

# **COUNTRY NOTES**

## OECD Countries

Australia

Austria

Belgium

Canada

Chile

Czech Republic

Denmark

Estonia

Finland

France

Germany

Greece

Hungary

Iceland

Ireland

Israel

Italy

Japan

Korea

Latvia

Lithuania

Luxembourg

Mexico

Netherlands

New Zealand

Norway

Poland

Portugal

Slovak Republic

Slovenia

Spain

Sweden

Switzerland

Turkey

United Kingdom

United States

# AUSTRALIA

## Sources

Data for all energy products, including energy price indices, are provided on a quarterly basis by the **Department of the Environment and Energy (DEE)**.

## Data collection methodology

### Oil products

Wholesale fuel prices for oil products (e.g. automotive diesel, gasoline, LPG) are determined by the market with reference to import parity pricing models that take into account regional oil product prices as well as shipping costs (freight, wharfage, insurance) and any quality premium associated with compliance with Australian fuel standards.

The relationship between wholesale prices and retail prices varies depending on proximity to local refineries and import terminals, local market conditions (e.g. sales volumes) and the degree of competitive discounting.

Prices for automotive diesel, unleaded regular gasoline, unleaded premium gasoline (95 RON) and automotive LPG are derived by the DEE based on a quarterly report commissioned to the Australian Institute of Petroleum (AIP), which contains monthly average retail end-use fuel prices in the eight Australian state/territory capital cities. These cities account for 66% of Australia's total population, according to the Australian Bureau of Statistics (ABS) *Population by Age and Sex, Regions of Australia, 2014* publication.

A national weighted average price for each product is calculated using the monthly state prices from the AIP report and monthly state-level sales data from the DEE's petroleum statistics.

Ex-tax prices are calculated by subtracting the applicable excise tax rates and the Goods and Services Tax (GST) from the end-use prices, sourced from the Australian Taxation Office (ATO).

As described in the Energy Taxation section of this document, oil products used for commercial purposes are subject to a series of tax credits, which reduce the effective tax rates paid by this consumer category. For this reason, total taxes effectively paid by commercial users are currently not available.

### Natural gas

Natural gas prices for industry, households and electricity generation are currently not available.

There is no single wholesale price for gas. A "transfer price" is calculated for the cost of gas that is used to produce LNG.

### Steam and coking coal

From 1990 onwards, coal prices for industry, households and electricity generation are currently not available.

### Electricity

Electricity prices for industry are currently not available.

Annual electricity prices for households correspond to fiscal years which run from 1 July to 30 June. For example, the annual price shown for 2013 refers to the period between 1 July 2012 and 30 June 2013.

Prices for households are sourced from the Australian Energy Market Commission's (AEMC) *Residential Electricity Price Trends*, and refer to the average expenditures per MWh received via a survey that samples households Australia-wide. These averages are weighted by the number of residential connections in each jurisdiction and are therefore considered to be most closely representative of the most populous jurisdictions of Australia.

### Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively.

Indices are sourced from the Australian Bureau of Statistics (ABS).

Wholesale indices refer to the Producer Price Index (PPI), *Input to the Manufacturing industries* (6427.0) series.

Retail indices refer to the Consumer Price Index (CPI), *weighted average of eight capital cities* (6401.0) series.

Retail indices for oil products refer to *automotive fuels* (series ID: A2328636K).

Wholesale and retail indices for electricity refer to *electricity*" (series ID: A2309192C and A2328141J, respectively).

Wholesale indices for natural gas refer to *natural gas* (series ID: A2309195K). Retail indices refer to *gas and other households fuels* (series ID: A2331921F).

## Energy taxation

### VAT

The Goods and Services Tax (GST), in place in Australia since 1 July 2000, is a VAT-equivalent *ad valorem* tax that is refunded for purchases for commercial purposes.

Therefore, it is not included in prices shown for industry and electricity generation, and for automotive fuels for commercial use.

Since its introduction in 2000, the rate has been kept constant at 10% and applies to the excise-inclusive price of gasoline and diesel, biofuels and gaseous fuels.

From	To	%
01.07.00	now	10

## Excise tax

Excise taxes in Australia are levied at a national level on oil products.

The carbon pricing mechanism has been abolished from 1 July 2014 with the repeal of the Clean Energy Act 2011.

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Fuel tax	x	x	x	x	x				

### Fuel tax

Fuel tax in Australia is a form of excise taxation applicable to oil products used for transportation or heating, as well as liquefied or compressed natural gas for transportation. In its current form, the fuel tax is legally defined in the Fuel Tax Act of 2006, which describes the system

for fuel tax credits for commercial and non-commercial users. The Excise Act of 1901, the Excise Tariff Act of 1921, the Customs Act of 1901 and the Customs Tariff Act of 1995 establish the liability system for this tax.

Registered commercial entities and some non-profit organizations are entitled to fuel tax credits for taxable oil products used for conducting their commercial activities.

Fuel tax rates on fuel and oil products (other than aviation fuels) are currently indexed twice a year in line with the consumer price index (CPI). This indexation mechanism, in place since 1983, was interrupted in 2001 and re-introduced on 10 November 2014. Indexation currently takes place, every year, on 1 February and 1 August.

From 1 July 2016 onwards, domestically manufactured and imported ethanol and biodiesel are subject to fuel tax following the rates defined by the Excise Tariff Amendment (Ethanol and Biodiesel) Act 2015. Pursuant to these amendments, the excise rate on both ethanol and biodiesel is set as a percentage of the excise rate for gasoline. From 1 July 2019, the excise rate for ethanol and biodiesel is set at 26.216% and 13.333%, respectively, for the 2019-2020 financial year.

Gaseous fuels, including LPG, liquefied natural gas (LNG) and compressed natural gas (CNG), used for road transportation, are subject to fuel tax. Uses other than transportation are tax-free.

The rates shown in the tax rate tables at the end of this section refer to non-commercial users not eligible for tax credits under the current legal framework.

Electricity generation is not taxed, but the fuels used for production are.

### Fuel tax

From	To	Heavy fuel oil (AUD/tonne)	Light fuel oil (AUD/1000l)	Automotive diesel (AUD/l)	Gasoline (AUD/l)	Automotive LPG (AUD/l)
07.08.97	31.07.98	432.29	427.97	0.42797	0.42797	
01.08.98	31.01.99	434.89	430.54	0.43054	0.43054	
01.02.99	31.07.99	437.93	433.55	0.43355	0.43355	
01.08.99	31.01.00	439.24	434.85	0.43485	0.43485	
01.02.00	30.06.00	445.83	441.37	0.44137	0.44137	
01.07.00	31.07.00	445.83	441.37	0.37481	0.44137	
01.08.00	31.01.01	385.03	381.18	0.38118	0.38118	
01.02.01	28.02.01	400.43	396.43	0.39643	0.39643	
01.03.01	30.11.11	385.28	381.43	0.38143	0.38143	
01.12.11	30.06.12	385.28	381.43	0.38143	0.38143	0.025
01.07.12	30.06.13	385.28	381.43	0.38143	0.38143	0.050
01.07.13	30.06.14	385.28	381.43	0.38143	0.38143	0.075
01.07.14	09.11.14	385.28	381.43	0.38143	0.38143	0.100
10.11.14	31.01.15	389.90	386.00	0.38600	0.38600	0.101
01.02.15	31.07.15	392.93	389.00	0.38900	0.38900	0.102
01.08.15	31.01.16	395.96	392.00	0.39200	0.39200	0.128

From	To	Heavy fuel oil (AUD/tonne)	Light fuel oil (AUD/1000l)	Automotive diesel (AUD/l)	Gasoline (AUD/l)	Automotive LPG (AUD/l)
01.02.16	31.07.16	398.99	395.00	0.39500	0.39500	0.129
01.08.16	31.01.17	400.00	396.00	0.39600	0.39600	0.129
01.02.17	31.07.17	405.05	401.00	0.40100	0.40100	0.131
01.08.17	04.02.18	407.07	403.00	0.40300	0.40300	0.132
05.02.18	31.07.18	413.13	409.00	0.40900	0.40900	0.133
01.08.18	03.02.19	416.16	412.00	0.41200	0.41200	0.134
04.02.19	04.08.19	420.20	416.00	0.41600	0.41600	0.136
05.08.19	now	422.22	418.00	0.41800	0.41800	0.137

## Product specifications

	Automotive diesel	Premium unleaded (95 RON) gasoline	Regular unleaded gasoline	Automotive LPG	Natural gas
Quality	Automotive diesel oil (ADO)	Premium unleaded petrol (PULP)	Unleaded petrol (ULP)	LPG	
Octane number		95 RON	91 RON		
Density (kg/l)				0.55	
Sulphur content (%)					
GCV (kcal/m <sup>3</sup> )					9 506

## AUSTRIA

### Sources

Data for light fuel oil for households, automotive diesel for non-commercial users and all gasoline grades are provided on a quarterly basis by the **Federal Ministry for Sustainability and Tourism (BMNT)**.

Data for heavy fuel oil for electricity generation, automotive diesel for commercial users, as well as light fuel oil, steam coal, natural gas and electricity for industry are provided on a quarterly basis by **Statistics Austria**.

All data for natural gas and electricity are provided on a quarterly basis by **E-Control** from 3Q2017 onwards.

Prices and taxes data for low sulphur fuel oil are based on weekly data published in the **European Commission's Weekly Oil Bulletin**.

Retail energy price indices are based on data published by **Eurostat**.

### Data collection methodology

#### Oil products

Annual end-use for prices for heavy fuel oil for electricity generation, light fuel oil for industry and automotive diesel for commercial users are calculated by Statistics Austria based on a yearly survey of fuel quantities and expenditures incurred by around 3000 of the biggest industrial companies throughout the country. The survey is estimated to cover around 80% of total sectoral consumption.

End-use prices for these products are calculated as the ratio between total expenditure and total volumes consumed. The ex-tax price is then calculated by subtracting the applicable, legally established tax components from the end-use price.

Quarterly prices are estimated by Statistics Austria using the changes in the quarterly wholesale price index. Data are subsequently revised at the end of the yearly cycle.

Prices for low sulphur fuel oil are derived from data published in the European Commission's *Weekly Oil Bulletin*, which reports weekly ex-tax and end-use prices for a series of oil products in all EU countries.

Quarterly and annual figures are calculated as simple arithmetical averages of the weekly data. Total taxes are calculated as the subtraction of the quarterly and annual

ex-tax from the final prices. Excise taxes for non-commercial users are calculated by subtracting VAT from the calculated VAT figures. For commercial users, excise taxes are equal to the total tax, as they are exempt from VAT.

Prices for light fuel oil for households, automotive diesel for non-commercial users, regular unleaded gasoline and premium unleaded gasoline (98 and 95 RON) are derived from a weekly survey of pump prices, conducted in filling stations throughout the country every Monday by the Austrian Petroleum Industry Association. The prices collected in this survey are then consumption-weighted to produce a weekly national average, which is then used to produce quarterly prices as the simple arithmetical average of the weekly prices.

Prices for high sulphur fuel oil for industry are not applicable, due to limited sectoral consumption levels.

#### Natural gas

Up until 2Q2017, prices for industry are calculated by Statistics Austria based on a bi-annual survey of delivered quantities and realized revenues (including and excluding taxes). The respondents are natural gas suppliers and grid operators. The survey is estimated to cover around 80% of total sectoral consumption. Quarterly prices within each semester are assumed to be constant.

End-use prices are calculated as the ratio between total expenditure and total volumes consumed. By definition, this methodology includes all consumption bands. The ex-tax price is then calculated by subtracting the applicable, legally established tax components.

Quarterly prices are estimated by Statistics Austria using the changes in the quarterly wholesale price index. Data are subsequently revised at the end of the yearly cycle.

From 3Q2017 onwards, the prices for households and industry are calculated by E-Control on a bi-annual survey of realized prices and an annual survey of quantities. The respondents are all suppliers and network operators. The survey covers at least 95% of the non-household and nearly 100 % of the household consumption. In E-Control's bi-annual survey the prices are broken down by different components. The different taxes and levies are collected separately. The prices and different taxes reported by the suppliers and network operators are weighted with the relative market-share within the consumption band.

The prices for natural gas used for electricity generation (public sector only) are collected by E-Control. The methodology for the calculation is the same as for industry and households.

## Steam and coking coal

Prices for steam coal are calculated by Statistics Austria based on a yearly survey of fuel quantities and expenditures incurred by around 3000 of the biggest industrial companies throughout the country. The survey is estimated to cover around 80% of total sectoral consumption.

End-use prices for these products are calculated as the ratio between total expenditure and total volumes consumed. By definition, this methodology includes all consumption bands. The ex-tax price is then calculated by subtracting the applicable, legally established tax components, from the end-use price.

Quarterly prices for these products are estimated by Statistics Austria using the changes in the quarterly wholesale price index. Data are subsequently revised at the end of the yearly cycle.

Prices for steam coal for households are not applicable, due to limited sectoral consumption levels.

Prices for coking coal for industry are confidential as consumption is limited to a single company.

## Electricity

Up until 2Q2017, prices for industry are calculated by Statistics Austria based on a bi-annual survey of quantities and realized revenues (including and excluding taxes). The respondents are electricity suppliers and grid operators. The survey is estimated to cover around 80% of total sectoral consumption. The reported prices include all consumption bands. Quarterly prices within each semester are assumed to be constant.

End-use prices are calculated as the ratio between total expenditure and total volumes consumed. By definition, this methodology includes all consumption bands. The ex-tax price is then calculated by subtracting the applicable, legally established tax components, from the end-use price.

Quarterly prices are estimated by Statistics Austria using the changes in the quarterly wholesale price index. Data are subsequently revised at the end of the yearly cycle.

From 3Q2017 onwards, the prices for households and industry are calculated by E-Control on a bi-annual survey of realized prices and an annual survey of quantities. The respondents are all suppliers and network operators. The survey covers at least 95% of the non-household and nearly 100 % of the household consumption. In E-Control's bi-annual survey the prices are broken down by different components. The different taxes and levies are collected separately. The prices and different taxes reported by the suppliers and network operators are weighted with the relative market-share within the consumption band.

## Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the Harmonised Indices of Consumer Prices (HICP) produced by Eurostat.

Retail indices for oil products refer to a consumption-weighted average of the *liquid fuels* (cp0453) and *fuels and lubricants for personal transport equipment* (cp0722) series. Relative weights used for the calculations are taken from the associated item weights series (prc\_hicp\_inw), published by Eurostat.

Retail indices for electricity refer to the *electricity* (cp0451) series.

Retail indices for natural gas refer to the *gas* (cp0452) series.

Retail indices for coal refer to the *solid fuel* (cp0454) series.

## Energy taxation

### VAT

VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for industry, electricity generation and automotive fuels for commercial use.

From	To	%
01.01.73	31.12.80	8
01.01.81	31.12.83	13
01.01.84	now	20

### Excise tax

Energy taxes are levied in accordance with the 2003 EU Energy Taxation Directive.

The excise taxes in Tables 1, 2 and 3 are the sum of all non-VAT tax components applicable to each product.

In the case of oil products, the excise tax consists of the mineral oil tax plus the emergency stock fee.

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Mineral oil tax	x	x	x	x	x				
Natural gas tax						x			
Coal tax							x		
Electricity tax									x

**Mineral oil tax** (*Mineralölsteuer*)

Excise taxation on oil products is legally defined, in its current form, in the Mineral Oil Tax Law of 1995 and its amendments.

Under the Mineral Oil Tax Law of 1995, oil products (mineral oils) used for heating or as propellants are subject to a mineral oil tax. Heavy fuel oil used for electricity generation is exempt.

**Emergency Stock Fee** (*Pflichtnotstandsreservenabgabe*)

The Emergency Stock Fee is not a tax imposed by the state. These are the costs reported by the companies which are obliged to hold stocks to the Austrian Federal Association of the Oil Industry and the Austrian Federal Association of Energy Dealers. The costs are the prices agreed upon for transferring the stockholding obligations to a counterparty or to the Austrian Central Stockholding Entity (*Erdöllagergesellschaft mbH*). Based on these values, the two associations calculate weighted average values and in turn report them to the Federal Ministry for Sustainability and Tourism. The only legal element in this context is an upper limit to the tariff which the Austrian Central Stockholding Entity (*Erdöllagergesellschaft mbH*) is entitled to charge for taking over stockholding obligations.

**Natural gas tax** (*Erdgasabgabe*)

The natural gas tax system is legally defined in the Natural Gas Tax Law, which came into force on 1 April 1996. Natural gas is taxed throughout the country, with the exception of Jungholz (Tyrol) and Mittelberg (Vorarlberg).

Natural gas used for electricity generation and for non-energy uses is exempted from this tax. Several industrial sectors benefit from lower tax rates.

Tax rates are expressed in EUR/m<sup>3</sup>. The tax rate table at the end of this section was converted to MWh GCV using the annual calorific value.

**Coal tax** (*Kohleabgabe*)

The coal tax system is legally defined in the Coal Tax Law, which came into force on 20 August 2003. Coal is taxed throughout the country, with the exception of Jungholz (Tyrol) and Mittelberg (Vorarlberg).

Coking coal and steam coal used for electricity generation are exempted from this tax.

Since its introduction in 2003, the tax rate has been kept constant at 50 EUR/tonne.

**Electricity tax** (*Elektrizitätsabgabe*)

The electricity tax system currently in place in Austria is legally defined in the Electricity Tax Law, which came into force on 1 April 1996. Electricity is taxed throughout the country, with the exception of Jungholz (Tyrol) and Mittelberg (Vorarlberg).

In addition to this tax, electricity consumption is subject to a number of other smaller levies, including local taxes, renewables and CHP surcharges which are not included in the tax rates shown in the tables at the end of this section.

**Mineral oil tax** (*Mineralölsteuer*)

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)
01.01.92	31.12.93	14.5	47.0	0.220	0.291
01.01.94	30.04.95	14.5	47.0	0.220	0.328
01.05.95	31.12.01	36.3	69.0	0.283	0.408
01.01.02	31.12.03	36.0	69.0	0.282	0.407
01.01.04	30.09.05	60.0	98.0	0.302	0.417
01.10.05	30.06.07	60.0	98.0	0.325	0.417
01.07.07	31.12.10	60.0	98.0	0.375	0.475
01.01.11	31.05.13	60.0	98.0	0.425	0.515
01.06.13	now	60.0	98.0	0.397	0.482



**Emergency stock fee** (*Pflichtnotstandsreservenabgabe*)

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/1000l)	Gasoline* (EUR/1000l)
01.07.97	30.03.98		7.1		
01.04.98	31.10.98		6.7		
01.11.98	30.03.99		6.7	6.7	6.5
01.04.99	30.03.00		6.5	6.5	6.3
01.04.00	30.03.01		7.1	7.1	6.7
01.04.01	31.12.01		7.1	7.6	7.2
01.01.02	31.03.02		7.6	7.6	7.2
01.04.02	31.03.03		7.2	7.2	6.9
01.04.03	31.12.03		8.1	8.1	7.7
01.01.04	31.03.05	7.7	8.1	8.1	7.7
01.04.05	31.03.06	7.7	9.0	9.0	8.1
01.04.06	31.03.07	7.7	10.3	10.3	9.6
01.04.07	31.03.08	7.7	10.3	10.3	9.1
01.04.08	31.03.09	7.7	11.4	11.4	10.3
01.04.09	31.03.10	7.7	10.9	10.9	9.7
01.04.10	31.03.11	7.7	11.2	11.2	10.1
01.04.11	31.03.12	7.7	11.2	11.5	10.4
01.04.12	31.03.13	7.7	11.2	11.9	10.7
01.04.13	31.03.14	7.7	11.2	12.4	11.2
01.04.14	now	7.7	11.2	12.6	11.4

\*Eurosuper (95 RON)

**Natural gas tax** (*Erdgasabgabe*)

From	To	Natural gas (EUR/MWh)
01.07.96	31.12.01	4.206
01.01.02	31.12.03	4.528
01.01.04	31.12.12	5.898
01.01.13	31.12.13	5.893
01.01.14	31.12.14	5.872
01.01.15	31.12.15	5.861
01.01.16	31.12.16	5.836
01.01.17	now	5.841

**Electricity tax** (*Elektrizitätsabgabe*)

From	To	Electricity (EUR/MWh)
01.07.96	31.05.00	7.3
01.06.00	now	15.0

## Product specifications

### Oil products

	High sulphur fuel oil	Low sulphur fuel oil	Light fuel oil industry	Light fuel oil households	Automotive diesel
Quality	Heizöl schwer	Heizöl mittel	Heizöl extraleicht	Heizöl extraleicht	
Density (kg/l)		1	0.84	0.84	0.84
Sulphur content (%)	<1	<0.4	0.2	0.1	<0.001

	Premium unleaded (98 RON) gasoline	Premium unleaded (95 RON) gasoline	Regular unleaded gasoline
Quality	Super Plus 98	Euro Super 95	
Octane number	98 RON	95 RON	91 RON
Density (kg/l)	0.75	0.75	0.75
Sulphur content (%)	<0.001	<0.001	<0.001
Lead content (g/l)	0.013	0.013	0.013

### Natural gas

	Natural gas
GCV (kcal/m <sup>3</sup> )	9 716

## BELGIUM

### Sources

Prices and taxes data for all energy products as well as energy price indices, are provided on a quarterly basis by **the Federal Public Service for Economy, Small and medium-sized enterprises, Self-Employed and Energy (FPS Economy)**

### Data collection methodology

#### Oil products

Oil product prices in Belgium are subject to maximum pump prices, calculated by the FPS Economy on a daily basis. Actual prices levels in the country are close to these maxima. In 2015, retail prices for transport fuels were, on average, 0.07 EUR/l below the maxima.

Ex-tax prices reported in the publication are based on these maximum prices for gasoline, diesel, LPG, LFO and heavy fuel oils. Ex-tax prices include the ex-refinery price, profit margins, stockholding fees and mandatory contributions to the social heating fund and to the fund for soil remediation of filling stations (BOFAS fee).

The applicable excise fees, as well as VAT for non-commercial consumers, are then added to the ex-tax prices to obtain final end-use prices.

#### Natural gas

Prices refer to the Eurostat consumption bands D1, D2 and D3 for households; and bands I1, I2, I3, I4 and I5, for industry, covering the whole consumption spectrum. From 1Q2014 onwards, prices also include band I6.

National average prices are computed by the FPS Economy as consumption-weighted averages of the average prices per band published by Eurostat. The weights used for this calculation are bi-annual consumption figures per band collected through surveys.

Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Excise taxes are calculated as the subtraction of the prices excluding taxes from the prices including non-VAT taxes, as published by Eurostat.

#### Steam and coking coal

From 1Q2014 onwards, prices for steam coal for households and electricity generation are not applicable due to limited sectoral consumption levels.

From 2012 onwards, annual prices for steam coal and coking coal for industry, refer to use in the iron and steel sector, which is the main consumer of solid coal products in the country with a sectoral and global share of over 80% in 2016. These prices are collected through an annual survey.

#### Electricity

Prices refer to the Eurostat consumption bands DA, DB, DC, DD and DE for households; and bands IA, IB, IC, ID, IE and IF, for industry, covering the whole consumption spectrum.

National average prices are computed by the FPS Economy as consumption-weighted averages of the average prices per band published by Eurostat. The weights used for this calculation are bi-annual consumption figures per band collected through surveys.

Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Excise taxes are calculated as the subtraction of the prices excluding taxes from the prices including non-VAT taxes, as published by Eurostat.

#### Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the monthly indices produced by the National Bank of Belgium (wholesale) and by FPS Economy (retail).

Wholesale indices for oil products refer to *manufacture of refined petroleum products* (raffinage de pétrole). Retail indices are a weighted average of the series referring to *propellants* (carburants), *liquid fuels* (combustibles liquides) and *petroleum gases* (gaz de pétrole).

Wholesale indices for electricity refer to *production, transmission and distribution of electricity* (production, transport et distribution d'électricité). Retail indices refer to *electricity* (électricité).

Wholesale indices for natural gas refer to *gas production and distribution* (production et distribution de gaz). Retail indices refer to *natural gas* (gaz naturel).

Wholesale indices for coal refer to *energy raw materials, coal* (matières énergétiques, charbon). Retail indices refer to *solid fuels* (combustibles solides).

### Energy taxation

#### VAT

VAT (*TVA/BTW*) was introduced in Belgium on 1 January 1971. VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown

for industry, electricity generation and automotive fuels for commercial use.

A reduced VAT rate applied to light fuel oil for households until 31 March 1992. From 1 April 1992 onwards, the reduced VAT rate applies coal only.

From	To	General %	Reduced %
01.04.92	31.12.93	19.5	12
01.01.94	31.12.95	20.5	12
01.01.96	now	21	12

## Excise tax

Excise taxes on commercial energy products in Belgium are levied in accordance with the 2003 EU Energy Taxation Directive.

Automotive LPG for all consumers, as well as steam coal for households, are exempted from federal taxation.

Coal products with a 'dual use' are also exempted from federal taxation. The use of energy products for chemical reduction or electrolytic and metallurgical processes is considered dual use. The published prices for industry (iron and steel) are therefore exempt from federal taxation.

In addition to the excise tax components applicable at a federal level, regional authorities in Belgium can levy additional fees on commercial energy products sales.

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Excise duties	x	x	x	x			x	x	
Energy fee	x	x	x	x		x	x	x	x
Federal natural gas fee						x			
Federal electricity fee									x
BOFAS			x	x					
Social heating fund		x							
Stockholding fee	x	x	x	x					

### Excise duties (*Droit d'accise/Accijns*)

The current excise taxation system on energy products in Belgium is legally defined in its current form in the 27 June 2016 Law, which came in force on 30 June 2016.

Excise duties on commercial energy products in Belgium are expressed in a per-volume basis.

Excise duties in Belgium include a self-adjusting mechanism to partially compensate for changes in the maximum price of the taxable goods.

The positive 'click', first introduced in August 2003, corrects the excise duty rates for gasoline and diesel so that every unitary drop in the maximum price is partially offset by a half-unit increase in the tax rate.

Conversely, the negative or inverse 'click', corrects the excise duty rates for gasoline and diesel so that every unitary rise in the maximum price is partially offset by a half-unit decrease in the tax rate, provided the maximum prices for these fuels are over a legally defined value.

In the tables at the end of this section, the excise duty rates shown for oil products include the energy fee described below.

### Energy fee (*Cotisation énergie/ Bijdrage op de energie*)

An additional tax component, which applies to oil products, natural gas, solid fuels and electricity, was established by the 23 July 1993 Law and subsequently modified by the 27 December 2005 Law.

Revenue collected from this tax is earmarked for "maintaining the financial health of the social security system". Only low-tension users of electricity (<1 kV) are subject to this tax component. In consequence, most industrial consumers are exempted from it. In the low-voltage category, the law sets a reduced rate for professional consumers with environmental certificates (EAE).

For natural gas, all final consumers are subject to the energy fee. Tax rates distinguish professional and non-professional consumers, as well as those with environmental certificates.

In the tables at the end of this section, the energy fee is aggregated with the excise duty rates shown for oil products. Historical rates for electricity and natural gas are currently not available.

### Federal natural gas fee (*Cotisation fédérale gaz naturel/Federale bijdrage aardgas*)

An additional excise tax component on natural gas, known as the federal natural gas fee, was established in the 24 December 2002 Law, and subsequently modified by the 26 March 2014 Law and the 2 April 2014 Royal Decree.

The federal natural gas fee is charged to final consumers of natural gas and the revenues from it are earmarked for financing certain public service obligations of natural gas providers, and to cover costs linked to the regulation and control of natural gas markets in the country. Revenues from this tax component are collected and administered by the Regulatory Commission for Electricity and Natural Gas (CREG).

The applicable rates are expressed in a per kWh basis and are updated annually. Rates for the first 20 GWh of annual consumption are the same for households and industry.

Industry consumption beyond 20 GWh/year is taxed at 85% of the rate in the 20-50 GWh band; 80% of the rate in the 50-250 GWh band; 75% of the rate in the 250-1 000 GWh band, and 55% of the rate thereafter.

The resulting effective rate for industry is therefore dependent on the consumption of each industrial user.

The 26 March 2014 Law exempted natural gas used for electricity generation from this tax component.

Tax rates shown at the end of this section are taken from CREG's website and include fixed expenses (*frais forfaitaires/forfaitair kosten*).

**Federal electricity fee** (*Cotisation fédérale électricité/ Federale bijdrage elektriciteit*)

An additional excise tax component on electricity, known as the federal electricity fee, was established by the 29 April 1999 Law on the organisation of the electricity market, and subsequently modified by the Royal Decree of 24 March 2003.

The federal electricity fee is charged to final consumers of electricity and the revenues from it are earmarked for financing certain public service obligations of electricity providers, and to cover costs linked to the regulation and control of electricity markets in the country. Revenues from this tax component are collected and administered by the Regulatory Commission for Electricity and Natural Gas (CREG).

The applicable rates are expressed in a per kWh basis and are updated annually. Rates for the first 20 MWh of annual consumption are the same for households and industry.

Industry consumption beyond 20 MWh/year is taxed at 85% of the rate in the 20-50 MWh band; 80% of the rate in the 50-1 000 MWh band; 75% of the rate in the 1 000-25 000 MWh band, and 55% of the rate thereafter.

The resulting effective rate for industry is therefore dependent on the consumption of each industrial user.

**Excise duties** (*Droit d'accise/Accijns*)

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Diesel (EUR/l)	Gasoline (EUR/l)
10.01.05	03.02.05	15.00	18.49	0.3329	0.5642
04.02.05	08.02.05	15.00	18.49	0.3404	0.5642
09.02.05	08.04.05	15.00	18.49	0.3404	0.5742
09.04.05	13.04.05	15.00	18.49	0.3404	0.5862
14.04.05	15.04.05	15.00	18.49	0.3507	0.5862
16.04.05	20.04.05	15.00	18.49	0.3510	0.5922

Tax rates shown at the end of this section are taken from CREG's website.

**BOFAS fee** (*Fonds d'assainissement des sols des stations-service/ Bodemsaneringsfonds voor tankstations*)

The BOFAS fee is an obligatory fixed contribution levied on automotive diesel and gasoline sales since 2Q2004. The revenue is used for soil remediation in filling stations.

Since its introduction, the BOFAS fee has been levied at a rate of 0.00197 EUR/l for automotive diesel and 0.00322 EUR/l for gasoline.

The BOFAS fee contribution was reduced to 0 EUR/l for both automotive diesel and gasoline from 01/01/2018 onwards.

The BOFAS fee is included in the ex-tax prices presented in this publication.

**Social heating fund fee** (*Fond social chauffage/ Sociaal Verwarmingsfonds*)

The Social heating fund fee is an obligatory fixed contribution levied on heating gasoil (light fuel oil) and other heating fuels since 2005. The revenue from this fee is used to subsidize domestic heating fuels for low-income households.

Since its introduction, the Social heating fund fee has been levied on light fuel oil sales at a rate of 1.6 EUR/1000l.

The Social heating fund fee is included in the ex-tax prices presented in this publication.

**Stockholding fee** (*contribution APETRA/ APETRA bijdrage*)

A strategic stockholding fee is levied on oil product sales. The revenue from this fee is used to cover the cost of maintaining the country's strategic reserves, managed by APETRA, the Belgian stockholding agency.

The fee is updated quarterly and distinguishes between three product categories. Category 1 includes all gasoline grades; Category 2 includes kerosene and gas/diesel oils and Category 3 includes heavy fuel oils.

The stockholding fee is included in the ex-tax prices presented in this publication.

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Diesel (EUR/l)	Gasoline (EUR/l)
21.04.05	09.05.05	15.00	18.49	0.3586	0.5922
10.05.05	17.05.05	15.00	18.49	0.3657	0.5922
18.05.05	05.07.05	15.00	18.49	0.3679	0.5922
06.07.05	12.08.05	15.00	18.49	0.3653	0.5922
13.08.05	17.08.05	15.00	18.49	0.3632	0.5922
18.08.05	01.09.05	15.00	18.49	0.3601	0.5922
02.09.05	16.09.05	15.00	18.49	0.3523	0.5922
17.09.05	23.09.05	15.00	18.49	0.3500	0.5922
24.09.05	06.10.05	15.00	18.49	0.3444	0.5922
07.10.05	07.04.06	15.00	18.49	0.3413	0.5922
08.04.06	14.04.06	15.00	18.49	0.3404	0.5922
15.04.06	24.04.06	15.00	18.49	0.3366	0.5922
25.04.06	11.05.06	15.00	18.49	0.3324	0.5922
12.05.06	31.05.06	15.00	18.49	0.3312	0.5922
01.06.06	29.06.06	15.00	18.49	0.3295	0.5922
30.06.06	18.07.06	15.00	18.49	0.3267	0.5922
19.07.06	02.08.06	15.00	18.49	0.3237	0.5922
03.08.06	23.08.06	15.00	18.49	0.3194	0.5922
24.08.06	31.10.06	15.00	18.49	0.3180	0.5922
01.11.06	04.03.07	15.00	18.49	0.3282	0.5922
05.03.07	30.09.07	15.00	18.49	0.3311	0.5922
01.10.07	04.12.07	15.00	18.49	0.3334	0.6227
05.12.07	21.02.08	15.00	18.49	0.3179	0.6227
22.02.08	16.04.08	15.00	18.49	0.3179	0.6208
17.04.08	24.04.08	15.00	18.49	0.3179	0.6185
25.04.08	13.05.08	15.00	18.49	0.3179	0.6140
14.05.08	22.05.08	15.00	18.49	0.3179	0.6076
23.05.08	09.06.08	15.00	18.49	0.3179	0.6033
10.06.08	30.06.08	15.00	18.49	0.3179	0.5969
01.07.08	28.08.08	15.00	18.49	0.3179	0.5967
29.08.08	15.09.08	15.00	18.49	0.3189	0.5929
16.09.08	09.01.09	15.00	18.49	0.3179	0.5856
10.01.09	20.01.09	15.00	18.49	0.3320	0.5856
21.01.09	13.02.09	15.00	18.49	0.3407	0.5856
14.02.09	20.02.09	15.00	18.49	0.3465	0.5856
21.02.09	23.02.09	15.00	18.49	0.3529	0.5856
24.02.09	31.03.09	15.00	18.49	0.3529	0.5985
01.04.09	29.04.09	15.00	18.49	0.3529	0.6014
30.04.09	19.06.09	15.00	18.49	0.3529	0.6114
20.06.09	18.01.10	15.00	18.49	0.3529	0.6136
19.01.10	27.01.10	15.00	18.49	0.3616	0.6136
28.01.10	13.04.10	15.00	18.49	0.3662	0.6136
14.04.10	17.05.10	15.00	18.49	0.3728	0.6136
18.05.10	25.05.10	15.00	18.49	0.3774	0.6136
26.05.10	03.01.11	15.00	18.49	0.3929	0.6136
04.01.11	24.01.11	15.00	18.49	0.4045	0.6136
25.01.11	19.04.11	15.00	18.49	0.4107	0.6136
20.04.11	05.05.11	15.00	18.49	0.4165	0.6136
06.05.11	12.05.11	15.00	18.49	0.4306	0.6136
13.05.11	09.11.11	15.00	18.49	0.4329	0.6136
10.11.11	16.11.11	15.00	18.49	0.4305	0.6136
17.11.11	06.08.13	15.00	18.49	0.4277	0.6136
07.08.13	31.12.14	16.20	18.49	0.4277	0.6136
01.01.15	31.10.15	16.24	18.54	0.4288	0.6152

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Diesel (EUR/l)	Gasoline (EUR/l)
01.11.15	19.11.15	16.24	18.54	0.4315	0.6152
20.11.15	03.12.15	16.24	18.54	0.4381	0.6152
04.12.15	11.12.15	16.24	18.54	0.4518	0.6152
12.12.15	31.12.15	16.24	18.54	0.4648	0.5924
01.01.16	05.07.16	16.35	18.65	0.4648	0.6191
06.07.16	12.07.16	16.35	18.65	0.4706	0.6191
13.07.16	26.07.16	16.35	18.65	0.4789	0.6191
27.07.16	02.08.16	16.35	18.65	0.4864	0.6191
03.08.16	31.12.06	16.35	18.65	0.4969	0.6100
01.01.17	13.01.17	16.35	18.65	0.5077	0.6232
14.01.17	13.03.17	16.35	18.65	0.5131	0.6232
14.03.17	22.03.17	16.35	18.65	0.5255	0.6190
23.03.17	31.12.17	16.35	18.65	0.5300	0.6051
01.01.18	05.02.18	16.35	18.65	0.5385	0.6148
06.02.18	12.02.18	16.35	18.65	0.5456	0.6148
13.02.18	08.03.18	16.35	18.65	0.5601	0.6148
09.03.18	04.06.18	16.35	18.65	0.5659	0.6148
05.06.18	12.06.18	16.35	18.65	0.5738	0.6148
13.06.18	22.06.18	16.35	18.65	0.5775	0.6148
23.06.18	10.07.18	16.35	18.65	0.5854	0.6148
11.07.18	18.07.18	16.35	18.65	0.5900	0.6148
19.07.18	now	16.35	18.65	0.6002	0.6002

**Federal fees** (*Cotisations fédérales/Federale bijdragen*)

From	To	Natural gas (EUR/MWh)	Electricity (EUR/MWh)
01.01.04	31.12.04	0.1237	1.4485
01.01.05	31.03.05	0.1239	1.7331
01.04.05	30.04.05	0.1239	1.6488
01.05.05	30.09.05	0.1050	1.6488
01.10.05	31.12.05	0.1050	1.6621
01.01.06	31.12.06	0.1252	1.8987
01.01.07	31.12.07	0.1121	2.1080
01.01.08	31.12.08	0.1151	2.3537
01.01.09	31.12.09	0.1511	2.6194
01.01.10	31.12.10	0.1490	4.0685
01.01.11	31.12.11	0.1510	5.2648
01.01.12	20.01.12	0.1309	5.0854
21.01.12	31.03.12	0.1309	4.9761
01.04.12	31.12.12	0.1155	3.8597
01.01.13	31.12.13	0.1355	2.9781
01.01.14	31.08.14	0.3978	2.4714
01.09.14	31.12.14	0.6706	2.4714
01.01.15	31.12.15	0.7959	2.5310
01.01.16	31.12.16	0.6309	3.0033
01.01.17	31.12.17	0.5672	3.3705
01.01.18	31.12.18	0.5984	3.4439
01.01.19	now	0.6043	3.3461

**Stockholding fee (APETRA)**

From	To	Category 1 (EUR/1000l)	Category 2 (EUR/1000l)	Category 3 (EUR/tonne)
01.01.00	31.03.00	5.54	5.28	4.75
01.04.00	30.06.00	5.91	5.91	5.04
01.07.00	30.09.00	6.23	6.35	5.37
01.10.00	31.12.00	6.26	6.84	5.58
01.01.01	31.03.01	6.85	8.51	6.40
01.04.01	04.05.01	6.15	6.52	5.26
05.05.01	30.06.01	6.31	6.52	5.46
01.07.01	30.09.01	7.13	6.44	5.39
01.10.01	31.12.01	6.45	6.51	5.20
01.01.02	31.03.02	5.71	5.97	4.95
01.04.02	30.06.02	5.36	5.50	4.85
01.07.02	30.09.02	6.72	6.42	5.55
01.10.02	31.12.02	6.45	6.14	5.43
01.01.03	31.03.03	6.01	5.96	5.50
01.04.03	30.06.03	6.17	6.29	5.59
01.07.03	30.09.03	5.92	5.86	5.14
01.10.03	31.12.03	5.66	5.39	5.00
01.01.04	31.03.04	5.95	5.88	5.16
01.04.04	30.06.04	5.93	5.86	4.77
01.07.04	30.09.04	6.66	6.14	4.95
01.10.04	31.12.04	6.66	6.45	4.86
01.01.05	31.03.05	6.55	6.96	4.80
01.04.05	30.06.05	5.93	6.36	4.74
01.07.05	30.09.05	6.73	7.06	5.32
01.10.05	31.12.05	7.83	8.03	5.78
01.01.06	31.03.06	8.13	8.41	6.35
01.04.06	30.06.06	8.21	8.66	6.73
01.07.06	30.09.06	9.17	9.29	6.84
01.01.07	31.03.07	7.40	8.21	5.54
01.04.07	30.06.07	7.88	8.31	5.92
01.07.07	30.09.07	9.30	9.08	6.35
01.10.07	31.12.07	9.91	10.06	7.29
01.01.08	31.03.08	9.94	11.01	8.06
01.04.08	30.06.08	9.85	10.92	8.48
01.07.08	30.09.08	10.63	12.72	8.81
01.10.08	31.12.08	12.68	14.88	11.33
01.01.09	31.03.09	9.62	11.83	8.78
01.04.09	30.06.09	6.91	8.30	6.10
01.07.09	30.09.09	7.73	7.76	6.45
01.10.09	31.12.09	8.82	8.61	7.61
01.01.10	31.03.10	8.54	8.64	7.86
01.04.10	30.06.10	8.70	8.83	7.98
01.07.10	30.09.10	9.80	9.87	8.53
01.10.10	31.12.10	9.26	9.63	8.38
01.01.11	31.03.11	8.99	9.52	7.99
01.04.11	30.06.11	10.25	10.92	8.86
01.07.11	30.09.11	11.76	12.27	10.37
01.10.11	31.12.11	11.44	11.99	10.32
01.01.12	31.03.12	10.84	11.92	9.98
01.04.12	30.06.12	11.25	12.17	10.61



From	To	Category 1 (EUR/1000l)	Category 2 (EUR/1000l)	Category 3 (EUR/tonne)
01.07.12	30.09.12	12.40	12.57	11.18
01.10.12	31.12.12	11.44	11.74	10.15
01.01.13	31.03.13	11.43	12.18	10.00
01.04.13	30.06.13	10.94	11.60	9.61
01.07.13	30.09.13	11.67	12.00	10.12
01.10.13	31.12.13	11.74	12.10	10.03
01.01.14	31.03.14	11.30	12.26	9.97
01.04.14	30.06.14	10.67	11.49	9.49
01.07.14	30.09.14	10.78	11.11	9.57
01.10.14	31.12.14	10.66	10.84	9.10
01.01.15	31.03.15	9.44	9.87	8.00
01.04.15	30.06.15	7.23	8.06	6.04
01.07.15	30.09.15	8.22	7.88	6.42
01.10.15	31.12.15	8.32	7.88	6.01
01.01.16	31.03.16	7.03	7.23	5.20
01.04.16	30.06.16	6.14	6.05	4.41
01.07.16	30.09.16	6.39	6.38	4.77
01.10.16	31.12.16	6.45	6.55	5.26
01.01.17	31.03.17	6.50	6.73	5.49
01.04.17	30.06.17	7.18	7.31	6.07
01.07.17	30.09.17	7.20	7.10	5.89
01.10.17	31.12.17	6.94	6.78	5.68
01.01.18	31.03.18	7.25	7.38	6.03
01.04.18	30.06.18	7.18	7.47	6.11
01.07.18	30.09.18	7.52	7.79	6.34
01.10.18	31.12.18	7.93	8.18	6.85
01.01.19	31.03.19	7.68	8.55	7.00
01.04.19	30.06.19	6.81	7.74	6.30
01.07.19	now	7.81	8.02	6.74

## Product specifications

### Oil products

	High sulphur fuel oil	Low sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (98 RON) gasoline	Premium unleaded (95 RON) gasoline
Quality	Fuel oil lourd	Fuel oil lourd	Gas oil chauffage	European Standard EN 590	European Standard EN 228	European Standard EN 228
Density (kg/l)	0.93	0.93	0.84	0.833	0.745	0.745
Sulphur content (%)	1 - 3	1	0.005	0.001	0.001	0.001
NCV (kcal/kg)	9 550	9 550	10 200	10 100	10 350	10 350
Delivery size	<24 000 tonnes/ year	2 000 – 5 000 t	<24 000 tonnes/ year			

### Coal

	Steam coal <i>industry</i>	Steam coal <i>households</i>	Coking coal <i>industry</i>
Quality		Anthracite 12/22	
NCV (kcal/kg)	6 300	6 800	7 000

## CANADA

### Sources

Prices and taxes data for all products, as well as energy price indices, are provided on a quarterly basis by **Natural Resources Canada (NRCan)**.

### Data collection methodology

From 1Q1993 onwards, prices refer to the monthly averages of the quarter. Prior to 1Q1993, prices refer to the first month of the quarter.

Provinces and municipalities in Canada can levy taxes within their jurisdiction, as described in the Energy Taxation section of this document. Tax amounts shown for the Goods and Services tax (GST) correspond to the federal portion of the tax applicable throughout the country. Excise taxes contain the provincial components of the applicable sales tax, as well as local excise taxes.

### Oil products

Ex-tax prices for high sulphur fuel oil and light fuel oil for industry are calculated by NRCan as the simple arithmetical average of the monthly average refinery terminal prices at Montreal and Toronto, after discounts. Provincial taxes are included in the excise tax figures and are estimated by the reporting agency as 4.3% of the ex-tax price. The GST amounts refer to the federal component only and are calculated as 5% of the ex-tax price. End-use prices are then calculated as the sum of the ex-tax prices and the applicable taxes.

End-use prices and total taxes for light fuel oil for households, automotive diesel for non-commercial use, unleaded premium gasoline (97 RON and 95 RON) and unleaded regular gasoline, are calculated by NRCan as the simple arithmetical average of the monthly average national prices reported in NRCan's website. Provincial taxes are considered as part of excise taxes and are calculated as by subtracting the GST amount, calculated using the applicable federal rate, from the total taxes reported in NRCan's website.

Prices for automotive diesel for commercial use are based on the retail diesel prices used to calculate prices for non-commercial users. As most commercial users are exempt from provincial fuel taxes, average provincial taxes for the year are subtracted from the retail prices to obtain an end-use price for commercial users. The rest of

the data is calculated using the same methodology as for other road fuels.

Prices for unleaded premium gasoline (95 RON) are derived from data published in the Kent Group's *Daily Pump Price Survey in Canada*, which reports daily end-use prices for a series of oil products in 70 cities across Canada, as well as a national average price computed as a weighted average of the prices in all provincial capitals.

Quarterly and annual end-use prices are calculated as simple arithmetical averages of the data for every Tuesday of each period. Ex-tax prices are then computed by subtracting the applicable federal level excise taxes and the federal GST.

### Natural gas

Natural gas prices for industry and households are derived from the monthly unit prices for households and industry published by Statistics Canada (series v47775 and v47759, respectively).

Quarterly ex-tax prices for industry and households are calculated as simple arithmetical averages of the monthly data. The applicable GST rates are then used to calculate the GST amounts based on the quarterly end-use prices. Ex-tax prices are then calculated by subtracting the GST amounts from the end-use prices. Provincial sales taxes, as well as provincial excise taxes, are included in the ex-tax price.

Natural gas prices and taxes data for electricity generation are currently not available.

### Steam and coking coal

Steam and coking coal prices and taxes data are currently not available.

### Electricity

Since 1990, prices for households refer to the residential sector. Prices for industry are the weighted average of two tariff categories: 1 000 kW and 5 000 kW. The most recent prices are estimated by NRCan. The final data are available two years after the relevant year.

Prior to 1990, the prices shown in the main table are annual average revenues per MWh received by the Canadian utilities from all industrial sectors (including mining) and from households (and agricultural units of some provinces).

Annual end-use and ex-tax prices for households and industry are calculated as the simple arithmetical average of the electricity prices in 12 Canadian cities, published in Hydro Quebec's *Comparaison des prix de l'électricité dans les grandes villes nord-américaines* report.

Total taxes are then calculated by subtracting the average ex-tax prices from the average end-use prices for each sector. The disaggregation of total taxes into GST and excise taxes is currently not available.

## Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the monthly data published by Statistics Canada.

Wholesale indices for oil products refer to Table 329-0075, series v79309138, *energy and petroleum products*. Retail indices refer to Table 326-0020, series v41691066 and v41691136, *weighted average of gasoline and fuel oil and other fuels*.

Wholesale indices for electricity refer to Table 329-0079, series v107792869, *electric power (non-residential)*. Retail indices refer to Table 326-0020, series v41691063, *electricity*.

Wholesale indices for natural gas refer to Table 330-0008, series v79310649, *natural gas*. Retail indices refer to Table 326-0020, series v41691065, *natural gas*.

Wholesale indices for coal refer to Table 330-0007, series v53434849, *coal (thermal)*.

## Energy taxation

### VAT

The Goods and Services Tax/Taxe sur les Produits et les Services (GST/TPS), a federal level, VAT-equivalent *ad valorem* tax, is levied on all transactions involving commercial energy products.

In addition to this federal level tax, Canadian provinces can levy an additional Provincial Sales Tax (PST). The revenue from this VAT-equivalent *ad valorem* tax is administered by the provincial authorities.

On 1 April 1997, Newfoundland and Labrador, Nova Scotia and New Brunswick introduced a Harmonized Sales Tax/Taxe de Vente Harmonisée (HST/TVH), effectively merging their provincial sales taxes with the GST/TPS. The system was introduced in Ontario and British Columbia on 1 July 2010, and on 1 April 2013, in Prince Edward Island. On 1 April 2013, British Columbia reverted to the previous system following a provincial referendum. HST/TVH revenues are collected by the Canada Revenue Agency, which then transfers the provincial component back to the provinces.

In Canada's four Atlantic Provinces (Nova Scotia, Newfoundland and Labrador, New Brunswick and Prince Edward Island), natural gas and light fuel oil for heating are exempt from the provincial component of HST/TVH. For these products, only the GST/TPS rate applies.

Nunavut, Yukon and the Northwest Territories cannot levy PST on account of their non-provincial status. In these regions, only the GST/TPS applies.

Alberta is the only province where PST is effectively not levied.

In Quebec, both GST/TPS and the Quebec Sales Tax/Taxe de vente du Québec (QST/TVQ) are collected by Revenu Québec, which then transfers GST revenue to the federal government.

The table at the end of this section shows the effective total VAT-equivalent tax levied in each province and territory.

### Excise tax

Excise taxes in Canada are levied on oil products at national and provincial levels. Three municipalities in Canada (Vancouver, Victoria and Montréal) levy additional taxes on fuel consumption sold within municipal boundaries. In general, provincial fuel taxes are set at a higher rate than federal taxes.

There are no national-level excise taxes on natural gas, coal and electricity.

#### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Federal excise taxes			x	x					

#### Federal excise taxes

Federal excise duties are levied on automotive diesel and gasoline. Fuel oil, compressed natural gas (CNG) and automotive LPG are exempt from federal excise taxes, but can be taxed at sub-national levels.

Federal excise taxes on automotive diesel were introduced in 1987. Since its introduction, the tax rate has been kept constant at 0.04 CAD/l.

Federal excise taxes on gasoline were introduced in 1995. Since its introduction, the tax rate has been kept constant at 0.1 CAD/l for all unleaded gasoline grades.

**VAT-equivalent tax (%)**

From	To	AB,NT NU,YT	BC	MB	SK	QC	NB	NL	NS	ON	PE
01.04.97	30.06.06	7	14	14	12	12.5	15	15	15	15	17
01.07.06	31.12.07	6	13	13	11	12.5	14	14	14	14	16
01.01.08	30.06.10	5	12	12	10	12.5	13	13	13	13	15
01.07.10	31.12.10	5	12	12	10	12.5	13	13	15	13	15
01.01.11	31.12.11	5	12	12	10	13.5	13	13	15	13	15
01.01.12	31.12.12	5	12	12	10	14.5	13	13	15	13	15
01.01.13	31.03.13	5	12	12	10	14.975	13	13	15	13	15
01.04.13	30.06.13	5	12	12	10	14.975	13	13	15	13	14
01.07.13	31.03.16	5	12	13	10	14.975	13	13	15	13	14
01.04.16	30.06.16	5	12	13	10	14.975	15	13	15	13	14
01.07.16	30.09.16	5	12	13	10	14.975	15	15	15	13	14
01.10.16	now	5	12	13	10	14.975	15	15	15	13	15

AB - Alberta

BC - British Columbia

MB - Manitoba

NB - New Brunswick

NL - Newfoundland and Labrador

NT - Northwest Territories

NS - Nova Scotia

NU - Nunavut

ON - Ontario

PE - Prince Edward Island

QC - Quebec

SK - Saskatchewan

YT - Yukon

**Product specifications****Oil products**

	High sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (97 RON) gasoline	Premium unleaded (95 RON) gasoline	Regular unleaded gasoline
Quality	HFO no. 6	LFO no. 2 (furnace)		Premium unleaded 91 RdON	Premium unleaded 89 RdON	Regular unleaded 87 RdON
Octane number				97	95	92
Density (kg/l)	0.95	0.83				
Magnesium content (g/l)				18	18	18
Delivery size	Tank-wagon loads					

**Natural gas and coal**

	Natural gas	Steam coal	Coking coal
NCV (kcal/kg)		7 127	7 164
GCV (kcal/m <sup>3</sup> )	8 892		

## CHILE

### Sources

Data for all energy products are provided on a quarterly basis by the **Ministry of Energy**.

### Data collection methodology

#### Oil products

Prices for light fuel oil, automotive diesel, as well as regular and premium unleaded (97 and 95 RON) gasolines, are calculated by the Ministry of Energy based on the average end-use prices at filling stations published in the National Energy Commission's monthly *Precio Mensual Regional de Combustibles* report.

Ex-tax prices for all oil products are subsequently derived by the Ministry of Energy, based on the tax structures published in the National Energy Commission's monthly *Estructura de Precios de Combustibles en la Región Metropolitana* report. Unleaded premium gasoline (95 RON) taxes are used to calculate the ex-tax prices for unleaded premium gasoline (97 RON), as both grades are taxed at an equal rate.

Gasoline, automotive diesel and light fuel oil prices refer to the metropolitan region only.

Automotive LPG consumption in Chile is very low and limited to taxis and some industrial transport services. Automotive LPG prices therefore considered as not applicable.

#### Natural gas

End-use prices are calculated by the Ministry of Energy based on the National Energy Commission's natural gas price reports. These reports are in turn based on the pricing information published by distribution companies on their websites.

Ex-tax prices for households are subsequently derived by the Ministry of Energy by subtracting VAT from the end-use price, as households are not subject to excise taxation.

From 1Q2015 onwards, prices refer to the weighted average of the prices charged by the three main natural gas providers in the country: Metrogas (in the metropolitan region of Santiago, covering 87.8% of national consumption in 2016), GasValpo (in the Valparaíso region, covering 8.1% of national consumption in 2016), and GasSur (Bío-Bío region, covering 3.3% of national consumption in 2016).

Until 4Q2014, prices for households refer to the metropolitan region of Santiago only.

Prices for industry are confidential as they are the result of private contracts between companies and natural gas providers.

#### Steam and coking coal

Prices are calculated by the Ministry of Energy based on import statistics supplied by the National Customs Office. Prices exclude domestically produced coal.

#### Electricity

Prices for industry are calculated by the Ministry of Energy based on the *Informe de Tarifas de Suministro Eléctrico para Clientes Regulados, Tarifa AT-4* published by different utilities. Prices include industrial consumers in the regulated market only (around 60% of total industrial consumption).

Prices for households are calculated by the Ministry of Energy based on the *Informe de Tarifas de Suministro Eléctrico para Clientes Regulados, Tarifa BT-1 tramo de Equidad Tarifaria Residencial T0*, published by different utilities.

From 1Q2017 onwards, prices for households and industry are calculated as weighted averages of the data reported by eight distribution companies, which cover more than the 86% of the total market share of the previous year. Companies considered are CGE (SIC3, SIC4, SIC5), SAESA (SIC6), CONAFE (SIC1), ELECDA (SING), CHILQUINTA (SIC2) and ENEL (SIC3). Until 4Q2016, the prices reported refer to prices charged by *Enel Distribución*, which covers the Metropolitan region of Santiago.

Ex-tax prices for households are subsequently derived by the Ministry of Energy by subtracting VAT from the end-use price, as households are not subject to excise taxation.

#### Energy price indices

Annual indices are 12-month averages. Quarterly indices refer to the 3-month average.

The retail index for oil products refers to a consumption-weighted average of the Consumer Price Indices (CPIs) for gasoline (Series ID 7.2.2.1.1, *Gasolina*), diesel (Series ID 7.2.2.1.2, *Petróleo diesel*) and lubricants and oils for personal transport equipment (Series ID 7.2.2.2.1, *Lubricantes y aceites para el automóvil*).

The retail price index for electricity refers to the CPI for electricity (Series ID 4.4.1.1.1, *Electricidad*).

The retail price index for natural gas refers to the CPI for piped gas (Series ID 4.4.2.1.1, *Gas por red*).

The retail price index for coal refers to the CPI for coal (Series ID 4.4.3.1.1, *Carbón*).

## Energy taxation

### VAT

VAT (*IVA*) applies to all energy products. VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

In Chile, VAT is paid on the ex-tax price only, instead of the sum of ex-tax price and excise tax, as is the case in most countries.

From	To	%
01.01.98	30.09.03	18
01.10.03	now	19

### Excise tax

Gasoline and automotive diesel sales are subject to an excise taxation regime in which the final tax rate per litre is calculated as the sum of a fixed component (IEC) and a variable component (MEPCO) designed to protect consumers from variations in international prices. Light fuel oil is only subject to a variable tax component (FEPCO).

Natural gas, coal and electricity are not subject to any form of excise taxation.

#### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
IEC			x	x	x				
MEPCO			x	x	x				
FEPCO		x							

#### Fuel tax (*Impuesto Específico a los Combustibles - IEC*)

The IEC was introduced in 1986 by Law 18.502. The law sets a fixed rate for automotive diesel, gasoline, automotive LPG and automotive compressed natural gas (CNG), expressed in Unidades Tributarias Mensuales (UTM) per cubic meter. UTM are a floating currency unit, expressed in Chilean pesos, that is adjusted monthly in line with the consumer price index.

Diesel sales for off-road use are entitled to a full refund of the IEC, as set out by Law 18.502. Additionally, Law 19.764 establishes that transport companies who own or rent lorries with a gross weight exceeding 3 860 kg are entitled to a partial refund of their excise tax expenses.

The tax rates in pesos are therefore automatically indexed and calculated as 1.5 UTM/m<sup>3</sup> for diesel, 6 UTM/m<sup>3</sup> for all gasoline grades, 1.4 UTM/m<sup>3</sup> for automotive LPG and 1.93 UTM/1000m<sup>3</sup> for automotive compressed natural gas. These bases have remained stable since 2011.

#### Fuel price stabilization mechanism charges (*Mecanismo de Estabilización de Precios de los Combustibles -MEPCO*)

The MEPCO was introduced in July 2014 to replace the SIPCO (*Sistema de Protección al Contribuyente del Impuesto Específico a los Combustibles*), which served a similar purpose in stabilizing variations in international market prices for fuels, given Chile's dependence on energy imports.

The characteristics of the system were established by the Law 20.765. Before its introduction, excise taxes for gasoline were calculated through the SIPCO system, which followed the FEPCO, detailed in the following section.

This variable component can act either as a tax or as a subsidy (shown in this publication as a negative tax), depending on the comparison between a calculated "parity price" and a reference price, based on the West Texas Intermediate spot price and a refining differential. The main differences between the MEPCO and the SIPCO are the narrower price bands and that stabilization is applied to prices expressed in local currency instead of US dollars (the SIPCO was computed with prices expressed in US dollars).

Once calculated, this variable component is added or subtracted to the fixed component (IEC).

#### Oil product price stabilization fund charges (*Fondo de Estabilización de Precios de Combustibles Derivados de Petróleo - FEPCO*)

The FEPCO was introduced in September 2005 as a temporary mechanism to stabilize variations in international market prices for oil products.

Since the introduction of the SIPCO, the FEPCO system is applied exclusively to fuel oil for households and is defined, in its current form, in Law 19.030 ("on the creation of the oil stabilization fund").

The mechanism for calculating the applicable tax rate involves calculating a "parity price", using historical data, and comparing it with a reference price. If the former is higher than the latter, the mechanism functions as a subsidy, resulting in a negative excise tax.

As IEC does not apply to light fuel oil, there is no fixed component in the excise taxes applicable to this fuel.



## Product specifications

### Oil products

	Light fuel oil	Automotive diesel	Premium unleaded (97 RON) gasoline	Premium unleaded (95 RON) gasoline	Regular unleaded gasoline	Automotive LPG
Quality	Kerosene doméstico	Petróleo diesel grado A1	Gasolina 97 NOR sin plomo RM	Gasolina 95 NOR sin plomo RM	Gasolina 93 NOR sin plomo RM	Gas licuado mezcla comercial
Density (kg/l)	0.81	0.84	0.73	0.73	0.73	0.522
Sulphur content (%)	<0.015	<0.0015	<0.0015	<0.0015	<0.0015	
NCV (kcal/kg)		10 900				
Delivery size	<24 000 tonne/ year					

### Natural gas and coal

	Natural gas	Steam coal <i>electricity generation</i>
NCV (kcal/kg)		7 000
GCV (kcal/m <sup>3</sup> )	9 341	

## CZECH REPUBLIC

### Sources

Data for all energy products, including energy price indices, are provided on a quarterly basis by the **Czech Statistical Office (CZSO)**.

### Data collection methodology

The independent Czech Republic was formed on 1 January 1993. The prices and taxes listed before 1Q93 are for Czechoslovakia. Certain historical series have been revised by the Czech Administration.

### Oil products

Oil product prices are collected based on prices and quantities sold by a network of respondents throughout the Czech Republic.

Prices for transport fuels are collected from 9 oil companies, operating 1 789 public petrol stations, which represent 46% of all public petrol stations in the country. Approximate shares of surveyed enterprises in total road transport consumption of oil products are as follows: (at least) 56% for premium unleaded gasoline, 50% for automotive diesel and 44% for LPG.

In 2018, the geographical representativeness of prices for low sulphur fuel oil for industry is 77% and 68% for light fuel oil for industry.

### Natural gas

Prices of natural gas are surveyed by the national statistical questionnaire *Ceny E 6-04*.

Average prices of natural gas per consumption band are calculated as the weighted average of prices recorded by the most important natural gas traders weighted by their market shares in each bands.

Quarterly average prices for industry are calculated as weighted average of the average prices per consumption bands weighted by their share in annual consumption.

Natural gas prices for industry are estimated to be representative for 80-85% of total consumption in this segment. Prices for households are representative for 85% of total residential consumption.

### Steam and coking coal

Steam coal prices for industry and electricity generation, as well as coking coal prices for industry, are confidential.

The geographical and sectoral representativeness of prices for steam coal used in households are 100%. Prices are collected from 21 suppliers, of which 8 are located in Prague and 13 in the other regions.

### Electricity

Prices for households are surveyed from the price lists of major electricity traders, referring to selected households from all voltage networks.

Price lists contain all components of the price paid by households, including the price of electricity consumed, the monthly fees for the consumption point, the price for the volume of electricity distributed, the fee for input depending on the size of the main circuit breaker in front of the electricity meter, the renewable energy surcharge, the price of system services, the price of market operator services per consumption point, as well as excise taxes and VAT. Prices for households are representative for 85% of total residential consumption.

Quarterly average prices for industry are calculated as weighted average of the average prices per consumption bands weighted by their share in annual consumption.

Prices for industry are estimated to be representative for 80% of total consumption in the segment.

### Energy price indices

Wholesale price indices for oil products are Producer Price Indices (PPIs) for oil products excluding VAT and cost of transport to consumer and related costs.

Retail price indices for oil products are Consumer Price Indices (CPIs) for liquid fuels including VAT, excise tax, cost of transport to service stations and related costs.

Wholesale price indices for electricity are PPIs for electricity excluding VAT and including cost of transport to consumers and related costs.

Retail price indices for electricity are CPIs for electricity including VAT, cost of transport to consumers and related costs.

Retail price indices for natural gas are CPIs for natural gas including VAT, cost of transport to consumers and related costs.

Wholesale price indices for coal are PPIs for coal excluding VAT and cost of transfer to consumers and



related costs. This index series has not been available since 2006.

Retail price indices for coal are CPIs for coal including VAT, cost of transport to consumer and related costs.

## Energy taxation

### VAT

VAT (*DPH*) is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

From	To	%
01.01.93	30.06.94	5
01.07.94	31.12.94	23
01.01.95	30.04.04	22
01.05.04	31.12.09	19
01.01.10	31.12.12	20
01.01.13	now	21

### Excise tax

Excise taxes on commercial energy products in the Czech Republic are levied in accordance with the 2003 EU Energy Taxation Directive.

#### Excise duties (*Spotřební daň*)

From	To	Heavy fuel oil (CZK/tonne)	Light fuel oil (CZK/1000l)	Automotive diesel (CZK/l)	Gasoline (CZK/l)	Automotive LPG (CZK/l)
01.01.93	31.12.93			6.95	7.18	1.3
01.01.94	31.12.94			6.95	7.69	1.3
01.01.95	31.12.95		660	7.03	7.77	1.3
01.01.96	31.12.97		660	7.03	8.79	1.3
01.01.98	30.06.99		660	7.33	9.84	1.57
01.07.99	31.12.03		660	8.15	10.84	1.57
01.01.04	31.12.09	472	660	9.95	11.84	2.16
01.01.10	now	472	660	10.95	12.84	2.16

#### Environmental tax (*Ekologická daň*)

From	To	Natural gas (CZK/MWh)	Coal (CZK/tonne)	Electricity (CZK/MWh)
01.01.08	now	30.60	90.69	28.30

#### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Excise duties	x	x	x	x	x				
Environmental tax						x	x	x	x

#### Excise duties (*Spotřební daň*)

Excise duties on oil products (“mineral oils” in the Czech legislation), are defined in their current form in the Excise Tax Law (353/2003) and amendments, which first came in force on 1 January 2004.

Until 4Q2003, light fuel oil used for heating purposes was tax-free. From 1Q2004 onwards, light fuel oil used for heating purposes is subject to a partial refund on the applicable excise duties. The rates shown in the tables at the end of this section are net of rebates.

#### Environmental tax (*Ekologická daň*)

Electricity, natural gas and solid fuels are generally subject to an environmental tax, as defined in the Law for the Stabilisation of Public Budgets (261/2007) and amendments, which first came in force on 1 January 2008.

Natural gas used for electricity generation and for heating in households is tax-free.

## Product specifications

### Oil products

	High sulphur fuel oil	Low sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (98 RON) gasoline	Premium unleaded (95 RON) gasoline	Automotive LPG
Quality					Super Plus 98	Natural 95	
Density (kg/l)	0.99	0.91	0.86	0.843	0.76	0.76	0.55
Sulphur content (%)	<3	<1	<0.05	<0.001			
NCV (kcal/kg)	9 532	9 793	10 263	10 177	10 412	10 412	

### Natural gas and coal

	Natural gas	Steam coal <i>industry</i>	Steam coal <i>electricity generation</i>	Steam coal <i>households</i>	Coking coal
Quality		Brown coal, industrial mixtures	Brown coal, industrial mixtures	Brown/nut coal no.1	Brown coal, industrial mixtures
GCV (kcal/m <sup>3</sup> )	9 030				
NCV (kcal/kg)		3 500 – 4 000	2 100 – 3 000	3 500 – 4 000	6 500

## DENMARK

### Sources

Prices and taxes data for oil products are provided on a quarterly basis by the **Danish Competition and Consumer Authority (KFST)**.

Prices and taxes data for natural gas and electricity for households are provided on a quarterly basis by the **Danish Energy Agency (DEA)**.

Energy price indices for oil products, natural gas, electricity and coal are derived from data extracted from the **Statistics Denmark** website.

### Data collection methodology

From 1Q1993 onwards, quarterly prices refer to the average of the daily prices. From 1Q1985 to 4Q1992, quarterly prices refer to the second month of each quarter. Prior to 1Q1985, prices refer to the first month of each quarter.

### Oil products

Monthly ex-tax prices for oil products are collected by KFST every quarter from the five largest companies in the retail and wholesale markets.

For low sulphur fuel oil, light fuel oil, automotive diesel, unleaded premium (95 RON) gasoline and regular unleaded gasoline, companies report their sales volumes to commercial and non-commercial users, their effective average ex-tax prices, and the effective discounts from their list prices. The average ex-tax prices are calculated as volume-weighted averages of the data submitted by companies. End-use prices are calculated by adding the applicable taxes to the ex-tax prices.

Heavy fuel oil use for electricity generation is currently negligible and prices are therefore not available.

### Natural gas

From 1Q2007 onwards, prices for industry refer to the Eurostat consumption bands I1, I2, I3, I4 and I5. Prices for households refer to the single unit price charged to the residential consumers, which does not depend on consumption, as reported to Eurostat.

National average prices for industry are computed by the DEA as consumption-weighted averages of the average prices per band published by Eurostat. From 2Q2017 onwards, the weights used for this calculation are the bi-annual consumption figures per band collected through surveys. Prior, the weights used for this calculation were the most recent available (maximum two years old).

Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Excise taxes are calculated as the subtraction of the prices excluding taxes from the prices including non-VAT taxes, as published by Eurostat.

### Electricity

From 1Q2008 onwards, prices refer to the Eurostat consumption bands DA, DB, DC, DD and DE for households; and bands IB, IC, ID, IE and IF, for industry.

National average prices for industry are computed by the DEA as consumption-weighted averages of the average prices per band published by Eurostat. From 2014 onwards, the weights used for this calculation are bi-annual consumption figures per band collected through surveys. Prior to 2014, the weights used for this calculation were the most recent available (maximum two years old).

National average prices for households are calculated as the simple average across consumption bands, as the consumption distribution across bands is currently not known.

Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Excise taxes are calculated as the subtraction of the prices excluding taxes from the prices including non-VAT taxes, as published by Eurostat.

### Energy price indices

Annual indices are 12-month averages. Quarterly indices refer to the 3-month average.

The wholesale index for oil products refers to the Producer Price Indices (PPIs) for gasoline, gas oil, heating oils, imported lubrication oils and other oils, calculated by the IEA using component indices and weights published by Statistics Denmark.

The retail index for oil products refers to a consumption-weighted average of the Consumer Price Indices (CPIs) for *liquid fuels* and *fuels and lubricants for personal transport equipment*.

The retail price index for electricity refers to the CPI for *electricity*.

The retail price index for natural gas refers to the CPI for *gas*.

The retail price index for coal refers to the CPI for *solid fuels*.

### Energy taxation

#### VAT

VAT (*MOMS*) applies to all energy products. VAT is refunded for purchases for commercial purposes. Therefore,

it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

From	To	%
01.01.78	01.10.78	18
02.10.78	30.06.80	20
01.07.80	31.12.91	22
01.01.92	now	25

## Excise tax

The legal framework in place in Denmark is consistent with the 2003 EU Energy Taxation Directive.

Starting in 2016, energy tax rates in Denmark have been indexed every year to reflect changes in the CPI, using the rates applicable to 2015 as a basis.

This CPI-indexation is used to update the tax rates for the Sulphur tax, Nitrogen oxide tax, Carbon dioxide tax, Mineral oil tax, Natural gas tax, Coal tax and Electricity tax.

### Tax applicability table (not exhaustive)

	HSFO/LFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Mineral oil tax		x	x	x	x				
CO <sub>2</sub> tax	x	x	x	x	x	x	x	x	
Nitrogen oxide tax	x	x	x	x	x	x	x	x	
Sulphur tax	x						x	x	
Natural gas tax						x			
Coal tax							x	x	
Electricity tax									x

### Mineral oil tax (*Mineraolieafgift*)

The Mineral oil tax is legally defined in the Mineral Oil Tax Act (no. 1118 of 26 September 2014). It does not apply to fuels sold in the Faroe Islands or Greenland.

Industrial users are entitled to a full refund on their tax expenditures. Heavy fuel oil, used exclusively in industry, is therefore effectively tax free.

Fuels used for electricity generation are exempt as a specific tax is levied on electricity.

### CO<sub>2</sub> tax (*Kuldioxidafgift*)

The CO<sub>2</sub> tax is legally defined in the CO<sub>2</sub> Tax Act (No. 321 of 4 April 2011). It does not apply to fuels sold in the Faroe Islands or Greenland.

### Nitrogen oxide tax (*Kvælstofoxiderafgift*)

The Nitrogen oxide tax is legally defined in the Nitrogen Oxide Tax Act (no. 472 of 17 June 2008), which first came into effect on 1 January 2010. It does not apply to fuels sold in the Faroe Islands or Greenland.

Rates applicable to commercial energy products (except electricity) are derived from a tax rate expressed in Danish crowns per kilogram of NO<sub>2</sub> equivalents. Introduction in 2010 at the rate of 5 DKK/kg, it was progressively raised to reach 26.4 DKK/kg in January 2015.

### Sulphur tax (*Svovlafgift*)

The Sulphur tax is legally defined in the Sulphur Tax Act (no. 78 of 8 February 2006). It does not apply to fuels sold in the Faroe Islands or Greenland.

The tax applies to oil products and coal with sulphur content exceeding 0.05% in mass. Rates applicable to commercial energy products are derived from a tax rate expressed in Danish crowns per kilogram of sulphur. The current rate of 23 DKK/kg was reached after gradual increases of the tax rate since its introduction.

### Natural gas tax (*Gasafgift*)

The Natural gas tax is legally defined in the Natural Gas Tax Act (no. 312 of 1 April 2011). Natural gas for electricity generation is exempt as a specific tax is levied on electricity.

Tax rates are expressed in Danish crowns per Normal cubic meter (Nm<sup>3</sup>), and a different tax rate applies depending on the calorific value of the fuel. In the tables shown at the end of this section, the rates for natural gas refer to a gross calorific value below 39.6 MJ/Nm<sup>3</sup>.

### Coal tax (*Kulafgift*)

The Coal tax is legally defined in the Coal Tax Act (no. 1080 of 3 September 2015). It does not apply to fuels sold in the Faroe Islands or Greenland.

Coal used for electricity generation is exempt as a specific tax is levied on electricity. Coal used in chemical reduction processes, including coking coal, is also exempt.

### Electricity tax (*Elafgift*)

The Electricity tax is legally defined in the Electricity Tax Act (no. 310 of 1 April 2011). It does not apply to electricity sold in the Faroe Islands or Greenland.

Until 1 January 2014, the electricity tax included several minor surcharges (*tillægsafgift*) related to energy savings, distribution and CO<sub>2</sub> emissions. In the tables shown at the end of this section, rates until 31 December 2013 include these minor components, which were subsequently integrated into the main electricity tax.

**Mineral oil tax** (*Mineraolieafgift*)

From	To	Light fuel oil (DKK/1000l)	Automotive diesel (DKK/l)	Gasoline (DKK/l)
01.01.05	31.12.07	1857	2.487	3.810
01.01.08	07.07.08	1890	2.598	3.879
08.07.08	31.12.08	1890	2.598	3.849
01.01.09	31.12.09	1924	2.479	3.959
01.01.10	28.10.10	2056	2.524	3.881
29.10.10	31.12.10	2056	2.524	3.815
01.01.11	31.12.11	2093	2.511	3.884
01.01.12	31.12.12	2131	2.521	3.954
01.01.13	31.01.13	2169	2.565	3.993
01.02.13	31.12.13	2531	2.565	3.993
01.01.14	31.12.14	2577	2.612	4.064
01.01.15	31.12.15	1955	2.660	4.137
01.01.16	31.12.16	1971	2.681	4.170
01.01.17	31.12.17	1982	2.697	4.193
01.01.18	31.12.18	1992	2.711	4.216
01.01.19	now	2016	2.742	4.265

**CO<sub>2</sub> tax** (*Kuldioxidafgift*)

From	To	Heavy fuel oil (DKK/tonne)	Light fuel oil (DKK/1000l)	Automotive diesel (DKK/l)	Gasoline (DKK/l)	Natural gas (DKK/MWh)
01.01.05	31.12.05	288	243	0.243	0.220	
01.01.06	31.12.06	288	243	0.243	0.220	16.2
01.01.07	31.12.07	288	243	0.243	0.220	16.5
01.01.08	31.12.08	293	247	0.247	0.224	16.5
01.01.09	31.12.09	298	252	0.252	0.228	16.8
01.01.10	28.10.10	493	413	0.413	0.373	28.7
29.10.10	31.12.10	493	413	0.413	0.355	28.7
01.01.11	31.05.11	502	420	0.420	0.361	29.2
01.06.11	31.12.11	502	420	0.391	0.361	29.2
01.01.12	31.12.12	511	428	0.399	0.367	29.8
01.01.13	31.12.13	520	435	0.405	0.374	30.3
01.01.14	31.12.14	529	443	0.413	0.381	30.8
01.01.15	31.12.15	539	451	0.420	0.388	31.4
01.01.16	31.12.16	543	455	0.423	0.391	31.6
01.01.17	31.12.17	547	457	0.426	0.393	31.8
01.01.18	31.12.18	549	460	0.428	0.395	31.9
01.01.19	now	556	465	0.433	0.400	n.a.

**Nitrogen oxide tax** (*Kvælstofoxiderafgift*)

From	To	Heavy fuel oil (DKK/tonne)	Light fuel oil (DKK/1000l)	Automotive diesel (DKK/l)	Gasoline (DKK/l)	Natural gas (DKK/MWh)
01.01.14	31.12.14	147	46	0.046	0.043	n.a.
01.01.15	31.12.15	150	47	0.047	0.043	3.44
01.01.16	30.06.16	151	47	0.047	0.043	3.44
01.07.16	31.12.17	28	9	0.009	0.009	0.65
01.01.18	now	29	9	0.009	0.009	0.65

**Sulphur tax** (*Svovlafgift*)

From	To	Heavy fuel oil (DKK/tonne)
01.01.00	31.12.07	100
01.01.08	31.12.08	102
01.01.09	31.12.09	104
01.01.10	31.12.10	105
01.01.11	31.12.11	107
01.01.12	31.12.12	109
01.01.13	31.12.13	111
01.01.14	31.12.14	113
01.01.15	31.12.15	115
01.01.16	31.12.16	116
01.01.17	31.12.17	116.5
01.01.18	31.12.18	117
01.01.19	now	118.5

**Natural gas and electricity taxes** (*Gasafgift / Elafgift*)

From	To	Natural gas (DKK/MWh)	Electricity households (DKK/MWh)
01.01.07	31.12.07	167.1	666
01.01.08	31.12.08	170.1	675
01.01.09	31.12.09	173.1	685
01.01.10	31.12.10	185.7	721
01.01.11	31.12.11	189.1	793
01.01.12	31.12.12	192.5	806
01.01.13	31.12.13	196.0	820
01.01.14	31.12.14	232.8	833
01.01.15	31.12.15	176.6	878
01.01.16	31.12.16	178.0	885
01.01.17	31.12.17	179.1	910
01.01.18	now	180.0	914

**Product specifications**

	Low sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (95 RON) gasoline	Natural gas
Quality	Svær fuelolie	Fyringsolie	Diesel		
Cetane number			46		
Density (kg/l)	0.975	0.8594	0.845		
Sulphur content (%)	0.5				
Lead content (g/l)				0.05	
NCV (kcal/kg)	9 650	10 175	10 175		
GCV (kcal/m <sup>3</sup> )					10 509
Delivery size (tonnes/year)	≥ 1 000	2 - 5			

## ESTONIA

### Sources

Prices and taxes data for oil products are based on weekly data published in the **European Commission's Weekly Oil Bulletin**.

Prices and taxes data for natural gas and electricity, as well as retail energy price indices, are based on data published by **Eurostat**.

### Data collection methodology

Prices and taxes prior to 1 January 2011, the date of entry into the Economic and Monetary Union, have been converted from Estonian krooni using the appropriate irrevocable conversion rate of 15.6466 EEK/EUR. This methodology facilitates comparisons within a country over time and ensures that the historical evolution (i.e. growth rates) is preserved. However, pre-EMU euros are a notional unit and are not normally suitable to form area aggregates or to carry out cross-country comparisons.

### Oil products

Oil product prices are derived from data published in the European Commission's *Weekly Oil Bulletin*, which reports weekly ex-tax and end-use prices for a series of oil products in all EU countries.

Quarterly and annual figures are calculated as arithmetical averages of the weekly data. Total taxes are calculated as the subtraction of the quarterly and annual ex-tax from the final prices. Excise taxes for non-commercial users are calculated by subtracting VAT from the total taxes. For commercial users, excise taxes are equal to total taxes, as they are exempt from VAT.

### Natural gas

Prices refer to the Eurostat consumption bands D1, D2 and D3 for households and I1, I2, I3, I4, I5 and I6 for industry. Prices are computed as consumption-weighted averages of the average prices per band published by Eurostat. The weights used for this calculation are consumption figures per band published in Eurostat's *Gas prices – price systems* report (2009).

Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Excise taxes are calculated as the subtraction of the prices excluding taxes from the prices including non-VAT taxes, as published by Eurostat.

### Electricity

Prices refer to the Eurostat consumption bands DA, DB, DC, DD and DE for households; and IA, IB, IC, ID, IE, IF and IG, for industry. Prices are computed as consumption-weighted averages of the average prices per band published by Eurostat. The weights used for this calculation are consumption figures per band published in Eurostat's *Electricity prices – price systems* report (2009).

Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Excise taxes are calculated as the subtraction of the prices excluding taxes from the prices including non-VAT taxes, as published by Eurostat.

### Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the Harmonised Indices of Consumer Prices (HICP) published by Eurostat.

Retail indices for oil products refer to a consumption-weighted average of the *liquid fuels* (cp0453) and *fuels and lubricants for personal transport equipment* (cp0722) series. Relative weights used for the calculations are taken from the associated item weights series (prc\_hicp\_inw), published by Eurostat.

Retail indices for electricity refer to the *electricity* (cp0451) series.

Retail indices for coal refer to the *solid fuel* (cp0454) series.

### Energy taxation

#### VAT

VAT (*käibemaks*) applies to all energy products. VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industry and electricity generation and for automotive fuels for commercial use.

From	To	%
01.05.04	30.06.09	18
01.07.09	now	20

## Excise tax

The legal framework for excise taxation on energy in place in Estonia is consistent with the 2003 EU Energy Taxation Directive.

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Excise duties	x	x	x	x	x	x	x	x	x

### Excise duties (*Aktsiisid*)

The Alcohol, Tobacco, Fuel and Electricity Excise Duty Act, which came in force on 1 January 2008, establishes a list of commercial energy products subject to excise duties.

Gasoline, diesel, light and heavy fuel oils, LPG, natural gas, steam and coking coal, as well as electricity, are subject to an excise duty expressed in a volume or energy basis.

Natural gas for electricity generation and transport is not taxed.

### Excise duties (*Aktsiisid*)

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Kerosene (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline 95 RON (EUR/l)	Automotive LPG (EUR/l)	Natural gas (EUR/MWh)	Electricity (EUR/MWh)
01.02.16	now	58	121	330.1	0.448	0.465	0.070	3.62	4.47



## FINLAND

### Sources

Data for all energy products, including energy price indices, are provided on a quarterly basis by **Statistics Finland**.

### Data collection methodology

Prior to 4Q1985, prices refer to the first month of each quarter. From 1Q1986 to 4Q1992, prices refer to the second month of the quarter (except 3Q1988 prices which refer to July 1988).

From 1Q1993 onwards, prices refer to the monthly averages of the quarter. See individual products for exceptions.

### Oil products

Motor fuel prices were deregulated on 18 June 1984. Prior to that, motor fuels were subject to a uniform maximum pump price for the whole country.

End-use prices for light fuel oil, automotive diesel and unleaded premium gasoline (98 and 95 RON) are based on retail prices in 64 fuelling stations around Finland, surveyed by Statistics Finland between the 10<sup>th</sup> and 20<sup>th</sup> of each month. National average prices are produced as averages of the prices in each of the fuelling stations. Ex-tax prices are derived by subtracting the applicable tax components from the end-use prices.

Prior to 2Q1979, prices for road fuels referred to full-service petrol stations. From 2Q1979 onwards, prices refer to self-service filling stations.

### Natural gas

Ex-tax prices are based on tariffs charged by major natural gas distribution companies, which are weighted by market shares to produce an average ex-tax price. End-use prices are calculated by adding the applicable tax components to the ex-tax price.

From 1Q2001 onwards, prices for industry and electricity generation are based on an annual consumption of 1 000 GWh, charged capacity of 167 MW and effective time of capacity use of 6 000 hours per year.

Until 4Q2000, prices shown for industry and households are average contract prices.

### Steam and coking coal

Prices shown refer to hard coal delivered to consumers with an annual consumption of at least 40 000 tonnes.

It is an average import price that includes temporary storage in commercial ports and road transport cost.

### Electricity

Prices for households and industry are based on a survey conducted by Finland's Energy Authority, in which every distribution company in the country reports ex-tax prices. Prices are then weighted by the market share of each company to produce national average ex-tax prices. End-use prices are calculated by adding the applicable tax components to the ex-tax price.

From 1Q2007 onwards, prices for industry refer to the national average for a consumption of 2 000 to 19 999 MWh/year in medium-scale industries. Data for industrial electricity prices are collected in compliance with the Eurostat methodology.

Until 4Q2006, prices for industry refer to the national average for a consumption of 2 000 MWh/year of high voltage over at least 4 000 hours/year in a medium-scale industry.

Prices for households refer to electricity used for non-heating purposes in a single house (120 m<sup>2</sup>) at a rate of 5.0 MWh/year with 3x25A.

### Energy price indices

Annual indices are 12-month averages. From 1Q1993 onwards, quarterly indices refer to the 3-month average of the quarter. Prior to 4Q1992, quarterly indices refer to the second month.

For oil products, the wholesale index refers to the manufacture of refined petroleum products (Series ID: 232, NACE2002) and the retail index to light fuel oil (Series ID: 04.5.3.1.1.1, COICOP2005).

For electricity, the wholesale index refers to the production and distribution of electricity (Series ID: 401, NACE2002) and the retail index refers to electricity (Series ID: 04.5.1, COICOP2005).

For coal, the wholesale index refers to mining and agglomeration of hard coal (Series ID: 101, NACE2002).

### Energy taxation

#### VAT

VAT (*ALV/MOMS*) applies to all energy products. VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for industry, electricity generation and automotive fuels for commercial use.

From	To	%
01.01.91	30.09.91	21.21
01.10.91	30.06.10	22.00
01.07.10	31.12.12	23.00
01.01.13	now	24.00

## Excise tax

The legal framework for energy taxation in Finland comprises the Act on Excise Duty on Liquid Fuels (1472/1994), the Act on Excise Duty on Electricity and selected fuels (1260/1996), the Act on Defence of Security of Supply (1390/1992) and the Act on the Oil Pollution Compensation Fund (1406/2004). The legal framework in place in Finland is consistent with the 2003 EU Energy Taxation Directive.

A comprehensive reform of energy taxation in Finland came into force on 1 January 2011, amending the aforementioned legislation so that duties came to be based on each fuel's energy content and CO<sub>2</sub> emissions from combustion.

Fuels used for electricity generation are tax-free. Fuels used for combined electricity and heat generation are taxed at 50% of the values applicable to general consumption.

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Energy content tax	x	x	x	x	x	x	x	x	
CO <sub>2</sub> tax	x	x	x	x	x	x	x	x	
Energy tax									x
Strategic stockpile fees	x	x	x	x	x	x	x	x	x
Oil pollution fees	For imports/transit								

### Energy content tax (*Energiasisältövero/Energiinnehållsskatt*)

An energy content tax was introduced with the energy taxation reform that came into force on 1 January 2011. It generally applies to combustible fuels. Rates are based on the calorific value of each fuel.

### CO<sub>2</sub> tax (*Hiilidioksidivero/Koldioxidskatt*)

A CO<sub>2</sub> tax was introduced with the energy taxation reform that came into force on 1 January 2011. It generally applies to combustible fuels.

Rates are based on the specific CO<sub>2</sub> emissions resulting from combustion of each fuel.

### Energy tax (*Energiavero/Energiskatt*)

Electricity consumption in Finland is subject to an energy tax, with a reduced tax rate for industry as well as server rooms and data centres.

### Strategic stockpile fees

(*Huoltovarmuusmaksut/Försörjningsberedskaps avgifter*)

A strategic stockpile fee is levied on liquid fuels, electricity, coal and natural gas to cover the expenses incurred by the Finnish State for emergency stockpiling fuels and other measures to secure energy supply.

### Oil pollution fees (*Öljysuojamaksut/Oljjeskydds avgifter*)

Imported oil products, as well as oil products transiting through the country, are subject to a mandatory contribution to the Oil Pollution Compensation Fund, used to cover for expenses linked with oil pollution and environmental restoration.

The oil pollution fees are levied on a flat per tonne basis, which is then converted to a volume basis using the appropriate densities.

### Energy content tax (*Energiasisältövero/Energiinnehållsskatt*)

From	To	Heavy fuel oil (EUR/1000l)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)	Natural gas (EUR/MWh)	Coal (EUR/tonne)
01.01.11	31.12.11	87.90	77.00	0.0000	0.5036	3.00	54.54
01.01.12	31.12.12	87.90	77.00	0.3070	0.5036	3.00	54.54
01.01.13	31.12.14	75.90	66.50	0.3070	0.5036	4.45	47.10
01.01.15	31.12.15	75.90	66.50	0.3165	0.5120	6.65	47.10
01.01.16	31.12.16	75.90	66.50	0.3165	0.5120	6.65	47.10
01.01.17	31.12.17	80.50	70.50	0.3277	0.5219	7.05	49.93
01.01.18	now	85.60	75.00	0.3277	0.5219	7.50	53.13

**CO<sub>2</sub> tax** (*Hiilidioksidivero/Koldioxidskatt*)

From	To	Heavy fuel oil (EUR/1000l)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)	Natural gas (EUR/MWh)	Coal (EUR/tonne)
01.01.11	31.12.11	97.20	80.00	0.0000	0.1166	5.94	72.37
01.01.12	31.12.12	97.20	80.00	0.1590	0.1400	5.94	72.37
01.01.13	31.12.13	113.40	93.40	0.1590	0.1400	6.93	84.43
01.01.14	31.12.14	113.40	93.40	0.1861	0.1625	6.93	84.43
01.01.15	31.12.15	142.50	117.40	0.1861	0.1625	8.71	106.14
01.01.16	31.12.16	174.90	144.00	0.1861	0.1625	10.69	130.26
01.01.17	31.12.17	187.80	154.70	0.1990	0.1738	11.48	139.91
01.01.18	now	200.80	165.40	0.1990	0.1738	12.28	149.56

**Energy tax** (*Energiaveru/Energiskatt*)

From	To	Electricity industry (EUR/MWh)	Electricity households (EUR/MWh)
01.01.11	31.12.12	6.90	16.90
01.01.13	31.12.13	6.90	16.90
01.01.14	31.12.14	6.90	18.90
01.01.15	31.12.15	6.90	22.40
01.01.16	31.02.16	6.90	22.40
01.03.16	now	6.90	22.40

**Strategic stockpile fees** (*Huoltovarmuuskasut/Försörjningsberedskaps avgifter*)

From	To	Heavy fuel oil (EUR/1000l)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)	Natural gas (EUR/MWh)	Coal (EUR/tonne)	Electricity (EUR/MWh)
01.01.97	now	2.80	3.50	0.0035	0.0068	0.084	1.18	0.13

**Oil pollution fees** (*Öljysuojamaksut/Oljeskydds avgifter*)

From	To	Heavy fuel oil (EUR/1000l)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)
01.01.90	31.12.04	0.3700	0.3100	0.0003	0.0028
01.01.05	31.12.09	0.5000	0.4200	0.0004	0.0004
01.01.10	now	1.5000	1.2600	0.0013	0.0011

**Product specifications**

	Light fuel oil	Natural gas	Steam coal
Density (kg/l)	0.84		
NCV (kcal/kg)			5 430
GCV (kcal/m <sup>3</sup> )		10 476	

## FRANCE

### Sources

Prices and taxes data for oil products, natural gas and electricity, as well as all energy price indices, are provided on a quarterly basis by the **Ministry of Ecological and Solidarity Transition (the Ministry)**.

### Data collection methodology

From 1Q1990 onwards, prices refer to the weekly averages of the quarter. From 1Q1985 to 4Q1989, prices refer to the second month of each quarter. Prior to 1Q1985, prices refer to the first month of each quarter.

#### Oil products

Oil product prices, with the exception of unleaded premium gasoline (98 RON) and light fuel oil for industry, are derived from the European Commission's *Weekly Oil Bulletin*, which reports weekly ex-tax and end-use prices.

Quarterly and annual figures are calculated as arithmetical averages of the weekly data. Total taxes are calculated by subtracting the ex-tax prices from the final prices. Excise taxes for non-commercial users are calculated by subtracting VAT from the total taxes. For commercial users, excise taxes are equal to total taxes, as they are exempt from VAT.

Prices for light fuel oil for industry are derived from monthly prices for "*fioul domestique, livraisons de plus de 27 000 litres*" published on the Ministry's website.

Quarterly and annual data are calculated as simple arithmetical averages of the monthly ex-tax and total prices published by the Ministry. Excise tax rates are calculated as the residual of the subtraction of the ex-tax and total prices, as industrial users are VAT-exempt.

Prices for unleaded premium gasoline (98 RON) are derived from monthly prices for "*supercarburant sans plomb 98*" published on the Ministry's website.

Quarterly and annual ex-tax prices are calculated as arithmetical averages of the monthly ex-tax prices published by the Ministry. Total taxes are calculated by subtracting the ex-tax price from the final price. Excise taxes for non-commercial users are calculated by subtracting the VAT from the total taxes.

#### Natural gas

From 1Q2007 onwards, prices refer to the Eurostat consumption bands D1, D2 and D3 for households; and bands I1, I2, I3, I4 and I5, for non-households. Prices

refer to those charged to household and final non-household customers buying natural gas for their own use that is distributed through the main gas network. Prices cover the whole consumption spectrum for households. For non-households, annualized consumption above 4 000 TJ (1 111.11 GWh PCS) is excluded.

Prices include all household and final non-household customers of natural gas. Customers who use natural gas only for electricity generation in power plants or in combined heat and power (CHP) plants or for non-energy purposes (e.g. for use in the chemicals industry) are excluded.

National average prices are computed by the Ministry as consumption-weighted averages of the average prices per band published by Eurostat. The weights used for this calculation are bi-annual consumption figures per band collected through surveys.

Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Excise taxes are calculated as the subtraction of the prices excluding taxes from the prices including non-VAT taxes, as published by Eurostat.

#### Electricity

From 1Q2007 onwards, prices refer to the Eurostat consumption bands DA, DB, DC, DD and DE for households; and bands IA, IB, IC, ID, IE and IF, for non-households. Prices refer to those charged to household and final non-household customers buying electricity for their own use. Prices cover the whole consumption spectrum for households. For non-households, annualized consumption above 150 GWh is excluded.

Prices include all household and final non-household customers of electricity. Electricity generated and subsequently consumed by autoproducers are excluded from the reporting obligation.

National average prices are computed by the Ministry as consumption-weighted averages of the average prices per band published by Eurostat. The weights used for this calculation are bi-annual consumption figures per band collected through surveys.

Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Excise taxes are calculated as the subtraction of the prices excluding taxes from the prices including non-VAT taxes, as published by Eurostat.

#### Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the price indices listed below, as published in the **French National Institute of Statistics and Economic Studies** (INSEE) website.

Wholesale indices for oil products refer to the following time series: *Indice de prix de production de l'industrie française pour le marché français - CPF 19.20 - Produits du raffinage du pétrole - Prix de base - Base 2015 - Données mensuelles brutes, Series ID: 010534157.*

Retail indices for oil products refer to the following time series: *Indice des prix à la consommation - Secteurs conjoncturels, mensuel, ensemble des ménages, métropole, base 2015 - Énergie: Produits pétroliers, Series ID: 001764295.*

Wholesale indices for electricity refer to the following time series: *Indice de prix de production de l'industrie française pour le marché français - CPF 35.1 - Électricité, transport et distribution d'électricité - Prix de base Base 2015- Données mensuelles brutes, Series ID: 010534418.*

Retail indices for electricity refer to the following time series: *Indice des prix à la consommation (Mensuel, Ensemble des ménages, Métropole, Base 2015) - Nomenclature COICOP: 04.5.1 - Électricité, Series ID: 001764003*

Wholesale indices for natural gas refer to the following time series: *Indice de prix de production de l'industrie française pour le marché français - CPF 35.23 - Commerce du gaz par conduites - Prix de base - Base 2015 - Données mensuelles brutes, Series ID: 010534422.*

Retail indices for natural gas refer to the following time series: *Indice des prix à la consommation (Mensuel, Ensemble des ménages, Métropole, Base 2015) - Nomenclature COICOP: 04.5.2.1 - Gaz de ville, Series ID: 001764006.*

Wholesale indices for coal refer to the following time series: *Indice de prix d'importation de produits industriels - CPF 05.10 - Houille - Toutes zones - Base 2015 - Données mensuelles brutes - Series ID: 010535630.*

Retail indices for coal refer to the following time series: *Indice des prix à la consommation (Mensuel, Ensemble des ménages, Métropole, Base 2015) - Nomenclature COICOP: 04.5.4 - Combustibles solides, Series ID: 001764010.*

## Energy taxation

### VAT

VAT (*TVA*) applies to all energy products. VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

The fixed components in electricity and natural gas tariffs in France are subject to a reduced VAT rate.

From	To	General %	Reduced %
01.11.88	31.12.94	18.6	5.5
01.01.95	31.07.95	18.6	18.6
01.08.95	31.12.98	20.6	20.6
01.01.99	31.03.00	20.6	5.5
01.04.00	31.12.13	19.6	5.5
01.01.14	now	20	5.5

### Excise tax

The legal framework for excise taxation on energy in place in France is consistent with the 2003 EU Energy Taxation Directive and the EU Fuel Quality Directive.

#### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
TICPE	x	x	x	x	x		x	x	
TICGN						x			
TICFE									x
TCCFE									x
TDCFE									x

### Internal consumption tax on energy products

(*Taxe intérieure de consommation sur les produits énergétiques - TICPE*)

The internal consumption tax on energy products, known until 2011 as internal tax on oil products (*taxe intérieure sur les produits pétroliers - TIPP*), is an excise tax levied on oil products including transport fuels and heating fuels, such as diesel and gasoline, electricity, compressed natural gas (CNG), coal and coke.

On 1 April 2014, a carbon component (*contribution climat-énergie - CCE*) was introduced at a rate of 7 EUR/tonne of CO<sub>2</sub> for the year 2014. This component is set to be raised every year to 56 EUR/tonne of CO<sub>2</sub> in 2020 and to 100 EUR/tonne of CO<sub>2</sub> in 2030, targets set in the Energy Transition Law of 2015.

Measures have been taken to reduce the gap between diesel and gasoline taxes. The 2015 Finance Law raised the taxation on gasoline by 0.02 EUR/l. Excise duty on diesel increased by almost 0.04 EUR/l in 2015. Between 2014 and 2017, in total, the tax differential between diesel and gasoline (E10) will have been reduced by 0.06 EUR/l to 0.12 EUR/l. In 2016, TICPE rates for

automotive diesel and gasoline stood at 0.511 EUR/l and 0.648 EUR/l, respectively.

Since 1 January 2007, the regional governments of France have been allowed to decide on the applicability of a fraction of the national TICPE rate levied on sales of unleaded premium gasolines (up to 0.0177 EUR/l) and diesel (up to 0.0115 EUR/l) in their regional territories.

Additionally, since 2011, regional councils and the Corsican assembly can increase the applicable TICPE rates levied on sales of unleaded premium gasolines (up to 0.0073 EUR/l) and diesel (up to 0.0135 EUR/l) in their regional territories. The revenue from this increase in TICPE rates is earmarked for financing infrastructure projects in the regions.

In Corsica, TICPE rates for unleaded premium gasolines are reduced by 0.01 EUR/litre (Art. 265 *quinquies* of the Code des Douanes).

Between 1 October 2000 and 21 July 2002, the TIPP rates were reviewed every two months to compensate for variations in crude oil spot prices, using dated Brent as a benchmark. When the price of crude increased by more than 10%, the amount of TIPP decreased by the same amount. Conversely, when the price of benchmark crude oil decreased by more than 10%, the TIPP increased by the same amount. Since 22 July 2002, the TIPP no longer depends on the price of oil.

#### **Internal consumption tax on natural gas**

*(Taxe Intérieure sur Consommation de Gaz Naturel - TICGN)*

The TICGN is defined, in its current form, in Article 266 *quinquies* of the French Customs Code. Since its introduction in 1986, this tax has been known under several names. Tax rates and exemptions have varied several times since its introduction.

From 1 April 2014, the TICGN applies to natural gas consumption by both industry and households, the latter having previously been exempted. Natural gas used in electricity generation and refineries is exempted. Industries subject to emission quotas benefit from a reduced tax rate.

Between 1 April 2008 and 31 March 2014, the TICGN applied to all customers, except for households using gas for heating (including collective heating), public premises (exempt until 1 January 2009) and some specific industrial uses of gas (including power generation).

Prior to 1 April 2008, it applied to industrial consumers whose consumption was greater than 18 000 GJ/year, and was paid on the difference between the actual consumption and a threshold of 17 280 GJ/year.

#### **General tax on polluting activities**

*(Taxe générale sur les activités polluantes - TGAP)*

TGAP was created by pooling existing taxes and mandatory levies allocated to ADEME. The aim is to encourage the incorporation of biofuels in fuels sold by penalizing distributors that sell fuels with a biofuel rate below a certain blending level. This tax is applied to biofuel distributors since 2005 and the tax rate is growing every year.

#### **Internal consumption tax on electricity**

*(Taxe intérieure sur la consommation finale d'électricité - TICFE)*

The TICFE is defined, in its current form, in Article 266 *quinquies* C of the French Customs Code. The TICFE was first introduced on 1 January 2011, and applied to high-voltage industrial users (250 to 10 000 kVA) exclusively, at a flat rate of 0.5 EUR/MWh.

On January 1 2016, the contribution to public electricity service (*Contribution au service public de l'électricité - CSPE*), which had applied to all consumer categories in France, was incorporated into the TICFE, extending its applicability to all electricity consumers in France.

In the tables shown at the end of this section, the TICFE rates for residential consumers for the periods prior to 1 January 2016 correspond to the CSPE. For these periods, the rates shown for industry are the sum of CSPE and the flat TICFE rate valid until 31 December 2015.

#### **Municipal consumption tax on electricity**

*(Taxe communale sur la consommation finale d'électricité - TCCFE)*

The TCCFE, a regional tax on electricity levied at a municipal (*commune*) level, was introduced on 1 January 2011.

Industrial consumers consuming at high-voltage (>250 kVA) are exempted from this tax component.

Municipalities in France are free to set the applicable rates within a legally defined band.

Tax rates are calculated by multiplying a base rate by a multiplier coefficient.

Tax rate = base rate x multiplier coefficient

Between 2011 and 2018, the base rate was 0.75 EUR/MWh for commercial consumers (<=36 kVA) and for non-commercial consumers (<=250 kVA). Currently, the base rate is 0.76 EUR/MWh for commercial consumers (<=36 kVA) and for non-commercial consumers (<=250 kVA). Since 2011, the base rate is



0.25 EUR/MWh for commercial consumers (>36 kVA and ≤250 kVA).

The community concerned can change the multiplier coefficient per vote each year. They set the multiplier coefficient between 0 and 8.5 (upper limit fixed since 2015). In the absence of a new deliberation, the multiplier coefficient is renewed from year to year.

Between 2012 and 2015, the upper limit of the multiplier coefficient is updated in proportion to the average consumer price index.

From 2016, the base rate is updated in proportion to the average consumer price index but no longer the multiplier coefficient.

The tables at the end of this section show the maximum TCCFE rates. Effective rates vary between 0 and the values shown in the table, depending on the municipality.

#### **Departmental consumption tax on electricity** (*Taxe départementale sur la consommation finale d'électricité - TDCFE*)

The TDCFE, a regional tax on electricity levied at a departmental (*département*) level, was introduced on 1 January 2011.

Industrial users consuming at high-voltage (>250 kVA) are exempted from this tax component.

Departments in France are free to set the applicable rates within a legally defined band.

Tax rates are calculated by multiplying a base rate by a multiplier coefficient.

Tax rate = base rate x multiplier coefficient

Between 2011 and 2018, the base rate was 0.75 EUR/MWh for commercial consumers (≤36 kVA) and for non-commercial consumers (≤250 kVA). Currently, the base rate is 0.76 EUR/MWh for commercial consumers (≤36 kVA) and for non-commercial consumers (≤250 kVA). Since 2011, the base rate is 0.25 EUR/MWh for commercial consumers (>36 kVA and ≤250 kVA).

The community concerned can change the multiplier coefficient per vote each year. They set the multiplier coefficient between 2 and 4.25 (upper limit fixed since 2015). In the absence of a new deliberation, the multiplier coefficient is renewed from year to year.

Between 2012 and 2015, the upper limit of the multiplier coefficient is updated in proportion to the average consumer price index.

From 2016, the base rate is updated in proportion to the average consumer price index but no longer the multiplier coefficient.

The tables at the end of this section show the maximum TDCFE rates. Effective rates for commercial vary between 0.5 and the values shown in the table. Effective rates for non-commercial vary between 1.5 and the values shown in the table depending on the department.

#### **Internal consumption tax on energy products**

(*Taxe intérieure de consommation sur les produits énergétiques - TICPE*)

From	To	High sulphur fuel oil (EUR/tonne)	Low sulphur fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)
07.01.92	14.01.93	21.16	0	0	0.257	0.436
15.01.93	14.04.93	21.43	0	0	0.265	0.443
15.04.93	11.07.93	21.45	0	0	0.268	0.446
12.07.93	20.08.93	23.14	0	0	0.268	0.489
21.08.93	31.11.93	23.14	0	0	0.311	0.489
01.12.93	10.01.94	23.14	0	0	0.311	0.489
11.01.94	10.01.95	23.14	0	0	0.324	0.507
11.01.95	10.01.96	23.51	0	75.46	0.329	0.549
11.01.96	10.01.97	23.92	0	76.86	0.349	0.568
11.01.97	10.01.98	24.38	0	78.45	0.358	0.577
11.01.98	10.01.99	24.67	0	79.44	0.371	0.589
11.01.99	10.01.00	18.49	0	80.14	0.381	0.589
11.01.00	31.12.00	18.49	0	80.54	0.392	0.589
01.01.01	30.09.00	18.57	18.57	80.54	0.367	0.589
01.10.00	28.02.01	18.57	18.57	31.07	0.367	0.564
01.03.01	31.12.01	18.57	18.57	42.52	0.377	0.564
01.01.02	20.07.02	18.50	18.50	42.52	0.376	0.574
21.07.02	10.01.04	18.50	18.50	56.60	0.392	0.589
11.01.04	31.12.06	18.50	18.50	56.60	0.417	0.589

From	To	High sulphur fuel oil (EUR/tonne)	Low sulphur fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)
01.01.07	07.02.08	18.50	18.50	56.60	0.426	0.602
08.02.08	31.12.10	18.50	18.50	56.60	0.428	0.606
01.01.11	19.01.12	18.50	18.50	56.60	0.437	0.611
20.01.12	28.08.12	18.50	18.50	56.60	0.440	0.613
29.08.12	31.12.11	18.50	18.50	56.60	0.410	0.583
01.12.12	10.12.12	18.50	18.50	56.60	0.420	0.593
11.12.12	20.12.12	18.50	18.50	56.60	0.425	0.598
21.12.12	10.01.13	18.50	18.50	56.60	0.430	0.603
11.01.13	21.01.13	18.50	18.50	56.60	0.440	0.613
22.01.13	15.01.14	18.50	18.50	56.60	0.439	0.613
16.01.14	31.12.14	21.90	21.90	56.60	0.441	0.613
01.01.15	31.12.15	45.30	45.30	56.60	0.481	0.631
01.01.16	31.12.16	68.80	68.80	96.30	0.511	0.648
01.01.17	31.01.17	95.40	95.40	118.90	0.547	0.660
01.01.18	now	139.50	139.50	156.20	0.5940	0.6829

**Internal consumption tax on natural gas***(Taxe Intérieure sur Consommation de Gaz Naturel - TICGN)*

From	To	Natural gas industry (EUR/MWh)	Natural gas households (EUR/MWh)
11.01.95	10.01.96	1.12	0
11.01.96	10.01.97	1.14	0
11.01.97	10.01.98	1.16	0
11.01.98	10.01.99	1.17	0
11.01.99	10.01.00	1.18	0
11.01.00	10.01.01	1.19	0
11.01.01	31.03.14	1.19	0
01.04.14	31.12.14	1.27	1.27
01.01.15	31.12.15	2.64	2.64
01.01.16	31.12.16	4.34	4.34
01.01.17	31.12.17	5.88	5.88
01.01.18	now	8.45	8.45

**Internal consumption tax on electricity***(Taxe intérieure sur la consommation finale d'électricité - TICFE)*

From	To	Electricity industry (EUR/MWh)	Electricity households (EUR/MWh)
01.01.11	30.07.11	8	7.5
31.07.11	30.06.12	9.5	9.0
01.07.12	31.12.12	11	10.5
01.01.13	31.12.13	14	13.5
01.01.14	31.12.14	17	16.5
01.01.15	31.12.15	20	19.5
01.01.16	now	22.5	22.5



**Local consumption taxes on electricity***(Taxes communales et départementales sur la consommation finale d'électricité – TCCFE & TDCFE)*

From	To	TCCFE households (EUR/MWh)	TCCFE industry (EUR/MWh)	TDCFE households (EUR/MWh)	TDCFE industry (EUR/MWh)
01.01.11	31.12.11	6	2	3	1
01.01.12	31.12.12	6.09	2.03	3.045	1.015
01.01.13	31.12.13	6.21	2.07	3.105	1.035
01.01.14	31.12.14	6.33	2.11	3.165	1.055
01.01.15	31.12.18	6.375	2.125	3.1875	1.0625
01.01.19	now	6.46	2.125	3.23	1.0625

**Product specifications****Oil products**

	High sulphur fuel oil	Low sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (97 RON) gasoline	Premium unleaded (95 RON) gasoline	LPG
Quality	Fuel oil No. 2, ordinaire HTS	Fuel oil No. 2, ordinaire BTS	Fuel oil domestique	Gazole	Supercarburant sans plomb 98	Supercarburant sans plomb 95	GPL carburant
Density (kg/l)			0.845	0.845	0.755	0.755	
Sulphur content (%)	<2	<1					
Lead content (g/l)					0.4	0.4	
NCV (kcal/kg)	9 750	9 750	10 100				
Delivery size	< 24 000 tonne/year	< 24 000 tonne/year	2 – 5 kl Scale C1				

**Natural gas**

	Natural gas
GCV (kcal/m <sup>3</sup> )	8 400

## GERMANY

### Sources

Data for all energy products are provided on a quarterly basis by the German **Federal Ministry for Economic Affairs and Energy (BMWi)**.

Retail energy price indices are derived from data extracted from the **Eurostat** website.

### Data collection methodology

From 1Q1993 onwards, prices refer to the monthly averages of the quarter. From 1Q1985 to 4Q1992, prices refer to the second month of the quarter. Prior to 1Q1985, prices refer to the first month of each quarter.

### Oil products

Prices and taxes data are based on surveys carried out by the Federal Statistical Office (DESTATIS) and the German LPG Association (DVFG).

Ex-tax prices include all non-tax price components, including the mandatory contribution to the emergency storage fund (EBV).

Prices for low sulphur fuel oil refer to annual consumption of 201 - 2 000 tonnes and are averages of all German refiners (approximately 60 to 80% of total consumption). Prices include the cost of transport within a 30 km radius of refineries and storage facilities. Approximately 80% of all volumes sold are consumed within this area.

Prices for heavy fuel oil for electricity generation include average transport costs, which amount to 7.67 EUR/tonne for a 650-tonne barge. Since 3Q2011 prices are confidential due to there being only one market contractor in the country for this product.

Prices for light fuel oil refer to the average of all German refiners, which amounts to approximately 60 to 80% of total consumption.

Prices for automotive diesel refer to the average pump price for diesel marketed by all German refiners.

Price for unleaded gasoline (98 and 95 RON) refer to the average pump price for premium gasoline marketed by all German refiners and is the weighted average of full-service and self-service pump prices.

### Natural gas

Prices and taxes data are based on surveys carried out by the Federal Statistical Office (DESTATIS).

Prices refer to the DESTATIS consumption band 1 600 m<sup>3</sup> for households and Eurostat consumption band I4 for industry (annual consumption 100 000 – 1 000 000 GJ).

Until 4Q2007, prices shown are annual average revenues per MWh received by gas utilities from industry, public electric power stations and households.

### Steam and coking coal

About 40% of total coal input to German power stations is steam coal; the remainder being lignite. Most of the lignite comes from mines owned by utilities and does not have a market price.

From 1996 onwards, prices for steam coal refer to imported steam coal. Prior to 1996, prices refer to the weighted average, calculated by the IEA, using domestic and import prices for steam coal.

Prices for coking coal are ex-mine prices and reflect special contracts with the steel industry. The coking coal price for other industrial sectors is estimated, by the reporting source, to be approximately 20% greater.

### Electricity

Prices and taxes data are based on surveys carried out by the Federal Association of Energy and Water Management (BDEW).

Prices refer to the Eurostat consumption band DC for households (annual consumption 2 500 – 5 000 kWh) and ID for industry (annual consumption 2 000 – 20 000 MWh).

Until 4Q2007, prices shown are annual average revenues per MWh received by gas utilities from industry, public power stations and households.

### Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the Harmonised Indices of Consumer Prices (HICP) published by Eurostat.

Retail indices for oil products refer to a consumption-weighted average of the “*liquid fuels*” (cp0453) and “*fuels and lubricants for personal transport equipment*” (cp0722) series. Relative weights used for the calculations are taken from the associated item weights series (*prc\_hicp\_inw*), published by Eurostat.

Retail indices for electricity refer to the “*electricity*” (cp0451) series.

Retail indices for natural gas refer to the “gas” (cp0452) series.

Retail indices for coal refer to the “solid fuel” (cp0454) series.

## Energy taxation

### VAT

VAT (*MwSt*) is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

From	To	%
01.01.78	30.06.79	12
01.07.79	30.06.83	13
01.07.83	31.12.92	14
01.01.93	31.03.98	15
01.04.98	31.12.06	16
01.01.07	now	19

### Excise tax

Energy taxes in Germany are levied in accordance with the 2003 EU Energy Taxation Directive.

The excise tax columns in Tables 1, 2 and 3 is the sum of all non-VAT tax components applicable to each product.

#### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Excise duties	x	x	x	x	x	x	x	x	
Electricity taxes									x

#### Excise duties (*Verbrauchssteuern*)

Excise taxation on commercial energy products is legally defined, in its current form, in the Energy Control Law, in force since 1 August 2006. This law replaced the former Mineral Oil Tax Law, which had been in place since 1 April 1939.

The Energy Control Law regulates the taxation of all fossil and non-fossil commercial energy products sold in the country, with the exception of the island of Heligoland and the exclave of Büsingen.

Refined oil products, natural gas, coal and renewable energy products, used for heating or as a propellant, are subject to excise taxes pursuant to the Energy Control

Law. Tax rates are legally expressed in EUR per 1000 kg for LPG, per MWh GCV for natural gas and per GJ for coal. In the tax rate tables at the end of this section, rates were converted to other units using the densities and calorific capacities presented in the Product specification section of this document.

Coals used for electricity generation and as coking coal for metallurgic processes are exempt from excise duties (Chapter 3, Art. 37). Until 31 December 2010, coal used for domestic heating was also exempt.

Natural gas excise duty rates differ depending on whether the gas is used for domestic heating, industrial processes or as a propellant.

#### Electricity taxes (*Steuern auf Strom*)

Electricity consumption in Germany is subject to a series of taxes and levies. The main components making up the total taxes on electricity applicable to households and industry are summarized below.

Pursuant to the German Renewable Energy Law (EEG), an EEG-surcharge (*EEG-Zuschlag*) is levied on electricity sold to all consumer categories, with the exception of energy-intensive industries, as a mechanism to finance the feed-in tariffs that support the country's renewable energy producers. Introduced in 2010, the annual rate for this levy is derived from the difference between the wholesale electricity market price and the higher feed-in tariff for renewable energy.

Similarly, a CHP levy (*KWK-Zuschlag*) is levied on all electricity sales at a rate derived from the difference between the wholesale electricity market price and the higher feed-in tariff for CHP plants. This levy is legally defined, in its current form, in the CHP Law of 2016. Only eligible combined heat and power plants feeding their electricity to the public grid are entitled to the financing derived from this levy.

Additionally, a concession fee is levied on electricity sales to finance the occupation of land and public or private property by the infrastructure needed to generate, transport and distribute electricity.

In addition to these fees and levies, the Electricity tax (*Stromsteuer*) has been in place in Germany since 1 April 1999 and is legally defined in the Electricity Tax Law of 24 March 1999. Depending on the sector, German industry benefits from several rate reductions and exemptions.

Due to the complexity of the German electricity taxation system, the tax rate tables at the end of this chapter shows rates for the Electricity tax component only, as applicable to general consumption.

**Excise duties** (*Verbrauchssteuern*)

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)	Automotive LPG (EUR/l)	Natural gas industry (EUR/MWh)	Natural gas households (EUR/MWh)	Coal (EUR/tonne)
01.04.99	31.12.99	15.34	61.35	0.3477	0.5320	0.092	n.a.	n.a.	9.55
01.01.00	31.12.00	15.34	61.35	0.3784	0.5620	0.092	n.a.	n.a.	9.55
01.01.01	31.12.01	17.89	61.35	0.409	0.5930	0.092	n.a.	n.a.	9.55
01.01.02	31.12.02	17.89	61.35	0.4397	0.6238	0.092	n.a.	n.a.	9.55
01.01.03	31.12.03	25	61.35	0.4704	0.6545	0.092	n.a.	3.476	9.55
01.01.04	now	25	61.35	0.4704	0.6545	0.092	n.a.	5.500	9.55

**Electricity tax** (*Stromsteuer*)

From	To	Electricity (EUR/MWh)
01.04.99	31.12.99	10.23
01.01.00	31.12.00	12.78
01.01.01	31.12.01	15.34
01.01.02	31.12.02	17.90
01.01.03	now	20.45

## Product specifications

**Oil products**

	Low sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (98 RON) gasoline	Premium unleaded (95 RON) gasoline	Regular unleaded gasoline	Automotive LPG
Quality	Heizöl schwer	Heizöl extraleicht		Super Plus 98	Euro Super 95		
Density (kg/l)	0.99	0.87	0.82 - 0.845	0.72 - 0.77	0.72 - 0.77	0.72 - 0.77	0.51
Sulphur content (%)	<1						
Lead content (g/l)				0.005	0.005	0.15	
NCV (kcal/kg)	9 800	10 200					
Delivery size		4 – 5 kl					

**Natural gas and coal**

	Natural gas	Steam coal industry	Steam coal electricity generation	Steam coal households	Coking coal
Quality		Grosskohle (from Ruhrkohle AG)	Fett Feinkohle (from Ruhrkohle AG)	Zechenbrechkoks 3	Kokskohle (from Ruhrkohle AG)
Volatile matter (%)		20 - 30	20 - 30		26.5
Ash content (%)		3 - 5	6 - 8		<8
Moisture content (%)		3 - 6	8 - 10		<10
Sulphur content (%)		1	0.95		0.95
NCV (kcal/kg)			6 914 – 7 000	6 210	
GCV (kcal/kg)*	8 400	7 000			6 950
Delivery size (kg)				3 000	

\*kcal/m<sup>3</sup> for natural gas

## GREECE

### Sources

Prices and taxes data for all energy products are provided on a quarterly basis by the **Ministry of Environment and Energy (the Ministry)**.

Energy price indices are provided on a quarterly basis by the **Hellenic Statistical Authority**.

### Data collection methodology

Prices refer to the average of the three months of the quarter.

#### Oil products

End-use prices for all oil products are based on weekly reports of the National Observatory for Prices, which are averaged by the Ministry. Refinery prices are provided on a daily basis for each product, based on international prices (Platts). For each product, a premium is added to include additional refinery operating costs and profit margins.

Ex-tax prices are calculated by the Ministry by subtracting the applicable taxes, as described in the Energy taxation section of this document, from the end-use prices.

In accordance with law 2960/2001 (National Customs Code) as amended, light fuel oil consumption for heating only takes place during the winter period (defined as the period between 15 October and 30 April) and is subject to a reduced excise duty rate. Consequently, data for the third quarter is shown as not applicable and data for the second quarter only includes April.

#### Natural gas

Prior to 2016, prices and taxes for natural gas are derived by the Ministry on a quarterly basis from a survey covering all natural gas retail companies in the country.

From 2016 onwards, prices and taxes are calculated as a consumption-weighted average of all the consumption bands reported to Eurostat.

Data are biannual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

#### Steam and coking coal

Steam coal used for electricity generation in Greece is mainly lignite, mined on-site by the power generations.

As such, prices are not applicable, as there is no economic transaction between the mine and the power plant.

From 1Q2015 onwards, steam and coking coal prices for industry are not applicable, due to limited sectoral consumption levels.

Steam coal prices for households are not applicable, due to limited sectoral consumption levels.

#### Electricity

From 3Q2007 onwards, prices refer to the Eurostat consumption band DC for households (annual consumption: 2 500 – 5 000 kWh) and ID for industry (annual consumption: 2 000 – 20 000 MWh).

Data are biannual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

No information is available from 2Q2006 to 2Q2007. Prior to 2Q2006, prices refer to annual average revenues per MWh from all utilities for sales to industry and households.

#### Energy price indices

Annual indices are 12-month averages. From 1Q1993 onwards, quarterly indices refer to the three-month average of the quarter. Prior to 1Q1993, indices refer to the second month of each quarter.

Prices for the wholesale indices collected for products sold on the domestic market are basic prices, excluding VAT, duties and other taxes, and including subsidies on products. Deductible taxes directly linked to turnover, are excluded.

Wholesale indices for oil products refer to the weighted-average of the Producer Price Index (PPI) series for heavy fuel oil and diesel. Retail indices refer to the weighted-average of the Consumer Price Index (CPI) series for heating oil and gasoline.

Wholesale indices for electricity refer to the weighted average of the PPI series for electricity used in industry, services, agriculture and other uses (public lighting) in low voltage (220/380V). Retail indices refer to the Harmonised Indices of Consumer Prices (HICP) series for *electricity* (cp0451).

Wholesale and retail indices for natural gas refer to the PPI and CPI series, respectively, for natural gas.

Wholesale indices for coal refer to the PPI series for lignite. Retail indices refer to the HICP series for *solid fuels* (cp0454).

## Energy taxation

### VAT

VAT (*ΦΠΑ*) applies to all energy products. VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

A reduced VAT rate applies to natural gas and electricity.

From	To	General %	Reduced %
15.03.10	30.06.10	21	10
01.07.10	31.12.10	23	11
01.01.11	31.05.16	23	13
01.06.16	19.05.19	24	13
20.05.19	now	24	6

### Excise tax

Excise taxation on energy and the main provisions on excise duty rates on energy products are laid down in the National Customs Code (Law 2960/2001, Governmental Gazette A 265, articles 72-78) as amended. The legal framework is consistent with the 2003 EU Energy Taxation Directive.

#### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Excise duties	x	x	x	x	x	x	x	x	x
Public service obligation charges									x
Special levy on pollutant emissions									x

#### Excise duties (*Ειδικός Φόρος Κατανάλωσης - ΕΦΚ*)

Excise duties are currently levied on oil products, natural gas, coal and electricity, used for transportation or heating.

Diesel used for heating during winter (defined as the period between 15 October and 30 April) is subject to a reduced excise duty rate.

Natural gas used for heating is subject to excise duties since 1 September 2011. Natural gas used for transportation or electricity generation is exempt.

Coal (used for heating and for other uses) is subject to Excise duties. Coal used in electricity generation, as well as mineralogical and metallurgical processes and for chemical reduction is exempt.

Electricity is subject to excise duties since 2 May 2010.

#### Public service obligation charges (*Χρεώσεις που αφορούν τις Υπηρεσίες Κοινής Ωφέλειας - ΥΚΩ*)

Electricity consumers are subject to a Public service obligation charge levied, as a mechanism for financing the cost of public service obligations.

Electricity suppliers in Greece have the obligation to supply residents of the non-interconnected islands at the same prices as in the mainland, despite higher production costs. Additionally, large families and economically vulnerable consumers are entitled to a discounted social tariff.

For industrial consumers, rates differentiate between low, middle and high voltage consumption.

#### Special Duty

According to Law 2093/92, natural gas, electricity and liquid fuels supply companies are obliged to collect the Special Duty, currently at 5%, in their bills and render it to the Greek Customs Authorities.

The Special Duty is calculated in the “actual” bills based on the consumed quantity, surcharged by the excise duty. The Special Duty is not subject to VAT and also does not include the special levy on pollutant emissions.

#### Special levy on pollutant emissions (*Ειδικό Τέλος Μείωσης Εκπομπών Αερίων Ρύπων - ETMEAP*)

Electricity consumers are subject to an additional tax component to support the financial incentives to renewable electricity generation and high-efficiency combined heat and power facilities.

For industrial consumers, rates differentiate between low, middle and high voltage consumption, with a cap on the total amount paid by an individual consumer in a year. For residential consumers, rates differentiate between consumption bands.

**Excise duties** (*Ειδικός Φόρος Κατανάλωσης - ΕΦΚ*)

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil* (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)	Natural gas <i>households</i> (EUR/MWh)	Natural gas <i>industry</i> (EUR/MWh)
01.01.09	25.06.09	19		0.302	0.359		
26.06.09	14.10.09	19		0.302	0.410		
15.10.09	08.02.10	19	21	0.302	0.410		
09.02.10	03.03.10	19	21	0.352	0.530		
04.03.10	02.05.10	19	21	0.382	0.610		
03.05.10	26.06.11	19	21	0.412	0.670		
27.06.11	31.08.11	38	21	0.412	0.670		
01.09.11	14.10.11	38	21	0.412	0.670	5.4	5.4
15.10.11	14.10.12	38	60	0.412	0.670	5.4	5.4
15.10.12	14.10.14	38	330	0.330	0.670	5.4	5.4
15.10.14	14.10.16	38	230	0.330	0.670	5.4	5.4
15.10.16	31.12.16	38	280	0.330	0.670	5.4	5.4
01.01.17	now	38	280	0.410	0.700	1.1	0.4**

\* Light fuel oil is only consumed during winter, defined as the period between 15 October and 30 April.

\*\* Refers to an annual consumption of 100.001 – 500.000 MWh.

## Product specifications

	Low sulphur fuel oil	Light fuel oil <i>industry</i>	Automotive diesel	Premium unleaded (95 RON) gasoline	Premium leaded gasoline	Natural gas
Octane number		Fuel oil no. 3 and 5		95	96	
Density (kg/l)		0.991 – 0.995	0.820 – 0.845	0.72 – 0.775		
Sulphur content (%)	1.5	< 1	< 0.001	< 0.001		
Lead content (g/l)				< 0.005	0.15	
GCV (kcal/m <sup>3</sup> )						8 776 – 11 796 (pipeline) 9 601 – 10 910 (LNG)
Delivery size	46 000 tonne/y	2 000 – 5 000 l (Athens area)				



## HUNGARY

### Sources

Data for all energy products, including energy price indices, are provided on a quarterly basis by the **Energy and Public Utility Regulatory Authority (MEKH)**.

### Data collection methodology

#### Oil products

Oil product prices are based on periodical surveys covering the largest fuel providers in the country. In the surveys, companies report revenues related to fuel sales and total sales volumes. Ex-tax prices are calculated as the ratio of the sum of revenues from fuel sales and the total volumes sold.

End-use prices are computed by adding to ex-tax prices the applicable tax components. For commercial users, the tax elements are the excise duty and the stockholding fee, as described in the Energy Taxation section of this document. For non-commercial users, VAT is added to the tax.

The company surveys used to calculate the data are estimated to cover around 82-85% of fuel sales for gasoline, 85-90% for automotive diesel, and 100% for fuel oil.

From 1 April 1996 onwards, leaded regular gasoline (92 RON) is not sold in Hungary. Since 1 May 2004, unleaded regular (91 RON) is no longer consumed. Since 1 May 2007, unleaded premium gasoline (98 RON) is no longer sold by the country's major fuel retailers.

#### Natural gas

Ex-tax prices are based on periodical surveys of natural gas traders and universal service providers. Ex-tax prices are calculated as the ratio of the sum of revenues from natural gas sales and the total volumes sold. The company survey covers 100% of natural gas sales in Hungary.

End-use prices are computed by adding to the ex-tax prices the applicable tax components. For households, the only tax component is VAT. For industry, the tax components only include the excise duties.

Differently from oil products, the stockholding fee described in the Energy Taxation section of this document is included in the ex-tax price for natural gas.

Automatic subsidies for households were abolished on 1 January 2007, which had been reflected in lower ex-tax prices. Due to this, there appears to be an abnormal increase in prices for households between 4Q2006 and 1Q2007, when there was in fact no change in the cost.

#### Steam and coking coal

Coal-fuelled thermal power plants in Hungary tend to source their fuel from their own coal mines, resulting in confidential prices for the electricity generation sector.

Steam coal prices for households are estimated based on data for the year 2000 and updated using the monthly consumer price index for coal produced by the Central Statistical Office.

#### Electricity

Ex-tax prices are based on periodical surveys of electricity traders, universal service providers and distribution system operators. The company survey is estimated to cover 100% of electricity sales in Hungary.

Ex-tax prices per consumption band are calculated as the ratio of revenues and the total volumes sold in each band. Prices for households and industry presented in this publication are consumption-weighted averages for all relevant consumption bands.

End-use prices are computed by adding to the ex-tax prices the applicable tax components.

#### Energy price indices

The indices are calculated from weekly surveyed data. Annual indices are 52-week averages. Quarterly indices are averages of all weeks in the quarter.

For oil products, the indices from 3Q2007 onwards refer to a weighted average of premium unleaded gasoline (95 RON), automotive diesel and low sulphur fuel oil.

Prior to 3Q2007, the indices also included premium unleaded gasoline (98 RON) prices.

The retail indices for coal refer to steam coal.

### Energy taxation

#### VAT

VAT (*ÁFA*) is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for industry and electricity generation, as well as for automotive fuels for commercial use.

From	To	%
01.01.93	31.07.93	6
01.08.93	31.12.94	10
01.01.95	31.12.03	12
01.01.04	31.08.06	15
01.09.06	30.06.09	20
01.07.09	31.12.11	25
01.01.12	now	27

## Excise tax

Energy taxes in Hungary are levied in accordance with the 2003 EU Energy Taxation Directive.

Natural gas, electricity and coal for households, as well as natural gas and coal for electricity generation, are not subject to excise taxes.

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Excise duties	x	x	x	x	x	x	x	x	x
Stockholding fee	x	x	x	x		x			
Other electricity taxes									x

### Excise duties (*Jövedéki adó*)

Excise duties generally are levied on oil products and compressed natural gas (CNG). From 1 July 2017 onwards, this tax is also levied on natural gas, coal and electricity used for commercial purposes. Tax rates for natural gas, coal and electricity are legally expressed in HUF per GJ, tonnes and MWh, respectively.

### Excise duties (*Jövedéki adó*)

From	To	Heavy fuel oil (HUF/tonne)	Automotive diesel (HUF/l)	Gasoline (HUF/l)	Automotive LPG (HUF/l)	Natural gas (HUF/MWh)	Coal (HUF/tonne)	Electricity (HUF/MWh)
01.01.03	31.12.04		82.00	n.a.	n.a.			
01.01.05	30.06.09		85.00	n.a.	n.a.			
01.01.10	30.10.11		90.40	n.a.	n.a.			
01.11.11	31.12.14		97.35	120	n.a.			
01.01.15	30.09.16		110.35	120	34.488			
01.10.16	31.03.17	4 665	120.35	125	34.488			
01.04.17	30.06.17	4 655	110.35	120	34.488			
01.07.17	now	4 655	110.35	120	34.488	303.8	2 516	310.05

Excise duties on fuels used in agriculture are refunded at an 82% rate.

In terms of coal the national tax rate is based on weight and quantity which used by households is exempted.

### Energy tax (*Energiaadó*)

An energy tax is levied on natural gas, coal and electricity used for commercial purposes. Tax rates for natural gas, coal and electricity are legally expressed in HUF per GJ, tonnes and MWh, respectively.

This tax was abolished on 30 June 2017.

### Stockholding fee (*Készletezési díj*)

A strategic stockholding fee has been levied on liquid fuels sales in Hungary since 1 January 2003. The revenue from this fee is used to cover the cost of maintaining the country's strategic reserves.

On 1 January 2004, this fee was extended to natural gas sales to support the stockpiling of this fuel.

### Other electricity taxes

In addition to the energy tax, three additional tax components are levied on electricity sales to industry.

On 1 January 2008, a fee to support the restructuring of the coal industry ("coal cent") was introduced. Simultaneously, a second fee was introduced to support the reduced electricity prices granted to pensioners and employees of the electricity industry.

On 1 January 2011, a third fee on electricity sales to end-users was introduced to support new cogeneration units ("cogeneration restructuring fee").

From 1 January 2019, the "coal cent" is reduced to zero.

VAT is not levied on these three components. From 1 January 2013, all taxes in electricity (including the energy tax) have applied to industrial users only.

**Energy tax** (*Energiaadó*)

From	To	Natural gas (HUF/MWh)	Coal (HUF/tonne)	Electricity (HUF/MWh)
01.01.04	31.12.07	202		186.0
01.01.08	31.12.09	272		252.0
01.01.10	31.12.14	290	2390	295.0
01.01.15	31.12.16	306	2516	310.5
01.01.17	30.06.17	303.8	2516	310.5

**Stockholding fee** (*Készletezési díj*)

From	To	Heavy fuel oil (HUF/tonne)	Automotive diesel (HUF/l)	Gasoline (HUF/l)	Natural gas (HUF/MWh)
01.01.03	31.07.03	2 750	3.237	3.289	
01.08.03	31.12.03	3 025	3.237	3.289	
01.01.04	30.06.04	3 025	3.237	3.289	
01.07.04	31.12.07	3 025	2.988	2.977	
01.01.08	31.08.09	2 500	2.573	2.646	
01.09.09	30.09.09	2 750	2.830	2.911	
01.10.09	31.12.09	3 075	3.166	3.256	
01.01.10	31.12.11	3 075	3.166	3.256	
01.10.11	31.12.14	3 075	3.205	3.300	196.00
01.01.15	31.05.15	1 275	1.405	1.500	211.00
01.06.15	30.04.16	1 275	1.405	1.500	232.00
01.05.16	30.09.16	1 275	1.405	1.500	255.00
01.10.16	31.12.16	1 275	1.405	1.500	303.00
01.01.17	30.09.17	1 486	1.616	1.725	365.00
01.10.17	31.12.17	1 486	1.616	1.725	328.24
01.01.18	now	2.303	2.505	2.674	292.13

**Other electricity taxes**

From	To	Coal cent (HUF/MWh)	Support for reduced electricity prices to pensioners and employees of the electricity industry (HUF/MWh)	Cogeneration restructuring fee (HUF/MWh)
01.01.08	31.12.08	225	110	
01.01.09	31.12.09	200	120	
01.01.10	31.12.10	230	90	
01.01.11	03.04.13	190	70	1200
04.04.13	31.10.13	80	70	1310
01.11.13	31.12.14	170	200	1710
01.01.15	31.12.15	210	130	2080
01.01.16	31.12.16	250	70	1750
01.01.17	22.12.17	160	100	1750
23.12.17	31.12.18	50	90	810
01.01.19	now	0	80	810

## Product specifications

### Oil products

	Low sulphur fuel oil	Automotive diesel	Premium unleaded (97 RON) gasoline	Premium unleaded (95 RON) gasoline
Density (kg/l)	0.973	0.83	0.72 - 0.75	0.72 - 0.75
Sulphur content (%)	<1	<0.001		
Lead content (g/l)			<0.005	<0.005
NCV (kcal/kg)		10 221		

### Natural gas and coal

	Natural gas	Steam coal <i>industry</i>	Steam coal <i>electricity generation</i>	Steam coal <i>households</i>
NCV (kcal/kg)		4 686	1 504	3 210
GCV (kcal/m <sup>3</sup> )	9 163.7			

# ICELAND

## Sources

Prices for transport fuels, light fuel oil, and electricity in households are extracted from **Statistics Iceland's** website.

Retail energy price indices are derived from data extracted from the **Eurostat** website.

## Data collection methodology

### Oil products

Quarterly end-use prices refer to the first month of the quarter. From year 2008 onwards, prices for transport fuels and light fuel oil are collected in the middle of the reference month. Prior to year 2008, prices were collected on the first two days of the month.

Annual prices are the average of the quarterly data.

### Electricity

Quarterly end-use prices refer to the first month of the quarter. From year 2008 onwards, prices for electricity in households are collected in the middle of the reference month. Prior to year 2008, prices were collected on the first two days of the month.

Prices for electricity in households refer to Reykjavik.

Annual prices are the average of the quarterly data.

### Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the Harmonised Indices of Consumer Prices (HICP) produced by Eurostat.

Retail indices for oil products refer to a consumption-weighted average of the “*liquid fuels*” (cp0453) and “*fuels and lubricants for personal transport equipment*” (cp0722) series. The relative weights used for the calculations are taken from the associated item weights series (*prc\_hicp\_inw*), published by Eurostat.

Retail indices for electricity refer to the “*electricity*” (cp0451) series.

## Energy taxation

### VAT

VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for industry, electricity generation and automotive fuels for commercial use.

There are two VAT rates (*virðisaukaskattur*) in Iceland: general and reduced. Transport fuels are taxed at the general rate. Fuel oil and electricity for space heating are taxed at the reduced rate.

From	To	General %	Reduced %
01.01.10	31.12.14	25.5	7
01.01.15	now	24	11

### Excise tax

The legislation for excise taxes, introduced in Iceland in 1987, is embedded in a number of acts depending on product category.

#### Tax applicability table (not exhaustive)

	LFO	Diesel	Gasoline	Electricity
General excise tax		x	x	
Supplementary road tax		x	x	
Carbon tax	x	x	x	x
Energy tax				x

#### General excise tax (*Almennt vörugjald af eldsneyti*)

The general excise tax is one of two excise taxes in Iceland applicable to transport fuels and governed by Act No. 29/1993 Law on Excise Tax on Vehicles, Fuel, etc. (*Lögum nr. 29/1993 Lög um vörugjald af ökutækjum, eldsneyti o.fl.*). Light fuel oil used for heating in households is exempted from this tax.

#### Supplementary road tax (*Sérstakt vörugjald af eldsneyti*)

The supplementary road tax is the second excise tax applicable to transport fuels. Revenues from this tax are used for road construction and maintenance.

**Carbon tax** (*Kolefnisgjald á fljótandi jarðefnaeldsneyti*)

The carbon tax, introduced in 2010, is an environmental tax applicable to transport fuels, fuel oil, aviation fuels, electricity and hot water. It is governed by the Environmental and Natural Resources Tax Act (*Lög um umhverfis- og auðlindaskatta*).

**Energy tax** (*Skattur af raforku og heitu vatni*)

The energy tax, introduced in 2010, is an environmental tax applicable to sales of electricity and hot water. It is governed by the Environmental and Natural Resources Tax Act (*Lög um umhverfis- og auðlindaskatta*).

## Product specifications

**Oil products**

	Premium unleaded (95 RON) gasoline
Quality	Blýlaust bensín
Density (kg/l)	
Sulphur content (%)	<.001
Lead content (g/l)	<0.005
NCV (kcal/kg)	
GCV (kcal/m <sup>3</sup> )	
Delivery size (l)	

## IRELAND

### Sources

Data for all energy products, including energy price indices, are provided on a quarterly basis by the **Sustainable Energy Authority of Ireland (SEAI)**.

### Data collection methodology

From 2Q2000 onwards, prices refer to mid-month, averaged over three months. From 4Q1985 to 1Q2000, prices refer to the second month of each quarter. Prior to 4Q1985, prices refer to the first month of each quarter.

### Oil products

For heavy fuel oil for electricity generation, prices refer to fuel purchased in the quarter, from 1Q2009 onwards. Prices refer to list prices per litre converted to tonnes with all taxes included. Discounts are not included in these prices and may be applied by the companies.

For fuel oil for industry, prices refer to average prices, from 2Q2016 onwards. Discounts and rebates are not accounted for in the prices but may be applied by the companies. From 1Q1983 to 1Q2016, prices take into account the average rebate for medium-sized industries. Prior to 1Q1983, prices shown are maximum prices.

For fuel oil for households, prices refer to average prices, from 2Q1984 onwards. A large number of Irish home heating oil is kerosene rather than heating gasoil. The final prices are calculated based on domestic kerosene prices taken from [www.cheapestoil.ie](http://www.cheapestoil.ie), a website that covers the whole of Ireland. The difference between list prices for kerosene and gasoil, provided on a voluntary basis by three large oil companies, is added to the calculated average kerosene price to determine average prices.

For automotive diesel and gasoline, end-use prices refer to the retail pump prices displayed at the filling stations, including all taxes. They are calculated as arithmetic average of the weekly prices published at [www.pumps.ie](http://www.pumps.ie), a website where customers input prices seen at fuel stations around Ireland. It is updated by consumers on a continuous basis.

Price control mechanisms for transport fuels were abolished on 1 October 1991. The obligation for retailers to buy 20% of fuels from domestic refineries was abolished in July 2001.

### Natural gas

From 2Q1983 onwards, prices refer to Dublin and other areas in line with the historic expansion of the gas grid. Prior to 2Q1983, prices refer to Cork city, the only area with natural gas at the time.

For industry, prices refer to average revenues per MWh for all industrial and commercial sales.

For electricity generation, prices refer to the average expenditure of electrical power plants on gas purchased for public supply. These prices are currently confidential.

For households, prices refer to the average revenues per MWh, including standing charges.

All natural gas suppliers in the country are surveyed every quarter.

### Steam and coking coal

Steam coal prices for households are collected quarterly under the SEAI Fuel Cost Comparison Survey, which covers major coal suppliers only and includes all applicable taxes and levies. Domestic sales of coal are collected monthly through a survey conducted under the EU Energy Statistics Regulation and used as weights to calculate average quarterly and annual prices. Ex-tax prices are calculated by subtracting VAT and the applicable excise taxes from the end-use prices.

Steam coal prices for households refer to the average price for coal delivered to households in Dublin. The type of coal varies over time according to supply. Blended coal types also occur. From 1 September 1990 onwards, bituminous coal is banned from sale in the Dublin area.

Since 2009, there is only one power plant in Ireland using steam coal for electricity generation and prices are therefore confidential.

### Electricity

Prices of electricity are weighted averages of the prices charged by suppliers, using suppliers' market shares as weights. All electricity suppliers in the country are surveyed every quarter.

Electricity prices for industry refer to average revenues per MWh received by utilities from all high-voltage consumers (all industrial sectors).

Electricity prices for households refer to average revenues per MWh received by utilities from all low-voltage consumers.

### Energy price indices

Quarterly wholesale indices are calculated by summing the indices for the three months in each quarter and calculating an average index.



Quarterly retail indices refer to those of mid-February, mid-May, mid-August, and mid-November of each year.

Annual indices are averages of the four quarters of the year.

Wholesale and retail indices for oil products include domestic heating oil, gasoline, automotive diesel and motor oil. Automotive LPG is included up to December 2001.

Retail prices for electricity, natural gas and coal refer to prices for households.

## Energy taxation

### VAT

VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use. A higher VAT rate applies to automotive diesel and gasoline sales.

From	To	General %	Automotive diesel Gasoline %
01.03.91	31.12.00	12.5	21.0
01.01.01	28.02.02	12.5	20.0
01.03.02	31.12.02	12.5	21.0
01.01.03	30.11.08	13.5	21.0
01.12.08	31.12.09	13.5	21.5
01.01.10	31.12.11	13.5	21.0
01.01.12	now	13.5	23.0

### Excise tax

Excise taxes on commercial energy products in Ireland are levied in accordance with the 2003 EU Energy Taxation Directive.

#### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Mineral oil tax	x	x	x	x	x				
NORA levy	x	x	x	x					
Natural gas carbon tax						x			
Solid fuel carbon tax							x	x	
Electricity tax									x

### Mineral oil tax

Excise duties levied on the sale of mineral oils in Ireland are legally defined in Chapter 1 of Part 2 of the Finance Act 1999. This tax came into force on 1 January 2000.

Currently, the rates for each oil product covered by this tax consist of a non-carbon component and a carbon charge. The effective rates are the sum of both components.

The carbon component of this tax was introduced for gasoline and diesel on 10 December 2009. The tax was subsequently extended to all other non-transport oil products on 1 May 2010.

### NORA levy

The National Oil Reserves Agency (NORA) was established as a stand-alone agency under the NORA Act 2007. Its function is to arrange for the holding of national strategic oil stocks at a level determined annually by the Ministry, for supply in an emergency.

The levy is paid by oil marketing companies and oil consumers on their relevant disposals of oil products in the State. Currently the NORA levy applies to most oil products except LPG.

Historically averaging 0.00476 EUR/l, the levy was increased to 0.01 EUR/l on 1 November 2007 and to 0.02 EUR/l on 1 October 2009.

### Natural gas carbon tax

The natural gas carbon tax in Ireland is legally defined in Chapter 2 of Part 3 of the Finance Act 2010 (as amended). The Natural Gas Carbon Tax Regulations 2010 deal with administration aspects of the tax. This tax came into force on 1 May 2010.

The tax rate is derived from the rate of 20 EUR per tonne of CO<sub>2</sub> emitted that has been applied to fuels.

Natural gas for electricity generation, chemical reductions, and electrolytic and metallurgical processes is exempted from this tax.

A partial relief from the tax is granted for natural gas delivered for use in an installation that is covered by a greenhouse gas emissions permit issued by the Environmental Protection Agency (EPA).

### Solid fuel carbon tax

The Solid fuel gas carbon tax in Ireland is legally defined in Chapter 2 of Part 3 of the Finance Act 2010, and amendments. This tax came into force on 1 May 2013.

The tax rate is derived from the rate of 20 EUR per tonne of CO<sub>2</sub> emitted that generally applies to fuels.

Coal used for electricity generation is exempt from this tax.

A partial relief from the tax is granted for coal used in an installation that is covered by a greenhouse gas emissions permit issued by the Environmental Protection Agency (EPA).

**Electricity tax**

The Electricity tax in Ireland is legally defined in Chapter 1 of Part 2 of the Finance Act 2008 (as amended). This tax came into force on 1 October 2008.

Electricity used in households and chemical reduction, in electrolytic or metallurgical processes, is exempted from this tax.

**Mineral oil tax**

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil <i>households</i> (EUR/1000l)	Light fuel oil <i>industry</i> (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)
07.12.00	05.12.01	n.a.	n.a.	32.12	0.249	0.349
06.12.01	04.12.02	n.a.	n.a.	32.12	0.302	0.401
05.12.02	03.12.03	n.a.	n.a.	32.12	0.327	0.401
04.12.03	14.10.08	n.a.	n.a.	32.12	0.368	0.443
15.10.08	08.04.09	n.a.	n.a.	32.12	0.368	0.509
09.04.09	09.12.09	n.a.	n.a.	32.12	0.409	0.509
10.12.09	30.04.10	n.a.	n.a.	37.36	0.449	0.543
01.05.10	05.12.11	n.a.	n.a.	88.60	0.449	0.543
06.12.11	22.10.14	n.a.	n.a.	88.60	0.479	0.588
23.10.14	now	80.84	102.28	102.28	0.479	0.588

**Natural gas and solid fuel carbon tax**

From	To	Natural gas (EUR/MWh)	Coal (EUR/tonne)
01.05.10	30.04.10	2.77	
01.05.12	30.04.13	3.70	
01.05.13	30.04.14	3.70	26.33
01.05.14	now	3.70	52.67

**Electricity tax**

From	To	Electricity <i>industry</i> (EUR/MWh)
01.10.08	now	0.5

**Product specifications**

	High sulphur fuel oil	Light fuel oil <i>industry</i>	Natural gas	Coking coal
Quality	Heavy fuel oil with sulphur content of 1% or higher.			Smokeless coal
Density (kg/l)	0.94	0.845		
Sulphur content (%)	> 1			
Lead content (g/l)				
NCV (kcal/kg)	9 849	10 344		
GCV (kcal/m <sup>3</sup> )			9 412	
Delivery size	25 tonnes	≥ 5 000 l		

## ISRAEL

### Sources

Data for all energy products are provided on a quarterly basis by the **Central Bureau of Statistics (CBS)**.

### Data collection methodology

The statistical data for Israel are supplied by and on the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

The electricity sector is dominated by one company, the Israel Electric Corporation (IEC), which produces about 90% of the country's electricity. Additionally, some smaller power companies purchase electricity from or sell it to the IEC, or to final consumers.

Prices for heavy fuel oil, steam coal and natural gas for electricity generation are based on IEC reports, which provide the best available estimate since no supply side data are available.

### Oil products

For heavy fuel oil for electricity generation, prices are based on a quarterly report by the IEC.

The IEC used to be the main user of heavy fuel oil in Israel. As of 2004, following the beginning of natural gas supply, natural gas gradually replaced fuel oil and gas oil for electricity generation. This trend was interrupted in two years: 2011 due to the interruption of imports; and 2012 because of depletion of the fields (see the section on natural gas below). As of 2013, once natural gas supply began from new fields, no major consumption of heavy fuel oil was expected for electricity generation by the IEC. Minor quantities of fuel oil are expected to be used for operational needs.

For premium leaded (96 RON) gasoline, prices are not available since 2009.

### Natural gas

Natural gas is used primarily for electricity generation, and the IEC is its main consumer.

Production and supply began in February 2004. Imports from Egypt started in May 2014. Since March 2012, following supply interruptions, imports from Egypt ceased.

During 2012, there was a depletion of Israeli fields leading to a severe supply shortage. From 2013 onwards, the shortage was partially replaced by imports of liquefied natural gas (LNG). As of 2013, natural gas supply began from new Israeli fields and has been growing constantly since then.

### Steam and coking coal

Coal is used almost entirely for electricity generation by the IEC.

### Electricity

Electricity prices for industry and households are calculated by CBS based on the proportion of electricity sold by the IEC each month.

There are no prices available for electricity sold by small electricity producers, either to industry or to households.

### Energy taxation

#### VAT

VAT (מע"ז) applies to all energy products since its introduction in 1976. The VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

From	To	%
01.08.82	31.05.85	15.0
01.06.85	30.09.85	17.0
01.10.85	28.02.90	15.0
01.03.90	31.12.90	16.0
01.01.91	31.12.92	18.0
01.01.93	14.06.02	17.0
15.06.02	29.02.04	18.0
01.03.04	31.08.05	17.0
01.09.05	30.06.06	16.5
01.07.06	30.06.09	15.5
01.07.09	31.12.09	16.5
01.01.10	31.08.12	16.0
01.09.12	01.06.13	17.0
02.06.13	30.09.15	18.0
01.10.15	now	17.0

#### Excise tax

Excise taxation on commercial energy products consists of a single component.

Electricity consumption is not subject to excise taxation, but fuels used for electricity generation are, effectively functioning as a tax on electricity.

**Tax applicability table (not exhaustive)**

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Excise taxes	x	x	x	x	x	x	x	x	

**Excise duties (ב"ל)**

Excise duties apply to oil products, natural gas and coal. Applicable rates are determined by the Customs and VAT department of the Ministry of Finance. In its current form, excise duties on commercial energy products are legally defined in the 2004 Law on Excise Duties on Fuels.

**Excise duties (ב"ל)**

From	To	Heavy fuel oil (NIS/tonne)	Light fuel oil (NIS/1000l)	Automotive diesel (NIS/l)	Gasoline (NIS/l)	Automotive LPG (NIS/l)	Natural gas (NIS/MWh)	Coal (NIS/tonne)
01.01.08	31.03.08	12.90	1683.93	1.6839			14.70	
01.04.08	30.06.08	12.95	1690.54	1.6905			14.76	
01.07.08	30.09.08	13.27	1731.85	1.7319			15.12	
01.10.08	31.12.08	13.55	2099.75	2.0998			15.44	
01.01.09	31.03.09	13.49	2089.94	2.0899			15.37	
01.04.09	30.06.09	13.39	2074.84	2.0748			15.26	
01.07.09	30.09.09	13.64	2114.03	2.1140			15.55	
01.10.09	31.12.09	13.97	2500.51	2.5005			15.93	
01.01.10	31.03.10	14.00	2505.27	2.5053			15.96	
01.04.10	31.08.10	13.87	2481.46	2.4815			15.81	
01.09.10	31.12.10	14.16	2533.85	2.5339			16.14	
01.01.11	13.02.11	14.32	2764.68	2.7647	3.0855	0.0615	16.32	43.29
14.02.11	30.04.11	14.32	2764.68	2.7647	2.8855	0.0615	16.32	43.29
01.05.11	31.07.11	14.47	2794.29	2.7943	2.9165	0.0622	16.49	43.75
01.08.11	31.08.11	14.47	2794.29	2.7943	2.6492	0.0622	16.49	43.75
01.09.11	30.09.11	14.64	2827.00	2.8270	2.8634	0.0629	16.68	44.26
01.10.11	31.12.11	14.64	2827.00	2.8270	2.9506	0.0629	16.68	44.26
01.01.12	29.02.12	14.68	2835.18	2.8352	2.9591	0.0631	16.73	44.39
01.03.12	31.03.12	14.68	2835.18	2.8352	2.8799	0.0631	16.73	44.39
01.04.12	30.04.12	14.68	2835.18	2.8352	2.7426	0.0631	16.73	44.39
01.05.12	30.06.12	14.74	2846.08	2.8461	2.8407	0.0633	16.79	44.54
01.07.12	31.08.12	14.74	2846.08	2.8461	2.9705	0.0633	16.79	44.54
01.09.12	31.12.13	14.84	2865.16	2.8652	2.9904	0.0638	16.90	44.86
01.01.13	30.04.13	14.90	2876.06	2.8761	3.0018	0.0640	16.96	45.03
01.05.13	31.08.13	14.93	2882.22	2.8822	3.0082	0.0641	17.00	45.13
01.09.13	31.12.13	15.17	2928.11	2.9281	3.0561	0.0652	17.27	45.85
01.01.14	30.04.14	15.18	2930.98	2.9310	3.0591	0.0652	17.29	45.89
01.05.14	31.08.14	15.12	2919.51	2.9195	3.0472	0.0650	17.22	45.71
01.09.14	31.12.14	15.21	2936.72	2.9367	3.0651	0.0653	17.32	45.98
01.01.15	30.04.15	15.17	2928.12	2.9281	3.0561	0.0652	17.27	45.85
01.05.15	31.08.15	14.97	2890.15	2.8902	3.0165	0.0643	17.05	45.26
01.09.15	31.12.15	15.17	2928.18	2.9282	3.0562	0.0652	17.27	45.86
01.01.16	30.04.16	15.03	2901.85	2.9019	3.0287	0.0646	17.11	45.45
01.05.16	31.08.16	14.86	2869.67	2.8804	2.9951	0.0639	16.92	44.95
01.09.16	31.12.16	15.07	2910.62	2.8833	3.0379	0.0648	17.16	45.59
01.01.17	30.04.17	14.98	2893.07	2.8931	3.0196	0.0648	17.06	45.32
01.05.17	31.08.17	14.99	2895.96	2.8959	3.0226	0.1194	17.08	45.37
01.09.17	31.12.17	14.96	2890.17	2.8901	3.0165	0.1191	17.05	45.28
01.01.18	31.08.18	15.02	2901.74	2.9017	3.0286	0.1196	17.12	45.46
01.09.18	31.12.18	15.17	2930.67	2.9307	3.0387		17.29	45.91
01.01.19	30.04.18	15.2	2936.46	2.9365	3.06485		17.32	46
01.05.19	now	15.23	2942.45	2.9425	3.0711		17.36	46.09

## ITALY

### Sources

Prices and taxes data for oil products, natural gas and electricity are provided on a quarterly basis by the **Ministry of Economic Development**.

Retail energy price indices are based on data published by **Eurostat**.

### Data collection methodology

From 1Q1990 onwards, prices refer to weekly averages of the quarter. From 1Q1985 to 4Q1989 prices refer to the second month of each quarter. Prior to 1Q1985, prices refer to the first month of each quarter.

### Oil products

From May 1994 onwards, oil product prices are completely deregulated and set by oil companies. From May 1986 until April 1994, prices for gasoline and light fuel oil followed EU averages automatically, while fuel oil prices were free market prices.

For heavy fuel oil for electricity generation, prices are confidential from 4Q1996 onwards. Prior to 4Q1996, prices refer to the annual and quarterly average expenditure per tonne incurred by ENEL for all oil consumed (including transport).

For low sulphur fuel oil, light fuel oil, automotive diesel, premium unleaded (95 RON) gasoline and automotive LPG, end-use and ex-tax prices are collected by the reporting agency through a weekly survey of the ten largest oil companies in the country and a selection of fuel traders, independent operators and around thirty supermarkets with fuel selling facilities. Companies report their weekly weighted average prices based on sales volumes recorded for different modes of self-service.

Excise taxes are then calculated by the reporting agency as the subtraction of the ex-tax prices from the end-use prices, including VAT when applicable.

The surveyed sample is estimated to cover over 95% of all sales for each of the products. The market share of each company is based on quantities sold in the previous year, collected by the Ministry through a monthly survey on consumption of petroleum products in Italy.

### Natural gas

Before the liberalisation of the gas market in Italy, the prices for natural gas sales were calculated in accordance

with national agreements established between the Società Nazionale Metanodotti (SNAM) and the most representative industrial association (Confindustria and Confapi).

As a result of liberalisation, new prices are negotiated between the different sellers and the buyers. Pricing systems are different for each seller but the access to public facilities (transmission networks, storages, liquefied natural gas (LNG) plants and local distribution networks) is regulated by tariffs determined based on criteria set by the Energy Regulator (*Autorità per l'energia elettrica e il gas*).

Data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Prices for industry, from 1Q2010 onwards, are calculated by the Ministry based on the disaggregated data transmitted by individual electricity sales company pursuant to the Italian Regulatory Authority for Energy, Networks and Environment Resolution 20 November 2008, ARG/elt 167/08 and subsequent amendments. Average prices are calculated as consumption-weighted averages of the average prices for each consumption band, which are consistent with the Eurostat methodology.

From 1Q2004 to 4Q2009, prices for industry refer to the weighted average of users with continuous contracts (*industria continuo*) and non-continuous contracts (*industria interrompibile*). Between 1Q2000 and 4Q2003, prices for industry were confidential. Prior to 4Q1999, prices for industry refer to the annual average revenues per MWh received by distributors from industry.

For households, tariffs charged by local distribution companies (LDCs) to companies that sell gas are determined on the basis of a procedure set by the Energy Regulator and have to be published by the LDCs. These prices differ from town to town. The commodity charge is updated every three months with reference to the average quotations of gasoil, LSFO and crude oil of the six months before the month of supply. Since January 2003, natural gas prices for households can be renegotiated by users. The Energy Regulator established a reference price that the selling company, previously acting as part of the local distribution company, must continue to offer to local customers unless they change their supplier.

Prices for households from 1Q2010 onwards, are calculated by the Ministry, based on the disaggregated data transmitted by individual natural gas sales companies pursuant to the Italian Regulatory Authority for Energy, Networks and Environment Resolution of 4 June 2009, ARG/gas 64/09 and subsequent amendments. Average prices are calculated as consumption-weighted averages of the average prices per consumption band, which are consistent with the Eurostat methodology.

From 1Q2004 to 4Q2009, prices for households refer to the weighted average of all users. Prices between 1Q2000 and 4Q2003 were confidential. Prior to 4Q1999, annual prices refer to annual average revenues per MWh received by distributors from households.

Price and tax information for electricity generation is confidential since 1995.

## Steam and coking coal

For steam coal for industry, prices refer to first month of each quarter, from 1Q1983 onwards. Prior to 1Q1983, prices refer to quarterly averages. Prices refer to the average import price including insurance and freight.

For steam coal for electricity generation, prices refer to half-yearly averages of hard coal imported from third countries, from 2002 onwards, generation. Prior to 2000, prices refer to annual and quarterly average expenditure per tonne incurred by ENEL for consumption of steam coal (including transport).

Steam coal prices for households refer to the wholesale price in Milan.

Coking coal prices for industry refer to the average import price including insurance and freight.

## Electricity

From 1Q2008 onwards, data are calculated by the Ministry, based on the disaggregated data transmitted by individual electricity sales company pursuant to the Italian Regulatory Authority for Energy, Networks and Environment Resolution 20 November 2008, ARG/elt 167/08 and subsequent amendments. Average prices are calculated as consumption-weighted averages of the average prices per consumption band, which are consistent with the Eurostat methodology.

Data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Until 4Q2007, prices for industry and households refer to annual average revenues received by ENEL Servizio Elettrico (ESE) from each consumer sector.

## Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the Harmonised Indices of Consumer Prices (HICP) published by Eurostat.

Retail indices for oil products refer to a consumption-weighted average of the *liquid fuels* (cp0453) and *fuels and lubricants for personal transport equipment* (cp0722) series. Relative weights used for the calculations are taken from the associated item weights series (prc\_hicp\_inw), published by Eurostat.

Retail indices for electricity refer to the *electricity* (cp0451) series.

Retail indices for natural gas refer to the *gas* (cp0452) series.

Retail indices for coal refer to the *solid fuel* (cp0454) series.

## Energy taxation

### VAT

VAT (*IVA*) applies to all energy products. VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

VAT is levied at a reduced rate for electricity consumption in the residential sector, as well as in agriculture, manufacturing and extractive activities.

The reduced VAT rate also applies, since 2008, to residential natural gas consumption below 480m<sup>3</sup>/year, as well as in agriculture, manufacturing and extractive activities.

From	To	General %	Reduced %
01.01.78	31.12.80	14	
01.01.81	31.12.82	15	
01.01.83	19.03.85	18	
20.03.85	31.07.88	18	10
01.08.88	30.09.97	19	10
01.10.97	16.09.11	20	10
17.09.11	30.09.13	21	10
01.10.13	now	22	10

### Excise tax

The legal framework in place in Italy is consistent with the 2003 EU Energy Taxation Directive.

A single indirect tax, referred to as the excise duty, is levied on consumption of oil products, natural gas, coal and electricity. Additional regional tax components on electricity were abolished on 1 April 2012. Additional regional tax components on natural gas consumption are still in place.

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Excise duties	x	x	x	x	x	x	x		x

**Excise duties (*Accise*)**

The current excise duty system in place for oil products, natural gas, coal and electricity in Italy was introduced by the Legislative Decree no.26 of 2 February 2007, which came in force on 1 June 2007.

For oil products, tax rates distinguish between final uses. The rates for heavy fuel oil shown in the tax tables at the end of section refer to light sulphur fuel oil (*olio combustibile BTZ*).

For natural gas, consumption by households in the south of Italy is taxed at a lower rate than in the rest of the country. This reduced rate covers the territories of the former Mezzogiorno Fund (*Cassa del Mezzogiorno*), as listed in Article 1 of the Presidential Decree no. 218 of 6 March 1978. Excise duty rates for natural gas used in industry are not regionalized. Tax rates for both industry and households vary for different consumption bands and are expressed in EUR/m<sup>3</sup>.

In addition to the excise duties on natural gas, a regional component is levied in most regions of the country. These additional taxes cannot exceed 50% of the value of the national excise tax. Natural gas used for chemical reduction, metallurgical and mineralogical processes is exempt. Natural gas used for electricity production is taxed at a reduced rate.

Coal used for electricity generation is taxed at a rate of 2.60 EUR/tonne. Coal used in chemical reduction processed is exempt. Coke has the same tax treatment as coal.

For electricity in households, consumption below 150 kWh when capacity is below 3 kW is exempt from excise duties. The rates for electricity for households shown in the tax tables at the end of section refer to residential consumers with a monthly consumption exceeding 150 kWh.

For electricity in industry, the first 200 MWh of monthly electricity consumption are taxed proportionally to consumption. For users with a monthly consumption below 1 200 MWh, consumption beyond 200 MWh is taxed at a lower rate per MWh. For users with a monthly consumption exceeding 1 200 MWh, consumption beyond 200 MWh is taxed at a flat monthly fee amounting to 4 820 EUR as of November 2016. The rates for electricity for industry shown in the tax tables at the end of section refer to industrial consumers with a monthly consumption not exceeding 200 MWh.

Regional taxes on electricity, which had been levied in addition to the national tax, were abolished on 1 January 2012 for most regions. On 1 April 2012, regional taxes in the remaining autonomous provinces and special regional entities were abolished.

**Excise duties (*Accise*)**

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)	Automotive LPG (EUR/l)	Coal industry (EUR/tonne)	Electricity households (EUR/MWh)	Electricity industry (EUR/MWh)
01.01.09	05.04.11	31.39	403.21	0.423	0.564	0.125	4.6	4.7	3.1
06.04.11	27.06.11	31.39	403.21	0.430	0.571	0.125	4.6	4.7	3.1
28.06.11	30.06.11	31.39	403.21	0.470	0.611	0.125	4.6	4.7	3.1
01.07.11	31.10.11	31.39	403.21	0.472	0.613	0.125	4.6	4.7	3.1
01.11.11	31.12.11	31.39	403.21	0.481	0.622	0.125	4.6	4.7	3.1
01.01.12	31.05.12	31.39	403.21	0.593	0.704	0.147	4.6	22.7	12.1
01.06.12	07.06.12	31.39	403.21	0.593	0.704	0.147	4.6	22.7	12.5
08.06.12	10.08.12	31.39	403.21	0.613	0.724	0.147	4.6	22.7	12.5
11.08.12	28.14.14	31.39	403.21	0.617	0.728	0.147	4.6	22.7	12.5
01.03.14	31.12.14	31.39	403.21	0.620	0.731	0.147	4.6	22.7	12.5
01.01.15	now	31.39	403.21	0.617	0.728	0.147	4.6	22.7	12.5



## Product specifications

### Oil products

	High sulphur fuel oil	Low sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (98 RON) gasoline	Premium unleaded (95 RON) gasoline	Automotive LPG
Quality	Olio combustibile ATZ	Olio combustibile BTZ	Gasolio riscaldamento (Regime di sorveglianza "Fascia C")	Gasolio autotrazione			
Density (kg/l)	0.94 - 0.97	0.94 - 0.97	0.82 - 0.84	0.82 - 0.84	0.72 - 0.76	0.72 - 0.76	0.549
Sulphur content (%)	3 - 4	1					
Lead content (g/l)					≤ 0.6	≤ 0.6	
NCV (kcal/kg)	9 600	9 800	10 210				
Delivery size	< 24 000 tonne/year	< 24 000 tonne/year	2 – 5 kl				

### Natural gas and coal

	Natural gas	Steam coal <i>industry</i>	Steam coal <i>electricity generation</i>	Steam coal <i>households</i>	Coking coal
Grain size					0/30 mm
Volatile matter (%)					21
Ash content (%)		14 – 16			6
Moisture content (%)					5
Sulphur content (%)		1			1
NCV (kcal/kg)		6 162	5 900	5 900	6 650
GCV (kcal/kg)*	9 100	6 890			7 000

\*kcal/m<sup>3</sup> for natural gas

# JAPAN

## Sources

Prices and taxes data for all energy products are provided on a quarterly basis by the **Ministry of Economy, Trade and Industry (METI)**.

Wholesale price indices are extracted from the **Bank of Japan** website.

Retail price indices are extracted from the **Statistics Japan** website.

## Data collection methodology

### Oil products

For high and low sulphur fuel oil, prices for industry refer to arithmetical average prices based on surveys by METI in Tokyo, Osaka and Nagoya. Prices for heavy fuel oil for electricity generation refer to average annual expenditure per tonne incurred by nine major electric power companies.

For light fuel oil for industry and automotive diesel for commercial users, prices are collected by METI in a monthly survey covering around 1 500 filling stations throughout Japan. Quarterly and annual prices are calculated as arithmetical averages of the weekly data, excluding the top 2.5% and bottom 2.5% values.

For light fuel oil for households, gasoline and automotive diesel for non-commercial, prices users are derived from a weekly METI survey of approximately 2 000 filling stations throughout Japan. Quarterly and annual prices are calculated as arithmetical averages of the weekly data.

### Natural gas

As of 2014, natural gas sold in Japan was a mix of oil-based gas (3.4%) and natural gas (96.6%).

Prices are derived from fiscal year average revenues per MWh starting in April (i.e. 2015 data refer to April 2015 – March 2016). Prices are derived from data submitted by three major gas utilities from industry and households. Industry includes commercial and wholesale use.

### Steam and coking coal

For steam coal, prices from 1Q1995 onwards refer to imports. Prior to 1Q1995, prices refer to weighted averages of import prices and domestic prices. Prices are produced by METI based on monthly customs statistics

of monthly average unit values and volumes for tariff positions 2701.12-099, 2701.19-010 and 2701.19-090.

Coking coal prices, from 1Q1990 onwards refer to imports. Prior to 1Q1990, prices refer to the weighted average of domestic and imported coking coal prices. Domestic prices refer to the average of various free-gate prices to major domestic steel mills, and were adjusted from an original fiscal year to a calendar year base. Prices are produced by METI based on monthly customs statistics stating monthly average unit values and volumes for tariff positions 2701.12-011, 2701.12 019, 2701.12-091 and 2701.12-092.

Coal consumed in the iron and steel sector is exempted from excise taxation, provided that companies file an application to the Japanese government. The prices shown in the tables do not consider this exemption, as the impact on the overall average cannot be calculated.

### Electricity

Prices shown for industry and households refer to fiscal years starting in April (i.e. 2015 data refer to April 2015 – March 2016). End-use prices are average revenues per MWh of the ten major electric power companies under contracts for “power” (industry and commercial) and for “light” (households).

After the liberalisation of the electricity market in 2000, large companies are able to purchase electricity directly in the open market. Prices shown do not take into account electricity purchases in the free market, however, the general electricity utility companies covered by survey are responsible for around 94% of total electricity sales as of May 2016.

### Energy price indices

Annual indices are 12-month averages. Quarterly indices refer to the 3-month average.

Wholesale indices for oil products refer to petroleum products (Series PR'PRCG10\_2200630001). Prior to 1Q2000, data refer to the domestic wholesale price index, petroleum products total. Retail indices for oil products refer to petroleum products.

Wholesale indices for electricity refer to electric power (Series PR'PRCG10\_2202230001). Prior to 1Q2000, data refer to the domestic wholesale price index. Retail indices for electricity refer to electricity.

Wholesale indices for natural gas refer to gas (Series PR'PRCG10\_2202230002). Prior to 1Q2000, data refer to the domestic wholesale price index, gas for big users. Retail indices for natural gas refer to gas.

Wholesale indices for coal refer to coal products (Series PR'PRCG10\_2200640006).

## Energy taxation

### VAT

For the purposes of this publication, Consumption tax (消費税) is considered to be equivalent to the VAT of other OECD countries.

Introduced in 1989, the Consumption tax applies to all energy products and is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for industry and electricity generation and for automotive fuels for commercial use.

#### Consumption tax

From	To	%
01.04.89	31.03.97	3
01.04.97	31.03.14	5
01.04.14	now	8

### Excise tax

In addition to the general consumption tax, energy taxation in Japan comprises several taxes that apply to specific commercial energy products based on their intended use.

The excise tax figures shown in this publication are the sum of the applicable taxes.

#### Tax applicability table (not exhaustive)

	HSFO/LSFO	Kerosene	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Petroleum and coal tax	x	x	x	x	x	x	x		
Gasoline and local gasoline tax				x					
Diesel tax			x						
LPG tax					x				
Promotion of power resources development tax									x

#### Petroleum and coal tax (石油石炭税)

Introduced in 1978, the Petroleum and coal tax applies to a number of energy carriers with differentiated rates for oil products, natural gas and coal. The tax revenue resulting from the application of this tax is meant to finance stockpiling of imported fuels in order to ensure a stable and inexpensive supply in the country.

Companies in the iron and steel and the cement sectors are eligible for an exemption to this tax if they file an application to the Japanese government. Similarly, LSFO used in agriculture, fishing and forestry can be exempted. Coal used for electricity generation in the Okinawa prefecture is also exempted.

In October 2012, a special provision for the Tax for climate change mitigation, a CO<sub>2</sub> content based tax component, was introduced in the Petroleum and coal tax, based initially on a 95 JPY/tonne of CO<sub>2</sub> and progressively increased to reach 289 JPY/tonne of CO<sub>2</sub> in 2016.

The revenue from this tax component is earmarked for financing energy saving measures and greenhouse gas emissions reduction initiatives.

From	To	Oil products (JPY/l)	LPG (JPY/l)	Natural gas (JPY/MWh)	Coal (JPY/tonne)
01.10.03	31.03.05	2.040	0.448	65.70	230
01.04.05	31.03.07	2.040	0.5264	75.09	460
01.04.07	30.09.12	2.040	0.6048	84.48	700
01.10.12	31.03.14	2.290	0.7504	104.81	920
01.04.14	31.03.16	2.540	0.896	125.15	1140
01.04.16	now	2.800	1.0416	145.49	1370

#### Gasoline tax and local gasoline tax

(揮発油税 / 地方揮発油税)

Introduced in 1957, the volatile oil tax, or Gasoline tax, applies to oil products with a specific gravity not exceeding 0.8017 at 15°C. The Gasoline Tax Act explicitly exempts kerosene sales from this tax, despite its physical properties being within the range of its application.

The resulting tax revenue is earmarked for the central government's general finances.

An additional component, referred to as the local gasoline tax, is levied simultaneously at a lower rate by the local administrations. The tax rate for this tax component is flat across the country and set through national legal instruments.

From	To	Gasoline tax JPY/l	Local gasoline tax JPY/l
01.06.79	30.11.93	45.6	8.2
01.12.93	31.03.08	48.6	5.2
01.04.08	30.04.08	24.3	4.4
01.05.08	now	48.6	5.2

#### Diesel tax (軽油引取税)

Introduced in 1957, the light oil delivery tax, or diesel tax, applies to oil products with a specific gravity between 0.8017 and 0.8762 at 15°C. In contrast with other tax components, the diesel tax is not part of the base to calculate the consumption tax.

The revenue from this tax component is split equally between central and local government and is used for general finances.

From	To	JPY/l
01.06.79	30.11.93	24.3
01.12.93	31.03.08	32.1
01.04.08	30.04.08	15.0
01.05.08	now	32.1

#### LPG tax (石油ガス税)

Introduced in 1965, the petroleum gas tax, or LPG tax, applies specifically to LPG used for road transport. The resulting tax revenue is used for general government finances.

The law establishes a rate per kilogram and specifies that volume conversions should use a density of 0.56 kg/l for taxation purposes.

From	To	JPY/l
01.01.70	now	9.8

#### Promotion of power resources development tax (電源開発促進税)

Introduced in 1974, the Promotion of power resources development tax applies specifically to electricity consumption in all sectors of the economy. The resulting tax revenue is used to encourage diversification in the power generation segment and to ensure safety of the neighbouring areas of power plants.

A flat rate applies to electricity consumption regardless of its use.

From	To	JPY/MWh
01.11.74	30.06.80	85
01.07.80	30.09.83	300
01.10.83	30.09.03	445
01.10.03	31.03.05	425
01.04.05	31.03.07	400
01.04.07	now	375

## Product specifications

### Oil products

	High sulphur fuel oil	Heavy fuel oil <i>electricity generation</i>	Low sulphur fuel oil	Light fuel oil <i>industry</i>	Kerosene <i>households</i>	Automotive LPG
Quality	Fuel oil C		Fuel oil A		Kerosene	
Density (kg/l)	0.95	0.95	0.95		0.8	0.56
Sulphur content (%)	<3	0.66	<1			
Delivery size (l)				8 000	18	

### Natural gas and coal

	Natural gas	Steam coal <i>industry</i>	Coking coal
Sulphur content (%)		0.71	
NCV (kcal/kg)		6 139	
GCV (kcal/kg)*	11 000	5 375	6 928

\*kcal/m<sup>3</sup> for natural gas

## KOREA

### Sources

Prices and taxes data for oil products are provided on a quarterly basis by the **Korea National Oil Company (KNOC)**.

Natural gas and electricity prices are provided on a quarterly basis by the **Korea Energy Economics Institute (KEEI)**.

Energy price indices are collected from the **Bank of Korea** website.

### Data collection methodology

#### Oil products

For premium and regular gasoline, automotive diesel, LPG and kerosene for households, end-use prices are collected using an electronic reporting system known as VAN (value-added network). Around 94% of the country's filling stations report their credit card transaction data through this system. After sorting and validation, the data are transmitted to the KNOC's servers. The rest of the country's filling stations use other data transmission methods such as the Automatic Response System (ARS) and a direct input on the KNOC's website. Prices data transmission to the KNOC, a public company, is an obligation for all oil product sellers under Korea's Oil Act. Therefore, average end-use prices include all oil product sellers in the country and are highly representative.

Ex-tax prices and tax components are subsequently derived by KNOC using the applicable tax rates, as set by the relevant legislation.

Distribution and production of light fuel oil for industry in Korea was banned by law on 1 July 2011.

#### Natural gas

Ex-tax prices are derived from monthly revenues for natural gas sales to households and industry, provided by natural gas distribution companies throughout the country and published by the Korea City Gas Association in the *Monthly City Gas Statistics* and *Annual City Gas Statistics* reports.

Natural gas prices are based on the price tables and sales figures published by the Korea City Gas Association, which include the individual consumption tax. Therefore, ex-tax prices shown in the tables include the individual consumption tax.

Prices for households refer to individual and central heating but exclude natural gas used for cooking. Quarterly prices for households are computed using provisional values.

Prices for electricity generation are derived from monthly revenues for natural gas sold to electric utilities by the Korea Gas Corporation (KOGAS).

Quarterly prices for households from 1Q2001 to 4Q2012 are not available.

#### Electricity

From 1Q1997 onwards, prices are derived from monthly revenues for electricity sales to industry and households, published by the Korea Electric Power Corporation (KEPCO) in its *Monthly Report on Major Electric Power Statistics*.

Quarterly prices for households from 1Q1997 to 4Q2002 are not available.

#### Energy price indices

Quarterly and annual indices are computed as arithmetical averages of the relevant monthly indices, as published in the Bank of Korea's Economic Statistics System website.

Wholesale price indices for oil products refer to the *Producer price indices (basic groups), refined petroleum products* series. Retail price indices refer to the *Consumer price indices (all cities), fuels and lubricants for personal transport equipment* series, which include gasoline, diesel and automotive LPG.

Wholesale price indices for electricity refer to the *Producer price indices (basic groups), electric power* series. Retail price indices refer to the *Consumer price indices (all cities), electricity* series.

Wholesale price indices for natural gas refer to the *Producer price indices (item groups), natural gas* series. Retail price indices refer to the *Consumer price indices (all cities), city gas* series.

Wholesale price indices for coal refer to the *Producer price indices (basic groups), anthracite* series. Retail price indices refer to the *Consumer price indices (all cities), briquet* series.

## Energy taxation

### VAT

According to the Restriction of Special Taxation Act, VAT (부가세) is refunded for purchases for commercial purposes such as the farming and fishing industry and electricity generation sectors. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

VAT was introduced on 1 July 1977 at a rate of 10%. In contrast with other OECD countries, where rates were revised upwards on several occasions in the last decades, the VAT rate in Korea has been kept constant since its introduction.

From	To	%
01.07.77	now	10

### Excise tax

Depending on the product, fuels sales to end-users in Korea are subject to a series of taxes set at differential rates.

Electricity consumption in Korea is not taxed, but fuels used to generate electricity are. Fuels used to produce commercial heat are not taxed.

The excise tax columns in Tables 1, 2 and 3 is the sum of the applicable tax components.

#### Tax applicability table (not exhaustive)

	HSFO/LSFO	Kerosene	Diesel	Premium gasoline	Regular gasoline	LPG	Natural gas	Coal	Electricity
Transportation, energy and environment tax			x	x	x				
Individual consumption tax	x	x				x	x	x	
Education tax	x	x	x	x	x	x	x	x	
Motor fuel tax			x	x	x				
Sales charges				x		x			
Electric power industry base fund									x

### Transportation, energy and environment tax

(교통·에너지·환경세)

The transportation, energy and environment tax levied on gasoline and diesel sales is the largest excise tax component for these products. The revenue from this tax is earmarked for energy and transportation infrastructure and environmental protection, among others.

Established on 31 December 1993 by the Transportation, Energy and Environment Tax Law, this tax came into force on 1 January 1994. Rates for gasoline and diesel are expressed on a volume basis and are regularly updated through presidential decrees.

### Individual consumption tax (개별소비세)

The individual consumption tax was introduced on 22 December 1976 and came into effect on 1 July 1977. Currently, it is levied on kerosene, heavy fuel oil, LPG, coal and natural gas sales in Korea and is the largest excise tax component for these products. The revenue from this tax is earmarked used for general government spending.

Rates are expressed on a per litre basis for kerosene and heavy fuel oil, and on a per kilogram basis for LPG and natural gas. Propane and butane, the two main hydrocarbons in LPG, are subject to different tax rates.

### Education tax (교육세)

The education tax was introduced on 5 December 1981 and came into effect on 1 January 1982. Currently, it is levied on all fuel sales and calculated as 15% of the individual consumption tax or the transportation, energy and environment tax, as applicable. The revenue from this tax is earmarked for government spending on education.

### Motor fuel tax (주행세)

The motor fuel tax was introduced on 28 December 1999 and came into effect on 1 January 2000. Currently, it is levied on gasoline and diesel sales, and is calculated as 26% of the transportation, energy and environment tax amount as applicable. The revenue from this tax is earmarked for financing subsidized fuel prices for commercial users, among other uses.

### Sales charges (판매부과금)

Premium gasoline and automotive LPG are subject to a sales charge set at a fixed rate of 36 KRW/l and 36.37 KRW/l, respectively.

### Electric power industry base fund (전력기금)

The electric power industry base fund is a mandatory *ad-valorem* contribution levied on electricity consumed in the residential and non-residential sectors. It is legally defined in the Electric Utility Act (Art. 48) and was introduced in Korea in 2001.



The tax rate is legally limited to 6.5% of the ex-tax electricity price (Art. 51). The applicable tax rate, set through successive enforcement decrees, was set at 3.23% from June 2001, 4.59% from January 2002, and 3.7% from January 2016 onwards.

Pursuant to Article 49 of the Electric Utility Act, the revenue from this tax is used to support the development of renewable energy sources, the implementation of demand-side management policies, the supply of electricity to remote regions and R&D in the electricity sector.

### Individual consumption tax (개별소비세)

From	To	Heavy fuel oil (KRW/tonne)	Kerosene (KRW/1000l)	Automotive LPG (KRW/l)
01.01.97	31.12.97		25000	
01.01.98	08.01.98		25000	23.36
09.01.98	01.03.00		60000	23.36
02.03.00	30.04.00		43000	23.36
01.05.00	30.06.01		60000	23.36
01.07.01	30.06.02	3176.9	82000	66.58
01.07.02	30.06.03	6353.9	107000	118.55
01.07.03	30.06.04	9530.8	131000	173.45
01.07.04	30.06.05	11648.8	154000	223.09
01.07.05	07.07.05	15884.7	178000	223.09
08.07.05	31.12.05	15884.7	154000	223.09
01.01.06	30.06.07	15884.7	154000	178.70
01.07.06	22.07.07	18002.6	134000	178.70
23.07.07	09.03.08	18002.6	134000	160.60
10.03.08	30.06.08	18002.6	134000	147.17
01.01.08	29.02.08	18002.6	63000	147.17
01.03.08	30.11.08	18002.6	90000	147.17
01.12.08	31.12.08	18002.6	63000	147.17
01.01.09	30.02.09	18002.6	63000	160.60
01.03.09	18.11.09	18002.6	90000	160.60
19.11.09	30.06.14	18002.6	90000	160.60
01.07.14	05.11.18	18002.6	63000	160.60
06.11.18	06.05.19	18002.6	63000	136.66
07.05.19	now	18002.6	63000	149.50

### Transportation, energy and environment tax (교통·에너지·환경세)

From	To	Automotive diesel (KRW/l)	Gasoline (KRW/l)
01.01.97	08.01.98	48	414
09.01.98	02.05.98	85	455
03.05.98	16.09.98	110	591
17.09.98	05.05.99	160	691
06.05.99	31.12.99	160	651
01.01.00	01.03.00	155	630
02.03.00	30.04.00	137	600
01.05.00	30.06.01	155	630
01.07.01	30.06.02	185	588
01.07.02	30.06.03	232	586
01.07.03	29.02.04	261	572
01.03.04	30.06.04	255	559
01.07.04	07.07.05	287	559
08.07.05	30.06.06	323	545



From	To	Automotive diesel (KRW/l)	Gasoline (KRW/l)
01.07.06	22.07.07	349.25	535
23.07.07	09.03.08	354.42	526
10.03.08	06.10.08	331.65	505
07.10.08	31.12.08	324.72	472
01.01.09	20.05.09	358.54	462
21.05.09	18.11.09	369.38	514
19.11.09	31.12.09	369.38	529
01.01.10	31.12.11	367.5	529
01.01.12	05.11.18	375	529
06.11.18	06.05.19	319	450
07.05.19	now	349	492

### Sales charges (판매부과금)

From	To	Premium gasoline (KRW/l)	Kerosene (KRW/1000l)	Automotive LPG (KRW/l)
01.01.97	31.12.97	36	20000	
01.01.98	30.06.01	36	20000	11.68
01.07.01	30.06.02	36	23000	11.11
01.07.02	30.06.03	36	23000	15.15
01.07.03	30.06.04	36	23000	17.18
01.07.04	31.12.05	36	23000	25.58
01.01.06	31.12.07	36	23000	36.37
01.01.08	now	36	0	36.37

## Product specifications

### Oil products

	High sulphur fuel oil	Low sulphur fuel oil	Light fuel oil industry	Kerosene households	Automotive diesel	Premium unleaded (95 RON) gasoline	Regular unleaded gasoline	Automotive LPG
Quality	Bunker type C > 3.0%	Bunker type C < 1.0%	Heating oil	Kerosene				Butane
Density (kg/l)	0.944	0.944	0.87	0.87	0.84	0.74	0.74	0.584
Sulphur content (%)	>3	<1						
NCV (kcal/kg)	9 203	9 203	8 117	8 356	8 476	7 164		

### Natural gas

	Natural gas
GCV (kcal/m <sup>3</sup> )	10 400

## LATVIA

### Sources

Prices and taxes data for oil products are based on weekly data published in the **European Commission's** *Weekly Oil Bulletin*.

Prices and taxes data for natural gas and electricity are provided on a bi-annual basis by the **Central Statistical Bureau of Latvia (CSB)**.

Retail energy price indices, are based on data published by **Eurostat**.

### Data collection methodology

Prices and taxes prior to 1 January 2014, the date of entry into the Economic and Monetary Union, have been converted from Latvian lats using the appropriate irrevocable conversion rate of 0.702804 LVL/EUR. This methodology facilitates comparisons within a country over time and ensures that the historical evolution (i.e. growth rates) is preserved. However, pre-EMU euros are a notional unit and are not normally suitable to form area aggregates or to carry out cross-country comparisons.

### Oil products

Oil product prices are derived from data published in the European Commission's *Weekly Oil Bulletin*, which reports weekly ex-tax and end-use prices for a series of oil products in all EU countries.

Quarterly and annual figures are calculated as arithmetical averages of the weekly data. Total taxes are calculated as the subtraction of the quarterly and annual ex-tax from the end-use prices. Excise taxes for non-commercial users are calculated by subtracting the VAT from the total taxes. For commercial users, excise taxes are equal to the total taxes, as they are exempt from the VAT.

### Natural gas

From 3Q2007 onwards, prices refer to the Eurostat consumption bands D1, D2 and D3 for households; and bands I1, I2, I3, I4 and I5, for industry, covering the whole consumption spectrum for households.

National average prices are computed by CSB as consumption-weighted averages of the average prices per band published by Eurostat. The weights used for this calculation are bi-annual consumption figures per band collected through surveys.

Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Excise taxes are calculated as the subtraction of the prices excluding taxes from the prices including non-VAT taxes, as published by Eurostat.

Latvia uses a significant share of natural gas for cogeneration power plants. However, prices for natural gas used for electricity generation are confidential from 2Q2017 onwards.

### Electricity

From 3Q2007 onwards, prices refer to the Eurostat consumption bands DA, DB, DC, DD and DE for households; and bands IA, IB, IC, ID, IE and IF, for industry, covering the whole consumption spectrum for households.

National average prices are computed by CSB as consumption-weighted averages of the average prices per band published by Eurostat. The weights used for this calculation are bi-annual consumption figures per band collected through surveys.

Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Excise taxes are calculated as the subtraction of the prices excluding taxes from the prices including non-VAT taxes, as published by Eurostat.

### Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the Harmonised Indices of Consumer Prices (HICP) published by Eurostat.

Retail indices for oil products refer to a consumption-weighted average of the *liquid fuels* (cp0453) and *fuels and lubricants for personal transport equipment* (cp0722) series. Relative weights used for the calculations are taken from the associated item weights series (prc\_hicp\_inw), published by Eurostat.

Retail indices for electricity refer to the *electricity* (cp0451) series.

Retail indices for natural gas refer to the *gas* (cp0452) series.

### Energy taxation

#### VAT

VAT (*PVN*) applies to all energy products. The VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for industry and electricity generation and for automotive fuels for commercial use.

From	To	%
01.05.04	30.06.06	18
01.07.06	31.12.08	5
01.01.09	31.12.10	10
01.01.11	30.06.11	12
01.07.11	30.06.12	22
01.07.12	now	21

## Excise tax

The legal framework for excise taxation on energy in place in Latvia is consistent with the 2003 EU Energy Taxation Directive.

Excise duties are regulated by the On Excise Duties Law, which came into force on 1 May 2004.

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Excise duties	x	x	x	x	x	x			
Electricity tax									x
Mandatory procurement component									x
Regulation of public utilities fee						x			x
Maintenance of emergency stocks fee	x	x	x	x	x				

### Excise duties (*Akcīzes nodoklis*)

The On Excise Duties Law establishes a list of commercial oil products subject to excise duties. Gasoline, automotive diesel, light and heavy fuel oils, LPG and natural gas are subject to an excise duty expressed on a volume or energy basis.

### Electricity tax (*Elektroenerģijas nodoklis*)

The Electricity Tax Law, which came into force on 1 January 2007, establishes a tax on electricity traders. Taxes are paid by electricity traders and direct buyers from market exchanges. Industrial autoproducers (excluding autoproducers with capacity above 2 MW) and producers that use excise products (including coal) for electricity production are exempted from this tax. Electricity for lighting as well as for use in households and public transport are also exempted from this tax.

### Mandatory procurement component (*Obligātā iepirkuma komponente*)

The mandatory procurement component of electricity (MPC) is a government support mechanism for producers of renewable or combined heat and power (CHP) electricity. The MPC is financed by electricity end-users. The Electricity Market Act provides that entities which produce electricity from renewable energy sources or provide efficient production of electricity by using renewable energy sources, may acquire the rights to sell produced electricity within the framework of compulsory purchase.

From 2018 onwards, the MPC contains two parts: a fixed component for connection (depending on connection capacity) and a variable component (depending on customer consumption). The MPC is approved by the Public Utilities Commission (*Sabiedrisko pakalpojumu regulēšanas komisija*). Since July 2018, the approved MPC for end-users is 0.02268 EUR/kWh with the following breakdown:

- Fixed component for producers of electricity from CHP: 0.00434 EUR/kWh
- Fixed component for producers of electricity from renewable energy resources: 0.01029 EUR/kWh
- Average variable component on capacity for end users: 0.00805 EUR/kWh

### Regulation of public utilities fee

A public utility provider pays a state fee for public service regulation in accordance with the Cabinet of Ministers Regulations No. 1623 on the *Rate of the State Fee for Public Utilities Regulation and the Payment Procedure of the Fee* of 22 December 2009.

The fee is paid by merchants and the rate is 0.2% of the respective net turnover of the relevant public service provided by a public utility provider in the previous calendar year. The minimum rate is 200 EUR.

### Maintenance of Emergency Stocks fee

The Cabinet of Ministers Regulations No. 450 *Regarding the Amount of the State Petroleum Product Stocks, the Amount of the State Fee to be Paid for the Maintenance of Emergency Stocks, and the Procedures for the Calculation, Payment and Administration Thereof* regulate the state fee for motor gasoline, aviation gasoline, LPG, kerosene, diesel oil, kerosene-type jet fuel, and fuel oil. The state fee is paid by merchants at a rate of 12.35 EUR for each tonne of Category I, II, and III petroleum products released for consumption and consumed within the territory of the Republic of Latvia.

**Excise duties** (*Akcīzes nodoklis*)

The excise duties in the table below are based on the European Commission's *Excise Duty Tables*.

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Unleaded gasoline (EUR/l)	Automotive LPG (EUR/kg)	Natural gas (EUR/MWh)
01.01.14	31.12.15	15.65	56.91	0.333	0.411	0.161	1.65
01.01.16	31.12.17	15.65	56.91	0.341	0.436	0.206	1.65
01.01.18	now	15.65	56.91	0.372	0.476	0.244	1.65

**Electricity tax** (*Elektroenerģijas nodoklis*)

From	To	Electricity (EUR/MWh)
01.01.14	now	1.01

## LITHUANIA

### Sources

Prices and taxes data for oil products are based on weekly data published in the **European Commission's** *Weekly Oil Bulletin*.

Prices and taxes data for natural gas and electricity are based on data published by **Eurostat**.

Retail energy price indices are based on data published by **Eurostat**.

### Data collection methodology

Prices and taxes prior to 1 January 2015, the date of entry into the Economic and Monetary Union, have been converted from Lithuanian litai using the appropriate irrevocable conversion rate of 3.45280 LTL/EUR. This methodology facilitates comparisons within a country over time and ensures that the historical evolution (i.e. growth rates) is preserved. However, pre-EMU euros are a notional unit and are not normally suitable to form area aggregates or to carry out cross-country comparisons.

### Oil products

Oil product prices are derived from data published in the European Commission's *Weekly Oil Bulletin*, which reports weekly ex-tax and end-use prices for a series of oil products in all EU countries.

Quarterly and annual figures are calculated as arithmetical averages of the weekly data. Total taxes are calculated as the subtraction of the quarterly and annual ex-tax from the end-use prices. Excise taxes for non-commercial users are calculated by subtracting the VAT from the total taxes. For commercial users, excise taxes are equal to the total taxes, as they are exempt from the VAT.

### Natural gas

From 3Q2007 onwards, prices refer to the Eurostat consumption band D2 for households (annual consumption: 20 GJ – 200 GJ) and band I2 for industry (annual consumption: 1 000 GJ – 10 000 GJ).

Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Excise taxes are calculated as the subtraction of the prices excluding taxes from the prices including non-VAT taxes, as published by Eurostat.

### Electricity

From 3Q2007 onwards, prices refer to the Eurostat consumption band DB for households (annual consumption: 1 000 kWh – 2 500 kWh); and band IB for industry (annual consumption: 20 MWh – 500 MWh).

Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Excise taxes are calculated as the subtraction of the prices excluding taxes from the prices including non-VAT taxes, as published by Eurostat.

### Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the Harmonised Indices of Consumer Prices (HICP) published by Eurostat.

Retail indices for oil products refer to a consumption-weighted average of the *liquid fuels* (cp0453) and *fuels and lubricants for personal transport equipment* (cp0722) series. Relative weights used for the calculations are taken from the associated item weights series (prc\_hicp\_inw), published by Eurostat.

Retail indices for electricity refer to the *electricity* (cp0451) series.

Retail indices for natural gas refer to the *gas* (cp0452) series.

### Energy taxation

#### VAT

VAT (*Pridėtinės vertės mokestis*) is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for industry and electricity generation and for automotive fuels for commercial use.

There are two VAT rates in Lithuania: standard and reduced. All energy products are taxed at the standard rate.

From	To	Standard %
01.05.94	31.12.08	18
01.01.09	31.08.09	19
01.09.09	now	21

#### Excise tax

The legal framework for excise taxation on energy in place in Lithuania is consistent with the 2003 EU Energy Taxation Directive.

Excise duties are regulated by the Republic of Lithuania Law Amending the Law on Excise Duties No. IX-1987, which came into force on 1 May 2004.

**Tax applicability table (not exhaustive)**

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Excise duties	x	x	x	x	x	x	x	x	x

**Excise duties**

The Lithuanian Law on Excise Duty, which came into force on 1 May 2004, establishes a list of commercial

oil products subject to excise duties. Gasoline, diesel, light fuel oil and natural gas are subject to an excise duty expressed on a volume basis. Heavy fuel oil, LPG, steam coal and coking coal are subject to an excise duty expressed on a mass basis. Electricity is subject to an excise duty expressed on an energy basis.

Consumption of electricity by households and electricity sold or transmitted to entities using electricity in electricity-intensive processes, as well as electricity from renewable sources are exempted from excise duty.

# LUXEMBOURG

## Sources

Prices and taxes data for all products, as well as all energy price indices, are provided on a quarterly basis by the **National Institute of Statistics and Economic Studies of the Grand Duchy of Luxembourg (STATEC)**.

## Data collection methodology

From 4Q1989 onwards, quarterly prices refer to the average of weekly prices. Prior to 4Q1989, prices refer to the second month of each quarter.

## Oil products

Luxembourg maintains a maximum price-setting mechanism for oil products. In compliance with an agreement between the Luxembourgish State and the oil-importing companies, a maximum price is set for oil products sold to final consumers, including gasoline, automotive diesel, heating oil and LPG.

The formula is based on the spot price of oil products, to which are added a standard cost of transport from Antwerp to Luxembourg, a standard distribution margin for the market actors, and the cost of compulsory storage. Companies are free to set prices below the maximum daily levels set by the Ministry of the Economy.

End-use prices for oil products are collected through monthly consumer price surveys. Ex tax prices are calculated by subtracting the applicable tax components from the end-use prices.

From 1Q1994 onwards, high sulphur fuel oil consumption in industry has been negligible. Prices and taxes data from this date onwards are therefore marked as not applicable.

## Natural gas

Prices shown are calculated through a bi-annual survey where utilities report average revenues per MWh from all high-voltage customers (industry) and all low-voltage consumers (households). Prices include all consumption bands and are representative for the whole country.

## Electricity

Prices shown are calculated through a bi-annual survey where utilities report average revenues per MWh from all high-voltage customers (industry) and all low-voltage

consumers (households). Prices include all consumption bands and are representative for the whole country.

## Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the monthly indices produced by STATEC.

Retail indices for oil products are a weighted average of the series referring to heating oil and gasoline.

Retail indices for electricity and natural gas refer to utility tariffs for residential consumers.

Retail indices for coal refer to minimal consumption.

## Energy taxation

### VAT

VAT (*TVA*) in Luxembourg is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

Light fuel oil for households and coal, as well as LPG, natural gas and electricity, are subject to a reduced VAT rates.

From	To	General	LFO Coal	LPG Natural gas Electricity
		%	%	%
01.01.93	31.12.04	12	12	6
01.01.05	31.12.14	15	12	6
01.01.15	now	17	14	8

### Excise tax

Excise taxes on commercial energy products in Luxembourg are levied in accordance with the 2003 EU Energy Taxation Directive.

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Excise duties	x	x	x	x	x	x			x
Public service obligation compensation mechanism									x



**Excise duties (*Droits d'accise*)**

Excise duties levied on energy products consist of two distinct components.

The first component, referred to as the UEBL component, is levied at the same rate as in Belgium, pursuant to the terms of the Belgian-Luxembourgish Economic Union (UEBL). The rates for this component correspond to the ordinary excise duties levied in Belgium, excluding special excise taxes and other contributions.

The current system for the UEBL component is legally defined in the Ministerial regulations of 4 August 2004. These regulations were updated as a consequence of the publication of the Royal Belgian decree of 29 February 2004. As of 2016, the UEBL component applied to gasoline, automotive diesel, heavy fuel oil and light fuel oil for industrial use.

The second component, referred to as the autonomous component, is levied on commercial energy product sales. This component is legally defined, in its current form, in the Law of 17 December 2010.

The autonomous component is further subdivided into several categories applicable to certain commercial energy products. Gasoline and diesel sales are subject to a social contribution (*contribution sociale*) and a climate change contribution (*contribution changement climatique*). Light fuel oil for households is subject to a control fee (*redevance de contrôle*), while electricity and natural gas are subject to consumption taxes (*taxe sur la consommation*).

Compressed natural gas (CNG) and natural gas for combined heat and power generation is tax-free. Residential and industrial consumption are taxed at different rates. In the tables at the end of this section, “households” refers to an annual consumption below 550 MWh GCV and “industry” refers to an annual consumption over 550 MWh GCV.

Large natural gas consumers participating in the European Trading System (ETS), as well as those investing in energy efficiency, are subject to reduced tax rates not shown in the tables at the end of this section.

Steam and coking coal are exempt from all excise tax components.

Tax rates for electricity vary depending on annual consumption. In the tables at the end of this section, “households” refers to an annual consumption below 25 MWh and “industry” refers to an annual consumption over 25 MWh. Electricity consumption for metallurgical and mineral processes is tax-free.

**Public service obligation compensation mechanism**  
(*Mécanisme de compensation pour obligation de service public*)

Electrical companies are subject to a series of public service obligations (*obligations de service public*), financed through an additional indirect tax levied on electricity consumption.

Currently, the only public service obligation applicable to electrical companies relates to the obligation to purchase all electricity produced from renewable sources or high efficiency CHP units. The additional costs borne by some companies as a result of said obligation are offset by the revenue from this tax, designed as a way to ensure a fair competition between different market players.

In its current form, the public service obligation compensation mechanism is legally defined in the Law of 1 August 2007, on the organisation of the electrical market, and the Grand-Ducal regulation of 31 March 2010. Tax rates for households and industry are updated annually by the Luxembourgish Institute for Regulation.

Tax rates for electricity vary depending on annual consumption. In the tables at the end of this section, *households* refers to an annual consumption below 25 MWh and *industry* refers to an annual consumption above 25 MWh.

**Excise duties (*Droits d'accise*)**

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil households (EUR/1000l)	Light fuel oil industry (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)	Automotive LPG (EUR/l)
01.01.05	31.12.05	15	10	21	0.265	0.442	0.054
01.01.06	31.12.06	15	10	21	0.278	0.442	0.054
01.01.07	31.12.07	15	10	21	0.29	0.462	0.054
01.01.08	31.12.09	15	10	21	0.302	0.462	0.054
01.01.10	31.12.10	15	10	21	0.31	0.462	0.054
01.01.11	31.12.11	15	10	21	0.32	0.462	0.054
01.01.12	30.09.12	15	10	21	0.33	0.462	0.054
01.10.12	30.04.19	15	10	21	0.335	0.462	0.054
01.05.19	now	15	10	21	0.355	0.472	0.054

**Excise duties** (*Droits d'accise*)

From	To	Natural gas households (EUR/MWh)	Natural gas <i>industry</i> (EUR/MWh)	Electricity households (EUR/MWh)	Electricity <i>industry</i> (EUR/MWh)
01.01.05	31.12.05	0	0	2.36	1.66
01.01.06	31.12.06	0	0	1	0.5
01.01.07	now	1.08	0.54	1	0.5

**Public service obligation compensation mechanism**(*Mécanisme de compensation pour obligation de service public*)

From	To	Electricity <i>households</i> (EUR/MWh)	Electricity <i>industry</i> (EUR/MWh)
01.01.08	31.12.08	8.80	3.00
01.01.09	31.12.09	11.20	3.60
01.01.10	31.12.10	20.00	6.20
01.01.11	31.12.12	12.70	3.80
01.01.13	31.12.13	11.40	3.80
01.01.14	31.12.14	19.90	6.20
01.01.15	31.12.15	29.50	8.10
01.01.16	31.01.17	23.50	8.10
01.02.17	now	31.80	8.90

**Product specifications**

	Light fuel oil	Automotive diesel	Premium unleaded (98 RON) gasoline	Premium unleaded (95 RON) gasoline	Automotive LPG	Natural gas
Quality	Gasoil chauffage	Gasoil carburant	Essence	Essence	GLP carburant	
Density (kg/l)	0.845	0.85	0.76	0.755	0.53	
Sulphur content (%)		≤1				
Lead content (g/l)				0.002	0.005	
NCV (kcal/kg)	10 250	10 147	10 281	10 281	10 987	
GCV (kcal/m <sup>3</sup> )						8 700
Delivery size (l)	1 500 – 2 000					

## MEXICO

### Sources

Data for all energy products, as well as energy price indices, are provided on a quarterly basis by the **Secretariat of Energy (SENER)**.

### Data collection methodology

#### Oil products

Prices for all oil products are national averages.

Heavy fuel oil and light fuel oil end-use prices are currently set by PEMEX, which reports average monthly prices to SENER. Quarterly and annual prices are calculated as simple arithmetical averages of the monthly data. Ex-tax prices are calculated by subtracting VAT from the end-use prices, as these products are only used in industry and electricity generation sectors.

For automotive diesel and gasoline, maximum end-use prices have been set every month by the Ministry of Finance and Public Credit (*Secretaría de Hacienda y Crédito Público – SHCP*) until November 2017. From this date onwards, with the finalization of gasoline and diesel market liberalization, the final price is determined by retailers and is regulated by the Energy Regulatory Commission (*Comisión Reguladora de Energía – CRE*).

For non-commercial users, VAT is subtracted from the end-use price. The disaggregation between the ex-tax price and the excise tax applicable to automotive fuels is currently not available.

#### Natural gas

As of January 2017, there were no surveys on natural-gas end-use prices for households.

Prices for households refer to the prices paid by natural gas distribution companies. From June 2017, the CRE approved the elimination of the maximum price of natural gas for households.

Due to pending methodological issues in the reporting source, prices for industry are not available from 4Q2009 onwards.

#### Steam and coking coal

Steam coal prices for electricity generation refer to the amounts paid by the Federal Commission for Electricity (*Comisión Federal de Electricidad - CFE*) to the Río

Escondido coal mining company (*Minera Carbonífera Río Escondido - MICARE*), excluding the cost of handling and disposal of ashes.

### Electricity

End-use prices are calculated by SENER based on monthly electricity sales data to industry and households. End-use prices are calculated by dividing revenue from sales by the sales volume for the three months of each quarter.

Prices for industry include all medium and high-voltage consumption bands. Ex-tax prices for industry match end-use prices, as electricity consumption is not taxed and VAT is refunded to industrial consumers.

Prices for households include consumption bands 1A, 1B, 1C, 1D, 1E, 1F and DAC. Ex-tax prices are calculated by subtracting VAT from the average end-use prices.

### Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the monthly energy prices indices produced by INEGI (*Instituto Nacional de Estadística y Geografía*).

Wholesale indices refer to the monthly national indices of producer prices, price indices for generic goods (*Índice nacional de precios productor, índices de precios de productos genéricos*), June 2012=100 (SCIAN 2007).

Retail indices refer to the monthly national consumer prices indices by purpose of expenditure (*Índice nacional de precios al consumidor, nacional, por objeto del gasto*), December 2012=100.

Wholesale indices for oil products refer to LPG, gasoline, automotive diesel, jet fuel, fuel oil and other oil products. Retail indices refer to LPG prices only.

Wholesale indices for electricity refer to industrial electricity prices at medium voltage. Retail indices refer to residential electricity prices.

Wholesale indices for natural gas refer to “dry gas” prices. Retail indices refer to “natural gas”.

Wholesale indices for coal refer to “coal”.

### Energy taxation

#### VAT

VAT (*IVA*) applies to all energy products. VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial

and electricity generation sectors, as well as for automotive fuels for commercial use.

In Mexico, the VAT is paid on the ex-tax price only, instead of the sum of ex-tax price and excise tax, as is the case in most countries.

From	To	%
01.01.80	31.12.82	10
01.01.83	11.09.91	15
11.10.91	31.03.95	10
01.04.95	31.12.09	15
01.01.10	now	16

## Excise tax

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
IEPS			x	x					

## Tax on production and services (*Impuesto específico sobre producción y servicios - IEPS*)

The IEPS is an excise tax applied to the sale of automotive fuels used for final consumption.

Prior to 2016, the IEPS rates published by the SHCP were designed to protect consumers from price movements in commodity markets. Therefore, IEPS could work as a tax or a subsidy, depending on the price differences between local production costs and an international benchmark.

In 2016, the IEPS calculation methodology was updated to establish an orderly transition towards market liberalization in 2018, as set out by the wider energy reform in the country.

For the years 2016 and 2017, monthly tax rates will remain more or less stable, linking commodity spot prices with final prices for oil products, but still restricting price movements to some extent, in order to avoid large variations.

Due to the rate adjusting mechanism in place, historical IEPS tax rates are currently not available.

## Product specifications

### Oil products

	High sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (95 RON) gasoline	Regular unleaded gasoline
Quality	Combustoleo pesado	Diesel industrial bajo azufre	Pemex diesel	Pemex premium	Pemex magna
PON number*				92	87
Cetane index			>48		
Density (kg/l)	0.982	0.852	0.852	0.707	0.729
Sulphur content (%)	<4	<0.05	<0.05	<0.05	<0.1
NCV (kcal/kg)	10 139	10 849	10 849		

\*The PON number is the average of the RON and Motor Octane Number (MON).

### Natural gas and coal

	Natural gas	Steam coal <i>electricity generation</i>
Quality		Carbón MICARE, sub-bituminous coal
Ash content (%)		38.55
Moisture content (%)		4.16
Sulphur content (%)		1.01
GCV (kcal/m <sup>3</sup> )	8 460	
NCV (kcal/kg)		4 575

## NETHERLANDS

### Sources

Prices and taxes data for transportation fuels, natural gas and electricity for households, as well as energy price indices, are provided on a quarterly basis by the **Central Bureau of Statistics (CBS)**.

Prices and taxes data for low sulphur fuel oil and light fuel oil are based on weekly data published in the **European Commission's Weekly Oil Bulletin**.

Prices and taxes data for natural gas and electricity for industry are based on data published by **Eurostat**.

### Data collection methodology

From 1Q1984 onwards, prices refer to the average of the daily prices. Prior to 1Q1984, prices refer to the first month of the quarter.

### Oil products

For low sulphur fuel oil and light fuel oil, prices are derived from the European Commission's *Weekly Oil Bulletin*, which reports weekly ex-tax and total prices. Quarterly and annual figures are calculated as arithmetical averages of the weekly data. Total taxes are calculated as the subtraction of the ex-tax prices from the final prices. Excise taxes for non-commercial users are calculated by subtracting VAT from the total taxes. For commercial users, excise taxes are equal to total taxes, as they are exempt from VAT.

For automotive diesel, unleaded premium (95 RON) gasoline and automotive LPG, end-use prices are average of prices gathered from most filling stations in the country. Prices refer to self-service pumps. Ex-tax prices are calculated by subtracting the applicable tax components from the end-use prices.

Prices for premium unleaded (98RON) gasoline, from 1Q2010 onwards, are not available since the traded volumes in the country are negligible.

### Natural gas

For industry, prices refer to the Eurostat consumption band I4 for industry (annual consumption: 100 000 – 1 000 000 GJ), which represented 23% of total consumption in 2008.

Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Excise taxes are calculated by subtracting prices excluding taxes from prices including non-VAT taxes, as published by Eurostat.

Until 4Q2006, prices refer to large-consumers based on an annual consumption of 25 million m<sup>3</sup>. Industries with an assumed consumption of 25 million m<sup>3</sup> were subject to a tariff for the first 10 million m<sup>3</sup>, and a lower tariff for the remaining 15 million m<sup>3</sup>.

For households, prices and taxes for households are calculated by CBS using an annual consumption of 2 000 standard m<sup>3</sup> (Sm<sup>3</sup>) and include standing charges and the average tariffs of all distributors during the period. The applicable tax components are then added to the ex-tax price to obtain the end-use price.

### Coal

Coal prices are currently not available.

### Electricity

For industry, prices refer to the Eurostat consumption band ID for industry (annual consumption: 2 000 – 20 000 MWh), which represented 25% of total consumption in 2008.

Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Excise taxes are calculated by subtracting prices excluding taxes from prices including non-VAT taxes, as published by Eurostat.

For households, prices refer to the average tariff per MWh charged by distributors. Excise taxes on electricity for households consist of a variable component, proportional to consumption, and a fixed yearly discount, independent of consumption. For the purpose of calculating an effective excise tax rate per MWh, an average consumption of 3 MWh per year is assumed. Because of this assumption, excise tax rates for electricity can be negative for certain quarters.

### Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the monthly indices produced by CBS.

Retail indices are chained series that have been extended backwards from 4Q2002. Therefore, the value in the base year may not be exactly equal to 100.

Wholesale indices for oil products refer to the Producer Prices Indices (PPIs) for *oil refinery products*. Retail indices refer to the Consumer Prices Indices (CPIs) for *fuels and lubricants*.

Wholesale and retail indices for electricity refer to the PPIs and CPIs for electricity, respectively.

Wholesale indices for natural gas refer to the PPIs for liquid and gaseous natural gas. Retail indices refer to the CPIs for gas.

## Energy taxation

### VAT

VAT (*BTW*) was introduced on 1 January 1969 through the Value Added Tax Act 1968. The VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

From	To	%
01.01.78	31.12.83	18.0
01.01.84	30.09.86	19.0
01.10.86	31.12.88	20.0
01.01.89	30.09.92	18.5
01.10.92	31.12.00	17.5
01.01.01	30.09.12	19.0
01.10.12	now	21.0

### Excise tax

Excise taxes on commercial energy products are levied in accordance with the 2003 EU Energy Taxation Directive.

Excise taxes in the Netherlands comprise excise duties, stockholding fees and environmental taxes.

#### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Excise duties	x	x	x	x	x				
Stockholding fee		x	x	x	x				
Energy tax						x			x
Coal tax							x	x	

#### Excise duties (*Accijns*)

The current excise taxation system on energy products is legally defined in the Excise Duties Act of 1991, which came into effect on 14 November 1991.

Excise duties apply to gasoline, automotive diesel, light and heavy fuel oil and automotive LPG. There is no separate excise rate for biofuels in the Excise Duties Act, and so the excise rate for biofuels is that of the closest fossil fuel. A partial rebate scheme was introduced for the excise duty on biofuels, to compensate for the lower energy content per unit compared to fossil fuels.

For light fuel oil, automotive diesel and LPG, large consumers as well as churches, non-profit associations and greenhouses without access to natural gas, paid excise duties on these products at a discounted rate until 1 January 2013.

#### Stockholding fee (*Voorraadheffing*)

The Stockholding fee was introduced on 1 August 2009 on gasoline, automotive diesel, light fuel oil and LPG sales. This fee is used to finance infrastructure spending and operations of the country's stockholding obligations, pursuant to its membership to the IEA.

The Netherlands' strategic oil stocks are managed by COVA (*Centraal Orgaan Voorraadvoeding Aardolieproducten*), an independent national non-profit organisation, legally established through the 2012 Oil Stockpiling Act (Chapter 2, Art. 15-22).

#### Energy tax (*Energiebelasting*)

The Energy tax is an environmental tax (*milieubelasting*) that applies to natural gas and electricity consumption. It is legally defined in the Environmental Taxes Act, which first came into effect on 1 January 1995, as amended.

The tax applies to natural gas and electricity, whether it is purchased via a distribution system operator or in the free market, except for natural gas used for electricity production.

The tax comprises two variable components, expressed per consumption unit (Sm<sup>3</sup> for natural gas and kWh for electricity), and a fixed annual credit (*belastingvermindering*).

The first component consists of a base rate that depends on the consumption band, and certain activities, like greenhouses, benefit from a reduced rate for natural gas. The second component, introduced on 1 January 2013, consists of a renewable energy storage support contribution (*opslag duurzame energie*). The fixed annual tax credit (*belastingvermindering*) is deducted from the energy tax payments on electricity for households. The justification for this system is that the Administration considers that energy use, to a certain extent, is a basic need. Tax credits for other electricity consumers were abolished on 1 January 2015. Tax credits for natural gas consumption were abolished on 1 January 2008.

In the tax rate tables shown at the end of this section, the rates per MWh include both variable components for standard users.

#### Coal tax (*Kolenbelasting*)

The Coal tax in the Netherlands is an environmental tax (*milieubelasting*) that applies to coal consumption. It is legally defined in the Environmental Taxes Act, as amended, which came in force on 1 January 1995. Rates are expressed on a per tonne basis.

**Excise duties (*Accijns*)**

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)	Automotive LPG (EUR/l)
01.01.11	31.12.11	33.89	423.6	0.4236	0.71827	0.082
01.01.12	31.12.12	34.47	430.8	0.4308	0.73048	0.088
01.01.13	31.12.13	35.23	440.28	0.44028	0.74655	0.095
01.01.14	31.12.14	35.83	477.76	0.47776	0.75924	0.174
01.01.15	31.12.15	36.15	482.06	0.48206	0.76607	0.181
01.01.16	31.12.16	36.33	484.47	0.48447	0.76990	0.182
01.01.17	31.12.17	36.44	485.92	0.48592	0.77221	0.182
01.01.18	31.12.18	36.73	489.81	0.48981	0.77839	0.184
01.01.19	now	37.17	495.69	0.49569	0.78773	0.186

**Stockholding fee (*Voorraadheffing*)**

From	To	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)	Automotive LPG (EUR/l)
01.08.09	31.03.13	5.9	0.0059	0.0059	0.0059
01.04.13	now	8.0	0.008	0.008	0.008

**Energy tax (*Energiebelasting*) - Natural gas**

From	To	Category I (EUR/MWh)	Category II (EUR/MWh)	Category III (EUR/MWh)	Category IV (EUR/MWh)	Category V (EUR/MWh)	Category VI (EUR/MWh)	Annual discount (EUR)
01.01.02	31.12.02	13.77	7.01	2.18	1.08	0.72	0.72	96.00
01.01.03	31.12.03	14.27	7.26	2.26	1.13	0.75	0.75	96.84
01.01.04	31.12.04	14.62	7.44	2.32	1.16	1.08	0.77	98.18
01.01.05	31.12.05	15.29	10.43	3.18	1.18	1.09	0.78	0
01.01.06	31.12.06	15.42	12.67	3.48	1.19	1.10	0.79	0
01.01.07	31.12.07	15.67	13.72	3.80	1.21	1.12	0.80	0
01.01.08	30.06.08	15.89	13.92	3.86	1.23	1.15	0.81	0
01.07.08	31.12.08	15.89	13.92	3.86	1.23	1.15	0.89	0
01.01.09	31.12.09	16.16	14.17	3.93	1.25	1.17	0.82	0
01.01.10	31.12.10	16.66	14.43	4.00	1.27	1.19	0.84	0
01.01.11	31.12.11	16.77	14.52	4.02	1.28	1.20	0.84	0
01.01.12	31.12.12	17.05	14.76	4.09	1.30	1.22	0.85	0
01.01.13	31.12.13	19.29	19.29	4.58	1.67	1.20	1.20	0
01.01.14	31.12.14	19.84	19.84	4.73	1.72	1.24	1.24	0
01.01.15	31.12.15	20.31	20.31	7.22	2.61	1.27	1.27	0
01.01.16	31.12.16	26.90	26.90	7.54	2.73	1.33	1.33	0
01.01.17	31.12.17	27.41	27.41	7.10	2.59	1.37	1.37	0
01.01.18	31.12.18	29.45	29.45	7.67	2.80	1.90	1.90	0
01.01.19	now	35.22	35.22	8.30	3.03	1.62	1.62	0

**Energy tax (*Energiebelasting*) - Electricity**

From	To	Category I (EUR/MWh)	Category II (EUR/MWh)	Category III (EUR/MWh)	Category IV (EUR/MWh)	Category V (EUR/MWh)	Annual discount (EUR)
01.01.01	31.12.01	58.30	19.40	5.90			45.38
01.01.02	31.12.02	60.10	20.00	6.10			46.00
01.01.03	31.12.03	63.90	20.70	6.30			46.00
01.01.04	31.12.04	65.40	21.20	6.50	1.00	0.50	46.00
01.01.05	31.12.05	69.90	26.30	8.60	1.00	0.50	46.00
01.01.06	31.12.06	70.50	34.30	9.40	1.00	0.50	48.16



From	To	Category I (EUR/MWh)	Category II (EUR/MWh)	Category III (EUR/MWh)	Category IV (EUR/MWh)	Category V (EUR/MWh)	Annual discount (EUR)
01.01.07	31.12.07	71.60	36.90	10.20	1.00	0.50	100.82
01.01.08	30.06.08	75.20	37.50	10.40	1.00	0.50	100.82
01.07.08	31.12.08	75.20	37.50	10.40	1.00	0.50	199.00
01.01.09	31.12.09	108.50	39.80	10.60	1.00	0.50	318.62
01.01.10	31.12.10	111.40	40.60	10.80	1.00	0.50	318.62
01.01.11	31.12.11	112.10	40.80	10.90	1.00	0.50	318.62
01.01.12	31.12.12	114.00	41.50	11.10	1.00	0.50	318.62
01.01.13	31.12.13	117.60	43.80	11.70	1.02	0.52	318.62
01.01.14	31.12.14	120.80	45.80	12.20	1.03	0.53	318.62
01.01.15	31.12.15	123.20	51.50	13.70	1.06	0.56	311.84
01.01.16	31.12.16	106.30	56.96	15.21	1.15	0.61	310.81
01.01.17	31.12.17	107.70	61.31	16.35	1.20	0.66	308.54
01.01.18	31.12.18	117.78	70.74	18.84	1.35	0.76	308.54
01.01.19	now	117.50	81.17	21.61	1.47	0.88	257.54

**Coal tax (*Kolenbelasting*)**

From	To	Coal (EUR/tonne)
01.01.09	31.12.09	13.17
01.01.10	31.12.10	13.42
01.01.11	31.12.11	13.50
01.01.12	31.12.12	13.73
01.01.13	31.12.13	14.03
01.01.14	31.12.14	14.27
01.01.15	31.12.15	14.40
01.01.16	31.12.16	14.47
01.01.17	31.12.17	14.51
01.01.18	31.12.18	14.63
01.01.19	now	14.81

**Product specifications****Oil products**

	Low sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (98 RON) gasoline	Premium unleaded (95 RON) gasoline	Automotive LPG
Quality		HBO I		Euro 98	Euro 95	
Density (kg/l)		0.84	0.84	0.745	0.745	0.53
Sulphur content (%)	< 1					
NCV (kcal/kg)	9 760	10 100				
Delivery size	25 000 tonne/y	3 000 – 5 000 l				

**Natural gas and coal**

	Natural gas	Steam coal industry electricity generation	Steam coal <i>households</i>
Quality		Hard coal	Anthracite
GCV (kcal/m <sup>3</sup> )	8 406		
NCV (kcal/kg)		7 000	

## NEW ZEALAND

### Sources

Prices and taxes data for all energy products are provided on a quarterly basis by the **Ministry of Business, Innovation and Employment (MBIE)**.

Energy price indices are provided on a quarterly basis by **Statistics New Zealand**.

### Data collection methodology

Prior to 1Q1986, prices refer to the end of the quarter. From 1Q1986 to 4Q1989, prices refer to the second month of the quarter. From 1Q1990 onwards, prices refer to quarterly averages.

Data collection for all products covers the whole country. For all products, MBIE collects end-use prices and calculates the ex-tax price by subtracting the applicable taxes from the end-use prices.

### Oil products

From 3Q1987 onwards, oil product prices refer to market prices (no price control). Prior to 3Q1987, prices refer to retail prices set by Government regulation.

For high sulphur fuel oil, low sulphur fuel oil and automotive diesel for commercial users, prices are calculated based on a quarterly price survey of the four largest oil companies in the country and monthly sales data for the same companies collected by MBIE analysts. These two series are combined to obtain quarterly and annual average price series, weighted by each company's market share.

For automotive diesel for non-commercial users, premium unleaded (95 RON) gasoline and regular unleaded gasoline, quarterly prices are collected by Statistics New Zealand. Prices are net of discounts obtained through supermarkets and loyalty schemes.

Since 1998, electricity generation from heavy fuel oil, used for peak capacity, has been negligible.

### Natural gas

For industry and households, prices are calculated by dividing the total sales revenues by total consumption, based on data obtained in quarterly surveys of retailers.

For electricity generation, prices are confidential.

### Steam and coking coal

For steam and coking coal prices for industry and electricity generation, prices are confidential.

### Electricity

For industry and households, prices are calculated by adding sales revenues, obtained in quarterly surveys of electricity retailers, and dividing the total by sectoral consumption data obtained in the same survey.

For industry, MBIE supplements the information with quarterly data on large industrial consumers connected to the national grid and purchasing electricity directly in an open market, supplied by Transpower, the national grid operator.

Electricity distribution companies supply additional detailed information regarding directly invoiced customers on an annual basis. As these companies reconcile their financial accounts in March each year, there is a mismatch between the sources. In order to ensure consistency with historical series, MBIE can only produce annual electricity data.

### Energy price indices

Wholesale indices refer to the Producer Price Indices (PPIs). Retail indices refer to the Consumer Price Indices (CPIs). Both indices are produced by Statistics New Zealand on a quarterly basis.

Annual figures are averages of the quarterly data shown.

PPI indices for oil products refer to Series PPIQ.SQUCC5110. Prices for petrol and diesel make up 63% of the index, with other (non-crude) petroleum oils making up a further 30% which include other fuel oils such as aviation fuel, light fuel oil and lubricating oils. Prices for this index are collected from the three major oil product retailers in New Zealand.

Retail indices for oil products refer to petrol (Series CPIQ.SE907202).

PPI indices for electricity refer to Series PPIQ.SPB17100M. These are quarterly average prices for electricity sold to business customers. Prices for this index are collected from the five major electricity retailers in New Zealand.

Retail indices for electricity refer to electricity (Series CPIQ.SE904501).

PPI indices for natural gas refer to Series PPIQ.SPB12000E. This index comprised of quarterly

average prices for gas sold to business customers and weighted average prices for regional gas sales. Prices for this index are collected from the four major gas retailers in New Zealand.

Retail indices for natural gas refer to gas (Series CPIQ.SE904502).

Wholesale indices for coal are not released due to confidentiality reasons.

Retail indices for coal refer to solid fuels (Series CPIQ.SE904503).

## Energy taxation

### GST

The Goods and services tax (*GST*) applies to all energy products. The GST is refunded for purchases for commercial consumers. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

From	To	%
01.10.86	30.06.89	10.0
01.07.89	30.09.10	12.5
01.10.10	now	15.0

### Excise tax

The Energy (Fuels, Levies, and References) Act (1989/140) sets out the basic legal framework for the energy taxation system.

In general, excise taxes imposed on energy products are applied for the purposes of covering the costs incurred by the administration as a result of energy use.

Automotive diesel is not taxed at the pump, as diesel-powered vehicle owners are subject to annual Road User Charges (RUC), paid on a per-kilometer basis and contribute to the Accident Compensation Corporation (ACC) through annual licensing fees. These charges are not included in the excise tax column for automotive diesel. Similarly, bioethanol is subject to excise duty but biodiesel is subject to the RUC. The combination of levies is set so that the average gasoline-powered vehicle pays a similar amount to what is paid by diesel-powered vehicle owners.

Electricity and fuels used for electricity generation are not taxed. Fuels for heating and process uses are, in general, either not taxed or subject to a full refund, and

are therefore not included in the excise tax column in this publication.

Levies are exclusive of goods and services tax under the Goods and Services Tax Act 1985.

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
National land transport fund				x	x				
Accident compensation corporation levy				x					
Petroleum or engine fuel monitoring levy			x	x					
Local authorities fuel tax			x	x					
Regional fuel tax			x	x					
Energy resources levy					x	x	x	x	
Wholesale gas levy						x			

### National land transport fund

Land transport funding is governed by the Land Transport Management Act 2003 and subsequent amendments.

The revenue collected goes to the National Land Transport Fund to fund the National Land Transport Programme, which focuses on building and maintaining New Zealand's transport network.

### Accident compensation corporation levy

The Accident Compensation Corporation (ACC) levy was introduced on 1 July 2003, to cover the cost of accidents and rehabilitation for victims of accidents in public roads, and is financed by annual licensing fees and levies on road fuels.

### Petroleum or engine fuel monitoring levy

An additional levy applies to transportation fuels. In 2016, the Energy (Fuels, Levies, and References) Act (1989/140) was amended to eliminate the previous maximum rate of 0.00045 NZD/l.

The Petroleum or engine fuel monitoring levy is a funding mechanism for New Zealand's IEA oil stockholding obligations, which were previously funded through general taxation.

### Local authorities fuel tax

Cities and district councils impose an additional tax on transportation fuels, available for general local government expenditure. The tax rate, on a per litre basis, does not vary across the country and is relatively stable in time.

### Regional fuel tax

In 2018, the Land Transport Management Act (2003/118) was amended to allow for regional transport fuel taxes. These taxes apply to all transport fuel sales within a given administrative region, with some exceptions depending on end use. The maximum rate of regional fuel tax is 0.10 NZD/l.

The amendment allows for the immediate introduction of a regional fuel tax in the Auckland region. Other regions may introduce regional fuel taxes from 1 January 2021.

On 1 July 2018 Auckland introduced a regional fuel tax of 0.10 NZD/l. The 1Q2019 publication is the first to include the Auckland regional fuel tax in the calculation of prices. A national weighted-average of this tax has been calculated using population as at 30 June 2018 as the weights. Previously published data which did not include the Auckland regional fuel tax have been revised accordingly.

### National land transport fund

From	To	Gasoline (NZD/l)
15.05.98	30.06.00	0.136
01.07.00	28.02.02	0.135
01.03.02	30.09.04	0.177
01.10.04	31.03.05	0.175
01.04.05	31.03.06	0.225
01.04.06	31.03.07	0.232
01.04.07	30.09.08	0.238
01.10.08	30.09.09	0.425
01.10.09	30.09.10	0.455
01.10.10	31.07.12	0.485
01.08.12	30.06.13	0.505
01.07.13	30.06.14	0.535
01.07.14	30.06.15	0.565
01.07.15	29.09.18	0.595
30.09.18	now	0.630

### Energy resources levy

The Energy resources levy, established by the Energy Resources Levy Act (1976/71) applies to locally produced coal, as well as natural gas and LPG produced from certain fields.

Natural gas produced in fields discovered after 1 January 1986 is exempt.

Since its introduction on 1 January 1977, this levy has remained at a flat rate of 1.5 NZD/tonne for South Island lignite, 2 NZD/tonne for all other local coal qualities, and 0.45 NZD/GJ for natural gas.

### Wholesale gas levy

Under the Energy (Fuels, Levies, and References) Act (1989/140), natural gas used for electricity generation is exempt from levies. This Act also establishes a maximum tax rate of 0.02 NZD/GJ.

Under the Gas Levy (1992/124), the Gas Industry Company (the gas industry co-regulator) can recommend the natural gas levy rates imposed on industrial consumers on a per GJ basis.

Retail natural gas consumers are subject to a fixed annual levy independent of consumption.

**Accident compensation corporation levy**

From	To	Gasoline (NZD/l)
01.10.91	19.03.01	0.020
20.03.01	30.06.01	0.030
01.07.01	30.06.03	0.023
01.07.03	30.06.05	0.051
01.07.05	30.06.07	0.058
01.07.07	30.06.08	0.073
01.07.08	30.06.09	0.093
01.07.09	30.06.15	0.099
01.07.15	30.05.17	0.069
01.06.17	now	0.060

**Petroleum or engine fuel monitoring levy**

From	To	Automotive diesel (NZD/l)	Gasoline (NZD/l)
01.01.89	30.09.08	0.00025	0.00025
01.10.08	30.06.16	0.00045	0.00045
01.07.16	30.06.17	0.00200	0.00200
01.07.17	now	0.00300	0.00300

**Local authorities fuel tax**

From	To	Automotive diesel (NZD/l)	Gasoline (NZD/l)
01.02.71	now	0.0033	0.0066

**Wholesale gas levy**

From	To	Natural gas <i>industry</i> (NZD/MWh)
01.07.05	30.06.06	0.054
01.07.06	30.06.07	0.064
01.07.07	30.06.08	0.069
01.07.08	30.06.09	0.064
01.07.09	30.06.10	0.060
01.07.10	30.06.11	0.066
01.07.11	30.06.12	0.060
01.07.12	30.06.13	0.063
01.07.13	30.06.14	0.059
01.07.14	30.06.15	0.047
01.07.15	30.06.13	0.040
01.07.16	30.06.17	0.041
01.07.17	30.06.18	0.044
01.07.18	now	0.045

**Regional fuel tax: Auckland**

From	To	All transport fuels (NZD/l)	National-weighted average (NZD/l)
01.07.18	now	0.10	0.0347

**Product specifications**

	High sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (95 RON) gasoline	Regular unleaded gasoline	Natural gas	Steam coal
Quality	Heavy fuel oil	Blended heating oil	Automotive gasoil				Bituminous coal
Octane number				95	91		
Density (kg/l)	0.945	0.824	0.822	0.757	0.739		
Sulphur content (%)	<3	<2	<0.01	<0.005	<0.005		
NCV (kcal/kg)							
GCV (kcal/m <sup>3</sup> )	10 129	10 366	10 297	10 466	10 296		6 836

## NORWAY

### Sources

Prices and taxes data for oil products are provided on a quarterly basis by **Statistics Norway**.

Prices and taxes data for electricity are provided on a quarterly basis by the **Ministry of Petroleum and Energy (the Ministry)**.

Energy price indices are derived from data extracted from the **Statistics Norway** website.

### Data collection methodology

From 1Q1993 onwards, prices refer to the average of the weekly prices. From 1Q1986 to 4Q1992, prices refer to the second month of the quarter. From 1Q1983 to 4Q1986, prices refer to the first month of the quarter. Prior to 1Q1983, prices are quarterly averages.

Annual averages for oil and electricity are final and represent the official statistics. The most recent quarterly prices are provisional.

### Oil products

For light fuel oil, automotive diesel and unleaded premium (95 RON) gasoline, end-use prices are based on electronic data received on a monthly basis from a representative population of distributors and producers. Ex-tax prices are calculated by subtracting the applicable taxes from the end-use prices, based on information from the Norwegian Petroleum Institute.

### Natural gas

Prices for industry and households are currently not available.

Prices for electricity generation are not available, as power generation from natural gas is negligible.

### Electricity

The network components of electricity prices are collected by the Norwegian Water Resources and Energy Directorate (NVE), a government agency within the Ministry, from all distribution system operators (DSOs).

Prices for households refer to national averages computed by NVE based on characteristics of the DSOs and an estimated annual consumption of 20 000 kWh. The whole country is covered.

Prices for industry are based on annual wholesale prices collected from Nord Pool, the largest electricity exchange in Northern Europe. A mark-up on the wholesale price is computed by NVE, including a yearly increase in the cost of renewable energy certificates. The estimation is checked against the data available in a price comparison tool managed by the Norwegian Consumer Council.

The applicable tax components are then added to these price estimates, resulting in a final price.

### Energy price indices

Annual indices are 12-month averages. From 1Q1993 onwards, quarterly indices refer to the 3-month average. Until 4Q1992, indices refer to the second month of the quarter.

Wholesale price indices for oil products refer to the Producer Price Index (PPI), refined petroleum products, domestic market. Retail price indices for oil products refer to the weighted average of the Consumer Price Indices (CPIs) for *fuels* and *lubricants for personal transport equipment and liquid fuels*.

Retail prices indices for electricity refer to the CPI for electricity.

Wholesale price indices for coal refer to the PPI for *coal, coke and briquette* in the domestic market. Retail prices indices for coal refer to the CPI for *solid fuels*.

### Energy taxation

#### VAT

VAT (*MVA*) applies to all energy products. The VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for industry, electricity generation and automotive fuels for commercial use.

From	To	%
01.01.70	31.12.92	20
01.01.93	31.12.94	22
01.01.95	31.12.00	23
01.01.01	31.12.04	24
01.01.05	now	25

#### Excise tax

Excise taxation on energy in Norway consists of five different tax components. The current excise taxation system is legally defined by the Act of 19 May 1933 no. 11 on Excise Duties and the Regulations on Excise Taxation of 20 December 2001, as amended, which came in force on 1 January 2002.



**Tax applicability table (not exhaustive)**

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Road use tax			x	x	x				
Basic tax	x	x							
CO <sub>2</sub> tax	x	x	x	x	x	x	x	x	
Sulphur tax	x	x	x	x	x				
Electricity consumption tax									x

**Road use tax** (*Veibruksavgift*)

A Road use duty was introduced in 2011, replacing the duties on diesel and gasoline that had been in place in Norway since 1993 and 1933, respectively.

In its current form, the road use duty is legally defined in the Act of 19 May 1933 n°11 on Excise Duties, as amended. Gasoline, automotive diesel, liquid biofuels, automotive LPG and compressed natural gas (CNG) are subject to this tax. Hydrogen and electricity used for transportation are exempt.

**Basic tax** (*Grunnavgift*)

The Basic tax, applicable to oil products not used in transportation, was introduced in Norway in 2000.

This tax component was introduced simultaneously to a significant increase in the electricity consumption tax rate, as a way of discouraging the use of mineral oils for heating in favour of electricity.

**Road use tax** (*Veibruksavgift*)

From	To	Automotive diesel (NOK/l)	Gasoline (NOK/l)	Automotive LPG (NOK/kg)
01.01.11	31.12.11	3.62	4.62	
01.01.12	31.12.12	3.68	4.69	
01.01.13	31.12.13	3.75	4.78	
01.01.14	30.06.15	3.82	4.87	
01.07.15	31.12.15	3.36	4.87	
01.01.16	30.06.16	3.44	4.99	
01.07.16	31.12.16	3.44	4.99	0.69
01.01.17	31.12.17	3.80	5.19	1.43
01.01.18	31.12.18	3.75	5.17	2.23
01.01.19	now	3.81	5.25	2.98

Oil products used in the pulp and paper industry are taxed at a reduced rate. Jet fuel and oil products subject to the road use tax are exempt.

**CO<sub>2</sub> tax** (*CO<sub>2</sub>-avgift*)

A CO<sub>2</sub> tax was introduced in 1991 through the Law of 21 December 1990 on Taxes on CO<sub>2</sub> Emissions. It applies to oil products, natural gas and coal.

Consumers participating in the Emissions Trading System (ETS) are subject to reduced tax rates (not shown in the tables at the end of this section).

**Sulphur tax** (*Svovelavgift*)

The Sulphur tax was introduced in 1970. It is levied on oil products containing more than 0.05% sulphur on a mass basis. The tax rate increases with increments of 0.25% of sulphur content.

The tax is refunded if the sulphur content is removed before the product is consumed.

**Electricity consumption tax** (*Forbruksavgift på elektrisk kraft*)

An Electricity consumption tax was introduced in Norway in 1951.

A reduced tax rate applies to industry, as well as to commercial customers in Finnmark and Nord-Troms. Households in Finnmark and Nord-Troms, as well as certain power-intensive industrial processes, are exempt from.

The rates shown in the table at the end of this section refer to households in regions other than Finnmark and Nord-Troms.

**Basic tax** (*Grunnavgift*)

From	To	Heavy fuel oil (NOK/tonne)	Light fuel oil (NOK/1000l)
01.01.00	31.12.00	190	190
01.01.01	31.12.01	382	382
01.01.02	31.12.02	389	389
01.01.03	31.12.03	398	398
01.01.04	31.12.04	405	405
01.01.05	31.12.05	414	414
01.01.06	31.12.06	421	421
01.01.07	31.12.07	429	429
01.01.08	31.12.08	845	845
01.01.09	31.12.09	870	870
01.01.10	31.12.10	886	886
01.01.11	31.12.11	983	983
01.01.12	31.12.12	999	999
01.01.13	31.12.13	1018	1018
01.01.14	31.12.14	1557	1557
01.01.15	31.12.15	1590	1590
01.01.16	31.12.16	1630	1630
01.01.17	31.12.17	1603	1603
01.01.18	31.12.18	1630	1630
01.01.19	now	1650	1650

**CO<sub>2</sub> tax** (*CO<sub>2</sub>-avgift*)

From	To	Heavy fuel oil (NOK/tonne)	Light fuel oil (NOK/1000l)	Automotive diesel (NOK/l)	Gasoline (NOK/l)	Automotive LPG (NOK/kg)	Natural gas (NOK /Sm <sup>3</sup> )	Coal (NOK/tonne)
01.01.91	31.12.91				0.600			
01.01.92	31.12.92				0.800			
01.01.93	31.12.93				0.800			400
01.01.94	31.12.94				0.820			410
01.01.95	31.12.95	415	415	0.415	0.830			415
01.01.96	31.12.96	425	425	0.425	0.850			425
01.01.97	31.12.97	435	435	0.435	0.870			435
01.01.98	31.12.98	445	445	0.445	0.890			445
01.01.99	31.12.99	460	460	0.460	0.920			460
01.01.00	31.12.00	470	470	0.470	0.940			470
01.01.01	31.12.01	480	480	0.480	0.720			480
01.01.02	31.12.02	490	490	0.490	0.730			490
01.01.03	31.12.03	500	500	0.500	0.750			500
01.01.04	31.12.04	510	510	0.510	0.760			500
01.01.05	31.12.05	520	520	0.520	0.780			500
01.01.06	31.12.06	530	530	0.530	0.790			500
01.01.07	31.12.07	540	540	0.540	0.800			500
01.01.08	31.12.08	550	550	0.550	0.820			500
01.01.09	31.12.09	570	570	0.570	0.840			500
01.01.10	31.12.10	580	580	0.580	0.860	0.650		500
01.01.11	31.12.11	590	590	0.590	0.880	0.660	0.440	500
01.01.12	31.12.12	600	600	0.600	0.890	0.670	0.450	500
01.01.13	31.12.13	610	610	0.610	0.910	0.680	0.460	500
01.01.14	31.12.14	880	880	0.620	0.930	0.990	0.660	500
01.01.15	30.06.15	900	900	1.090	0.950	1.010	0.670	500
01.07.15	31.12.15	900	900	1.090	0.950	1.230	0.820	500
01.01.16	31.12.17	920	920	1.120	0.970	1.260	0.840	500
01.01.17	31.12.17	1200	1200	1.200	1.040	1.350		
01.01.18	31.12.18	1330	1330	1.330	1.160	1.500		
01.01.19	now	1350	1350	1.350	1.180	1.520		

**Electricity consumption tax** (*Forbruksavgift på elektrisk kraft*)

From	To	Electricity (NOK/MWh)
01.05.74	30.06.78	10.0
01.07.78	31.12.80	20.0
01.01.81	31.12.82	22.0
01.01.83	31.12.83	25.0
01.01.84	31.12.84	27.0
01.01.85	31.12.85	29.0
01.01.86	30.06.86	31.0
01.07.86	31.12.86	32.0
01.01.87	31.12.87	34.0
01.01.88	31.12.88	36.0
01.01.89	31.12.89	37.0
01.01.90	31.12.90	38.5
01.01.91	31.12.91	40.0
01.01.92	31.12.92	41.5
01.01.93	31.12.93	46.0
01.01.94	31.12.94	51.0
01.01.95	31.12.95	52.0
01.01.96	31.12.96	53.0
01.01.97	31.12.97	56.2
01.01.98	31.12.98	57.5
01.01.99	31.12.99	59.4
01.01.00	31.12.00	85.6
01.01.01	31.12.01	113.0
01.01.02	31.12.02	93.0
01.01.03	31.12.03	95.0
01.01.04	31.12.04	96.7
01.01.05	31.12.05	98.8
01.01.06	31.12.06	100.5
01.01.07	31.12.07	102.3
01.01.08	31.12.08	105.0
01.01.09	31.12.09	108.2
01.01.10	31.12.10	110.1
01.01.11	31.12.11	112.1
01.01.12	31.12.12	113.9
01.01.13	31.12.13	116.1
01.01.14	31.12.14	123.9
01.01.15	31.06.15	136.5
01.07.15	31.12.15	141.5
01.01.16	31.12.17	160.0
01.01.18	31.12.18	165.8
01.01.19	now	158.3

**Product specifications**

	High sulphur fuel oil	Low sulphur fuel oil	Light fuel oil <i>industry</i>	Light fuel oil <i>households</i>
Quality	Fuel oil no. 6		Fuel oil no. 2	Fuel oil no. 1
Density (kg/l)	0.98	0.82 – 0.86	0.85	0.83
Sulphur content (%)	1	< 0.2		
NCV (kcal/kg)		9 974		
Delivery size (l)		2 400 – 3 999		

## POLAND

### Sources

Data for all energy products, including energy price indices, are provided on a quarterly basis by the **Energy Market Agency (ARE)**.

### Data collection methodology

#### Oil products

Ex-tax prices for all oil products, with the exception of light fuel oil for households, are derived from regular statistical surveys conducted by ARE covering practically 100% of consumption. The applicable tax components are then added to the ex-tax prices to calculate end-use prices.

For high and low sulphur fuel oil, quarterly and annual end-use prices are average prices per tonne paid by industry to distributors.

For heavy fuel oil for electricity generation, prices from 1Q2004 onwards are weighted averages of the prices paid by electricity generators to distributors for high and low sulphur fuel oils. Prior to 2004, prices shown for electricity generation were the equal to prices per tonne of high sulphur fuel oil paid to distributors.

For light fuel oil for industry, prices refer to the average list prices from major distributors.

For automotive diesel, gasoline and automotive LPG, prices refer to pump prices at filling stations owned by the major distributors.

For light fuel oil for households, end-use prices are derived from regular statistical survey of retailers conducted by the Central Statistical Office. Ex-tax prices are then calculated by subtracting the applicable tax components from the end-use prices.

#### Natural gas

For households and industry, prices refer to average expenditures per MWh of natural gas (high methane) paid to the sellers. Ex-tax prices and excise taxes for natural gas are derived from a statistical survey, which covers practically 100% of total consumption.

Prices shown for the electricity generation sector are weighted averages of high and low methane natural gas prices paid to the sellers by electricity generators.

Prices for electricity generation are derived from a statistical survey limited to five major natural gas-fired power plants, which cover around 90% of consumption for electricity generation. As described in the Energy taxation section of this document, natural gas used for electricity generation is not taxed. Therefore, end-use prices and ex-tax prices are equal.

#### Steam and coking coal

For steam coal for households, end-use prices are derived from a statistical survey of retailers conducted by the Central Statistical Office. Ex-tax prices are then calculated by subtracting the applicable tax components from the end-use prices.

For steam coal for industry and electricity generation, as well as coking coal for industry, end-use prices are derived from a statistical survey.

As described in the Energy taxation section of this document, coal used for electricity generation is not taxed. Therefore, end-use prices and ex-tax prices are equal.

Due to the numerous tax exemptions listed in the Energy taxation section of this document, the reporting agency is currently unable to estimate ex-tax prices or average excise taxes for steam and coking coal for industry. These are therefore shown as not available from 2012 onwards.

#### Electricity

For industry and households, prices refer to annual and quarterly average expenditures per MWh paid to the electricity utilities. Ex-tax prices for electricity are derived from a statistical survey covering practically 100% of total consumption. The applicable tax components are then added to the ex-tax prices to calculate end-use prices.

#### Energy price indices

The retail price index for oil products includes gasoline, lubricants and oils. For natural gas, the index includes both piped and bottled gas.

### Energy taxation

#### VAT

VAT (*VAT or PTU*) is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

Oil products used in transportation have been subject to the general VAT rate since its introduction in 1993.

Commercial energy products for other uses were subject to a reduced VAT rate, which was abolished on 1 January 1998.

From	To	General %	Reduced %
05.07.93	31.12.95	22	7
01.01.96	31.12.96	22	12
01.01.97	31.12.97	22	17
01.01.98	31.12.10	22	
01.01.11	now	23	

## Excise tax

Energy taxes in Poland are levied in accordance with the 2003 EU Energy Taxation Directive.

The excise tax columns in Tables 1, 2 and 3 is the sum of two tax components (excise duties and fuel surcharge).

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Excise duties	x	x	x	x	x	x	x	x	x
Fuel surcharge			x	x	x				

### Excise duties (*Podatek akcyzowy*)

Excise duties are levied on road fuels, oil products for heat raising, natural gas, steam and coking coal, as well as electricity.

In general, fuels used for transportation and industrial purposes are taxed at a higher rate than those used for heating.

Excise duties are set by the Ministry of Finance and are updated annually.

### Excise duties (*Podatek akcyzowy*)

From	To	Heavy fuel oil (PLN/tonne)	Light fuel oil (PLN/1000l)	Automotive diesel (PLN/l)	Gasoline (PLN/l)	Automotive LPG (PLN/l)	Natural gas (PLN/MWh)	Coal (PLN/tonne)	Electricity (PLN/MWh)
01.01.00	31.12.00		110.83	0.804	1.145				
01.01.01	31.12.01		127.08	0.844	1.314				
01.01.02	31.12.02		160.00	0.891	1.385	0.1600			15
01.01.03	31.12.03		195.00	0.914	1.419	0.1940			20
01.01.04	31.12.04		197.00	1.014	1.483	0.3220			20
01.01.05	31.12.05	60	233.00	1.099	1.492	0.3900			20
01.01.06	31.12.06	60	233.00	1.097	1.315	0.3895			20
01.01.07	31.12.07	60	233.00	1.099	1.565	0.3906			20

The following uses of natural gas and coal are exempt from excise duties:

- for electricity generation;
- for producing secondary energy products;
- for passenger and freight rail transport;
- for production of power and heat in co-generation;
- in farm work;
- in horticulture;
- in forestry and fishing;
- in mineralogical processes;
- in electrolytic processes;
- in metallurgy;
- in chemical reduction.

In addition to this list, natural gas and coal used for heating by energy-intensive facilities that have introduced measures aimed at environmental protection, as well as consumption by specific types of users (households, public administration authorities, armed forces, hospitals, outpatient clinics, public benefit organizations) are exempted.

Electricity generated from renewable sources is exempt from the excise duty. There are excise duty reductions for the industrial consumers which belong to the specified list of branches and whose annual cost of electricity purchases is above 3% of the total industrial production value.

### Fuel surcharge (*Oplata paliwowa*)

In addition to the excise duties described above, an additional tax is levied on road fuels, including automotive diesel, gasoline and automotive LPG.

The fuel surcharge is set by the Ministry of Infrastructure and Construction and is updated annually.

From	To	Heavy fuel oil (PLN/tonne)	Light fuel oil (PLN/1000l)	Automotive diesel (PLN/l)	Gasoline (PLN/l)	Automotive LPG (PLN/l)	Natural gas (PLN/MWh)	Coal (PLN/tonne)	Electricity (PLN/MWh)
01.01.08	31.12.08	60	233.00	1.099	1.565	0.3906			20
01.01.09	31.12.09	60	233.00	1.048	1.565	0.3906			20
01.01.10	31.12.10	64	232.00	1.048	1.565	0.3906			20
01.01.11	31.12.11	64	232.00	1.048	1.565	0.3906			20
01.01.12	31.12.12	64	232.00	1.196	1.565	0.3906			20
01.01.13	31.12.13	64	232.00	1.196	1.565	0.3906			20
01.01.14	31.12.14	64	232.00	1.196	1.565	0.3906	1.2006		20
01.01.15	31.12.15	64	232.00	1.171	1.540	0.3764	1.0261		20
01.01.16	31.12.18	64	232.00	1.171	1.540	0.3764			20
01.01.19	now	64	232.00	1.171	1.540	0.3764			5

**Fuel surcharge (*Oplata paliwowa*)**

From	To	Automotive diesel (PLN/l)	Gasoline (PLN/l)	Automotive LPG (PLN/l)
01.01.00	31.12.00	0.08873	0.07854	
01.01.01	31.12.01	0.08873	0.07854	
01.01.02	31.12.02	0.08873	0.07854	0.05901
01.01.03	31.12.03	0.08873	0.07854	0.05901
01.01.04	31.12.04	0.08873	0.07854	0.05901
01.01.05	31.12.05	0.08873	0.07854	0.05901
01.01.06	31.12.06	0.09095	0.08051	0.06049
01.01.07	31.12.07	0.09177	0.08123	0.06103
01.01.08	31.12.08	0.09369	0.08294	0.06231
01.01.09	31.12.09	0.09643	0.08659	0.06506
01.01.10	31.12.10	0.23399	0.09287	0.06734
01.01.11	31.12.11	0.23984	0.09519	0.06902
01.01.12	31.12.12	0.24992	0.09919	0.07192
01.01.13	31.12.13	0.25992	0.10316	0.07480
01.01.14	31.12.14	0.26252	0.10420	0.07556
01.01.15	31.12.17	0.28805	0.12941	0.08972
01.01.18	31.12.18	0.29305	0.13140	0.09116
01.01.19	now	0.29761	0.13321	0.09248



## Product specifications

### Oil products

	High sulphur fuel oil	Heavy fuel oil <i>electricity generation</i>	Low sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (98 RON) gasoline	Premium unleaded (95 RON) gasoline	Automotive LPG
Quality	Ciężki olej opałowy	Ciężki olej opałowy	Ciężki olej opałowy niskosiarkowy	Ekoterm Plus, Lotos Red	Olej napędowy	Super Plus 98	Euro Super 95	Gaz ciekły
Density (kg/l)	0.94	0.94	0.925	0.837	0.832	0.748	0.748	0.562
Sulphur content (%)	1 - 3	<3	<1	<0.1	≤ 0.001			
NCV (kcal/kg)	9 772	9 875	9 906	10 270	10 270	10 698	10 698	11 297

### Natural gas and coal

	Natural gas	Steam coal <i>industry</i>	Steam coal <i>electricity generation</i>	Steam coal <i>households</i>	Coking coal
Quality		Węgiel energetyczny dla przemysłu	Węgiel energetyczny dla elektrowni ciepłych zawodowych	Węgiel energetyczny dla gospodarstw domowych	Węgiel dla koksowni
NCV (kcal/kg)		5 456	5 024	6 210	7 055
GCV (kcal/m <sup>3</sup> )	9 441				

## PORTUGAL

### Sources

Prices and taxes data for all products are provided on a quarterly basis by the **Directorate General for Energy and Geology (DGEG)**.

Retail energy price indices are based on data published by **Eurostat**.

### Data collection methodology

From 1Q1993 onwards, prices refer to the monthly average of the quarter. From 1Q1986 to 4Q1992, prices refer to the second month of each quarter. Prior to 1Q1986, prices refer to the first month of each quarter.

### Oil products

On 1 January 2004, all oil product prices were liberalised. Until 31 December 2003, unleaded premium (95 RON) gasoline and automotive diesel and diesel for off-road use had maximum prices set by the government. Prior to 1 January 1991, all energy prices, except coal, were determined by the government.

Heavy fuel oil sales in Portugal were discontinued in January 2003 and replaced by low sulphur fuel oil.

For low sulphur fuel oil for industry, end-used prices are based on a weekly survey covering three out of four companies selling this product in the country. Quarterly and annual end-use prices are calculated as consumption-weighted averages of the weekly prices, using sales data for the previous year. Ex-tax prices are calculated by the reporting agency by subtracting the applicable taxes from the end-use prices.

For light fuel oil for households, automotive diesel, unleaded premium (95 RON) gasoline and automotive LPG, end-use prices are, from 1Q2009 onwards, based on retail prices reported by about 3 000 filling stations throughout continental Portugal, available at [www.precoscombustiveis.dgeg.pt](http://www.precoscombustiveis.dgeg.pt). Filling stations are required to report changes in prices to DGEG before their implementation. Prices are automatically calculated on a daily basis by DGEG using sales data for the previous year, as well as information on discounts

applied to fuel sales, to produce a national average price. Ex-tax prices are calculated by the reporting agency by subtracting the applicable taxes from the end-use prices.

### Natural gas

Prices for industry and households are collected via regular surveys to natural gas suppliers who report average prices and volumes by consumption band, in accordance with the Eurostat methodology.

Prices from July 2007 onwards refer to the Eurostat consumption band I3 (annual consumption 10 000 – 100 000 GJ) for industry; and band D2 for households (annual consumption 20 – 200 GJ), which are considered to be the most representative consumption bands for each sector by Eurostat.

Data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

### Steam and coking coal

For steam coal, prices for industry from 2010 onwards refer to anthracite consumed mainly in the chemical industry. Prices between 2004 and 2009 are unavailable. Prior to 2004, prices refer to coal consumed in the cement industry.

For steam coal, prices for electricity generation from 1996 onwards refer to the average price of imported coal, as there is no domestic production during this period. Prices between 1984 and 1995 refer to the weighted average of imported and domestically produced coal delivered to power stations. Prior to 1984, prices refer to coal delivered to power stations.

Steam coal prices for households are currently not available.

For coking coal, prices from 2004 onwards refer mainly to consumption in the cement industry. Prior to 2004, prices refer to average quarterly import prices (CIF) for coking coal bought by large industrial consumers.

### Electricity

Prices for industry and households are collected via regular surveys to utilities who report average prices and volumes by consumption band, in accordance with the Eurostat methodology.

Prices from July 2007 onwards refer to the Eurostat consumption band IC (annual consumption 500 - 2 000 MWh)

for industry; and band DC for households (annual consumption 2 500 – 5 000 kWh), which are considered to be the most representative consumption bands for each sector by Eurostat.

Data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

## Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the Harmonised Indices of Consumer Prices (HICP) published by Eurostat.

Retail indices for oil products refer to a consumption-weighted average of the *liquid fuels* (cp0453) and *fuels and lubricants for personal transport equipment* (cp0722) series. Weights used for the calculations are taken from the associated item weights series (prc\_hicp\_inw), published by Eurostat.

Retail indices for electricity refer to the *electricity* (cp0451) series.

Retail indices for natural gas refer to the *gas* (cp0452) series.

Retail indices for coal refer to the *solid fuel* (cp0454) series.

## Energy taxation

### VAT

VAT (*IVA*) applies to all energy products. VAT is refunded for purchases for industry. Therefore, it is not included in prices shown for industry and electricity generation. For transport fuels for commercial use, only 50% of the VAT expenditure is refunded.

Until 1 January 2011, natural gas and electricity sales were taxed at a reduced VAT rate. Light fuel oil was taxed at a reduced rate until 1 January 2012.

Until 1991, only 50% of VAT was *reimbursed* to industry and to commercial users of transport fuels.

The table below shows the applicable VAT rates in continental Portugal. The *autonomous* regions of Azores and Madeira benefit from reduced VAT rates.

From	To	General %	Natural gas Electricity %	Light fuel oil %
05.06.02	30.06.05	19	5	12
01.07.05	30.06.08	21	5	12
01.07.08	30.06.10	20	5	12
01.07.10	31.12.10	21	6	13
01.01.11	30.09.11	23	6	13
01.10.11	31.12.11	23	23	13
01.01.12	now	23	23	23

### Excise tax

The legal framework for excise taxation on energy is consistent with the 2003 EU Energy Taxation Directive.

In addition to the Tax on oil and energy products described below, natural gas consumption is subject to an Underground Storage Tax (*Taxa de ocupação do subsolo – TOS*) and ISP (*Imposto sobre produtos petrolíferos e energéticos*). Similarly, electricity consumption is subject to a series of taxes and levies related to concession fees, capacity payments, public service obligations and other payments related to the Renewable Energy Act and the Combined Heat and Power Act.

#### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
ISP	x	x	x	x	x	x	x	x	x

### Tax on oil and energy products

(*Imposto sobre produtos petrolíferos e energéticos - ISP*)

The Tax on oil and energy products (ISP) was introduced on 1 June 1994. Its applicable rates, exemptions and rebates are listed in the Special Consumption Tax Code (*Código dos Impostos Especiais de Consumo – CIEC and Portaria nº 117-A/2008 of 8 February 2008*).

Originally, the ISP applied to oil products only. It was then expanded to cover electricity and coal (on 1 January 2012) and natural gas (on 1 January 2013).

A Road service levy (*contribuição de serviço rodoviário*) and a Carbon tax (*taxa de carbono*) were introduced on 8 January 2007 and 1 January 2015, respectively, as additional components to the ISP.

The tax rates shown in the tables at the end of this section are the sum of the ISP, Road Service Levy and Carbon tax and do not apply to the islands of Azores and Madeira.

**Tax on petroleum and energy products**

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline 95 RON (EUR/l)	Automotive LPG (EUR/l)	Natural gas (EUR/MWh)	Coal (EUR/tonne)	Electricity (EUR/MWh)
01.01.04	14.02.04	13.26	89.65	0.2998	0.5176	0.0510			
15.02.04	31.12.04	15.00	89.65	0.3083	0.5226	0.0510			
01.01.05	09.06.05	15.00	89.65	0.3083	0.5226	0.0520			
10.06.05	31.12.05	15.30	91.44	0.3144	0.5330	0.0520			
01.01.06	18.01.06	15.30	91.44	0.3144	0.5330	0.0532			
19.01.06	31.12.06	15.30	91.44	0.3394	0.5580	0.0532			
01.01.07	07.01.07	15.30	91.44	0.3394	0.5580	0.0553			
08.01.07	22.02.07	15.30	91.44	0.3644	0.5830	0.0553			
23.02.07	31.12.07	15.30	137.20	0.3644	0.5830	0.0553			
01.01.08	09.01.08	15.30	137.20	0.3644	0.5830	0.0555		4.16	
10.01.08	31.12.09	15.30	176.18	0.3644	0.5830	0.0555		4.16	
01.01.10	28.04.10	15.30	176.18	0.3644	0.5830	0.0555		4.16	
29.04.10	11.08.10	15.30	176.18	0.3644	0.5830	0.0559		4.16	
12.08.10	31.08.10	15.30	176.18	0.3644	0.5830	0.0559		4.16	
01.09.10	31.12.10	15.30	213.83	0.3644	0.5830	0.0559		4.16	
01.01.11	11.03.11	15.30	213.83	0.3644	0.5830	0.0638		4.16	
12.03.11	31.12.11	15.30	251.48	0.3644	0.5830	0.0638		4.16	
01.01.12	31.12.12	15.65	292.46	0.3664	0.5844	0.0652		4.26	1.00
01.01.13	27.02.13	15.65	292.46	0.3675	0.5853	0.0652	1.080	4.26	1.00
28.02.13	31.12.13	15.65	330.00	0.3675	0.5853	0.0652	1.080	4.26	1.00
01.01.14	31.12.14	15.65	330.00	0.3694	0.5860	0.1177	1.080	4.26	1.00
01.01.15	31.12.15	31.41	342.60	0.4020	0.6175	0.1355	2.124	15.79	1.00
01.01.16	11.02.16	36.30	346.51	0.4059	0.6221	0.1378	2.412	19.37	1.00
12.02.16	12.05.16	36.30	346.51	0.4659	0.6811	0.1378	2.412	19.37	1.00
13.05.16	16.11.16	36.30	346.51	0.4559	0.6711	0.1378	2.412	19.37	1.00
17.11.16	31.12.16	36.30	346.51	0.4559	0.6711	0.1378	2.412	19.37	1.00
01.01.17	31.12.17	36.86	346.95	0.4664	0.6515	0.1400	2.448	19.78	1.00
01.01.18	31.12.18	36.86	346.95	0.4711	0.6592	0.1401	2.448	19.78	1.00
01.01.19	now	55.09	361.53	0.4857	0.6426	0.1497	3.636	33.12	1.00

**Product specifications****Oil products**

	High sulphur fuel oil	Low sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (98 RON) gasoline	Premium unleaded (95 RON) gasoline	Automotive LPG
Quality	Fuelóleo	Fuelóleo	Gasóleo de aquecimento	Gasóleo			GPL Auto
Cetane number				<51			
Density (kg/l)	1.00	1.00	0.845	0.84	0.754	0.746	
Sulphur content (%)	1 – 3.5	< 1	< 0.1	< 0.005			< 0.005
NCV (kcal/kg)	9 600	9 554					10 987

**Natural gas and coal**

	Natural gas <i>industry</i> <i>households</i>	Natural gas <i>electricity</i> <i>generation</i>	Steam coal <i>electricity</i> <i>generation</i>
Ash content (%)			38
Moisture content (%)			10
GCV	9 706 kcal/std m <sup>3</sup>	9 706 kcal/std m <sup>3</sup>	6 231 kcal/kg

## SLOVAK REPUBLIC

### Sources

Data for all energy products are provided on a quarterly basis by the **Ministry of Economy of the Slovak Republic (MHSR)**.

Retail energy price indices are based on data published by **Eurostat**.

### Data collection methodology

Prices and taxes prior to 1 January 2009, the date of entry into the Economic and Monetary Union (EMU), have been converted from Slovak koruny using the irrevocable conversion rate of 30.1260 SKK/EUR. This methodology facilitates comparisons within a country over time and ensures that the historical evolution (i.e. growth rates) is preserved. However, pre-EMU euros are a notional unit and are not normally suitable to form area aggregates or to carry out cross-country comparisons.

From 1Q1993 onwards, prices and taxes refer to the independent Slovak Republic. Prior to 1Q1993, prices and taxes refer to the former Czechoslovakia.

### Oil products

From 2Q2000 onwards, high sulphur fuel oil is no longer consumed in industry or for electricity generation.

For low sulphur fuel oil, automotive diesel and premium unleaded (95 RON) gasoline, end-use prices are computed by MHSR based on monthly data submitted by Slovnaft, estimated to have a market share of 35% for low sulphur fuel oil, 59% for automotive diesel and 69% for premium unleaded (95 RON) gasoline, as of March 2017. Ex-tax prices are calculated by MHSR by subtracting the applicable tax components from the end-use prices.

For light fuel oil, prices for industry from 4Q2016 onwards are not applicable, as domestic sales of this product were stopped. For 2016, annual data refer to the first three quarters of the year. Prior to 4Q2016, end-use prices were computed by MHSR based on monthly data submitted by Slovnaft. Ex-tax prices were calculated by MHSR by subtracting the applicable tax components from the end-use prices.

For automotive LPG, end-use prices are computed by MHSR based on monthly data submitted by Probugas, which is estimated to 30% market share for this product. Ex-tax prices are calculated by MHSR by subtracting the applicable tax components from the end-use prices.

### Natural gas

End-use prices are computed based on monthly data supplied by major natural distribution companies, covering all natural gas consumption in the country.

For each sector, monthly ex-tax unit prices for each company are calculated by MHSR by adding network and distribution charges to the unit supply cost. Unit prices are then multiplied by the reported sales volumes. Total monthly revenues are then summed for the quarter and ex-tax prices are calculated as the ratio between total revenues and total sales. Applicable excise taxes and the VAT are then added to the ex-tax price to calculate the end-use prices.

### Steam and coking coal

Steam coal prices for industry refer to the quarterly final prices collected by the Statistical Office of the Slovak Republic (SUSR).

### Electricity

End-use prices are computed based on monthly data supplied by three major and 18 minor regional electricity distribution companies, covering all consumption in the country.

For each sector, monthly ex-tax unit prices for each company are calculated by MHSR by adding network and distribution charges to the unit supply cost. Unit prices are then multiplied by the reported sales volumes. Total monthly revenues are then summed for the quarter and ex-tax prices are calculated as the ratio between total revenues and total sales. Applicable excise taxes and the VAT are then added to the ex-tax price to calculate the end-use prices.

### Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the Harmonised Indices of Consumer Prices (HICP) published by Eurostat.

Retail indices for oil products refer to a consumption-weighted average of the *liquid fuels* (cp0453) and *fuels and lubricants for personal transport equipment* (cp0722) series. Relative weights used for the calculations are taken from the associated item weights series (prc\_hicp\_inw), published by Eurostat.

Retail indices for electricity refer to the *electricity* (cp0451) series.

Retail indices for natural gas refer to the *gas* (cp0452) series.

Retail indices for coal refer to the *solid fuel* (cp0454) series.

## Energy taxation

### VAT

VAT (*DPH*) is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for industry, electricity generation and automotive fuels for commercial use.

Prior to 1 January 2004, gasoline and automotive diesel were subject to the general VAT rate while other fuels were taxed at a reduced rate. From 1 January 2004 onwards, the VAT is levied at the same rate for all commercial energy products.

From	To	General %	Reduced %
01.07.99	31.12.02	23	10
01.01.03	31.12.03	20	14
01.01.04	31.12.10	19	
01.01.11	now	20	

### Excise tax

Excise taxes on commercial energy products are levied in accordance with the 2003 EU Energy Taxation Directive.

#### Excise duties (*Spotrebné dane*)

From	To	Automotive diesel (EUR/l)	Gasoline (EUR/l)	Automotive LPG (EUR/l)	Natural gas (EUR/MWh)	Coal (EUR/tonne)	Electricity (EUR/MWh)
01.03.04	30.06.08	0.4813	0.5145	0.1414	0	0	0
01.07.08	31.12.09	0.4813	0.5145	0	0.66	10.62	0.66
01.01.10	31.01.10	0.4813	0.5145	0	1.32	10.62	1.32
01.02.10	31.12.10	0.3680	0.5145	0	1.32	10.62	1.32
01.01.11	31.01.18	0.3680	0.5145	0.092	1.32	10.62	1.32
01.02.18	now	0.3680	0.5140	0.092	1.32	10.62	1.32

#### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Excise duties	x	x	x	x	x	x	x	x	x

#### Excise duties (*Spotrebné dane*)

Excise duties on oil products are legally defined in their current form in the Excise Duty Act (98/2004) and amendments, which first came in force on 1 May 2004.

Excise duties on coal, natural gas and electricity are legally defined in the Excise Duty Act for Electricity, Coal and Natural Gas (609/2007), which came in force on 1 July 2008, expanding the scope of the previous Excise Duty Act, which was limited to mineral.

Electricity and natural gas for households, as well as coal and natural gas for electricity generation, are exempt.

Low sulphur fuel oil and light fuel oil used in industry are subject to excise taxes, but the taxes are fully refunded to the companies.

## Product specifications

	Low sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (95 RON) gasoline	Automotive LPG	Natural gas	Steam coal
Quality				Benzin 95 / Euro Super			Hnedé uhlie
Density (kg/l)	0.99	0.91	0.835	0.747	0.503		
Sulphur content (%)	< 1	< 1					
NCV (kcal/kg)	9 699	10 101					6 023
GCV (kcal/m <sup>3</sup> )						8 972	



## SLOVENIA

### Sources

Data for all energy products are provided on a quarterly basis by the **Statistical Office of the Republic of Slovenia (SURS)**, in cooperation with the **Ministry of Infrastructure (the Ministry)**.

Retail energy price indices are based on data published by **Eurostat**.

### Data collection methodology

Prices and taxes prior to 1 January 2007, the date of entry into the Economic and Monetary Union (EMU), have been converted from Slovenian Tolars using the appropriate irrevocable conversion rate of 239.640 SIT/EUR. This methodology facilitates comparisons within a country over time and ensures that the historical evolution (i.e. growth rates) is preserved. However, pre-EMU euros are a notional unit and are not normally suitable to form area aggregates or to carry out cross-country comparisons.

### Oil products

Price formation mechanisms for oil products are a combination of market prices and regulated prices. Automotive diesel and premium unleaded (95 RON) gasoline sold at filling stations on motorways and are, from 9 November 2016 onwards, subject to market pricing, while sales on all other roads are still regulated through decrees which establish maximum prices for fourteen days after publication. On the other hand, all light fuel oil and unleaded premium (98 RON) gasoline sales are, from 12 April 2016 onwards, as well as low sulphur fuel oil and automotive LPG, are subject to market pricing.

For low sulphur fuel oil, ex-tax prices are collected by the Ministry on a monthly basis from the largest seller, estimated to cover 99% of the demand. End-use prices are subsequently calculated by adding the applicable duties and taxes to the ex-tax prices.

For all other oil products, quarterly and annual prices are calculated as weighted averages of weekly prices reported in the European Commission's *Weekly Oil Bulletin*.

For light fuel oil, end-use prices are collected by the Ministry on a weekly basis from the three largest filling station operators, estimated to cover 88% of the demand as of April 2016. Ex-tax prices are subsequently calculated by subtracting the applicable duties, taxes and VAT from the end use prices.

For automotive diesel, end-use prices are collected by the Ministry on a weekly basis from the three largest filling station operators, estimated to cover 87% of the demand as of April 2016. Ex-tax prices are subsequently calculated by subtracting the applicable duties, taxes and VAT from the end use prices.

For unleaded premium (95 RON and 98 RON) gasoline, end-use prices are collected by the Ministry on a weekly basis from the three largest filling station operators, estimated to cover 95% of the demand as of April 2016. Ex-tax prices are subsequently calculated by subtracting the applicable duties, taxes and VAT from the end use prices.

For automotive LPG, end-use prices are collected by the Ministry of Infrastructure on a weekly basis from the nine largest filling station operators, estimated to cover 95% of the demand as of April 2016. Ex-tax prices are subsequently calculated by subtracting the applicable duties, taxes and VAT from the end use prices.

### Natural gas

All natural gas distributors and network operators have the obligation to report their prices on a quarterly basis through an online survey conducted by SURS. In this survey, companies report revenues from sales and quantities sold in each consumption band on an ex-tax level. They also report revenues from excise tax, environmental tax and other levies on ex-VAT level. Using this information, ex-tax prices for industry and households, excise taxes and VAT amounts are calculated by SURS as consumption weighted averages.

As a result, prices shown in this publication are considered to be representative for 100% of the consumption in each sector.

### Steam and coking coal

For industry and electricity generation, prices for steam coal are confidential.

Due to low consumption levels of coking coal and steam coal for households, prices for these series are considered as not applicable.

### Electricity

All electricity distributors and network operators have the obligation to report their prices on a monthly basis through an online survey conducted by the Ministry, pursuant to the country's Energy Act. In this survey, companies report revenues from sales and quantities sold in each consumption band on an ex-tax level. They also report revenues from excise tax and other levies on ex-VAT level. Using this information, prices for industry and households are calculated by the Ministry as consumption weighted averages.



As a result, prices shown in this publication are considered to be representative for 100% of the consumption in each sector.

## Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the Harmonised Indices of Consumer Prices (HICP) published by Eurostat.

Retail indices for oil products refer to a consumption-weighted average of the *liquid fuels* (cp0453) and *fuels and lubricants for personal transport equipment* (cp0722) series. Relative weights used for the calculations are taken from the associated item weights series (prc\_hicp\_inw), published by Eurostat.

Retail indices for electricity refer to the *electricity* (cp0451) series.

Retail indices for natural gas refer to the *gas* (cp0452) series.

Retail indices for coal refer to the *solid fuel* (cp0454) series.

## Energy taxation

### VAT

VAT (*DDV*) is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

### Excise duties (*Trošarine*)

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)	Automotive LPG (EUR/l)	Electricity households (EUR/MWh)	Electricity industry (EUR/MWh)	Natural gas households (EUR/MWh)	Natural gas industry (EUR/MWh)
01.01.10	31.01.10	15.02	62.00	0.43200	0.48951	0.07118	1.00	0.50	0.57099	0.57099
01.02.10	08.03.10	15.02	62.00	0.43200	0.48951	0.07117	1.00	0.50	0.57099	0.57099
09.03.10	17.05.10	15.02	62.00	0.41200	0.46951	0.07117	1.00	0.50	0.57099	0.57099
18.05.10	31.05.10	15.02	62.00	0.41700	0.47451	0.07117	1.00	0.50	0.57099	0.57099
01.06.10	14.06.10	15.02	85.40	0.42200	0.47951	0.07117	1.00	0.50	0.57099	0.57099
15.06.10	12.07.10	15.02	85.40	0.42700	0.48451	0.07117	1.00	0.50	0.57099	0.57099
13.07.10	26.07.10	15.02	85.40	0.43700	0.49451	0.07117	1.00	0.50	0.57099	0.57099
27.07.10	31.07.10	15.02	85.40	0.44450	0.49951	0.07117	1.00	0.50	0.57099	0.57099
01.08.10	20.09.10	15.02	85.40	0.44450	0.49951	0.07117	3.05	3.05	1.71298	1.71298
21.09.10	04.10.10	15.02	77.61	0.43708	0.49170	0.07117	3.05	3.05	1.71298	1.71298
05.10.10	18.10.10	15.02	84.28	0.44409	0.51266	0.07117	3.05	3.05	1.71298	1.71298
19.10.10	13.12.10	15.02	80.85	0.43985	0.49815	0.07117	3.05	3.05	1.71298	1.71298

From	To	%
01.05.04	30.06.13	20
01.07.13	now	22

### Excise tax

Excise taxes on commercial energy products in Slovenia are levied in accordance with the 2003 EU Energy Taxation Directive.

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Excise duties	x	x	x	x	x	x	x	x	x

### Excise duties (*Trošarine*)

Excise duties on commercial energy products are legally defined in the Excise Duty Act, which was first introduced on 1 July 1999. Excise duties are levied on the sales of oil products, natural gas, solid fuels and electricity, among other products. Rates are expressed on a volume or mass basis for oil products and natural gas, and on an energy basis for electricity and solid fuels.

Automotive diesel used for commercial transportation is subject to a partial refund on the excise duties paid at the pump.

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)	Automotive LPG (EUR/l)	Electricity households (EUR/MWh)	Electricity industry (EUR/MWh)	Natural gas households (EUR/MWh)	Natural gas industry (EUR/MWh)
14.12.10	24.01.11	15.02	70.54	0.42021	0.47801	0.07117	3.05	3.05	1.71298	1.71298
25.01.11	07.02.11	15.02	70.54	0.39447	0.45698	0.07117	3.05	3.05	1.71298	1.71298
08.02.11	21.02.11	15.02	72.48	0.39957	0.48290	0.07117	3.05	3.05	1.71298	1.71298
22.02.11	07.03.11	15.02	70.67	0.37886	0.46496	0.07117	3.05	3.05	1.71298	1.71298
08.03.11	21.03.11	15.02	70.67	0.34524	0.42985	0.07117	3.05	3.05	1.71298	1.71298
22.03.11	18.04.11	15.02	70.67	0.33043	0.42985	0.07117	3.05	3.05	1.71298	1.71298
19.04.11	16.05.11	15.02	70.67	0.33043	0.40638	0.07117	3.05	3.05	1.71298	1.71298
17.05.11	25.07.11	15.02	78.49	0.35116	0.41714	0.07117	3.05	3.05	1.71298	1.71298
26.07.11	08.08.11	15.02	70.50	0.33096	0.39764	0.07117	3.05	3.05	1.71298	1.71298
09.08.11	22.08.11	15.02	86.44	0.34624	0.41074	0.07117	3.05	3.05	1.71298	1.71298
23.08.11	05.09.11	15.02	104.54	0.37920	0.44244	0.07117	3.05	3.05	1.71298	1.71298
06.09.11	19.09.11	15.02	87.49	0.36437	0.42089	0.07117	3.05	3.05	1.71298	1.71298
20.09.11	03.10.11	15.02	72.53	0.34443	0.41479	0.07117	3.05	3.05	1.71298	1.71298
04.10.11	02.11.11	15.02	93.51	0.36979	0.45953	0.07117	3.05	3.05	1.71298	1.71298
24.10.11	02.11.11	15.02	93.51	0.36979	0.45953	0.07118	3.05	3.05	1.71298	1.71298
03.11.11	14.11.11	15.02	75.82	0.35349	0.46246	0.07118	3.05	3.05	1.71298	1.71298
15.11.11	28.11.11	15.02	70.73	0.34528	0.47573	0.07118	3.05	3.05	1.71298	1.71298
29.11.11	12.12.11	15.02	55.56	0.33998	0.49067	0.07118	3.05	3.05	1.71298	1.71298
13.12.11	27.12.11	15.02	67.32	0.35212	0.49067	0.07118	3.05	3.05	1.71298	1.71298
28.12.11	09.01.12	15.02	81.02	0.36221	0.49067	0.07118	3.05	3.05	1.71298	1.71298
10.01.12	28.05.12	15.02	70.49	0.36221	0.49067	0.07124	3.05	3.05	1.71298	1.71298
29.05.12	11.06.12	15.02	80.86	0.37097	0.49698	0.07124	3.05	3.05	1.71298	1.71298
12.06.12	17.09.12	15.02	90.05	0.38169	0.50242	0.07124	3.05	3.05	1.71298	1.71298
18.09.12	01.10.12	15.02	97.40	0.38597	0.51522	0.07124	3.05	3.05	1.71298	1.71298
02.10.12	10.12.12	15.02	105.00	0.40226	0.54167	0.07124	3.05	3.05	1.71298	1.71298
11.12.12	24.12.12	15.02	105.00	0.40923	0.54594	0.07124	3.05	3.05	1.71298	1.71298
25.12.12	18.02.13	15.02	105.00	0.41640	0.54594	0.07124	3.05	3.05	1.71298	1.71298
14.01.13	18.02.13	15.02	105.00	0.41640	0.54594	0.07131	3.05	3.05	1.71298	1.71298
19.02.13	02.04.13	15.02	86.85	0.39987	0.52737	0.07131	3.05	3.05	1.71298	1.71298
03.04.13	15.04.13	15.02	92.29	0.41095	0.52737	0.07131	3.05	3.05	1.71298	1.71298
16.04.13	27.05.13	15.02	96.74	0.41760	0.54496	0.07131	3.05	3.05	1.71298	1.71298
28.05.13	22.07.13	15.02	88.72	0.40888	0.53139	0.07131	3.05	3.05	1.71298	1.71298
23.07.13	05.08.13	15.02	77.52	0.39548	0.51161	0.07131	3.05	3.05	1.71298	1.71298
06.08.13	02.09.13	15.02	86.16	0.40409	0.52133	0.07131	3.05	3.05	1.71298	1.71298
03.09.13	11.11.13	15.02	81.60	0.39930	0.51416	0.07131	3.05	3.05	1.71298	1.71298
12.11.13	19.01.14	15.02	86.91	0.40488	0.51416	0.07131	3.05	3.05	1.71298	1.71298

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)	Automotive LPG (EUR/l)	Electricity households (EUR/MWh)	Electricity industry (EUR/MWh)	Natural gas households (EUR/MWh)	Natural gas industry (EUR/MWh)
20.01.14	05.02.14	15.02	86.91	0.40488	0.51416	0.07134	3.05	3.05	1.71298	1.71298
06.02.14	17.03.14	15.02	86.91	0.37507	0.51416	0.07134	3.05	3.05	1.71298	1.71298
18.03.14	14.04.14	15.02	102.65	0.40512	0.51416	0.07134	3.05	3.05	1.71298	1.71298
15.04.14	23.06.14	15.02	104.89	0.42277	0.52452	0.07277	3.05	3.05	1.75105	1.75105
24.06.14	07.07.14	15.02	95.65	0.41292	0.51495	0.07277	3.05	3.05	1.75105	1.75105
08.07.14	29.09.14	15.02	95.65	0.40990	0.50411	0.07277	3.05	3.05	1.75105	1.75105
30.09.14	13.10.14	15.02	108.39	0.42059	0.51405	0.07277	3.05	3.05	1.75105	1.75105
14.10.14	27.10.14	15.02	119.39	0.42845	0.52163	0.07277	3.05	3.05	1.75105	1.75105
28.10.14	22.12.14	15.02	142.37	0.45037	0.55339	0.07277	3.05	3.05	1.75105	1.75105
23.12.14	05.01.15	15.02	142.37	0.46010	0.56385	0.07277	3.05	3.05	1.75105	1.75105
06.01.15	16.02.15	15.02	142.37	0.44971	0.55425	0.07277	3.05	3.05	1.75105	1.75105
26.01.15	16.02.15	15.02	142.37	0.44971	0.55425	0.07282	3.05	3.05	1.75105	1.75105
17.02.15	02.03.15	15.02	124.63	0.43442	0.53806	0.07282	3.05	3.05	1.75105	1.75105
03.03.15	16.03.15	15.02	105.80	0.40998	0.51520	0.07282	3.05	3.05	1.75105	1.75105
17.03.15	08.06.15	15.02	105.80	0.40998	0.50310	0.07282	3.05	3.05	1.75105	1.75105
09.06.15	22.06.15	15.02	105.80	0.40998	0.49348	0.07282	3.05	3.05	1.75105	1.75105
23.06.15	03.08.15	15.02	105.80	0.40998	0.48606	0.07282	3.05	3.05	1.75105	1.75105
04.08.15	31.08.15	15.02	114.64	0.41746	0.50378	0.07282	3.05	3.05	1.75105	1.75105
01.09.15	28.09.15	15.02	138.67	0.41746	0.50378	0.07282	3.05	3.05	1.75105	1.75105
29.09.15	26.10.15	15.02	152.15	0.41746	0.50378	0.07282	3.05	3.05	1.75105	1.75105
27.10.15	01.02.16	15.02	157.50	0.41746	0.50378	0.07282	3.05	3.05	1.75105	1.75105
02.02.16	31.07.16	15.02	157.50	0.42605	0.50780	0.07282	3.05	3.05	1.75105	1.75105
01.10.16	08.01.17	15.02	157.50	0.42605	0.50780	0.07282	3.05	*	1.75105	1.75105
01.01.17	08.01.17	15.02	157.50	0.42605	0.50780	0.07282	3.05	*	1.7100	1.7100
09.01.17	21.05.18	15.02	157.50	0.42605	0.50780	0.07281	3.05	*	1.7100	1.7100
22.05.18	now	15.02	157.50	0.39272	0.47829	0.07281	3.05	*	1.7100	1.7100

\*Electricity – industry: For consumers with annual consumption above 10 000 MWh the excise duty from 1.10.2016 is reduced to 1.80 EUR/MWh.

**Other indirect taxes** (*Ostale dajatve*)

Valid for 2018	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline (EUR/l)	Automotive LPG (EUR/l)	Electricity- households (EUR/MWh)	Electricity- industry (EUR/MWh)	Natural gas- households (EUR/MWh)	Natural gas- industry (EUR/MWh)
Environmental CO <sub>2</sub> tax	55.36	46.71	0.04671	0.03979	0.02865	n/a	n/a	3.14514	*
Compensation for Commodity Reserves	11.66	11.66	0.01166	0.01222	n/a	n/a	n/a	n/a	n/a
Contribution for RES and CHP	10.92	9.90	0.00990	0.00911	0.00724	0.73896**	***	0.99045	*
Contribution for energy efficiency	8.82	8.00	0.00800	0.00736	0.00584	0.80	0.80	0.72040	*
Contribution for electricity market operator	n/a	n/a	n/a	n/a	n/a	0.13	0.13	n/a	n/a

n/a – not applicable

\* Natural gas – industry: Tariff for indirect taxes (environmental CO<sub>2</sub> tax, contribution for RES and CHP, contribution for energy efficiency) depending on the consumer group.

\*\* Contribution for RES and CHP for electricity for households: Tariff unit is indicated in EUR/kW/month

\*\*\* Contribution for RES and CHP for electricity for industry: Tariff depending on the electricity voltage level and the consumer group

**Product specifications****Oil products**

	Low sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (98 RON) gasoline	Premium unleaded (95 RON) gasoline
Quality		Heating gasoil	Automotive gasoil	Euro Super 98	Euro Super 95
Density (kg/l)			0.87	0.74	0.74
Sulphur content (%)	<1				
NCV (kcal/kg)			10 175	10 473	10 473

## SPAIN

### Sources

Prices and taxes data for oil products are derived from weekly data published in the **European Commission's** *Weekly Oil Bulletin*.

Prices and taxes data for natural gas and electricity are provided on a quarterly basis by the **Ministry for the Ecological Transition (the Ministry)**.

Retail energy price indices are based on data published by **Eurostat**.

### Data collection methodology

From 1Q1993 onwards, prices refer to average of the weekly prices. From 1Q1986 to 4Q1992, prices refer to the second month of each quarter. Prior to 1Q1986, prices refer to the first month of each quarter.

### Oil products

Oil product prices are derived from the European Commission's *Weekly Oil Bulletin*, which reports weekly ex-tax and total prices. Quarterly and annual figures are calculated as arithmetical averages of the weekly data.

Quarterly and annual figures are calculated as arithmetical averages of the weekly data. Total taxes are calculated by subtracting of the ex-tax prices from the end-use prices. Excise taxes for non-commercial users are calculated by subtracting VAT from the total taxes. For commercial users, excise taxes are equal to total taxes, as they are exempt from VAT.

Excise tax rates include both national and regional tax components (until 1 January 2019, when regional tax components were eliminated). Excise tax rates for automotive diesel do not consider the partial refunds granted to the professional transportation sector.

### Natural gas

For industry and households, ex-tax prices are computed as consumption-weighted averages of the average prices reported by all natural gas distributors to the Ministry. Suppliers have the obligation to report data to the Ministry. Prices shown cover at least 95% of total consumption in Spain. Total prices are calculated by adding the applicable tax components to the ex-tax prices.

For industry, prices refer to an annual consumption between 30 and 100 GWh (at a pressure between 4 and 60 bar).

For households, prices refer to an annual consumption between 5 000 and 50 000 kWh (at a pressure below 4 bar).

### Electricity

For industry and households, annual electricity prices from 1979 to 2007 were provided by the relevant Ministry, known under different names during this period.

From 1Q2008 onwards, prices refer to the Eurostat consumption bands DA, DB, DC, DD and DE for households; and bands IA, IB, IC, ID, IE and IF, for industry, covering the whole consumption spectrum for households.

National average prices are computed by the Ministry as consumption-weighted averages of the average prices per band published by Eurostat. The weights used for this calculation are bi-annual consumption figures per band collected through surveys.

Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

Excise taxes are calculated as the subtraction of the prices excluding taxes from the prices including non-VAT taxes, as published by Eurostat.

### Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the Harmonised Indices of Consumer Prices (HICP) published by Eurostat.

Retail indices for oil products refer to a consumption-weighted average of the *liquid fuels* (cp0453) and *fuels and lubricants for personal transport equipment* (cp0722) series. Relative weights used for the calculations are taken from the associated item weights series (pre\_hicp\_inw), published by Eurostat.

Retail indices for electricity refer to the *electricity* (cp0451) series.

Retail indices for natural gas refer to the *gas* (cp0452) series.

### Energy taxation

#### VAT

VAT (*IVA*) applies to all energy products. The VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industry, electricity generation and automotive fuels for commercial use.

From	To	%
01.01.86	31.12.91	12
01.01.92	31.07.92	13
01.08.92	31.12.94	15
01.01.95	30.06.10	16
01.07.10	31.08.12	18
01.09.12	now	21

## Excise tax

The legal framework for excise taxation on energy in place in Spain is consistent with the 2003 EU Energy Taxation Directive.

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
IEH	x	x	x	x	x	x			
IEC							x		
IEE									x

### Special tax on hydrocarbons

(*Impuesto especial sobre hidrocarburos - IEH*)

The Special tax on hydrocarbons (IEH) consists of a series of indirect taxes set out in the Special Taxes Law (38/1992) and applies to oil products and natural gas. The IEH was introduced on 1 January 1993 as a national component and expanded in 2002 to include regional components. However, regional components have been abolished since 1 January 2019. Law establishes distinct tax rates for transportation and heating.

The national component applies to oil product and natural gas sales in the country, with the exception of the Canary Islands and the autonomous cities of Ceuta and Melilla which have separate tax regimes. This component

distinguishes between general uses and special uses, the sum of which is the applicable rate for most uses.

The professional transportation sector receives partial refunds on both national and regional tax components for diesel (Art. 52 bis). Fuels used for electricity generation are tax-free.

The rates are expressed on a volume basis for oil products and natural gas, with the exception of heavy fuel oil, for which rates are expressed on a mass basis. The tax rates shown in the table at the end of this section refer to the national component only and are the sum of the special and the general components.

### Special tax on coal

(*Impuesto especial sobre el carbón - IEC*)

An excise tax on coal consumption has been in place in Spain since 20 November 2005, through an amendment to the Special Taxes Law (Art. 75 through 88).

Residential use, as well as industrial use for chemical reductions, electrolytic and metallurgical processes, is exempt from this tax. Coking coal is therefore tax-free in Spain.

Tax rates are expressed on an energy content basis (GJ). Since 20 November 2015, the applicable tax rate for coal consumption in the industrial sector has been 0.15 EUR/GJ.

### Special tax on electricity

(*Impuesto especial sobre la electricidad - IEE*)

The Special tax on electricity (IEE), an *ad-valorem* tax, has been in place since 1 January 1998. In contrast with other taxes detailed in the Special Taxes Law, the special tax on electricity applies in the whole country, including the Canary Islands, Ceuta and Melilla. The IEE rate is set at 5.1127% (Art 99.1).

Additionally, the law sets a minimum rate of 0.5 EUR/MWh and 1 EUR/MWh for industrial and residential use, respectively, to be applied if the total tax calculated as a percentage of the price, was lower.

### Special tax on hydrocarbons (*Impuesto especial sobre hidrocarburos - IEH*)

From	To	Heavy fuel oil (EUR/tonne)	Light fuel oil (EUR/1000l)	Automotive diesel (EUR/l)	Gasoline 95 RON (EUR/l)	Automotive LPG (EUR/l)	Natural Gas households (EUR/MWh)	Natural Gas industry (EUR/MWh)
03.10.99	31.12.02	13.43	144.5	0.270	0.372	0.0322	0	0
01.01.03	17.01.07	13.43	78.71	0.270	0.372	0.0322	0	0
18.01.07	12.06.09	14	78.71	0.278	0.372	0.0322	0	0
13.06.09	31.12.12	14	78.71	0.307	0.401	0.0322	0	0
01.01.13	31.12.18	15	78.71	0.331	0.424	0.0322	2.34	0.54
01.01.19	now	17	96.71	0.379	0.473	0.0342	2.34	0.54

**Special tax on coal** (*Impuesto especial sobre el carbón - IEC*)

From	To	Coal (EUR/GJ)
20.11.05	now	0.15

**Special tax on electricity** (*Impuesto especial sobre la electricidad - IEE*)

From	To	Electricity %
01.01.98	now	5.1127

## Product specifications

**Oil products**

	High sulphur fuel oil	Low sulphur fuel oil	Light fuel oil	Automotive diesel
Quality	Fuel oil no. 2		Gasoleo C	Gasoleo A
Density (kg/l)			0.855	0.87
Sulphur content (%)	<3.5	<1		
NCV (kcal/kg)	9 400			10 175

**Natural gas and coal**

	Natural gas	Steam coal <i>industry</i>
Quality		Standard coal PA
Ash content (%)		6
Moisture content (%)		14
Sulphur content (%)		0.8
GCV (kcal/m <sup>3</sup> )	10 204	

## SWEDEN

### Sources

Prices and taxes for road fuels and light fuel oil, as well as all energy price indices except for natural gas, are provided on a quarterly basis by **Statistics Sweden**.

Prices and taxes data for low sulphur fuel oil are derived from weekly data published in the **European Commission's Weekly Oil Bulletin**.

Prices and taxes data for natural gas and electricity, as well as energy price indices for natural gas, are derived from data extracted from the **Eurostat** website.

### Data collection methodology

From 1Q1994 onwards, quarterly prices refer to quarterly averages. From 1Q1984 to 4Q1993 prices refer to the second month of each quarter. Prior to 1Q1984, prices refer to the first month of each quarter.

### Oil products

For automotive diesel, unleaded premium (95 and 98 RON) gasoline and light fuel oil, prices are derived from a survey of companies that report ex-tax prices, prices including energy taxes and sales volumes.

Average prices are then calculated as volume-weighted averages of the reported prices.

For low sulphur fuel oil, prices are derived from the European Commission's *Weekly Oil Bulletin*, which reports weekly ex-tax and total prices. Quarterly and annual figures are calculated as arithmetical averages of the weekly data. Total taxes are calculated by subtracting the ex-tax prices from the end-use prices. Excise taxes are equal to total taxes, as industry does not pay VAT.

### Natural gas

Prices refer to the Eurostat consumption band D2 for households (annual consumption: 20 - 200 GJ) and I4 for industry (annual consumption: 100 000 - 1 000 000 GJ). Eurostat data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q.

### Coal

Coal prices for industry are confidential from 2013 onwards.

### Electricity

From 1Q2007 onwards, prices refer to the Eurostat consumption band DD for households (annual consumption: 5 000 – 15 000 kWh) and ID for industry (annual consumption: 2 000 – 20 000 MWh). Data are bi-annual, therefore, prices for 1Q and 2Q are the same, as are those for 3Q and 4Q. No information is available from 1998 to 2006.

Prior to 1998, prices refer to annual average ex-tax revenues per MWh of all public utilities from total deliveries to manufacturing industry, mining, and quarrying (industry), and from low-voltage deliveries to households and commerce (households).

### Energy price indices

Annual indices are 12-month averages. Quarterly indices refer to the 3-month average.

The wholesale index for oil products refers to the Producer Price Index for petroleum products (domestic supply). The retail index refers to a consumption-weighted average of the consumer price indices for gasoline and heating oil (light fuel oil).

The retail price index for natural gas refers to the Eurostat Harmonised Index of Consumer Prices for gas (cp0452).

### Energy taxation

#### VAT

VAT (*Moms*) applies to all energy products. VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

From	To	%
01.03.90	30.06.90	23.46
01.07.90	now	25.00

#### Excise tax

Excise taxation on energy consists of three different tax components, based on the energy, CO<sub>2</sub> and sulphur contents of each product, as established by the Energy Tax Act (1994:1776), which came into force on 1 January 1995.

The legal framework is consistent with the 2003 EU Energy Taxation Directive.



**Tax applicability table (not exhaustive)**

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Energy tax	x	x	x	x	x	x	x	x	x
CO <sub>2</sub> tax	x	x	x	x	x	x	x	x	
Sulphur tax	x	x	x	x	x		x	x	

**Energy tax (*Energiskatt*)**

The Energy tax is paid on transportation fuels, fuel oil, natural gas, steaming and coking coal, electricity and certain liquid biofuels.

Compressed natural gas (CNG) for transportation is exempt.

Electricity used in manufacturing processes and greenhouses is taxed at a reduced rate. Electricity used for chemical reductions and electrolytic processes is tax-free.

Certain northern municipalities are subject to a reduced energy tax rate on electricity to compensate for increased electricity needs. All municipalities in Jämtland, Norrbotten, Västerbotten counties, as well as certain municipalities in Dalarna, Gävleborg, Värmland and Västernorrland counties, benefit from reduced rates. The

tax rates shown for electricity at the end of this section refer to the general rates applicable in all other regions.

Liquid fuels containing a fraction of biofuels are taxed at a lower rate. Since 1 July 2018, the tax reduction on the biofuel fraction in gasoline and automotive diesel was removed.

**CO<sub>2</sub> tax (*Koldioxidskatt*)**

The CO<sub>2</sub> tax applies to all energy products except electricity.

The CO<sub>2</sub> tax is paid per emission of one kilo of carbon dioxide on all fuels except biomass and peat. Industrial users who are a part of the European Trading System (ETS) for CO<sub>2</sub> emissions are exempt.

**Sulphur tax (*Svavelskatt*)**

An additional tax component, proportional to a fuel's sulphur content, is levied on oil products and solid fuels, with differentiated rates.

For oil products, a flat rate of 27 SEK per 0.1% of sulphur content (in mass, rounded upwards), has been in place since 1 January 1991. From this date until 31 December 2001, oil products with less than 0.1% sulphur, were exempt. The threshold was lowered to 0.05% on 1 January 2002.

Solid fuels are taxed at a flat rate of 30 SEK per kilogramme of sulphur in a tonne of fuel.

**Energy tax (*Energiskatt*)**

From	To	Automotive diesel (SEK/l)	Gasoline (SEK/l)	Natural gas (SEK/Mm <sup>3</sup> )	Coal (SEK/tonne)	Electricity (SEK/MWh)
01.01.00	31.12.00	1.864		241	316	162
01.01.01	31.12.01	1.512	3.26	223	293	181
01.01.02	31.12.02	1.323	3.16	229	301	198
01.01.03	31.12.03	1.004	2.94	233	307	227
01.01.04	31.12.04	0.733	2.68	237	312	241
01.01.05	31.12.05	1.036	2.84	238	313	254
01.01.06	31.12.06	1.042	2.86	239	315	261
01.01.07	31.12.07	1.057	2.90	243	319	265
01.01.08	31.12.08	1.277	2.95	247	325	270
01.01.09	31.12.09	1.332	3.08	258	339	282
01.01.10	31.12.10	1.322	3.06	256	336	280
01.01.11	31.12.11	1.524	3.06	880	605	283
01.01.12	31.12.12	1.566	3.14	904	622	290
01.01.13	31.12.13	1.762	3.13	903	621	293
01.01.14	31.12.14	1.759	3.13	902	620	293
01.01.15	31.12.15	1.833	3.25	939	646	294
01.01.16	31.12.16	2.355	3.72	935	643	292
01.01.17	31.12.17	2.490	3.88	945	650	295
01.01.18	30.06.18	2.648	4.08	961	661	331
01.07.18	31.12.18	2.341	3.87	961	661	331
01.01.19	now	2.480	4.08	981	675	347

**CO<sub>2</sub> tax** (*Koldioxidskatt*)

From	To	Automotive diesel (SEK/l)	Gasoline (SEK/l)	Natural gas (SEK/Mm <sup>3</sup> )	Coal (SEK/tonne)
01.01.00	31.12.00	1.058	0.86	792	920
01.01.01	31.12.01	1.527	1.24	1144	1329
01.01.02	31.12.02	1.798	1.46	1346	1564
01.01.03	31.12.03	2.174	1.77	1628	1892
01.01.04	31.12.04	2.598	2.11	1946	2260
01.01.05	31.12.05	2.609	2.12	1954	2270
01.01.06	31.12.06	2.623	2.13	1965	2282
01.01.07	31.12.07	2.663	2.16	1994	2317
01.01.08	31.12.08	2.883	2.34	2159	2509
01.01.09	31.12.09	3.007	2.44	2252	2617
01.01.10	31.12.10	3.013	2.44	2256	2622
01.01.11	31.12.11	3.017	2.44	2259	2625
01.01.12	31.12.12	3.100	2.51	2321	2697
01.01.13	31.12.13	3.093	2.50	2316	2691
01.01.14	31.12.14	3.088	2.50	2313	2687
01.01.15	31.12.15	3.218	2.60	2409	2800
01.01.16	31.12.16	3.204	2.59	2399	2788
01.01.17	31.12.18	3.237	2.62	2424	2817
01.01.18	30.06.18	3.292	2.66	2645	2865
01.07.18	31.12.18	2.191	2.57	2465	2865
01.01.19	now	2.236	2.62	2516	2924

**Product specifications**

	Low sulphur fuel oil	Light fuel oil	Premium unleaded (98 RON) gasoline	Premium unleaded (95 RON) gasoline
Quality	No. 5 heavy Fuel Oil	Eldningsolja 1	Bensin 98 oktan, blyfri	Bensin 95 oktan, blyfri
Density (kg/l)	0.94	0.845		
Sulphur content (%)	<0.3	<0.2		

## SWITZERLAND

### Sources

Data for all products, as well as energy price indices, are provided on a quarterly basis by the **Swiss Federal Office of Energy (SFOE)**.

### Data collection methodology

Prior to 1Q1983 and from 1Q1993 onwards, prices refer to the averages of the monthly prices. From 1Q1986 up to 4Q1992, prices refer to the second month of each quarter. From 1Q1983 to 4Q1985, prices refer to the first month of the quarter.

### Oil products

Ex-tax prices include a mandatory contribution to finance Switzerland's oil emergency reserves, collected by Carbura, a private corporation operating under statutes approved by the Swiss government.

For low sulphur fuel oil, prices from 1Q2015 onwards are not available, as consumption has been negligible during this period. Prices from January 1993 onwards refer to the final "at-the-door" prices in Zürich, including all expenses. Until December 1992, prices refer to the national average. Prices for light fuel oil are average wholesale prices from 1Q1994 onwards. Prior to 1Q1994, prices for industry refer to the national average prices for all lots larger than 20 000 l/year. For households, reported data are average prices for representative lots of 3 000-6 000 l.

For light fuel oil, automotive diesel and unleaded premium (95 and 98 RON) gasoline, ex-tax prices are collected by the Swiss Federal Statistical Office (FSO) through monthly surveys to the only refinery in Switzerland and a sample of the most important fuel importers. Respondents report the prices charged to final consumers, excluding VAT and excise taxes. End-use prices are subsequently calculated by adding the applicable tax components to the ex-tax prices.

### Natural gas

For industry and households, ex-tax prices include a mandatory contribution for natural gas security collected by Provisiogas, a private corporation operating under statutes approved by the Swiss government.

Ex-tax prices are collected by the FSO through a survey of the most important natural gas distribution companies. Respondents report the price charged to end-consumers

excluding the VAT, but including other taxes. End-use prices are then calculated by adding the applicable tax components to the ex-tax prices.

For industry, prices refer to consumer category VIII, with an annual consumption of 11.63 GWh (maximum load 6 000 kW), based on interruptible contracts. Prices are based on information submitted by the FSO to the SFOE. For larger consumers with annual consumption above 250 GWh, prices are about 40% lower than those for the consumer category VIII.

For households, prices refer to consumer category II, with an annual consumption of 20 MWh and apply to space heating (gas boilers with a maximum load of 15 kW), as well as water heating and cooking. Prices are based on information submitted by the FSO to the SFOE. Prices for consumer category I, referring to "cooking only" (annual consumption of approximately 1 MWh) are 3.5 times higher. Since December 2005, the FSO no longer submits prices for this consumer category.

### Steam and coking coal

For steam coal for households and electricity generation, as well as for coking coal for industry, prices are considered as not applicable due to low consumption levels.

For steam coal for industry, ex-tax prices are collected by the FSO on a monthly basis. Data refer to prices at the Swiss border. End-use prices are then calculated by adding the applicable tax components to the ex-tax prices.

The CO<sub>2</sub> tax on fossil fuels, applicable to coal consumption, is not shown in the excise tax column as most coal-consuming industries are exempt from this levy.

### Electricity

For industry and households, ex-tax prices are collected by the FSO through a survey of the most important electricity distribution companies. Respondents report the price charged to end-consumers excluding VAT, but not other taxes. End-use prices are then calculated by adding the applicable tax components to the ex-tax prices. Electricity prices are adjusted once or twice a year.

For industry, prices from 2000 onwards refer to an annual consumption of 10 000 - 20 000 MWh. Electricity prices are based on Elcom surveys. FSO carries out a special annual survey in February for customers with electricity demand above 3 GWh per year. Tariffs for larger consumers (with an annual consumption over 20 GWh), are at least 0.01 CHF/kWh lower than the prices shown in the tables.

Average annual prices for the previous year are collected each February. Therefore, prices for the most recent year

are provisional. Prior to 1998, tariffs refer to annual consumption of 15 000 MWh, maximum load 5 000 kWh.

For households, prices refer to an annual consumption of 4.5 MWh.

## Energy price indices

From 1Q1993 onwards, quarterly indices refer to the 3-month average of the quarter. From 1Q1986 to 4Q1992, indices refer to the second month of the quarter. Prior to 1Q1986, indices refer to the first month of each quarter.

From 1986 onwards, annual indices are quarterly averages. Previously they were 12-month averages.

Indices are calculated based on the monthly Producer and Consumer Price Indices produced by the FSO, which are then sent to the SFOE. The FSO's wholesale price index is based on producer and import prices. The survey methodology can be found at:

<https://www.bfs.admin.ch/bfs/en/home/statistics/prices/producer-prices-import-prices.assetdetail.1600828.html>

Wholesale and retail indices for oil products are a weighted-average of heating oil, gasoline and diesel. Wholesale indices refer to *mineral oil products* (Series ID 19). Retail indices refer to *petroleum products* (Series ID 112\_101).

Wholesale indices for electricity refer to *electricity for businesses, industry and services* (Series ID 35.10.2.). Retail indices refer to *electricity for households* (Series ID 35.10.1).

Wholesale indices for natural gas refer to *natural gas for businesses, industry and services* (Series ID 35.20.2.). Retail indices refer to *natural gas for households* (Series ID 35.20.1).

Wholesale indices for coal refer to *coal* (Series ID 05).

## Energy taxation

### VAT

VAT (*TVA/MwSt/IVA*) is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.

From	To	%
01.01.95	31.12.98	6.5
01.01.99	31.12.00	7.5
01.01.01	31.12.10	7.6
01.01.11	31.12.17	8.0
01.01.18	now	7.7

### Excise tax

The excise tax columns in Tables 1, 2 and 3 is the sum of all non-VAT tax components applicable to each product.

#### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Mineral oil tax	x	x	x	x	x	x			
CO <sub>2</sub> tax on fossil fuels	x	x				x	x	x	
Compensation for CO <sub>2</sub> emissions on motor fuel oils			x	x					
Electricity network surcharge									x

#### Mineral oil tax (*Impôt sur les huiles minérales/ Mineralölsteuer/ Imposta sugli oli minerali*)

The Mineral oil tax is legally defined in the Mineral Oil Tax Law of 21 June 1996, as amended, which came into force on 1 January 1997. It currently applies to heavy and light fuel oil, automotive diesel, gasoline, LPG and natural gas used as transportation fuel.

The mineral oil tax is an indirect consumption tax levied on the final sales. The applicable tax rate depends on products and uses. Exemptions and partial reimbursements are available for certain commercial activities, such as agriculture and fishing, under certain conditions.

Automotive diesel and gasoline are subject to an additional surcharge of 0.3 CHF/L, which is included in the rates shown in the table at the end of this section.

#### CO<sub>2</sub> tax on fossil fuels (*Taxe sur le CO<sub>2</sub> sur les combustibles fossiles / CO<sub>2</sub>-Abgabe auf fossilen Brennstoffen / Tassa sul CO<sub>2</sub> sui combustibili fossili*)

A tax on CO<sub>2</sub> emissions is levied on heating oil, natural gas used as a stationary heating fuel, coal and other fossil fuels used for heating purposes, process heat and electricity generation. In its current form, the CO<sub>2</sub> tax on fossil fuels is legally defined in the CO<sub>2</sub> Emissions Reduction Ordinance (Chapter 8), which came in force on 1 January 2013.

The initial level of the previous tax was 12 CHF per tonne of CO<sub>2</sub> emissions and was raised, on 1 January 2010, to 36 CHF. On 1 January 2014, it was raised to 60 CHF per tonne, to 84 CHF per tonne on 1 January 2016 and to 96 CHF per tonne on 1 January 2018.

This tax was introduced purely as an incentive, but from 2010 onwards one third of the annual yield (but no more

than 300 million CHF) is earmarked to fund CO<sub>2</sub>-effective measures in buildings (renovations, heating with renewable energies). With the Energy Strategy 2050 (Energy Law as of 1 January 2018), the ear-marking for the building programme has been raised from 300 to 450 million CHF. The rest is reimbursed to households (reduced health care premiums) and to companies (reduced old-age pension contributions).

Large industrial customers are exempted from the CO<sub>2</sub> tax by the Federal Government, provided they commit to limit their emissions of greenhouse gases. Companies in the Swiss emission trading system (ETS) are also exempted from the CO<sub>2</sub> tax.

**Compensation for CO<sub>2</sub> emissions on motor fuel oil** (*Compensation des émissions de CO<sub>2</sub> des carburants / Kompensation der CO<sub>2</sub>-Emissionen von Treibstoffen / Compensazione delle emissioni di CO<sub>2</sub> dall'impiego dei carburanti*)

From 1 October 2005 to 31 August 2012, a surcharge of 0.015 CHF/l was levied on gasoline and diesel by the Climate Cent Foundation of the Swiss Oil Association. This surcharge was not considered a tax according to OECD definitions, as it was levied by a private body on a non-governmental basis. The revenues from this surcharge served for domestic and foreign emission-mitigating projects as well as to purchase international CO<sub>2</sub> emissions certificates.

The entry into force of the CO<sub>2</sub> Emissions Reduction Ordinance on 1 January 2013 replaced this levy with an obligation for fuel providers to compensate for a part of their CO<sub>2</sub> emissions.

Starting 2014, importers of motor fuel oil must take measures within the framework of the Swiss CO<sub>2</sub> law in order to compensate for the part of CO<sub>2</sub> emissions caused by road transportation. For this purpose, the Swiss Oil Association has established the Foundation for Climate Protection and Carbon Offset.

For 2014 and 2015, the percentage of compensation has been fixed at 2% and it will be increased gradually until it reaches 10% in 2020. The resulting tax surcharge levied on fuels may not exceed 0.05 CHF/l.

This surcharge was estimated, by the reporting agency, at 0.015 CHF/l in 2014, and 0.018 to 0.019 CHF/l since 2015 up to now.

### Renewable electricity production support levy

The Renewable electricity production support levy or network surcharge has been levied since 1 January 2009.

Electricity produced from small-scale hydropower, photo-voltaic, wind, geothermic, biomass and waste from biomass can be fed into the electricity network at a cost-covering remuneration. To finance the difference between the latter and market price, a tax (network surcharge) is levied since 1 January 2009 on electricity. With the Energy Strategy 2050, the cost covering feed-in-tariff has been changed to a market premium and will be phased out after 2022.

The amount of this tax is set each year by the Swiss Federal Office of Energy. With the Energy Strategy 2050, this tax was raised from 1.5 cents/kWh to 2.3 cents/kWh as of 1 January 2018, in line with the maximum set by the law.

### Mineral oil tax (*Impôt sur les huiles minérales / Mineralölsteuer / Imposta sugli oli minerali*)

From	To	Heavy fuel oil (CHF/tonne)	Light fuel oil (CHF/1000l)	Automotive diesel (CHF/l)	Gasoline (CHF/l)	Automotive LPG (CHF/l)	Natural gas for transport (CHF/l)
01.07.95	31.12.96	3.70	3.05	0.754	0.715	n.a.	0.6734
01.01.97	31.12.97	3.60	3.00	0.759	0.719	n.a.	0.6734
01.01.98	31.12.99	3.60	3.00	0.759	0.727	n.a.	0.6734
01.01.00	30.06.08	3.60	3.00	0.759	0.731	n.a.	0.6734
01.07.08	30.09.10	3.60	3.00	0.759	0.731	n.a.	0.1849
01.10.10	now	3.60	3.00	0.759	0.731	n.a.	0.1849

### CO<sub>2</sub> tax on fossil fuels

(*Taxe sur le CO<sub>2</sub> sur les combustibles fossiles / CO<sub>2</sub>-Abgabe auf fossilen Brennstoffen / Tassa sul CO<sub>2</sub> sui combustibili fossili*)

From	To	Heavy fuel oil (CHF/tonne)	Light fuel oil (CHF/1000l)	Natural gas for heating (CHF/MWh)	Coal (CHF/tonne)
01.01.13	31.12.13	114.20	95.50	6.48	95.00
01.01.14	31.12.14	190.20	159.0	10.93	158.0
01.01.15	31.12.15	190.20	159.0	10.93	158.0
01.01.16	31.12.17	266.00	222.6	15.17	221.9
01.01.18	now	304.00	259.3	17.75	253.7

**Compensation for CO<sub>2</sub> emissions on motor fuel oil**

(*Rétribution des émissions de CO<sub>2</sub> des carburants / Kompensation der CO<sub>2</sub>-Emissionen von Treibstoffen / Compensazione delle emissioni di CO<sub>2</sub> dall'impiego dei carburanti*)

From	To	Automotive diesel (CHF/l)	Gasoline (CHF/l)
01.01.14	31.12.14	0.015	0.015
01.01.15	now	0.019	0.019

**Renewable electricity production support levy**

(*Rétribution à prix coûtant – RPC / Kostendeckende Einspeisevergütung – KEV / Rimunerazione a copertura dei costi per l'immissione in rete di energia elettrica – RIC*)

From	To	Electricity (CHF/MWh)
01.01.09	31.12.13	4.50
01.01.14	31.12.14	6.00
01.01.15	31.12.15	11.0
01.01.16	31.12.17	13.0
01.01.17	31.12.17	15.0
01.01.18	now	23.0

## Product specifications

**Oil products**

	Low sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (98 RON) gasoline	Premium unleaded (95 RON) gasoline
Quality		Heizöl extraleicht	Dieselöl, Schwefelgehalt bis 0.001%	Autobenzin mindestens 98 ROZ	Autobenzin mindestens 95 ROZ
Density (kg/l)		0.845	0.835	0.744	0.744
Sulphur content (%)	1	<0.2	0.001		
Lead content (g/l)				0.005	0.005

**Natural gas and coal**

	Natural gas	Steam coal industry
Quality		Finekohle
Grain size (mm)		0 – 50
NCV (kcal/kg)		6 000
GCV (kcal/m <sup>3</sup> )	9 560	

## TURKEY

### Sources

Prices and taxes data for all products, as well as wholesale energy price indices, are provided on a quarterly basis by the **Ministry of Energy and Natural Resources**.

Retail energy price indices are based on data published by **Eurostat**.

### Data collection methodology

From 1Q1988 onwards, prices refer to the monthly averages of the quarter. Prior to 1Q1988, prices refer to the second month of the quarter.

### Oil products

Prices for all oil products are calculated by the reporting institution based on data from the Energy Market Regulatory Authority (EMRA). Data refer to prices in Ankara.

Filling stations report changes in end-use prices for oil products to EMRA through an internet portal. Ex-tax prices are calculated by subtracting the applicable tax components from the end-use prices.

Due to its central location in the country, prices in Ankara are considered to be similar to prices found in other cities and therefore representative for the whole country.

### Natural gas

Prices for natural gas are calculated by the reporting institution based on data from the Directorate General of Petroleum Pipeline Corporation.

For industry and electricity generation, prices include all the relevant consumption bands and refer to the whole country. For industry, the relevant consumption bands correspond to the Eurostat consumption bands I1, I2, I3, I4, I5 and I6.

Prices for households refers to Ankara only.

### Steam and coking coal

For steam and coking coal, prices are calculated by the reporting institution based on data from the Turkish Hard Coal Enterprises Institution.

For steam coal, prices refer to lignite, which is the predominant type of coal produced and consumed. Prior to 1992, data on taxes are not available and therefore not included in the prices.

### Electricity

Data are calculated by the reporting institution based on data supplied by EMRA, which sets quarterly ex-tax prices for households, industry, services and agriculture. End-use prices are then calculated by the reporting institution by adding the applicable taxes to the ex-tax prices.

Commercial users of electricity with an annual consumption above 2 400 kWh are free to choose an alternative distribution company. Companies purchasing electricity through these alternative companies are not included in the data, but price levels are considered to be very similar to those reported by EMRA.

### Energy price indices

Annual wholesale indices are 12-month averages. From 1Q1993 onwards, quarterly wholesale indices refer to the three-month average of the monthly Producer Price Indices (PPIs) produced by the Turkish State Institute for Statistics (TurkStat). Prior to 1Q1993, quarterly wholesale indices refer to the second month of each quarter.

Retail indices for oil products refer to a consumption-weighted average of the *liquid fuels* (cp0453) and *fuels and lubricants for personal transport equipment* (cp0722) series. Relative weights used for the calculations are taken from the associated item weights series (prc\_hicp\_inw), published by Eurostat. Wholesale indices refer to the *chemicals and petroleum products* PPI series.

Retail indices for electricity refer to a consumption-weighted average of the *electricity* (cp0451) series. Wholesale indices refer to the electricity PPI series.

Retail indices for natural gas refer to a consumption-weighted average of the *gas* (cp0452) series.

Retail indices for coal refer to a consumption-weighted average of the *solid fuel* (cp0454) series. Wholesale indices refer to the *coal mining* PPI series.

### Energy taxation

#### VAT

VAT (*KDV*) applies to all energy products. The VAT system currently in place in Turkey was introduced on 1 January 1985 (Law No.3065, Official Gazette No. 18563 dated 02.11.1984).

In contrast to other OECD countries, VAT is not refunded for commercial and industry use. Therefore, it is shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use.



All electricity generating facilities using renewable sources are entitled to value-added tax and customs duty exemptions.

From	To	%
01.01.86	31.12.91	12
01.01.92	31.07.92	13
01.08.92	31.12.94	15
01.01.95	30.06.10	16
01.07.10	31.08.12	18
01.09.12	now	18

## Excise tax

Excise taxation on all commercial energy products, except for electricity, consists of a single tax component levied on a volume basis.

Excise taxes on electricity are levied on an *ad-valorem* basis and consist of three different components described below.

Steam and coking coal consumption is not subject to excise taxes.

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
ÖTV	x	x	x	x	x	x			
ETV									x
Energy fund fee									x
TRT fee									x

### Special consumption tax (*Özel Tüketim Vergisi – ÖTV*)

The Special consumption tax (ÖTV) applies to a number of energy and non-energy products, as described in the Special Consumption Tax Law (Law No. 4760, Official Gazette No. 24783 dated 12 June 2002).

Pursuant to this law, oil products (gasoline, diesel, fuel oil and LPG) and natural gas are subject to ÖTV at rates that vary according to product specifications and usage (List I). The ÖTV also covers land, sea and air vehicles, as well as beverages, tobacco and many other consumer goods.

### Special consumption tax (*Özel Tüketim Vergisi – ÖTV*)

From	To	Heavy fuel oil (YTL/tonne)	Light fuel oil (YTL/1000l)	Automotive diesel (YTL/l)	Gasoline (YTL/l)	Automotive LPG (YTL/l)	Natural gas (YTL/MWh)
01.01.10	17.05.12	224	760.5	1.305	1.892	n.a.	2.162
18.05.12	21.09.12	224	760.5	1.295	1.877	0.717	2.162
22.09.12	07.09.16	224	936.7	1.595	2.177	0.886	2.162
08.09.16	now	224	1136.7	1.795	2.377	0.998	2.162

Natural gas for domestic use is exempt from special consumption taxes.

Diesel used in maritime and aviation is exempt.

Bioethanol and biodiesel produced from domestic crops are exempt from ÖTV when incorporated in gasoline or diesel fuel up to 2%. Electric vehicles, as well as fuels used for exploration and production activities are exempt.

### Electricity consumption tax (*Elektrik Tüketim Vergisi – ETV*)

Similarly to the taxation system for oil products and natural gas, electricity in Turkey is subject to an Electricity consumption tax (ETV). The revenue from this tax is earmarked for municipalities.

In contrast to the excise taxation system for oil products and natural gas, taxes on electricity are levied on an *ad-valorem* basis.

Since its introduction, the tax rate has been kept constant at 1% for industry and 5% for both households and businesses.

### Energy fund fee (*Enerji fonu*)

In addition to the previously described ETV, an additional *ad-valorem* tax, known as the Energy fund fee, is levied on electricity consumption by all costumers, as described in the Energy Fund Law (No. 3096), which first came into force on 1 April 1984.

The revenue from this tax is earmarked for R&D in the energy sector, as well as to finance public spending on energy-related infrastructure.

Since its introduction, the tax rate has been kept constant at 1% for all consumer segments.

### TRT fee (*TRT Payı*)

A third *ad-valorem* tax, known as the TRT fee, is levied on electricity consumption by all customers. The revenue from this tax is earmarked for the Turkish Radio and Television Corporation (TRT).

Since its introduction, the tax rate has been kept constant at 2% for all consumer segments except industry consumers. The TRT fee was repealed for industry consumers in July 2017.



## Product specifications

### Oil products

	High sulphur fuel oil	Light fuel oil	Automotive diesel	Unleaded premium (95 RON) gasoline	Automotive LPG
Quality	Fuel oil No. 6	No. 1 light fuel, Gazyağı	Motorin	Kurşunsuz benzin 95 oktan	Sıvılaştırılmış petrol gazı
Density (kg/l)	0.97	0.8	0.85	0.775	0.85
Sulphur content (%)				0.1	
Lead content (g/l)				0.013	
NCV (kcal/kg)	9 600	10 450	10 350	10 700	

### Natural gas and coal

	Natural gas	Steam coal <i>industry households</i>	Steam coal <i>electricity generation</i>	Coking coal
Quality	Doğal gaz	Lignite	Lignite	
NCV (kcal/kg)		4 250	2 000	6 100
GCV (kcal/m <sup>3</sup> )	9 155			

## UNITED KINGDOM

### Sources

Data for all energy products, including energy price indices, are provided on a quarterly basis by the **Department for Business, Energy and Industrial Strategy (BEIS)**.

### Data collection methodology

Prices refer to the United Kingdom unless otherwise specified.

#### Oil products

For heavy fuel oil for electricity generation, prices are based on quarterly surveys carried out among major power companies, where companies provide volume and value data of purchased fuels. End-use prices are calculated by the reporting agency as the ratio between total expenditures and total purchased volumes. Ex-tax prices are derived by subtracting the applicable tax components from the end-use prices. Prices shown exclude fuels used to initiate combustion of heavy fuel.

For light fuel oil for industry, prices are based on quarterly surveys carried out among 600 manufacturing industries in Great Britain. In these surveys, companies provide volume and value data of purchased fuels. End-use prices are calculated by the reporting agency as the ratio between total expenditures and total purchased volumes. Ex-tax prices are derived by subtracting the applicable tax components from the end-use prices.

For light fuel oil for households, automotive diesel and unleaded premium (98 and 95 RON) gasoline, prices are based on monthly surveys carried out among major oil product suppliers (including supermarkets). In these surveys, companies report their average selling prices. Reported prices are weighted by annual sales volumes to produce average end-use prices. Ex-tax prices are derived by subtracting the applicable tax components from the end-use prices.

#### Natural gas

For industry, prices are based on monthly surveys carried out among major natural gas suppliers. In these surveys, companies provide value and volume data for natural gas sold to industry in all consumption bands. End-use prices are calculated by the reporting agency as the ratio between total sales value and total sales volume.

Ex-tax prices are derived by subtracting the applicable tax components from the end-use prices.

For households, prices are based on annual surveys carried out among domestic natural gas suppliers who provide average prices and customer numbers. Quarterly data are derived using the annual figures and the quarterly consumer price index growth rates for natural gas. Ex-tax prices are derived by subtracting the applicable tax components from the end-use prices.

For electricity generation, prices are based on quarterly surveys carried out among major electric power companies. In these surveys, companies provide volume and value data of purchased fuels. End-use prices are calculated by the reporting agency as the ratio between total expenditures and total purchased volumes. Ex-tax prices are derived by subtracting the applicable tax components from the end-use prices.

#### Steam and coking coal

For industry, prices are based on quarterly surveys carried out among 600 manufacturing industries in Great Britain. In these surveys, companies provide volume and value data of purchased fuels. End-use prices are calculated by the reporting agency as the ratio between total expenditures and total purchased volumes. Ex-tax prices are derived by subtracting the applicable tax components from the end-use prices.

For households, prices are collected by the reporting agency from the Office for National Statistics' survey of monthly coal prices for households, covering local retailers in up to 146 areas throughout the United Kingdom. Ex-tax prices are derived by subtracting the applicable tax components from the end-use prices.

For electricity generation, prices are based on quarterly surveys carried out among major electric power companies. In these surveys, companies provide volume and value data of purchased steam coal. End-use prices are calculated by the reporting agency as the ratio between total expenditures and total purchased volumes. Ex-tax prices are derived by subtracting the applicable tax components from the end-use prices.

#### Electricity

For industry, prices are based on monthly surveys carried out among major electricity suppliers. In these surveys, companies provide value and volume data for electricity sold to industry in all consumption bands. End-use prices are calculated by the reporting agency as the ratio between total sales value and total sales volume. Ex-tax prices are derived by subtracting the applicable tax components from the end-use prices.

For households, prices are based on annual surveys carried out among domestic electricity suppliers who provide average prices and customer numbers. Quarterly data are derived using the annual figures and the quarterly consumer price index growth rates for electricity. Ex-tax prices are derived by subtracting the applicable tax components from the end-use prices.

## Energy price indices

Annual indices are 12-month averages.

From 1Q1996 onwards, retail price indices correspond to Consumer Price Indices (CPIs) taken from the Office for National Statistics' *Consumer Price Inflation bulletin*. Wholesale indices are based on the corresponding fuel price indices for the industrial sector, published in BEIS's *Quarterly Energy Prices*.

Wholesale indices for oil products refer to the weighted average of medium fuel oil, gas oil, aviation fuel (AV-TUR) and diesel (DERV). Retail indices refer to the weighted average of ULSP (ultra-low sulphur petrol), ULSD (ultra-low sulphur diesel) and motor oil.

Wholesale indices for electricity are based on the average unit value (excluding VAT) of sales to industrial customers.

Wholesale indices for natural gas are based on the average unit value (excluding VAT) of sales to industrial customers of natural gas.

Wholesale indices for coal are based on the average unit value (excluding VAT) of sales to industrial customers of coal, whereas retail indices refer to smokeless fuel and coal.

## Energy taxation

### VAT

VAT is refunded for purchases for commercial purposes. Therefore, it is not included in prices shown for the industrial and electricity generation sectors, as well as for automotive fuels for commercial use. A reduced VAT rate applies to light fuel oil, natural gas, coal and electricity sold to domestic users.

From	To	General %	Reduced %
01.04.94	31.08.97	17.5	8
01.09.97	30.11.08	17.5	5
01.12.08	31.12.09	15	5
01.01.10	03.01.11	17.5	5
04.01.11	now	20	5

## Excise tax

Excise taxes on commercial energy products are levied in accordance with the 2003 EU Energy Taxation Directive.

### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Hydrocarbon oil duty	x	x	x	x	x				
Climate change levy					x	x	x	x	x

### Hydrocarbon oil duty

The Hydrocarbon oil duty currently in place was legally established by the Hydrocarbon Oil Duties Act 1979. It applies to heavy and light fuel oil, automotive diesel, gasoline and compressed natural gas (CNG) and LPG used for transportation and heat-raising.

### Climate Change Levy

Introduced on 1 April 2001, the Climate Change Levy is legally defined in the Finance Act 2000. Depending on their use, electricity, natural gas, LPG and solid fuel sales are subject to this tax. The Climate Change Levy applies to commercial and industrial uses only. Households, transportation, and non-energy uses are exempt.

Originally, electricity generated from renewable sources and from approved cogeneration schemes was not taxed, but this exemption was lifted on 1 August 2015.

Currently, the legislation sets two rate levels for this levy and a series of discounts for certain users. The first rate, also called the main rate, applies to general consumption of the taxable fuels by commercial, industrial or agricultural users. Discounts in this rate are applicable to energy-intensive businesses with a climate change agreement (CCA) in place with the Environmental Protection Agency. Currently holders of a CCA are entitled to the following discount rates: 93% for electricity and 78% for natural gas, LPG and solid fuel.

The second rate came into effect on 1 April 2013 and applies to fuels used for electricity generation and combined heat and power generation, which were previously exempt. This second rate is referred to as the carbon price support (CPS) rate and is considerably lower than the main rate.

Small generators, stand-by generators and generating stations in Northern Ireland are exempt from this tax component.

**Hydrocarbon oil duty**

From	To	Heavy fuel oil (GBP/tonne)	Light fuel oil (GBP/1000l)	Automotive diesel (GBP/l)	Gasoline (GBP/l)	Automotive LPG (GBP/kg)
01.04.04	02.12.04	38.890	42.200	0.4710	0.4710	n.a.
03.12.04	05.12.05	49.070	52.200	0.4710	0.4710	n.a.
06.12.05	06.12.06	61.490	64.400	0.4710	0.4710	n.a.
07.12.06	30.09.07	74.210	76.900	0.4835	0.4835	0.1221
01.10.07	30.11.08	94.570	96.900	0.5035	0.5035	0.1649
01.12.08	31.03.09	98.340	100.70	0.5235	0.5235	0.2077
01.04.09	31.08.09	101.80	104.20	0.5419	0.5419	0.2482
01.09.09	31.03.10	105.57	108.00	0.5619	0.5619	0.2767
01.04.10	30.09.10	107.40	109.90	0.5719	0.5719	0.3053
01.10.10	31.12.10	109.33	111.80	0.5819	0.5819	0.3195
01.01.11	22.03.11	110.76	113.30	0.5895	0.5895	0.3304
23.03.11	now	108.61	111.40	0.5795	0.5795	0.3161

**Climate change levy**

From	To	Natural gas (GBP/MWh)	Coal (GBP/tonne)	Electricity (GBP/MWh)	Automotive LPG (GBP/tonne)
01.04.01	31.03.07	1.50	11.70	4.30	9.600
01.04.07	31.03.08	1.54	12.01	4.41	9.850
01.04.08	31.03.09	1.59	12.42	4.56	10.18
01.04.09	31.03.11	1.64	12.81	4.70	10.50
01.04.11	31.03.12	1.69	13.21	4.85	10.83
01.04.12	31.03.13	1.77	13.87	5.09	11.37
01.04.13	31.03.14	1.82	14.29	5.24	11.72
01.04.14	31.03.15	1.88	14.76	5.41	12.10
01.04.15	31.03.16	1.93	15.12	5.54	12.40
01.04.16	31.03.17	1.95	15.26	5.59	12.51
01.04.17	31.03.18	1.98	15.51	5.68	12.72
01.04.18	31.03.19	2.03	15.91	5.83	13.04
01.04.19	now	3.39	26.53	8.47	21.75

**Product specifications****Oil products**

	High sulphur fuel oil	Light fuel oil	Automotive diesel	Premium unleaded (98 RON) gasoline	Premium unleaded (95 RON) gasoline
Quality	Heavy fuel oil, class G	Heating gasoil, class D	Ultra-low sulphur diesel, Class A	Super unleaded 98 RON	Ultra low-sulphur petrol, 95 RON
Density (kg/l)	0.98	0.847	0.845	0.736 - 0.739	0.736 - 0.739
Sulphur content (%)	2-3				
NCV (kcal/kg)	9 870	10 260			
Delivery size (tonne/year)	<24 000				

**Natural gas and coal**

	Natural gas	Steam coal <i>industry</i>	Steam coal <i>electricity generation</i>
Sulphur content (%)		0.5 - 2.6	
Ash content (%)		3 - 19	
Water content (%)			
NCV (kcal/kg)			5 653
GCV (kcal/kg)*	8 400	5 280 - 7 930	

\*kcal/m<sup>3</sup> for natural gas

## UNITED STATES

### Sources

Prices and taxes data for all products are provided on a quarterly basis by the **Energy Information Administration (EIA)**.

Energy price indices are extracted from the **Bureau of Labor Statistics (BLS)** website.

### Data collection methodology

From 1Q1993 onwards, the most recent quarterly average is based on historical prices for two months of the quarterly period and an estimate of the third month. These monthly data are then averaged for the publication quarter.

Prices from 4Q1984 to 4Q1992 refer to the second month of the quarter. Prior to 4Q1984, prices refer to the first month of the quarter.

### Oil products

The general state sales taxes are always levied on sales of non-transport fuels to non-commercial users. Sales of transport fuels to commercial users are generally exempt from the general sales tax because special transport fuel taxes exist in all states and in some municipalities. However, in about eight states both taxes are cumulated. The estimates of national weighted average rates and amounts take account of this situation as far as possible. In addition to the above, a federal fuel tax applies to transport fuels, as described in the Energy taxation section of this document.

The excise taxes for transport fuels are calculated using the excise taxes data published by the EIA on *Federal and State Motor Fuel Taxes* and U.S. Department of Transportation's Federal Highway Administration on *Highway Statistics*. The excise taxes are the sum of the federal and state taxes as well as the excise tax portion of the "other taxes and fees" category. The state excise taxes and the excise portion of the "other taxes and fees" category are calculated as the weighted average based on gross volume taxed.

For heavy fuel oil for industry, prices refer to the average of high sulphur fuel oil and low sulphur fuel oil monthly prices collected by the DOE/EIA using Form EIA-782A, *Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report*, among 95 sample refining units. Monthly data is published in the DOE/EIA's *Petroleum Marketing Monthly*, table "U.S. Refiner

Residual Fuel Oil Prices" and *Monthly Energy Review*, table "Refiner Prices of Residual Fuel Oil" column "Sulfur Greater than 1 Percent, Sales to End-Users".

For heavy fuel oil for electricity generation, prices refer to the average expenditure per tonne on heavy fuel oils no. 4, 5 and 6 and topped crude by electric utilities with more than 50 MW of capacity. Prior to 1983, prices refer to utilities with capacity of more than 25 MW. Prices are surveyed by the DOE/EIA. From 2008 onwards, prices are collected every month by the DOE/EIA using Form EIA-923, *Power Plant Operations Report*. Prior to 2008, monthly survey using Form FERC-423, *Monthly Report of Cost and Quality of Fuels for Electric Plants*. Monthly data is published in the DOE/EIA's, *Electric Power Monthly*, table "Receipts, Average Cost, and Quality of Fossil Fuels: Electric Utilities" and *Monthly Energy Review*, table "Cost of Fossil Fuel Receipts at Electric Generating Plants".

For light fuel oil for industry, prices cover the whole distillate end-use market; 25% of it is handled by refiners and 75% by resellers and retailers. Prices are collected every month by the DOE/EIA using Form EIA-782A, *Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report* among 95 sample refining units and, until February 2011, using Form EIA-782B, *Resellers'/Retailers' Monthly Petroleum Product Sales Report*. Monthly data is published in the DOE/EIA's *Petroleum Marketing Monthly*, table "U.S. No. 2 Distillate Prices by Sales Type", column "Industrial Consumers".

For light fuel oil for households, prices are regularly surveyed in a nation-wide sample of households and include all fees, taxes and rebates. Data are collected by the BLS in 85 urban areas representing 80% of the total population. Data are published in the BLS' *CPI Detailed Report*, monthly.

For automotive diesel, prices refer to the sum of an official ex-tax price and an estimate of the total tax amount, including federal, state and local taxes among others. The ex-tax price corresponds to the average charged by refinery-owned retail outlets. These outlets represent about 20%-30% of the total market.

From 2Q1994 onwards, prices are collected every week by the DOE/EIA using Form EIA-888, *On-Highway Diesel Fuel Price Survey*. Weekly data is published in the DOE/EIA's *Weekly Petroleum Status Report*, table "U.S. Retail Motor Gasoline and On-Highway Diesel Fuel Prices". Prior to 2Q1994, prices were collected every month by the DOE/EIA using Form EIA-782A, *Refiners'/Gas Plant Operators' Monthly Petroleum Product Sales Report* among 95 sample refining units and 782B, *Resellers'/Retailers' Monthly Petroleum Product Sales Report* among 2000 respondents. Monthly data was published in the DOE/EIA's *Petroleum Marketing Monthly*.



For regular and premium unleaded gasoline, prices refer to the city retail price, average of full-, mini- and self-service stations. Data are collected by the DOE/EIA using Form EIA-878, *Motor Gasoline Price Survey* among 1200 sample units. Data are published in the DOE/EIA's *Monthly Energy Review*, table "Motor Gasoline Retail Prices, U.S. City Average", and *Weekly Petroleum Status Report*, table "U.S. Retail Motor Gasoline and On-Highway Diesel Fuel Prices". Prior to 1994, prices were collected by the BLS' *Monthly Retail Price Survey* for the purpose of computing the national consumer price index. Filling stations in 85 urban areas were surveyed, covering about 80% of the total U.S. population. Data were published in the DOE-EIA's *Monthly Energy Review* and *Weekly Petroleum Status Report*.

## Natural gas

Taxes are included in the prices for households, industry and electricity generation. They mostly refer to general sales taxes levied by the States. The rates range between 2% and 6% and their national average is currently unknown.

For industry and households, prices are calculated on gas that is both delivered and sold to these customers. Prices are collected by the DOE/EIA using Form EIA-857, *Monthly Report of Natural Gas Purchases and Deliveries to Customers*, addressed to a sample of approximately 400 natural gas companies. The sample includes interstate pipeline companies, intrastate pipeline companies, and local distribution companies. Data are published in the DOE-EIA's *Natural Gas Monthly*, table "Average Price of Natural Gas Sold to Residential Consumers, by State", and "Average Price of Natural Gas Sold to Industrial Consumers, by State".

For electricity generation, prices refer to monthly average expenditures per MWh incurred by power companies for all natural gas purchases. The price shown includes small quantities of coke oven gas, refinery gas and blast furnace gas. Prices are collected by the DOE/EIA using Form EIA-923, *Power Plant Operations Report*, addressed to electric power companies. Prior to 2008, prices were collected by the DOE/EIA using Form EIA-423, *Monthly Cost and Quality of Fuels for Electric Plants Report* and FERC Form 423: *Monthly Report of Cost and Quality of Fuels for Electric Plants Report*. Data are published in the DOE-EIA's *Electric Power Monthly*, table "Receipts, Average Cost, and Quality of Fossil Fuels: Total (All Sectors)" and *Monthly Energy Review*, table "Cost of Fossil Fuel Receipts at Electric Generating Plants".

## Steam and coking coal

Taxes on coal consist of severance taxes (a percentage of the value of production, which vary from state to state),

and federal taxes (in the form of a corporate income tax, levied in the range from 15% to 35%). The national average of these taxes is not available.

Prices for steam coal for industry refer to the quarterly average expenditure per tonne paid by industrial plants, including taxes. Data are collected by the DOE/EIA using Form EIA-3, *Quarterly Coal Consumption and Quality Report, Manufacturing and Transformation/Processing Coal Plants and Commercial and Institutional Coal Users*. Data are published in the DOE/EIA's *Quarterly Coal Report*, tables "Average Price of Coal Receipts at Coke Plants by Census Division", "Average Price of Coal Receipts at Other Industrial Plants by Census Division and State" and "Average Price of Coal Receipts at Commercial and Institutional Users by Census Division and State".

Prices for steam coal for electricity generation refer to the quarterly average of expenditure per tonne incurred by Electric Power companies for all kinds of coal purchased, including taxes if applicable. Data are collected by the DOE/EIA using Form EIA-923, *Power Plant Operations Report*, addressed to utilities. Data are published in the DOE/EIA's *Electric Power Monthly Report*, table "Receipts, Average Cost, and Quality of Fossil Fuels: Total (All Sectors)".

From 1980 onwards, prices for coking coal for industry refer to the quarterly average expenditure per tonne for coking coal incurred by coke plants. Prior to 1980, prices refer to the average export price (FOB) for Customs Commodity Schedule E No. 3222020. Data are collected by the DOE/EIA using Form EIA-5, *Quarterly Coal Consumption and Quality Report - Coke Plants*. Data are published in the DOE/EIA's *Quarterly Coal Report*, tables "Average Price of Coal Receipts at Coke Plants by Census Division", "Average Price of Coal Receipts at Other Industrial Plants by Census Division and State" and "Average Price of Coal Receipts at Commercial and Institutional Users by Census Division and State".

## Electricity

From 1Q1984 onwards, electricity prices refer to the second month of each quarter. Prior to 4Q1983, prices refer to the first month of each quarter.

Prices shown include taxes, which are mostly general sales taxes levied by the states; their rates are between 2% and 6%, but their national weighted average is unknown.

Prices shown for industry and households are the monthly average revenues per MWh received by privately owned power companies from the industry and households. Prices are subject to significant seasonal upswings in the summer months as a result of heavy demand for air conditioning.

Monthly prices are collected by the DOE/EIA using using Form EIA-826, *Monthly Electric Utility Sales and Revenue Report with State Distributions*. Data are published in the DOE/EIA's *Monthly Energy Review*, table "Average Retail Prices of Electricity".

From January 1986, national average price estimates are based on data, as reported through a statistically derived sample of both publicly and privately owned utilities, which respond on the Form EIA-861, *Annual Electric Power Industry Report*. Prices from 1980 through 1985 cover selected privately owned electric utilities in Class A whose electric operating revenue were 100 million USD or more during the previous year. Prices for 1979 cover privately owned electric utilities in Classes A and B.

## Energy price indices

Annual and quarterly indices are 12-month and 3-month averages, respectively, of the monthly data published by the Bureau of Labor Statistics.

Wholesale indices for oil products refer to "*Petroleum products, refined*" (commodity code 057). Retail indices refer to the average of "*gasoline, all types (U.S. city average)*" and "*fuel oil (U.S. city average)*" series, weighted by quantities.

Wholesale indices for electricity refer to "*Industrial electric power*" (commodity code 0543). Retail indices refer to "*Electricity (U.S. city average)*".

Wholesale indices for natural gas refer to "*Natural gas*" (commodity code 0531). Retail indices refer "*Utility (piped) gas service (U.S. city average)*".

Wholesale indices for coal refer to "*Coal*" (commodity code 051).

## Energy taxation

### VAT

Sales taxes are levied by states and some other local administrations. There is no federal sales tax. Computing an average sales tax as regards to individual commercial energy products would require disaggregated consumption data for each product, which are currently not available.

### Excise tax

In addition to state and local excise taxes, which in most states make up the majority of the total, the federal government levies a national excise tax on transport fuels.

A federal manufacturer's tax applies to coal. There are no federal excise taxes on other oil products, natural gas, and electricity.

#### Tax applicability table (not exhaustive)

	HSFO/LSFO	LFO	Diesel	Gasoline	LPG	Natural gas	Steam coal	Coking coal	Electricity
Federal fuel tax			x	x	x				
Manufacturers tax							x	x	

#### Federal fuel tax

The federal fuel tax currently applies to all grades of gasoline and automotive diesel. Federal taxes on gasoline were introduced on 21 June 1932, while taxation on diesel was introduced on 1 November 1951. Alternative transport fuels, such as automotive LPG and compressed natural gas (CNG), are currently taxed at the same rate as gasoline.

Most of the revenue raised is dedicated to the Federal Highway Trust Fund for the financing of highway and transit programs.

Until 31 December 2004, gasohol (a mixture of gasoline and ethanol) was taxed at a lower rate than gasoline. On 1 January 2005, the tax rate was raised to match that of gasoline.

Between 1 October 1997 and 30 September 2016, an additional 0.01 USD/gallon was levied on sales of gasoline and diesel to finance the Leaking Underground Storage Tank (LUST) Trust Fund.

On 1 October 2016, the LUST contribution was abolished and the fuel tax rates reduced to their "permanent law level" of 0.043 USD/gallon.

#### Manufacturer's tax

A federal manufacturer's tax applies to the first sale of coal mined in the United States. The tax doesn't apply to sales of lignite and imported coal. Tax revenues are dedicated to the Black Lung Disability Trust Fund.

Production from underground mines is taxed at a higher rate than production from surface mines.

If the selling price for coal is below 25 USD/tonne (underground) or 12.5 USD/tonne (surface), the applicable tax rate is 4.4% of the selling price, to be applied proportionally for portions of a tonne. If the selling price is above these limits, coal is taxed at 1.10 USD/tonne (underground) and 0.55 USD/tonne (surface).



**Federal fuel tax**

From	To	Automotive diesel (USD/l)	Gasoline (USD/l)
01.01.96	30.09.97	0.0642	0.0483
01.10.97	30.09.16	0.0645	0.0486
01.10.16	now	0.0114	0.0114

**Product specifications****Oil products**

	Heavy fuel oil <i>industry</i>	Heavy fuel oil <i>electricity generation</i>	Light fuel oil	Automotive diesel	Premium unleaded (97 RON) gasoline	Premium unleaded (95 RON) gasoline	Regular unleaded gasoline
Quality	Residual fuel oil no. 5 and 6 (defined in ASTM D396) includes navy special fuel and bunker oil	Heavy fuel oils no. 4, 5 and 6 and topped crude	No. 2 fuel oil (defined in ASTM D396)	No. 2 distillate (diesel fuel)	Premium unleaded 93 RdON	Midgrade unleaded 89 RdON	Regular unleaded 87 RdON
Octane number					97	95	91
Density (kg/l)	0.944	0.944		0.82			
Sulphur content (%)	≥1						
NCV (kcal/kg)		9 988	10 760				

**Natural gas and coal**

	Natural gas	Steam coal	Coking coal
Quality		Bituminous coal	
Ash content (%)			4 – 8
Moisture content (%)			2 – 6
Volatility (%)			16 - 34
GCV (kcal/m <sup>3</sup> )	9 139		
NCV (kcal/kg)			7 090