumption	561	241	244	373	873	897	885	907	1 047	1 060
Industry	532	240	243	372	873	896	884	906	1 046	1 060
Transport										
Residential	27	1.0	0.2	0.1	0.6	0.5	0.3	0.4	0.4	0.4
Commerce & public services		0.2	0.4	1.0						
Others	2.0	0.1								
<b>Crude oil &amp; NGL</b>										
Primary energy supply	13 479	7 696	9 079	10 757	12 142	12 334	12 443	12 329	12 340	11 779
Production	22 033	13 534	19 624	21 208	22 453	23 043	22 985	23 369	23 600	21 719
Import	778	248	102	46	148	32	26	21		
Export	-9 333	-6 077	-10 628	-10 394	-10 364	-10 724	-10 637	-10 963	-11 326	-9 948
Transformation sector	-12 934	-7 610	-8 955	-10 549	-11 893	-12 034	-12 182	-12 055	-12 090	-11 551
Petroleum refineries	-12 871	-7 566	-8 923	-10 516	-11 868	-11 999	-12 161	-12 034	-12 067	-11 531
<b>Petroleum products</b>										
Primary energy supply	-2 435	-2 416	-3 669	-4 934	-6 307	-5 831	-5 997	-6 120	-6 084	-5 509
Import	307	13	1.1	119	82	49	51	46	52	62
Export	-2 691	-2 232	-3 498	-4 689	-5 661	-5 200	-5 326	-5 440	-5 430	-5 079
Transformation sector	8 756	6 604	8 044	10 036	11 506	11 281	11 742	11 458	11 628	10 956
Power generation	-2 536	-928	-670	-432	-369	-274	-274	-303	-249	-217
Petroleum refineries	11 293	7 532	8 744	10 469	11 875	11 555	12 016	11 761	11 876	11 173
Final energy consumption	5 263	2 975	2 917	3 244	3 701	3 633	3 819	3 719	3 912	3 702
Industry	1 024	710	430	462	605	670	664	332	426	404
Transport	3 051	1 771	1 991	2 357	2 495	2 413	2 467	2 583	2 675	2 512
Residential	367	182	265	198	342	321	437	560	608	594
Commerce & public services	18	41	35	70	100	89	104	93	62	59
Others	803	271	195	158	159	140	147	150	141	133
<b>Gas</b>										
Primary energy supply	15 382	13 356	14 640	16 058	15 251	15 546	16 117	17 923	17 502	17 111
Production	21 638	19 709	21 597	22 615	21 953	22 542	24 323	25 398	26 439	24 843
Import	2 363	441	260	146	303	307	302	323	314	309
Export	-8 446	-6 556	-7 010	-6 455	-6 907	-7 332	-7 853	-8 434	-8 941	-8 216
Transformation sector	-9 535	-7 931	-8 618	-9 336	-8 685	-8 441	-8 459	-8 524	-9 085	-8 588
Power generation	-9 535	-7 805	-8 532	-9 266	-8 602	-8 348	-8 341	-8 396	-8 609	-8 138
Final energy consumption	5 108	4 197	4 464	4 574	4 535	4 883	5 260	5 954	5 822	5 375
Industry	1 277	1 082	1 261	1 355	1 486	1 525	1 591	1 603	1 630	1 518
Transport	1 426	1 128	1 417	1 376	1 140	1 238	1 267	1 351	1 182	995
Residential	1 973	1 805	1 597	1 693	1 773	1 969	2 243	2 843	2 721	2 595
Commerce & public services	368	103	149	127	90	96	104	100	236	210
Others	64	79	40	23	46	54	56	57	52	57
<b>Electricity</b>										
Power generation	3 896	3 155	3 424	3 730	3 836	3 920	3 932	4 008	4 031	3 916
Thermal	2 872	2 085	2 254	2 505	2 514	2 535	2 521	2 569	2 558	2 347
Hydro	597	591	622	599	605	665	666	688	701	765
Nuclear	426	471	538	613	704	708	731	736	752	777
Others	0.2	9.4	11	12	14	13	14	14	19	28
Final energy consumption	2 976	2 191	2 340	2 616	2 636	2 678	2 739	2 734	2 720	2 699
Industry	1 734	1 125	1 188	1 177	1 184	1 175	1 220	1 225	1 226	1 199
Transport	374	219	299	307	296	297	279	295	294	279
Residential	385	507	392	467	538	578	599	599	579	588
Commerce & public services	241	231	399	608	559	566	576	548	550	561
Others	242	109	61	57	59	63	65	68	71	71

## Major economic indicators of Russia

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	147.97	146.60	143.52	142.85	144.10	144.34	144.50	144.48	144.41	144.07
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	1 161	780	1 051	1 251	1 363	1 366	1 391	1 430	1 462	1 422
GDP, billion USD (PPP, constant 2017)	3 179	2 136	2 877	3 423	3 732	3 739	3 807	3 914	4 000	3 893
Nominal, billion USD (current)	517	260	764	1 525	1 363	1 277	1 574	1 657	1 693	1 488
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	7 849	5 324	7 323	8 755	9 462	9 464	9 627	9 899	10 121	9 872
GDP, PPP (constant 2017 USD)	21 483	14 570	20 043	23 961	25 897	25 903	26 347	27 090	27 700	27 019
Nominal (current USD)	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Nominal GDP & its components (billions of current RUB) <sup>1</sup>										
Gross domestic product	0.6	7 306	21 610	46 309	83 087	85 616	91 843	103 862	109 608	107 315
Households and NPISHs final consumption expenditure	N.A.	3 374	10 792	23 843	43 770	45 589	48 559	52 311	56 557	54 577
General government final consumption expenditure	N.A.	1 103	3 646	8 671	14 761	15 810	16 731	18 394	19 841	21 500
Gross fixed capital formation	N.A.	1 232	3 837	10 014	17 126	18 734	20 189	21 452	22 911	23 120
Stock change	N.A.	134	502	458	1 277	1 040	1 492	1 312	1 928	2 082
Exports of goods and services	N.A.	3 219	7 607	13 529	23 849	22 136	23 963	31 982	31 165	27 399
Imports of goods and services	N.A.	1 756	4 648	9 790	17 163	17 691	19 090	21 590	22 793	21 925
Real GDP & its components (billions of 2016 RUB) <sup>1</sup>										
Gross Domestic Product	72 791	48 910	65 870	78 380	85 451	85 616	87 179	89 627	91 597	89 139
Households and NPISHs final consumption expenditure	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
General government final consumption expenditure	19 404	13 926	15 026	15 982	15 584	15 810	16 210	16 417	16 806	17 133
Gross fixed capital formation	36 355	7 787	12 514	17 914	18 501	18 734	19 606	19 727	19 918	19 042
Stock change	12 068	2 569	4 017	1 972	1 400	1 040	1 435	979	1 274	1 351
Exports of goods and services	13 116	10 743	16 554	19 370	21 456	22 136	23 245	24 537	24 716	23 695
Imports of goods and services	14 755	5 479	12 568	19 338	18 366	17 691	20 755	21 306	21 973	19 320
Sectoral shares of Real GDP (%) <sup>1</sup>										
Agriculture, Fishery and Forestry	4.6	4.8	4.0	3.3	3.8	3.8	3.8	3.8	3.8	3.9
Industry	39.4	31.4	31.9	28.5	28.7	29.2	29.2	29.2	29.0	29.1
Services, etc.	51.3	51.2	50.8	56.6	57.4	57.0	57.0	57.0	57.1	57.3
Industrial production index (2010=100) <sup>2</sup>	N.A.	69.2	91.4	100.0	119.1	121.2	125.7	130.1	134.5	131.7
External trade (billions of current USD) <sup>1</sup>										
Exports, f.o.b.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Imports, c.i.f.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Balance of payments (billions of current USD) <sup>2</sup>										
Trade balance	N.A.	57.1	116.2	147.0	148.4	90.2	114.6	195.1	165.8	93.4
Current account	N.A.	45.4	84.4	67.5	67.8	24.5	32.2	115.7	65.6	35.4
Overall balance	N.A.	27.0	70.0	45.9	-1.2	13.6	20.0	36.1	68.4	-17.6
Foreign exchange rate (RUR/USD) <sup>1</sup>	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
PPP conversion factor, GDP (RUR/USD) <sup>1</sup>	0.00	7.30	12.74	15.82	23.56	24.19	24.12	24.54	24.84	24.49
Price Indices										
GDP Deflator (2016=100) <sup>3</sup>	0.0	14.9	32.8	59.1	97.2	100.0	105.3	115.9	119.7	120.4
Producer Price Index (2010=100) <sup>2</sup>	N.A.	27.1	61.7	100.0	156.6	163.4	175.6	197.2	201.1	193.6
Consumer Price Index (2010=100) <sup>2</sup>	N.A.	30.8	61.4	100.0	151.5	162.2	168.2	173.0	180.8	186.9
Growth rate (%) <sup>3</sup>										
Real GDP <sup>3</sup>	-3.0	10.0	6.4	4.5	-2.0	0.2	1.8	2.8	2.2	-2.7
Population <sup>3</sup>	0.2	-0.4	-0.4	0.0	0.2	0.2	0.1	0.0	0.0	-0.2
Price <sup>2</sup>										
Producer prices	N.A.	46.5	20.6	12.2	13.8	4.3	7.5	12.3	2.0	-3.8
Consumer prices	N.A.	20.8	12.7	6.8	15.5	7.0	3.7	2.9	4.5	3.4

Source <sup>1</sup>: *World Development Indicators*, World Bank

<sup>2</sup>: *International Financial Statistics*, International Monetary Fund

<sup>3</sup>: Calculated from <sup>1</sup> and <sup>2</sup> by ESTO

Note : N.A. means "not available"

: - means "very small number"

: RUB means Russian Ruble, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Energy prices in Russia

## IMPORT PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	RUB											
Exchange Rate	/ US Dollar	30.37	29.38	30.84	31.84	38.38	60.94	67.06	58.34	62.67	64.74	72.10
<b>Coal and Coal Products</b>												
Coking Coal	USD/tonne	199.01	217.13	186.65	146.13	109.24	93.78	82.53	159.75	102.70	96.59	70.21
Anthracite	USD/tonne	134.25	61.12	88.76	64.81	57.50	43.28	36.39	37.56	36.62	41.78	34.82
Other bituminous coal	USD/tonne	21.51	37.91	22.32	20.99	19.95	14.72	9.25	11.27	9.84	9.30	9.18
Sub-bituminous Coal												
Lignite	USD/tonne	19.71	21.04	24.16	17.15	21.13	14.94	11.00	12.39	14.57	17.07	15.20
Peat	USD/tonne	137.87	108.27	295.95	302.21	248.39	146.98	133.77	103.14	123.81	129.37	105.88
Patent Fuel	USD/tonne	228.78	260.00	588.58	170.00	-	-	214.96	-	145.60	212.50	223.15
Coke	USD/tonne	385.38	541.35	320.71	437.95	405.16	330.39	335.89	404.12	404.55	404.25	328.16
Coal Tar	USD/tonne	171.40	189.62	247.27	223.61	240.34	157.70	84.15	140.13	148.10	169.38	124.85
BKB/PB	USD/tonne	4 139.53	5 423.47	5 174.71	5 161.40	5 091.95	4 046.94	4 761.95	4 696.76	5 539.72	2 648.87	4 138.29
<b>Oil and Oil Products</b>												
Crude Oil	USD/tonne	267.58	248.09	206.42	180.61	208.29	226.36	234.25	130.75	150.90	-	208.24
Natural Gas Liquids	USD/tonne	267.58	248.09	206.42	180.61	173.01	80.76	57.00	111.09	128.81	320.19	235.46
Ethane	USD/tonne	2 369.90	443.42	1 334.55	1 874.90	1 842.41	1 431.85	3 446.50	3 539.12	2 774.35	3 512.94	2 348.36
LPG	USD/tonne	378.30	581.63	950.71	714.38	701.90	374.25	401.45	591.36	555.07	493.59	346.20
Naphtha		-	-	1 721.90	1 747.79	1 299.47	1 051.18	1 060.74	928.22	1 178.34	1 222.00	626.24
Motor Gasoline	USD/tonne	733.49	1 019.30	903.93	708.80	606.25	416.50	350.90	444.19	491.87	599.09	284.66
Aviation Gasoline	USD/tonne	-	-	2 224.61	2 049.88	1 826.20	1 156.01	911.27	1 014.73	1 249.92	1 131.11	632.10
Gasoline Type Jet Fuel		-	-	-	784.30	696.84	-	-	559.99	-	-	-
Kerosene Type Jet Fuel	USD/tonne	636.05	824.30	771.03	809.73	745.34	456.67	332.30	468.21	622.88	619.00	383.13
Other Kerosene	USD/tonne	2 655.96	1 445.59	1 956.29	1 024.46	3 338.46	1 515.37	3 307.46	2 831.37	3 116.10	1 823.02	1 302.27
Gas/Diesel Oil	USD/tonne	1 599.96	1 474.81	1 021.04	694.68	660.69	351.20	299.52	480.18	646.03	609.63	374.15
Fuel Oil	USD/tonne	177.03	661.26	693.90	278.88	884.93	574.60	345.18	210.24	537.23	364.73	384.77
White Spirit SBP	USD/tonne	-	-	1 665.26	1 711.63	1 622.36	1 116.94	990.26	1 168.44	1 398.06	1 309.19	1 081.62
Lubricants	USD/tonne	2 370.05	2 603.50	2 635.03	2 548.98	2 296.27	1 924.64	1 790.04	1 866.17	1 976.63	1 934.65	1 864.31
Bitumen	USD/tonne	600.27	448.05	251.36	422.88	276.92	171.44	194.17	255.87	645.14	295.19	609.09
Paraffin Waxes	USD/tonne	2 192.59	2 238.12	2 480.62	2 937.21	3 117.54	2 646.59	2 762.28	2 743.56	2 738.24	2 192.40	2 488.68
Petroleum Coke	USD/tonne	292.37	353.54	359.94	266.51	227.77	228.59	219.92	263.99	567.50	804.53	436.29
<b>Natural Gas</b>												
Natural Gas	USD/million m <sup>3</sup>		11 508	27 940	27 047	26 065	19 631	13 699	15 646	18 145	19 655	16 375
Liquefied Natural Gas	USD/1000 m <sup>3</sup>									294	411	242 679
Compressed Natural Gas												
Electricity	USD/kWh	25.78	36.07	29.23	28.53	49.10	45.75	16.70	16.89	16.42	21.64	16.40
<b>Other energy</b>												
Charcoal	USD/tonne	1 062.14	818.28	1 170.55	964.82	946.24	808.89	735.94	707.20	747.29	663.52	700.97
Wood pellets	USD/tonne	-	-	1 093.42	1 012.36	1 093.07	702.70	627.92	538.41	876.39	889.31	897.54

## Energy prices in Russia

## WHOLESALE PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	RUB											
Exchange Rate	/ US Dollar	30.37	29.38	30.84	31.84	38.38	60.94	67.06	58.34	62.67	64.74	72.10
<b>Coal and Coal Products</b>												
Coking Coal	RUB/tonne	5 920	6 505	4 523	4 045	4 225	5 524	8 524	9 552	11 029	7 716	6 587
Anthracite	RUB/tonne					7 165	7 262	9 375	11 019	11 849	14 389	9 231
Other bituminous coal												
Sub-bituminous Coal												
Lignite	RUB/tonne	895	907	915	1 015	1 019	1 114	1 181	1 227	1 301	1 462	1 545
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil	RUB/tonne	11 045	12 417	12 797	14 414	9 832	12 325	18 180	22 697	19 869	25 402	24 554
Natural Gas Liquids												
Ethane												
LPG	RUB/tonne			29 752	20 731	24 285	16 666	17 409	19 589	22 476	25 962	28 888
Naphtha												
Motor Gasoline	RUB/tonne	24 814	28 775	34 523	35 539	38 496	40 470	43 170	46 131	49 428	54 999	56 038
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel	RUB/tonne	21 378	31 587	30 517	31 509	32 031	35 097	35 428	42 054	49 310	50 640	42 799
Other Kerosene												
Gas/Diesel Oil	RUB/tonne	24 157	30 488	34 075	36 275	36 622	40 015	39 721	46 998	57 707	56 908	53 316
Fuel Oil	RUB/tonne	12 058	13 856	12 716	12 357	11 462	7 099	12 431	16 997	22 154	11 923	17 749
White Spirit SBP												
Lubricants	RUB/tonne	43 633	51 201	50 014	53 246	61 600	87 691	65 834	84 119	78 569	71 545	85 550
Bitumen	RUB/tonne	8 494	16 989	12 850	7 645	12 546	5 499	8 287	10 018	12 255	11 602	15 722
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	RUB/1000 m <sup>3</sup>	3 081	3 562	4 062	4 638	4 666	5 205	5 055	5 137	5 319	5 339	5 466
Liquefied Natural Gas												
Compressed Natural Gas												
Electricity	RUB/MWh	1 539	1 914	1 933	2 149	2 103	2 189	2 253	2 579	2 582	2 640	2 661
Other energy												
Charcoal												



## Energy prices in Russia

## CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	RUB											
Exchange Rate	/ US Dollar	30.37	29.38	30.84	31.84	38.38	60.94	67.06	58.34	62.67	64.74	72.10
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite	RUB/tonne		1,920									
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel	RUB/tonne	3,036	1,920	2,177	2,322	2,214	2,760	3,070	3,109	2,900	2,970	2,927
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG												
LPG (transport)												
Naphtha												
Motor Gasoline (regular)	RUB/L	25.29	28.45	30.69	32.66	35.21	36.91	38.34	41.01	44.83	45.74	47.01
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene												
Gas/Diesel Oil	RUB/L	23.10	27.83	30.85	33.34	34.44	35.56	36.66	40.24	46.68	47.73	48.72
Fuel Oil												
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	RUB/month - person	43.81	48.32	55.36	63.63	63.89	67.56	68.24	73.04	75.59	77.94	80.58
Liquefied Natural Gas	RUB/month - person	165.79	182.05	210.85	241.51	242.74	254.52	275.23	278.02	273.55	291.32	300.28
Compressed natural gas	RUB/50 L	466.26	494.37	544.28	614.80	651.44	665.59	668.55	674.27			
<b>Electricity</b>												
Industrial												
Commercial												
Residential	RUB/100 kWh	232.03	249.69	269.02	302.64	314.95	333.42	359.02	371.44	387.16	400.64	415.72
Others	RUB/100 kWh	166.83	184.99	190.65	214.32	226.63	245.82	260.29	269.04	280.42	294.45	301.25



**Singapore**

## Energy balance table of Singapore

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	Fuel oil
<b>2020</b>										
Production										
Import	18		1 970	3 926	744	345	89		550	2 059
Export			- 40	-3 162	-1 038	- 56	- 139	-10.0	- 856	- 627
International marine bunkers				-1 815						-1 815
International aviation bunkers				- 87			- 87			
Stock changes				- 67	21		- 303		- 52	221
<b>Total primary energy supply</b>	<b>18</b>		<b>1 929</b>	<b>-1 204</b>	<b>- 273</b>	<b>288</b>	<b>- 440</b>	<b>-10.0</b>	<b>- 359</b>	<b>- 161</b>
Transfers			70	70		70				
Total transformation sector	- 10		-1 845	1 889	302		440	10.0	404	171
Main activity producers	- 10			-0.3						-0.2
Autoproducers				-3.6						-2.2
Gas processing										
Petroleum refineries			-1 845	1 893	302		440	10.0	404	173
Coal transformation										
Other transformation										
Losses & own use										
Discrepancy			- 154	- 331		- 139				-0.2
<b>Total final consumption</b>	<b>7.6</b>			<b>423</b>	<b>29</b>	<b>218</b>			<b>45</b>	<b>9.3</b>
<b>Total final energy consumption</b>	<b>7.6</b>			<b>186</b>	<b>29</b>				<b>45</b>	<b>9.3</b>
Industry sector	7.6			120					12	9.3
Iron and steel										
Chemical & petrochemical				99						4.9
Non-metallic minerals										
Other industries	7.6			22					12	4.4
Transport sector				62	29				34	
Domestic air transport										
Road				60	29				32	
Rail										
Inland waterways				1.9					1.9	
Other transport										
Other sector				3.2						
Residential				0.8						
Commerce and public services				2.4						
Agriculture										
Non-specified others										
Non-energy				237		218				
<b>2019</b>										
Production										
Import	19		2 278	4 172	694	279	56		506	2 416
Export			- 40	-3 630	-1 176	- 38	- 209	- 11	- 911	- 943
International marine bunkers				-1 752						-1 752
International aviation bunkers				- 376			- 376			
Stock changes			-6.0	174	164		48		11	102
<b>Total primary energy supply</b>	<b>19</b>		<b>2 231</b>	<b>-1 411</b>	<b>- 319</b>	<b>241</b>	<b>- 480</b>	<b>- 11</b>	<b>- 394</b>	<b>- 176</b>
Transfers			28	28		28				
Total transformation sector	- 12		-2 126	2 081	347		480	11	441	186
Main activity producers	- 12			-0.4						-0.3
Autoproducers				-3.9						-2.3
Gas processing										
Petroleum refineries			-2 126	2 085	347		480	11	441	189
Coal transformation										
Other transformation										
Losses & own use										
Discrepancy			- 133	- 278		- 56				
<b>Total final consumption</b>	<b>7.6</b>			<b>420</b>	<b>28</b>	<b>213</b>			<b>47</b>	<b>9.8</b>
<b>Total final energy consumption</b>	<b>7.6</b>			<b>187</b>	<b>28</b>				<b>47</b>	<b>9.8</b>
Industry sector	7.6			121					12	9.8
Iron and steel										
Chemical & petrochemical				99						5.4
Non-metallic minerals										
Other industries	7.6			23					12	4.5
Transport sector				63	28				35	
Domestic air transport										
Road				61	28				33	
Rail										
Inland waterways				1.9					1.9	
Other transport										
Other sector				3.2						
Residential				0.8						
Commerce and public services				2.4						
Agriculture										
Non-specified others										
Non-energy				232		213				

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
		140	415			1.8	23			25	13
- 31		- 404					2.9			6 332	2.9
		46								- 3 202	
										- 1 815	
										- 87	
										- 67	
- 31		- 217	415			1.8	26			1 186	16
										139	
36	94	432	- 360			- 1.8	- 26	191		- 163	- 16
			- 311			- 1.8	- 26	174		- 175	- 16
	- 1.4		- 49				- 0.8	17		- 36	- 0.8
36	95	432								48	
								- 8.2		- 8.2	
		- 192	14					- 0.1		- 472	
4.5	94	23	69					183		682	
4.5	94	4.1	69					183		445	
1.3	94	4.1	62					75		265	
	94									99	
1.3		4.1	62					75		166	
			0.1					10		73	
			0.1							61	
								10		10	
										1.9	
3.2			6.7					97		107	
0.8			3.2					30		34	
2.4			3.4					67		72	
			0.1					0.8		1.0	
		19								237	
						1.5	25			27	14
- 35		221	425				3.1			6 897	3.1
		- 308								- 3 670	
										- 1 752	
										- 376	
		- 151	- 0.2							168	
- 35		- 238	425			1.5	28			1 293	17
										56	
39	93	484	- 364			- 1.5	- 28	195		- 256	- 17
			- 318			- 1.5	- 28	179		- 180	- 17
	- 1.6		- 46				- 0.6	16		- 35	- 0.6
39	95	484								- 41	
								- 8.2		- 8.2	
		- 222	1.6					- 0.5		- 409	
4.6	93	24	62					186		676	
4.6	93	4.7	62					186		443	
1.4	93	4.7	55					77		261	
	93									99	
1.4		4.7	55					77		163	
			0.1					11		74	
			0.1							61	
								11		11	
										1.9	
3.2			6.5					98		108	
0.8			2.6					28		31	
2.4			3.7					70		76	
			0.1					0.9		1.1	
		19								232	

## Major energy indicators of Singapore

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	483	782	880	722	1 136	1 197	1 322	1 330	1 293	1 186
Production	2.9	8.5	17	25	26	28	27	26	27	25
Import	2 571	3 455	4 739	6 463	7 257	7 406	7 951	7 343	6 897	6 332
Export	-1 544	-1 746	-2 660	-3 726	-3 855	-4 159	-4 297	-3 839	-3 670	-3 202
Final energy consumption	130	234	299	358	420	416	434	417	443	445
Industry	25	91	135	190	239	229	260	246	261	265
Transport	57	73	82	77	82	85	73	67	74	73
Residential	12	26	25	27	29	31	30	29	31	34
Commerce & public services	34	40	51	62	69	70	71	73	76	72
Others	1.4	2.9	4.8	1.4	1.1	1.1	1.1	1.1	1.1	1.0
<b>Coal</b>										
Primary energy supply				0.2	17	18	38	20	19	18
Production										
Import				0.3	17	18	38	20	19	18
Export										
Transformation sector					-10	-11	-12	-12	-12	-10
Power generation					-10	-11	-12	-12	-12	-10
Final energy consumption				0.2	6.8	7.0	25	7.6	7.6	7.6
Industry				0.2	6.8	7.0	25	7.6	7.6	7.6
Transport										
Residential										
Commerce & public services										
Others										
<b>Coal products</b>										
Primary energy supply	0.9		0.1	0.2						
Production										
Import	1.5		0.1	0.3						
Export	-0.6									
Transformation sector										
Power generation										
Final energy consumption	0.9		0.1	0.3						
Industry	0.9		0.1	0.3						
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply	1 745	1 786	2 496	1 890	2 045	2 198	2 380	2 358	2 231	1 929
Production										
Import	1 823	1 786	2 503	1 929	2 094	2 236	2 452	2 394	2 278	1 970
Export	-0.8		-7.1	-36	-48	-44	-53	-44	-40	-40
Transformation sector	-1 745	-1 786	-2 496	-2 231	-2 078	-2 137	-2 294	-2 270	-2 126	-1 845
Petroleum refineries	-1 745	-1 786	-2 496	-2 231	-2 078	-2 137	-2 294	-2 270	-2 126	-1 845
<b>Petroleum products</b>										
Primary energy supply	-1 266	-1 060	-1 843	-1 496	-1 353	-1 457	-1 535	-1 496	-1 411	-1 204
Import	747	1 622	2 026	4 231	4 748	4 744	5 046	4 509	4 172	3 926
Export	-1 543	-1 746	-2 653	-3 690	-3 807	-4 115	-4 243	-3 795	-3 630	-3 162
Transformation sector	1 545	1 466	2 383	2 027	2 018	2 094	2 208	2 202	2 081	1 889
Power generation	-185	-276	-93	-93	-8.4	-5.0	-6.9	-5.4	-4.3	-3.9
Petroleum refineries	1 733	1 747	2 481	2 120	2 026	2 099	2 215	2 207	2 085	1 893
Final energy consumption	79	131	150	158	186	177	170	165	187	186
Industry	4.6	53	68	86	111	99	104	106	121	120
Transport	56	72	78	68	72	75	63	56	63	62
Residential	1.8	3.9	1.6	1.0	0.8	0.8	0.8	0.7	0.8	0.8
Commerce & public services	17	1.9	2.6	2.9	2.5	2.5	2.3	2.3	2.4	2.4
Others										
<b>Gas</b>										
Primary energy supply		47	210	302	398	407	410	418	425	415
Production										
Import		47	210	302	396	405	413	417	425	415
Export										
Transformation sector	2.6	-42	-189	-250	-342	-350	-352	-356	-364	-360
Power generation		-47	-193	-250	-342	-350	-352	-356	-364	-360
Final energy consumption	2.6	4.4	21	47	56	57	60	62	62	69
Industry			17	40	49	50	53	55	55	62
Transport			0.9	0.9	0.6	0.5	0.3	0.1	0.1	0.1
Residential	1.3	1.7	1.9	2.3	2.5	2.5	2.6	2.7	2.6	3.2
Commerce & public services				3.6	3.8	3.9	3.8	3.7	3.7	3.4
Others	1.4	2.7	2.6		0.1	0.1	0.1	0.2	0.1	0.1
<b>Electricity</b>										
Power generation	57	114	138	163	181	186	188	190	195	191
Thermal	56	112	134	159	176	180	183	186	190	187
Hydro										
Nuclear										
Others	0.6	1.8	3.4	4.2	4.9	5.5	5.2	4.8	4.9	4.6
Final energy consumption	47	98	128	152	171	175	179	182	186	183
Industry	20	38	51	64	72	74	76	77	77	75
Transport	0.7	1.0	4.3	7.6	8.8	10	10	11	11	10
Residential	8.6	21	22	24	26	27	26	26	28	30
Commerce & public services	18	38	49	56	63	64	65	67	70	67
Others	0.1	0.1	2.2	1.4	1.0	1.0	1.0	0.9	0.9	0.8

## Major economic indicators of Singapore

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	3.05	4.03	4.27	5.08	5.54	5.61	5.61	5.64	5.70	5.69
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	71	141	178	248	308	319	334	346	350	335
GDP, billion USD (PPP, constant 2017)	114	225	286	397	494	511	535	554	561	537
Nominal, billion USD (current)	36	96	128	240	308	319	343	377	375	345
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	23 273	34 891	41 799	48 753	55 647	56 886	59 485	61 374	61 340	58 982
GDP, PPP (constant 2017 USD)	37 290	55 904	66 974	78 115	89 161	91 146	95 310	98 337	98 283	94 506
Nominal (current USD)	11 862	23 852	29 961	47 237	55 647	56 860	61 151	66 859	65 831	60 729
Nominal GDP & its components (billions of current SGD) <sup>1</sup>										
Gross domestic product	70	166	213	327	423	440	474	508	512	476
Households and NPISHs final consumption expenditure	31	69	85	119	157	161	167	175	182	155
General government final consumption expenditure	6.7	17	21	32	43	45	48	51	53	59
Gross fixed capital formation	22	54	49	84	115	115	120	114	117	100
Stock change	2.8	4.7	-3.6	6.8	-7.9	1.9	9.7	12	9.0	6.8
Exports of goods and services	125	312	479	647	755	726	812	898	898	866
Imports of goods and services	118	292	415	561	640	610	687	751	751	715
Real GDP & its components (billions of 2015 SGD) <sup>1</sup>										
Gross Domestic Product	97	193	245	340	423	439	459	476	481	461
Households and NPISHs final consumption expenditure	45	87	107	130	157	162	168	174	180	157
General government final consumption expenditure	9.4	22	26	35	43	45	46	48	49	56
Gross fixed capital formation	25	60	56	88	115	116	122	116	118	101
Stock change	2.5	3.5	-3.3	6.0	-7.9	1.7	8.5	10.0	7.7	6.0
Exports of goods and services	98	273	432	599	755	756	811	873	875	873
Imports of goods and services	89	256	379	521	640	641	693	743	743	726
Sectoral shares of Real GDP (%) <sup>1</sup>										
Agriculture, Fishery and Forestry	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Industry	30.9	32.5	31.4	26.6	24.3	23.3	23.5	25.5	24.2	0.0
Services, etc.	64.9	64.4	67.6	66.8	70.0	69.6	69.0	68.8	69.3	68.9
Industrial production index (2010=100) <sup>2</sup>	27.4	57.6	70.8	100.0	107.1	111.1	122.6	131.3	129.4	139.1
External trade (billions of current USD) <sup>1</sup>										
Exports, f.o.b.	52.7	137.8	229.6	351.9	351.6	330.5	373.4	413.0	390.8	362.5
Imports, c.i.f.	60.9	134.5	200.0	310.8	297.1	283.3	327.9	370.9	359.3	329.8
Balance of payments (billions of current USD) <sup>2</sup>										
Trade balance	-1.6	15.8	47.6	63.2	92.6	89.9	101.0	104.1	98.1	103.6
Current account	3.1	10.6	29.7	55.0	57.6	56.3	59.4	57.1	54.3	58.1
Overall balance	7.0	4.8	14.1	37.7	5.2	-1.2	26.9	12.6	-8.2	73.9
Foreign exchange rate (SGD/USD) <sup>1</sup>	1.81	1.72	1.66	1.36	1.37	1.38	1.38	1.35	1.36	1.38
PPP conversion factor, GDP (SGD/USD) <sup>1</sup>	0.97	0.94	0.85	0.85	0.88	0.88	0.89	0.90	0.88	0.84
Price Indices										
GDP Deflator (2015=100) <sup>3</sup>	72.3	85.7	86.8	96.1	100.0	100.4	103.3	106.9	106.5	103.3
Wholesale Price Index (2010=100) <sup>2</sup>	92.9	87.5	97.9	100.0	86.8	80.7	86.4	92.0	89.0	81.3
Consumer Price Index (2010=100) <sup>2</sup>	71.8	85.2	88.0	100.0	113.2	112.6	113.3	113.8	114.4	114.2
Growth rate (%) <sup>3</sup>										
Real GDP	9.8	9.0	7.4	14.5	3.0	3.6	4.7	3.7	1.1	-4.1
Population	4.0	1.7	2.4	1.8	1.2	1.3	0.1	0.5	1.2	-0.3
Price										
Wholesale prices	1.7	10.1	9.6	4.7	-15.3	-7.0	7.1	6.4	-3.3	-8.7
Consumer prices	3.5	1.4	0.4	2.8	-0.5	-0.5	0.6	0.4	0.6	-0.2

Source <sup>1</sup>: *World Development Indicators*, World Bank

<sup>2</sup>: *International Financial Statistics*, International Monetary Fund

<sup>3</sup>: Calculated from <sup>1</sup> and <sup>2</sup> by ESTO

Note : N.A. means "not available"

: SGD means Singapore Dollar, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Energy prices in Singapore

## CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	SGP											
Exchange Rate	/ US Dollar	1.36	1.26	1.25	1.25	1.27	1.37	1.38	1.38	1.35	1.36	1.38
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG												
LPG (transport)												
Naphtha												
Motor Gasoline (regular)												
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene												
Gas/Diesel Oil												
Fuel Oil												
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Town Gas	SGD cents/kWh								17.68	18.80	18.85	16.99
Compressed natural gas												
<b>Electricity</b>												
Industrial												
Commercial												
Residential	SGD cents/kWh	23.48	26.00	27.95	26.25	25.59	21.73	18.90	20.65	22.87	23.56	22.07
Others												



# **Chinese Taipei**



Energy balance table of Chinese Taipei

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	Fuel oil
<b>2020</b>										
Production			0.1							
Import	1 480	6.9	1 536	640	6.9	452	2.9			22
Export		-3.3		-487	-65	-6.7	-31		-261	-63
International marine bunkers				-48					-5.6	-42
International aviation bunkers				-74			-74			
Stock changes	-31	-3.8	-26	-5.9	-0.4	-7.4	0.2		6.7	-1.9
<b>Total primary energy supply</b>	<b>1 449</b>	<b>-0.2</b>	<b>1 511</b>	<b>25</b>	<b>-59</b>	<b>438</b>	<b>-103</b>		<b>-260</b>	<b>-85</b>
Transfers				-27	101	-94	-5.7		1.0	-35
Total transformation sector	-1 341	112	-1 511	1 547	241	337	128	0.2	451	146
Main activity producers	-777			-32					-2.2	-30
Autoproducers	-299	-40		-13					-0.1	-3.2
Gas processing										
Petroleum refineries			-1 511	1 591	241	337	128	0.2	453	178
Coal transformation	-265	152								
Other transformation										
Losses & own use		-48		-70	-0.1					
Discrepancy	33	-2.3	0.5	-6.6	1.9	-1.8	-10		1.4	12
<b>Total final consumption</b>	<b>142</b>	<b>61</b>		<b>1 467</b>	<b>285</b>	<b>678</b>	<b>9.7</b>	<b>0.2</b>	<b>194</b>	<b>38</b>
<b>Total final energy consumption</b>	<b>140</b>	<b>51</b>		<b>609</b>	<b>285</b>		<b>9.7</b>	<b>0.2</b>	<b>194</b>	<b>38</b>
Industry sector	140	51		68	0.1				4.1	28
Iron and steel	7.6	51		3.6					2.2	2.6
Chemical & petrochemical	64			43					0.2	9.7
Non-metallic minerals	38			7.4					0.5	6.6
Other industries	30			14	0.1				1.1	9.3
Transport sector				455	283		9.7		160	1.4
Domestic air transport				9.7			9.7			
Road				443	283				159	
Rail										
Inland waterways				2.3					0.9	1.4
Other transport										
Other sector				87	1.5			0.2	29	7.9
Residential				43						
Commerce and public services				27	1.2			0.2	14	7.0
Agriculture				2.8	0.3				2.4	
Non-specified others				14					13	0.9
Non-energy	1.2	10		858		678				
<b>2019</b>										
Production			0.1							
Import	1 579	7.2	1 846	633	6.9	408	1.4			49
Export		-0.5		-744	-132	-28	-37		-397	-71
International marine bunkers				-52					-8.3	-43
International aviation bunkers				-120			-120			
Stock changes	-31	-1.1	3.3	14	1.1	1.5	3.4		5.1	9.2
<b>Total primary energy supply</b>	<b>1 548</b>	<b>5.6</b>	<b>1 850</b>	<b>-268</b>	<b>-124</b>	<b>381</b>	<b>-152</b>		<b>-400</b>	<b>-55</b>
Transfers				-19	97	-105	-0.2		0.2	-10
Total transformation sector	-1 364	112	-1 850	1 830	306	377	164	0.1	590	102
Main activity producers	-776			-45					-2.7	-42
Autoproducers	-310	-41		-13					-0.1	-3.5
Gas processing										
Petroleum refineries			-1 850	1 888	306	377	164	0.1	593	148
Coal transformation	-278	153								
Other transformation										
Losses & own use		-50		-83	-0.1					-0.1
Discrepancy	-41	-2.1	0.3	-1.4	1.8	-2.2	-0.9		2.2	11
<b>Total final consumption</b>	<b>143</b>	<b>65</b>		<b>1 459</b>	<b>281</b>	<b>651</b>	<b>11</b>	<b>0.1</b>	<b>193</b>	<b>48</b>
<b>Total final energy consumption</b>	<b>140</b>	<b>55</b>		<b>616</b>	<b>281</b>		<b>11</b>	<b>0.1</b>	<b>193</b>	<b>48</b>
Industry sector	140	55		78	0.1				3.7	38
Iron and steel	4.4	55		4.1					0.2	3.2
Chemical & petrochemical	65	0.2		48					2.0	13
Non-metallic minerals	38			9.0					0.5	8.2
Other industries	33			18	0.1				1.0	13
Transport sector				451	279		10		159	1.4
Domestic air transport				10			10			
Road				439	279				159	
Rail										
Inland waterways				2.2					0.7	1.4
Other transport										
Other sector				86	1.5			0.1	30	8.1
Residential				43						
Commerce and public services				24	1.2			0.1	12	7.0
Agriculture				2.6	0.3				2.3	
Non-specified others				17					16	1.0
Non-energy	2.5	10		843		651				

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			3.2	11	343	35	62			454	74
71		85	803				0.2			4 466	0.2
-1.3		-58								-491	
										-48	
										-74	
		-3.2	1.8							-64	
69	24		808	11	343	35	62			4 244	74
0.8		4.9								-27	
37	86	121	-580	-11	-343	-31	-47	1 008	94	-1 102	-61
			-635	-11	-343	-12	-1.3	856	4.4	-951	-22
	-8.6	-0.6	-2.9			-19	-45	153	90	-177	-39
			61							61	
37	95	121								80	
										-113	
			-1.9							-1.9	
-4.8	-61	-4.1	-18					-102	-19	-257	
0.2		-9.8	-54					0.3	-3.0	-32	
102	25	136	156			3.9	16	907	73	2 825	12
59	25	0.4	156			3.9	16	907	73	1 956	12
10	25	0.4	112				16	534	73	993	8.5
0.4		0.4	16					57	0.2	136	
6.8	25		41					140	68	356	
0.3			9.3					21		75	
3.0			47				15	315	4.9	426	8.5
0.5								5.3		460	
										9.7	
0.5										443	
								5.2		5.2	
										2.3	
								0.1		0.1	
48			44			3.9		368		502	3.9
43			28			3.8		181		256	3.8
4.4			16			0.1		176		218	0.1
			0.1					8.1		11	
								3.7		18	
44		135								869	
			5.0	20	353	25	63			466	74
84		84	749				0.3			4 814	0.3
-1.6		-78								-745	
		-0.1								-52	
										-120	
1.5		-7.5	-12							-26	
84		-2.0	742	20	353	25	63			4 338	74
-2.2		1.0								-19	
50	98	144	-529	-20	-353	-21	-47	987	93	-1 163	-62
			-579	-20	-353	-7.7	-1.3	836	4.0	-942	-28
	-8.7	-0.4	-3.0			-14	-46	152	89	-187	-34
			56							56	
50	106	144								38	
										-125	
			-3.6							-3.6	
-6.6	-71	-4.7	-13					-101	-18	-265	
-0.1		-13	-49						-3.2	-96	
125	26	125	150			3.8	16	886	72	2 795	12
57	26	0.4	150			3.8	16	886	72	1 939	12
9.6	26	0.4	108				16	524	72	993	8.7
0.4		0.4	16					58	0.2	138	
6.0	26		41					141	67	362	
0.3			8.5					21		77	
3.0			42				16	303	4.9	416	8.6
0.9								5.4		457	
										10	
0.9										439	
								5.3		5.3	
										2.2	
								0.1		0.1	
47			43			3.8		357		490	3.8
43			26			3.7		170		242	3.7
4.3			16			0.1		176		217	0.1
			0.1					7.4		10	
								3.6		20	
68		124								856	

## Major energy indicators of Chinese Taipei

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	1 859	3 277	3 981	4 107	4 389	4 413	4 384	4 430	4 338	4 244
Production	441	500	531	550	503	455	349	406	466	454
Import	1 623	3 150	4 265	4 333	4 701	4 762	4 858	4 874	4 814	4 466
Export	- 21	- 94	- 601	- 632	- 659	- 673	- 656	- 701	- 745	- 491
Final energy consumption	1 005	1 644	1 873	1 891	1 898	1 930	1 927	1 956	1 939	1 956
Industry	493	803	906	959	953	962	963	1 013	993	993
Transport	250	420	469	447	458	469	466	453	457	460
Residential	121	209	236	235	234	244	243	242	242	256
Commerce & public services	98	173	218	226	225	227	228	218	217	218
Others	43	38	43	24	27	27	26	30	30	29
<b>Coal</b>										
Primary energy supply	417	1 086	1 404	1 517	1 529	1 548	1 570	1 578	1 548	1 449
Production	11	1.9								
Import	447	1 072	1 417	1 507	1 548	1 535	1 576	1 558	1 579	1 480
Export										
Transformation sector	- 314	- 901	- 1 225	- 1 309	- 1 317	- 1 347	- 1 391	- 1 429	- 1 364	- 1 341
Power generation	- 198	- 717	- 1 033	- 1 081	- 1 026	- 1 046	- 1 100	- 1 135	- 1 086	- 1 076
Final energy consumption	102	150	172	173	193	197	183	138	140	140
Industry	102	150	172	173	193	197	183	138	140	140
Transport										
Residential										
Commerce & public services										
Others	0.2									
<b>Coal products</b>										
Primary energy supply	2.9	9.5	1.6	-0.1	6.2	5.8	6.6	7.7	5.6	-0.2
Production										
Import	4.6	8.6	5.6	5.4	5.2	5.6	7.6	8.4	7.2	6.9
Export	-0.7	-0.3	-1.2	-3.3			-1.3	-0.7	-0.5	-3.3
Transformation sector	51	75	78	108	109	114	106	110	112	112
Power generation	- 16	- 21	- 22	- 21	- 40	- 40	- 40	- 42	- 41	- 40
Final energy consumption	28	45	44	60	54	56	53	57	55	51
Industry	28	45	44	60	54	56	53	57	55	51
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply	859	1 515	2 156	1 815	1 739	1 790	1 761	1 848	1 850	1 511
Production	6.5	1.3	1.2	0.5	0.3	0.3	0.2	0.2	0.1	0.1
Import	884	1 544	2 171	1 820	1 748	1 784	1 771	1 828	1 846	1 536
Export										
Transformation sector	- 859	- 1 515	- 2 165	- 1 820	- 1 741	- 1 793	- 1 762	- 1 848	- 1 850	- 1 511
Petroleum refineries	- 859	- 1 515	- 2 165	- 1 820	- 1 741	- 1 793	- 1 762	- 1 848	- 1 850	- 1 511
<b>Petroleum products</b>										
Primary energy supply	152	- 10	- 433	- 264	- 29	- 57	- 45	- 155	- 268	25
Import	259	328	354	508	758	768	758	718	633	640
Export	- 20	- 94	- 600	- 629	- 659	- 673	- 654	- 700	- 744	- 487
Transformation sector	723	1 282	1 997	1 794	1 719	1 728	1 691	1 824	1 830	1 547
Power generation	- 197	- 266	- 154	- 107	- 112	- 111	- 117	- 81	- 58	- 44
Petroleum refineries	920	1 547	2 151	1 900	1 830	1 839	1 808	1 905	1 888	1 591
Final energy consumption	571	801	814	706	627	629	618	626	616	609
Industry	199	261	222	168	82	74	70	92	78	68
Transport	250	419	467	441	453	464	460	447	451	455
Residential	44	58	52	47	45	45	43	43	43	43
Commerce & public services	40	33	40	35	31	30	29	25	24	27
Others	37	30	34	14	16	16	15	19	19	17
<b>Gas</b>										
Primary energy supply	45	202	338	499	652	682	749	750	742	808
Production	40	23	17	8.9	11	10	8.0	6.0	5.0	3.2
Import	29	197	318	493	643	670	745	761	749	803
Export										
Transformation sector	- 7.2	- 101	- 227	- 360	- 484	- 511	- 558	- 551	- 529	- 580
Power generation	- 10	- 127	- 255	- 395	- 522	- 550	- 604	- 602	- 582	- 638
Final energy consumption	28	58	71	83	119	126	135	147	150	156
Industry	7.2	28	31	39	79	85	94	104	108	112
Transport										
Residential	17	24	29	28	24	25	24	27	26	28
Commerce & public services	3.4	6.8	11	16	16	16	16	16	16	16
Others					0.1	0.1	0.1	0.1	0.1	0.1
<b>Electricity</b>										
Power generation	325	665	819	889	929	951	973	992	987	1 008
Thermal	176	488	634	697	749	779	836	835	804	829
Hydro	29	32	28	26	27	35	32	28	32	22
Nuclear	118	139	144	150	131	114	81	100	116	113
Others	0.8	6.5	12	16	22	22	25	29	35	44
Final energy consumption	276	576	716	786	832	851	870	891	886	907
Industry	156	309	386	442	476	484	499	529	524	534
Transport	0.7	1.6	2.0	4.3	5.0	5.0	5.3	5.3	5.4	5.3
Residential	59	124	152	156	162	170	171	169	170	181
Commerce & public services	54	133	167	174	178	181	183	177	176	176
Others	5.8	8.1	9.0	9.4	11	11	11	11	11	12

## Major economic indicators of Chinese Taipei

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>11</sup>	20.28	22.18	22.73	23.14	23.46	23.52	23.56	23.58	23.60	23.58
Gross domestic product <sup>13</sup>										
Real term, billion USD (constant 2015)	161	307	375	463	535	546	564	580	598	618
GDP, billion USD (PPP, constant 2017)	235	456	651	935	1 123	1 149	1 224	1 300	1 335	1 282
Nominal, billion USD (current)	166	331	374	444	535	543	591	609	611	669
GDP per capita <sup>13</sup>										
Real term (constant 2015 USD)	7 919	13 834	16 496	20 021	22 788	23 229	23 958	24 600	25 336	26 203
GDP, PPP (constant 2017 USD)	11 593	20 566	28 642	40 385	47 874	48 868	51 948	55 138	56 589	54 357
Nominal (current USD)	8 205	14 910	16 463	19 202	22 788	23 099	25 081	25 841	25 913	28 385
Nominal GDP & its components (billions of current TWD) <sup>12</sup>										
Gross domestic product	4 474	10 329	12 037	14 060	17 055	17 555	17 983	18 375	18 909	19 799
Private Final Consumption	2 341	5 706	6 780	7 481	8 788	9 082	9 326	9 610	9 883	9 600
Government Final Consumption	806	1 625	1 857	2 122	2 364	2 482	2 487	2 623	2 653	2 771
Gross Fixed Capital Formation	1 109	2 719	2 923	3 330	3 664	3 808	3 796	4 001	4 527	4 784
Changes in Inventories	31	93	34	197	42	- 10	- 25	85	- 26	5.8
Exports	2 021	5 444	7 841	11 198	12 157	11 808	12 096	12 191	11 923	11 491
Imports	1 834	5 258	7 399	10 268	9 959	9 615	9 696	10 136	10 050	8 854
Real GDP & its components (billions of 2016 TWD) <sup>12</sup>										
Gross Domestic Product	5 161	9 863	12 050	14 890	17 183	17 555	18 137	18 642	19 213	19 859
Private Final Consumption	3 156	6 179	7 255	7 703	8 849	9 082	9 327	9 519	9 733	9 487
Government Final Consumption	1 290	1 958	2 073	2 238	2 394	2 482	2 472	2 571	2 585	2 653
Gross Fixed Capital Formation	1 532	3 355	3 352	3 325	3 681	3 808	3 798	3 919	4 355	4 612
Changes in Inventories	- 23	64	35	214	52	- 10	- 29	112	- 35	8.4
Exports	1 925	4 676	6 836	10 255	11 919	11 808	12 340	12 364	12 449	12 601
Imports	2 370	5 703	7 066	8 767	9 711	9 615	9 771	9 847	9 896	9 541
Sectoral shares of Real GDP (%) <sup>12</sup>										
Agriculture	7.3	3.7	2.8	2.5	2.1	1.9	2.0	2.0	1.9	1.8
Industry	28.8	26.0	28.7	33.3	36.3	36.9	37.4	37.3	36.7	38.0
Services	65.1	71.4	68.4	63.9	61.8	61.3	61.0	61.1	61.4	60.2
Industrial production index (2016=100) <sup>11</sup>	N.A.	N.A.	N.A.	87.7	98.1	100.0	105.0	108.8	108.5	116.1
External trade (billions of current USD) <sup>11</sup>										
Exports, f.o.b.	67.4	151.9	199.8	277.4	284.4	279.2	315.5	334.0	329.2	345.2
Imports, c.i.f.	54.8	140.7	185.4	255.7	236.4	229.2	257.2	284.8	285.7	285.8
Balance of payments (billions of current USD) <sup>13</sup>										
Balance on Goods and Services	7.1	6.4	10.2	25.8	62.3	62.3	60.5	72.5	60.3	52.4
Current account	10.9	8.2	14.9	36.7	72.7	72.7	71.3	83.1	70.7	65.0
Overall balance	-3.9	2.5	20.1	40.2	15.0	15.0	10.7	12.5	12.5	16.7
Foreign exchange rate (TWD/USD) <sup>11</sup>	26.89	31.23	32.17	31.64	31.90	32.32	30.44	30.16	30.93	29.58
PPP conversion factor, GDP (TWD/USD) <sup>14</sup>	18.37	21.00	18.53	15.69	15.18	15.36	14.04	13.45	13.85	14.26
Price Indices										
GDP Deflator (2016=100) <sup>12</sup>	86.7	104.7	99.9	94.4	99.3	100.0	99.2	98.6	98.4	99.7
Wholesale Price Index (2016=100) <sup>12</sup>	87.2	91.2	99.3	113.0	103.1	100.0	100.9	104.6	102.2	94.2
Consumer Price Index (2016=100) <sup>12</sup>	66.3	85.5	88.4	93.8	98.6	100.0	100.6	102.0	102.6	102.3
Growth rate (%) <sup>12</sup>										
Real GDP	5.5	6.3	5.4	10.2	1.5	3.7	5.5	6.2	5.9	6.5
Population	1.1	0.8	0.4	0.3	0.3	0.5	0.4	0.3	0.2	0.0
Price										
Wholesale prices	-0.6	1.8	0.6	5.5	-8.9	-11.6	-2.1	4.6	1.3	-9.9
Consumer prices	4.1	1.3	2.3	1.0	-0.3	1.1	2.0	2.0	1.9	0.3

Source <sup>11</sup> : "Taiwan Statistical Data Book", National Development Council (Chinese Taipei)

<sup>12</sup> : National Statistics of the Directorate-General of Budget, Accounting and Statistics (DGBAS)

<sup>13</sup> : "Financial Statistics Monthly" Central Bank, Chinese Taipei

<sup>14</sup> : Estimation by ESTO (1980-1989 GDP PPP estimated by ESTO)

<sup>15</sup> : PPP in 2017 APERC estimation

Note : #N/A shows N.A. (not available)

: TWD shows New Taiwan Dollar, USD shows United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Energy prices in Chinese Taipei

## IMPORT PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	TWD											
Exchange Rate	/ US Dollar	31.64	29.36	29.68	29.63	30.18	31.56	32.32	30.63	30.63	30.95	29.68
<b>Coal and Coal Products</b>												
Coking Coal	USD/tonne	197.40	292.19	218.96	167.07	133.32	108.32	131.80	219.87	217.02	196.06	131.18
Anthracite	USD/tonne	183.07	219.37	179.08	154.70	151.37	98.95	101.72	151.30	175.89	176.85	157.62
Other bituminous coal	USD/tonne	103.79	128.03	119.15	102.24	91.72	74.57	67.47	94.88	111.68	97.97	73.90
Sub-bituminous Coal	USD/tonne	80.98	92.54	90.59	75.34	69.10	56.14	46.94	69.65	77.77	71.99	59.01
Lignite												
Peat												
Patent Fuel												
Coke	USD/tonne	346.76	494.12	332.05	289.19	249.45	206.30	217.01	280.70	346.58	287.67	241.91
Coal Tar												
BKB/PB												
<b>Oil and Oil Products</b>												
Crude Oil	USD/BBL	76.63	106.92	111.12	106.83	101.57	51.72	39.53	52.02		63.85	45.14
<b>Natural Gas Liquids</b>												
Ethane												
LPG	USD/tonne	16.45	997.88	890.82	875.83	853.57	464.66	351.10	443.74	550.87	455.14	359.30
Naphtha	USD/tonne	726.94	946.29	981.26	931.97	906.0	507.0	394.97	494.13	640.68	533.79	405.10
Motor Gasoline												
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene												
Gas/Diesel Oil												
Fuel Oil	USD/kl	508.64	741.40	780.78	702.19	671.24	382.49	305.60	371.59	527.09	496.82	357.10
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas	USD/tonne		683.46	778.14	761.02	730.91	443.59	326.01	387.66	387.66	452.61	312.99
Compressed Natural Gas												

## Energy prices in Chinese Taipei

WHOLESALE PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	TWD											
Exchange Rate	/ US Dollar	31.64	29.36	29.68	29.63	30.18	31.56	32.32	30.63	30.63	30.95	29.68
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG	TWD/kg	28.46	27.86	30.06	34.91	28.46	24.86	18.76	26.96	22.36	20.46	16.86
LPG (transport)												
Naphtha												
Motor Gasoline (regular)	TWD/L	29.12	28.92	32.32	33.32	24.02	18.92	23.45	24.95	22.93	26.13	22.31
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene	TWD/L	39.00	41.50	41.50	41.80	29.50	22.60	35.30	38.30	35.30	37.60	25.80
Gas/Diesel Oil	TWD/L	27.22	27.42	30.72	31.82	21.62	16.02	20.97	22.57	20.51	24.01	17.64
Fuel Oil	TWD/L	17.78	20.65	20.87	20.85	20.01	13.83	12.15	12.81	17.37	16.03	12.62
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	TWD/m <sup>3</sup>	14.64	17.25	20.35	19.15	17.38	11.01	9.70	11.66	12.68	10.96	8.35
Liquefied Natural Gas (export)	TWD/m <sup>3</sup>	16.29	19.00	22.17	20.87	18.94	12.00	10.57	12.71	13.82	11.95	9.10
Compressed natural gas												
<b>Electricity</b>												
Industrial	TWD/kWh	2.61	2.60	2.72	2.89	3.07	2.93	2.62	2.55	2.60	2.62	2.60
Commercial												
Residential												
Others												

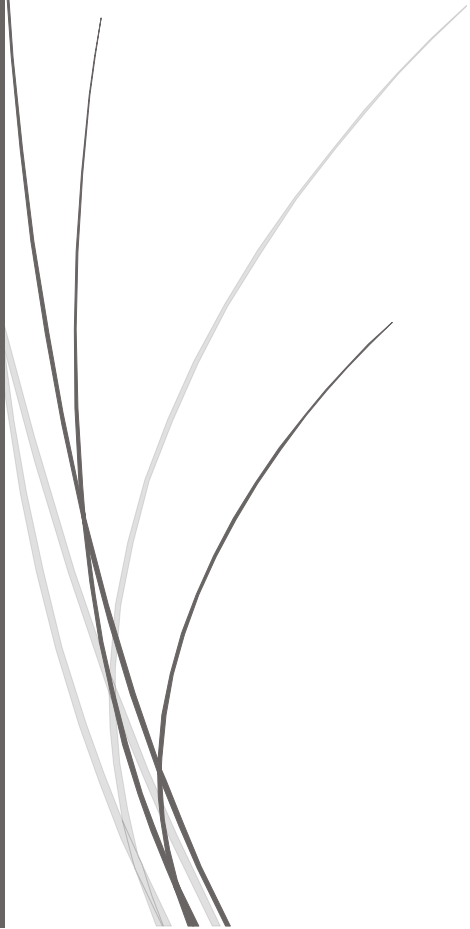
## Energy prices in Chinese Taipei

## CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	TWD											
Exchange Rate	/ US Dollar	31.64	29.36	29.68	29.63	30.18	31.56	32.32	30.63	30.63	30.95	29.68
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG	TWD/kg	28.46	27.86	30.06	34.91	28.46	24.86	18.76	26.96	22.36	20.46	16.86
Naphtha												
Motor Gasoline	TWD/L	31.77	31.57	34.97	35.97	26.67	21.57	26.57	28.07	26.17	29.37	25.67
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene	TWD/L	39.0	41.50	41.50	41.80	29.50	22.60	35.30	38.30	35.30	37.60	27.60
Gas/Diesel Oil	TWD/L	28.60	28.80	32.10	33.20	23.0	17.40	22.60	24.20	22.20	25.70	21.30
Fuel Oil	TWD/L	17.75	20.65	20.87	20.85	20.01	13.83	12.15	12.81	17.37	16.03	12.62
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	TWD/m <sup>3</sup>	15.83	18.44	20.45	20.34	18.56	12.19	10.89	12.85	13.86	12.14	9.54
Liquefied Natural Gas												
Compressed Natural Gas												
<b>Electricity</b>												
Industrial	TWD/kWh	2.46	2.45	2.62	2.80	3.03	2.86	2.54	2.48	2.54	2.56	2.53
Commercial	TWD/kWh	3.10	3.10	3.10	3.10	4.27	3.69	3.57	3.45	3.46	3.46	3.42
Residential	TWD/kWh	2.10	2.10	2.10	2.10	2.99	2.50	2.53	2.42	2.47	2.48	2.51
Others												



**Thailand**





## Energy balance table of Thailand

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	Fuel oil
<b>2020</b>										
Production	139		690							
Import	224	406	1 851	79	44		5.0		2.0	0.9
Export	-1.1	-0.8	- 54	- 391	- 41		- 24	-0.3	- 210	- 105
International marine bunkers										
International aviation bunkers				- 68			- 68			
Stock changes	- 38	- 80	129	- 136	- 48		0.8	- 57	- 17	- 14
<b>Total primary energy supply</b>	<b>323</b>	<b>325</b>	<b>2 616</b>	<b>- 516</b>	<b>- 44</b>		<b>- 85</b>	<b>- 57</b>	<b>- 224</b>	<b>- 118</b>
Transfers			- 248	248						
Total transformation sector	- 278	- 33	- 2 117	1 935	378		113	57	1 096	187
Main activity producers	- 278	- 33		- 2.2					- 1.1	- 1.1
Autoproducers										
Gas processing										
Petroleum refineries			- 2 117	1 920	378		113	57	1 097	188
Coal transformation										
Other transformation				17						
Losses & own use				- 89						
Discrepancy			- 7.9	- 0.2					- 0.2	
<b>Total final consumption</b>	<b>45</b>	<b>292</b>	<b>243</b>	<b>1 578</b>	<b>333</b>		<b>27</b>	<b>0.2</b>	<b>871</b>	<b>69</b>
<b>Total final energy consumption</b>	<b>45</b>	<b>292</b>		<b>1 469</b>	<b>333</b>		<b>27</b>	<b>0.2</b>	<b>871</b>	<b>69</b>
Industry sector	45	292		170	0.9			0.2	111	28
Iron and steel	1.9	2.1		11					5.2	0.9
Chemical & petrochemical	2.3	6.9		22					9.4	2.0
Non-metallic minerals	21	216		8.7	0.3				5.9	0.7
Other industries	20	67		128	0.6			0.1	90	24
Transport sector				1 102	332		27		664	42
Domestic air transport				27			27			
Road				1 023	332				654	
Rail				3.0					3.0	
Inland waterways				49					7.3	42
Other transport										
Other sector				197					96	
Residential				77						
Commerce and public services				23						
Agriculture				96					96	
Non-specified others										
Non-energy			243	109						
<b>2019</b>										
Production	147		804							
Import	223	343	1 842	201	71		13		86	1.0
Export	-1.0	-0.7	- 57	- 361	- 39		- 29	-0.1	- 138	- 128
International marine bunkers										
International aviation bunkers				- 217			- 217			
Stock changes	- 50	- 57	143	- 128	- 74		- 0.4	- 70	9.0	- 12
<b>Total primary energy supply</b>	<b>320</b>	<b>286</b>	<b>2 732</b>	<b>- 506</b>	<b>- 42</b>		<b>- 233</b>	<b>- 70</b>	<b>- 42</b>	<b>- 139</b>
Transfers			- 291	280						
Total transformation sector	- 279	- 27	- 2 160	1 935	362		263	71	872	217
Main activity producers	- 279	- 27		- 2.5					- 1.5	- 1.0
Autoproducers										
Gas processing										
Petroleum refineries			- 2 160	1 917	362		263	71	873	218
Coal transformation										
Other transformation				20						
Losses & own use				- 82						
Discrepancy		- 4.4	- 0.5	- 30	0.5			- 0.1	- 4.7	- 3.0
<b>Total final consumption</b>	<b>41</b>	<b>255</b>	<b>281</b>	<b>1 597</b>	<b>321</b>		<b>30</b>	<b>0.2</b>	<b>825</b>	<b>75</b>
<b>Total final energy consumption</b>	<b>41</b>	<b>255</b>		<b>1 439</b>	<b>321</b>		<b>30</b>	<b>0.2</b>	<b>825</b>	<b>75</b>
Industry sector	41	255		196	1.1			0.2	137	25
Iron and steel	3.6			13				0.1	6.7	1.0
Chemical & petrochemical	2.0	6.1		25				0.1	12	2.0
Non-metallic minerals	18	190		10	0.3				7.5	0.7
Other industries	18	59		148	0.7				111	22
Transport sector				1 016	320		30		566	50
Domestic air transport				30			30			
Road				925	320				554	
Rail				3.0					3.0	
Inland waterways				58					8.1	50
Other transport										
Other sector				227					123	
Residential				80						
Commerce and public services				24						
Agriculture				123					123	
Non-specified others										
Non-energy			281	158						

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			906	17		30	965			2 746	1 001
26			540				1.9	106		3 207	1.9
- 11							-0.5	-9.4		- 457	-0.5
										- 68	
-1.5							1.5			- 124	1.5
13			1 445	17		30	967	97		5 305	1 003
167	81										
104			- 882	- 17		- 30	- 423	668		- 1 177	- 464
			- 882	- 17		- 30	- 364	668		- 937	- 404
87										- 198	
17							- 60			- 42	- 60
- 89			- 265					- 57		- 411	
			- 76							- 84	
196	81		222			0.4	544	708		3 633	540
168			190			0.4	544	708		3 249	540
30			143				283	271		1 204	278
4.8			13				0.3	25		53	0.3
10			64				12	41		148	12
1.9			34				14	22		315	9.1
13			32				257	183		687	257
37			47				100	0.8		1 251	100
										27	
37			47				100			1 171	100
								0.8		3.8	
										49	
100						0.4	161	437		794	161
77							161	191		429	161
23						0.4		244		268	0.4
								1.5		98	
28	81		32							384	
			1 096	23		32	1 130			3 232	1 176
27	2.2		562				2.8	92		3 266	2.8
- 15	- 14						-0.5	- 10		- 430	-0.5
										- 217	
16	3.5	8.1					2.6			- 81	2.6
29	- 8.1	1 666	23		32	1 134	82			5 769	1 181
193	87									- 11	
102	48	- 1 116	- 23		- 32	- 457	710			- 1 449	- 508
		- 1 116	- 23		- 32	- 379	710			- 1 148	- 430
82	48									- 242	
20							- 78			- 58	- 78
- 82		- 110						- 63		- 255	
- 23		- 113						- 5.1		- 153	- 5.1
218	127	326			0.5	672	729			3 901	668
188		235			0.5	672	729			3 372	668
33		163					360	284		1 299	355
5.2		16					0.3	26		59	0.3
11		67					13	44		157	13
2.0		36					15	23		293	11
14		44					331	191		789	331
50		72					99	0.8		1 187	99
										30	
50		72					99			1 096	99
								0.8		3.8	
										58	
105		0.1			0.5	214	444			886	214
80						214	178			472	214
24		0.1			0.5		264			289	0.5
								1.7		124	
31	127	91								530	

## Major energy indicators of Thailand

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	1 826	3 044	4 237	5 063	5 846	6 122	6 051	6 260	5 769	5 305
Production	1 110	1 727	2 351	3 009	3 540	3 693	3 349	3 319	3 232	2 746
Import	826	1 671	2 422	2 750	3 171	3 150	3 519	3 735	3 266	3 207
Export	- 37	- 243	- 378	- 512	- 506	- 461	- 512	- 534	- 430	- 457
Final energy consumption	1 261	2 007	2 536	2 880	3 131	3 164	3 183	3 294	3 372	3 249
Industry	382	719	1 002	1 154	1 175	1 233	1 189	1 272	1 299	1 204
Transport	443	738	857	878	1 048	1 074	1 151	1 158	1 187	1 251
Residential	286	314	377	463	490	468	459	465	472	429
Commerce & public services	64	133	160	235	252	263	273	277	289	268
Others	86	104	139	151	167	127	112	122	124	98
<b>Coal</b>										
Primary energy supply	156	326	398	360	288	389	336	330	320	323
Production	151	218	219	210	162	178	178	178	147	139
Import	5.5	109	179	187	291	275	266	215	223	224
Export					-0.7	-1.0	-1.4	-2.3	-1.0	-1.1
Transformation sector	- 103	- 176	- 198	- 286	- 265	- 317	- 297	- 289	- 279	- 278
Power generation	- 103	- 176	- 198	- 286	- 265	- 317	- 297	- 289	- 279	- 278
Final energy consumption	53	151	237	70	28	74	31	41	41	45
Industry	53	151	237	70	28	74	31	41	41	45
Transport										
Residential										
Commerce & public services										
Others										
<b>Coal products</b>										
Primary energy supply	2.5	2.2	49	278	205	170	215	441	286	325
Production										
Import	2.5	2.2	49	263	292	299	322	441	343	406
Export				-0.5		-0.1		-0.3	-0.7	-0.8
Transformation sector					- 48	- 24	- 25	- 27	- 27	- 33
Power generation					- 48	- 24	- 25	- 27	- 27	- 33
Final energy consumption	2.5	2.2	49	278	157	146	191	246	255	292
Industry	2.5	2.2	49	278	157	146	191	246	255	292
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply	536	1 614	2 198	2 528	2 950	2 983	3 103	3 116	2 732	2 616
Production	118	193	538	805	872	935	961	943	804	690
Import	456	1 417	1 746	1 790	1 880	1 853	1 955	2 066	1 842	1 851
Export	- 35	- 23	- 146	- 67	- 5.7	- 69	- 73	- 66	- 57	- 54
Transformation sector	- 492	- 1 590	- 1 947	- 2 067	- 2 474	- 2 419	- 2 466	- 2 557	- 2 160	- 2 117
Petroleum refineries	- 492	- 1 590	- 1 947	- 2 067	- 2 474	- 2 419	- 2 466	- 2 557	- 2 160	- 2 117
<b>Petroleum products</b>										
Primary energy supply	289	- 301	- 363	- 594	- 703	- 609	- 663	- 727	- 506	- 516
Import	359	55	84	6.9	100	112	124	109	201	79
Export	- 0.9	- 220	- 230	- 438	- 490	- 385	- 433	- 461	- 361	- 391
Transformation sector	395	1 350	1 423	1 612	2 027	1 971	2 050	2 141	1 935	1 935
Power generation	- 119	- 109	- 83	- 11	- 8.1	- 4.5	- 2.7	- 2.1	- 2.5	- 2.2
Petroleum refineries	514	1 460	1 516	1 623	2 035	1 955	2 034	2 122	1 917	1 920
Final energy consumption	681	1 111	1 269	1 231	1 380	1 404	1 410	1 422	1 439	1 469
Industry	132	200	198	184	249	276	214	200	196	170
Transport	443	738	855	780	863	897	979	995	1 016	1 102
Residential		43	55	70	77	79	74	81	80	77
Commerce & public services	20	27	24	50	26	25	32	25	24	23
Others	86	103	136	147	165	126	111	120	123	96
<b>Gas</b>										
Primary energy supply	201	771	1 210	1 520	1 992	1 951	1 866	1 888	1 666	1 445
Production	201	695	864	1 047	1 440	1 412	1 105	1 082	1 096	906
Import		76	346	473	552	537	762	804	562	540
Export										
Transformation sector	- 179	- 561	- 888	- 1 046	- 1 069	- 1 133	- 1 098	- 1 083	- 1 116	- 882
Power generation	- 179	- 561	- 888	- 1 046	- 1 070	- 1 133	- 1 098	- 1 083	- 1 116	- 882
Final energy consumption	11	45	87	159	254	255	244	244	235	190
Industry	11	45	85	92	141	152	153	162	163	143
Transport		0.1	2.1	67	113	103	90	82	72	47
Residential										
Commerce & public services					0.1	0.1	0.1	0.1	0.1	
Others										
<b>Electricity</b>										
Power generation	159	346	476	574	661	673	668	675	710	668
Thermal	141	324	406	500	612	584	563	549	572	542
Hydro	18	22	21	20	14	13	17	28	23	17
Nuclear										
Others			49	55	35	76	87	98	115	109
Final energy consumption	138	317	435	536	653	681	693	705	729	708
Industry	65	145	203	228	277	284	291	289	284	271
Transport		0.1	0.2	0.3	0.4	0.4	0.8	0.8	0.8	0.8
Residential	29	65	92	120	149	159	161	163	178	191
Commerce & public services	44	106	136	184	225	237	240	251	264	244
Others	0.3	0.6	2.9	4.0	1.4	1.0	1.1	1.3	1.7	1.5

## Major economic indicators of Thailand

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	56.56	62.95	65.42	67.20	68.71	68.97	69.21	69.43	69.63	69.80
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	144	221	289	347	401	415	432	451	460	432
GDP, billion USD (PPP, constant 2017)	402	618	805	968	1 119	1 157	1 206	1 257	1 284	1 204
Nominal, billion USD (current)	85	126	189	341	401	413	456	507	544	500
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	2 547	3 518	4 412	5 164	5 840	6 018	6 248	6 491	6 612	6 187
GDP, PPP (constant 2017 USD)	7 102	9 810	12 304	14 399	16 285	16 782	17 423	18 102	18 439	17 253
Nominal (current USD)	1 509	2 008	2 894	5 076	5 840	5 993	6 594	7 299	7 814	7 159
Nominal GDP & its components (billions of current THB) <sup>1</sup>										
Gross domestic product	2 184	5 070	7 614	10 808	13 743	14 590	15 489	16 373	16 892	15 637
Households and NPISHs final consumption expenditure	1 235	2 744	4 252	5 639	7 057	7 297	7 579	8 005	8 406	8 302
General government final consumption expenditure	205	688	1 040	1 708	2 353	2 461	2 524	2 648	2 732	2 790
Gross fixed capital formation	882	1 094	2 110	2 593	3 371	3 460	3 579	3 731	3 812	3 635
Stock change	21	36	206	147	- 299	- 381	- 27	398	209	69
Exports of goods and services	745	3 287	5 208	7 186	9 296	9 786	10 327	10 616	10 052	8 064
Imports of goods and services	909	2 862	5 288	6 567	7 862	7 806	8 398	9 170	8 473	7 232
Real GDP & its components (billions of 2002 THB) <sup>1</sup>										
Gross Domestic Product	3 418	5 254	6 849	8 232	9 521	9 849	10 260	10 693	10 923	10 247
Households and NPISHs final consumption expenditure	1 899	2 855	3 859	4 314	4 910	5 051	5 207	5 446	5 662	5 607
General government final consumption expenditure	414	716	896	1 256	1 494	1 526	1 530	1 571	1 596	1 618
Gross fixed capital formation	1 547	1 169	1 885	2 004	2 351	2 419	2 463	2 560	2 611	2 485
Stock change	39	37	188	107	- 112	- 341	- 69	258	117	117
Exports of goods and services	1 178	3 305	4 717	6 068	7 175	7 368	7 750	8 010	7 773	6 243
Imports of goods and services	1 449	2 908	4 867	5 666	6 478	6 414	6 813	7 377	6 995	6 006
Sectoral shares of Real GDP (%) <sup>1</sup>										
Agriculture, Fishery and Forestry	12.5	8.5	9.2	10.5	8.9	8.5	8.4	8.2	8.1	8.7
Industry	37.2	36.7	38.5	39.9	36.2	35.6	35.0	34.7	33.6	33.2
Services, etc.	N.A.	54.8	52.3	49.6	54.9	55.9	56.6	57.1	58.3	58.1
Industrial Production Index (2010=100)	N.A.	N.A.	N.A.	100.0	105.4	106.8	108.7	112.7	N.A.	N.A.
External trade (billions of current USD) <sup>1</sup>										
Exports, f.o.b.	23.1	69.0	110.9	193.3	214.3	215.4	236.6	253.0	246.3	231.6
Imports, c.i.f.	33.0	61.9	118.2	182.9	202.7	194.2	221.5	248.2	236.3	206.2
Balance of payments (billions of current USD) <sup>2</sup>										
Trade balance	-6.8	11.7	3.4	26.7	26.1	35.8	32.6	22.4	26.7	40.9
Current account	-7.3	9.3	-7.6	11.5	27.8	43.4	44.0	28.4	38.0	20.3
Overall balance	1.8	-1.1	0.2	35.3	11.0	23.3	33.3	14.6	22.3	8.3
Foreign exchange rate (THB/USD) <sup>1</sup>	25.59	40.11	40.22	31.69	34.25	35.30	33.94	32.31	31.05	31.29
PPP conversion factor, GDP (THB/USD) <sup>1</sup>	8.96	11.04	11.34	12.19	12.64	12.73	12.84	12.72	12.63	12.31
Price Indices										
GDP Deflator (2002=100) <sup>3</sup>	63.9	96.5	111.2	131.3	144.3	148.1	151.0	153.1	154.6	152.6
Producer Price Index (2010=100) <sup>2</sup>	42.5	60.6	76.5	100.0	102.6	101.4	102.1	102.5	101.5	N.A.
Consumer Price Index (2010=100) <sup>2</sup>	49.8	77.4	86.6	100.0	110.3	110.6	111.3	112.5	113.3	112.3
Growth rate (%) <sup>3</sup>										
Real GDP	11.2	4.5	4.2	7.5	3.1	3.4	4.2	4.2	2.2	-6.2
Population	1.4	1.0	0.6	0.5	0.4	0.4	0.3	0.3	0.3	0.3
Price										
Producer prices	3.5	3.9	9.1	9.4	-4.1	-1.2	0.7	0.4	-1.0	N.A.
Consumer prices	5.9	1.6	4.5	3.2	-0.9	0.2	0.7	1.1	0.7	-0.8

Source <sup>1</sup>: *World Development Indicators*, World Bank

<sup>2</sup>: *International Financial Statistics*, International Monetary Fund

<sup>3</sup>: Calculated from <sup>1</sup> and <sup>2</sup> by ESTO

Note : N.A. means "not available"

: THB means Baht, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)

## Energy prices in Thailand

## IMPORT PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	THB											
Exchange Rate	/ US Dollar	31.69	30.49	31.08	30.73	32.48	34.25	35.30	33.94	32.31	31.05	31.29
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite	THB/tonne	4 112		5 853	5 853	4 526	4 279	4 279	4 149	4 506	4 506	3 761
Other bituminous coal	THB/tonne	2 349								2 685		
Sub-bituminous Coal	THB/tonne				2 645	2 645	2 267	2 267	2 605	2 685	2 670	2 377
Lignite	THB/tonne						1 329	1 329	1 048	907	907	972
Peat												
Patent Fuel												
Coke	THB/tonne	13 999		17 980	12 902	12 902	11 252	11 252	13 824	17 183	17 183	13 565
Coal Tar												
BKB/PB	THB/tonne	1 978		19 163	1 759	1 759	1 572	1 572	1 912	1 707	1 707	
<b>Oil and Oil Products</b>												
Crude Oil	USD/BBL	79.38		113.94	109.68	102.25					67.57	46.24
Natural Gas Liquids												
Ethane												
LPG	USD/BBL				107.53	75.39						
Naphtha												
Motor Gasoline	USD/BBL				120.68	119.96						
Aviation Gasoline	USD/BBL				127.19	196.82						
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel	THB/L	37.91										
Other Kerosene												
Gas/Diesel Oil	USD/BBL*	21.66			114.0	121.18						
Fuel Oil	USD/BBL*	15.66			109.48	121.42						
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas	THB/scf	7.16			11.17			5.72				
Liquefied Natural Gas	THB/tonne									416.01		
Compressed natural gas												
Electricity	THB/kWh	1.0			1.28	1.51						
<b>Other Energy Products</b>												
Charcoal	THB/tonne										4 600	N/A
Agricultural waste	THB/tonne										1 932	N/A

\*THB/L in 2010

## Energy prices in Thailand

## CONSUMER PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	THB											
Exchange Rate	/ US Dollar	31.69	30.49	31.08	30.73	32.48	34.25	35.30	33.94	32.31	31.05	31.29
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite												
Other bituminous coal												
Sub-bituminous Coal												
Lignite												
Peat												
Patent Fuel												
Coke												
Coal Tar												
BKB/PB												
Gas Works Gas												
<b>Oil and Oil Products</b>												
Crude Oil												
Natural Gas Liquids												
Ethane												
LPG	THB/kg	13.69	17.77		13.69	13.69	18.14	16.99	17.27	17.77	18.38	19.53
Naphtha												
Motor Gasoline	THB/L	31.24	26.89				31.50	28.75	31.29	26.89	25.53	
Unleaded Premium 95	THB/L				44.52	44.28						29.29
Unleaded premium 91	THB/L				37.07							
Gasohol 95 (E10)	THB/L				37.40	35.95						21.94
Gasohol 95 (E20)	THB/L				31.72	37.29						19.99
Gasohol 91 (E10)	THB/L				35.65	32.41						21.66
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel												
Other Kerosene	THB/L	23.03	22.65		29.23	28.39	18.74	16.68	19.05	22.65	20.32	N/A
Gas/Diesel Oil	THB/L	26.77	26.47		27.90	27.34	22.0	21.38	23.96	26.47	24.47	22.56
Low sulphur diesel	THB/L				30.22							
Fuel Oil	THB/L	16.80	15.32		21.39	20.59	11.65	9.84	12.87	15.32	12.95	N/A
White Spirit SBP												
Lubricants												
Bitumen												
Paraffin Waxes												
Petroleum Coke												
<b>Natural Gas</b>												
Natural Gas												
Liquefied Natural Gas (export)												
Compressed natural gas												
Electricity												

## Energy prices in Thailand

### WHOLESALE PRICES

	Unit	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Currency	THB											
Exchange Rate	/ US Dollar	31.69	30.49	31.08	30.73	32.48	34.25	35.30	33.94	32.31	31.05	31.29
<b>Coal and Coal Products</b>												
Coking Coal												
Anthracite	THB/tonne				4 886							
Other bituminous coal												
Sub-bituminous Coal	THB/tonne				2 533							
Lignite	THB/tonne	523			1 328							
Peat												
Patent Fuel												
Coke	THB/tonne				13 608							
Coal Tar												
BKB/PB	THB/tonne				1 980							
<b>Oil and Oil Products</b>												
LPG	THB/kg	9.79		18.13	11.55	22.35	23.39	20.47	20.77	11.49	19.37	16.07
Motor Gasoline												
Unleaded premium 95	THB/L	31.62		35.94		46.73	27.60	31.80	27.15	28.96	25.53	
Unleaded premium 91	THB/L				46.74							25.38
Gasohol 95 (E10)	THB/L				38.96	38.85						19.45
Gasohol 95 (E20)	THB/L				33.90	34.35						16.83
Gasohol 91 (E10)	THB/L				36.51	36.55						19.03
Gasohol 95 (E85)	THB/L				22.83	24.11						14.70
Aviation Gasoline												
Gasoline Type Jet Fuel												
Kerosene Type Jet Fuel	THB/L	27.50										
Other Kerosene	THB/L	37.51			35.46	35.26	29.36	22.93				13.55
Gas/Diesel Oil												
Low sulphur diesel	THB/L	28.69		30.42	29.97	29.69	24.54	23.26	25.64	28.35	26.47	20.34
Fuel Oil	THB/L	22.04		29.41	27.28	27.61	20.91	19.38	22.84	26.15	27.39	9.18
Lubricants												
<b>Natural Gas</b>												
Natural Gas	THB/million Btu	321.00			394.00							
Liquefied Natural Gas												
Compressed Natural Gas	THB/kg	8.50		10.50								
<b>Electricity</b>												
Industrial	THB/kWh	2.72										
Commercial	THB/kWh	3.65										
Residential	THB/kWh	3.34										
Others	THB/kWh	4.32			3.79	3.93						
<b>Other energy products</b>												
Fuel Wood	THB/kg	4.00										
Charcoal	THB/kg	7.00										
Paddy Husk	THB/kg	2.00										
Bagasse	THB/kg	0.40										
Agricultural waste	THB/kg	1.00										



# **United States**



## Energy balance table of the United States

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					Fuel oil
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	
<b>2020</b>										
Production	10 788		30 208							
Import	107	4.2	13 947	3 021	1 192	29	324	2.1	523	477
Export	-1 702	- 18	-7 555	-8 569	-1 520		- 208	- 12	-2 519	- 326
International marine bunkers				- 639					- 215	- 423
International aviation bunkers				- 663			- 663			
Stock changes	103	-1.1	- 339	-9.5	37	0.6	1.3	2.0	- 124	-0.7
<b>Total primary energy supply</b>	<b>9 295</b>	<b>- 15</b>	<b>36 261</b>	<b>-6 860</b>	<b>- 290</b>	<b>30</b>	<b>- 545</b>	<b>-8.4</b>	<b>-2 335</b>	<b>- 273</b>
Transfers			-5 303	5 635	159		0.9	0.3	66	- 19
Total transformation sector	-8 834	199	-31 398	30 334	13 949	327	2 094	23	9 447	345
Main activity producers	-8 283	-5.8		- 292			-0.2	-2.1	- 81	- 113
Autoproducers	- 38	- 15		- 66			-0.4		-2.1	-0.4
Gas processing	- 74									
Petroleum refineries			-31 595	30 692	13 949	327	2 095	25	9 530	458
Coal transformation	- 439	219								
Other transformation			196							
Losses & own use	-0.3	- 33		-1 083	- 28		-1.7		- 83	-5.0
Discrepancy	- 55		822	- 63	-7.5				- 56	
<b>Total final consumption</b>	<b>405</b>	<b>151</b>	<b>381</b>	<b>27 963</b>	<b>13 783</b>	<b>356</b>	<b>1 548</b>	<b>15</b>	<b>7 039</b>	<b>48</b>
<b>Total final energy consumption</b>	<b>405</b>	<b>151</b>		<b>22 773</b>	<b>13 783</b>		<b>1 548</b>	<b>15</b>	<b>7 002</b>	<b>48</b>
Industry sector	391	151		761	5.2				629	21
Iron and steel	7.9	131		5.1					3.6	1.2
Chemical & petrochemical	63			65					39	5.5
Non-metallic minerals	155			40					12	0.8
Other industries	166	20		651	5.2				574	14
Transport sector				20 495	13 560		1 548		5 371	14
Domestic air transport				1 567	19		1 548			
Road				18 217	13 398				4 817	
Rail				439					439	
Inland waterways				271	143				114	14
Other transport										
Other sector	14			1 518	217			15	1 003	13
Residential				587				14	395	
Commerce and public services	14			478	113			1.0	284	13
Agriculture				453	104				324	0.1
Non-specified others										
Non-energy			381	5 190		356			37	
<b>2019</b>										
Production	14 482		31 940							
Import	142	3.0	16 073	3 414	1 610	27	353	4.0	466	392
Export	-2 309	- 25	-7 085	-9 186	-1 737		- 467	-10.0	-2 744	- 518
International marine bunkers				- 950					- 427	- 523
International aviation bunkers				-1 072			-1 072			
Stock changes	- 779	-2.3	170	- 11	- 46	1.0	2.5	-1.5	111	- 12
<b>Total primary energy supply</b>	<b>11 535</b>	<b>- 25</b>	<b>41 098</b>	<b>-7 804</b>	<b>- 173</b>	<b>28</b>	<b>-1 184</b>	<b>-7.4</b>	<b>-2 594</b>	<b>- 661</b>
Transfers			-4 941	5 227	186		-0.4	0.3	0.9	6.6
Total transformation sector	-10 954	240	-36 530	35 514	15 989	371	3 688	19	10 261	696
Main activity producers	-10 282	-9.5		- 259			-0.6	-1.2	- 75	- 96
Autoproducers	- 44	- 14		- 65					-1.9	-0.5
Gas processing	- 72									
Petroleum refineries			-36 733	35 838	15 989	371	3 688	21	10 338	793
Coal transformation	- 555	264								
Other transformation			203							
Losses & own use	-0.5	- 47		-1 311	- 67		-1.8		- 135	-2.7
Discrepancy	- 103		730	- 3.1					59	
<b>Total final consumption</b>	<b>477</b>	<b>168</b>	<b>356</b>	<b>31 623</b>	<b>15 935</b>	<b>399</b>	<b>2 502</b>	<b>12</b>	<b>7 592</b>	<b>39</b>
<b>Total final energy consumption</b>	<b>477</b>	<b>168</b>		<b>26 362</b>	<b>15 935</b>		<b>2 502</b>	<b>12</b>	<b>7 426</b>	<b>39</b>
Industry sector	461	168		706	6.7				545	11
Iron and steel	8.8	141		3.7					2.2	1.4
Chemical & petrochemical	67			68					41	1.4
Non-metallic minerals	193			49					14	1.4
Other industries	193	27		585	6.7				488	6.7
Transport sector				24 078	15 711		2 502		5 848	14
Domestic air transport				2 524	22		2 502			
Road				20 632	15 491				5 138	
Rail				563					563	
Inland waterways				359	198				147	14
Other transport										
Other sector	16			1 578	217			12	1 033	14
Residential				622				12	414	
Commerce and public services	16			460	83			0.9	293	14
Agriculture				496	134				326	
Non-specified others										
Non-energy			356	5 261		399			166	

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			32 984	1 034	8 980	2 181	4 263			90 437	7 286
214		259	2 471				82	221		19 852	82
-2 324		-1 660	-5 203				-146	-51		-23 244	-146
							-15			-654	-15
35		38	-147				-10			-663	-10
-2 075		-1 363	30 105	1 034	8 980	2 181	4 173	170		85 324	7 196
3 161		2 267								332	
399	596	3 154	-12 225	-1 034	-8 980	-2 052	-796	15 260	457	-19 068	-3 713
		-96	-11 426	-1 029	-8 980	-1 932	-570	14 540	457	-17 522	-3 393
	-57	-5.4	-678	-4.4		-119	-226	720		-425	-320
			49							-25	
399	653	3 255								-903	
										-221	
			-169							27	
-12	-550	-403	-2 746				-3.0	-1 831	-207	-5 904	-3.0
			-209				0.6			495	0.6
1 474	45	3 655	14 925			129	3 375	13 600	250	61 178	3 480
306		72	14 524			129	3 375	13 600	250	55 206	3 480
34		72	5 697				1 336	2 557	197	11 090	1 319
0.3			392				0.1	181	7.2	724	0.1
3.7		17	2 375				12	435	121	3 071	3.9
0.8		26	353				24	143	0.1	714	24
29		29	2 577				1 300	1 798	69	6 580	1 291
2.2			1 040				1 408	37		22 980	1 408
										1 567	
2.2			48				1 386	20		19 671	1 386
							18	17		474	18
							4.0			275	4.0
			992							992	
270			7 787			129	630	11 006	52	21 136	753
178			4 603			55	474	5 331		11 049	529
66			3 122			74	92	4 574	52	8 407	160
25			62				64	265		844	64
								836		836	
1 168	45	3 583	401							5 973	
			33 492	1 043	9 200	1 935	4 615			96 706	7 397
275		287	2 655				79	213		22 578	79
-1 967		-1 744	-4 590				-156	-72		-23 423	-156
							-8.6			-959	-8.6
										-1 072	
-73		7.4	-478				11			-1 089	11
-1 765		-1 449	31 079	1 043	9 200	1 935	4 541	141		92 741	7 323
2 911		2 122								285	
458	657	3 376	-11 961	-1 043	-9 200	-1 808	-833	15 736	462	-20 377	-3 513
		-86	-11 130	-1 039	-9 200	-1 707	-598	15 017	462	-18 743	-3 204
	-56	-6.6	-683	-4.5		-101	-235	718		-429	-309
			47							-25	
458	713	3 468								-895	
										-292	
			-196							7.0	
-9.2	-623	-472	-2 757				-4.9	-2 088	-210	-6 419	-4.9
		-62	-341				-6.6			275	-6.6
1 595	34	3 515	16 019			127	3 697	13 788	253	66 506	3 799
347		100	15 021			127	3 697	13 788	253	59 892	3 799
43		100	5 572				1 419	2 696	200	11 221	1 400
0.1			393				0.1	204	7.3	758	0.1
4.6		21	2 286				12	448	122	3 003	3.7
0.7		33	399				21	119	0.1	781	21
37		46	2 494				1 385	1 924	70	6 678	1 375
3.2			981				1 573	50		26 682	1 573
										2 524	
3.2			50				1 551	23		22 257	1 551
							17	26		606	17
							4.5			364	4.5
			931							931	
301			8 468			127	705	11 042	53	21 989	825
196			4 944			51	546	5 172		11 334	597
69			3 462			76	91	4 910	53	9 068	160
36			62				69	271		897	69
								689		689	
1 247	34	3 415	998							6 614	

## Major energy indicators of the United States

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	80 155	95 160	97 044	92 770	91 543	90 563	90 235	92 789	92 741	85 324
Production	69 169	69 771	68 248	72 153	84 639	80 163	83 425	90 346	96 706	90 437
Import	18 946	29 394	35 252	30 372	23 482	24 959	25 064	24 465	22 578	19 852
Export	-4 631	-4 006	-4 432	-8 026	-12 748	-13 836	-17 776	-21 152	-23 423	-23 244
Final energy consumption	49 173	58 332	58 890	57 678	57 620	57 797	57 639	60 425	59 892	55 206
Industry	11 880	13 912	11 572	11 322	11 027	11 147	10 945	11 518	11 221	11 090
Transport	20 414	24 629	26 079	24 943	25 698	25 993	26 183	26 716	26 682	22 980
Residential	8 788	11 056	11 374	11 309	10 714	10 352	10 254	11 344	11 334	11 049
Commerce & public services	6 668	8 083	8 390	8 681	8 713	8 750	8 685	9 110	9 068	8 407
Others	1 424	654	1 474	1 423	1 468	1 555	1 571	1 737	1 587	1 680
<b>Coal</b>										
Primary energy supply	19 236	22 253	23 293	21 001	15 695	14 299	13 877	13 448	11 535	9 295
Production	22 683	22 438	23 623	22 220	18 057	14 589	15 624	15 449	14 482	10 788
Import	69	320	728	447	250	212	169	128	142	107
Export	-2 831	-1 574	-1 187	-1 981	-1 818	-1 490	-2 378	-2 841	-2 309	-1 702
Transformation sector	-17 728	-21 838	-21 786	-20 019	-14 914	-13 800	-13 523	-12 899	-10 954	-8 834
Power generation	-16 580	-20 909	-17 818	-19 331	-14 233	-13 204	-12 894	-12 251	-10 326	-8 321
Final energy consumption	1 795	1 074	1 047	904	671	562	537	512	477	405
Industry	1 392	981	941	841	643	540	517	494	461	391
Transport										
Residential	62	56								
Commerce & public services	101	37	88	63	28	23	20	18	16	14
Others	240		18							
<b>Coal products</b>										
Primary energy supply	5.1	64	40	-4.6	-35	1.6	-30	-21	-25	-15
Production	20	99	92	32	3.7	6.0	1.5	3.1	3.0	4.2
Import	-15	-30	-46	-38	-22	-26	-32	-30	-25	-18
Export										
Transformation sector	578	283	487	282	235	215	251	260	240	199
Power generation		-91	-3 244	-44	-35	-25	-22	-24	-24	-20
Final energy consumption	534	289	265	220	146	171	175	189	168	151
Industry	534	289	265	220	146	171	175	189	168	151
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply	32 805	37 139	38 167	36 696	39 085	39 447	40 577	41 485	41 098	36 261
Production	18 110	15 307	13 504	14 553	24 384	23 452	24 738	28 687	31 940	30 208
Import	14 697	21 950	25 100	22 599	17 097	18 304	18 544	18 083	16 073	13 947
Export	-88	-258	-206	-389	-1 896	-2 128	-3 302	-5 242	-7 085	-7 555
Transformation sector	-31 622	-35 029	-35 689	-34 315	-35 612	-36 032	-36 756	-37 426	-36 530	-31 398
Petroleum refineries	-31 622	-35 029	-35 689	-34 315	-35 814	-36 240	-36 968	-37 637	-36 733	-31 595
<b>Petroleum products</b>										
Primary energy supply	-1 118	-666	735	-2 929	-6 029	-6 609	-7 490	-7 919	-7 804	-6 860
Import	2 606	3 175	4 937	3 490	3 129	3 129	3 076	3 194	3 414	3 021
Export	-1 540	-1 858	-2 224	-4 422	-7 184	-7 843	-8 769	-9 263	-9 186	-8 569
Transformation sector	30 405	32 913	34 669	34 746	34 773	35 227	35 720	36 408	35 514	30 334
Power generation	-1 141	-2 416	-1 396	-454	-372	-316	-294	-398	-324	-358
Petroleum refineries	31 561	35 329	36 065	35 200	35 145	35 542	36 013	36 806	35 838	30 692
Final energy consumption	24 205	27 542	29 179	26 694	26 080	26 236	26 224	26 735	26 362	22 773
Industry	1 853	1 074	1 472	1 265	811	846	769	826	706	761
Transport	19 753	23 844	25 126	23 258	23 505	23 648	23 793	24 206	24 078	20 495
Residential	1 104	1 336	1 205	878	655	592	602	637	622	587
Commerce & public services	892	697	699	640	488	557	474	465	460	478
Others	603	590	677	654	621	592	585	601	496	453
<b>Gas</b>										
Primary energy supply	18 353	22 933	21 236	23 282	27 068	27 335	26 960	29 055	31 079	30 105
Production	17 510	18 713	17 650	20 716	26 656	26 264	26 866	29 490	33 492	32 984
Import	1 472	3 675	4 223	3 639	2 633	2 912	2 948	2 795	2 655	2 471
Export	-83	-233	-699	-1 095	-1 704	-2 205	-3 116	-3 549	-4 590	-5 203
Transformation sector	-3 711	-5 687	-6 428	-7 699	-10 257	-10 508	-9 830	-11 187	-11 961	-12 225
Power generation	-3 758	-5 732	-6 475	-7 749	-10 124	-10 372	-9 694	-11 049	-11 812	-12 105
Final energy consumption	12 108	14 342	12 480	12 972	13 469	13 385	13 493	14 921	15 021	14 524
Industry	4 602	5 774	4 210	4 601	5 097	5 258	5 219	5 587	5 572	5 697
Transport	645	636	593	683	695	728	758	898	981	1 040
Residential	4 295	4 868	4 716	4 646	4 539	4 279	4 341	4 915	4 944	4 603
Commerce & public services	2 565	3 065	2 884	2 981	3 078	3 058	3 113	3 458	3 462	3 122
Others			77	62	61	62	63	63	62	62
<b>Electricity</b>										
Power generation	11 530	14 493	15 368	15 676	15 469	15 479	15 349	15 962	15 736	15 260
Thermal	7 963	10 376	11 081	11 017	10 377	10 105	9 690	10 203	9 883	9 264
Hydro	983	912	981	944	904	971	1 089	1 064	1 043	1 034
Nuclear	2 202	2 872	2 919	3 020	2 989	3 024	3 020	3 029	3 036	2 963
Others	382	334	388	695	1 200	1 379	1 551	1 666	1 774	1 999
Final energy consumption	9 481	12 598	13 434	13 638	13 611	13 730	13 522	14 043	13 788	13 600
Industry	3 120	4 112	3 233	2 975	2 902	2 869	2 802	2 782	2 696	2 557
Transport	15	16	22	23	32	38	40	44	50	37
Residential	3 326	4 293	4 893	5 205	5 046	5 075	4 945	5 262	5 172	5 331
Commerce & public services	3 020	4 177	4 590	4 789	4 894	4 897	4 862	4 941	4 910	4 574
Others		0.6	694	646	737	851	872	1 014	960	1 101

## Major economic indicators of the United States

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>1</sup>	249.62	282.16	295.52	309.33	320.74	323.07	325.12	326.84	328.33	331.50
Gross domestic product <sup>3</sup>										
Real term, billion USD (constant 2015)	9 811	13 754	15 600	16 383	18 206	18 510	18 927	19 480	19 925	19 247
GDP, billion USD (PPP, constant 2017)	10 097	14 156	16 056	16 861	18 737	19 050	19 480	20 048	20 507	19 809
Nominal, billion USD (current)	5 963	10 251	13 039	15 049	18 206	18 695	19 480	20 527	21 373	20 894
GDP per capita <sup>3</sup>										
Real term (constant 2015 USD)	39 303	48 746	52 790	52 963	56 763	57 293	58 215	59 600	60 687	58 060
GDP, PPP (constant 2017 USD)	40 451	50 169	54 331	54 510	58 420	58 965	59 915	61 340	62 459	59 755
Nominal (current USD)	23 889	36 330	44 123	48 651	56 763	57 867	59 915	62 805	65 095	63 028
Nominal GDP & its components (billions of current USD) <sup>1</sup>										
Gross domestic product	5 963	10 251	13 039	15 049	18 206	18 695	19 480	20 527	21 373	20 894
Households and NPISHs final consumption expenditure	3 809	6 767	8 769	10 260	12 263	12 693	13 239	13 914	14 429	14 048
General government final consumption expenditure	948	1 438	1 962	2 511	2 609	2 663	2 731	2 869	2 974	3 078
Gross fixed capital formation	1 269	2 373	2 990	2 756	3 723	3 809	4 020	4 282	4 493	4 479
Stock change	15	55	58	54	137	36	29	59	74	-60
Exports of goods and services	552	1 096	1 302	1 857	2 269	2 232	2 384	2 534	2 520	2 123
Imports of goods and services	630	1 477	2 041	2 390	2 795	2 738	2 924	3 130	3 116	2 775
Real GDP & its components (billions of 2015 USD) <sup>1</sup>										
Gross Domestic Product	9 811	13 754	15 600	16 383	18 206	18 510	18 927	19 480	19 925	19 247
Households and NPISHs final consumption expenditure	6 212	8 936	10 408	11 050	12 263	12 567	12 873	13 245	13 535	13 023
General government final consumption expenditure	2 001	2 245	2 514	2 762	2 609	2 658	2 658	2 689	2 744	2 799
Gross fixed capital formation	1 727	2 991	3 421	2 997	3 860	3 841	3 985	4 189	4 328	4 157
Stock change	21	78	63	57	137	35	33	65	75	-42
Exports of goods and services	660	1 313	1 455	1 897	2 269	2 278	2 371	2 437	2 436	2 105
Imports of goods and services	719	1 752	2 201	2 325	2 795	2 835	2 961	3 083	3 118	2 840
Sectoral shares of Real GDP (%) <sup>1</sup>										
Agriculture, Fishery and Forestry	N.A.	1.2	1.2	1.0	1.0	1.1	1.0	1.0	1.0	1.3
Industry	N.A.	21.7	20.5	18.9	18.6	18.4	18.6	18.6	18.6	19.4
Services, etc.	N.A.	75.1	76.0	77.2	76.7	76.9	76.8	76.8	76.8	79.0
Industrial production index (2010=100) <sup>2</sup>	68.2	101.2	105.8	100.0	110.0	107.6	109.0	112.5	111.6	103.5
External trade (billions of current USD) <sup>1</sup>										
Exports, f.o.b.	393.6	781.9	901.1	1 278.5	1 502.6	1 451.0	1 546.3	1 664.0	1 643.2	1 424.9
Imports, c.i.f.	517.0	1 259.3	1 732.7	1 969.2	2 315.3	2 250.2	2 408.5	2 614.2	2 567.4	2 406.9
Balance of payments (billions of current USD) <sup>2</sup>										
Trade balance	-111.0	-446.8	-782.8	-648.7	-761.9	-749.8	-799.3	-878.7	-857.3	-913.9
Current account	-79.0	-401.9	-749.2	-432.0	-408.4	-396.2	-361.0	-439.9	-446.0	-619.7
Overall balance	-26.0	72.5	-48.3	9.3	-36.3	-38.3	22.9	-136.2	117.8	80.7
Foreign exchange rate (USD/USD) <sup>1</sup>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PPP conversion factor, GDP (USD/USD) <sup>1</sup>	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Price Indices										
GDP Deflator (2015=100) <sup>3</sup>	60.8	74.5	83.6	91.9	100.0	101.0	102.9	105.4	107.3	108.6
Producer Prices Index (2010=100) <sup>2</sup>	62.9	71.8	85.2	100.0	108.0	108.4	111.0	114.2	116.1	116.3
Consumer Price Index (2010=100) <sup>1</sup>	59.9	79.0	89.6	100.0	108.7	110.1	112.4	115.2	117.2	118.7
Growth rate (%) <sup>3</sup>										
Real GDP	1.9	4.1	3.5	2.7	2.7	1.7	2.3	2.9	2.3	-3.4
Population	1.1	1.1	0.9	0.8	0.7	0.7	0.6	0.5	0.5	1.0
Price										
Producer prices	3.6	5.8	7.3	6.8	-0.9	0.4	2.3	2.9	1.7	0.2
Consumer prices	5.4	3.4	3.4	1.6	0.1	1.3	2.1	2.4	1.8	1.2

Source <sup>1</sup>: *World Development Indicators*, World Bank

<sup>2</sup>: *International Financial Statistics*, International Monetary Fund

<sup>3</sup>: Calculated from <sup>1</sup> and <sup>2</sup> by ESTO

Note : N.A. means "not available"

: USD means United States Dollar

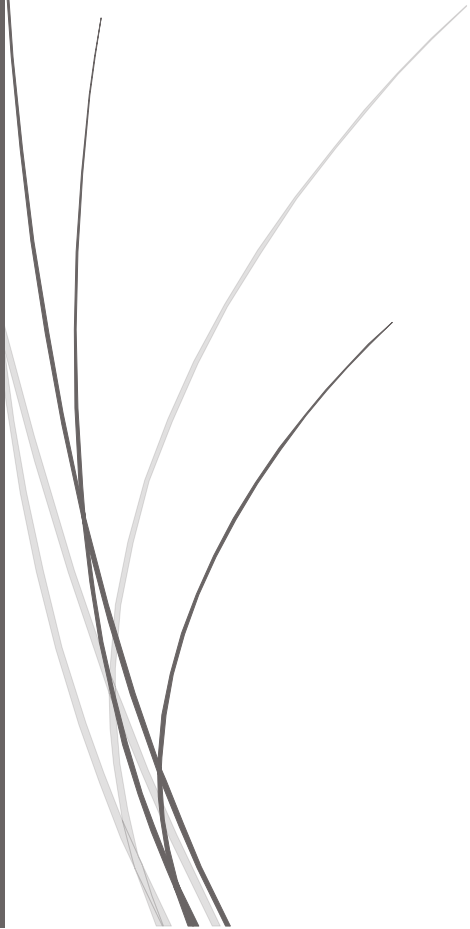
: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)



**Viet Nam**



## Energy balance table of Viet Nam

	Coal	Coal products	Crude oil & NGL	Total	Petroleum products					
					Gasoline	Naphtha	Jet fuel	Kerosene	Gas/diesel oil	Fuel oil
<b>2020</b>										
Production	890		394							
Import	1 285		503	445	68		51	1.8	206	28
Export	- 21		- 196	- 94	- 13		- 26		- 27	- 15
International marine bunkers										
International aviation bunkers										
Stock changes	- 76		-9.0	- 46	- 27		-2.2		- 15	-2.5
<b>Total primary energy supply</b>	<b>2 078</b>		<b>691</b>	<b>306</b>	<b>28</b>		<b>23</b>	<b>1.8</b>	<b>164</b>	<b>10</b>
Transfers			- 17	17						
Total transformation sector	-1 230		- 674	559	221		10		260	4.8
Main activity producers	-1 230			-7.7					-3.4	-4.3
Autoproducers										
Gas processing										
Petroleum refineries			- 674	566	221		10		263	9.1
Coal transformation										
Other transformation										
Losses & own use										
Discrepancy	9.1			- 62	-3.6			-0.8	- 57	
<b>Total final consumption</b>	<b>856</b>			<b>820</b>	<b>246</b>		<b>33</b>	<b>1.0</b>	<b>367</b>	<b>15</b>
<b>Total final energy consumption</b>	<b>831</b>			<b>769</b>	<b>246</b>		<b>33</b>	<b>1.0</b>	<b>367</b>	<b>15</b>
Industry sector	815			64					39	7.4
Iron and steel	60			7.0					2.1	1.5
Chemical & petrochemical	45			3.8					1.6	1.1
Non-metallic minerals	469			10					4.1	3.2
Other industries	240			42					31	1.7
Transport sector				517	241		33		237	7.6
Domestic air transport				33			33			
Road				440	241				200	
Rail				1.3					1.3	
Inland waterways				43					35	7.6
Other transport										
Other sector	16			188	5.1			1.0	92	
Residential	16			78				1.0		
Commerce and public services	0.3			14					1.6	
Agriculture				95	5.1				90	
Non-specified others										
Non-energy	25			51						
<b>2019</b>										
Production	937		486							
Import	1 027		338	487	87		88	1.4	203	35
Export	- 27		- 159	- 144	-8.9		- 71		- 24	- 19
International marine bunkers										
International aviation bunkers										
Stock changes	- 63		14	-5.5			-5.5			
<b>Total primary energy supply</b>	<b>1 874</b>		<b>679</b>	<b>337</b>	<b>78</b>		<b>12</b>	<b>1.4</b>	<b>179</b>	<b>15</b>
Transfers			- 17	18						
Total transformation sector	-1 227		- 662	512	215		24		234	-3.8
Main activity producers	-1 227			- 18					-6.8	- 11
Autoproducers										
Gas processing										
Petroleum refineries			- 662	530	215		24		241	7.4
Coal transformation										
Other transformation										
Losses & own use										
Discrepancy	1.4			- 33	-3.9			-0.6		
<b>Total final consumption</b>	<b>648</b>			<b>834</b>	<b>289</b>		<b>36</b>	<b>0.8</b>	<b>414</b>	<b>11</b>
<b>Total final energy consumption</b>	<b>625</b>			<b>811</b>	<b>289</b>		<b>36</b>	<b>0.8</b>	<b>414</b>	<b>11</b>
Industry sector	606			93					80	0.8
Iron and steel	45			6.9					4.3	0.3
Chemical & petrochemical	34			4.1					3.4	
Non-metallic minerals	349			11					8.5	0.2
Other industries	179			71					64	0.4
Transport sector				591	284		36		262	9.5
Domestic air transport				36			36			
Road				494	284				211	
Rail				2.2					2.2	
Inland waterways				58					49	9.5
Other transport										
Other sector	19			128	5.7			0.8	72	1.1
Residential	18			43				0.8		
Commerce and public services	0.4			20					15	
Agriculture				64	5.7				57	1.1
Non-specified others										
Non-energy	22			22						

unit: Petajoules

LPG	Refinery gas	Other products	Gas	Hydro	Nuclear	Geothermal, solar, etc.	Others	Electricity	Heat	Total	Total renewables
			327	262		38	296			2 207	596
83		8.0					8.9	11		2 253	8.9
- 11		-1.8					-0.3	-5.6		- 317	-0.3
		0.6								- 131	
72		6.8	327	262		38	305	5.4		4 012	605
17											
19		44	- 247	- 262		- 38	- 81	874		-1 101	- 382
			- 247	- 262		- 38	- 39	874		- 951	- 339
19		44								- 108	
							- 42			- 42	- 42
		-0.3	- 18				- 22	- 101		- 101	
								- 16		- 108	- 22
108		51	63				201	763		2 703	201
108			33				201	763		2 597	201
18			32				120	394		1 424	120
3.5			9.9					62		139	
1.1			13					35		98	
3.0			5.9				5.6	41		532	5.6
10.0			2.6				115	256		656	115
			0.9				2.7			521	2.7
										33	
			0.9				2.7			444	2.7
										1.3	
										43	
90							78	369		651	78
77							75	248		418	75
13							2.8	94		112	2.8
								17		113	
								9.4		9.4	
		51	30							185	
			375	238		20	363			2 420	621
39		34					11	12		1 874	11
- 19		-2.0					-0.5	-7.4		- 338	-0.5
										- 54	
19		32	375	238		20	374	4.5		3 902	631
18										0.9	
23		19	- 296	- 238		- 20	- 86	853		-1 165	- 344
			- 296	- 238		- 20	- 38	853		- 984	- 296
23		19								- 133	
							- 48			- 48	- 48
								- 112		- 112	
		- 29	- 18				- 29	-4.4		- 84	- 29
60		22	62				258	741		2 542	258
60			32				258	741		2 467	258
12			30				153	387		1 269	153
2.3			9.5					63		124	
0.7			13					34		85	
2.0			5.7				7.6	43		416	7.6
6.6			2.4				146	246		644	146
			1.4				3.3			596	3.3
										36	
			1.4				3.3			499	3.3
										2.2	
										58	
48							102	354		602	102
42							98	233		393	98
5.5							3.3	97		121	3.3
								15		79	
								8.5		8.5	
		22	30							75	

## Major energy indicators of Viet Nam

Petajoules

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
<b>Total</b>										
Primary energy supply	227	620	1 212	2 038	2 592	2 837	2 927	3 500	3 902	4 012
Production	243	1 078	2 025	2 351	2 461	2 407	2 385	2 430	2 420	2 207
Import	123	372	516	563	718	935	1 037	1 349	1 874	2 253
Export	- 131	- 781	- 1 259	- 892	- 492	- 454	- 481	- 389	- 338	- 317
Final energy consumption	175	494	1 022	1 538	1 820	1 948	2 091	2 332	2 467	2 597
Industry	72	195	376	658	820	853	947	1 146	1 269	1 424
Transport	59	158	289	422	471	522	548	571	596	521
Residential	20	80	265	365	369	377	395	384	393	418
Commerce & public services	14	44	70	69	80	89	110	117	121	112
Others	10	17	23	24	80	107	92	114	88	122
<b>Coal</b>										
Primary energy supply	93	183	297	617	944	1 071	1 086	1 506	1 874	2 078
Production	109	272	760	1 032	852	807	796	885	937	890
Import			2.4	27	162	309	344	533	1 027	1 285
Export	- 18	- 76	- 422	- 465	- 41	- 29	- 52	- 56	- 27	- 21
Transformation sector	- 37	- 48	- 89	- 203	- 613	- 711	- 703	- 938	- 1 227	- 1 230
Power generation	- 37	- 48	- 89	- 203	- 613	- 711	- 703	- 938	- 1 227	- 1 230
Final energy consumption	55	135	207	414	313	342	364	543	625	831
Industry	43	98	156	348	271	307	334	517	606	815
Transport	0.6									
Residential	7.9	30	36	50	39	33	29	24	18	16
Commerce & public services	1.6	6.1	14	15	2.7	2.5	1.6	1.4	0.4	0.3
Others	2.7	1.0	0.9	0.8						
<b>Coal products</b>										
Primary energy supply										
Production										
Import										
Export										
Transformation sector										
Power generation										
Final energy consumption										
Industry										
Transport										
Residential										
Commerce & public services										
Others										
<b>Crude oil &amp; NGL</b>										
Primary energy supply		13		303	309	328	296	535	679	691
Production	115	707	793	670	734	659	591	526	486	394
Import					7.8	19	27	230	338	503
Export	- 112	- 657	- 766	- 347	- 392	- 346	- 316	- 197	- 159	- 196
Transformation sector				- 292	- 296	- 314	- 281	- 516	- 662	- 674
Petroleum refineries				- 292	- 296	- 314	- 281	- 516	- 662	- 674
<b>Petroleum products</b>										
Primary energy supply	115	325	497	453	457	488	539	425	337	306
Import	123	372	514	515	536	592	652	564	487	445
Export	- 0.8	- 47	- 17	- 77	- 54	- 74	- 106	- 130	- 144	- 94
Transformation sector	- 16	- 55	- 28	194	285	314	295	430	512	559
Power generation	- 16	- 55	- 28	- 49	- 8.7	- 10	- 1.2	- 6.4	- 18	- 7.7
Petroleum refineries				242	293	324	296	436	530	566
Final energy consumption	97	277	484	581	693	758	811	826	811	769
Industry	19	63	105	75	77	71	90	92	93	64
Transport	58	157	289	422	471	521	544	565	591	517
Residential	3.7	13	30	36	63	61	75	50	43	78
Commerce & public services	1.1	30	40	28	10	10	26	25	20	14
Others	6.1	14	20	20	72	94	76	95	64	95
<b>Gas</b>										
Primary energy supply	0.1	47	195	340	344	377	346	348	375	327
Production	0.1	47	248	340	344	377	346	348	375	327
Import										
Export			- 54							
Transformation sector	- 0.1	- 46	- 190	- 319	- 282	- 318	- 275	- 288	- 296	- 247
Power generation	- 0.1	- 46	- 190	- 319	- 282	- 318	- 275	- 288	- 296	- 247
Final energy consumption		0.8	4.2	21	45	21	30	18	32	33
Industry		0.8	4.2	21	44	20	28	15	30	32
Transport					0.1	0.8	2.8	3.2	1.4	0.9
Residential										
Commerce & public services										
Others										
<b>Electricity</b>										
Power generation	31	96	192	342	583	645	701	782	853	874
Thermal	12	43	129	242	380	414	390	479	594	573
Hydro	19	52	63	99	202	230	309	299	238	262
Nuclear										
Others				0.3	0.7	1.2	2.0	3.6	21	39
Final energy consumption	22	81	166	312	503	562	622	676	741	763
Industry	10	33	78	164	259	289	332	357	387	394
Transport	0.2	0.9								
Residential	8.5	37	70	119	170	187	195	210	233	248
Commerce & public services	1.9	8.2	16	26	65	74	80	89	97	94
Others	1.4	1.5	2.1	3.4	8.4	13	16	20	24	27



## Major economic indicators of Viet Nam

	1990	2000	2005	2010	2015	2016	2017	2018	2019	2020
Population (millions) <sup>11</sup>	67.99	79.91	83.83	87.97	92.68	93.64	94.60	95.55	96.46	97.34
Gross domestic product <sup>13</sup>										
Real term, billion USD (constant 2015)	45	94	131	177	239	255	273	293	314	323
GDP, billion USD (PPP, constant 2017)	140	292	407	553	746	796	851	912	978	1 006
Nominal, billion USD (current)	6	31	58	147	239	257	281	309	330	343
GDP per capita <sup>13</sup>										
Real term (constant 2015 USD)	663	1 170	1 557	2 016	2 582	2 726	2 886	3 063	3 251	3 316
GDP, PPP (constant 2017 USD)	2 066	3 649	4 856	6 285	8 049	8 499	8 996	9 549	10 134	10 338
Nominal (current USD)	95	390	687	1 673	2 582	2 746	2 974	3 231	3 425	3 526
Nominal GDP & its components (billions of current VND) <sup>11</sup>										
Gross domestic product	41 955	441 646	914 001	2 739 800	5 191 300	5 639 400	6 293 900	6 977 300	7 615 600	7 966 100
Households and NPISHs final consumption expenditure	35 559	293 507	598 567	1 436 289	2 849 540	3 086 298	3 405 750	3 745 063	4 115 186	N.A.
General government final consumption expenditure	5 177	28 346	49 952	129 313	265 545	293 106	325 804	358 592	390 051	N.A.
Gross fixed capital formation	N.A.	122 101	285 841	704 401	1 033 780	1 066 160	1 190 474	1 321 906	1 462 994	N.A.
Stock change	N.A.	8 670	22 702	65 810	126 667	130 579	140 220	148 644	157 662	N.A.
Exports of goods and services	15 120	238 142	582 214	1 553 687	3 764 320	4 215 636	5 085 742	5 865 550	6 447 619	N.A.
Imports of goods and services	18 996	253 927	612 521	1 730 902	3 731 151	4 100 294	4 945 460	5 679 497	6 254 976	N.A.
Real GDP & its components (billions of 2010 VND) <sup>11</sup>										
Gross Domestic Product	696 188	1 445 063	2 017 108	2 739 800	3 696 396	3 943 684	4 217 376	4 521 027	4 844 281	4 986 703
Households and NPISHs final consumption expenditure	N.A.	732 706	1 022 157	1 436 289	1 913 547	2 053 236	2 204 149	2 364 170	2 538 173	N.A.
General government final consumption expenditure	N.A.	59 998	84 251	129 313	182 270	196 013	210 410	223 624	236 594	N.A.
Gross fixed capital formation	N.A.	243 269	412 327	704 401	832 235	914 777	1 008 084	1 095 283	1 186 192	N.A.
Stock change	N.A.	15 311	31 434	65 810	87 574	94 346	99 933	103 812	107 752	N.A.
Exports of goods and services	73 737	462 350	1 061 162	1 553 687	2 937 635	3 344 890	3 904 663	4 461 684	4 761 143	N.A.
Imports of goods and services	91 438	455 760	1 049 910	1 730 902	3 073 334	3 543 103	4 163 134	4 696 315	5 088 430	N.A.
Sectoral shares of Real GDP (%) <sup>11</sup>										
Agriculture, Fishery and Forestry	26.8	19.6	17.0	14.5	12.5	11.9	11.4	11.1	10.5	11.3
Industry	19.6	27.6	30.0	25.3	26.6	26.8	27.1	27.5	27.9	36.6
Services, etc.	32.9	31.6	31.7	29.1	29.8	29.9	30.0	30.0	30.0	43.0
Industrial Production Index (2010=100)	N.A.	N.A.	N.A.	100.0	109.8	107.4	111.3	110.1	109.1	103.3
External trade (billions of current USD) <sup>11</sup>										
Exports, f.o.b.	2.4	14.5	32.4	72.2	162.1	176.6	215.0	243.7	264.3	282.6
Imports, c.i.f.	2.8	15.6	36.8	84.8	165.6	174.8	212.9	236.9	253.4	262.7
Balance of payments (billions of current USD) <sup>11</sup>										
Trade balance	N.A.	0.4	-2.4	-5.1	7.4	11.0	10.8	16.5	21.5	30.7
Current account	N.A.	1.1	-0.6	-4.3	-2.0	0.6	-1.6	5.9	13.1	15.1
Overall balance	N.A.	0.8	2.5	1.9	-1.1	11.4	18.4	14.4	32.5	23.5
Foreign exchange rate (VND/USD) <sup>11</sup>	6 538	14 168	15 859	18 613	21 698	21 935	22 370	22 602	23 050	23 208
PPP conversion factor, GDP (VND/USD) <sup>11</sup>	N.A.	3 985	4 376	6 544	7 789	7 716	7 808	7 891	7 967	8 124
Price Indices										
GDP Deflator (2010=100) <sup>13</sup>	6.0	30.6	45.3	100.0	140.4	143.0	149.2	154.3	157.2	159.7
Producer Price Index (2010=100)	N.A.	N.A.	N.A.	100.0	132.4	131.5	102.8	103.1	101.3	99.4
Consumer Price Index (2010=100)	N.A.	48.1	59.9	100.0	144.6	148.4	153.6	159.1	163.5	168.8
Growth rate (%) <sup>13</sup>										
Real GDP	5.1	6.8	7.5	6.4	7.0	6.7	6.9	7.2	7.2	2.9
Population	2.2	1.1	0.9	1.0	1.1	1.0	1.0	1.0	1.0	0.9
Price										
Producer prices	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Consumer prices	N.A.	-1.7	8.3	9.2	0.6	2.7	3.5	3.5	2.8	3.2

Source <sup>11</sup>: *World Development Indicators*, World Bank

<sup>12</sup>: *International Financial Statistics*, International Monetary Fund

<sup>13</sup>: Calculated from <sup>11</sup> and <sup>12</sup> by ESTO

Note : N.A. means "not available"

: VND means Dong, USD means United States Dollar

: PPP means Purchasing Power Parity

: **Total population** is based on the *de facto* definition of population, which counts all residents regardless of legal status or citizenship.

The values shown are midyear estimates. (from WB)



**APEC**

**Region**



## Primary energy supply table in 2020

	Australia	Brunei Darussalam	Canada	Chile	China	Hong Kong, China	Indonesia	Japan	Korea
<b>Primary energy</b>									
Production	18 651	695	22 588	572	106 775	4.6	20 760	2 091	2 021
Import	2 216	94	3 768	1 222	34 239	1 313	2 105	16 526	13 235
Export	- 15 169	- 780	- 12 768	- 29	- 3 304	- 6.4	- 10 993	- 497	- 2 585
International marine bunkers	- 29		- 19	- 1.3	- 245	- 302		- 208	- 417
International aviation bunkers	- 162	- 3.4	- 14	- 17	- 99	- 142		- 117	- 126
Stock change	- 194	- 10	- 196	19	- 3 537	- 33	51	175	89
Total	5 485	194	11 877	1 589	138 509	535	10 139	16 109	11 560
<b>Coal, peat, and coal &amp; peat products</b>									
Production	12 335		1 005	8.0	79 809		13 878	18	20
Import	20	29	181	266	5 499	145	216	4 351	3 052
Export	- 10 505		- 795	- 3.7	- 180		- 9 972	- 94	
Stock change	- 220		- 6.6	12	- 1 230	- 7.1	78	- 0.2	37
Total	1 630	29	384	282	83 898	138	4 200	4 274	3 109
<b>Crude oil, NGL &amp; petroleum products</b>									
Production	866	244	11 030	17	8 155		1 534	18	41
Import	1 907	300	2 097	657	25 335	632	1 744	6 745	7 328
Export	- 759	- 474	- 9 168	- 25	- 2 854	- 6.4	- 304	- 403	- 2 585
International marine bunkers	- 29		- 19	- 1.3	- 245	- 302		- 208	- 417
International aviation bunkers	- 162	- 3.4	- 14	- 17	- 99	- 142		- 117	- 126
Stock change	26	- 12	- 74	5.7	- 2 307	- 26	- 21	159	1.2
Total	1 848	54	3 851	636	27 985	155	2 954	6 194	4 241
<b>Gas</b>									
Production	5 331	415	6 488	41	7 172		2 132	81	6.9
Import	162		831	159	5 210	192		3 761	2 012
Export	- 3 905	- 306	- 2 492		- 192		- 716		
Stock change	2.2	- 114	1.6					16	53
Total	1 588	111	4 713	202	12 190	192	1 417	3 858	2 072
<b>Nuclear power</b>									
Production			1 071		3 996			423	1 747
<b>Hydro power</b>									
Production	53		1 391	79	4 879		82	284	14
<b>Geothermal, solar, etc</b>									
Production	67	36	1 602	427	2 765	4.6	3 133	1 268	192

## Primary energy supply table in 2019

	Australia	Brunei Darussalam	Canada	Chile	China	Hong Kong, China	Indonesia	Japan	Korea
<b>Primary energy</b>									
Production	18 651	695	22 588	572	106 775	4.6	20 760	2 091	2 021
Import	2 216	94	3 768	1 222	34 239	1 313	2 105	16 526	13 235
Export	- 14 944	- 581	- 13 533	- 23	- 3 627	- 12	- 12 277	- 845	- 2 903
International marine bunkers	- 32		- 23	- 4.1	- 202	- 410		- 188	- 348
International aviation bunkers	- 211	- 4.8	- 36	- 32	- 206	- 280		- 306	- 236
Stock change	- 266	- 7.3	128	- 3.0	- 2 801	- 17	167	23	- 43
Total	5 413	195	12 892	1 732	134 178	599	10 755	17 301	11 726
<b>Coal &amp; coal products</b>									
Production	12 596		1 163	24	78 453		15 169	18	21
Import	17	8.1	231	314	5 360	265	182	4 714	3 352
Export	- 10 629		- 890	- 1.5	- 337		- 11 189	- 46	
Stock change	- 240		- 6.5	7.8	- 1 956	- 6.4	23	0.9	- 22
Total	1 744	8.1	497	345	81 521	258	4 184	4 687	3 351
<b>Crude oil, NGL &amp; petroleum products</b>									
Production	719	268	11 583	22	7 997		1 638	18	34
Import	2 017	85	2 517	739	23 894	876	1 917	7 977	7 865
Export	- 629	- 295	- 9 673	- 22	- 3 078	- 12	- 247	- 799	- 2 903
International marine bunkers	- 32		- 23	- 4.1	- 202	- 410		- 188	- 348
International aviation bunkers	- 211	- 4.8	- 36	- 32	- 206	- 280		- 306	- 236
Stock change	- 26	- 7.1	83	- 11	- 845	- 11	170	25	- 40
Total	1 837	47	4 451	692	27 560	163	3 478	6 726	4 372
<b>Gas</b>									
Production	4 938	427	6 647	54	6 564		2 420	88	9.0
Import	182		916	169	4 967	128		3 767	2 018
Export	- 3 686	- 286	- 2 693		- 134		- 791		
Stock change	- 0.2	53	- 1.9					- 2.8	19
Total	1 434	140	4 923	220	11 397	128	1 628	3 852	2 046
<b>Nuclear power</b>									
Production			1 104		3 800			696	1 592
<b>Hydro power</b>									
Production	56		1 374	81	4 696		70	288	10
<b>Geothermal, solar, etc</b>									
Production	342		717	392	5 265	4.6	1 464	983	355

Note: Gas = Natural gas/ LNG &amp; town gas

Primary energy supply table in 2020 (Continued)

Petajoules

Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	The Philippines	Russia	Singapore	Chinese Taipei	Thailand	United States	Viet Nam	Total
4 173	6 250	642	581	1 083	1 338	64 056	27	466	3 232	96 706	2 420	355 130
2 331	4 259	366	114	463	1 532	973	6 897	4 814	3 266	22 578	1 874	124 185
-2 065	-2 917	-72	-499	-342	-235	-28 906	-3 202	-491	-457	-23 244	-317	-108 877
-23	-6.6	-7.4		-10	-4.2	-285	-1 815	-48		-654		-4 074
	-81	-22		-11	-24	-201	-87	-74	-68	-663		-1 913
90	-77	-6.8	3.9	7.3	19	258	-67	-64	-124	-403	-131	-4 131
3 879	7 407	824	209	961	2 430	31 729	1 186	4 244	5 305	85 324	4 012	343 505
79	184	70		3.3	286	9 726			139	10 788	890	129 236
931	178	25		8.9	652	610	18	1 487	630	111	1 285	19 693
	-0.1	-33		-0.6	-166	-5 617		-3.3	-1.9	-1 720	-21	-29 113
30	7.2	3.8		10	-46	77		-35	-119	102	-76	-1 383
1 039	369	66		21	726	4 796	18	1 449	648	9 280	2 078	118 434
1 205	4 099	49	33	232	19	21 719		0.1	690	30 208	394	80 552
822	1 864	287	107	296	722	62	5 896	2 176	1 930	16 968	948	78 823
-888	-2 895	-39	-60	-121	-69	-15 027	-3 202	-487	-445	-16 124	-290	-56 227
-23	-6.6	-7.4		-10	-4.2	-285	-1 815	-48		-639		-4 058
	-81	-22		-11	-24	-201	-87	-74	-68	-663		-1 913
53	-91	-10	3.9	-1.0	63	2.7	-67	-32	-6.7	-348	-55	-2 738
1 169	2 889	257	84	385	707	6 270	725	1 536	2 100	29 401	997	94 440
2 322	1 138	163	474	487	138	24 843		3.2	906	32 984	327	85 454
358	2 212					309	415	803	540	2 471		19 433
-1 159			-438	-220		-8 216				-5 203		-22 847
	6.9	-0.5		-1.3		175		1.8		-147		-6.5
1 521	3 357	162	35	266	138	17 111	415	808	1 445	30 105	327	82 034
	89					2 368		343		8 980		19 016
98	97	87	3.2	110	26	765		11	17	1 034	262	9 292
468	643	273	70	251	869	4 635	27	108	1 481	12 713	546	31 580

Primary energy supply table in 2019 (Continued)

Petajoules

Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	The Philippines	Russia	Singapore	Chinese Taipei	Thailand	United States	Viet Nam	Total
4 173	6 250	642	581	1 083	1 338	64 056	27	466	3 232	96 706	2 420	355 130
2 331	4 259	366	114	463	1 532	973	6 897	4 814	3 266	22 578	1 874	124 185
-2 311	-2 843	-95	-494	-412	-284	-31 526	-3 670	-745	-430	-23 423	-338	-115 317
-17	-33	-14		-49	-2.3	-452	-1 752	-52		-959		-4 537
	-177	-54			-68	-245	-376	-120	-217	-1 072		-3 640
-38	177	14	0.8	51	34	-456	168	-26	-81	-1 089	-54	-4 120
4 137	7 633	859	202	1 137	2 550	32 349	1 293	4 338	5 769	92 741	3 902	351 700
91	207	76		5.0	304	10 579			147	14 482	937	134 272
822	271	26		14	612	601	19	1 586	567	145	1 027	20 132
-0.1	-0.1	-42		-18	-221	-5 756		-0.6	-1.7	-2 335	-27	-31 494
-28	16	3.0		29	37	-200		-32	-106	-781	-63	-3 326
885	494	63		29	732	5 224	19	1 554	606	11 510	1 874	119 585
1 339	4 109	56	28	263	22	23 600		0.1	804	31 940	486	84 926
1 174	2 257	337	114	431	915	52	6 450	2 479	2 043	19 487	825	84 452
-1 016	-2 832	-53	-49	-168	-64	-16 756	-3 670	-744	-418	-16 271	-303	-60 001
-17	-33	-14		-49	-2.3	-452	-1 752	-52		-950		-4 529
	-177	-54			-68	-245	-376	-120	-217	-1 072		-3 640
-7.7	152	10	0.8	20	-5.3	58	168	18	15	160	8.6	-65
1 473	3 477	283	94	497	798	6 257	820	1 581	2 226	33 294	1 017	101 143
2 573	1 148	167	463	543	152	26 439		5.0	1 096	33 492	375	87 599
334	1 717					314	425	749	562	2 655		18 901
-1 263	-0.4		-445	-224		-8 941				-4 590		-23 053
	9.1	0.6				-310	-0.2	-12	8.1	-478		-715
1 644	2 874	168	18	319	152	17 502	425	742	1 666	31 079	375	82 732
	122					2 294		353		9 200		19 160
94	85	92	3.2	113	29	701		20	23	1 043	238	9 018
75	578	251	86	159	832	443	27	88	1 162	6 550	383	20 154

Final energy consumption table in 2020

	Australia	Brunei Darussalam	Canada	Chile	China	Hong Kong, China	Indonesia	Japan	Korea
<b>Total</b>	<b>3 152</b>	<b>42</b>	<b>7 065</b>	<b>1 087</b>	<b>73 851</b>	<b>268</b>	<b>6 288</b>	<b>9 770</b>	<b>5 238</b>
Coal, peat, and coal & peat products	119		105	6.1	18 152		1 619	754	287
Crude oil, NGL & petroleum products	1 572	24	2 658	589	16 084	82	2 795	4 349	1 828
Gas	509	0.8	1 977	64	9 231	25	554	1 113	884
Electricity	780	17	1 883	268	23 643	159	952	3 267	1 846
Others	172		442	160	6 740	2.4	367	288	393
<b>Industry</b>	<b>959</b>	<b>10</b>	<b>1 879</b>	<b>431</b>	<b>40 357</b>	<b>12</b>	<b>2 879</b>	<b>3 146</b>	<b>1 910</b>
Coal, peat, and coal & peat products	118		105	6.1	14 967		1 619	748	277
Crude oil, NGL & petroleum products	181	5.1	230	151	1 879	3.2	122	689	172
Gas	279		638	36	5 283	1.2	548	424	290
Electricity	280	5.0	661	161	14 650	7.3	318	1 145	945
Others	101		246	76	3 578	0.1	272	140	225
<b>Transport</b>	<b>1 321</b>	<b>17</b>	<b>2 365</b>	<b>357</b>	<b>12 875</b>	<b>78</b>	<b>1 853</b>	<b>2 615</b>	<b>1 433</b>
Coal, peat, and coal & peat products					54				
Crude oil, NGL & petroleum products	1 274	17	2 119	352	10 446	75	1 851	2 534	1 349
Gas	20		139	0.3	1 292		0.4	1.1	45
Electricity	23		27	4.6	630	2.9	1.1	62	12
Others	4.4		80		453	0.2		18	27
<b>Agriculture</b>	<b>83</b>		<b>276</b>	<b>16</b>	<b>1 986</b>	<b>0.1</b>		<b>140</b>	<b>70</b>
Coal, peat, and coal & peat products			0.6		514				
Crude oil, NGL & petroleum products	74		199	6.8	759			129	19
Gas	1.1		39	0.7	4.8				
Electricity	7.3		38	8.6	512	0.1		10	50
Others				0.4	196			0.4	1.4
<b>Residential &amp; commercial</b>	<b>788</b>	<b>13</b>	<b>2 542</b>	<b>269</b>	<b>13 740</b>	<b>178</b>	<b>1 506</b>	<b>3 791</b>	<b>1 732</b>
Coal, peat, and coal & peat products	0.8				2 036			5.2	10
Crude oil, NGL & petroleum products	42	0.8	110	69	1 502	3.5	772	943	206
Gas	209	0.8	1 161	26	2 444	24	5.7	688	548
Electricity	470	12	1 156	93	5 505	149	633	2 047	829
Others	66		114	80	2 253	2.1	95	107	140

Final energy consumption table in 2019

	Australia	Brunei Darussalam	Canada	Chile	China	Hong Kong, China	Indonesia	Japan	Korea
<b>Total</b>	<b>3 261</b>	<b>40</b>	<b>7 648</b>	<b>1 150</b>	<b>72 502</b>	<b>281</b>	<b>6 826</b>	<b>10 293</b>	<b>5 402</b>
Coal, peat, and coal & peat products	127		104	10	18 006		1 758	833	307
Crude oil, NGL & petroleum products	1 672	25	3 066	640	16 863	91	3 163	4 616	1 899
Gas	503	0.8	2 082	67	8 469	25	538	1 205	912
Electricity	780	14	1 916	267	22 675	162	943	3 338	1 886
Others	179		481	166	6 488	2.6	424	301	398
<b>Industry</b>	<b>969</b>	<b>8.1</b>	<b>2 001</b>	<b>442</b>	<b>38 923</b>	<b>12</b>	<b>3 065</b>	<b>3 364</b>	<b>1 968</b>
Coal, peat, and coal & peat products	127		103	10	14 666		1 758	828	295
Crude oil, NGL & petroleum products	176	5.6	266	150	2 053	3.2	150	711	153
Gas	278		676	39	4 784	1.3	528	454	311
Electricity	281	2.6	681	160	14 091	7.4	339	1 217	981
Others	108		276	84	3 329		289	155	229
<b>Transport</b>	<b>1 416</b>	<b>19</b>	<b>2 727</b>	<b>403</b>	<b>13 521</b>	<b>86</b>	<b>2 217</b>	<b>2 894</b>	<b>1 535</b>
Coal, peat, and coal & peat products					64				
Crude oil, NGL & petroleum products	1 369	19	2 459	398	11 062	83	2 215	2 813	1 447
Gas	19		153	0.6	1 226		1.1	1.4	50
Electricity	23		28	4.7	631	3.2	1.1	62	11
Others	5.4		88		539	0.3		17	27
<b>Agriculture</b>	<b>93</b>		<b>294</b>	<b>18</b>	<b>1 945</b>	<b>0.1</b>		<b>137</b>	<b>67</b>
Coal, peat, and coal & peat products			0.9		513				
Crude oil, NGL & petroleum products	84		215	9.0	748			127	15
Gas	1.2		40	0.8	4.6				0.2
Electricity	7.8		38	8.0	481	0.1		10	51
Others				0.3	199			0.4	1.9
<b>Residential &amp; commercial</b>	<b>782</b>	<b>13</b>	<b>2 624</b>	<b>273</b>	<b>13 320</b>	<b>182</b>	<b>1 484</b>	<b>3 825</b>	<b>1 736</b>
Coal, peat, and coal & peat products	0.6				2 173			5.2	12
Crude oil, NGL & petroleum products	42	0.8	126	73	1 507	5.0	738	915	199
Gas	205	0.8	1 213	27	2 241	24	8.3	750	552
Electricity	468	12	1 170	93	5 217	151	603	2 047	832
Others	66		114	79	2 182	2.3	135	108	141

Note: Gas = Natural gas/ LNG &amp; town gas

Final energy consumption table in 2020 (Continued)

Petajoules

Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	The Philippines	Russia	Singapore	Chinese Taipei	Thailand	United States	Viet Nam	Total
1 899	3 843	508	141	740	1 229	17 524	445	1 956	3 249	55 206	2 597	196 097
56	97	24		16	63	1 290	7.6	192	337	556	831	24 511
950	2 069	244	55	356	549	3 702	186	609	1 469	22 773	769	63 713
311	459	67		76	1.6	5 375	69	156	190	14 524	33	35 618
548	932	140	14	164	300	2 699	183	907	708	13 600	763	53 772
33	287	33	71	128	316	4 458		92	545	3 753	201	18 483
741	1 287	161	38	207	259	6 002	265	993	1 204	11 090	1 424	75 255
56	97	22		16	63	1 191	7.6	192	337	542	815	21 177
110	201	18	24	40	64	404	120	68	170	761	64	5 476
308	425	52		41	1.6	1 518	62	112	143	5 697	32	15 890
267	511	48	10	92	92	1 199	75	534	271	2 557	394	24 223
	54	21	3.7	18	38	1 689		88	283	1 534	120	8 488
781	1 517	193	25	296	413	3 786	73	460	1 251	22 980	521	55 210
												54
744	1 512	193	25	263	395	2 512	62	455	1 102	20 495	517	48 292
2.7	1.6			21		995	0.1		47	1 040	0.9	3 606
1.4	3.7	0.4		0.3	0.3	279	10	5.3	0.8	37		1 101
33		0.2		12	18				100	1 408	2.7	2 156
13	123	30	4.6	7.0	11	355		11	98	844	113	4 181
		1.8				2.1						518
11	79	17	4.3	2.0	2.8	108		2.8	96	453	95	2 059
		1.3				57		0.1		62		166
2.5	44	10	0.3	4.8	8.2	70		8.1	1.5	265	17	1 056
		0.5		0.2		117				64		380
340	852	119	74	227	539	7 355	106	474	697	19 456	529	55 328
		0.9				97				14	16	2 180
63	277	13	2.5	49	81	652	3.2	70	100	1 065	93	6 117
0.6	32	14		14		2 805	6.5	44		7 725		15 748
277	310	79	3.9	66	198	1 150	96	356	435	9 905	342	24 114
	233	12	67	98	260	2 651		4.0	161	748	78	7 169

Final energy consumption table in 2019 (Continued)

Petajoules

Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	The Philippines	Russia	Singapore	Chinese Taipei	Thailand	United States	Viet Nam	Total
2 213	4 706	550	142	858	1 472	18 373	443	1 939	3 372	59 892	2 467	203 830
71	103	28		24	93	1 290	7.6	195	296	645	625	24 522
1 215	2 771	271	57	431	732	3 913	187	616	1 439	26 362	811	70 841
328	503	73		102	2.6	5 822	62	150	235	15 021	32	36 132
571	1 008	143	15	179	314	2 720	186	886	729	13 788	741	53 261
27	322	37	69	123	330	4 628		91	673	4 076	258	19 074
792	1 404	176	39	251	306	6 108	261	993	1 299	11 221	1 269	74 870
71	103	24		24	93	1 186	7.6	195	296	629	606	21 021
116	224	19	25	45	58	427	121	78	196	706	93	5 775
323	464	58		56	2.6	1 630	55	108	163	5 572	30	15 531
283	552	51	11	103	101	1 226	77	524	284	2 696	387	24 055
	61	24	3.7	23	51	1 639		87	360	1 618	153	8 489
1 047	2 136	226	26	378	534	4 151	74	457	1 187	26 682	596	62 311
												64
1 014	2 130	226	26	333	512	2 675	63	451	1 016	24 078	591	54 977
4.1	1.9			31		1 182	0.1		72	981	1.4	3 725
1.7	4.0	0.4		0.3	0.4	294	11	5.4	0.8	50		1 131
27		0.3		14	21				99	1 573	3.3	2 414
11	176	26	4.5	6.8	11	346		10	124	897	79	4 247
		2.1				2.1						518
8.9	129	13	4.3	2.0	1.8	113		2.6	123	496	64	2 155
		1.2		0.1		52		0.1		62		162
2.4	47	9.0	0.3	4.6	8.8	70		7.4	1.7	271	15	1 033
		0.4		0.2		109				69		380
335	921	117	72	220	612	7 738	107	459	761	20 402	514	56 498
		1.1				102				16	19	2 329
49	288	11	2.4	49	153	670	3.2	67	105	1 082	64	6 149
1.0	37	14		15		2 957	6.4	42	0.1	8 406		16 500
285	336	80	4.3	70	202	1 129	97	346	442	10 082	330	23 996
	261	12	66	86	258	2 879		3.9	214	816	102	7 524

**Demand & supply table of coal, peat, and coal & peat products in 2020**

	Australia	Brunei Darussalam	Canada	Chile	China	Hong Kong, China	Indonesia	Japan	Korea
Production	12 335		1 005	8.0	79 809		13 878	18	20
Import	20	29	181	266	5 499	145	216	4 351	3 052
Export	- 10 505		- 795	-3.7	- 180		- 9 972	- 94	
Stock change	- 220		-6.6	12	- 1 230	-7.1	78	-0.2	37
<b>Primary energy supply</b>	<b>1 630</b>	<b>29</b>	<b>384</b>	<b>282</b>	<b>83 898</b>	<b>138</b>	<b>4 200</b>	<b>4 274</b>	<b>3 109</b>
Main activity producers	- 1 515		- 353	- 295	- 50 207	- 138	- 2 581	- 2 449	- 1 789
Autoproducers		- 29	-1.6					- 256	- 225
Coal transformation	- 52		- 32	-4.8	- 8 349		-0.2	- 632	- 479
Refining									
Gas processing					- 821				
Other transformation									
<b>Final energy consumption</b>	<b>119</b>		<b>105</b>	<b>6.1</b>	<b>18 152</b>		<b>1 619</b>	<b>754</b>	<b>287</b>

**Demand & supply table of crude oil, NGL and petroleum products in 2020**

	Australia	Brunei Darussalam	Canada	Chile	China	Hong Kong, China	Indonesia	Japan	Korea
Production	866	244	11 030	17	8 155		1 534	18	41
Import	1 907	300	2 097	657	25 335	632	1 744	6 745	7 328
Export	- 759	- 474	- 9 168	- 25	- 2 854	-6.4	- 304	- 403	- 2 585
Stock change	26	- 12	- 74	5.7	- 2 307	- 26	- 21	159	1.2
<b>Primary energy supply</b>	<b>1 848</b>	<b>54</b>	<b>3 851</b>	<b>636</b>	<b>27 985</b>	<b>155</b>	<b>2 954</b>	<b>6 194</b>	<b>4 241</b>
Main activity producers	-8.3	-0.5	- 48	- 11	- 378	-3.6	- 83	- 219	- 24
Autoproducers	- 35		- 18	-5.2				- 143	- 57
Coal transformation					-1.4			- 14	
Refining	-9.3	- 62	- 164	4.3	4 785		76	119	- 162
Gas processing		0.8			- 12	- 11	99	- 73	-4.9
Other transformation			132				- 96	-6.7	35
<b>Final energy consumption</b>	<b>1 572</b>	<b>24</b>	<b>2 658</b>	<b>589</b>	<b>16 084</b>	<b>82</b>	<b>2 795</b>	<b>4 349</b>	<b>1 828</b>

**Demand & supply table of gas in 2020**

	Australia	Brunei Darussalam	Canada	Chile	China	Hong Kong, China	Indonesia	Japan	Korea
Production	5 331	415	6 488	41	7 172		2 132	81	6.9
Import	162		831	159	5 210	192		3 761	2 012
Export	- 3 905	- 306	- 2 492		- 192		- 716		
Stock change		2.2	- 114	1.6				16	53
<b>Primary energy supply</b>	<b>1 588</b>	<b>111</b>	<b>4 713</b>	<b>202</b>	<b>12 190</b>	<b>192</b>	<b>1 417</b>	<b>3 858</b>	<b>2 072</b>
Main activity producers	- 327	- 49	- 427	- 101	- 2 172	- 178	- 408	- 2 595	- 1 093
Autoproducers	- 202	-6.4	- 266	-4.4				- 143	- 59
Coal transformation									
Refining									
Gas processing		11			103		- 84	70	4.2
Other transformation			- 130						
<b>Final energy consumption</b>	<b>509</b>	<b>0.8</b>	<b>1 977</b>	<b>64</b>	<b>9 231</b>	<b>25</b>	<b>554</b>	<b>1 113</b>	<b>884</b>

Note: Gas = Natural gas/ LNG

## Demand &amp; supply table of coal, peat, and coal &amp; peat products in 2020 (continued)

Petajoules

Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	The Philippines	Russia	Singapore	Chinese Taipei	Thailand	United States	Viet Nam	Total
79	184	70		3.3	286	9 726			139	10 788	890	129 236
931	178	25		8.9	652	610	18	1 487	630	111	1 285	19 693
	-0.1	- 33		-0.6	- 166	- 5 617		-3.3	-1.9	- 1 720	- 21	- 29 113
30	7.2	3.8		10	- 46	77		- 35	- 119	102	- 76	- 1 383
1 039	369	66		21	726	4 796	18	1 449	648	9 280	2 078	118 434
- 982	- 184	- 16		-0.2	- 658	- 1 851	- 10	- 777	- 311	- 8 289	- 1 230	- 73 635
	-2.6	-7.2		-5.1		- 753		- 339		- 52		- 1 672
	- 35	-5.3				- 847		- 113		- 221		- 10 770
										- 74		- 896
56	97	24		16	63	1 290	7.6	192	337	556	831	24 511

## Demand &amp; supply table of crude oil, NGL and petroleum products in 2020 (continued)

Petajoules

Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	The Philippines	Russia	Singapore	Chinese Taipei	Thailand	United States	Viet Nam	Total
1 205	4 099	49	33	232	19	21 719		0.1	690	30 208	394	80 552
822	1 864	287	107	296	722	62	5 896	2 176	1 930	16 968	948	78 823
- 888	- 2 895	- 39	- 60	- 121	- 69	- 15 027	- 3 202	- 487	- 445	- 16 124	- 290	- 56 227
53	- 91	- 10	3.9	-1.0	63	2.7	- 67	- 32	-6.7	- 348	- 55	- 2 738
1 169	2 889	257	84	385	707	6 270	725	1 536	2 100	29 401	997	94 440
-6.9	- 382	-1.3	-4.8	-3.9	- 21	- 27	-0.3	- 32	-2.2	- 292	-7.7	- 1 556
-2.4	- 54		- 21	-1.5		- 210	-3.6	- 13		- 66		- 629
												- 15
- 96	- 62	0.2	-2.9	15	-8.3	- 358	48	80	- 198	- 903	- 108	2 995
21	- 29		1.9									-8.4
	0.5								17	196		279
950	2 069	244	55	356	549	3 702	186	609	1 469	22 773	769	63 713

## Demand &amp; supply table of gas in 2020 (continued)

Petajoules

Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	The Philippines	Russia	Singapore	Chinese Taipei	Thailand	United States	Viet Nam	Total
2 322	1 138	163	474	487	138	24 843		3.2	906	32 984	327	85 454
358	2 212					309	415	803	540	2 471		19 433
- 1 159			- 438	- 220		- 8 216				- 5 203		- 22 847
	6.9	-0.5		-1.3		175		1.8		- 147		-6.5
1 521	3 357	162	35	266	138	17 111	415	808	1 445	30 105	327	82 034
- 412	- 977	- 47	-4.6	- 140	- 129	- 5 454	- 311	- 635	- 882	- 11 426	- 247	- 28 016
- 59	- 318	-1.6	-5.5	- 10		- 2 684	- 49	-2.9		- 678		- 4 489
- 64	10		- 13					61		49		147
						- 450		-1.9		- 169		- 752
311	459	67		76	1.6	5 375	69	156	190	14 524	33	35 618



**Demand & supply table of coal, peat, and coal & peat products in 2019**

	Australia	Brunei Darussalam	Canada	Chile	China	Hong Kong, China	Indonesia	Japan	Korea
Production	12 596		1 163	24	78 453		15 169	18	21
Import	17	8.1	231	314	5 360	265	182	4 714	3 352
Export	- 10 629		- 890	-1.5	- 337		- 11 189	- 46	
Stock change	- 240		-6.5	7.8	- 1 956	-6.4	23	0.9	- 22
<b>Primary energy supply</b>	<b>1 744</b>	<b>8.1</b>	<b>497</b>	<b>345</b>	<b>81 521</b>	<b>258</b>	<b>4 184</b>	<b>4 687</b>	<b>3 351</b>
Main activity producers	- 1 609		- 431	- 320	-49 145	- 258	- 2 426	- 2 541	- 2 142
Autoproducers		-8.1	-1.7					- 280	- 234
Coal transformation	- 51		- 30	-5.0	- 8 431			- 777	- 499
Refining									
Gas processing					- 558				
Other transformation									
<b>Final energy consumption</b>	<b>127</b>		<b>107</b>	<b>12</b>	<b>23 815</b>		<b>345</b>	<b>873</b>	<b>339</b>

**Demand & supply table of crude oil, NGL and petroleum products in 2019**

	Australia	Brunei Darussalam	Canada	Chile	China	Hong Kong, China	Indonesia	Japan	Korea
Production	719	268	11 583	22	7 997		1 638	18	34
Import	2 017	85	2 517	739	23 894	876	1 917	7 977	7 865
Export	- 629	- 295	- 9 673	- 22	- 3 078	- 12	- 247	- 799	- 2 903
Stock change	- 26	-7.1	83	- 11	- 845	- 11	170	25	- 40
<b>Primary energy supply</b>	<b>1 837</b>	<b>47</b>	<b>4 451</b>	<b>692</b>	<b>27 560</b>	<b>163</b>	<b>3 478</b>	<b>6 726</b>	<b>4 372</b>
Main activity producers	-9.2	-0.6	- 51	- 12	- 294	-4.3	- 143	- 228	- 39
Autoproducers	- 39		- 18	-4.0				- 153	- 64
Coal transformation								- 16	
Refining	-8.4	- 29	- 208	- 26	3 853		14	74	- 146
Gas processing		4.3			-1.9	- 12	106	- 73	-4.2
Other transformation			132				- 112	-7.1	44
<b>Final energy consumption</b>	<b>1 656</b>	<b>26</b>	<b>3 108</b>	<b>623</b>	<b>17 815</b>	<b>95</b>	<b>3 124</b>	<b>4 855</b>	<b>1 898</b>

**Demand & supply table of gas in 2019**

	Australia	Brunei Darussalam	Canada	Chile	China	Hong Kong, China	Indonesia	Japan	Korea
Production	4 938	427	6 647	54	6 564		2 420	88	9.0
Import	182		916	169	4 967	128		3 767	2 018
Export	- 3 686	- 286	- 2 693		- 134		- 791		
Stock change		-0.2	53	-1.9				-2.8	19
<b>Primary energy supply</b>	<b>1 434</b>	<b>140</b>	<b>4 923</b>	<b>220</b>	<b>11 397</b>	<b>128</b>	<b>1 628</b>	<b>3 852</b>	<b>2 046</b>
Main activity producers	- 315	- 47	- 408	- 106	- 1 996	- 115	- 592	- 2 524	- 983
Autoproducers	- 196	-6.1	- 254	-4.4				- 143	- 61
Coal transformation									
Refining									
Gas processing		- 31			163		- 51	70	3.6
Other transformation			- 131						
<b>Final energy consumption</b>	<b>480</b>	<b>0.8</b>	<b>1 869</b>	<b>62</b>	<b>5 534</b>	<b>26</b>	<b>649</b>	<b>1 225</b>	<b>928</b>

Note: Gas = Natural gas/ LNG

## Demand &amp; supply table of coal, peat, and coal &amp; peat products in 2019 (Continued)

Petajoules

Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	The Philippines	Russia	Singapore	Chinese Taipei	Thailand	United States	Viet Nam	Total
91	207	76		5.0	304	10 579			147	14 482	937	134 272
822	271	26		14	612	601	19	1 586	567	145	1 027	20 132
-0.1	-0.1	- 42		- 18	- 221	- 5 756		-0.6	-1.7	- 2 335	- 27	- 31 494
- 28	16	3.0		29	37	- 200		- 32	- 106	- 781	- 63	- 3 326
885	494	63		29	732	5 224	19	1 554	606	11 510	1 874	119 585
- 810	- 302	- 15		-0.4	- 633	- 1 977	- 12	- 776	- 306	- 10 291	- 1 227	- 75 224
	-2.4	-8.1		-5.4		- 789		- 352		- 59		- 1 740
	- 26	-5.0				- 842		- 125		- 292		- 11 083
										- 72		- 630
75	139	24		22	126	1 120	7.5	252	222	712	350	28 669

## Demand &amp; supply table of crude oil, NGL and petroleum products in 2019 (Continued)

Petajoules

Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	The Philippines	Russia	Singapore	Chinese Taipei	Thailand	United States	Viet Nam	Total
1 339	4 109	56	28	263	22	23 600		0.1	804	31 940	486	84 926
1 174	2 257	337	114	431	915	52	6 450	2 479	2 043	19 487	825	84 452
- 1 016	- 2 832	- 53	- 49	- 168	- 64	- 16 756	- 3 670	- 744	- 418	- 16 271	- 303	- 60 001
-7.7	152	10	0.8	20	-5.3	58	168	18	15	160	8.6	- 65
1 473	3 477	283	94	497	798	6 257	820	1 581	2 226	33 294	1 017	101 143
- 22	- 382		-6.5	-4.8	- 33	- 31	-0.4	- 45	-2.5	- 259	- 18	- 1 586
-3.0	- 56		- 24	-7.9		- 240	-3.9	- 13		- 65		- 692
												- 16
- 92	- 76	6.8	-8.5	32	- 15	- 191	- 41	38	- 242	- 895	- 133	1 909
19	- 30		1.5									8.5
	1.2								20	203		282
1 071	2 857	264	56	433	684	3 820	264	684	1 460	26 224	821	71 838

## Demand &amp; supply table of gas in 2019 (Continued)

Petajoules

Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	The Philippines	Russia	Singapore	Chinese Taipei	Thailand	United States	Viet Nam	Total
2 573	1 148	167	463	543	152	26 439		5.0	1 096	33 492	375	87 599
334	1 717					314	425	749	562	2 655		18 901
- 1 263	-0.4		- 445	- 224		- 8 941				- 4 590		- 23 053
	9.1	0.6				- 310	-0.2	- 12	8.1	- 478		- 715
1 644	2 874	168	18	319	152	17 502	425	742	1 666	31 079	375	82 732
- 547	- 1 064	- 43	-0.6	- 167	- 143	- 5 801	- 318	- 579	- 1 116	- 11 130	- 296	- 28 289
- 56	- 287	-1.7	-5.5	- 11		- 2 808	- 46	-3.0		- 683		- 4 565
-3.2	8.5		-0.1					56		47		264
						- 477		-3.6		- 196		- 807
293	617	69		90	2.2	5 260	54	150	244	13 493	30	31 077

Power generation table in 2020

	Australia	Brunei Darussalam	Canada	Chile	China	Hong Kong, China	Indonesia	Japan	Korea
<b>Total</b>	<b>264 793</b>	<b>5 735</b>	<b>651 785</b>	<b>83 994</b>	<b>7 779 060</b>	<b>35 172</b>	<b>290 403</b>	<b>1 009 037</b>	<b>575 324</b>
Thermal	205 248	5 734	116 057	43 094	5 245 292	35 004	238 910	737 655	376 825
Coal	145 522	1 226	38 654	26 071	5 012 954	12 129	180 869	310 960	206 456
Oil	4 509	40	5 028	1 731	11 245	150	6 764	31 885	7 294
Gas	55 216	4 469	72 375	15 292	221 093	22 725	51 276	394 809	163 074
Hydro	14 764		386 506	21 873	1 355 209	1.5	22 874	78 807	3 877
Nuclear			98 195		366 255			38 752	160 184
Geothermal				216			15 563	2 992	
Others	44 781	1.0	51 027	18 811	812 304	166	13 056	150 832	34 438
<b>Main activity producers</b>	<b>225 031</b>	<b>4 074</b>	<b>590 652</b>	<b>77 369</b>	<b>7 779 060</b>	<b>35 029</b>	<b>290 403</b>	<b>849 122</b>	<b>544 709</b>
Thermal	181 610	4 073	92 351	41 668	5 245 292	35 004	238 910	677 834	349 333
Coal	145 522		38 445	26 071	5 012 954	12 129	180 869	283 749	190 258
Oil	835	40	3 480	1 139	11 245	150	6 764	18 687	2 245
Gas	35 252	4 033	50 426	14 458	221 093	22 725	51 276	375 398	156 829
Hydro	14 764		358 728	21 816	1 355 209		22 874	75 808	3 877
Nuclear			98 195		366 255			38 752	160 184
Geothermal				216			15 563	2 263	
Others	28 657	1.0	41 378	13 669	812 304	24	13 056	54 465	31 315
<b>Autoproducers</b>	<b>39 762</b>	<b>1 662</b>	<b>61 133</b>	<b>6 625</b>		<b>143</b>		<b>159 915</b>	<b>30 615</b>
Thermal	23 638	1 662	23 706	1 426				59 821	27 492
Coal		1 226	209					27 212	16 198
Oil	3 674		1 548	592				13 198	5 049
Gas	19 964	436	21 949	834				19 411	6 245
Hydro			27 778	58			1.5	2 999	
Nuclear									
Geothermal								729	
Others	16 124		9 649	5 141			142	96 366	3 122

Power generation table in 2019

	Australia	Brunei Darussalam	Canada	Chile	China	Hong Kong, China	Indonesia	Japan	Korea
<b>Total</b>	<b>263 660</b>	<b>4 934</b>	<b>652 564</b>	<b>84 558</b>	<b>7 503 428</b>	<b>36 888</b>	<b>293 766</b>	<b>1 032 967</b>	<b>578 034</b>
Thermal	212 002	4 933	121 195	45 170	5 139 691	36 775	247 394	748 245	401 468
Coal	154 304	484	47 873	28 134	4 925 164	22 655	174 493	326 992	246 071
Oil	4 923	49	5 265	1 170	10 763	167	10 582	34 820	9 302
Gas	52 775	4 400	68 057	15 865	203 764	13 953	62 319	386 432	146 095
Hydro	15 602		381 732	22 477	1 304 438	3.1	19 478	79 993	2 791
Nuclear			101 197		348 355			63 779	145 910
Geothermal				202			14 101	2 847	
Others	36 056	1.1	48 440	16 709	710 944	110	12 793	138 103	27 865
<b>Main activity producers</b>	<b>226 679</b>	<b>4 022</b>	<b>591 375</b>	<b>78 033</b>	<b>7 503 428</b>	<b>36 777</b>	<b>293 766</b>	<b>870 639</b>	<b>546 194</b>
Thermal	189 228	4 021	99 362	43 934	5 139 691	36 775	247 394	682 239	372 531
Coal	154 304		47 652	28 134	4 925 164	22 655	174 493	296 127	229 183
Oil	819	49	3 693	760	10 763	167	10 582	19 971	3 737
Gas	34 105	3 973	48 017	15 039	203 764	13 953	62 319	366 141	139 612
Hydro	15 602		352 856	22 447	1 304 438		19 478	76 665	2 791
Nuclear			101 197		348 355			63 779	145 910
Geothermal				202			14 101	2 235	
Others	21 849	1.1	37 960	11 450	710 944	1.8	12 793	45 721	24 962
<b>Autoproducers</b>	<b>36 981</b>	<b>912</b>	<b>61 189</b>	<b>6 525</b>		<b>111</b>		<b>162 328</b>	<b>31 840</b>
Thermal	22 774	912	21 833	1 236				66 006	28 937
Coal		484	221					30 865	16 888
Oil	4 104		1 572	410				14 849	5 565
Gas	18 670	428	20 040	826				20 292	6 483
Hydro			28 876	30			3.1	3 328	
Nuclear									
Geothermal								612	
Others	14 207		10 480	5 259			108	92 382	2 903

Power generation table in 2020 (Continued)

GWh

Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	The Philippines	Russia	Singapore	Chinese Taipei	Thailand	United States	Viet Nam	Total
174 094	314 549	44 543	4 332	52 803	101 756	1 087 866	53 080	280 127	185 602	4 238 970	242 831	17 475 856
143 510	243 251	8 683	2 998	19 168	80 147	651 885	51 809	230 228	150 585	2 573 324	159 042	11 318 447
88 988	17 366	2 310		133	58 176	175 644	532	125 920	33 708	855 770	123 177	7 416 566
846	46 074	19	2 179	930	2 474	7 489	172	4 421	3 981	37 411	1 063	175 703
53 676	179 811	6 354	818	18 105	19 497	468 752	51 105	99 887	112 896	1 680 143	34 802	3 726 178
27 299	26 817	24 266	877	30 510	7 192	212 586		6 178	4 681	287 139	72 892	2 584 350
	8 131					215 745		31 440		823 150		1 741 851
	5 320	8 304	400		10 757	421		1.9	1.1	18 831		62 807
3 285	31 030	3 291	57	3 125	3 660	7 228	1 271	12 279	30 335	536 526	10 897	1 768 401
167 833	247 812	42 981	1 501	50 673	101 756	1 016 768	48 419	237 646	185 602	4 038 892	242 831	16 778 161
137 906	191 853	7 981	820	17 865	80 147	585 645	47 178	196 719	150 585	2 441 745	159 042	10 883 559
88 988	17 147	1 686		13	58 176	161 704	532	94 052	33 708	846 112	123 177	7 315 291
670	39 835	19	401	431	2 474	1 610	21	3 181	3 981	30 044	1 063	128 314
48 247	134 871	6 277	418	17 420	19 497	422 332	46 625	99 487	112 896	1 565 589	34 802	3 439 954
27 295	26 009	24 262	677	29 895	7 192	211 302		6 178	4 681	285 908	72 892	2 549 366
	8 131					215 745		31 440		823 150		1 741 851
	5 224	8 245			10 757	421			1.1	18 303		60 993
2 633	16 595	2 493	3.7	2 913	3 660	3 263	1 241	3 309	30 335	469 786	10 897	1 542 001
6 262	66 737	1 562	2 831	2 130		71 098	4 661	42 481		200 078		697 695
5 605	51 398	701	2 178	1 303		66 240	4 631	33 509		131 579		434 888
	219	624		120		13 941		31 869		9 658		101 275
176	6 239		1 778	498		5 879	151	1 240		7 367		47 389
5 429	44 940	77	400	685		46 420	4 480	400		114 554		286 224
4.1	808	3.9	200	615		1 285		0.3		1 232		34 984
	96	59	400					1.9		528		1 814
652	14 435	798	54	212		3 573	30	8 970		66 740		226 009

Power generation table in 2019 (Continued)

GWh

Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	The Philippines	Russia	Singapore	Chinese Taipei	Thailand	United States	Viet Nam	Total
178 492	344 176	45 147	4 520	57 327	106 041	1 119 699	54 142	274 191	197 267	4 370 988	236 886	17 439 677
149 701	264 503	8 067	3 158	22 695	83 997	710 651	52 787	223 407	158 934	2 745 143	164 877	11 544 793
76 411	25 976	2 266		154	57 890	187 815	650	126 412	35 875	1 069 527	120 157	7 629 305
1 010	45 349	4.2	2 546	696	3 752	8 558	194	5 850	1 167	35 790	2 213	184 172
72 280	193 178	5 797	612	21 844	22 354	514 278	51 943	91 145	121 891	1 639 825	42 507	3 731 316
26 196	23 716	25 596	886	31 462	8 025	194 717		8 753	6 446	289 799	66 117	2 508 228
	11 190					208 984		32 323		843 330		1 755 068
	5 351	8 261	422		10 691	433		0.8	1.2	18 364		60 672
2 595	39 416	3 223	54	3 171	3 328	4 914	1 355	9 707	31 886	474 353	5 892	1 570 915
171 672	284 294	43 511	1 434	54 406	106 041	1 043 175	49 645	232 096	197 267	4 171 491	236 886	16 742 832
143 493	220 287	7 284	752	20 908	83 997	638 162	48 311	188 790	158 934	2 610 862	164 877	11 101 832
76 411	25 770	1 566		29	57 890	172 973	650	93 533	35 875	1 058 906	120 157	7 521 473
776	39 773	4.2	540	310	3 752	1 840	32	4 564	1 167	28 534	2 213	134 045
66 306	154 744	5 714	212	20 569	22 354	463 349	47 630	90 692	121 891	1 523 423	42 507	3 446 315
26 196	22 927	25 592	677	30 769	8 025	193 541		8 753	6 446	288 560	66 117	2 471 880
	11 190					208 984		32 323		843 330		1 755 068
	5 248	8 202			10 691	433			1.2	17 845		58 957
1 983	24 642	2 433	4.7	2 730	3 328	1 610	1 334	2 230	31 886	410 894	5 892	1 354 650
6 820	59 882	1 636	3 086	2 921		76 525	4 497	42 095		199 497		696 845
6 208	44 216	783	2 406	1 787		72 489	4 476	34 618		134 281		442 962
	206	701		125		14 842		32 879		10 622		107 833
234	5 576		2 006	387		6 719	163	1 286		7 257		50 127
5 974	38 434	83	400	1 275		50 929	4 313	453		116 402		285 002
	789	3.9	209	693		1 177				1 239		36 348
	103	59	422					0.8		519		1 716
612	14 774	789	49	441		2 859	21	7 476		63 459		215 820

## Fuel consumption table for power generation in 2020

	Australia	Brunei Darussalam	Canada	Chile	China	Hong Kong, China	Indonesia	Japan	Korea
<b>Main activity producers</b>	- 1 180	- 21	- 1 184	- 264	- 29 229	- 194	- 2 903	- 3 326	- 2 662
Coal	- 1 494		- 353	- 295	- 41 276	- 138	- 2 581	- 2 340	- 1 712
Coke					- 71			- 0.6	
Coke oven gas					- 328			- 32	- 18
Blast furnace gas					- 1 105			- 71	- 53
Crude oil & NGL					- 6.9			- 11	
LPG					- 0.1	- 1.5		- 2.6	
Refinery gas					- 23			- 47	
Naphtha									
Diesel oil	- 5.9	- 0.5	- 8.1	- 6.8	- 12	- 2.1	- 76	- 18	- 3.0
Fuel oil	- 0.9		- 15		- 12		- 6.7	- 77	- 18
Natural gas	- 301	- 29	- 350	- 101	- 1 538	- 178	- 408	- 2 582	- 749
Others	621	8.1	- 458	139	15 144	126	169	1 857	- 108
<b>Autoproducers</b>	- 88	- 29	- 242	- 4.5	1 278	- 0.3		- 344	- 14
Coal		- 29						- 162	- 1.2
Coke								- 0.2	
Coke oven gas			- 1.6					- 16	
Blast furnace gas								- 73	- 3.4
Crude oil & NGL									
LPG								- 6.4	
Refinery gas			- 10					- 48	
Naphtha								- 0.1	- 6.5
Diesel oil	- 33		- 4.4	- 3.3				- 10	
Fuel oil	- 0.7		- 1.7	- 1.9				- 41	
Natural gas	- 103	- 6.4	- 266	- 4.4				- 143	- 2.8
Others	50	6.0	42	5.1	1 278	- 0.3		156	- 0.5

## Fuel consumption table for power generation in 2019

	Australia	Brunei Darussalam	Canada	Chile	China	Hong Kong, China	Indonesia	Japan	Korea
<b>Main activity producers</b>	- 1 238	- 19	- 1 238	- 287	- 28 780	- 245	- 2 894	- 3 535	- 2 741
Coal	- 1 588		- 431	- 320	- 40 988	- 258	- 2 426	- 2 404	- 2 060
Coke					- 7.2			- 0.5	
Coke oven gas					- 314			- 39	- 21
Blast furnace gas					- 924			- 92	- 55
Crude oil & NGL					- 6.7			- 7.3	
LPG					- 0.1	- 2.1		- 8.5	
Refinery gas					- 24			- 24	
Naphtha									
Diesel oil	- 6.5	- 0.6	- 8.2	- 4.6	- 10	- 2.2	- 116	- 20	- 7.7
Fuel oil	- 1.1		- 18		- 5.8		- 26	- 84	- 27
Natural gas	- 290	- 27	- 322	- 106	- 1 460	- 115	- 592	- 2 512	- 657
Others	648	8.3	- 458	144	14 960	132	267	1 657	86
<b>Autoproducers</b>	- 89	- 11	- 244	- 3.9	1 116	- 1.9		- 355	- 15
Coal		- 8.1						- 168	- 1.3
Coke								- 0.2	
Coke oven gas			- 1.7					- 15	
Blast furnace gas								- 92	- 3.5
Crude oil & NGL									
LPG								- 7.0	
Refinery gas			- 9.3					- 54	
Naphtha									- 6.6
Diesel oil	- 36		- 5.5	- 2.2				- 7.9	
Fuel oil	- 1.2		- 1.4	- 1.8				- 44	
Natural gas	- 100	- 6.1	- 254	- 4.4				- 143	- 2.7
Others	48	3.3	28	4.4	1 116	- 1.9		176	- 0.8

## Fuel consumption table for power generation in 2020 (Continued)

Petajoules

Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	The Philippines	Russia	Singapore	Chinese Taipei	Thailand	United States	Viet Nam	Total
- 910	- 997	- 192	-6.8	- 106	- 884	- 1 580	- 175	- 943	- 937	- 17 177	- 951	- 65 819
- 982	- 184	- 16		-0.2	- 658		- 10	- 760	- 278	- 8 161	- 1 230	- 62 468
										-0.7		- 72
												- 379
												- 1 229
												- 18
												-4.2
												- 71
-6.4	- 30	-1.3	-1.0	-0.9	- 12			-2.2	-1.1	- 81	-3.4	- 272
-0.5	- 352		-3.9	-3.0	-9.1		-0.2	- 29	-1.1	- 103	-4.3	- 637
- 412	- 977	- 37	-4.6	- 140	- 129		- 311	- 635	- 882	- 10 365	- 247	- 20 376
490	547	- 138	2.6	39	- 76	- 1 580	147	484	225	1 533	535	19 706
- 47	- 180	-0.3	- 32	- 18		- 230	- 36	-6.9		- 102		- 97
				-5.1				- 14		-2.0		- 214
												-0.2
	-0.1											- 18
	-2.5											- 79
						-1.4						-1.4
												-6.4
								-1.4		-7.5		- 67
												-6.6
-2.4	-2.5		-4.3	-0.9		- 39				-0.7		- 101
	-1.8		- 17	-0.6				-2.2	-0.1			- 67
- 59	- 184		-5.5	- 10		- 255	- 49			- 73		- 1 161
15	10	-0.3	-5.1	-0.8		65	16	7.1		- 19		1 624

## Fuel consumption table for power generation in 2019 (Continued)

Petajoules

Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	The Philippines	Russia	Singapore	Chinese Taipei	Thailand	United States	Viet Nam	Total
- 868	- 1 082	- 188	-4.8	- 125	- 866	- 1 530	- 180	- 934	- 1 148	- 18 387	- 984	- 67 275
- 810	- 302	- 15		-0.4	- 633		- 12	- 760	- 279	- 10 134	- 1 227	- 64 648
												-7.7
												- 374
												- 1 071
												- 14
												- 11
												- 49
- 22	- 30		-1.3	-1.0	- 17			-2.7	-1.5	- 74	-6.8	- 332
-0.8	- 352		-5.2	-3.7	- 16		-0.3	- 42	-1.0	- 85	- 11	- 680
- 547	- 1 064	- 33	-0.6	- 167	- 143		- 318	- 579	- 1 116	- 10 059	- 296	- 20 403
512	666	- 140	2.3	47	- 58	- 1 530	150	450	249	1 966	557	20 315
- 41	- 189	-0.3	- 35	- 23		- 254	- 35	-7.4		- 103		- 289
				-5.4				- 15		-2.0		- 200
												-0.2
	-0.3											- 17
	-2.1											- 98
						-1.6						-1.6
												-7.0
								-1.6		-7.4		- 73
												-6.7
-3.0	-2.5		-4.8	-5.5		- 44				-0.7		- 113
	-1.8		- 19	-2.5				-2.3	-0.1			- 74
- 56	- 183		-5.5	- 11		- 280	- 46			- 72		- 1 164
18	1.3	-0.3	-5.0	1.6		72	16	7.7		- 20		1 464

## Power generation capacity - total

MW

	1990	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Australia	38 451	60 798	62 916	65 009	66 232	68 060	74 413	73 300	71 656	74 291	79 312	86 711
Brunei Darussalam	307	888	894	915	917	920	923	923	993	1 007	1 261	1 142
Canada	104 140	132 491	133 178	133 266	133 779	136 511	144 062	146 552	147 373	148 857	149 686	150 165
Chile	5 099	16 231	17 549	18 153	18 515	20 513	21 436	24 530	26 207	27 534	27 644	30 001
China	137 891	966 420	1 062 430	1 146 750	1 257 680	1 378 880	1 525 270	1 650 506	1 777 094	1 900 130	2 010 060	2 200 580
Hong Kong, China	8 342	12 624	10 645	10 645	10 645	10 645	10 645	10 713	10 557	10 353	10 386	10 834
Indonesia	9 135	33 980	39 916	45 246	50 988	53 064	54 688	58 416	62 233	64 955	69 679	72 794
Japan	194 728	288 331	293 576	296 730	304 290	317 124	323 945	335 711	339 698	344 867	344 154	351 347
Korea	38 401	84 750	84 650	87 826	91 478	99 817	103 191	111 203	122 950	127 476	132 104	139 145
Malaysia	5 582	24 817	25 599	29 748	32 806	31 595	33 509	33 045	34 183	33 991	36 179	34 998
Mexico	27 377	61 389	62 049	64 089	64 107	66 255	67 504	72 574	74 431	89 351	93 111	95 045
New Zealand	7 176	9 817	10 186	10 085	9 926	10 129	9 797	9 635	9 656	9 704	9 737	9 737
Papua New Guinea	490	984	1 100	1 106	1 138	932	1 291	1 299	1 204	1 226	1 225	1 217
Peru	4 143	3 318	3 329	3 441	3 495	20 539	10 860	13 902	5 769	6 066	6 112	15 187
The Philippines	3 208	16 358	16 162	17 025	17 325	17 944	18 765	21 423	22 728	23 815	25 542	26 297
Russia	213 400	222 925	222 974	232 675	239 413	258 692	256 528	264 828	266 519	271 600	275 786	N.A.
Singapore	3 667	9 931	9 917	10 818	12 434	12 909	13 395	13 445	13 616	13 652	12 564	12 021
Chinese Taipei	17 809	48 897	48 807	48 433	48 877	48 491	48 747	49 960	49 753	52 680	55 915	57 738
Thailand	8 725	31 486	31 772	33 178	34 973	34 973	34 973	48 276	49 048	50 947	52 299	54 790
United States	731 678	998 966	1 004 432	1 000 666	993 560	996 545	980 461	977 914	973 419	1 078 129	1 127 771	1 147 892
Viet Nam	2 537	21 542	23 527	26 475	30 662	30 662	38 537	41 463	45 452	48 689	55 206	61 676

## Power generation capacity - thermal power

MW

	1990	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Australia	30 130	47 725	48 390	48 553	48 315	48 753	54 052	52 566	49 770	50 241	50 075	52 826
Brunei Darussalam	307	888	894	914	915	919	922	922	992	1 006	1 260	1 140
Canada	31 201	34 787	33 410	31 662	31 522	31 246	32 675	33 172	32 895	32 916	32 916	37 323
Chile	2 421	4 330	4 844	4 967	5 783	6 835	7 132	8 561	9 122	9 308	13 134	17 564
China	101 845	709 670	768 340	819 680	870 090	932 320	1 005 540	1 060 944	1 104 946	1 144 080	1 189 570	1 245 170
Hong Kong, China	8 342	12 624	10 643	10 643	10 643	10 643	10 643	10 668	10 510	10 300	10 243	10 701
Indonesia	7 040	21 450	26 202	30 228	34 562	36 198	35 779	38 991	42 406	43 928	47 711	50 059
Japan	124 984	185 187	188 327	191 942	194 337	196 664	194 388	198 300	197 092	196 656	193 414	191 758
Korea	11 065	60 389	58 303	59 086	61 795	69 122	70 108	75 559	86 377	89 014	88 174	89 555
Malaysia	4 185	22 488	22 515	24 994	24 973	23 520	23 518	25 732	26 849	26 325	26 325	26 325
Mexico	17 539	31 874	32 521	33 157	33 059	33 293	33 865	36 528	37 440	42 183	43 091	43 091
New Zealand	2 296	2 929	3 138	2 988	2 738	2 661	2 389	2 221	3 076	3 076	3 076	1 540
Papua New Guinea	335	183	287	292	295	316	886	893	898	920	919	911
Peru	1 744	4 682	4 716	5 498	6 390	6 503	6 875	8 220	9 004	9 154	9 062	9 072
The Philippines	3 661	10 921	10 772	11 504	11 784	12 047	12 435	14 465	15 649	16 588	18 132	18 633
Russia	149 700	151 114	151 114	157 845	163 926	182 465	179 148	185 913	186 581	190 215	191 948	N.A.
Singapore	3 667	9 672	9 656	10 553	12 165	12 627	13 092	13 092	13 243	13 236	12 035	11 435
Chinese Taipei	10 041	37 939	37 647	37 078	37 300	36 665	36 654	37 471	36 730	39 310	41 645	41 782
Thailand	6 451	25 109	25 145	28 859	30 119	30 119	30 119	38 685	38 685	39 365	39 733	N.A.
United States	536 667	793 551	798 833	793 352	787 297	789 624	773 980	769 999	764 805	767 009	758 592	750 146
Viet Nam	1 362	13 338	13 338	13 778	15 931	29 619	21 815	23 525	26 019	28 015	29 337	31 102

## Power generation capacity - hydro power

MW

	1990	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Australia	8 321	8 271	8 271	8 271	8 271	8 271	8 271	8 271	8 271	8 523	8 523	8 523
Brunei Darussalam												
Canada	59 381	75 078	75 573	75 537	75 511	75 474	79 405	80 304	80 831	81 570	81 570	81 570
Chile	2 678	5 467	5 946	5 992	6 094	6 445	6 499	6 671	6 656	6 627	6 341	6 818
China	36 046	216 060	232 980	249 470	280 440	304 860	319 540	332 070	343 590	352 590	358 040	370 160
Hong Kong, China										0.5	0.5	0.5
Indonesia	2 095	3 734	3 944	4 146	5 166	5 229	5 307	5 651	5 688	5 772	5 977	6 141
Japan	37 830	47 736	48 419	48 934	48 932	49 597	50 035	50 117	50 014	50 037	50 033	50 033
Korea	2 340	5 525	6 418	6 447	6 454	6 467	6 471	6 485	6 489	6 490	6 508	6 506
Malaysia	1 397	2 107	2 856	3 317	3 916	4 773	5 716	6 130	6 128	6 168	6 190	6 188
Mexico	7 838	11 597	11 571	11 626	11 633	12 464	12 223	12 580	12 628	12 643	13 301	13 301
New Zealand	4 619	5 324	5 399	5 413	5 427	5 426	5 426	5 426	5 426	5 426	5 434	5 434
Papua New Guinea	155	155	168	168	196	196	196	196	196	196	196	198
Peru	2 400	3 317	3 329	3 360	3 414	3 527	4 020	5 086	5 246	5 363	5 397	5 417
The Philippines	2 153	3 400	3 491	3 521	3 521	3 543	3 600	3 618	3 627	3 701	3 760	3 779
Russia	43 400	47 430	47 479	49 445	50 104	50 845	50 998	51 016	51 241	51 333	51 839	N.A.
Singapore												
Chinese Taipei	2 562	4 579	4 643	4 683	4 683	4 683	4 691	4 691	4 691	4 694	4 695	4 695
Thailand	2 274	3 488	3 500	3 507	3 523	3 523	3 523	3 519	3 586	3 602	4 103	N.A.
United States	92 360	101 023	100 944	101 106	101 589	102 162	102 239	102 790	102 703	102 800	102 650	103 039
Viet Nam	1 176	8 180	10 165	12 643	14 661	15 394	16 587	17 824	19 288	20 170	20 632	20 859

## Power generation capacity - nuclear power

MW

	1990	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Australia												
Brunei Darussalam												
Canada	13 538	12 665	12 665	13 370	13 370	14 033	14 033	14 033	14 033	14 033	14 033	14 033
Chile												
China		10 820	12 570	12 570	14 660	20 080	27 170	33 642	35 817	44 660	48 740	49 890
Hong Kong, China												
Indonesia												
Japan	31 645	48 960	48 960	46 148	44 264	44 264	42 048	41 482	39 132	38 042	33 083	33 083
Korea	7 616	17 716	18 716	20 716	20 716	20 716	21 716	23 116	22 529	21 850	23 250	23 250
Malaysia												
Mexico	675	1 365	1 365	1 400	1 400	1 400	1 510	1 608	1 608	1 634	1 721	1 721
New Zealand												
Papua New Guinea												
Peru												
The Philippines												
Russia	20 300	24 300	24 300	25 304	25 304	25 304	26 304	27 189	27 952	29 140	30 339	N.A.
Singapore												
Chinese Taipei	5 144	5 144	5 144	5 144	5 144	5 144	5 144	5 144	5 144	4 508	3 872	3 872
Thailand												
United States	99 643	101 167	101 419	101 885	99 240	98 569	98 672	99 565	99 629	99 433	98 119	96 501
Viet Nam												



## Power generation capacity - Solar

MW

	1990	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Australia		1 088	2 470	3 796	4 565	5 284	5 943	6 686	7 352	8 623	12 967	17 983
Brunei Darussalam				1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.4
Canada		249	628	766	1 210	1 843	2 519	2 665	2 932	3 095	3 327	3 651
Chile				2.0	5.0				3.0	5.6	7.7	28
China		260	2 120	3 410	15 890	24 860	42 180	76 310	129 420	174 330	204 180	253 430
Hong Kong, China			1.0	1.0	1.0	1.0	1.0	3.9	5.4	6.1	96	76
Indonesia			1.2	4.1	9.0	9.0	37	47	54	60	146	169
Japan		3 618	4 914	6 632	13 599	23 339	34 150	42 040	49 500	56 162	63 192	71 868
Korea	1.0	650	730	1 024	1 555	2 620	3 845	4 882	6 435	8 921	12 717	17 323
Malaysia					75	161	226	290	358	797	1 050	1 380
Mexico	5.0	29	39	60	82	116	173	362	642	2 563	3 646	5 149
New Zealand		3.0	3.0	4.0	9.0	22	38	53	71	92	117	144
Papua New Guinea												
Peru				80	80	96	96	96	283	330	343	289
The Philippines		1.0	1.0	1.0	1.0	23	165	765	885	896	921	1 019
Russia		N.A.	N.A.	N.A.	N.A.	227	446	536	574	678	1 418	N.A.
Singapore		2.9	4.6	7.7	12	25	46	97	116	160	272	329
Chinese Taipei		35	130	231	410	636	884	1 245	1 768	2 738	4 150	5 817
Thailand		26	79	372	792	792	792	2 149	2 664	2 928	2 949	N.A.
United States	N.A.	2 909	5 172	8 137	11 759	15 984	21 684	32 958	24 854	49 812	59 068	74 046
Viet Nam										86	4 685	8 852

## Power generation capacity - Wind

	1990	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Australia		1 864	2 127	2 561	3 221	3 797	4 181	4 324	4 812	5 442	6 279	7 376
Brunei Darussalam												
Canada	1.0	3 967	5 265	6 201	7 801	9 694	11 214	11 973	12 250	12 816	13 413	13 588
Chile		163	184	202	301	736	910	1 039	1 302	1 692	1 999	2 293
China		29 580	46 230	61 420	76 520	96 570	130 750	147 470	163 250	184 270	209 150	281 530
Hong Kong, China			0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.9	0.9	0.8
Indonesia			0.9	0.9	0.6	1.1	1.5	1.5	1.5	144	154	154
Japan		2 294	2 419	2 562	2 646	2 753	2 808	3 247	3 483	3 498	3 951	4 119
Korea		382	425	464	576	612	847	1 067	1 215	1 420	1 494	1 645
Malaysia												
Mexico	3.0	519	601	1 815	2 122	2 569	3 271	4 051	4 180	5 887	6 073	6 504
New Zealand		539	622	622	622	681	688	689	689	689	689	689
Papua New Guinea												
Peru		0.7	0.7	0.7	0.7	143	241	240	240	372	372	409
The Philippines		33	33	33	33	283	427	427	427	427	427	443
Russia		10	10	10	10	101	101	96	98	161	161	N.A.
Singapore												
Chinese Taipei		476	523	571	614	637	647	682	692	704	845	854
Thailand		3.3	7.3	5.0	5.0	185	185	507	626	1 100	1 504	N.A.
United States	NA	39 134	45 676	59 075	59 974	64 232	72 573	81 287	87 598	94 517	103 670	118 478
Viet Nam						46	90	90	90	243	377	538

## Power generation capacity - Biomass

MW

	1990	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Australia		620	428	597	631	727	977	864	864	864	864	871
Brunei Darussalam												
Canada	914	5 725	5 617	5 710	3 682	4 201	4 196	4 385	4 412	4 407	4 407	4 407
Chile		526	548	832	1 267	787	830	1 194	1 619	1 817	1 530	1 915
China												
Hong Kong, China												
Indonesia		17	34	43	29	41	1 760	1 820	1 741	1 759	1 764	1 764
Japan		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	3 652	3 814	4 237	2 484	2 867
Korea		231	298	320	349	573	578	691	736	774	746	800
Malaysia		N.A.	N.A.	N.A.	767	729	974	742	752	552	411	413
Mexico	52	47	53	60	89	96	96	108	106	67	56	56
New Zealand		103	105	105	105	109	110	106	109	109	109	104
Papua New Guinea					1.5	1.5	1.5	1.5	2.0	2.0	2.0	0.8
Peru		N.A.	N.A.	N.A.	N.A.	39	39	137	N.A.	N.A.	N.A.	208
The Philippines		38	83	119	119	131	221	233	224	258	363	483
Russia		N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.
Singapore												
Chinese Taipei	62	77	77	77	77	77	77	77	77	77	71	71
Thailand								2 815	2 939	3 155	3 192	N.A.
United States	7 516	11 913	12 016	12 628	13 976	14 119	14 284	14 506	14 523	14 257	13 732	13 531
Viet Nam		24	24	54	70	24	45	24	55	175	175	325

## Power generation capacity - others

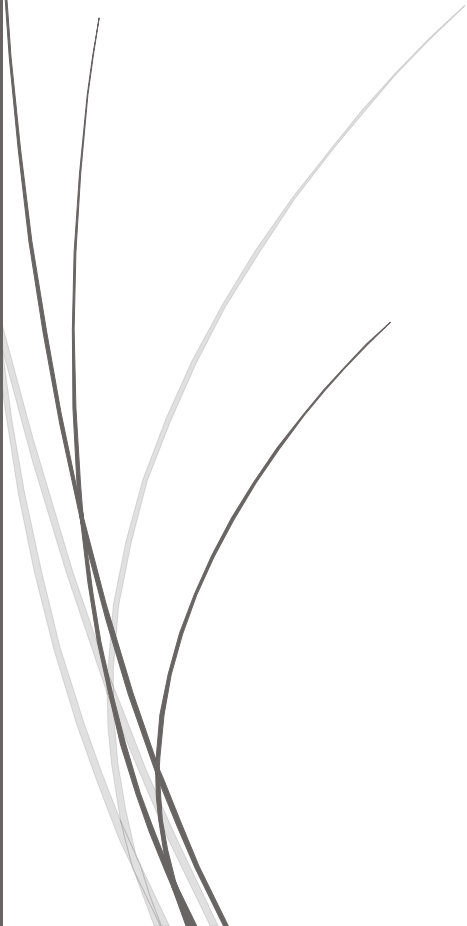
MW

	1990	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Australia		4.1	4.1	4.1	4.1	4.1	4.1	4.1	3.1	3.0	3.0	3.0
Brunei Darussalam												
Canada	20	20	20	20	20	20	20	20	20	20	20	
Chile		25			10	221	576	1 125	1 745	2 332	2 752	3 299
China		30	190	200	80	190	90	70	70	200	380	400
Hong Kong, China								41	41	45	45	55
Indonesia		8 779	9 733	10 823	11 222	11 586	11 802	11 907	12 343	13 293	13 928	14 503
Japan	270	537	537	512	512	508	517	526	476	473	481	487
Korea		38	58	89	384	419	434	474	506	603	725	866
Malaysia		N.A.	N.A.	N.A.	3 075	2 411	3 075	152	96	148	235	142
Mexico	700	965	887	824	823	813	906	926	985	4 614	4 849	4 849
New Zealand	261	988	988	1 014	1 086	1 212	1 236	1 231	1 231	1 255	1 255	1 289
Papua New Guinea		547	547	547	549	321	109	109	110	110	110	108
Peru		N.A.	N.A.	N.A.	N.A.	10 269		15	N.A.	N.A.	N.A.	13
The Philippines	1 055	1 966	1 783	1 848	1 868	1 918	1 917	1 916	1 916	1 944	1 939	1 939
Russia		81	81	81	79	78	78	78	74	74	81	N.A.
Singapore		257	257	257	257	257	257	257	257	257	257	257
Chinese Taipei		647	643	648	648	648	649	649	649	649	638	647
Thailand		2 859	3 041	435	534	354	354	3 416	3 488	3 952	4 009	N.A.
United States	3 008	3 225	3 236	4 323	5 434	6 190	5 570	5 560	6 282	5 559	5 672	5 684
Viet Nam												



4

# Appendices



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## A. Definition of products

### **Coal**

This section includes coal, i.e., solid fossil fuel consisting of carbonized vegetal matter, and coal products derived directly or indirectly from the various classes of coal by carbonization or pyrolysis processes, by the aggregation of finely divided coal or by chemical reactions with oxidizing agents, including water.

#### **Anthracite**

A high-rank, hard coal with a gross calorific value (moist, ash-free basis) greater than or equal to 24 MJ/kg and a Vitrinite mean random reflectance greater than or equal to 2.0 per cent.

#### **Coking coal**

A medium-rank hard coal with either a gross calorific value (moist, ash-free basis) not less than 24 MJ/kg and with a Vitrinite mean random reflectance less than 2%, or a gross calorific value (moist, ash-free basis) less than 24 MJ/kg provided that the Vitrinite mean random reflectance is equal to or greater than 0.6%.

#### **Bituminous coal**

A medium-rank hard coal with either a gross calorific value (moist, ash-free basis) not less than 24 MJ/kg and with a Vitrinite mean random reflectance less than 2%, or a gross calorific value (moist, ash-free basis) less than 24 MJ/kg provided that the Vitrinite mean random reflectance is equal to or greater than 0.6%.

#### **Lignite**

A brown coal with a gross calorific value (moist, ash-free basis) less than 20 MJ/kg.

### **Peat**

A solid formed from the partial decomposition of dead vegetation under conditions of high humidity and limited air access (initial stage of coalification). It is available in two forms for use as a fuel, sod peat and milled peat.

### **Patent fuel**

A composition fuel made by moulding hard coal fines into briquette shapes with the addition of a binding agent.

### **Coke**

Coke comprises coke oven coke and gas coke.

#### ***Coke oven coke***

The solid product obtained from carbonisation of coking coal at high temperature. Coke oven coke is low in moisture, and volatile matter and has the mechanical strength to support a blast furnace charge. It is used mainly in the iron and steel industry acting as heat source and chemical agent.

#### ***Gas coke***

A by-product from the carbonisation of bituminous coal for the manufacture of gas works gas. Gas coke is used mainly for heating purposes.

### **Coal tar**

The liquid by-product of the carbonisation of coal in coke ovens.

**BKB<sup>1</sup>/PB<sup>2</sup>**

BKB is a composition fuel made of brown coal produced by briquetting under high pressure with or without the addition of a binding agent.

PB is a fuel comprising small blocks of dried, highly compressed peat made without a binding agent.

**Gas works gas**

This group includes gases obtained from the carbonisation or gasification of carbonaceous material of fossil or biomass origins in gas works. The gases comprise:

- Gases obtained from carbonisation or gasification of coal, cokes, biomass, or waste; and
- Substitute natural gas (a methane-rich gas) made from synthesis gas.

**Coke oven gas**

It is gas produced from coke ovens during the manufacturing of coke oven coke.

**Blast furnace gas**

The by-product gas of blast furnace operation consisting mainly of nitrogen, carbon dioxide and carbon monoxide. The gas is recovered as it leaves the furnace. Its calorific value arises mainly from the carbon monoxide produced by the partial combustion of coke and other carbon-bearing products in the blast furnace. It is used to heat blast air and is also used as a fuel in the iron and steel industry. It may also be used by other nearby industrial plants. Note that where carbonised biomass (e.g., charcoal and animal meal) is used in blast furnaces, part of the carbon supply may be considered renewable.

---

1 BKB stands for Braunkohlenbriketts

**Oxygen steel furnace gas**

It is the by-product gas of the production of steel in a basic oxygen furnace. The gas is recovered as it leaves the surface.

**Oil****Crude oil**

A mineral oil of fossil origin extracted by conventional means from underground reservoirs and comprises either liquid or near-liquid hydrocarbons and associated impurities such as sulphur and metals.

It exists in the liquid phase under normal surface temperature and pressure, and usually flows to the surface under the pressure of the reservoir. This is termed conventional extraction. Crude oil includes condensate from condensate fields, and 'field' or 'lease' condensate extracted with the crude oil.

**Natural gas liquids (NGLs)**

A mixture of ethane, propane, butane (normal and iso), (iso) pentane and a few higher alkanes collectively referred to as pentanes plus.

NGLs are produced in association with oil or natural gas. They are removed in field facilities or gas separation plants before sale of the gas. All the components of NGL except ethane are either liquid at the surface or are liquefied for disposal.

**Refinery feedstocks**

Oils or gases from crude oil refining or the processing of hydrocarbons in the petrochemical industry which are destined for further processing in the refinery excluding blending. Typical feedstocks include naphtha,

2 PB stands for Peat briquettes

middle distillates, pyrolysis gasoline and heavy oils from vacuum distillation and petrochemical plants.

### **Additives and Oxygenates**

Compounds added to or blended with oil products to modify their properties (octane, cetane, cold properties, etc.). Examples of these products include:

- Oxygenates such as alcohols (methanol, ethanol).
- Ethers such as methyl tertiary butyl ether (MTBE), ethyl tertiary butyl (ETBE), and tertiary amyl methyl ether (TAME).
- Esters such as (e.g., rapeseed or dimethyl ester, etc.)
- Chemical compounds such as tetramethyl lead (TML), tetraethyllead (TEL) and detergents.

Some additives and oxygenates may be derived from biomass while others may be of hydrocarbon origin.

### **Biofuels**

Fuels derived directly or indirectly from biomass.

#### ***Biogasoline***

Liquid fuels derived from biomass and used in spark-ignition internal combustion engines.

#### ***Biodiesel***

Liquid biofuels derived from biomass and used in diesel engines.

#### ***Bio-jet kerosene***

Liquid biofuels derived from biomass and blended with or replacing jet kerosene.

#### ***Bioethanol***

Ethanol produced from biomass and/or biodegradable fraction of waste.

### ***Biomethanol***

Methanol produced from biomass and/or the biodegradable fraction of waste.

### ***Bio-oil***

A pyrolysis oil fuel produced from biomass.

### **Other hydrocarbons**

These are non-conventional oil and hydrogen. Non-conventional oils refer to oils obtained through non-conventional production techniques. Oils are extracted from reservoirs containing extra heavy oils or oil sands which need heating or treatment (e.g., emulsification) in situ before they can be brought to the surface for refining/processing. They also include oils extracted from oil sands, extra heavy oils, coal, and oil shale which are at, or can be brought to the surface without treatment and require processing after mining (ex situ processing). Non-conventional oils may also be produced from natural gas. Hydrogen, although not a hydrocarbon, is included unless it is a component of another gas.

### **Refinery gas (not liquefied)**

A mixture of non-condensable gases mainly consisting of hydrogen, methane, ethane, and olefins obtained during distillation of crude oil or treatment of oil products (e.g., cracking) in refineries or from nearby petrochemical plants. It is used mainly as a fuel within the refinery.

### **Ethane**

A naturally gaseous straight-chain hydrocarbon (C<sub>2</sub>H<sub>6</sub>). Ethane is obtained at gas separation plants or from the refining of crude oil. It is a valuable feedstock for petrochemical manufacture.

### **Liquefied petroleum gases (LPG)**

Refers to liquefied propane (C<sub>3</sub>H<sub>8</sub>) and butane (C<sub>4</sub>H<sub>10</sub>) or mixtures of both. Commercial grades

are usually mixtures of the gases with small amounts of propylene, butylene, isobutene, and isobutylene stored under pressure in containers.

### **Naphtha**

Refers to light or medium oils distilling between 30°C and 210°C which do not meet the specification for motor gasoline. The main uses for naphtha are as feedstock for high octane gasolines and the manufacture of olefins in the petrochemical industry.

### **Gasolines**

Complex mixtures of volatile hydrocarbons distilling between approximately 25°C and 220°C and consisting of compounds in the C<sub>4</sub> to C<sub>12</sub> range.

#### ***Motor gasoline***

Motor gasoline is a mixture of some aromatics (for example, benzene and toluene) and aliphatic hydrocarbons in the C<sub>5</sub> to C<sub>12</sub> range. The distillations range is 25°C to 220°C. Motor gasoline may also contain biogasoline products.

#### ***Aviation gasoline***

Aviation gasoline is gasoline prepared especially for aviation piston engines with additives which assure performance under flight conditions. Aviation gasolines are predominantly alkylates (obtained by combining C<sub>4</sub> and C<sub>5</sub> isoparaffins with C<sub>3</sub>, C<sub>4</sub> and C<sub>5</sub> olefins) with the possible addition of more aromatic components including toluene. The distillation range is 25°C to 170°C.

#### ***Gasoline-type jet fuel***

This includes all light hydrocarbon oils for use in aviation turbine power units, distilling between 100°C and 250°C. They are obtained by blending kerosene and gasoline or naphtha

in such a way that the aromatic content does not exceed 25% in volume and the vapor pressure is between 13.7 kilopascal (kPa) and 20.6 kPa.

### **Kerosene**

Comprise kerosene-type jet fuel and other kerosene. This is a mixture of hydrocarbons in the range C<sub>9</sub> to C<sub>16</sub> distilling over the temperature interval 145°C to 300°C, but not usually above 250°C, and with a flash point above 38°C.

#### ***Kerosene-type jet fuel***

This is a blend of kerosene suited to flight conditions with particular specifications, such as freezing point. The specifications are set down by a small number of standards committees from certain economies, most notably, ASTM (US), MOD (UK), GOST (Russia).

#### ***Other kerosene***

Kerosene used for heating, cooking, lighting, solvents, and internal combustion engines. Other names of this product are burning oil, vaporising oil, power kerosene and illuminating oil.

### **Gas/Diesel oil (Distillate fuel oil)**

Middle distillates, predominantly of carbon number range C<sub>11</sub> to C<sub>25</sub> and with a distillation range of 160°C to 420°C. This product comprises road diesel and heating or other gas oil.

### **Fuel oil**

This comprises residual fuel oil and heavy fuel oil which is usually a blended product based on the residues from various refinery, distillation, and cracking processes. Residual fuel oils A-5 have a distillation range of 350°C to 650°C and a kinematic viscosity in the range 6 to 55 centistokes (cSt) at 100°C. Their flash point is



always above 60°C and their specific gravity is above 0.95.

### **White spirit and SBP**

White spirit and special boiling point industrial spirits (SBP) are refined distillate intermediates with a distillation in the naphtha/kerosene range. They are mainly used for non-fuel purposes.

#### *White spirit*

An industrial spirit with a flash point above 30°C and a distillation range of 135°C to 200°C.

#### *SBP*

Light oils distilling between 30°C and 200°C.

### **Lubricants**

Oils, produced from crude oil, for which the principal use is to reduce friction between sliding surfaces and during metal cutting operations.

### **Bitumen**

A solid, semi-solid or viscous hydrocarbon with a colloidal structure, being brown to black in color. It is obtained as a residue in the distillation of crude oil and by vacuum distillation of oil residues from atmospheric distillation. It should not be confused with the nonconventional primary extra heavy oils which may also be referred to as bitumen.

### **Paraffin waxes**

Residues extracted when dewaxing lubricant oils. The waxes have a crystalline structure which varies in fineness according to the grade, and are colourless, odourless and translucent, with a melting point above 45°C.

### **Petroleum coke**

A black solid obtained mainly by cracking and carbonising heavy hydrocarbon oils, tars, and pitches. It consists mainly of carbon (90 to 95 per cent) and has a low ash content. The two most important categories are 'green coke' and 'calcined coke'. Green coke (raw coke) is the primary solid carbonisation product from high boiling hydrocarbon fractions obtained at temperatures below 630°C. It contains 4-15 per cent by weight of matter that can be released as volatiles during subsequent heat treatment at temperatures up to approximately 1330°C. Calcined coke is a petroleum coke or coal-derived pitch coke obtained by heat treatment of green coke to about 1330°C. It will normally have a hydrogen content of less than 0.1 per cent by weight.

### **Other products**

Other products include products (including partly refined products) from the refining of crude oil and feedstocks which are not specified above.

## **Gas**

### **Natural gas**

A mixture of gaseous hydrocarbons, primarily methane, but generally also including ethane, propane and higher hydrocarbons in much smaller amounts and some non-combustible gases such as nitrogen and carbon dioxide.

#### *Associated gas*

Gas produced in association with crude oil.

#### *Non-associated gas*

Gas originating from fields producing hydrocarbons only in gaseous form.

#### *Colliery gas*

Gas recovered from coal mines.

**Shale gas**

Natural gas produced from hydrocarbon-rich shale formation. Shale gas is typically a dry gas primarily composed of methane (90 per cent or more), but some formations do produce wet gas.

**Coal seam gas**

Coal seam gas (also known as coal bed methane) is a form of natural gas extracted from coal seams.

**LNG**

Liquid natural gas is produced by liquefaction of natural gas, liquefied by reducing its temperature to simplify storage and transportation when production sites are remote from centres of consumption and pipeline transportation is not economically practicable.

**New and renewable energy****Fuelwood**

Fuelwood (in log, brushwood, pellet, or chip form) obtained from natural or managed forests or isolated trees. Also included are wood residues used as fuel and in which the original composition of wood is retained. Charcoal and black liquor are excluded.

**Woodwaste**

Yard trash and types of waste typically generated by sawmills, plywood mills, and woodyards associated with the lumber and paper industry, such as wood residue, cut-offs, wood chips, sawdust, wood shavings, bark, wood refuse, wood-fired boiler ash, and plywood or other bonded materials that contain only phenolic-based glues or other glues that are approved specifically by the administrative authority.

**Bagasse**

The fuel obtained from the fibre which remains after juice extraction in sugar cane processing.

**Charcoal**

The solid residue from the carbonisation of wood or other vegetal matter through slow pyrolysis.

**Other biomass**

All other solid biomass products not specifically mentioned above. This includes agricultural wastes such as straw, rice husks, nut shells, poultry litter, crushed grape dregs, palm oil bunches, etc. The quantity of fuel used should be reported on a net calorific value basis.

**Biogas**

Gases arising from the anaerobic fermentation of biomass and the gasification of solid biomass (including biomass in wastes).

**Landfill gas**

Biogas from the anaerobic fermentation of organic matter in landfills.

**Sewage sludge gas**

Biogas from the anaerobic fermentation of waste matter in sewage plants.

**Other biogas**

Other biogases from anaerobic fermentation not elsewhere specified.

**Industrial waste**

Non-renewable waste which is combusted with heat recovery in plants other than those used for the incineration of municipal waste.

**Municipal solid waste (renewables)**

Household waste and waste from companies and public services that resembles household waste, and which is collected at installations

specifically designed for the disposal of mixed wastes with recovery of combustible liquids, gases, or heat.

### **Liquid biofuels**

Liquids derived from biomass and used as fuels.

#### ***Biogasoline***

Refers to liquid fuels derived from biomass and used in spark-ignition internal combustion engines. Biogasoline may be blended with petroleum gasoline or used directly in engines. The blending may take place in refineries or at or near the point of sale.

#### ***Bioethanol***

Refers to ethanol produced from biomass.

#### ***Biodiesel***

Refers to liquid biofuels derived from biomass and used in diesel engines. Biodiesels may be blended with petroleum diesel or used directly in diesel engines.

#### ***Bio-jet kerosene***

Refers to liquid biofuels derived from biomass and blended with or replacing jet kerosene.

### **Hydro**

Electricity produced from devices that are driven by fresh, flowing or falling water.

### **Geothermal**

Electricity and heat generation produced from geothermal plants.

### **Solar**

#### ***Electricity from solar photovoltaics***

Refers to electricity produced by the direct conversion of solar radiation through photovoltaic processes in semiconductor devices (solar cells), including concentrating photovoltaic systems.

#### ***Heat from concentrating solar thermal***

Refers to high temperature heat produced from solar radiation captured by concentrating solar thermal systems. The high temperature heat can be transformed to generate electricity, drive chemical reactions, or be used directly in industrial processes.

#### ***Heat from non-concentrating solar thermal***

Refers to low temperature heat produced from solar radiation captured by non-concentrating solar thermal systems.

### **Tide/wave/ocean**

Electricity produced from tide/wave/ocean.

### **Wind**

Electricity produced from devices driven by wind.

## **Electricity and heat**

### **Electricity**

Electricity is an energy carrier with a wide range of application. It is used in almost all kinds of human activity ranging from industrial production, household use, agriculture, commerce for running machines, lighting, and heating.

### **Heat**

Heat is an energy carrier primarily used for warming spaces and industrial processes. Heat energy reported in this publication includes district cooling energy. District cooling is the production and delivery of chilled water via insulated pipelines from central water chilling plants to various customers.

### **Sources of electricity and heat:**

#### ***Thermal***

Electricity and heat generation from combustible fuels such as coal, oil, and gas.

**Hydro**

Electricity generation from hydro plants, including pumped up (pumped storage) plants.

**Nuclear**

Electricity and heat generation from nuclear plants.

**Geothermal**

Electricity and heat generation from geothermal plants.

**Renewable energy**

Electricity and heat generation from solar, biomass, and waste and electricity generation from tide, wave, ocean, and wind.

**Solar**

- Electricity: quantity of electricity generated by solar photovoltaics and from solar thermal systems.
- Heat: solar energy exploited for hot water production by flat plate collectors which are mainly of the thermosyphon type. This heat is mainly for domestic hot water or for the seasonal heating of swimming pools.

*Note: Passive solar energy for the direct heating, cooling, and lighting dwellings or other buildings is not included.*

**Tide/wave/ocean**

Electricity produced from tide/wave/ocean.

**Wind**

Electricity produced from devices driven by wind.

**Biomass**

Electricity and heat produced by fuelwood, wood waste, bagasse, other biomass, biogas, and liquid biofuels.

**Waste**

Electricity and heat produced by industrial waste and municipal solid waste.

**Others**

Electricity and heat generation from other fuel sources such as fuel cells, etc.

## B. Definition of flows

### Supply

**Domestic supply = indigenous production + from other sources + imports – exports – international marine bunkers – international aviation bunkers ± stock changes.**

### Production

**P**roduction is defined as the capture, extraction or manufacture of fuels or energy in forms which are ready for general use. In energy statistics, two types of production are distinguished, primary and secondary.

#### *Primary production*

The capture or extraction of fuels or energy from natural energy flows, the biosphere, and natural reserves of fossil fuels within the economy territory in a form suitable for use. Inert matter removed from the extracted fuels and quantities reinjected, flared, or vented are not included. The resulting products are referred to as 'primary' products.

#### *Secondary production*

The manufacture of energy products through the process of transformation of primary fuels or energy. The quantities of secondary fuels reported as production include quantities lost through venting and flaring during and after production. In this manner, the mass, energy, and carbon within the primary source(s) from which the fuels are manufactured may be balanced against the secondary fuels produced. Fuels, electricity, and heat produced are usually sold but may be partly or entirely consumed by the producer.

There are a few specificities according to the fuels:

### Oil

Production includes only marketable production, and excludes volumes returned to formation. Such production should include all crude oil, NGL, condensates and oil from shale and tar sand, etc. It should also include the receipts of additives/oxygenates by refineries and blending plants from outside the refinery sector.

### Natural gas

All dry marketable production is measured after purification and extraction of NGLs and sulphur. Quantities reinjected, vented, or flared, are not included. Production includes quantities used within the natural gas industry, in gas extraction, pipeline systems and processing plants.

Calculation of production of hydro, geothermal, solar, wind, etc. and nuclear follows some conventions used by selected international organisations.

With regards to the production of secondary energy in the basic energy statistics, production of secondary oil products represents the gross refinery output. Secondary coal products and gases represent the output from coke ovens, gas works, blast furnaces and other transformation processes. In the energy balances production of secondary products is zero and the gross refinery output is included in the transformation sector.

#### *Production from other sources*

Refers to both primary energy that has not been accounted for under production and secondary energy that has been accounted for

in the production of another fuel. Examples include:

- additives and other hydrocarbons produced from coal, gas, or renewables.
- oil and coal used in natural gas blending plants to adjust calorific value.
- recovered slurries, middling and other low grade coal products which cannot be classified according to the main categories of coal.

## Imports and exports

### *Imports of energy products*

Comprise all fuel and other energy products entering the economy territory. Goods simply being transported through an economy (goods in transit) and goods temporarily admitted are excluded but re-imports, which are domestic goods exported but subsequently readmitted, are included. The bunkering of fuel outside the reference territory by economy merchant ships and civil aircraft engaged in international travel is excluded from imports. Fuels delivered to economy merchant ships and civil aircraft which are outside of the economy territory and are engaged in international travel should be classified as 'international marine' or 'aviation bunkers', respectively, in the economy where such bunkering is carried out. Note that the 'economy of origin' of energy products should be recorded as an economy from which goods were imported.

### *Exports of energy products*

Comprise all fuel and other energy products leaving the economy territory with the exception that exports exclude quantities of fuels delivered for use by merchant (including passenger) ships and civil aircraft, of all origins, during international transport of goods and

passengers. Goods simply being transported through an economy (goods in transit) and goods temporarily withdrawn are excluded but re-exports, foreign goods exported in the same state as previously imported, are included. Fuels delivered to foreign merchant ships and civil aircraft engaged in international travel are classified as 'international marine' or 'aviation bunkers', respectively. Note that 'economy of destination' of energy products (that is economy of the last known destination as it is known at the time of exportation) should be recorded as an economy to which these products are exported to.

Quantities of crude oil and products imported or exported under processing agreements (i.e., refining on account) should be included. Crude oil and NGLs should be reported as coming from the economy of ultimate origin; refinery feedstocks and finished products should be reported as coming from the economy of last consignment. Any gas liquids (e.g., LPG) extracted during the regasification of imported liquefied natural gas should be included as imports. Petroleum products imported or exported directly by the petrochemical industry should be included.

*Note(s):*

- *Imports or exports of ethanol (reported in the Additives/Oxygenate column) should relate to the quantities destined for fuel use.*
- *Re-exports of oil imported for processing within bonded areas should be included as an export of product from the processing economy to the final destination.*

### **International marine bunkers**

International marine bunkers are quantities of fuels delivered to merchant (including passenger) ships, of any origin, for consumption during international voyages transporting goods or passengers. International voyages take place when the ports of departure and arrival are in different economy territories. Fuels delivered for consumption by ships during domestic transportation, fishing or military uses are not included here. For the purposes of energy statistics, International marine bunkers are not included in exports. Consumption of warships should be included in final consumption under other sector, not elsewhere specified. Consumption by ships engaged in fishing and in transport in inland and coastal waters is not included.

### **International aviation bunkers**

International aviation bunkers are quantities of fuels delivered to civil aircraft, of any origin, for consumption during international flights transporting goods or passengers. International flights take place when the ports of departure and arrival are in different economy territories. Fuels delivered for consumption by aircraft undertaking domestic or military flights are not included here. Fuels used by airlines for their road vehicles are excluded. The domestic/international split should be determined based on departure and landing locations and not by the economy origin of the airline.

### **Stock changes**

Stocks are quantities of energy products that can be held and used to:

- Maintain service under conditions where supply and demand are variable

in their timing or amount due to normal market fluctuations, or

- Supplement supply in the case of a supply disruption. Stocks used to manage a supply disruption may be called 'strategic' or 'emergency' stocks and are often held separately from stocks designed to meet normal market fluctuations.

Stock changes are defined as the increase (stock build) or decrease (stock draw) in the quantity of stock over the reporting period. They are calculated as a difference between the opening and closing stocks.

### **Transfers**

This refers to products transferred and inter-product transfers. Product transferred refers to the reclassification (renaming) of products which is necessary when finished oil products are used as feedstock in refineries. Inter-product transfers refer to the movements of fuels between product categories because of reclassification of a product which no longer meets its original specification. The transferred product is often blended with its host. For example, quantities of kerosene may be reclassified as gas oil after blending with the latter to meet its winter diesel specification.

### **Statistical difference**

This is the difference between calculated and observed gross inland deliveries. Administrations of economies sometimes obtain the data components of domestic availability from a variety of sources. Owing to differences in concepts, coverage, timing, and definitions, observed and calculated gross inland deliveries are often not identical.

## **Transformation**

Transformation is the process where the movement of part or all the energy content of a product entering a process to one or more different products leaving the process (e.g., coking coal to coke, crude oil to petroleum products, and heavy fuel oil to electricity). The transformation can take place in various plants explained below:

### **Electricity plants**

Electricity plants refer to plants producing only electricity. The electricity may be obtained directly from natural sources such as hydro, geothermal, wind, tidal, marine, solar energy or from fuel cells or from the heat obtained from the combustion of fuels or nuclear reactions.

### **Combined heat and power plants (CHP)**

Combined heat and power plants refer to plants which produce both heat and electricity from at least one generating unit in the plant. They are sometimes referred to as 'co-generation' plants. Both main activity producer (formerly known as public) and autoproducer plants are included here.

### **Heat plants**

Heat plants refer to plants (including heat pumps and electric boilers) designed to produce heat only for deliveries to third parties. Both main activity producer (formerly known as public) and autoproducer plants are included here. Deliveries of fuels for heat generated by an establishment for its own use are classified within the part of final consumption where they are consumed.

Heat plants also include district cooling plants. District cooling plants produce chilled water for

deliveries to third parties. Chilled water is used for air-conditioning.

### **Blast furnace**

Blast furnaces are furnaces which produce blast furnace gas as a by-product when making pig iron from iron ore. During the process, carbon, mainly in the form of coke, is added to the blast furnace to support and reduce the iron oxide charge and provide heat. Blast furnace gas comprises carbon monoxide and other gases formed during the heating and reduction process.

### **Gas works**

Gas works plants are to produce town gas/gas work gas by carbonisation (including gas produced by coke ovens and transferred to gas works gas), by total gasification with or without enrichment with oil products (LPG, residual fuel oil, etc.) and by reforming and simple mixing of gases and/or air.

### **Coke ovens**

Coke ovens are facilities for the carbonisation of coal, principally coking coal, at high temperature. The transformation process provides to produce coke and by-products such as coke oven gas and coal tar.

### **Patent fuel plants**

Patent fuel plants are for the manufacturing of a composition fuel made of hard coal fines and addition of a binding agent.

### **BKB plants**

BKB (brown coal briquettes) plants are for the manufacturing of a composition fuel made of lignite/brown coal (including dried lignite fines and dust) produced by briquetting under high pressure without the addition of a binding agent. This includes peat briquettes plants



which produce a similar composition fuel using peat.

### **Petroleum refineries**

Petroleum refineries are industrial plants which transform crude oil and other hydrocarbons into finished oil products. Typical finished products are liquefied petroleum gases, naphtha, motor gasoline, gas oils, aviation fuels and other kerosene, and fuel oils.

### **Petrochemical industry**

Petrochemical industries are industrial plants which convert hydrocarbon feedstock into organic chemicals, intermediate compounds, and finished products such as plastics, fibres, solvents, and surfactants. Feedstock used by the plant is usually obtained from the refinery and includes naphtha, ethane, propane, and middle distillate oils (for example, gas oil). Quantities of backflows or petroleum products returned from the petrochemical sector, whether returned to refineries for further processing/blending or used directly. Note: energy use in the petrochemical sector is reported in the Energy sector, non-energy use is shown in the chemical/petrochemical industrial sector as non-energy.

### **Liquefaction plants**

Liquefaction plants include diverse liquefaction processes, such as coal liquefaction plants and gas-to-liquid plants. Coal liquefaction plants are facilities where coal is used to produce liquid fuels suitable for transportation applications by the removal of carbon or addition of hydrogen, either directly or indirectly.

### **Natural gas blending plants**

These are plants, separate from gas works, in which substitute natural gas, petroleum gases or biogases are mixed with natural gas for

distribution in the gas mains. Where blending of substitute natural gas with natural gas takes place within gas works the blending is considered part of the gas works process.

### **Charcoal production plants**

Charcoal plants are facilities in which wood or other vegetal matter is carbonised through slow pyrolysis to produce charcoal.

### **Other transformation plants**

Other transformation plants represent other energy transformation processes not already covered by the list of definition.

### **Energy sector**

The energy sector follows the International Standard Industrial Classification (ISIC) and covers ISIC Divisions 05, 06, 19 and 35. The energy sector includes the manufacture of chemical materials for atomic fission and fusion and the products of these processes. Fuels used in the manufacture of fuel briquettes and packaged fuel from coal or lignite and consumption in coke ovens and other transformation industries should also be reported here.

Fuels used by the energy industry to support the extraction (mining, oil and gas production) or transformation activity are reported in this category. For example: fuel used for heating, lighting, or operating pumps/compressors, or used as inputs fuel into furnaces or ovens. Note that quantities of fuels transformed into another energy form should be reported under the transformation sector. Consumption used in support of the operation of pipelines (oil, gas and coal slurry) should be reported in the transport sector.

## Final energy consumption

The term final energy consumption (equal to the sum of the consumption in the end-use sectors: industry, transport, residential, commercial/public services, agriculture/forestry, fishing and non-specified) implies that energy used for transformation and for own use of the energy producing industries is excluded. Final consumption reflects for the most part deliveries to consumers. It does not include consumption for non-energy purposes.

### Industry

Industry sector covers all industrial undertakings as enumerated below. Sectors included are iron and steel; chemical including petrochemical; non-ferrous metals; non-metallic mineral products; transport equipment; machinery; mining (excluding energy producing industries) and quarrying; food processing, beverages and tobacco; pulp, paper and printing; wood and wood products (other than pulp and paper); construction; textile and leather; not elsewhere specified.

#### Iron and steel

Covers ISIC Group 241 and Class 2431. The consumption in coke ovens and blast furnaces are defined as part of transformation processes and energy industry own use.

#### Chemical including petrochemical

Refers to ISIC Division 20 and 21, excluding ISIC 2011. The consumption by plants manufacturing charcoal or enrichment/production of nuclear fuels is excluded, as these plants are considered part of the energy industries.

- Includes manufacture of basic chemicals, fertilisers and nitrogen compounds, plastics and synthetic rubber in primary forms (ISIC 201)

- Other chemical products (ISIC 202), Man-made fibers (ISIC 203)

#### Non-ferrous metals

Refers to ISIC Group 242 and Class 2432.

- Manufacture of precious and non-ferrous metals (ISIC 242)
- Casting of non-ferrous metals (ISIC Class 2432)

#### Non-metallic minerals products

Covers ISIC Division 23, i.e.: Glass, ceramic, cement and other building materials industries.

- Manufacture of glass and glass products (ISIC 231)
- Non-metallic mineral products (ISIC 239) such as ceramics, tiles, baked clay products and cement

#### Transport equipment

Covers ISIC Division 29 and 30, i.e.:

- Manufacture of motor vehicles (ISIC 291) bodies for motor vehicles and semi-trailers (ISIC 292)
- Manufacture of parts and accessories for motor vehicles (ISIC 293)
- Building of ships and boats (ISIC 301)
- Manufacture of railway locomotives and rolling stock (ISIC 302)
- Manufacture of air and spacecraft and related machinery (ISIC 303)
- Manufacture of transport equipment not elsewhere classified (ISIC 309)

#### Machinery

Refers to Fabrication of metal products, machinery and equipment other than transport equipment. ISIC Division 25, 26, 27 and 28.

Includes manufacture of:

- Structural metal products, tanks, reservoirs and steam generators (ISIC 251)
- Weapons and ammunition (ISIC 252)

- Other fabricated metal products; metalworking service activities (ISIC 259)
- Electronic components and boards (ISIC 261)
- Computers and peripheral equipment (ISIC 262)
- Communication equipment (ISIC 263)
- Consumer electronics (ISIC 264)
- Measuring, testing, navigating and control equipment; watches and clocks (ISIC 265)
- Irradiation, electromedical and electrotherapeutic equipment (ISIC 266)
- Optical instruments and photographic equipment (ISIC 267)
- Magnetic and optical media (ISIC 268)
- Electric motors, generators and transformers and electricity distribution and control apparatus (ISIC 271)
- Batteries and accumulators (ISIC 272)
- Wiring and wiring devices (ISIC 273)
- Electric lighting equipment (ISIC 274)
- Domestic appliances (ISIC 275)
- Other electrical equipment (ISIC 279)
- General purpose machinery (ISIC 281)
- Special purpose machinery (ISIC 282)

Mining (excluding energy producing industries) and quarrying

Refers to ISIC Divisions 13 and 14, i.e.:

- Mining of iron ores (ISIC 131)
- Mining of non-ferrous metal ores (ISIC 132)
- Quarrying of stone, sand and clay (ISIC 141)
- Mining and quarrying not elsewhere classified (ISIC 142)

Food, beverages and tobacco

Refers to ISIC Division 10, 11 and 12, i.e.:

- Processing and preserving of meat, fish, crustaceans and molluscs, fruit and vegetables (ISIC 101, 102, 103)
- Manufacture of vegetable and animal oils fats, dairy products (ISIC 104, 105)
- Manufacture of grain mill products, starches and starch products (ISIC 106)
- Manufacture of other food products (ISIC 107)
- Manufacture of prepared animal feeds (ISIC 108)
- Manufacture of beverages (ISIC 110)
- Manufacture of tobacco products (ISIC 120)

Pulp, paper and printing

Refers to ISIC Division 17 and 18. Includes production of recorded media.

- Manufacture of paper and paper products (ISIC 170)
- Printing and service activities related to printing (ISIC 181)
- Reproduction of recorded media (ISIC 182)

Wood and wood products (other than pulp and paper)

Refers to ISIC Division 16, i.e.:

- Sawmill and planing of wood (ISIC 161)
- Manufacture of products of wood, cork, straw and plaiting materials (ISIC 162)

Construction

Refers to ISIC Division 41, 42 and 43, i.e.:

- Construction of buildings (ISIC 410)
- Construction of roads and railways (ISIC 421)
- Construction of utility projects (ISIC 422)
- Construction of other civil engineering projects (ISIC 429)
- Demolition and site preparation (ISIC 431)
- Electrical, plumbing and other construction installation activities (ISIC 432)

432)

- Building completion and finishing (ISIC 433)
- Other specialised construction activities (ISIC 439)

#### Textile and leather

Refers to ISIC Divisions 13, 14 and 15, i.e.:

- Spinning, weaving and finishing of textiles (ISIC 131)
- Manufacture of other textiles (ISIC 139)
- Manufacture of wearing apparel except fur apparel (ISIC 141)
- Manufacture of articles of fur (ISIC 142)
- Manufacture of knitted and crocheted fabrics and apparel (ISIC 143)
- Tanning and dressing of leather; manufacture of luggage, handbags, saddlery and harness; dressing and dyeing of fur (ISIC 151)
- Manufacture of footwear (ISIC 152)

#### Not elsewhere specified

If your economy's industrial classification does not correspond to the above ISIC, please estimate the breakdown by industry and include in "not elsewhere specified" only consumption in sectors which is not covered above. This covers ISIC Division 22, 31 and 32, i.e.: manufacture of

- Rubber products (ISIC 221)
- Plastic products (ISIC 222)
- Furniture (ISIC 310)
- Jewelry, bijouterie and related articles (ISIC 321)
- Musical instruments (ISIC 322)
- Sports goods (ISIC 323)
- Games and toys (ISIC 324)
- Medical and dental instruments and supplies (ISIC 325)
- Others manufacturing not elsewhere classified (ISIC 329)

#### Transport

All transport activities irrespective of the economic sector in which the activity occurs. Refers to ISIC Divisions 49, 50 and 51.

##### Domestic air transport

Refers to domestic aircraft - commercial, private, agricultural, etc. include oil used for purposes other than flying, e.g., bench-testing of engines. Military use of aviation fuels also should be excluded here.

##### Road

Transport by road vehicles. It includes agricultural highway use but excludes motor gasoline used in stationary engines (included in the other sector) and diesel oil for non-highway use in tractors (included in agriculture). Lubricants for use in road vehicles should be included here. Bitumen for use in road surfacing and gas oil used in engines at construction sites should not be included here but should be included in the industry subsector 'construction' below.

##### Rail

Refers to rail traffic, including industrial railways.

##### Inland waterways

Refers to water vessels navigating in inland waterways and coastal shipping. For example: small craft, barges, and those coastal ships which do not travel for international transportation.

##### Pipeline transport

Refers to transport of goods through pipelines.

##### Not elsewhere specified

Transport activities not included elsewhere.

#### Other

Other sector covers commercial and public services, residential, agriculture, fishing and

other final consumption not elsewhere classified.

#### Commercial and public services

These refer to business and offices in the public and private sectors. ISIC Divisions 01, 02, 03, 33, 36-39, 45-99, ISIC Class 8422.

#### Residential

Refers to all households including 'households with employed persons'. ISIC Divisions 97 and 98.

#### Agriculture

Refers to agriculture, hunting and forestry by ISIC as follows: ISIC Divisions 01 and 02.

#### Fishing

Refers to aquaculture and fisheries, covering the use of fishery resources from marine, brackish or freshwater environments, with the goal of capturing or gathering fish, crustaceans, molluscs and other marine organisms and products (e.g., aquatic plants, pearls, sponges, etc.) Also included are activities that are normally integrated in the process of production for own account (e.g., seeding oysters for pearl production). ISIC Division 03.

#### Not elsewhere specified

Report activities not included elsewhere, please specify. This category includes military use.

#### Non-energy use

Refers to use of energy products as raw materials in the different sectors; that is, not consumed as a fuel or transformed into another fuel. Example: in industry, coal used to make methanol or ammonia.

Non-energy use if further classified into the following:

#### *Chemical (incl. the petrochemical sector)*

Non-energy use of coal includes uses as feedstocks to produce fertiliser and as feedstocks for other petrochemical products.

#### *Transport sector*

Non-energy use in all transport sub sectors.

#### *Other sector*

Non-energy use in commercial and public services, residential, agriculture and not elsewhere specified.

## C. Energy prices

Energy prices are in either local currency units or in US dollars.

### Table 1. Import prices

These are import prices based on cost, insurance and freight (CIF). These prices are obtained by dividing the value by the volume in foreign trade. Value and volume are recorded by customs administrations for each tariff position. Values recorded at the import stage include CIF but exclude import duties.

These are import prices of coal and coal products; crude oil, NGL and petroleum products; electricity and other products including biofuels and other renewable energy products.

The average local currency exchange rate to the US dollar and local currency unit are also required in this table.

### Table 2. Wholesale prices

Table 2 contains wholesale prices. These are the prices that a buyer pays for large volume purchases whether for own consumption of retail. Examples are prices paid by electricity distribution companies to electricity generators or suppliers.

Prices are either in local currency units or in US dollars.

### Table 3. Consumer prices

These are the prices paid by end-use consumers such as motorists purchasing fuels in filling stations, households electricity bills, coal briquette prices in supermarkets, etc. The prices may also be in local currency units or in US dollars.

Electricity prices are prices charged to the industrial, commercial, residential rates and rates to other consumers. Commercial sector includes government services and streetlights

## D. Definition of columns and rows of the energy balance table

### Unit

For presenting its energy balances, APEC has adopted kcal and Joules.  $10^7$  kcal or 41.868 gigajoules (GJ) is equivalent to one ton of oil equivalent (toe). This quantity of energy is, within a few percent, equal to the net heat content of one ton of crude oil.

### Conversion (from original to TOE)

The EGEDA secretariat has adopted specific factors supplied by the member economies for each flow or use. The balances are expressed in term of 'net' heat value. The difference between the 'net' and 'gross' heat value for each fuel is the latent heat in condensation of the water vapor produced during combustion of the fuel. For coal and oil, net heat value is 5 percent less than gross, for most forms of natural and manufactured gas the difference is 9-10 percent, while for electricity there is no difference. The use of net heat value is consistent with the practice of the Statistical Offices of the European Communities and the United Nations.

### Layout

The energy balances are presented in tabular format: columns for the various sources of energy and rows for the different origins and uses.

### Columns

Across the top of the table from left to right, there are thirteen columns with the following headings:

**Column 1:** Coal and peat include all primary coal, such as anthracite, coking coal, other

bituminous coal, sub-bituminous coal, lignite and peat.

**Column 2:** Coal and peat products include all fuels derived from coal including patent fuel, coke oven coke, gas coke, briquettes, coal tar, coke oven gas, blast furnace gas, other recovered gases and peat products.

**Column 3:** Crude Oil & NGL comprise crude oil, refinery feedstocks and natural gas liquids. Natural LPG is included in LPG.

**Columns 4 to 13:** Petroleum products (column 4) comprises motor gasoline, naphtha, jet fuel, kerosene, gas/diesel oil, residual fuel oil, LPG, refinery gas and other petroleum products such as: aviation gasoline, ethane, white spirit, lubricants, bitumen, paraffin waxes and petroleum coke (columns 5 to 13). The definitions of these products are in Appendix A.

**Column 14:** Gas includes natural gas and LNG (excluding natural gas liquids).

**Column 15:** Hydro shows the energy content of the electricity produced in hydro power plants. Hydro output includes output from pumped storage plants.

**Column 16:** Nuclear shows the primary heat equivalent of the electricity produced by a nuclear power plant with an average thermal efficiency of 33 percent.

**Column 17:** Geothermal, solar, etc. shows the primary heat equivalent of the electricity produced in geothermal plants with an average thermal efficiency of 10 percent, and the energy content of electricity produced in non-thermal power plants such as photovoltaic, wind, tide wave etc.

**Column 18:** Others includes wood, wood waste, black liquor, industrial and municipal waste and biomass (power generation from other fuel sources such as defined in 'others' is included here).

**Column 19:** Electricity shows final consumption and trade in electricity (which is accounted at the same heat value as electricity in final consumption, i.e., 1 GWh = 0.0036 Petajoules (PJ)).

**Column 20:** Heat includes heat production from public combined heat and power plants (CHP), from autoproducer's heat that is sold to a third party (e.g., to a network).

**Column 21:** Total = the total of columns 1 to 11.

**Column 22:** Total renewables = the sum of hydro, geothermal, solar, wind, solid and liquid biofuels, and the renewable portions of industrial wastes and municipal solid wastes.

### **Rows**

The categories on the left-hand side of the table have the following functions.

**Row 1:** Indigenous production shows only production of primary energy, i.e., hard coal, lignite, crude oil, NGL, natural gas, hydro and nuclear, geothermal, etc. electricity and others.

**Row 2/3:** Imports and exports comprise amounts having crossed the boundaries of the economy with or without customs clearance.

**Row 4/5:** International marine and aviation bunkers cover those quantities delivered to sea-going ships and international flights of all flags. Consumption by ships and planes engaged in transport in inland and coastal waters is not included.

**Row 6:** Stock changes are treated as follows: a decrease in stocks, shown in the table as a positive number, is added to supply and an increase in stocks, shown as a negative number, is deducted from supply. Producers', importers', energy transformation industries' and large users' stocks are included.

**Row 7:** Total primary energy supply (TPES) is made up of *indigenous production (row 1) + imports (row 2) – exports (row 3) – international marine and aviation bunkers (row 4/5) and ± stock changes (row 6)*.

**Row 8:** Transfers refer to interproduct transfers, product transferred, liquid products from gas separation and recycled products as defined in Appendix B.

**Row 9:** Total transformation sector is made up of *main activity producer (row 10) + autoproducers (row 11) + gas processing (row 12) + petroleum refineries (row 13) + coal transformation (row 14) + other transformation (row 15)*.

**Row 10:** Main activity producer, column 1 to 9 show primary and secondary fuel input to public utilities' plants as negative entries. Gross electricity produced (including power stations' own consumption) appears as a positive quantity in column 11, 'electricity'. Transformation losses appear in the 'total', column 12, as a negative number.

**Row 11:** Autoproducers, columns 1 to 9 show primary and secondary fuel input to electricity generation of autoproducers as negative entries. An autoproducer is an establishment which, in addition to its main activities, generates electricity wholly or partially for its own use, such as industries, railways, refineries etc. Total gross electricity produced appears as a positive quantity in column 10, 'electricity'.



Transformation losses appear in the 'total', column 12 as a negative number.

**Row 12:** Where there is a production of gas at gas-to-liquid facilities, the treatment is similar to that for electricity generation, with the quantity produced appearing as a positive figure in column 5 'gas', input as negative entries in column 1 (coal), 2 (coal products), 4 (petroleum products) and 5 (natural gas input) and conversion losses appearing in the 'total' column.

**Row 13:** The petroleum refineries row shows the transformation of crude oil, NGL and condensate to petroleum products.

**Row 14:** Coal transformation shows the transformation of coal from primary to secondary fuels and from secondary to tertiary fuels (hard coal to coke, coke to blast furnace gas, brown coal to BKB, etc.)

**Row 15:** Other transformation: contains the energy feedstocks and outputs of petrochemical industry, biofuel processing, charcoal processing and other transformation processes that are not classified elsewhere.

**Row 16:** Loss & own use: own use contains the primary and secondary energy consumed by transformation industries for heating, traction and lighting purposes. These are shown as negative figures. Included here are, for example, the coal mines' own use of energy, energy use in refineries, electricity plants' own consumption (which includes gross electricity consumed for pumped storage), and energy used for oil and gas extraction (which also includes consumption for the pipeline system). Loss includes losses in gas distribution, electricity transmission, and coal transport.

**Row 17:** Discrepancy is a category which includes the sum of the unexplained statistical differences for individual fuels.

**Row 18:** Total final consumption (TFC) is the sum of total final energy consumption (TFEC) in row 19 and non-energy use in row 36.

**Row 19:** Total final energy consumption (TFEC) is the sum of consumption by the different end-use sectors (row 20, 25, 31).

**Row 20:** Consumption of the industry sector (energy used for transport by industry is not included here but reported under transport).

**Row 21:** Iron and steel covers ISIC Group 241 and Class 2431. Report pulverised coal injection (PCI) into blast furnaces under blast furnaces, Transformation sector. To avoid double counting, fuels used in blast furnaces should be reported in the transformation sector.

**Row 22:** Chemical & petrochemical refers to ISIC Division 20 and 21.

Includes manufacture of basic chemicals (ISIC 201)

Other chemical products (ISIC 202), Man-made fibers (ISIC 203)

**Row 23:** Non-metallic minerals covers ISIC Division 23, i.e.: Glass, ceramic, cement and other building materials industries.

Manufacture of glass and glass products (ISIC 231)

Non-metallic mineral products (ISIC 239) such as ceramics, tiles, baked clay products and cement

**Row 24:** Other industries cover consumption of all other manufacturing industries, mining, quarrying and constructions.

**Row 25:** The transport sector includes all fuels for transport, except international marine bunkers. It includes transport in the industry sector and covers road, railway, domestic air transport, inland waterways (including small craft, fishing vessels and coastal shipping not included under marine bunkers) and non-specified transport.

**Row 26:** Domestic air transport refers to domestic aircraft - commercial, private, agricultural, etc. include oil used for purposes other than flying, e.g., bench-testing of engines. Military use of aviation fuels also should be excluded here.

**Row 27:** Road covers transport by road vehicles. It includes agricultural highway use but excludes motor gasoline used in stationary engines (included in the other sector) and diesel oil for non-highway use in tractors (included in agriculture). Lubricants for use in road vehicles should be included here. Bitumen for use in road surfacing and gas oil used in engines at construction sites should not be included here but should be included in the industry subsector 'construction'.

**Row 28:** Rail refers to rail traffic, including industrial railways.

**Row 29:** Inland waterways refers to water vessels navigating in inland waterways and coastal shipping. Examples include small craft, barges, and those coastal ships which do not travel for international transportation.

**Row 30:** Non-specified transport covers pipeline transport and other transport activities not included elsewhere.

**Row 31:** Other sectors cover agriculture, residential, commercial and public services, and non-specified consumption.

**Row 32:** Refers to all households including 'households with employed persons.' ISIC Division 97 and 98.

**Row 33:** These refer to business and offices in the public and private sectors.

**Row 34:** Consumption of the agriculture sector.

**Row 35:** Other shows non-specified use which may include military use.

**Row 36:** Non-energy use covers use of coal, gas, and petroleum products such as white spirit, paraffin waxes, lubricants, bitumen, and other products. Petroleum coke is shown as non-energy use only when there is evidence of such use; otherwise, it is shown under energy use in industry or other sectors. This covers all oil including naphtha, except the other petroleum products listed above, and gas used as petrochemical feedstock. Gas, which is specifically used as raw material for chemical products such as methanol and ammonia/urea, is also included.

## E Conversion factors

### Coal

Coal has separate factors for production, imports, exports, inputs to power plants, coal used in coke ovens, and coal used in industry. Each economy's individual conversion factors are applied.

### Crude oil

The conversion factors of each economy are applied as shown in the table of conversion factors.

### Petroleum products

The conversion factors of each economy are applied.

### Gas

To convert the gross heat content of a gas to its net heat content, the following multiplying factors were used:

Natural gas	0.9
Gas works gas	0.9
Coke oven gas	0.9
Blast furnace gas	1.0

### Electricity

Figures for electricity production, trade, and final consumption are calculated using the energy content of the electricity, i.e., at a rate of 1 TWh = 3.6 PJ. Hydro-electricity production (excluding pumped storage) and electricity produced by other non-thermal means (wind, tide, photovoltaic, etc.) are accounted for similarly using 1 TWh = 3.6 PJ. However, the primary energy value ascribed to nuclear

power plants is calculated from the gross generation by assuming that only 33% of the primary energy content appears as electricity, i.e., 1 TWh = (3.6/0.33) PJ. In the case of electricity produced from geothermal heat the primary value is calculated using 1 TWh = (3.6/0.1) PJ.

### Heat

Information on heat is supplied in net kilocalories.

$$10^{10} \text{ kilocalories} = 1 \text{ ktoe} = 0.041868 \text{ PJ}$$

### Others

The conversion factors used for other energy, such as wood, wood waste, black liquor, etc. are those that are provided by each economy. In cases where the member economies cannot provide a conversion factor, the CA used the following net calorific values in kcal/kg.

Fuelwood and wood waste	3 702
Bagasse	1 959
Charcoal	6 898
Industrial waste	3 344
Municipal solid waste	3 344
Other biomass	2 986

### Average net calorific values of energy products for 2020

	Australia	Brunei Darussalam	Canada	Chile	China	Hong Kong, China	Indonesia	Japan	Korea
<b>Coal</b>									
Anthracite	26 700		26 381			29 299		27 246	20 218
Coking coal	28 500		25 007	29 724				28 076	28 010
Other bituminous coal	25 700		27 226	22 306	22 513	26 370	24 618	25 050	23 697
Sub-bituminous coal	18 478		17 897						21 353
Lignite	9 800		14 019						
Peat									
<b>Coal Products</b>									
Patent fuels									19 385
Coke oven coke	27 000		27 457	28 591	28 469			29 181	28 889
Coal tar	35 714			38 841	33 494			35 393	37 000
Coal briquettes	20 995				17 796		19 845		
<b>Crude oil and NGL</b>									
Crude oil	43 282	45 000	42 790	43 203	41 868		5 862	42 048	42 203
Natural gas liquids	45 410	45 636	45 220	48 127			5 862	45 290	
Refinery feedstocks	43 282						5 862	42 500	47 164
Additives/oxygenates			25 120	22 651			5 862		44 079
Other hydrocarbons			41 868	35 198	41 868		5 862		
<b>Petroleum products</b>									
Refinery gas	48 100	47 600	48 100	48 100	46 055			48 100	48 100
Ethane	49 400								
LPG	47 700	46 151	47 300	47 300	50 242	45 544	5 862	47 700	47 700
Motor gasoline	44 600	44 749	44 800	44 800	43 124	42 776	5 862	44 600	44 600
Aviation gasoline	44 600		44 800	44 800			5 862	44 600	44 600
Gasoline-type jet fuel									
Kerosene-type jet fuel	44 500	44 581	44 600	44 600	43 124	42 966	5 862	44 500	44 500
Other kerosene	42 900	44 581	43 800	43 800	43 124	44 053	5 862	42 900	42 900
Gas/diesel oil	42 600	43 379	42 600	43 300	42 705	42 496	5 862	42 600	42 600
Fuel oil	42 600		40 200	40 200	41 868	41 500	5 862	42 600	42 600
Naphtha	43 200		45 000	45 000	38 418	44 129	5 862	43 200	43 200
White spirit SBP					38 418				
Lubricants		41 801			38 418		5 862		
Bitumen		40 001			38 418				
Paraffin wax					38 418				
Petroleum coke	33 800		32 000	32 000	30 773			33 800	33 800
Other products	40 000	46 151	40 000	40 000	38 979		5 862	40 000	40 000
<b>Natural gas</b>									
Natural gas		37 645			37 259	38 542	36 031		
<b>New and renewables</b>									
Fuel wood and wood waste									
Bagasse									
Charcoal				28 232		29 300		29 300	
Other biomass									
Industrial waste									
Municipal solid waste									
Biogasoline	26 800		26 800					26 800	
Biodiesel	36 800		36 800			37 800	40 570	36 800	
Other liquid biofuels									

Note: The Net Calorific Values are used to convert the unit of each product to tons of oil equivalent (toe). 1 toe = 41.868 TJ

Some economies reported data in energy units (TJ, ktoe, mboe). Therefore, the calorific value were calculated.

											kJ/kg (kJ/m <sup>3</sup> for Natural Gas)
Malaysia	Mexico	New Zealand	Papua New Guinea	Peru	Philippines	Russia	Singapore	Chinese Taipei	Thailand	United States	Viet Nam
	26 607					29 000		28 240	31 401	30 464	23 446
	29 040	29 753				28 500		27 882	27 633	28 246	
	25 875	26 561			22 098	25 362	25 800	23 664	26 377	26 745	
	19 869	20 220						19 556		19 028	
	11 364	16 303				14 918			10 467	13 968	
						9 965					
	28 523	29 500				29 015		27 842		28 865	
	37 970										
	18 000								26 377		
	43 509	43 080	42 370			42 077		37 681	42 239	42 901	42 705
	41 397	45 782	42 370			41 910			49 225	46 315	45 636
	42 350	43 884								43 538	
	34 055							37 681		37 863	
	41 868								49 225	51 004	
	48 100	48 100						37 522		48 100	
									46 905	49 400	
	47 300	47 700	47 698					27 779	49 403	47 300	45 636
	44 800	44 600	44 606					32 657	42 490	44 800	43 961
	44 800	44 600								44 800	
	44 600	44 500	44 517					33 494	43 015	44 600	43 124
			42 846					35 588	42 643	43 800	43 124
	42 600	42 600	43 063					35 169	43 158	42 600	42 705
	40 200	42 600	44 047					40 193	42 134	40 200	41 449
	45 000		43 967					32 657		45 000	
								37 681			
								40 193			42 140
								41 868			41 800
								37 681			
	32 000	33 800						34 332		32 000	
	40 000	40 000	40 206					37 681	41 868	40 000	41 449
			38 365	36 389	34 436			37 688	36 098		37 681
	30 800		30 800			30 800					
		29 657						22 169	29 673	32 021	26 800
								35 169	42 424	42 179	
										21 583	

## F. Currency codes

AUD	Australian Dollar	Australia
BND	Brunei Dollar	Brunei Darussalam
CAD	Canadian Dollar	Canada
CLP	Chilean Peso	Chile
CNY	Yuan Renminbi	China
HKD	Hong Kong Dollar	Hong Kong, China
IDR	Rupiah	Indonesia
JPY	Yen	Japan
KRW	Won	Korea
MYR	Malaysian Ringgit	Malaysia
MXN	Mexican Peso	Mexico
NZD	New Zealand Dollar	New Zealand
PGK	Kina	Papua New Guinea
PEN	Nuevo Sol	Peru
PHP	Philippine Peso	The Philippines
RUB	Russian Ruble	Russia
SGD	Singapore Dollar	Singapore
TWD	New Taiwan Dollar	Chinese Taipei
THB	Baht	Thailand
USD	US Dollar	United States
VND	Dong	Viet Nam