



# Evaluation Tables of the Energy Balace for Germany

Energy data for the years 1990 to 2018

Last update: August 2019 (final results up to 2017, provisional data for 2018)

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## **Preliminary notes on the evaluation tables of the German Energy Balance:**

This publication summarizes the most important data of the energy balances since 1990 in the form of aggregated time series. Especially for the quick reader, who is not interested in detailed energy balances of each year, we give a well-founded overview of the energy statistical development in Germany. It is to be considered, that the data for the most recent year are provisional.

Since 1995 the AG Energiebilanzen applies the physical energy content method for energy balances. This method assumes a 33 % efficiency of nuclear electricity generation, i.e. the input of primary energy is three times as high as the electricity generation. Electricity generation from renewable energy without fuel consumption (hydro, wind, photovoltaics) is calculated with 100 % efficiency. Until 1994 the primary energy consumption of these energy carriers was calculated by the average fuel input in conventional power plants (according to the former "substitution method"). However, all data in this publication are calculated by the physical energy content method.

The structure of this data collection is similar to the structure of the energy balances. It begins with primary energy production and foreign trade (section 1). Section 2 presents an overview of primary energy consumption by energy carriers and the structure of the energy consumption by sectors. The importance of renewable energy is illustrated in section 3. Section 4 shows the fuel input for electricity generation. Combined heat and power generation (CHP) is considered in more detail in section 5. Section 6 provides detailed tables on the development of the final energy consumption by energy carriers and sectors. Furthermore, section 7 illustrates the development of important energy efficiency indicators. In the annex, the classification of energy carriers considered in this publication is compared to the more detailed classification in the energy balances.

The following tables present also data that are not shown in this form in the energy balance. This is especially true for the presentation of CHP, a technology that concerns different energy conversion and consumption sectors of the energy balance. The fuel input for CHP electricity generation is shown in the conversion sector ("Public thermal power station", "Industrial power station" or "Hydro, wind, photovoltaic and other power stations"). However, the fuel input for CHP heat generation is shown in the conversion sector "Public cogeneration plants" only if it serves district heating. The fuel input for heat generation in CHP plants of the industry is included in the final energy consumption. The heat generated in these plants cannot be seen in the energy balance. The same applies to CHP plants of other auto-producers (less than 1 MW). Hence, the schema of the energy balance alone cannot show the full importance of CHP. Therefore, additional data on energy input and generation of heat and power in CHP plants are shown in section 5.

It should be noted that the figures for the years from 2012 onwards are not fully comparable to the data for previous years due to methodological changes. A short documentation (in German) can be found under:

## ***Methodological changes (German Energy Balance) as of 2012***

In the "Official Mineral Oil Data" of the Federal Office of Economics and Export Control (BAFA) the monthly domestic deliveries of all mineral oil products for Germany are shown. There was a change in the statistical overview in 2017. Since the reporting year 2018, petroleum components that were previously allocated to other groups have been shown separately. Until 2016, gasoline components were recorded either for motor gasoline or for naphtha, middle distillate components for diesel oil or fuel oil light. The order of magnitude of these component groups is not known for previous years and the distribution among the other groups cannot be determined either. This means that before 2017 other components of unknown size were allocated to gasoline and diesel. Therefore, the official data for 2017 are not comparable with previous years.

### **Additional information on the German Energy Balance:**

The evaluation tables were compiled on behalf of AG Energiebilanzen by

- **Energy Environment Forecast & Analysis (EEFA, [www.eefa.de](http://www.eefa.de)),**
- **Deutsches Institut für Wirtschaftsforschung (DIW Berlin, [www.diw.de](http://www.diw.de)) und**
- **Zentrum für Sonnenenergie- und Wasserstoff-Forschung Baden-Württemberg (ZSW, [www.zsw-bw.de](http://www.zsw-bw.de))**

The data are based on the published German Energy Balances (if not explicitly stated otherwise).

Commencing with the balance year 2018, the Federal Ministry for Economic Affairs and Energy stipulated in conjunction with the renewed assignment of the AG Energiebilanzen to prepare the energy balances for Germany that it incorporates the relevant data on renewables which are ascertained by the Working Group on Renewable Energies-Statistics (AGEE-Stat) under the auspices of the Federal Environment Agency (UBA) directly into the energy balances to be established by AGEB.

When it comes to renewables, AGEE-Stat had been an important data source for AGEB already in the past. The fact that original official statistics which could be adopted directly are generally not available for renewables prompts us to make individual estimates of the respective consumption values for whom it is often necessary to rely on specific in-house model calculations which have been specifically developed for this purpose. This applies to both AGEB and AGEE-Stat. It is therefore understandable that different approaches are taken by the model-based estimates of both institutions which do not necessarily lead to the same results.

Nevertheless, it seemed to be advisable to refer to a single data source in order to avoid any divergences which would be hard to explain to the public. When it comes to renewables, AGEE-Stat will, thus, be responsible for the respective data in the energy balance as well as in the requisite derivable evaluations starting with the balance year 2018. This already applies to the tabular information on renewable energy carriers included in this energy report.

## 1.1 Indigenous energy production by energy source

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Indigenous energy production by energy source in PJ</b>																						
Hard coal	PJ	2,089	1,595	1,012	825	790	777	784	756	641	651	521	415	387	361	324	229	230	185	115	108	77
Lignite	PJ	3,142	1,711	1,528	1,612	1,653	1,641	1,660	1,611	1,591	1,628	1,576	1,529	1,535	1,595	1,676	1,660	1,617	1,608	1,544	1,540	1,506
Petroleum	PJ	156	125	131	140	152	158	151	153	151	146	131	119	107	112	111	112	104	103	100	94	88
Gases	PJ	575	621	649	654	656	681	630	598	625	615	546	541	462	459	404	389	311	290	277	254	208
Natural gas, Petroleum gas	PJ	563	607	638	644	642	668	618	588	611	604	537	534	452	447	391	374	300	280	266	246	200
Renewable Energy Sources	PJ	200	275	417	432	455	561	650	769	939	1,117	1,147	1,208	1,421	1,463	1,378	1,510	1,544	1,666	1,700	1,820	1,793
Other energy sources	PJ	62	0	56	51	43	139	165	211	157	159	202	224	244	255	231	208	226	224	236	235	214
<b>Total</b>	<b>PJ</b>	<b>6,224</b>	<b>4,328</b>	<b>3,793</b>	<b>3,714</b>	<b>3,750</b>	<b>3,955</b>	<b>4,040</b>	<b>4,099</b>	<b>4,103</b>	<b>4,315</b>	<b>4,123</b>	<b>4,036</b>	<b>4,155</b>	<b>4,246</b>	<b>4,124</b>	<b>4,109</b>	<b>4,033</b>	<b>4,076</b>	<b>3,973</b>	<b>4,051</b>	<b>3,886</b>
<b>Indigenous energy production by energy source in mill. tce</b>																						
Hard coal	mill. tce	71.3	54.4	34.5	28.1	27.0	26.5	26.7	25.8	21.9	22.2	17.8	14.1	13.2	12.3	11.1	7.8	7.8	6.3	3.9	3.7	2.6
Lignite	mill. tce	107.2	58.4	52.1	55.0	56.4	56.0	56.6	55.0	54.3	55.5	53.8	52.2	52.4	54.4	57.2	56.6	55.2	54.9	52.7	52.5	51.4
Petroleum	mill. tce	5.3	4.3	4.5	4.8	5.2	5.4	5.2	5.2	5.1	5.0	4.5	4.1	3.6	3.8	3.8	3.8	3.5	3.5	3.4	3.2	3.0
Gases	mill. tce	19.6	21.2	22.1	22.3	22.4	23.2	21.5	20.4	21.3	21.0	18.6	18.5	15.8	15.7	13.8	13.3	10.6	9.9	9.5	8.7	7.1
Natural gas, Petroleum gas	mill. tce	19.2	20.7	21.8	22.0	21.9	22.8	21.1	20.1	20.8	20.6	18.3	18.2	15.4	15.2	13.3	12.8	10.2	9.5	9.1	8.4	6.8
Renewable Energy Sources	mill. tce	6.8	9.4	14.2	14.7	15.5	19.1	22.2	26.3	32.0	38.1	39.1	41.2	48.5	49.9	47.0	51.5	52.7	56.8	58.0	62.1	61.2
Other energy sources	mill. tce	2.1	0.0	1.9	1.8	1.5	4.7	5.6	7.2	5.4	5.4	6.9	7.7	8.3	8.7	7.9	7.1	7.7	7.6	8.0	8.0	7.3
<b>Total</b>	<b>mill. tce</b>	<b>212.4</b>	<b>147.7</b>	<b>129.4</b>	<b>126.7</b>	<b>128.0</b>	<b>135.0</b>	<b>137.8</b>	<b>139.8</b>	<b>140.0</b>	<b>147.2</b>	<b>140.7</b>	<b>137.7</b>	<b>141.8</b>	<b>144.9</b>	<b>140.7</b>	<b>140.2</b>	<b>137.6</b>	<b>139.1</b>	<b>135.5</b>	<b>138.2</b>	<b>132.6</b>
<b>Indigenous energy production by energy source in %</b>																						
Hard coal	%	33.6	36.9	26.7	22.2	21.1	19.6	19.4	18.4	15.6	15.1	12.6	10.3	9.3	8.5	7.9	5.6	5.7	4.5	2.9	2.7	2.0
Lignite	%	50.5	39.5	40.3	43.4	44.1	41.5	41.1	39.3	38.8	37.7	38.2	37.9	36.9	37.6	40.6	40.4	40.1	39.5	38.9	38.0	38.8
Petroleum	%	2.5	2.9	3.5	3.8	4.0	4.0	3.7	3.7	3.7	3.4	3.2	3.0	2.6	2.6	2.7	2.7	2.6	2.5	2.5	2.3	2.3
Gases	%	9.2	14.4	17.1	17.6	17.5	17.2	15.6	14.6	15.2	14.2	13.2	13.4	11.1	10.8	9.8	9.5	7.7	7.1	7.0	6.3	5.4
Natural gas, Petroleum gas	%	9.1	14.0	16.8	17.3	17.1	16.9	15.3	14.3	14.9	14.0	13.0	13.2	10.9	10.5	9.5	9.1	7.4	6.9	6.7	6.1	5.1
Renewable Energy Sources	%	3.2	6.3	11.0	11.6	12.1	14.2	16.1	18.8	22.9	25.9	27.8	29.9	34.2	34.5	33.4	36.8	38.3	40.9	42.8	44.9	46.1
Other energy sources	%	1.0	0.0	1.5	1.4	1.2	3.5	4.1	5.2	3.8	3.7	4.9	5.6	5.9	6.0	5.6	5.1	5.6	5.5	5.9	5.8	5.5
<b>Total</b>	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Indigenous energy production by energy source, changes compared to the previous year in %</b>																						
Hard coal	%	n/a	2.4	-15.2	-18.5	-4.2	-1.7	0.9	-3.6	-15.1	1.5	-19.9	-20.4	-6.7	-6.6	-10.3	-29.3	0.4	-19.8	-37.7	-6.2	-28.8
Lignite	%	n/a	-6.5	5.1	5.5	2.6	-0.8	1.2	-3.0	-1.2	2.3	-3.1	-3.0	0.4	3.9	5.1	-1.0	-2.6	-0.6	-3.9	-0.3	-2.2
Petroleum	%	n/a	1.0	13.0	6.5	8.6	3.8	-4.1	1.6	-1.7	-2.9	-10.5	-9.1	-10.3	4.6	-1.0	1.5	-7.8	-0.5	-2.9	-5.9	-6.6
Gases	%	n/a	3.0	-5.5	0.8	0.2	3.8	-7.5	-5.1	4.5	-1.6	-11.3	-0.9	-14.6	-0.6	-12.0	-3.7	-19.9	-6.8	-4.4	-8.3	-18.2
Natural gas, Petroleum gas	%	n/a	3.1	-5.4	1.0	-0.3	4.1	-7.5	-5.0	3.9	-1.0	-11.2	-0.6	-15.4	-1.1	-12.5	-4.2	-19.9	-6.7	-5.1	-7.3	-18.7
Renewable Energy Sources	%	n/a	7.7	3.2	3.8	5.4	23.1	15.9	18.3	22.0	19.0	2.7	5.4	17.6	2.9	-5.8	9.7	2.2	7.9	2.0	7.1	-1.5
Other energy sources	%	n/a	0.0	0.0	-9.0	-15.5	219.1	19.0	28.2	-25.7	1.5	26.8	11.1	8.6	4.7	-9.4	-10.0	8.6	-0.8	5.2	-0.5	-8.8
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>-1.0</b>	<b>-1.6</b>	<b>-2.1</b>	<b>1.0</b>	<b>5.5</b>	<b>2.1</b>	<b>1.5</b>	<b>0.1</b>	<b>5.2</b>	<b>-4.5</b>	<b>-2.1</b>	<b>3.0</b>	<b>2.2</b>	<b>-2.9</b>	<b>-0.4</b>	<b>-1.9</b>	<b>1.1</b>	<b>-2.5</b>	<b>2.0</b>	<b>-4.1</b>

2018: data is provisional

Other energy sources: incl. nuclear energy

## 1.2 Import by energy source

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Import by energy source in PJ</b>																						
Hard coal	PJ	445	492	954	1,098	1,098	1,171	1,210	1,135	1,366	1,406	1,364	1,115	1,385	1,429	1,457	1,613	1,555	1,544	1,634	1,411	1,292
Lignite	PJ	59	39	30	34	15	3	2	2	4	3	3	3	2	2	1	2	2	1	1	1	1
Petroleum	PJ	5,692	6,141	6,231	6,348	6,035	6,088	6,190	6,329	6,340	5,799	5,988	5,579	5,479	5,243	5,347	5,461	5,374	5,469	5,525	5,601	5,336
Gases	PJ	1,791	2,322	2,676	2,663	2,765	2,947	3,166	3,311	3,272	3,046	3,192	3,083	3,307	3,154	3,110	3,440	3,163	3,607	3,597	4,019	5,760
Natural gas, Petroleum gas	PJ	1,791	2,322	2,676	2,663	2,765	2,947	3,166	3,311	3,272	3,046	3,192	3,083	3,307	3,154	3,110	3,440	3,163	3,607	3,597	4,019	5,760
Renewable Energy Sources	PJ	0	0	0	0	0	0	0	0	0	0	0	10	19	21	49	48	46	44	37	35	98
Other energy sources	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity	PJ	115	143	162	167	166	165	159	192	166	159	145	146	152	179	159	141	146	133	102	100	114
Nuclear energy	PJ	1,606	1,682	1,851	1,868	1,798	1,801	1,822	1,779	1,826	1,533	1,623	1,472	1,533	1,178	1,085	1,061	1,060	1,001	923	833	829
<b>Total</b>	<b>PJ</b>	<b>9,708</b>	<b>10,819</b>	<b>11,904</b>	<b>12,179</b>	<b>11,877</b>	<b>12,174</b>	<b>12,550</b>	<b>12,748</b>	<b>12,975</b>	<b>11,946</b>	<b>12,315</b>	<b>11,408</b>	<b>11,876</b>	<b>11,205</b>	<b>11,208</b>	<b>11,766</b>	<b>11,346</b>	<b>11,799</b>	<b>11,819</b>	<b>12,000</b>	<b>13,431</b>
<b>Import by energy source in mill. tce</b>																						
Hard coal	mill. tce	15.2	16.8	32.6	37.5	37.5	39.9	41.3	38.7	46.6	48.0	46.6	38.1	47.2	48.8	49.7	55.0	53.1	52.7	55.8	48.1	44.1
Lignite	mill. tce	2.0	1.3	1.0	1.1	0.5	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0
Petroleum	mill. tce	194.2	209.5	212.6	216.6	205.9	207.7	211.2	216.0	216.3	197.9	204.3	190.3	186.9	178.9	182.4	186.3	183.4	186.6	188.5	191.1	182.1
Gases	mill. tce	61.1	79.2	91.3	90.9	94.3	100.5	108.0	113.0	111.7	103.9	108.9	105.2	112.8	107.6	106.1	117.4	107.9	123.1	122.7	137.1	196.6
Natural gas, Petroleum gas	mill. tce	61.1	79.2	91.3	90.9	94.3	100.5	108.0	113.0	111.7	103.9	108.9	105.2	112.8	107.6	106.1	117.4	107.9	123.1	122.7	137.1	196.6
Renewable Energy Sources	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.6	0.7	1.7	1.6	1.6	1.5	1.3	1.2	3.4
Other energy sources	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	mill. tce	3.9	4.9	5.5	5.7	5.7	5.6	5.4	6.6	5.7	5.4	4.9	5.0	5.2	6.1	5.4	4.8	5.0	4.5	3.5	3.4	3.9
Nuclear energy	mill. tce	54.8	57.4	63.2	63.7	61.4	61.4	62.2	60.7	62.3	52.3	55.4	50.2	52.3	40.2	37.0	36.2	36.2	34.2	31.5	28.4	28.3
<b>Total</b>	<b>mill. tce</b>	<b>331.3</b>	<b>369.1</b>	<b>406.2</b>	<b>415.5</b>	<b>405.2</b>	<b>415.4</b>	<b>428.2</b>	<b>435.0</b>	<b>442.7</b>	<b>407.6</b>	<b>420.2</b>	<b>389.2</b>	<b>405.2</b>	<b>382.3</b>	<b>382.4</b>	<b>401.5</b>	<b>387.1</b>	<b>402.6</b>	<b>403.3</b>	<b>409.4</b>	<b>458.3</b>
<b>Import by energy source in %</b>																						
Hard coal	%	4.6	4.5	8.0	9.0	9.2	9.6	9.6	8.9	10.5	11.8	11.1	9.8	11.7	12.8	13.0	13.7	13.7	13.1	13.8	11.8	9.6
Lignite	%	0.6	0.4	0.3	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum	%	58.6	56.8	52.3	52.1	50.8	50.0	49.3	49.6	48.9	48.5	48.6	48.9	46.1	46.8	47.7	46.4	47.4	46.3	46.7	46.7	39.7
Gases	%	18.5	21.5	22.5	21.9	23.3	24.2	25.2	26.0	25.2	25.5	25.9	27.0	27.8	28.1	27.8	29.2	27.9	30.6	30.4	33.5	42.9
Natural gas, Petroleum gas	%	18.5	21.5	22.5	21.9	23.3	24.2	25.2	26.0	25.2	25.5	25.9	27.0	27.8	28.1	27.8	29.2	27.9	30.6	30.4	33.5	42.9
Renewable Energy Sources	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.4	0.4	0.4	0.4	0.3	0.3	0.7
Other energy sources	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	%	1.2	1.3	1.4	1.4	1.4	1.4	1.3	1.5	1.3	1.3	1.2	1.3	1.3	1.6	1.4	1.2	1.3	1.1	0.9	0.8	0.9
Nuclear energy	%	16.5	15.5	15.6	15.3	15.1	14.8	14.5	14.0	14.1	12.8	13.2	12.9	12.9	10.5	9.7	9.0	9.3	8.5	7.8	6.9	6.2
<b>Total</b>	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Import by energy source, changes compared to the previous year in %</b>																						
Hard coal	%	n/a	-3.1	16.9	15.1	0.0	6.6	3.4	-6.2	20.3	2.9	-3.0	-18.3	24.1	3.2	2.0	10.7	-3.6	-0.7	5.8	-13.7	-8.4
Lignite	%	n/a	-18.9	-15.3	11.8	-56.0	-78.6	-41.6	4.8	131.0	-28.5	-14.1	-6.0	-18.2	-16.2	-31.3	50.1	16.8	-35.1	-34.9	-28.5	81.5
Petroleum	%	n/a	-6.3	1.1	1.9	-4.9	0.9	1.7	2.2	0.2	-8.5	3.3	-6.8	-1.8	-4.3	2.0	2.1	-1.6	1.8	1.0	1.4	-4.7
Gases	%	n/a	5.0	1.4	-0.5	3.8	6.6	7.4	4.6	-1.2	-6.9	4.8	-3.4	7.3	-4.6	-1.4	10.6	-8.1	14.0	-0.3	11.8	43.3
Natural gas, Petroleum gas	%	n/a	5.0	1.4	-0.5	3.8	6.6	7.4	4.6	-1.2	-6.9	4.8	-3.4	7.3	-4.6	-1.4	10.6	-8.1	14.0	-0.3	11.8	43.3
Renewable Energy Sources	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	82.7	8.6	137.6	-2.5	-2.6	-5.7	-14.7	-6.9	183.3
Other energy sources	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-100.0	0.0	0.0
Electricity	%	n/a	7.3	11.2	2.9	-0.5	-1.0	-3.4	20.9	-13.7	-4.1	-9.1	0.8	4.0	17.9	-11.2	-11.2	3.1	-8.5	-23.4	-1.8	14.0
Nuclear energy	%	n/a	1.9	-0.2	0.9	-3.8	0.1	1.2	-2.4	2.6	-16.0	5.9	-9.3	4.2	-23.2	-7.9	-2.2	-0.2	-5.5	-7.8	-9.8	-0.4
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>-2.6</b>	<b>2.2</b>	<b>2.3</b>	<b>-2.5</b>	<b>2.5</b>	<b>3.1</b>	<b>1.6</b>	<b>1.8</b>	<b>-7.9</b>	<b>3.1</b>	<b>-7.4</b>	<b>4.1</b>	<b>-5.7</b>	<b>0.0</b>	<b>5.0</b>	<b>-3.6</b>	<b>4.0</b>	<b>0.2</b>	<b>1.5</b>	<b>11.9</b>

2018: data is provisional

Other energy sources: incl. import of district heat

### 1.3 Export by energy source

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Export by energy source in PJ</b>																						
Hard coal	PJ	267	82	48	39	18	56	55	59	56	60	66	40	64	29	71	16	20	15	29	31	30
Lignite	PJ	92	15	13	14	12	13	14	16	20	20	24	24	27	29	33	33	45	42	30	32	32
Petroleum	PJ	620	633	923	821	838	819	1,049	1,138	1,174	1,213	1,079	943	784	771	791	847	886	935	952	975	938
Gases	PJ	41	101	307	221	243	448	503	712	545	551	529	465	720	619	599	773	784	1,144	811	1,129	2,799
Natural gas, Petroleum gas	PJ	39	101	306	220	243	448	503	712	545	551	529	465	720	619	599	773	784	1,144	811	1,129	2,799
Renewable Energy Sources	PJ	3	0	0	0	0	0	0	0	0	0	0	18	27	21	41	59	72	66	61	58	88
Other energy sources	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity	PJ	112	126	151	157	164	194	185	223	237	228	226	198	216	202	242	257	268	307	284	289	290
Nuclear energy	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>PJ</b>	<b>1,135</b>	<b>957</b>	<b>1,442</b>	<b>1,253</b>	<b>1,276</b>	<b>1,530</b>	<b>1,806</b>	<b>2,148</b>	<b>2,033</b>	<b>2,073</b>	<b>1,925</b>	<b>1,688</b>	<b>1,837</b>	<b>1,672</b>	<b>1,778</b>	<b>1,985</b>	<b>2,074</b>	<b>2,509</b>	<b>2,167</b>	<b>2,514</b>	<b>4,177</b>
<b>Export by energy source in mill. tce</b>																						
Hard coal	mill. tce	9.1	2.8	1.6	1.3	0.6	1.9	1.9	2.0	1.9	2.1	2.3	1.4	2.2	1.0	2.4	0.5	0.7	0.5	1.0	1.1	1.0
Lignite	mill. tce	3.1	0.5	0.4	0.5	0.4	0.5	0.5	0.6	0.7	0.7	0.8	0.8	0.9	1.0	1.1	1.1	1.5	1.4	1.0	1.1	1.1
Petroleum	mill. tce	21.2	21.6	31.5	28.0	28.6	27.9	35.8	38.8	40.1	41.4	36.8	32.2	26.7	26.3	27.0	28.9	30.2	31.9	32.5	33.3	32.0
Gases	mill. tce	1.4	3.5	10.5	7.5	8.3	15.3	17.2	24.3	18.6	18.8	18.1	15.9	24.6	21.1	20.4	26.4	26.7	39.0	27.7	38.5	95.5
Natural gas, Petroleum gas	mill. tce	1.3	3.4	10.5	7.5	8.3	15.3	17.2	24.3	18.6	18.8	18.1	15.9	24.6	21.1	20.4	26.4	26.7	39.0	27.7	38.5	95.5
Renewable Energy Sources	mill. tce	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.9	0.7	1.4	2.0	2.5	2.2	2.1	2.0	3.0
Other energy sources	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	mill. tce	3.8	4.3	5.2	5.4	5.6	6.6	6.3	7.6	8.1	7.8	7.7	6.7	7.4	6.9	8.3	8.8	9.1	10.5	9.7	9.9	9.9
Nuclear energy	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>mill. tce</b>	<b>38.7</b>	<b>32.7</b>	<b>49.2</b>	<b>42.7</b>	<b>43.5</b>	<b>52.2</b>	<b>61.6</b>	<b>73.3</b>	<b>69.4</b>	<b>70.7</b>	<b>65.7</b>	<b>57.6</b>	<b>62.7</b>	<b>57.1</b>	<b>60.7</b>	<b>67.7</b>	<b>70.8</b>	<b>85.6</b>	<b>73.9</b>	<b>85.8</b>	<b>142.5</b>
<b>Export by energy source in %</b>																						
Hard coal	%	23.6	8.6	3.3	3.1	1.4	3.6	3.0	2.7	2.8	2.9	3.4	2.3	3.5	1.8	4.0	0.8	1.0	0.6	1.3	1.2	0.7
Lignite	%	8.1	1.6	0.9	1.1	1.0	0.9	0.8	0.8	1.0	1.0	1.3	1.4	1.5	1.7	1.8	1.7	2.2	1.7	1.4	1.3	0.8
Petroleum	%	54.6	66.1	64.0	65.5	65.7	53.5	58.1	53.0	57.8	58.5	56.0	55.9	42.7	46.1	44.5	42.7	42.7	37.3	43.9	38.8	22.5
Gases	%	3.6	10.6	21.3	17.6	19.1	29.3	27.8	33.1	26.8	26.6	27.5	27.6	39.2	37.0	33.7	38.9	37.8	45.6	37.4	44.9	67.0
Natural gas, Petroleum gas	%	3.5	10.5	21.2	17.6	19.0	29.3	27.8	33.1	26.8	26.6	27.5	27.6	39.2	37.0	33.7	38.9	37.8	45.6	37.4	44.9	67.0
Renewable Energy Sources	%	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.1	1.5	1.3	2.3	3.0	3.5	2.6	2.8	2.3	2.1
Other energy sources	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	%	9.9	13.1	10.5	12.6	12.8	12.7	10.3	10.4	11.7	11.0	11.7	11.7	11.7	12.1	13.6	12.9	12.9	12.2	13.1	11.5	6.9
Nuclear energy	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Export by energy source, changes compared to the previous year in %</b>																						
Hard coal	%	n/a	-28.5	79.4	-18.0	-53.5	206.4	-1.7	7.6	-4.9	7.5	10.1	-40.4	60.9	-53.7	141.1	-77.5	27.1	-24.5	87.9	7.0	-2.4
Lignite	%	n/a	-26.7	16.1	9.5	-15.0	10.2	2.5	17.5	21.5	0.6	23.4	-1.0	9.9	9.2	12.5	1.4	36.0	-7.2	-28.6	7.4	-1.9
Petroleum	%	n/a	-35.5	18.9	-11.0	2.1	-2.3	28.1	8.4	3.2	3.3	-11.1	-12.6	-16.9	-1.6	2.6	7.1	4.5	5.6	1.8	2.5	-3.8
Gases	%	n/a	-32.4	49.2	-28.2	10.1	84.5	12.1	41.6	-23.4	1.1	-4.0	-12.1	54.7	-14.0	-3.3	29.0	1.4	45.9	-29.1	39.2	147.9
Natural gas, Petroleum gas	%	n/a	-32.6	49.5	-28.1	10.3	84.6	12.1	41.6	-23.4	1.1	-4.0	-12.1	54.7	-14.0	-3.3	29.0	1.4	45.9	-29.1	39.2	147.9
Renewable Energy Sources	%	n/a	-100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	52.2	-21.7	96.5	43.1	21.1	-8.3	-7.6	-5.4	52.6
Other energy sources	%	n/a	0.0	0.0	0.0	0.0	0.0	39.0	17.3	-4.8	-8.4	11.4	-2.0	11.3	-10.5	81.9	-63.3	-11.3	43.3	-35.6	39.2	0.0
Electricity	%	n/a	0.6	6.4	4.0	4.1	18.2	-4.3	20.2	6.4	-3.8	-1.1	-12.4	9.1	-6.5	20.1	6.2	4.1	14.8	-7.5	1.8	0.2
Nuclear energy	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>-31.3</b>	<b>24.1</b>	<b>-13.1</b>	<b>1.8</b>	<b>20.0</b>	<b>18.0</b>	<b>18.9</b>	<b>-5.4</b>	<b>2.0</b>	<b>-7.2</b>	<b>-12.3</b>	<b>8.8</b>	<b>-9.0</b>	<b>6.3</b>	<b>11.7</b>	<b>4.5</b>	<b>21.0</b>	<b>-13.6</b>	<b>16.0</b>	<b>66.1</b>

2018: data is provisional

Other energy sources: incl. export of district heat

## 1.4 Net import by energy source

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Net import by energy source in PJ</b>																						
Hard coal	PJ	177	410	906	1,059	1,080	1,115	1,155	1,076	1,310	1,346	1,298	1,076	1,321	1,399	1,386	1,597	1,535	1,529	1,605	1,380	1,262
Lignite	PJ	-32	24	17	19	3	-10	-12	-14	-15	-17	-22	-22	-25	-27	-31	-31	-43	-40	-29	-31	-30
Petroleum	PJ	5,072	5,508	5,308	5,527	5,197	5,269	5,141	5,192	5,166	4,586	4,910	4,635	4,695	4,472	4,556	4,614	4,489	4,534	4,573	4,626	4,397
Gases	PJ	1,751	2,220	2,368	2,443	2,522	2,498	2,663	2,599	2,727	2,495	2,663	2,618	2,587	2,535	2,511	2,667	2,379	2,463	2,785	2,890	2,961
Natural gas, Petroleum gas	PJ	1,752	2,221	2,369	2,443	2,522	2,498	2,663	2,599	2,727	2,495	2,663	2,618	2,587	2,535	2,511	2,667	2,379	2,463	2,785	2,890	2,961
Renewable Energy Sources	PJ	-3	0	0	0	0	0	0	0	0	0	0	-7	-8	-1	7	-12	-26	-22	-24	-23	10
Other energy sources	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity	PJ	3	17	11	10	2	-29	-26	-31	-71	-69	-81	-52	-64	-23	-83	-116	-122	-174	-182	-189	-175
Nuclear energy	PJ	1,606	1,682	1,851	1,868	1,798	1,801	1,822	1,779	1,826	1,533	1,623	1,472	1,533	1,178	1,085	1,061	1,060	1,001	923	833	829
<b>Total</b>	<b>PJ</b>	<b>8,573</b>	<b>9,862</b>	<b>10,462</b>	<b>10,926</b>	<b>10,601</b>	<b>10,644</b>	<b>10,744</b>	<b>10,601</b>	<b>10,942</b>	<b>9,873</b>	<b>10,391</b>	<b>9,720</b>	<b>10,039</b>	<b>9,533</b>	<b>9,430</b>	<b>9,781</b>	<b>9,272</b>	<b>9,290</b>	<b>9,652</b>	<b>9,486</b>	<b>9,253</b>
<b>Net import by energy source in mill. tce</b>																						
Hard coal	mill. tce	6.1	14.0	30.9	36.1	36.8	38.0	39.4	36.7	44.7	45.9	44.3	36.7	45.1	47.7	47.3	54.5	52.4	52.2	54.8	47.1	43.0
Lignite	mill. tce	-1.1	0.8	0.6	0.7	0.1	-0.4	-0.4	-0.5	-0.5	-0.6	-0.7	-0.7	-0.8	-0.9	-1.1	-1.1	-1.5	-1.4	-1.0	-1.1	-1.0
Petroleum	mill. tce	173.1	187.9	181.1	188.6	177.3	179.8	175.4	177.1	176.3	156.5	167.5	158.2	160.2	152.6	155.4	157.4	153.2	154.7	156.0	157.9	150.0
Gases	mill. tce	59.7	75.8	80.8	83.3	86.0	85.2	90.9	88.7	93.1	85.1	90.9	89.3	88.3	86.5	85.7	91.0	81.2	84.0	95.0	98.6	101.0
Natural gas, Petroleum gas	mill. tce	59.8	75.8	80.8	83.4	86.0	85.2	90.9	88.7	93.1	85.1	90.9	89.3	88.3	86.5	85.7	91.0	81.2	84.0	95.0	98.6	101.0
Renewable Energy Sources	mill. tce	-0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.3	-0.3	0.0	0.2	-0.4	-0.9	-0.8	-0.8	-0.8	0.4
Other energy sources	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	mill. tce	0.1	0.6	0.4	0.3	0.1	-1.0	-0.9	-1.0	-2.4	-2.3	-2.8	-1.8	-2.2	-0.8	-2.8	-4.0	-4.2	-5.9	-6.2	-6.4	-6.0
Nuclear energy	mill. tce	54.8	57.4	63.2	63.7	61.4	61.4	62.2	60.7	62.3	52.3	55.4	50.2	52.3	40.2	37.0	36.2	36.2	34.2	31.5	28.4	28.3
<b>Total</b>	<b>mill. tce</b>	<b>292.5</b>	<b>336.5</b>	<b>357.0</b>	<b>372.8</b>	<b>361.7</b>	<b>363.2</b>	<b>366.6</b>	<b>361.7</b>	<b>373.3</b>	<b>336.9</b>	<b>354.5</b>	<b>331.6</b>	<b>342.5</b>	<b>325.3</b>	<b>321.8</b>	<b>333.7</b>	<b>316.4</b>	<b>317.0</b>	<b>329.3</b>	<b>323.7</b>	<b>315.7</b>
<b>Net import by energy source in %</b>																						
Hard coal	%	2.1	4.2	8.7	9.7	10.2	10.5	10.8	10.2	12.0	13.6	12.5	11.1	13.2	14.7	14.7	16.3	16.6	16.5	16.6	14.5	13.6
Lignite	%	-0.4	0.2	0.2	0.2	0.0	-0.1	-0.1	-0.1	-0.1	-0.2	-0.2	-0.2	-0.2	-0.3	-0.3	-0.3	-0.5	-0.4	-0.3	-0.3	-0.3
Petroleum	%	59.2	55.9	50.7	50.6	49.0	49.5	47.9	49.0	47.2	46.4	47.3	47.7	46.8	46.9	48.3	47.2	48.4	48.8	47.4	48.8	47.5
Gases	%	20.4	22.5	22.6	22.4	23.8	23.5	24.8	24.5	24.9	25.3	25.6	26.9	25.8	26.6	26.6	27.3	25.7	26.5	28.9	30.5	32.0
Natural gas, Petroleum gas	%	20.4	22.5	22.6	22.4	23.8	23.5	24.8	24.5	24.9	25.3	25.6	26.9	25.8	26.6	26.6	27.3	25.7	26.5	28.9	30.5	32.0
Renewable Energy Sources	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-0.1	-0.1	0.0	0.1	-0.1	-0.3	-0.2	-0.2	-0.2	0.1
Other energy sources	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	%	0.0	0.2	0.1	0.1	0.0	-0.3	-0.2	-0.3	-0.7	-0.7	-0.8	-0.5	-0.6	-0.2	-0.9	-1.2	-1.3	-1.9	-1.9	-2.0	-1.9
Nuclear energy	%	18.7	17.1	17.7	17.1	17.0	16.9	17.0	16.8	16.7	15.5	15.6	15.1	15.3	12.4	11.5	10.9	11.4	10.8	9.6	8.8	9.0
<b>Total</b>	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Net import by energy source, changes compared to the previous year in %</b>																						
Hard coal	%	n/a	4.3	14.8	16.8	2.0	3.3	3.6	-6.8	21.7	2.7	-3.5	-17.1	22.8	5.9	-0.9	15.2	-3.9	-0.4	5.0	-14.0	-8.6
Lignite	%	n/a	-13.1	-30.0	13.6	-86.9	-510.2	16.0	19.4	6.7	9.2	30.6	-0.3	13.2	11.3	15.3	-0.5	37.1	-5.9	-28.3	8.5	-3.6
Petroleum	%	n/a	-1.2	-1.4	4.1	-6.0	1.4	-2.4	1.0	-0.5	-11.2	7.1	-5.6	1.3	-4.8	1.9	1.3	-2.7	1.0	0.9	1.2	-5.0
Gases	%	n/a	7.7	-2.7	3.1	3.2	-0.9	6.6	-2.4	4.9	-8.5	6.7	-1.7	-1.2	-2.0	-0.9	6.2	-10.8	3.5	13.1	3.8	2.5
Natural gas, Petroleum gas	%	n/a	7.7	-2.7	3.1	3.2	-0.9	6.6	-2.4	4.9	-8.5	6.7	-1.7	-1.2	-2.0	-0.9	6.2	-10.8	3.5	13.1	3.8	2.5
Renewable Energy Sources	%	n/a	-100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	9.5	-92.7	-1340.5	-262.4	116.5	-13.1	6.3	-3.1	-144.9
Other energy sources	%	n/a	0.0	0.0	0.0	0.0	0.0	39.0	17.3	-4.8	-8.4	11.4	-2.0	11.3	-10.5	81.9	-63.3	-11.3	2.8	-10.3	-4.6	0.0
Electricity	%	n/a	106.4	193.9	-10.9	-74.7	-1272.9	-9.5	16.0	133.3	-3.3	17.4	-36.2	23.5	-64.6	268.2	39.4	5.3	42.5	4.6	3.8	-7.1
Nuclear energy	%	n/a	1.9	-0.2	0.9	-3.8	0.1	1.2	-2.4	2.6	-16.0	5.9	-9.3	4.2	-23.2	-7.9	-2.2	-0.2	-5.5	-7.8	-9.8	-0.4
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>1.6</b>	<b>-0.3</b>	<b>4.4</b>	<b>-3.0</b>	<b>0.4</b>	<b>0.9</b>	<b>-1.3</b>	<b>3.2</b>	<b>-9.8</b>	<b>5.2</b>	<b>-6.5</b>	<b>3.3</b>	<b>-5.0</b>	<b>-1.1</b>	<b>3.7</b>	<b>-5.2</b>	<b>0.2</b>	<b>3.9</b>	<b>-1.7</b>	<b>-2.4</b>

2018: data is provisional

Other energy sources: incl. trade balance of district heat



## 1.5 Bunkers on sea-going ships

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Bunkers on sea-going ships in PJ</b>																						
Diesel oil	PJ	23.3	20.4	21.5	19.7	20.6	21.5	19.0	18.6	22.4	24.4	20.3	20.7	22.5	21.0	18.6	18.3	20.9	43.4	42.6	9.8	0.0
Fuel oil light	PJ	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	27.1	31.4
Fuel oil heavy	PJ	80.2	64.4	69.6	72.3	77.9	87.0	92.0	85.4	85.3	104.1	103.8	92.6	93.1	92.6	87.6	77.8	73.7	57.9	74.8	58.8	39.6
Other petroleum products	PJ	1.8	2.1	1.6	1.3	1.6	0.5	0.4	0.3	0.2	0.0	0.4	0.7	0.6	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0
<b>Total</b>	<b>PJ</b>	<b>105.4</b>	<b>86.9</b>	<b>92.7</b>	<b>93.3</b>	<b>100.1</b>	<b>109.1</b>	<b>111.4</b>	<b>104.3</b>	<b>107.9</b>	<b>128.6</b>	<b>124.5</b>	<b>114.1</b>	<b>116.2</b>	<b>113.9</b>	<b>106.3</b>	<b>96.1</b>	<b>94.7</b>	<b>101.3</b>	<b>117.5</b>	<b>95.7</b>	<b>71.0</b>
<b>Bunkers on sea-going ships in mill. tce</b>																						
Diesel oil	mill. tce	0.8	0.7	0.7	0.7	0.7	0.7	0.6	0.6	0.8	0.8	0.7	0.7	0.8	0.7	0.6	0.6	0.7	1.5	1.5	0.3	0.0
Fuel oil light	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	1.1
Fuel oil heavy	mill. tce	2.7	2.2	2.4	2.5	2.7	3.0	3.1	2.9	2.9	3.6	3.5	3.2	3.2	3.2	3.0	2.7	2.5	2.0	2.6	2.0	1.4
Other petroleum products	mill. tce	0.1	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>mill. tce</b>	<b>3.6</b>	<b>3.0</b>	<b>3.2</b>	<b>3.2</b>	<b>3.4</b>	<b>3.7</b>	<b>3.8</b>	<b>3.6</b>	<b>3.7</b>	<b>4.4</b>	<b>4.2</b>	<b>3.9</b>	<b>4.0</b>	<b>3.9</b>	<b>3.6</b>	<b>3.3</b>	<b>3.2</b>	<b>3.5</b>	<b>4.0</b>	<b>3.3</b>	<b>2.4</b>
<b>Bunkers on sea-going ships in %</b>																						
Diesel oil	%	22.1	23.5	23.2	21.1	20.6	19.7	17.0	17.9	20.7	19.0	16.3	18.2	19.4	18.5	17.5	19.1	22.1	42.8	36.3	10.3	0.0
Fuel oil light	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	28.3	44.2
Fuel oil heavy	%	76.2	74.1	75.0	77.5	77.9	79.8	82.6	81.9	79.0	81.0	83.4	81.2	80.1	81.3	82.4	80.9	77.9	57.2	63.7	61.4	55.8
Other petroleum products	%	1.7	2.4	1.8	1.4	1.6	0.5	0.3	0.3	0.2	0.0	0.3	0.6	0.5	0.2	0.0	0.1	0.1	0.0	0.0	0.0	0.0
<b>Total</b>	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Bunkers on sea-going ships, changes compared to the previous year in %</b>																						
Diesel oil	%	n/a	3.8	3.8	-8.6	4.5	4.6	-11.9	-1.8	20.1	9.2	-16.9	2.2	8.4	-6.4	-11.5	-1.5	14.0	107.6	-1.8	-77.0	-100.0
Fuel oil light	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	16.1
Fuel oil heavy	%	n/a	0.0	5.4	3.9	7.7	11.7	5.7	-7.2	-0.1	22.0	-0.2	-10.8	0.5	-0.4	-5.5	-11.2	-5.2	-21.5	29.3	-21.5	-32.7
Other petroleum products	%	n/a	-11.6	-4.8	-21.7	23.1	-68.4	-24.7	-24.7	-16.1	-80.0	655.3	96.3	-12.5	-65.1	-75.6	1.9	1.9	-42.6	-12.9	-22.2	-100.0
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>0.6</b>	<b>4.8</b>	<b>0.6</b>	<b>7.3</b>	<b>9.0</b>	<b>2.1</b>	<b>-6.4</b>	<b>3.5</b>	<b>19.2</b>	<b>-3.2</b>	<b>-8.4</b>	<b>1.8</b>	<b>-1.9</b>	<b>-6.7</b>	<b>-9.5</b>	<b>-1.5</b>	<b>7.0</b>	<b>16.0</b>	<b>-18.6</b>	<b>-25.8</b>

2018: data is provisional



## 2.2 Structure of energy consumption by sector

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Structure of energy consumption by sector in PJ</b>																						
Indigenous energy production	PJ	6,224	4,328	3,793	3,714	3,750	3,955	4,040	4,099	4,103	4,315	4,123	4,036	4,155	4,246	4,124	4,109	4,033	4,076	3,973	4,051	3,886
<b>Primary energy consumption</b>	<b>PJ</b>	<b>14,905</b>	<b>14,269</b>	<b>14,401</b>	<b>14,679</b>	<b>14,427</b>	<b>14,600</b>	<b>14,591</b>	<b>14,558</b>	<b>14,837</b>	<b>14,197</b>	<b>14,380</b>	<b>13,531</b>	<b>14,217</b>	<b>13,599</b>	<b>13,447</b>	<b>13,822</b>	<b>13,180</b>	<b>13,262</b>	<b>13,491</b>	<b>13,523</b>	<b>13,106</b>
Transformation input	PJ	12,893	11,450	11,617	11,530	11,478	11,875	12,140	12,357	12,512	12,382	12,134	11,241	11,458	11,066	10,858	10,796	10,600	10,666	10,701	10,597	10,183
Transformation output	PJ	9,320	8,232	8,307	8,160	8,152	8,533	8,771	8,959	8,986	8,910	8,733	8,098	8,167	8,002	8,000	7,885	7,747	7,892	8,027	8,046	7,759
Cons., losses in energy sector	PJ	902	765	788	822	829	873	906	919	947	897	809	770	582	626	694	760	638	628	781	774	796
Non-energy consumption	PJ	958	963	1,068	1,031	1,046	1,025	1,033	1,114	1,068	1,032	1,011	952	1,034	1,027	976	972	990	961	964	989	889
Final energy consumption	PJ	9,472	9,322	9,235	9,455	9,226	9,360	9,284	9,127	9,297	8,796	9,159	8,665	9,310	8,881	8,919	9,179	8,699	8,898	9,071	9,208	8,996
Mining, quarrying, manufact.	PJ	2,977	2,474	2,421	2,365	2,322	2,545	2,581	2,514	2,525	2,628	2,587	2,291	2,592	2,634	2,587	2,551	2,545	2,548	2,609	2,666	2,651
Transport	PJ	2,379	2,614	2,751	2,698	2,672	2,601	2,616	2,586	2,614	2,601	2,571	2,541	2,559	2,568	2,559	2,612	2,616	2,621	2,690	2,765	2,705
Private households	PJ	2,357	2,655	2,584	2,822	2,689	2,750	2,634	2,591	2,622	2,259	2,558	2,478	2,676	2,333	2,427	2,556	2,188	2,302	2,376	2,342	2,291
Services	PJ	1,759	1,579	1,478	1,571	1,544	1,465	1,452	1,437	1,535	1,308	1,443	1,355	1,483	1,346	1,345	1,460	1,350	1,428	1,396	1,434	1,350
<b>Structure of energy consumption by sector in mill. tce</b>																						
Indigenous energy production	mill. tce	212.4	147.7	129.4	126.7	128.0	135.0	137.8	139.8	140.0	147.2	140.7	137.7	141.8	144.9	140.7	140.2	137.6	139.1	135.5	138.2	132.6
<b>Primary energy consumption</b>	<b>mill. tce</b>	<b>508.6</b>	<b>486.9</b>	<b>491.4</b>	<b>500.8</b>	<b>492.3</b>	<b>498.2</b>	<b>497.9</b>	<b>496.7</b>	<b>506.2</b>	<b>484.4</b>	<b>490.6</b>	<b>461.7</b>	<b>485.1</b>	<b>464.0</b>	<b>458.8</b>	<b>471.6</b>	<b>449.7</b>	<b>452.5</b>	<b>460.3</b>	<b>461.4</b>	<b>447.2</b>
Transformation input	mill. tce	439.9	390.7	396.4	393.4	391.7	405.2	414.2	421.6	426.9	422.5	414.0	383.5	391.0	377.6	370.5	368.4	361.7	363.9	365.1	361.6	347.5
Transformation output	mill. tce	318.0	280.9	283.4	278.4	278.2	291.1	299.3	305.7	306.6	304.0	298.0	276.3	278.7	273.0	273.0	269.0	264.3	269.3	273.9	274.5	264.7
Cons., losses in energy sector	mill. tce	30.8	26.1	26.9	28.1	28.3	29.8	30.9	31.3	32.3	30.6	27.6	26.3	19.9	21.4	23.7	25.9	21.8	21.4	26.6	26.4	27.2
Non-energy consumption	mill. tce	32.7	32.9	36.4	35.2	35.7	35.0	35.2	38.0	36.4	35.2	34.5	32.5	35.3	35.1	33.3	33.2	33.8	32.8	32.9	33.8	30.3
Final energy consumption	mill. tce	323.2	318.1	315.1	322.6	314.8	319.4	316.8	311.4	317.2	300.1	312.5	295.7	317.7	303.0	304.3	313.2	296.8	303.6	309.5	314.2	306.9
Mining, quarrying, manufact.	mill. tce	101.6	84.4	82.6	80.7	79.2	86.8	88.1	85.8	86.2	89.7	88.3	78.2	88.4	89.9	88.3	87.0	86.9	86.9	89.0	91.0	90.4
Transport	mill. tce	81.2	89.2	93.9	92.0	91.2	88.7	89.3	88.2	89.2	88.7	87.7	86.7	87.3	87.6	87.3	89.1	89.2	89.4	91.8	94.4	92.3
Private households	mill. tce	80.4	90.6	88.2	96.3	91.7	93.8	89.9	88.4	89.5	77.1	87.3	84.5	91.3	79.6	82.8	87.2	74.7	78.5	81.1	79.9	78.2
Services	mill. tce	60.0	53.9	50.4	53.6	52.7	50.0	49.5	49.0	52.4	44.6	49.2	46.2	50.6	45.9	45.9	49.8	46.1	48.7	47.6	48.9	46.1
<b>Structure of energy consumption by sector, changes compared to the previous year in %</b>																						
Indigenous energy production	%	n/a	-1.0	-1.6	-2.1	1.0	5.5	2.1	1.5	0.1	5.2	-4.5	-2.1	3.0	2.2	-2.9	-0.4	-1.9	1.1	-2.5	2.0	-4.1
<b>Primary energy consumption</b>	<b>%</b>	<b>n/a</b>	<b>0.6</b>	<b>0.5</b>	<b>1.9</b>	<b>-1.7</b>	<b>1.2</b>	<b>-0.1</b>	<b>-0.2</b>	<b>1.9</b>	<b>-4.3</b>	<b>1.3</b>	<b>-5.9</b>	<b>5.1</b>	<b>-4.3</b>	<b>-1.1</b>	<b>2.8</b>	<b>-4.6</b>	<b>0.6</b>	<b>1.7</b>	<b>0.2</b>	<b>-3.1</b>
Transformation input	%	n/a	-2.4	2.6	-0.7	-0.4	3.5	2.2	1.8	1.2	-1.0	-2.0	-7.4	1.9	-3.4	-1.9	-0.6	-1.8	0.6	0.3	-1.0	-3.9
Transformation output	%	n/a	-2.3	2.8	-1.8	-0.1	4.7	2.8	2.1	0.3	-0.8	-2.0	-7.3	0.9	-2.0	0.0	-1.4	-1.8	1.9	1.7	0.2	-3.6
Cons., losses in energy sector	%	n/a	-5.5	5.0	4.3	0.8	5.3	3.8	1.4	3.1	-5.2	-9.8	-4.8	-24.4	7.6	10.9	9.5	-16.2	-1.5	24.4	-0.8	2.8
Non-energy consumption	%	n/a	-0.1	3.2	-3.4	1.4	-2.0	0.8	7.9	-4.2	-3.3	-2.1	-5.8	8.6	-0.7	-5.0	-0.4	1.8	-2.9	0.3	2.6	-10.1
Final energy consumption	%	n/a	2.3	-0.7	2.4	-2.4	1.5	-0.8	-1.7	1.9	-5.4	4.1	-5.4	7.4	-4.6	0.4	2.9	-5.2	2.3	1.9	1.5	-2.3
Mining, quarrying, manufact.	%	n/a	0.4	1.6	-2.3	-1.8	9.6	1.4	-2.6	0.5	4.1	-1.6	-11.4	13.2	1.6	-1.8	-1.4	-0.2	0.1	2.4	2.2	-0.6
Transport	%	n/a	2.4	-1.1	-2.0	-1.0	-2.7	0.6	-1.2	1.1	-0.5	-1.1	-1.2	0.7	0.3	-0.4	2.1	0.2	0.2	2.6	2.8	-2.2
Private households	%	n/a	4.6	-1.1	9.2	-4.7	2.3	-4.2	-1.6	1.2	-13.9	13.3	-3.1	8.0	-12.8	4.0	5.3	-14.4	5.2	3.2	-1.4	-2.2
Services	%	n/a	1.5	-3.0	6.3	-1.7	-5.1	-0.9	-1.0	6.8	-14.8	10.3	-6.1	9.4	-9.2	-0.1	8.5	-7.6	5.8	-2.2	2.7	-5.9

2018: data is provisional

### 3.1 Renewables' primary energy consumption

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Renewables' primary energy consumption in PJ</b>																						
Hydropower	PJ						64	72	70	72	76	74	69	75	64	78	83	71	68	74	73	65
Wind energy	PJ	58	83	127	124	145	67	92	98	111	143	146	139	136	176	182	186	206	285	288	380	396
Photovoltaics	PJ						1	2	5	8	11	16	24	42	70	95	112	130	139	137	142	165
Solarthermal energy	PJ						8	9	10	12	13	15	17	19	20	24	24	26	28	28	28	32
Geothermal energy	PJ	0	7	9	11	13	0	0	0	1	1	1	1	1	1	7	6	8	9	11	11	11
Ambient heat	PJ						6	5	6	7	8	16	17	19	22	29	31	35	37	41	45	49
Biomass	PJ						324	365	410	480	584	646	715	887	876	730	812	791	836	851	868	843
Renewable waste	PJ	139	185	280	297	297	60	64	88	102	120	102	99	106	110	114	127	131	129	133	138	126
Liquid Biofuels	PJ						30	41	81	147	161	132	121	127	124	126	117	121	112	112	113	118
<b>Total</b>	<b>PJ</b>	<b>196</b>	<b>275</b>	<b>417</b>	<b>432</b>	<b>455</b>	<b>561</b>	<b>650</b>	<b>769</b>	<b>939</b>	<b>1,117</b>	<b>1,147</b>	<b>1,201</b>	<b>1,413</b>	<b>1,463</b>	<b>1,385</b>	<b>1,499</b>	<b>1,519</b>	<b>1,644</b>	<b>1,676</b>	<b>1,797</b>	<b>1,804</b>
<b>Renewables' primary energy consumption in mill. tce</b>																						
Hydropower	mill. tce						2.2	2.4	2.4	2.5	2.6	2.5	2.3	2.6	2.2	2.7	2.8	2.4	2.3	2.5	2.5	2.2
Wind energy	mill. tce	2.0	2.8	4.3	4.2	5.0	2.3	3.1	3.3	3.8	4.9	5.0	4.7	4.6	6.0	6.2	6.4	7.0	9.7	9.8	13.0	13.5
Photovoltaics	mill. tce						0.0	0.1	0.2	0.3	0.4	0.5	0.8	1.4	2.4	3.2	3.8	4.4	4.8	4.7	4.8	5.6
Solarthermal energy	mill. tce						0.3	0.3	0.3	0.4	0.5	0.5	0.6	0.6	0.7	0.8	0.8	0.9	1.0	1.0	1.0	1.1
Geothermal energy	mill. tce	0.0	0.2	0.3	0.4	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.2	0.3	0.3	0.4	0.4	0.4
Ambient heat	mill. tce						0.2	0.2	0.2	0.2	0.3	0.5	0.6	0.7	0.7	1.0	1.1	1.2	1.3	1.4	1.5	1.7
Biomass	mill. tce						11.1	12.5	14.0	16.4	19.9	22.0	24.4	30.3	29.9	24.9	27.7	27.0	28.5	29.0	29.6	28.8
Renewable waste	mill. tce	4.7	6.3	9.6	10.1	10.2	2.1	2.2	3.0	3.5	4.1	3.5	3.4	3.6	3.8	3.9	4.3	4.5	4.4	4.6	4.7	4.3
Liquid Biofuels	mill. tce						1.0	1.4	2.8	5.0	5.5	4.5	4.1	4.3	4.2	4.3	4.0	4.1	3.8	3.8	3.9	4.0
<b>Total</b>	<b>mill. tce</b>	<b>6.7</b>	<b>9.4</b>	<b>14.2</b>	<b>14.7</b>	<b>15.5</b>	<b>19.1</b>	<b>22.2</b>	<b>26.3</b>	<b>32.0</b>	<b>38.1</b>	<b>39.1</b>	<b>41.0</b>	<b>48.2</b>	<b>49.9</b>	<b>47.3</b>	<b>51.1</b>	<b>51.8</b>	<b>56.1</b>	<b>57.2</b>	<b>61.3</b>	<b>61.5</b>
<b>Renewables' primary energy consumption in %</b>																						
Hydropower	%						11.4	11.0	9.2	7.7	6.8	6.4	5.7	5.3	4.4	5.7	5.5	4.6	4.2	4.4	4.0	3.6
Wind energy	%	29.5	30.3	30.5	28.7	31.9	12.0	14.1	12.7	11.8	12.8	12.7	11.6	9.6	12.0	13.2	12.4	13.6	17.3	17.2	21.1	21.9
Photovoltaics	%						0.2	0.3	0.6	0.9	1.0	1.4	2.0	3.0	4.8	6.9	7.4	8.5	8.5	8.2	7.9	9.1
Solarthermal energy	%						1.4	1.4	1.3	1.3	1.2	1.3	1.4	1.3	1.4	1.7	1.6	1.7	1.7	1.7	1.6	1.8
Geothermal energy	%	0.0	2.5	2.2	2.6	2.7	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.5	0.4	0.5	0.5	0.7	0.6	0.6
Ambient heat	%						1.0	0.8	0.8	0.7	0.7	1.4	1.4	1.4	1.5	2.1	2.1	2.3	2.3	2.4	2.5	2.7
Biomass	%						57.8	56.2	53.3	51.1	52.3	56.3	59.5	62.8	59.9	52.7	54.2	52.1	50.8	50.8	48.3	46.7
Renewable waste	%	70.5	67.2	67.3	68.7	65.3	10.8	9.8	11.5	10.9	10.7	8.9	8.2	7.5	7.5	8.2	8.5	8.7	7.9	8.0	7.7	7.0
Liquid Biofuels	%						5.3	6.3	10.6	15.7	14.4	11.5	10.1	9.0	8.5	9.1	7.8	8.0	6.8	6.7	6.3	6.5
<b>Total</b>	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Renewables' primary energy consumption, changes compared to the previous year in %</b>																						
Hydropower	%	n/a						12.3	-1.7	2.4	5.6	-3.4	-6.8	10.0	-15.7	23.1	5.7	-14.8	-3.1	8.3	-1.9	-10.7
Wind energy	%	n/a	24.9	39.1	-2.2	17.2	-9.1	36.4	6.8	12.8	29.3	2.2	-4.8	-2.2	29.3	3.7	2.0	10.9	38.1	1.1	31.9	4.1
Photovoltaics	%	n/a						89.5	130.2	73.2	38.5	43.7	48.8	77.6	65.5	36.4	17.6	16.3	7.4	-1.6	3.4	16.2
Solarthermal energy	%	n/a						13.9	13.7	15.8	13.0	11.7	14.6	9.9	7.7	19.6	1.0	7.6	7.1	0.0	0.6	13.0
Geothermal energy	%	n/a	0.0	11.5	22.6	10.3	11.1	0.0	21.0	16.5	-0.2	39.7	38.3	1.0	4.2	483.6	-9.7	23.3	17.6	26.0	-4.7	-0.4
Ambient heat	%	n/a						-5.6	10.5	10.7	19.8	104.1	5.6	14.1	13.0	31.9	9.3	10.7	7.8	9.8	9.4	8.5
Biomass	%	n/a						12.7	12.3	16.9	21.7	10.7	10.7	24.1	-1.2	-16.8	11.3	-2.6	5.6	1.9	2.0	-2.9
Renewable waste	%	n/a	-0.8	-7.7	5.8	0.2	39.4	5.1	38.7	15.9	17.2	-14.8	-3.4	7.8	3.6	3.4	11.7	3.4	-1.8	3.3	3.5	-8.4
Liquid Biofuels	%	n/a						36.9	98.3	80.9	9.6	-18.3	-8.0	5.0	-2.8	2.0	-7.1	3.1	-7.4	0.2	0.9	4.2
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>8.7</b>	<b>3.3</b>	<b>3.8</b>	<b>5.4</b>	<b>23.1</b>	<b>15.9</b>	<b>18.3</b>	<b>22.0</b>	<b>19.0</b>	<b>2.7</b>	<b>4.7</b>	<b>17.7</b>	<b>3.5</b>	<b>-5.3</b>	<b>8.2</b>	<b>1.3</b>	<b>8.2</b>	<b>2.0</b>	<b>7.2</b>	<b>0.3</b>

2018: data is provisional

Source: AGEE-Stat



## 4.2 Transformation input for district heating by energy source

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Transformation input for district heating by energy source in PJ</b>																						
Hard coal	PJ	93	104	96	110	108	162	165	139	126	121	126	124	139	131	136	129	110	114	104	101	101
Lignite	PJ	219	64	32	29	30	38	60	43	41	41	43	43	41	39	41	43	38	40	37	33	29
Petroleum	PJ	42	41	12	17	16	13	10	9	10	8	9	8	10	7	9	7	7	6	7	6	5
Gases	PJ	116	168	178	193	203	273	256	272	259	289	244	226	253	227	220	218	190	194	213	218	202
Natural gas, Petroleum gas	PJ	105	165	174	189	198	270	252	272	258	288	243	225	252	224	217	214	186	190	209	216	200
Renewable Energy Sources	PJ	22	10	18	14	15	23	31	42	48	48	54	62	69	72	85	85	90	96	98	99	88
Other energy sources	PJ	0	0	17	15	15	24	27	34	37	36	47	50	62	63	64	58	58	62	63	65	54
Electricity	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nuclear energy	PJ	4	1	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>PJ</b>	<b>496</b>	<b>387</b>	<b>353</b>	<b>378</b>	<b>388</b>	<b>535</b>	<b>550</b>	<b>540</b>	<b>522</b>	<b>543</b>	<b>523</b>	<b>514</b>	<b>575</b>	<b>539</b>	<b>556</b>	<b>540</b>	<b>494</b>	<b>512</b>	<b>521</b>	<b>522</b>	<b>479</b>
<b>Transformation input for district heating by energy source in mill. tce</b>																						
Hard coal	mill. tce	3.2	3.5	3.3	3.7	3.7	5.5	5.6	4.7	4.3	4.1	4.3	4.2	4.8	4.5	4.7	4.4	3.8	3.9	3.6	3.4	3.4
Lignite	mill. tce	7.5	2.2	1.1	1.0	1.0	1.3	2.1	1.5	1.4	1.4	1.5	1.5	1.4	1.3	1.4	1.5	1.3	1.4	1.3	1.1	1.0
Petroleum	mill. tce	1.4	1.4	0.4	0.6	0.5	0.5	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2
Gases	mill. tce	4.0	5.7	6.1	6.6	6.9	9.3	8.7	9.3	8.8	9.9	8.3	7.7	8.6	7.7	7.5	7.4	6.5	6.6	7.3	7.4	6.9
Natural gas, Petroleum gas	mill. tce	3.6	5.6	5.9	6.4	6.8	9.2	8.6	9.3	8.8	9.8	8.3	7.7	8.6	7.6	7.4	7.3	6.4	6.5	7.1	7.4	6.8
Renewable Energy Sources	mill. tce	0.7	0.3	0.6	0.5	0.5	0.8	1.1	1.4	1.6	1.6	1.9	2.1	2.4	2.5	2.9	2.9	3.1	3.3	3.3	3.4	3.0
Other energy sources	mill. tce	0.0	0.0	0.6	0.5	0.5	0.8	0.9	1.2	1.3	1.2	1.6	1.7	2.1	2.1	2.2	2.0	2.0	2.1	2.1	2.2	1.8
Electricity	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nuclear energy	mill. tce	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>mill. tce</b>	<b>16.9</b>	<b>13.2</b>	<b>12.0</b>	<b>12.9</b>	<b>13.2</b>	<b>18.3</b>	<b>18.8</b>	<b>18.4</b>	<b>17.8</b>	<b>18.5</b>	<b>17.8</b>	<b>17.5</b>	<b>19.6</b>	<b>18.4</b>	<b>19.0</b>	<b>18.4</b>	<b>16.9</b>	<b>17.5</b>	<b>17.8</b>	<b>17.8</b>	<b>16.4</b>
<b>Transformation input for district heating by energy source in %</b>																						
Hard coal	%	18.7	26.8	27.1	29.0	28.0	30.3	30.1	25.8	24.2	22.3	24.1	24.2	24.2	24.3	24.5	23.9	22.3	22.2	20.0	19.2	21.1
Lignite	%	44.1	16.7	9.0	7.7	7.8	7.2	11.0	8.0	7.9	7.6	8.1	8.4	7.2	7.3	7.4	8.0	7.8	7.8	7.1	6.4	6.2
Petroleum	%	8.5	10.5	3.5	4.5	4.1	2.5	1.9	1.7	2.0	1.5	1.7	1.6	1.7	1.4	1.7	1.4	1.4	1.2	1.3	1.1	1.0
Gases	%	23.4	43.3	50.4	51.0	52.3	51.0	46.5	50.5	49.6	53.2	46.6	44.0	44.0	42.0	39.5	40.3	38.4	37.8	40.8	41.7	42.1
Natural gas, Petroleum gas	%	21.1	42.5	49.4	49.9	51.2	50.4	45.8	50.3	49.5	53.0	46.4	43.8	43.9	41.5	39.0	39.6	37.7	37.2	40.0	41.3	41.7
Renewable Energy Sources	%	4.4	2.5	5.1	3.7	3.7	4.4	5.6	7.8	9.2	8.8	10.4	12.1	12.0	13.4	15.4	15.7	18.2	18.8	18.8	19.0	18.5
Other energy sources	%	0.0	0.0	4.7	3.9	3.9	4.5	5.0	6.2	7.1	6.6	9.1	9.7	10.9	11.6	11.4	10.7	11.8	12.1	12.0	12.5	11.2
Electricity	%	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nuclear energy	%	0.9	0.2	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Transformation input for district heating by energy source, changes compared to the previous year in %</b>																						
Hard coal	%	n/a	-9.3	-1.5	14.5	-1.1	49.8	2.0	-15.9	-9.3	-3.9	3.8	-1.3	11.9	-6.1	4.4	-5.3	-14.5	2.9	-8.3	-3.6	0.6
Lignite	%	n/a	-20.5	12.9	-7.8	3.9	26.6	57.8	-28.2	-4.5	-1.0	3.6	1.9	-5.2	-4.3	5.1	4.3	-10.8	4.2	-7.9	-9.4	-11.7
Petroleum	%	n/a	10.1	-26.9	39.1	-6.7	-16.6	-22.3	-10.2	12.1	-19.3	6.4	-5.5	17.6	-25.0	25.7	-21.8	-2.2	-15.0	13.5	-15.8	-16.9
Gases	%	n/a	10.6	-0.4	8.4	5.2	34.7	-6.3	6.5	-5.0	11.8	-15.8	-7.1	11.8	-10.5	-2.9	-1.0	-12.8	2.0	10.0	2.3	-7.4
Natural gas, Petroleum gas	%	n/a	11.4	0.0	8.4	5.1	36.0	-6.6	7.8	-5.0	11.7	-15.8	-7.2	12.1	-11.4	-3.0	-1.3	-12.8	2.0	9.7	3.5	-7.3
Renewable Energy Sources	%	n/a	-56.5	-20.3	-21.4	3.3	61.5	32.4	35.5	14.8	-0.6	13.2	14.6	10.7	4.8	18.3	-0.7	6.2	6.8	1.6	1.7	-11.1
Other energy sources	%	n/a	0.0	0.0	-10.3	1.7	60.2	12.9	23.1	9.2	-3.2	33.2	4.6	25.6	0.6	1.6	-9.7	1.2	6.4	1.1	4.5	-17.5
Electricity	%	n/a	0.0	-52.2	-65.6	81.9	-100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Nuclear energy	%	n/a	35.2	-35.9	-8.1	0.9	0.7	-100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>-4.8</b>	<b>2.5</b>	<b>7.2</b>	<b>2.5</b>	<b>38.1</b>	<b>2.9</b>	<b>-1.9</b>	<b>-3.4</b>	<b>4.1</b>	<b>-3.8</b>	<b>-1.6</b>	<b>11.7</b>	<b>-6.2</b>	<b>3.2</b>	<b>-3.0</b>	<b>-8.4</b>	<b>3.5</b>	<b>1.9</b>	<b>0.2</b>	<b>-8.2</b>

2018: data is provisional

## 5.1 CHP plants: generation and energy input

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>in TWh</b>																						
Total gross elec. generation (EB)	TWh	549.9	537.9	575.1	584.1	584.0	607.4	615.3	620.6	636.9	637.2	637.3	593.2	628.1	608.9	629.8	638.7	627.8	646.9	650.6	653.7	643.6
Power plant own use (EB)	TWh	41.4	38.4	38.0	38.4	36.6	38.8	38.5	39.0	39.6	38.7	38.3	35.6	36.7	34.8	37.1	36.9	35.8	36.8	36.3	34.7	33.9
Total net electr. generation (EB)	TWh	508.4	499.5	537.1	545.7	547.4	568.6	576.7	581.6	597.4	598.5	598.9	557.6	591.4	574.0	592.8	601.8	592.0	610.1	614.3	619.1	609.7
CHP net electr. generation	TWh	n/a	n/a	n/a	n/a	n/a	80.0	82.1	86.7	91.5	93.1	96.7	92.5	100.7	98.6	101.7	103.3	102.7	108.5	118.4	125.7	118.3
CHP net heat generation	TWh	n/a	n/a	n/a	n/a	n/a	183.4	187.1	190.8	193.6	193.4	197.8	196.9	213.1	203.4	209.5	213.0	206.9	215.5	223.5	226.0	226.9
<b>Total CHP net generation</b>	<b>TWh</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>263.4</b>	<b>269.2</b>	<b>277.6</b>	<b>285.1</b>	<b>286.5</b>	<b>294.5</b>	<b>289.4</b>	<b>313.7</b>	<b>302.0</b>	<b>311.2</b>	<b>316.3</b>	<b>309.6</b>	<b>323.9</b>	<b>341.9</b>	<b>351.7</b>	<b>345.2</b>
<b>in PJ</b>																						
Transformation input electr. (EB)	PJ	5,413	5,148	5,335	5,403	5,357	5,459	5,488	5,537	5,744	5,675	5,635	5,254	5,511	5,186	5,061	5,119	5,012	4,962	4,935	4,769	4,642
Transformation input CHP electr.	PJ	n/a	n/a	n/a	n/a	n/a	555	574	586	606	608	638	647	699	685	703	711	706	744	810	862	791
Transformation input CHP heat	PJ	n/a	n/a	n/a	n/a	n/a	669	689	693	699	693	720	724	778	742	758	771	747	772	800	809	795
<b>Total transformation input CHP</b>	<b>PJ</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>1,224</b>	<b>1,263</b>	<b>1,279</b>	<b>1,305</b>	<b>1,301</b>	<b>1,358</b>	<b>1,371</b>	<b>1,477</b>	<b>1,427</b>	<b>1,461</b>	<b>1,482</b>	<b>1,452</b>	<b>1,516</b>	<b>1,610</b>	<b>1,671</b>	<b>1,586</b>
<b>Efficiency in %</b>																						
Gross electricity generation (EB)	%	36.6	37.6	38.8	38.9	39.2	40.1	40.4	40.3	39.9	40.4	40.7	40.6	41.0	42.3	44.8	44.9	45.1	46.9	47.5	49.4	49.9
Total CHP net generation	%	n/a	n/a	n/a	n/a	n/a	77.4	76.8	78.1	78.6	79.3	78.1	76.0	76.5	76.2	76.7	76.9	76.8	76.9	76.4	75.8	78.4
<b>CHP-share in %</b>																						
CHP-share net electr. generation	%	n/a	n/a	n/a	n/a	n/a	14.1	14.2	14.9	15.3	15.5	16.2	16.6	17.0	17.2	17.2	17.2	17.4	17.8	19.3	20.3	19.4

2018: data is provisional

## 5.2 Combined heat and power - Total

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Combined heat and power - Total - Net electricity generation in TWh</b>																						
Hard coal	TWh	n/a	n/a	n/a	n/a	n/a	19.8	18.9	15.7	14.2	12.8	13.1	13.3	15.3	13.9	13.6	14.5	12.6	11.9	11.7	14.4	11.5
Lignite	TWh	n/a	n/a	n/a	n/a	n/a	4.8	5.1	5.1	5.1	5.1	5.1	5.0	5.4	5.4	5.7	6.0	5.2	5.3	5.3	5.0	4.7
Petroleum	TWh	n/a	n/a	n/a	n/a	n/a	4.3	3.9	3.9	3.7	3.7	3.1	2.8	2.6	2.2	2.6	2.5	2.3	2.3	2.3	2.2	2.1
Gases	TWh	n/a	n/a	n/a	n/a	n/a	42.6	44.6	49.3	52.5	51.9	54.3	51.6	55.0	53.6	52.9	51.5	50.6	54.7	63.5	67.1	64.1
Renewable Energy Sources	TWh	n/a	n/a	n/a	n/a	n/a	5.1	6.2	8.3	11.2	14.4	16.1	17.2	19.2	20.5	23.7	25.8	28.6	30.9	32.0	33.1	32.2
Other energy sources	TWh	n/a	n/a	n/a	n/a	n/a	3.4	3.5	4.5	4.8	5.1	5.1	2.7	3.1	2.9	3.2	3.1	3.6	3.4	3.6	3.9	3.6
<b>Total</b>	<b>TWh</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>80.0</b>	<b>82.1</b>	<b>86.7</b>	<b>91.5</b>	<b>93.1</b>	<b>96.7</b>	<b>92.5</b>	<b>100.7</b>	<b>98.6</b>	<b>101.7</b>	<b>103.3</b>	<b>102.7</b>	<b>108.5</b>	<b>118.4</b>	<b>125.7</b>	<b>118.3</b>
<b>Combined heat and power - Total - Net heat generation in TWh</b>																						
Hard coal	TWh	n/a	n/a	n/a	n/a	n/a	44.7	43.4	40.3	38.2	35.0	36.1	34.4	37.4	33.5	33.1	35.7	30.9	32.2	31.4	30.0	31.9
Lignite	TWh	n/a	n/a	n/a	n/a	n/a	16.0	15.8	16.4	16.7	16.2	16.6	16.3	17.4	17.7	18.4	18.9	17.5	18.0	18.0	16.6	15.5
Petroleum	TWh	n/a	n/a	n/a	n/a	n/a	13.8	13.2	12.6	13.1	12.3	10.7	10.5	10.6	9.0	11.7	11.0	9.7	10.1	10.0	10.0	9.8
Gases	TWh	n/a	n/a	n/a	n/a	n/a	86.5	89.4	92.7	92.8	93.0	94.1	91.0	96.5	92.1	91.8	90.0	88.4	91.0	100.3	103.5	101.8
Renewable Energy Sources	TWh	n/a	n/a	n/a	n/a	n/a	12.2	15.3	18.9	22.1	25.6	29.3	33.2	38.3	38.7	41.7	44.8	46.4	48.9	48.6	50.6	51.9
Other energy sources	TWh	n/a	n/a	n/a	n/a	n/a	10.2	10.0	9.9	10.6	11.3	11.0	11.5	12.8	12.5	12.8	12.6	14.0	15.1	15.1	15.2	16.0
<b>Total</b>	<b>TWh</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>183.4</b>	<b>187.1</b>	<b>190.8</b>	<b>193.6</b>	<b>193.4</b>	<b>197.8</b>	<b>196.9</b>	<b>213.1</b>	<b>203.4</b>	<b>209.5</b>	<b>213.0</b>	<b>206.9</b>	<b>215.5</b>	<b>223.5</b>	<b>226.0</b>	<b>226.9</b>
<b>Combined heat and power - Total - Transformation input in PJ</b>																						
Hard coal	PJ	n/a	n/a	n/a	n/a	n/a	321	305	263	238	211	225	222	241	218	216	231	199	199	195	215	195
Lignite	PJ	n/a	n/a	n/a	n/a	n/a	95	99	101	100	97	100	97	106	107	112	116	104	106	106	98	92
Petroleum	PJ	n/a	n/a	n/a	n/a	n/a	80	76	74	75	69	66	65	63	57	63	57	52	52	53	52	50
Gases	PJ	n/a	n/a	n/a	n/a	n/a	580	612	634	649	642	659	641	674	653	642	624	615	651	734	764	734
Renewable Energy Sources	PJ	n/a	n/a	n/a	n/a	n/a	88	114	141	178	208	236	267	302	308	337	362	382	407	413	429	412
Other energy sources	PJ	n/a	n/a	n/a	n/a	n/a	59	56	66	65	74	72	79	90	85	91	90	100	101	109	114	102
<b>Total</b>	<b>PJ</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>1,224</b>	<b>1,263</b>	<b>1,279</b>	<b>1,305</b>	<b>1,301</b>	<b>1,358</b>	<b>1,371</b>	<b>1,477</b>	<b>1,427</b>	<b>1,461</b>	<b>1,482</b>	<b>1,452</b>	<b>1,516</b>	<b>1,610</b>	<b>1,671</b>	<b>1,586</b>
for CHP electricity generation	PJ	n/a	n/a	n/a	n/a	n/a	555	574	586	606	608	638	647	699	685	703	711	706	744	810	862	791
<b>Combined heat and power - Total - Efficiency in %</b>																						
Hard coal	%	n/a	n/a	n/a	n/a	n/a	72.3	73.4	76.8	79.2	81.5	78.8	77.2	78.6	78.4	78.0	78.0	78.5	79.6	79.6	74.3	80.2
Lignite	%	n/a	n/a	n/a	n/a	n/a	78.5	76.2	76.4	78.7	78.8	77.9	78.5	77.8	78.0	77.8	77.3	78.9	79.1	79.2	79.7	79.2
Petroleum	%	n/a	n/a	n/a	n/a	n/a	81.1	81.1	79.9	80.3	82.9	75.0	74.4	75.5	71.5	81.3	84.5	82.8	86.4	83.5	84.7	85.1
Gases	%	n/a	n/a	n/a	n/a	n/a	80.1	78.8	80.6	80.6	81.3	81.0	80.1	80.9	80.4	81.1	81.6	81.3	80.6	80.4	80.4	81.4
Renewable Energy Sources	%	n/a	n/a	n/a	n/a	n/a	70.9	67.6	69.3	67.5	69.2	69.2	68.0	68.6	69.1	69.9	70.2	70.6	70.7	70.3	70.3	73.4
Other energy sources	%	n/a	n/a	n/a	n/a	n/a	82.8	86.3	78.6	84.8	80.1	80.5	64.7	63.5	65.0	62.9	62.5	63.2	66.3	61.5	60.5	69.5
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>77.4</b>	<b>76.8</b>	<b>78.1</b>	<b>78.6</b>	<b>79.3</b>	<b>78.1</b>	<b>76.0</b>	<b>76.5</b>	<b>76.2</b>	<b>76.7</b>	<b>76.9</b>	<b>76.8</b>	<b>76.9</b>	<b>76.4</b>	<b>75.8</b>	<b>78.4</b>

2018: data is provisional

Combined heat and power - Total: Main activity producer plants, Autoproducer plants and Other producer plants (below 1 MWe)



### 5.3 Combined heat and power - Main activity producers

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Combined heat and power - Main activity producers - Net electricity generation in TWh</b>																						
Hard coal	TWh	n/a	n/a	n/a	n/a	n/a	17.2	16.9	13.9	12.4	11.1	11.2	11.6	13.5	12.2	12.8	13.7	11.8	11.2	10.4	13.0	10.1
Lignite	TWh	n/a	n/a	n/a	n/a	n/a	3.6	3.8	3.9	3.7	3.7	3.8	3.8	4.1	4.0	4.2	4.5	3.8	4.0	4.0	3.7	3.4
Petroleum	TWh	n/a	n/a	n/a	n/a	n/a	0.4	0.4	0.5	0.3	0.2	0.1	0.2	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Gases	TWh	n/a	n/a	n/a	n/a	n/a	27.4	29.2	31.8	34.9	34.0	35.3	31.2	31.5	30.1	28.9	25.9	22.6	22.6	29.2	30.6	27.6
Renewable Energy Sources	TWh	n/a	n/a	n/a	n/a	n/a	0.8	1.0	1.2	1.4	1.6	2.0	2.3	2.5	2.6	3.0	3.7	4.3	4.9	5.1	5.5	5.5
Other energy sources	TWh	n/a	n/a	n/a	n/a	n/a	1.0	1.0	1.2	1.3	1.4	1.4	1.5	1.7	1.9	2.0	1.9	2.3	2.2	2.4	2.7	2.3
<b>Total</b>	<b>TWh</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>50.3</b>	<b>52.3</b>	<b>52.3</b>	<b>54.0</b>	<b>51.9</b>	<b>53.8</b>	<b>50.5</b>	<b>53.4</b>	<b>51.1</b>	<b>51.1</b>	<b>49.7</b>	<b>44.9</b>	<b>44.9</b>	<b>51.2</b>	<b>55.5</b>	<b>49.1</b>
<b>Combined heat and power - Main activity producers - Net heat generation in TWh</b>																						
Hard coal	TWh	n/a	n/a	n/a	n/a	n/a	34.7	36.5	33.0	31.1	28.5	29.8	28.7	31.1	27.6	29.0	31.9	27.2	28.2	26.1	24.6	26.5
Lignite	TWh	n/a	n/a	n/a	n/a	n/a	9.8	9.8	10.2	10.1	9.6	10.0	10.1	10.3	10.1	10.4	11.2	9.8	10.5	10.1	9.0	7.9
Petroleum	TWh	n/a	n/a	n/a	n/a	n/a	1.2	1.0	0.8	0.6	0.4	0.3	0.5	0.5	0.3	0.4	0.3	0.2	0.2	0.3	0.2	0.2
Gases	TWh	n/a	n/a	n/a	n/a	n/a	41.6	45.7	47.5	50.1	48.2	47.7	43.7	44.9	40.4	40.6	36.5	32.4	32.5	38.1	40.2	38.5
Renewable Energy Sources	TWh	n/a	n/a	n/a	n/a	n/a	2.7	3.3	4.1	4.6	5.2	6.1	6.7	7.3	7.8	8.4	9.9	10.8	11.6	11.8	12.2	14.3
Other energy sources	TWh	n/a	n/a	n/a	n/a	n/a	3.8	3.9	4.5	4.8	4.8	4.8	5.8	6.8	6.8	7.1	7.0	8.0	7.9	8.2	8.4	9.4
<b>Total</b>	<b>TWh</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>93.9</b>	<b>100.1</b>	<b>100.1</b>	<b>101.4</b>	<b>96.7</b>	<b>98.7</b>	<b>95.4</b>	<b>100.9</b>	<b>93.1</b>	<b>95.9</b>	<b>96.9</b>	<b>88.5</b>	<b>91.0</b>	<b>94.5</b>	<b>94.5</b>	<b>96.8</b>
<b>Combined heat and power - Main activity producers - Transformation input in PJ</b>																						
Hard coal	PJ	n/a	n/a	n/a	n/a	n/a	265	266	221	197	174	186	186	202	183	193	210	179	177	163	183	163
Lignite	PJ	n/a	n/a	n/a	n/a	n/a	63	66	66	65	63	65	64	68	66	69	73	63	66	64	57	52
Petroleum	PJ	n/a	n/a	n/a	n/a	n/a	7	7	6	4	3	2	4	4	4	3	2	2	2	2	2	1
Gases	PJ	n/a	n/a	n/a	n/a	n/a	316	337	351	367	357	366	335	342	323	313	279	246	245	303	315	286
Renewable Energy Sources	PJ	n/a	n/a	n/a	n/a	n/a	22	26	37	41	45	54	58	64	67	73	87	96	102	109	114	107
Other energy sources	PJ	n/a	n/a	n/a	n/a	n/a	24	24	35	36	38	40	47	56	56	59	60	68	66	73	77	65
<b>Total</b>	<b>PJ</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>697</b>	<b>726</b>	<b>715</b>	<b>711</b>	<b>680</b>	<b>713</b>	<b>693</b>	<b>735</b>	<b>700</b>	<b>710</b>	<b>711</b>	<b>653</b>	<b>658</b>	<b>715</b>	<b>748</b>	<b>674</b>
for CHP electricity generation	PJ	n/a	n/a	n/a	n/a	n/a	356	367	358	359	345	363	348	369	358	358	351	320	318	360	392	330
<b>Combined heat and power - Main activity producers - Efficiency in %</b>																						
Hard coal	%	n/a	n/a	n/a	n/a	n/a	70.4	72.4	76.5	79.5	82.0	79.2	77.8	79.2	78.2	77.9	78.1	78.6	80.0	80.5	74.0	81.0
Lignite	%	n/a	n/a	n/a	n/a	n/a	76.7	74.1	76.1	76.8	76.2	76.7	77.6	76.3	76.7	76.0	77.7	77.8	78.7	78.8	79.2	78.2
Petroleum	%	n/a	n/a	n/a	n/a	n/a	82.6	71.0	80.7	78.0	69.2	68.5	66.6	67.3	60.1	71.9	70.6	68.0	63.1	63.3	64.6	73.4
Gases	%	n/a	n/a	n/a	n/a	n/a	78.7	80.0	81.4	83.3	82.8	81.6	80.5	80.4	78.6	80.1	80.6	80.5	81.0	79.9	80.9	83.3
Renewable Energy Sources	%	n/a	n/a	n/a	n/a	n/a	58.0	59.9	52.1	52.8	54.1	54.2	55.7	54.9	55.5	56.5	56.4	56.9	58.2	55.9	55.8	66.9
Other energy sources	%	n/a	n/a	n/a	n/a	n/a	71.6	73.1	58.4	61.0	58.7	56.0	56.2	55.3	55.9	55.3	53.2	54.8	55.6	52.2	51.9	64.6
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>74.5</b>	<b>75.6</b>	<b>76.8</b>	<b>78.7</b>	<b>78.7</b>	<b>77.0</b>	<b>75.7</b>	<b>75.5</b>	<b>74.2</b>	<b>74.6</b>	<b>74.2</b>	<b>73.5</b>	<b>74.4</b>	<b>73.4</b>	<b>72.2</b>	<b>77.9</b>

2018: data is provisional

Source: EEFA according to DESTATIS

## 5.4 Combined heat and power - Autoproducers

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Combined heat and power - Autoproducers - Net electricity generation in TWh</b>																						
Hard coal	TWh	n/a	n/a	n/a	n/a	n/a	2.6	1.9	1.9	1.9	1.7	1.8	1.7	1.9	1.7	0.8	0.8	0.8	0.7	1.3	1.4	1.4
Lignite	TWh	n/a	n/a	n/a	n/a	n/a	1.2	1.3	1.2	1.4	1.4	1.3	1.2	1.4	1.4	1.5	1.4	1.3	1.3	1.3	1.3	1.3
Petroleum	TWh	n/a	n/a	n/a	n/a	n/a	3.6	3.1	3.0	3.0	3.1	2.6	2.2	2.1	1.6	2.1	2.1	1.9	2.0	2.0	1.9	1.9
Gases	TWh	n/a	n/a	n/a	n/a	n/a	13.6	13.8	15.7	15.6	15.8	16.7	17.8	20.5	19.9	19.7	20.4	21.3	24.6	26.0	27.8	27.4
Renewable Energy Sources	TWh	n/a	n/a	n/a	n/a	n/a	1.1	1.4	2.1	2.3	2.2	2.0	2.5	2.7	2.7	2.9	3.0	3.1	3.3	3.4	3.4	3.4
Other energy sources	TWh	n/a	n/a	n/a	n/a	n/a	1.4	1.4	1.7	1.6	1.5	1.3	1.1	1.3	1.1	1.2	1.2	1.2	1.2	1.2	1.3	1.3
<b>Total</b>	<b>TWh</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>23.5</b>	<b>22.9</b>	<b>25.6</b>	<b>25.8</b>	<b>25.8</b>	<b>25.7</b>	<b>26.6</b>	<b>29.8</b>	<b>28.4</b>	<b>28.3</b>	<b>28.9</b>	<b>29.7</b>	<b>33.1</b>	<b>35.3</b>	<b>37.1</b>	<b>36.6</b>
<b>Combined heat and power - Autoproducers - Net heat generation in TWh</b>																						
Hard coal	TWh	n/a	n/a	n/a	n/a	n/a	10.1	6.9	7.3	7.1	6.4	6.4	5.7	6.3	5.9	4.1	3.7	3.7	4.0	5.3	5.5	5.4
Lignite	TWh	n/a	n/a	n/a	n/a	n/a	6.1	6.1	6.2	6.6	6.6	6.6	6.2	7.2	7.6	8.0	7.7	7.7	7.5	8.0	7.7	7.6
Petroleum	TWh	n/a	n/a	n/a	n/a	n/a	11.9	11.6	11.1	11.9	11.3	9.7	9.4	9.5	8.2	10.8	10.2	9.0	9.5	9.3	9.5	9.3
Gases	TWh	n/a	n/a	n/a	n/a	n/a	42.6	41.2	42.5	39.8	41.6	42.7	43.3	47.1	46.2	44.6	45.4	45.9	47.3	49.9	50.3	49.6
Renewable Energy Sources	TWh	n/a	n/a	n/a	n/a	n/a	5.0	5.8	7.6	7.5	7.6	8.1	9.0	10.9	10.9	11.0	12.1	11.5	11.6	11.5	12.3	12.3
Other energy sources	TWh	n/a	n/a	n/a	n/a	n/a	6.3	5.9	5.2	5.5	6.3	6.0	5.6	5.9	5.6	5.7	5.6	6.0	7.2	6.9	6.8	6.7
<b>Total</b>	<b>TWh</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>82.0</b>	<b>77.5</b>	<b>80.0</b>	<b>78.3</b>	<b>79.8</b>	<b>79.5</b>	<b>79.3</b>	<b>86.9</b>	<b>84.4</b>	<b>84.1</b>	<b>84.8</b>	<b>83.8</b>	<b>87.2</b>	<b>90.9</b>	<b>92.0</b>	<b>90.7</b>
<b>Combined heat and power - Autoproducers - Transformation input in PJ</b>																						
Hard coal	PJ	n/a	n/a	n/a	n/a	n/a	56	40	42	41	37	39	36	39	34	23	21	21	22	32	32	32
Lignite	PJ	n/a	n/a	n/a	n/a	n/a	32	33	35	35	34	35	33	38	41	42	43	40	40	42	40	40
Petroleum	PJ	n/a	n/a	n/a	n/a	n/a	69	65	64	67	62	59	57	55	50	57	52	47	47	48	48	47
Gases	PJ	n/a	n/a	n/a	n/a	n/a	248	256	264	261	261	267	278	300	291	283	289	297	327	343	356	351
Renewable Energy Sources	PJ	n/a	n/a	n/a	n/a	n/a	28	37	48	52	54	54	57	67	67	69	74	71	73	73	76	76
Other energy sources	PJ	n/a	n/a	n/a	n/a	n/a	35	31	30	28	35	32	31	33	29	32	30	32	35	37	37	36
<b>Total</b>	<b>PJ</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>469</b>	<b>462</b>	<b>484</b>	<b>484</b>	<b>484</b>	<b>487</b>	<b>492</b>	<b>533</b>	<b>512</b>	<b>506</b>	<b>510</b>	<b>509</b>	<b>544</b>	<b>574</b>	<b>590</b>	<b>581</b>
for CHP electricity generation	PJ	n/a	n/a	n/a	n/a	n/a	168	169	186	189	187	188	194	212	201	199	202	207	232	249	261	256
<b>Combined heat and power - Autoproducers - Efficiency in %</b>																						
Hard coal	%	n/a	n/a	n/a	n/a	n/a	80.9	80.5	78.2	77.9	79.5	76.6	74.5	75.5	79.1	78.7	76.8	77.9	76.7	75.3	76.1	76.1
Lignite	%	n/a	n/a	n/a	n/a	n/a	82.2	80.6	77.1	82.2	83.6	80.1	80.1	80.4	80.1	80.7	76.8	80.7	79.8	79.9	80.4	80.5
Petroleum	%	n/a	n/a	n/a	n/a	n/a	80.7	81.9	79.5	80.1	83.4	74.5	74.2	75.5	71.4	81.5	85.1	83.2	87.3	84.4	85.4	85.4
Gases	%	n/a	n/a	n/a	n/a	n/a	81.4	77.2	79.2	76.5	79.0	80.0	79.2	81.0	81.8	81.7	82.0	81.3	79.3	79.7	79.0	79.0
Renewable Energy Sources	%	n/a	n/a	n/a	n/a	n/a	78.8	69.6	72.2	67.6	65.6	67.2	72.0	73.1	73.2	72.8	73.2	74.6	73.1	74.0	74.7	74.6
Other energy sources	%	n/a	n/a	n/a	n/a	n/a	79.9	84.8	82.8	90.4	79.9	82.9	77.8	77.7	82.7	77.0	81.1	80.5	86.4	80.0	78.4	78.3
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>81.0</b>	<b>78.3</b>	<b>78.5</b>	<b>77.4</b>	<b>78.5</b>	<b>77.8</b>	<b>77.4</b>	<b>78.8</b>	<b>79.4</b>	<b>80.0</b>	<b>80.3</b>	<b>80.3</b>	<b>79.5</b>	<b>79.2</b>	<b>78.8</b>	<b>78.8</b>

2018: data is provisional

Source: EEFA according to DESTATIS

## 5.5 Combined heat and power - Other producers

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Combined heat and power - Other producers - Net electricity generation in TWh</b>																						
Hard coal	TWh	n/a	n/a	n/a	n/a	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lignite	TWh	n/a	n/a	n/a	n/a	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum	TWh	n/a	n/a	n/a	n/a	n/a	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
Gases	TWh	n/a	n/a	n/a	n/a	n/a	1.6	1.7	1.8	2.0	2.2	2.4	2.6	3.0	3.6	4.3	5.2	6.8	7.5	8.3	8.7	9.2
Renewable Energy Sources	TWh	n/a	n/a	n/a	n/a	n/a	3.2	3.8	5.1	7.4	10.6	12.1	12.4	14.1	15.2	17.7	19.1	21.1	22.7	23.4	24.2	23.3
Other energy sources	TWh	n/a	n/a	n/a	n/a	n/a	1.0	1.0	1.6	1.9	2.2	2.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>TWh</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>6.2</b>	<b>6.8</b>	<b>8.9</b>	<b>11.8</b>	<b>15.4</b>	<b>17.3</b>	<b>15.5</b>	<b>17.5</b>	<b>19.1</b>	<b>22.3</b>	<b>24.6</b>	<b>28.1</b>	<b>30.5</b>	<b>31.9</b>	<b>33.1</b>	<b>32.6</b>
<b>Combined heat and power - Other producers - Net heat generation in TWh</b>																						
Hard coal	TWh	n/a	n/a	n/a	n/a	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lignite	TWh	n/a	n/a	n/a	n/a	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum	TWh	n/a	n/a	n/a	n/a	n/a	0.6	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.3
Gases	TWh	n/a	n/a	n/a	n/a	n/a	2.3	2.5	2.7	3.0	3.3	3.6	4.0	4.6	5.5	6.6	8.0	10.1	11.2	12.4	13.0	13.8
Renewable Energy Sources	TWh	n/a	n/a	n/a	n/a	n/a	4.5	6.2	7.1	10.0	12.8	15.1	17.6	20.1	20.0	22.3	22.8	24.2	25.8	25.3	26.2	25.3
Other energy sources	TWh	n/a	n/a	n/a	n/a	n/a	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>TWh</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>7.5</b>	<b>9.5</b>	<b>10.7</b>	<b>13.8</b>	<b>16.9</b>	<b>19.5</b>	<b>22.3</b>	<b>25.3</b>	<b>26.0</b>	<b>29.4</b>	<b>31.3</b>	<b>34.6</b>	<b>37.3</b>	<b>38.1</b>	<b>39.5</b>	<b>39.3</b>
<b>Combined heat and power - Other producers - Transformation input in PJ</b>																						
Hard coal	PJ	n/a	n/a	n/a	n/a	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lignite	PJ	n/a	n/a	n/a	n/a	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Petroleum	PJ	n/a	n/a	n/a	n/a	n/a	4	4	4	4	4	4	4	4	3	3	3	3	2	2	2	2
Gases	PJ	n/a	n/a	n/a	n/a	n/a	16	19	19	21	23	25	28	32	38	46	56	72	80	88	93	98
Renewable Energy Sources	PJ	n/a	n/a	n/a	n/a	n/a	38	52	56	84	109	128	151	171	174	195	201	216	232	231	239	230
Other energy sources	PJ	n/a	n/a	n/a	n/a	n/a	0	0	1	1	1	0	1	1	0	0	0	0	0	0	0	0
<b>Total</b>	<b>PJ</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>59</b>	<b>75</b>	<b>81</b>	<b>110</b>	<b>137</b>	<b>158</b>	<b>185</b>	<b>208</b>	<b>216</b>	<b>245</b>	<b>261</b>	<b>290</b>	<b>314</b>	<b>322</b>	<b>333</b>	<b>330</b>
for CHP electricity generation	PJ	n/a	n/a	n/a	n/a	n/a	30	38	42	59	76	87	105	118	126	146	158	179	193	201	208	205
<b>Combined heat and power - Other producers - Efficiency in %</b>																						
Hard coal	%	n/a	n/a	n/a	n/a	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lignite	%	n/a	n/a	n/a	n/a	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum	%	n/a	n/a	n/a	n/a	n/a	85.0	85.0	85.0	85.0	85.0	85.0	85.0	85.0	84.9	85.1	85.0	85.0	85.0	85.0	85.0	84.9
Gases	%	n/a	n/a	n/a	n/a	n/a	87.3	78.5	85.7	85.6	84.7	84.5	84.4	84.6	84.7	84.8	84.7	84.3	84.5	84.5	84.5	84.3
Renewable Energy Sources	%	n/a	n/a	n/a	n/a	n/a	72.4	70.0	77.9	74.7	77.2	76.4	71.2	72.0	72.8	73.9	75.0	75.5	75.4	75.9	75.9	76.0
Other energy sources	%	n/a	n/a	n/a	n/a	n/a	1598.7	905.2	869.2	1023.0	1255.1	1879.8	54.7	53.0	54.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>n/a</b>	<b>83.7</b>	<b>78.0</b>	<b>87.3</b>	<b>83.6</b>	<b>84.7</b>	<b>83.6</b>	<b>73.5</b>	<b>74.1</b>	<b>75.1</b>	<b>76.1</b>	<b>77.2</b>	<b>77.8</b>	<b>77.8</b>	<b>78.3</b>	<b>78.3</b>	<b>78.5</b>

2018: data is provisional

Other producers: plant-capacity below 1 MWeI

Source: EEFA according to DESTATIS, AGEE-Stat, Öko-Institut

## 6.1 Total final energy consumption by energy source

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Total final energy consumption by energy source in PJ</b>																						
Hard coal	PJ	571	455	432	409	398	382	350	319	359	375	357	285	375	387	340	338	348	382	378	366	365
Lignite	PJ	975	178	82	77	70	75	81	78	81	78	87	79	89	94	92	93	85	84	87	88	87
Petroleum	PJ	4,061	4,402	4,148	4,257	4,063	3,949	3,820	3,730	3,738	3,297	3,580	3,421	3,431	3,298	3,331	3,454	3,317	3,322	3,391	3,492	3,372
Gases	PJ	1,789	2,163	2,328	2,436	2,392	2,335	2,329	2,210	2,305	2,200	2,281	2,116	2,352	2,149	2,186	2,286	2,058	2,163	2,228	2,244	2,181
Natural gas, Petroleum gas	PJ	1,541	2,025	2,204	2,324	2,290	2,232	2,217	2,099	2,189	2,104	2,177	2,034	2,247	2,038	2,081	2,184	1,956	2,057	2,131	2,149	2,083
Renewable Energy Sources	PJ	54	110	201	231	232	291	318	370	446	494	466	477	617	557	572	627	589	622	639	663	668
Other energy sources	PJ	0	0	0	0	0	63	77	107	33	31	65	76	74	99	82	63	73	70	76	76	76
Electricity	PJ	1,638	1,648	1,780	1,778	1,801	1,837	1,860	1,864	1,885	1,894	1,887	1,783	1,899	1,876	1,884	1,884	1,846	1,853	1,863	1,868	1,847
District heat	PJ	383	366	265	268	270	429	449	450	450	427	436	428	472	420	431	435	383	402	410	411	401
<b>Total</b>	<b>PJ</b>	<b>9,472</b>	<b>9,322</b>	<b>9,235</b>	<b>9,455</b>	<b>9,226</b>	<b>9,360</b>	<b>9,284</b>	<b>9,127</b>	<b>9,297</b>	<b>8,796</b>	<b>9,159</b>	<b>8,665</b>	<b>9,310</b>	<b>8,881</b>	<b>8,919</b>	<b>9,179</b>	<b>8,699</b>	<b>8,898</b>	<b>9,071</b>	<b>9,208</b>	<b>8,996</b>
<b>Total final energy consumption by energy source in mill. tce</b>																						
Hard coal	mill. tce	19.5	15.5	14.7	14.0	13.6	13.0	11.9	10.9	12.2	12.8	12.2	9.7	12.8	13.2	11.6	11.5	11.9	13.0	12.9	12.5	12.4
Lignite	mill. tce	33.3	6.1	2.8	2.6	2.4	2.6	2.8	2.6	2.8	2.7	3.0	2.7	3.0	3.2	3.2	3.2	2.9	2.8	3.0	3.0	3.0
Petroleum	mill. tce	138.6	150.2	141.5	145.2	138.6	134.7	130.3	127.3	127.6	112.5	122.1	116.7	117.1	112.5	113.7	117.9	113.2	113.3	115.7	119.1	115.0
Gases	mill. tce	61.0	73.8	79.4	83.1	81.6	79.7	79.5	75.4	78.7	75.1	77.8	72.2	80.3	73.3	74.6	78.0	70.2	73.8	76.0	76.6	74.4
Natural gas, Petroleum gas	mill. tce	52.6	69.1	75.2	79.3	78.1	76.2	75.6	71.6	74.7	71.8	74.3	69.4	76.7	69.5	71.0	74.5	66.8	70.2	72.7	73.3	71.1
Renewable Energy Sources	mill. tce	1.8	3.8	6.8	7.9	7.9	9.9	10.9	12.6	15.2	16.8	15.9	16.3	21.1	19.0	19.5	21.4	20.1	21.2	21.8	22.6	22.8
Other energy sources	mill. tce	0.0	0.0	0.0	0.0	0.0	2.1	2.6	3.7	1.1	1.1	2.2	2.6	2.5	3.4	2.8	2.1	2.5	2.4	2.6	2.6	2.6
Electricity	mill. tce	55.9	56.2	60.7	60.6	61.5	62.7	63.5	63.6	64.3	64.6	64.4	60.8	64.8	64.0	64.3	64.3	63.0	63.2	63.6	63.7	63.0
District heat	mill. tce	13.1	12.5	9.0	9.1	9.2	14.6	15.3	15.4	15.3	14.6	14.9	14.6	16.1	14.3	14.7	14.8	13.1	13.7	14.0	14.0	13.7
<b>Total</b>	<b>mill. tce</b>	<b>323.2</b>	<b>318.1</b>	<b>315.1</b>	<b>322.6</b>	<b>314.8</b>	<b>319.4</b>	<b>316.8</b>	<b>311.4</b>	<b>317.2</b>	<b>300.1</b>	<b>312.5</b>	<b>295.7</b>	<b>317.7</b>	<b>303.0</b>	<b>304.3</b>	<b>313.2</b>	<b>296.8</b>	<b>303.6</b>	<b>309.5</b>	<b>314.2</b>	<b>306.9</b>
<b>Total final energy consumption by energy source in %</b>																						
Hard coal	%	6.0	4.9	4.7	4.3	4.3	4.1	3.8	3.5	3.9	4.3	3.9	3.3	4.0	4.4	3.8	3.7	4.0	4.3	4.2	4.0	4.1
Lignite	%	10.3	1.9	0.9	0.8	0.8	0.8	0.9	0.9	0.9	0.9	0.9	0.9	1.0	1.1	1.0	1.0	1.0	0.9	1.0	1.0	1.0
Petroleum	%	42.9	47.2	44.9	45.0	44.0	42.2	41.1	40.9	40.2	37.5	39.1	39.5	36.9	37.1	37.4	37.6	38.1	37.3	37.4	37.9	37.5
Gases	%	18.9	23.2	25.2	25.8	25.9	25.0	25.1	24.2	24.8	25.0	24.9	24.4	25.3	24.2	24.5	24.9	23.7	24.3	24.6	24.4	24.2
Natural gas, Petroleum gas	%	16.3	21.7	23.9	24.6	24.8	23.8	23.9	23.0	23.5	23.9	23.8	23.5	24.1	22.9	23.3	23.8	22.5	23.1	23.5	23.3	23.2
Renewable Energy Sources	%	0.6	1.2	2.2	2.4	2.5	3.1	3.4	4.1	4.8	5.6	5.1	5.5	6.6	6.3	6.4	6.8	6.8	7.0	7.0	7.2	7.4
Other energy sources	%	0.0	0.0	0.0	0.0	0.0	0.7	0.8	1.2	0.4	0.4	0.7	0.9	0.8	1.1	0.9	0.7	0.8	0.8	0.8	0.8	0.8
Electricity	%	17.3	17.7	19.3	18.8	19.5	19.6	20.0	20.4	20.3	21.5	20.6	20.6	20.4	21.1	21.1	20.5	21.2	20.8	20.5	20.3	20.5
District heat	%	4.0	3.9	2.9	2.8	2.9	4.6	4.8	4.9	4.8	4.9	4.8	4.9	5.1	4.7	4.8	4.7	4.4	4.5	4.5	4.5	4.5
<b>Total</b>	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Total final energy consumption by energy source, changes compared to the previous year in %</b>																						
Hard coal	%	n/a	1.9	9.8	-5.3	-2.8	-4.0	-8.4	-8.8	12.5	4.7	-4.9	-20.1	31.6	3.2	-12.1	-0.8	3.0	9.8	-1.2	-3.2	-0.3
Lignite	%	n/a	-19.6	-12.1	-6.7	-8.7	6.9	8.2	-4.4	4.5	-4.1	11.5	-8.5	11.8	6.2	-2.1	0.2	-7.9	-2.0	3.9	1.6	-1.2
Petroleum	%	n/a	0.1	-3.3	2.6	-4.5	-2.8	-3.3	-2.4	0.2	-11.8	8.6	-4.4	0.3	-3.9	1.0	3.7	-4.0	0.2	2.1	3.0	-3.4
Gases	%	n/a	6.8	0.2	4.7	-1.8	-2.4	-0.3	-5.1	4.3	-4.6	3.7	-7.2	11.2	-8.6	1.7	4.6	-10.0	5.1	3.0	0.7	-2.8
Natural gas, Petroleum gas	%	n/a	7.6	0.2	5.5	-1.5	-2.5	-0.7	-5.3	4.3	-3.9	3.5	-6.6	10.5	-9.3	2.1	4.9	-10.4	5.1	3.6	0.9	-3.1
Renewable Energy Sources	%	n/a	62.6	4.5	15.4	0.2	25.4	9.5	16.3	20.4	10.8	-5.6	2.3	29.3	-9.7	2.8	9.5	-6.0	5.6	2.6	3.8	0.7
Other energy sources	%	n/a	0.0	0.0	0.0	0.0	0.0	22.7	39.6	-68.8	-6.1	105.1	17.4	-1.9	33.5	-17.3	-23.8	16.5	-3.7	8.8	-0.3	-0.6
Electricity	%	n/a	2.7	3.6	-0.1	1.3	2.0	1.2	0.2	1.2	0.5	-0.3	-5.6	6.5	-1.2	0.4	0.0	-2.0	0.4	0.5	0.3	-1.1
District heat	%	n/a	4.9	-8.6	1.1	1.0	58.5	4.7	0.3	-0.2	-5.0	2.0	-1.9	10.4	-11.0	2.5	1.0	-11.9	4.9	1.9	0.3	-2.4
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>2.3</b>	<b>-0.7</b>	<b>2.4</b>	<b>-2.4</b>	<b>1.5</b>	<b>-0.8</b>	<b>-1.7</b>	<b>1.9</b>	<b>-5.4</b>	<b>4.1</b>	<b>-5.4</b>	<b>7.4</b>	<b>-4.6</b>	<b>0.4</b>	<b>2.9</b>	<b>-5.2</b>	<b>2.3</b>	<b>1.9</b>	<b>1.5</b>	<b>-2.3</b>

2018: data is provisional

## 6.2 Final energy consumption by energy source: Mining and quarrying, manufacturing industry

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Final energy consumption by energy source: Mining and quarrying, manufacturing industry in PJ</b>																						
Hard coal	PJ	501	398	391	366	356	357	329	296	329	336	318	259	334	334	326	329	336	363	368	358	358
Lignite	PJ	368	81	54	49	49	53	63	59	59	63	66	58	64	73	72	72	71	69	73	74	73
Petroleum	PJ	351	346	235	235	224	207	188	174	175	164	155	142	134	117	102	96	73	66	72	109	101
Gases	PJ	893	882	936	906	883	913	933	853	880	907	917	787	902	905	896	902	881	886	909	940	944
Natural gas, Petroleum gas	PJ	714	747	812	794	781	809	821	742	764	811	813	704	797	794	792	800	780	779	812	846	845
Renewable Energy Sources	PJ	15	10	14	15	15	56	77	88	87	126	99	98	140	119	83	92	114	110	116	115	115
Other energy sources	PJ	0	0	0	0	0	63	77	107	33	31	65	76	74	99	82	63	73	70	76	76	76
Electricity	PJ	748	686	748	750	751	789	810	823	825	850	837	719	799	818	814	807	824	810	816	821	816
District heat	PJ	101	70	43	44	43	107	105	114	138	151	130	152	146	169	212	190	174	173	179	172	169
<b>Total</b>	<b>PJ</b>	<b>2,977</b>	<b>2,474</b>	<b>2,421</b>	<b>2,365</b>	<b>2,322</b>	<b>2,545</b>	<b>2,581</b>	<b>2,514</b>	<b>2,525</b>	<b>2,628</b>	<b>2,587</b>	<b>2,291</b>	<b>2,592</b>	<b>2,634</b>	<b>2,587</b>	<b>2,551</b>	<b>2,545</b>	<b>2,548</b>	<b>2,609</b>	<b>2,666</b>	<b>2,651</b>
<b>Final energy consumption by energy source: Mining and quarrying, manufacturing industry in mill. tce</b>																						
Hard coal	mill. tce	17.1	13.6	13.3	12.5	12.2	12.2	11.2	10.1	11.2	11.5	10.9	8.9	11.4	11.4	11.1	11.2	11.5	12.4	12.6	12.2	12.2
Lignite	mill. tce	12.6	2.8	1.9	1.7	1.7	1.8	2.2	2.0	2.0	2.1	2.2	2.0	2.2	2.5	2.5	2.5	2.4	2.4	2.5	2.5	2.5
Petroleum	mill. tce	12.0	11.8	8.0	8.0	7.7	7.0	6.4	5.9	6.0	5.6	5.3	4.9	4.6	4.0	3.5	3.3	2.5	2.3	2.4	3.7	3.4
Gases	mill. tce	30.5	30.1	31.9	30.9	30.1	31.1	31.8	29.1	30.0	31.0	31.3	26.8	30.8	30.9	30.6	30.8	30.1	30.2	31.0	32.1	32.2
Natural gas, Petroleum gas	mill. tce	24.4	25.5	27.7	27.1	26.7	27.6	28.0	25.3	26.1	27.7	27.7	24.0	27.2	27.1	27.0	27.3	26.6	26.6	27.7	28.9	28.8
Renewable Energy Sources	mill. tce	0.5	0.4	0.5	0.5	0.5	1.9	2.6	3.0	3.0	4.3	3.4	3.3	4.8	4.1	2.8	3.1	3.9	3.7	4.0	3.9	3.9
Other energy sources	mill. tce	0.0	0.0	0.0	0.0	0.0	2.1	2.6	3.7	1.1	1.1	2.2	2.6	2.5	3.4	2.8	2.1	2.5	2.4	2.6	2.6	2.6
Electricity	mill. tce	25.5	23.4	25.5	25.6	25.6	26.9	27.6	28.1	28.1	29.0	28.6	24.5	27.3	27.9	27.8	27.5	28.1	27.6	27.8	28.0	27.8
District heat	mill. tce	3.4	2.4	1.5	1.5	1.5	3.7	3.6	3.9	4.7	5.2	4.4	5.2	5.0	5.8	7.2	6.5	5.9	5.9	6.1	5.9	5.8
<b>Total</b>	<b>mill. tce</b>	<b>101.6</b>	<b>84.4</b>	<b>82.6</b>	<b>80.7</b>	<b>79.2</b>	<b>86.8</b>	<b>88.1</b>	<b>85.8</b>	<b>86.2</b>	<b>89.7</b>	<b>88.3</b>	<b>78.2</b>	<b>88.4</b>	<b>89.9</b>	<b>88.3</b>	<b>87.0</b>	<b>86.8</b>	<b>86.9</b>	<b>89.0</b>	<b>91.0</b>	<b>90.4</b>
<b>Final energy consumption by energy source: Mining and quarrying, manufacturing industry in %</b>																						
Hard coal	%	16.8	16.1	16.1	15.5	15.3	14.0	12.7	11.8	13.0	12.8	12.3	11.3	12.9	12.7	12.6	12.9	13.2	14.3	14.1	13.4	13.5
Lignite	%	12.4	3.3	2.2	2.1	2.1	2.1	2.4	2.3	2.3	2.4	2.5	2.5	2.5	2.8	2.8	2.8	2.8	2.7	2.8	2.8	2.8
Petroleum	%	11.8	14.0	9.7	9.9	9.7	8.1	7.3	6.9	6.9	6.2	6.0	6.2	5.2	4.4	3.9	3.8	2.9	2.6	2.7	4.1	3.8
Gases	%	30.0	35.7	38.6	38.3	38.0	35.9	36.2	34.0	34.9	34.5	35.5	34.3	34.8	34.4	34.6	35.3	34.6	34.8	34.8	35.3	35.6
Natural gas, Petroleum gas	%	24.0	30.2	33.5	33.6	33.7	31.8	31.8	29.5	30.2	30.9	31.4	30.7	30.7	30.1	30.6	31.4	30.6	30.6	31.1	31.7	31.9
Renewable Energy Sources	%	0.5	0.4	0.6	0.6	0.7	2.2	3.0	3.5	3.4	4.8	3.8	4.3	5.4	4.5	3.2	3.6	4.5	4.3	4.5	4.3	4.3
Other energy sources	%	0.0	0.0	0.0	0.0	0.0	2.5	3.0	4.3	1.3	1.2	2.5	3.3	2.9	3.8	3.2	2.5	2.9	2.8	2.9	2.9	2.9
Electricity	%	25.1	27.7	30.9	31.7	32.4	31.0	31.4	32.7	32.7	32.4	32.4	31.4	30.8	31.0	31.5	31.7	32.4	31.8	31.3	30.8	30.8
District heat	%	3.4	2.8	1.8	1.9	1.9	4.2	4.1	4.5	5.5	5.8	5.0	6.6	5.6	6.4	8.2	7.4	6.8	6.8	6.9	6.5	6.4
<b>Total</b>	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Final energy consumption by energy source: Mining and quarrying, manufacturing industry, changes compared to the previous year in %</b>																						
Hard coal	%	n/a	1.7	8.9	-6.3	-2.7	0.1	-7.8	-9.9	11.0	2.1	-5.3	-18.4	28.7	0.0	-2.5	1.0	2.3	8.1	1.4	-2.7	-0.2
Lignite	%	n/a	-16.9	-8.3	-10.0	-0.5	9.4	18.0	-6.3	-0.8	6.7	4.8	-12.1	11.0	14.6	-1.8	0.6	-2.1	-1.9	5.4	0.8	-0.9
Petroleum	%	n/a	-3.8	-12.6	-0.2	-4.5	-7.9	-9.1	-7.6	0.8	-6.4	-5.2	-8.3	-5.9	-12.7	-12.6	-5.9	-24.2	-8.9	7.8	51.5	-7.0
Gases	%	n/a	1.7	3.8	-3.2	-2.6	3.4	2.2	-8.6	3.1	3.1	1.1	-14.2	14.6	0.3	-0.9	0.6	-2.3	0.5	2.6	3.5	0.3
Natural gas, Petroleum gas	%	n/a	1.8	4.2	-2.2	-1.6	3.6	1.5	-9.7	3.0	6.2	0.2	-13.3	13.1	-0.4	-0.2	0.9	-2.5	-0.1	4.2	4.2	-0.1
Renewable Energy Sources	%	n/a	-10.5	-0.5	6.7	2.7	266.7	35.9	14.6	-0.9	45.0	-21.7	-0.7	42.5	-15.0	-30.5	11.7	23.4	-3.6	5.9	-0.6	-0.5
Other energy sources	%	n/a	0.0	0.0	0.0	0.0	0.0	22.7	39.6	-68.8	-6.1	105.1	17.4	-1.9	33.5	-17.3	-23.8	16.5	-3.7	8.8	-0.3	-0.6
Electricity	%	n/a	3.0	3.5	0.2	0.2	5.0	2.6	1.6	0.2	3.1	-1.5	-14.1	11.0	2.4	-0.4	-0.9	2.0	-1.7	0.8	0.7	-0.7
District heat	%	n/a	0.2	-26.5	3.8	-2.4	147.6	-1.5	7.8	21.3	9.8	-13.9	16.5	-3.9	16.2	25.1	-10.6	-8.1	-0.4	3.2	-3.8	-1.7
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>0.4</b>	<b>1.6</b>	<b>-2.3</b>	<b>-1.8</b>	<b>9.6</b>	<b>1.4</b>	<b>-2.6</b>	<b>0.5</b>	<b>4.1</b>	<b>-1.6</b>	<b>-11.4</b>	<b>13.2</b>	<b>1.6</b>	<b>-1.8</b>	<b>-1.4</b>	<b>-0.2</b>	<b>0.1</b>	<b>2.4</b>	<b>2.2</b>	<b>-0.6</b>

2018: data is provisional

### 6.3 Final energy consumption by energy source: private households

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Final energy consumption by energy source: private households in PJ</b>																						
Hard coal	PJ	38	38	28	29	29	18	14	15	20	26	25	17	31	39	12	8	10	15	8	7	6
Lignite	PJ	351	66	20	22	16	19	17	17	20	13	20	21	23	19	19	20	14	14	14	14	14
Petroleum	PJ	740	944	816	933	823	813	720	715	757	467	677	583	589	497	535	582	494	486	479	474	445
Gases	PJ	607	883	948	1,025	1,003	1,043	1,017	985	960	894	940	928	1,017	845	917	966	781	861	911	890	861
Natural gas, Petroleum gas	PJ	564	880	948	1,025	1,003	1,043	1,017	985	960	894	940	928	1,017	845	917	966	781	861	911	890	861
Renewable Energy Sources	PJ	39	96	171	196	192	200	196	196	205	199	229	251	317	277	281	305	269	292	318	311	320
Other energy sources	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity	PJ	422	458	470	484	491	501	505	509	509	505	502	501	510	492	493	490	467	463	462	462	466
District heat	PJ	160	171	131	132	135	156	165	154	151	155	164	176	189	164	171	184	153	170	185	186	179
<b>Total</b>	<b>PJ</b>	<b>2,357</b>	<b>2,655</b>	<b>2,584</b>	<b>2,822</b>	<b>2,689</b>	<b>2,750</b>	<b>2,634</b>	<b>2,591</b>	<b>2,622</b>	<b>2,259</b>	<b>2,558</b>	<b>2,478</b>	<b>2,676</b>	<b>2,333</b>	<b>2,427</b>	<b>2,556</b>	<b>2,188</b>	<b>2,302</b>	<b>2,376</b>	<b>2,342</b>	<b>2,291</b>
<b>Final energy consumption by energy source: private households in mill. tce</b>																						
Hard coal	mill. tce	1.3	1.3	1.0	1.0	1.0	0.6	0.5	0.5	0.7	0.9	0.9	0.6	1.1	1.3	0.4	0.3	0.3	0.5	0.3	0.2	0.2
Lignite	mill. tce	12.0	2.2	0.7	0.8	0.6	0.7	0.6	0.6	0.7	0.5	0.7	0.7	0.8	0.7	0.7	0.7	0.5	0.5	0.5	0.5	0.5
Petroleum	mill. tce	25.2	32.2	27.8	31.8	28.1	27.7	24.6	24.4	25.8	15.9	23.1	19.9	20.1	17.0	18.3	19.9	16.9	16.6	16.3	16.2	15.2
Gases	mill. tce	20.7	30.1	32.3	35.0	34.2	35.6	34.7	33.6	32.7	30.5	32.1	31.7	34.7	28.8	31.3	33.0	26.6	29.4	31.1	30.4	29.4
Natural gas, Petroleum gas	mill. tce	19.2	30.0	32.3	35.0	34.2	35.6	34.7	33.6	32.7	30.5	32.1	31.7	34.7	28.8	31.3	33.0	26.6	29.4	31.1	30.4	29.4
Renewable Energy Sources	mill. tce	1.3	3.3	5.8	6.7	6.5	6.8	6.7	6.7	7.0	6.8	7.8	8.5	10.8	9.5	9.6	10.4	9.2	10.0	10.8	10.6	10.9
Other energy sources	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	mill. tce	14.4	15.6	16.0	16.5	16.8	17.1	17.2	17.4	17.4	17.2	17.1	17.1	17.4	16.8	16.8	16.7	15.9	15.8	15.7	15.7	15.9
District heat	mill. tce	5.5	5.8	4.5	4.5	4.6	5.3	5.6	5.2	5.2	5.3	5.6	6.0	6.5	5.6	5.8	6.3	5.2	5.8	6.3	6.3	6.1
<b>Total</b>	<b>mill. tce</b>	<b>80.4</b>	<b>90.6</b>	<b>88.2</b>	<b>96.3</b>	<b>91.7</b>	<b>93.8</b>	<b>89.9</b>	<b>88.4</b>	<b>89.5</b>	<b>77.1</b>	<b>87.3</b>	<b>84.5</b>	<b>91.3</b>	<b>79.6</b>	<b>82.8</b>	<b>87.2</b>	<b>74.7</b>	<b>78.5</b>	<b>81.1</b>	<b>79.9</b>	<b>78.2</b>
<b>Final energy consumption by energy source: private households in %</b>																						
Hard coal	%	1.6	1.4	1.1	1.0	1.1	0.6	0.5	0.6	0.8	1.2	1.0	0.7	1.2	1.7	0.5	0.3	0.4	0.6	0.3	0.3	0.3
Lignite	%	14.9	2.5	0.8	0.8	0.6	0.7	0.6	0.7	0.8	0.6	0.8	0.8	0.9	0.8	0.8	0.8	0.7	0.6	0.6	0.6	0.6
Petroleum	%	31.4	35.5	31.6	33.1	30.6	29.6	27.3	27.6	28.9	20.7	26.5	23.5	22.0	21.3	22.0	22.8	22.6	21.1	20.2	20.2	19.4
Gases	%	25.8	33.2	36.7	36.3	37.3	37.9	38.6	38.0	36.6	39.6	36.8	37.5	38.0	36.2	37.8	37.8	35.7	37.4	38.4	38.0	37.6
Natural gas, Petroleum gas	%	23.9	33.1	36.7	36.3	37.3	37.9	38.6	38.0	36.6	39.6	36.8	37.5	38.0	36.2	37.8	37.8	35.7	37.4	38.4	38.0	37.6
Renewable Energy Sources	%	1.6	3.6	6.6	6.9	7.1	7.3	7.4	7.6	7.8	8.8	9.0	10.1	11.8	11.9	11.6	11.9	12.3	12.7	13.4	13.3	14.0
Other energy sources	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	%	17.9	17.2	18.2	17.1	18.3	18.2	19.2	19.6	19.4	22.3	19.6	20.2	19.1	21.1	20.3	19.2	21.3	20.1	19.4	19.7	20.3
District heat	%	6.8	6.4	5.1	4.7	5.0	5.7	6.3	5.9	5.8	6.9	6.4	7.1	7.1	7.0	7.0	7.2	7.0	7.4	7.8	7.9	7.8
<b>Total</b>	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Final energy consumption by energy source: private households, changes compared to the previous year in %</b>																						
Hard coal	%	n/a	2.6	10.8	3.7	-1.4	-39.3	-18.2	7.4	27.7	31.9	-3.4	-31.1	79.3	25.0	-69.0	-31.2	17.4	49.9	-43.7	-19.5	-6.4
Lignite	%	n/a	-36.2	-23.8	11.2	-26.5	17.3	-13.6	2.0	16.7	-32.2	45.9	5.3	10.1	-15.3	-1.1	5.8	-28.7	-2.3	-3.3	5.9	-2.5
Petroleum	%	n/a	3.1	-2.4	14.4	-11.8	-1.2	-11.5	-0.6	5.8	-38.3	45.0	-13.9	1.0	-15.7	7.7	8.8	-15.1	-1.7	-1.4	-1.1	-6.1
Gases	%	n/a	8.3	-0.4	8.1	-2.2	4.0	-2.4	-3.2	-2.6	-6.9	5.3	-1.3	9.5	-16.8	8.4	5.4	-19.2	10.3	5.8	-2.4	-3.2
Natural gas, Petroleum gas	%	n/a	8.0	-0.4	8.1	-2.2	4.0	-2.4	-3.2	-2.6	-6.9	5.3	-1.3	9.5	-16.8	8.4	5.4	-19.2	10.3	5.8	-2.4	-3.2
Renewable Energy Sources	%	n/a	77.7	0.9	14.4	-2.1	4.1	-2.0	0.0	4.9	-3.3	15.5	9.3	26.4	-12.5	1.4	8.6	-12.0	8.8	8.8	-2.1	2.8
Other energy sources	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	%	n/a	2.2	-0.6	3.0	1.6	1.9	0.9	0.6	0.1	-0.9	-0.5	-0.2	1.8	-3.6	0.3	-0.7	-4.6	-0.8	-0.4	0.0	1.0
District heat	%	n/a	3.6	0.2	0.6	1.8	16.1	5.4	-6.7	-1.6	2.7	5.6	7.6	7.4	-13.2	3.9	8.0	-16.9	11.1	8.6	0.3	-3.5
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>4.6</b>	<b>-1.1</b>	<b>9.2</b>	<b>-4.7</b>	<b>2.3</b>	<b>-4.2</b>	<b>-1.6</b>	<b>1.2</b>	<b>-13.9</b>	<b>13.3</b>	<b>-3.1</b>	<b>8.0</b>	<b>-12.8</b>	<b>4.0</b>	<b>5.3</b>	<b>-14.4</b>	<b>5.2</b>	<b>3.2</b>	<b>-1.4</b>	<b>-2.2</b>

2018: data is provisional

## 6.4 Final energy consumption by energy source: trade, commerce and services (TCS)

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Final energy consumption by energy source: trade, commerce and services (TCS) in PJ</b>																						
Hard coal	PJ	32	18	13	14	13	8	7	7	10	14	14	8	10	15	3	1	2	4	1	1	1
Lignite	PJ	256	31	7	5	5	2	2	2	3	2	2	1	2	2	1	0	0	0	0	0	0
Petroleum	PJ	641	558	415	465	423	416	396	392	400	288	370	335	339	302	309	327	300	304	307	302	284
Gases	PJ	289	399	445	505	506	380	378	369	461	393	417	393	425	390	364	411	389	409	402	408	371
Natural gas, Petroleum gas	PJ	263	398	445	505	506	380	378	369	461	393	417	393	425	390	364	411	389	409	402	408	371
Renewable Energy Sources	PJ	1	2	3	4	4	5	5	10	9	11	11	14	40	44	88	117	90	113	97	128	120
Other energy sources	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity	PJ	419	447	504	486	501	489	487	474	492	480	488	505	529	507	533	543	514	540	544	543	522
District heat	PJ	122	125	91	91	93	165	179	183	161	121	142	99	137	86	48	61	56	58	46	53	52
<b>Total</b>	<b>PJ</b>	<b>1,759</b>	<b>1,579</b>	<b>1,478</b>	<b>1,571</b>	<b>1,544</b>	<b>1,465</b>	<b>1,452</b>	<b>1,437</b>	<b>1,535</b>	<b>1,308</b>	<b>1,443</b>	<b>1,355</b>	<b>1,483</b>	<b>1,346</b>	<b>1,345</b>	<b>1,460</b>	<b>1,350</b>	<b>1,428</b>	<b>1,396</b>	<b>1,434</b>	<b>1,350</b>
<b>Final energy consumption by energy source: trade, commerce and services (TCS) in mill. tce</b>																						
Hard coal	mill. tce	1.1	0.6	0.4	0.5	0.4	0.3	0.2	0.2	0.3	0.5	0.5	0.3	0.4	0.5	0.1	0.0	0.1	0.1	0.0	0.0	0.0
Lignite	mill. tce	8.7	1.1	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum	mill. tce	21.9	19.0	14.2	15.9	14.4	14.2	13.5	13.4	13.6	9.8	12.6	11.4	11.6	10.3	10.5	11.2	10.2	10.4	10.5	10.3	9.7
Gases	mill. tce	9.9	13.6	15.2	17.2	17.3	13.0	12.9	12.6	15.7	13.4	14.2	13.4	14.5	13.3	12.4	14.0	13.3	13.9	13.7	13.9	12.6
Natural gas, Petroleum gas	mill. tce	9.0	13.6	15.2	17.2	17.3	13.0	12.9	12.6	15.7	13.4	14.2	13.4	14.5	13.3	12.4	14.0	13.3	13.9	13.7	13.9	12.6
Renewable Energy Sources	mill. tce	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.4	0.5	1.3	1.5	3.0	4.0	3.1	3.8	3.3	4.4	4.1
Other energy sources	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	mill. tce	14.3	15.2	17.2	16.6	17.1	16.7	16.6	16.2	16.8	16.4	16.7	17.2	18.1	17.3	18.2	18.5	17.5	18.4	18.6	18.5	17.8
District heat	mill. tce	4.2	4.3	3.1	3.1	3.2	5.6	6.1	6.2	5.5	4.1	4.8	3.4	4.7	2.9	1.6	2.1	1.9	2.0	1.6	1.8	1.8
<b>Total</b>	<b>mill. tce</b>	<b>60.0</b>	<b>53.9</b>	<b>50.4</b>	<b>53.6</b>	<b>52.7</b>	<b>50.0</b>	<b>49.5</b>	<b>49.0</b>	<b>52.4</b>	<b>44.6</b>	<b>49.2</b>	<b>46.2</b>	<b>50.6</b>	<b>45.9</b>	<b>45.9</b>	<b>49.8</b>	<b>46.1</b>	<b>48.7</b>	<b>47.6</b>	<b>48.9</b>	<b>46.1</b>
<b>Final energy consumption by energy source: trade, commerce and services (TCS) in %</b>																						
Hard coal	%	1.8	1.2	0.9	0.9	0.8	0.5	0.5	0.5	0.6	1.0	1.0	0.6	0.7	1.1	0.2	0.0	0.2	0.3	0.1	0.1	0.1
Lignite	%	14.6	1.9	0.5	0.3	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum	%	36.4	35.3	28.1	29.6	27.4	28.4	27.2	27.3	26.0	22.0	25.6	24.7	22.9	22.4	23.0	22.4	22.2	21.3	22.0	21.1	21.1
Gases	%	16.4	25.2	30.1	32.2	32.8	25.9	26.0	25.7	30.0	30.1	28.9	29.0	28.7	29.0	27.0	28.1	28.8	28.6	28.8	28.5	27.5
Natural gas, Petroleum gas	%	15.0	25.2	30.1	32.2	32.8	25.9	26.0	25.7	30.0	30.1	28.9	29.0	28.7	29.0	27.0	28.1	28.8	28.6	28.8	28.5	27.5
Renewable Energy Sources	%	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.7	0.6	0.9	0.7	1.0	2.7	3.3	6.5	8.0	6.7	7.9	6.9	8.9	8.9
Other energy sources	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	%	23.8	28.3	34.1	30.9	32.4	33.4	33.5	33.0	32.1	36.7	33.9	37.3	35.7	37.7	39.6	37.2	38.1	37.8	38.9	37.8	38.7
District heat	%	6.9	7.9	6.1	5.8	6.0	11.3	12.3	12.7	10.5	9.2	9.8	7.3	9.2	6.4	3.6	4.2	4.1	4.1	3.3	3.7	3.9
<b>Total</b>	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Final energy consumption by energy source: trade, commerce and services (TCS), changes compared to the previous year in %</b>																						
Hard coal	%	n/a	7.2	40.6	7.3	-6.0	-40.2	-15.0	7.1	42.0	36.4	1.8	-38.8	23.1	41.2	-80.0	-75.6	196.5	106.0	-75.4	-31.6	-7.5
Lignite	%	n/a	51.5	0.0	-28.5	-6.4	-52.7	-34.6	4.6	72.7	-32.2	-10.6	-28.0	80.4	-14.9	-27.1	-100.0	0.0	0.0	0.0	0.0	0.0
Petroleum	%	n/a	-10.6	-11.4	12.1	-9.2	-1.5	-5.0	-0.8	1.8	-28.0	28.6	-9.5	1.2	-11.0	2.4	6.0	-8.5	1.5	0.9	-1.5	-5.9
Gases	%	n/a	16.0	-5.3	13.7	0.2	-25.0	-0.5	-2.4	25.1	-14.7	6.0	-5.7	8.3	-8.2	-6.8	13.0	-5.5	5.2	-1.7	1.6	-9.2
Natural gas, Petroleum gas	%	n/a	19.1	-5.3	13.7	0.2	-25.0	-0.5	-2.4	25.1	-14.7	6.0	-5.7	8.3	-8.2	-6.8	13.0	-5.5	5.2	-1.7	1.6	-9.2
Renewable Energy Sources	%	n/a	9.5	12.5	25.0	11.2	9.0	6.1	109.4	-13.6	31.7	-6.5	27.8	190.6	11.6	99.4	32.8	-23.1	25.5	-14.1	31.8	-6.3
Other energy sources	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	%	n/a	2.6	8.4	-3.6	3.0	-2.2	-0.5	-2.7	3.9	-2.6	1.8	3.4	4.9	-4.2	5.0	2.0	-5.4	5.0	0.8	-0.2	-3.8
District heat	%	n/a	9.6	-9.9	0.6	1.6	78.4	8.2	2.4	-12.3	-24.8	17.3	-29.8	37.5	-36.8	-44.7	27.2	-8.6	4.3	-21.3	16.2	-1.1
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>1.5</b>	<b>-3.0</b>	<b>6.3</b>	<b>-1.7</b>	<b>-5.1</b>	<b>-0.9</b>	<b>-1.0</b>	<b>6.8</b>	<b>-14.8</b>	<b>10.3</b>	<b>-6.1</b>	<b>9.4</b>	<b>-9.2</b>	<b>-0.1</b>	<b>8.5</b>	<b>-7.6</b>	<b>5.8</b>	<b>-2.2</b>	<b>2.7</b>	<b>-5.9</b>

2018: data is provisional

## 6.5 Final energy consumption by energy source: transport

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Final energy consumption by energy source: transport in PJ</b>																						
Hard coal	PJ	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lignite	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Petroleum	PJ	2,329	2,554	2,681	2,623	2,594	2,513	2,517	2,448	2,407	2,379	2,377	2,361	2,369	2,382	2,385	2,448	2,450	2,465	2,534	2,607	2,541
Gases	PJ	0	0	0	0	0	0	0	3	4	6	7	8	9	9	9	7	7	7	6	6	6
Natural gas, Petroleum gas	PJ	0	0	0	0	0	0	0	3	4	6	7	8	9	9	9	7	7	7	6	6	6
Renewable Energy Sources	PJ	0	2	12	17	20	30	41	77	145	157	127	115	121	117	121	113	117	108	108	109	113
Other energy sources	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity	PJ	49	58	57	58	58	58	58	58	59	59	59	57	60	60	44	43	42	41	42	43	44
District heat	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>PJ</b>	<b>2,379</b>	<b>2,614</b>	<b>2,751</b>	<b>2,698</b>	<b>2,672</b>	<b>2,601</b>	<b>2,616</b>	<b>2,586</b>	<b>2,614</b>	<b>2,601</b>	<b>2,571</b>	<b>2,541</b>	<b>2,559</b>	<b>2,568</b>	<b>2,559</b>	<b>2,612</b>	<b>2,616</b>	<b>2,621</b>	<b>2,690</b>	<b>2,765</b>	<b>2,705</b>
<b>Final energy consumption by energy source: transport in mill. tce</b>																						
Hard coal	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lignite	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum	mill. tce	79.5	87.1	91.5	89.5	88.5	85.7	85.9	83.5	82.1	81.2	81.1	80.5	80.8	81.3	81.4	83.5	83.6	84.1	86.5	89.0	86.7
Gases	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Natural gas, Petroleum gas	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Renewable Energy Sources	mill. tce	0.0	0.1	0.4	0.6	0.7	1.0	1.4	2.6	4.9	5.4	4.3	3.9	4.1	4.0	4.1	3.8	4.0	3.7	3.7	3.7	3.9
Other energy sources	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	mill. tce	1.7	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.1	2.0	1.5	1.5	1.4	1.4	1.4	1.5	1.5
District heat	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>mill. tce</b>	<b>81.2</b>	<b>89.2</b>	<b>93.9</b>	<b>92.0</b>	<b>91.2</b>	<b>88.7</b>	<b>89.3</b>	<b>88.2</b>	<b>89.2</b>	<b>88.7</b>	<b>87.7</b>	<b>86.7</b>	<b>87.3</b>	<b>87.6</b>	<b>87.3</b>	<b>89.1</b>	<b>89.2</b>	<b>89.4</b>	<b>91.8</b>	<b>94.4</b>	<b>92.3</b>
<b>Final energy consumption by energy source: transport in %</b>																						
Hard coal	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lignite	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum	%	97.9	97.7	97.5	97.2	97.1	96.6	96.2	94.7	92.1	91.5	92.5	92.9	92.6	92.8	93.2	93.8	93.7	94.1	94.2	94.3	94.0
Gases	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Natural gas, Petroleum gas	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Renewable Energy Sources	%	0.0	0.1	0.4	0.6	0.8	1.2	1.6	3.0	5.5	6.1	5.0	4.5	4.7	4.6	4.7	4.3	4.5	4.1	4.0	3.9	4.2
Other energy sources	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	%	2.1	2.2	2.1	2.1	2.2	2.2	2.2	2.3	2.2	2.3	2.3	2.3	2.3	2.3	1.7	1.7	1.6	1.5	1.6	1.6	1.6
District heat	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>%</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>
<b>Final energy consumption by energy source: transport, changes compared to the previous year in %</b>																						
Hard coal	%	n/a	-50.9	-51.7	-100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lignite	%	n/a	0.0	-21.9	-49.9	-91.2	-100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Petroleum	%	n/a	2.3	-1.3	-2.2	-1.1	-3.1	0.2	-2.7	-1.7	-1.2	-0.1	-0.7	0.4	0.5	0.1	2.7	0.1	0.6	2.8	2.9	-2.5
Gases	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.2	31.5	22.2	18.2	3.8	0.0	1.1	-16.7	1.1	-0.9	-21.0	0.0	5.5
Natural gas, Petroleum gas	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	42.2	31.5	22.2	18.2	3.8	0.0	1.1	-16.7	1.1	-0.9	-21.0	0.0	5.5
Renewable Energy Sources	%	n/a	0.0	128.6	36.4	22.2	46.4	36.9	86.8	88.7	8.9	-19.1	-9.9	5.4	-3.2	3.3	-7.0	3.6	-7.9	0.2	1.1	4.1
Other energy sources	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	%	n/a	5.1	0.5	0.6	0.0	0.6	0.6	0.0	0.6	0.6	0.6	-3.6	5.0	-0.6	-27.2	-0.8	-3.3	-2.7	4.1	1.9	1.5
District heat	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>2.4</b>	<b>-1.1</b>	<b>-2.0</b>	<b>-1.0</b>	<b>-2.7</b>	<b>0.6</b>	<b>-1.2</b>	<b>1.1</b>	<b>-0.5</b>	<b>-1.1</b>	<b>-1.2</b>	<b>0.7</b>	<b>0.3</b>	<b>-0.4</b>	<b>2.1</b>	<b>0.2</b>	<b>0.2</b>	<b>2.6</b>	<b>2.8</b>	<b>-2.2</b>

2018: data is provisional

See also 'Preliminary notes on the evaluation tables of the German Energy Balance'



## 6.6 Final energy consumption: transport by sectors and selected energy sources

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Final energy consumption: transport by sectors and selected energy sources in PJ</b>																						
Rail transport	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Electricity	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diesel oil	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Road transport	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aviation transport	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Jet fuel / kerosene	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Coastal and inland shipping	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>PJ</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Final energy consumption: transport by sectors and selected energy sources in mill. tce</b>																						
Rail transport	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel oil	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Road transport	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aviation transport	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jet fuel / kerosene	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coastal and inland shipping	mill. tce	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>mill. tce</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Final energy consumption: transport by sectors and selected energy sources in %</b>																						
Rail transport	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel oil	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Road transport	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aviation transport	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jet fuel / kerosene	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coastal and inland shipping	%	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>%</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Final energy consumption: transport by sectors and selected energy sources, changes compared to the previous year in %</b>																						
Rail transport	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Electricity	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Diesel oil	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Road transport	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Aviation transport	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Jet fuel / kerosene	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Coastal and inland shipping	%	n/a	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
<b>Total</b>	<b>%</b>	<b>n/a</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

2018: data is provisional

See also 'Preliminary notes on the evaluation tables of the German Energy Balance'

## 6.7 Final energy consumption: road transport by energy sources

Energy source	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Final energy consumption: road transport by energy sources in PJ</b>																						
Motor gasoline	PJ	1,330	1,300	1,237	1,199	1,166	1,109	1,073	992	931	893	854	829	791	788	742	741	745	709	709	720	693
Diesel oil	PJ	736	964	1,108	1,097	1,106	1,078	1,111	1,077	1,081	1,078	1,107	1,114	1,168	1,197	1,224	1,284	1,297	1,349	1,393	1,425	1,377
Liquified petroleum gas	PJ	0	0	0	0	1	1	2	2	5	9	16	24	22	24	24	23	21	19	17	15	14
Natural gas, Petroleum gas	PJ	0	0	0	0	0	0	0	3	4	6	7	8	9	9	9	7	7	7	6	6	6
Renewable energy sources	PJ	0	2	12	17	20	30	41	75	144	156	126	113	119	115	119	112	116	107	107	108	113
Electricity	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
<b>Total</b>	<b>PJ</b>	<b>2,067</b>	<b>2,266</b>	<b>2,358</b>	<b>2,314</b>	<b>2,293</b>	<b>2,218</b>	<b>2,227</b>	<b>2,150</b>	<b>2,165</b>	<b>2,142</b>	<b>2,110</b>	<b>2,089</b>	<b>2,109</b>	<b>2,133</b>	<b>2,117</b>	<b>2,167</b>	<b>2,187</b>	<b>2,191</b>	<b>2,233</b>	<b>2,275</b>	<b>2,203</b>
<b>thereof motorized individual transport in PJ</b>																						
Motor gasoline	PJ	1,324	1,291	1,228	1,191	1,158	1,101	1,065	986	925	887	849	824	787	784	738	737	740	705	705	716	689
Diesel oil	PJ	223	272	293	305	329	349	388	407	431	453	481	486	530	556	581	628	635	668	695	700	663
Liquified petroleum gas	PJ	0	0	0	0	0	0	1	2	4	9	15	23	21	23	23	23	21	19	16	15	13
Natural gas, Petroleum gas	PJ	0	0	0	0	0	0	0	1	2	2	3	4	4	4	4	3	3	3	3	3	3
Renewable energy sources	PJ	0	0	3	5	6	10	15	32	66	72	64	63	71	71	73	71	73	68	69	69	70
Electricity	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1
<b>Total</b>	<b>PJ</b>	<b>1,547</b>	<b>1,564</b>	<b>1,524</b>	<b>1,501</b>	<b>1,494</b>	<b>1,461</b>	<b>1,471</b>	<b>1,428</b>	<b>1,428</b>	<b>1,424</b>	<b>1,412</b>	<b>1,401</b>	<b>1,414</b>	<b>1,438</b>	<b>1,420</b>	<b>1,462</b>	<b>1,473</b>	<b>1,464</b>	<b>1,488</b>	<b>1,502</b>	<b>1,438</b>
<b>thereof public transport in PJ</b>																						
Motor gasoline	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Diesel oil	PJ	28	39	44	44	44	42	42	39	37	35	35	35	36	35	34	34	35	37	38	39	38
Liquified petroleum gas	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Natural gas, Petroleum gas	PJ	0	0	0	0	0	0	0	1	1	2	2	2	2	2	1	1	1	1	1	1	1
Renewable energy sources	PJ	0	0	0	1	1	1	1	2	4	5	3	3	3	2	3	2	3	2	2	2	2
Electricity	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>PJ</b>	<b>28</b>	<b>39</b>	<b>45</b>	<b>44</b>	<b>44</b>	<b>43</b>	<b>44</b>	<b>42</b>	<b>42</b>	<b>41</b>	<b>41</b>	<b>39</b>	<b>40</b>	<b>39</b>	<b>38</b>	<b>38</b>	<b>39</b>	<b>40</b>	<b>42</b>	<b>42</b>	<b>41</b>
<b>thereof freight transport in PJ</b>																						
Motor gasoline	PJ	6	9	9	8	8	8	7	7	6	6	5	5	4	4	4	4	4	4	4	4	4
Diesel oil	PJ	484	653	771	749	733	687	680	632	613	590	591	593	602	606	608	621	627	644	660	687	676
Liquified petroleum gas	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Natural gas, Petroleum gas	PJ	0	0	0	0	0	0	0	1	2	2	3	3	3	3	4	3	3	3	2	2	3
Renewable energy sources	PJ	0	1	9	11	14	19	24	40	74	79	59	47	46	42	43	39	40	36	36	37	40
Electricity	PJ	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>PJ</b>	<b>491</b>	<b>663</b>	<b>788</b>	<b>768</b>	<b>755</b>	<b>714</b>	<b>712</b>	<b>680</b>	<b>695</b>	<b>677</b>	<b>657</b>	<b>649</b>	<b>656</b>	<b>656</b>	<b>659</b>	<b>667</b>	<b>675</b>	<b>687</b>	<b>703</b>	<b>731</b>	<b>723</b>

2018: data is provisional

Source: Data based on ZSW-Verkehrsmodell

## 7.1 Energy efficiency indicators

Indicator	Unit	1990	1995	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
<b>Activity variables 1)</b>																						
Gross domestic product (GDP)	Bill. €	1,958	2,145	2,359	2,399	2,399	2,382	2,410	2,427	2,516	2,598	2,627	2,479	2,580	2,674	2,688	2,701	2,760	2,808	2,871	2,932	2,976
Population	Mill.	79.8	81.8	82.3	82.4	82.5	82.5	82.5	82.4	82.3	82.2	82.0	81.8	81.8	80.3	80.5	80.8	81.2	82.2	82.5	82.8	83.0
Gross production value (GPV)	Bill. €	758	780	907	906	903	903	940	964	1,008	1,061	1,056	878	992	1,068	1,056	1,064	1,082	1,089	1,103	1,136	1,137
Gross value added (GVA)	Bill. €	1,324	1,402	1,561	1,600	1,613	1,596	1,609	1,617	1,665	1,724	1,760	1,708	1,721	1,771	1,787	1,802	1,826	1,846	1,870	1,910	1,942
Living space	Mill. m2	2,774	3,005	3,245	3,280	3,310	3,339	3,369	3,395	3,421	3,444	3,462	3,479	3,681	3,699	3,721	3,744	3,769	3,795	3,823	3,851	3,879
Transport performance 2)	Bill. pkm	4,291	5,158	6,007	6,062	6,073	6,326	6,640	6,720	7,211	7,450	7,498	6,800	7,233	7,256	7,155	7,312	7,438	7,614	7,841	7,975	8,093
<b>Energy intensity 3)</b>																						
PEC / GDP	GJ/1000 €	7.6	6.7	6.1	6.1	6.0	6.1	6.1	6.0	5.9	5.5	5.5	5.5	5.5	5.1	5.0	5.1	4.8	4.7	4.7	4.6	4.4
PEC / residents	GJ/Einw.	186.9	174.4	175.1	178.1	174.8	176.9	176.9	176.6	180.2	172.7	175.4	165.4	173.9	169.3	167.0	171.1	162.3	161.4	163.5	163.3	157.9
FEC / GDP	GJ/1000 €	4.8	4.3	3.9	3.9	3.8	3.9	3.9	3.8	3.7	3.4	3.5	3.5	3.6	3.3	3.3	3.4	3.2	3.2	3.2	3.1	3.0
FEC / residents	GJ/Einw.	118.8	113.9	112.3	114.7	111.8	113.4	112.5	110.7	112.9	107.0	111.7	105.9	113.9	110.6	110.8	113.6	107.1	108.3	109.9	111.2	108.4
FEC Industry / GPV	GJ/1000 €	3.9	3.2	2.7	2.6	2.6	2.8	2.7	2.6	2.5	2.5	2.4	2.6	2.6	2.5	2.4	2.4	2.4	2.3	2.4	2.3	2.3
FEC TCS / GVA	GJ/1000 €	1.3	1.1	0.9	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.9	0.8	0.8	0.8	0.7	0.8	0.7	0.8	0.7
FEC Households / Living space	MJ/m2	849.6	883.4	796.3	860.2	812.2	823.4	781.9	763.2	766.4	655.8	738.8	712.2	727.0	630.7	652.4	682.8	580.5	606.5	621.7	608.3	590.6
FEC Households / residents	GJ/Einw.	29.6	32.4	31.4	34.2	32.6	33.3	31.9	31.4	31.9	27.5	31.2	30.3	32.7	29.0	30.1	31.6	26.9	28.0	28.8	28.3	27.6
FEC Transport / GDP	GJ/1000 €	1.2	1.2	1.2	1.1	1.1	1.1	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	0.9	0.9	0.9	0.9
FEC Transport / Transport perf.	MJ/100Pkm	55.4	50.7	45.8	44.5	44.0	41.1	39.4	38.5	36.3	34.9	34.3	37.4	35.4	35.4	35.8	35.7	35.2	34.4	34.3	34.7	33.4
<b>Energy intensity , changes compared to the previous year in %</b>																						
PEC / GDP	%	n/a	-1.1	-2.4	0.2	-1.7	1.9	-1.2	-0.9	-1.7	-7.3	0.2	-0.3	1.0	-7.7	-1.6	2.3	-6.7	-1.1	-0.5	-1.9	-4.5
PEC / residents	%	n/a	0.2	0.4	1.7	-1.8	1.2	0.0	-0.2	2.1	-4.2	1.6	-5.7	5.1	-2.6	-1.4	2.5	-5.2	-0.6	1.3	-0.1	-3.4
FEC / GDP	%	n/a	0.6	-3.6	0.7	-2.4	2.2	-2.0	-2.4	-1.8	-8.4	3.0	0.2	3.2	-8.0	-0.1	2.4	-7.2	0.5	-0.3	-0.6	-3.7
FEC / residents	%	n/a	2.0	-0.8	2.2	-2.5	1.5	-0.8	-1.6	2.0	-5.3	4.4	-5.2	7.5	-2.9	0.2	2.6	-5.7	1.1	1.5	1.2	-2.6
FEC Industry / GPV	%	n/a	-0.8	-3.5	-2.2	-1.5	9.6	-2.5	-5.1	-3.9	-1.1	-1.1	6.6	0.1	-5.6	-0.7	-2.1	-1.8	-0.6	1.1	-0.8	-0.6
FEC TCS / GVA	%	n/a	-1.2	-5.2	3.7	-2.5	-4.1	-1.7	-1.5	3.7	-17.7	8.0	-3.2	8.5	-11.8	-0.9	7.6	-8.8	4.6	-3.5	0.6	-7.5
FEC Households / Living space	%	n/a	2.8	-2.4	8.0	-5.6	1.4	-5.0	-2.4	0.4	-14.4	12.7	-3.6	2.1	-13.2	3.4	4.7	-15.0	4.5	2.5	-2.2	-2.9
FEC Households / residents	%	n/a	4.3	-1.2	9.0	-4.8	2.3	-4.2	-1.6	1.4	-13.8	13.6	-2.9	8.1	-11.2	3.8	5.0	-14.8	3.9	2.8	-1.8	-2.5
FEC Transport / GDP	%	n/a	0.6	-3.9	-3.6	-1.0	-2.0	-0.6	-1.8	-2.5	-3.7	-2.2	4.7	-3.2	-3.2	-0.8	1.6	-2.0	-1.5	0.4	0.6	-3.6
FEC Transport / Transport perf.	%	n/a	0.2	-3.2	-2.8	-1.2	-6.5	-4.2	-2.3	-5.8	-3.7	-1.8	9.0	-5.3	0.0	1.0	-0.1	-1.5	-2.1	-0.3	1.1	-3.6

2018: data is provisional

PEC = Primary Energy Consumption, FEC = Final Energy Consumption

More detailed information on the development of energy efficiency indicators in Germany can be found in the publication:

"Ausgewählte Effizienzindikatoren zur Energiebilanz in Deutschland" ([www.ag-energiebilanzen.de](http://www.ag-energiebilanzen.de)).

1) Sources: Destatis and Verkehr in Zahlen

2) 1 tonne-km is equivalent to 10 passenger-km.

3) Source: EEFA according to AGEBA and DESTATIS

## 8.1 Classification of energy sources compared to the structure of the German Energy Balance

Evaluation tables	Energy Balance since 2000	Energy Balance 1995 to 1999	Energy Balance 1990 to 1994
Hard coal	Coal Briquettes Coke Other hard coal products	Coal Briquettes Coke Other hard coal products	Coal Coke Briquettes Crude tar Pitch Other hard coal products Crude benzene
Lignite	Coal Briquettes Other lignite products Hard lignite	Coal Briquettes Other lignite products Hard lignite	Coal Briquettes Coke Slack Hard lignite
Petroleum	Crude oil Motor gasoline Naphtha Jet fuel / kerosene Diesel oil Fuel oil light Fuel oil heavy Petroleum coke Liquified petroleum Gas Refinery gas Other petroleum products	Crude oil Motor gasoline Naphtha Jet fuel / kerosene Diesel oil Fuel oil light Fuel oil heavy Petroleum coke Liquified petroleum Gas Refinery gas Other petroleum products	Crude oil Motor gasoline Naphtha Aviation gasoline Jet fuel Diesel oil Fuel oil light Fuel oil heavy Petroleum coke Other petroleum products Liquified petroleum Gas Refinery gas
Gases	Coke oven and town gas Blast furnace and converter gas Natural gas, Petroleum gas Mine gas	Coke oven and town gas Blast furnace and converter gas Natural gas, Petroleum gas Mine gas	Coke oven gas Blast furnace gas Natural gas Petroleum gas Mine gas
Renewable energy sources	Hydro, wind and photovoltaics Biomass und renew. wastes Other renew. energy sources	Hydropower Wind energy and photovoltaics Ren. wastes and other biomass Other renew. energy sources	Sewage gas Hydropower Wood Peat Sewage sludge, ren. wastes
Other energy sources	non-renew. wastes, heat		Other energy sources
Electricity	Electricity	Electricity	Electricity
Nuclear energy	Nuclear energy	Nuclear energy	Nuclear energy
District heat	District heat	District heat	District heat