

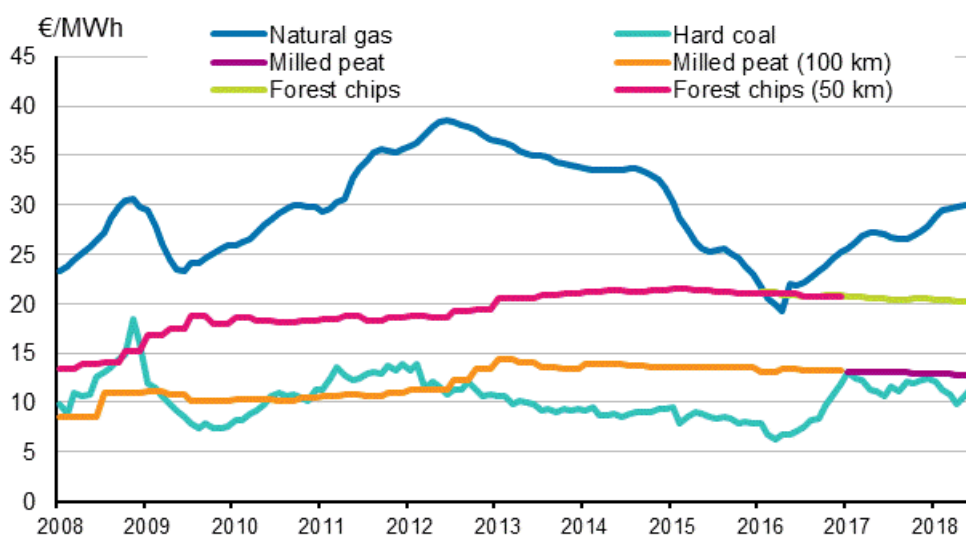
# Energy prices

2018, 2nd quarter

## Prices of imported fuels rose in the second quarter

According to Statistics Finland's data, prices of imported fuels went up in the second quarter of the year. This was partly due to tightening of taxation concerning fossil fuels. The exchange price of electricity was in June considerably higher than last year.

### Fuel Prices in Electricity Production



Consumer prices of all types of liquid fuels rose. In March, the price of motor gasoline was six per cent higher and that of diesel oil 12 per cent higher than in the corresponding period last year. The price of light fuel oil went up by 25 per cent in the corresponding period.

The tax-free price of hard coal fell in April, but turned upwards again in May to June. In June, the tax-free price of hard coal was nine per cent higher than one year before. The tax-free price of natural gas also went up in the second quarter, by two per cent. In June, the tax-free price of natural gas was 12 per cent higher than one year back. In Finland, the fuels for electricity production are tax-free while excise duty is paid on fuels used in heat production.

The taxes for both hard coal and natural gas were raised at the beginning of the year. The taxable price of hard coal grew continuously in the second quarter of the year. In June, the taxable price was seven per cent higher than one year earlier. The corresponding rise in the price of natural gas considering the tax increase was 10 per cent. The prices of forest chippings and milled peat used in electricity and heat production decreased by two per cent in the second quarter compared with the corresponding period of the year before.

The consumer price of wood pellets grew by two per cent from last year's May to this year's May.

The growth in the early part of the year in the system price derived from the sell and buy bids on the Nordic electricity exchange continued in the second quarter. The price went up due to a rise in the exchange price of carbon dioxide emission rights and the worsened water situation in the Nordic countries. In June 2018, the average of the system price was 82 per cent higher than one year previously. The Finnish area price was 54 per cent higher in June than one year before.

In March, the electricity prices for households rose on average by one per cent in all consumption categories compared to March 2017. For enterprise and corporate customers, the prices of electricity were 4 to 17 per cent higher than last year except for one consumption category, where the price fell by one per cent. Household customers' electricity prices are based on the obligation to deliver prices published by the Energy Authority, while the prices of enterprise and corporate customers are based on Statistics Finland's price inquiry on electrical energy. The obligation to deliver price reacts slowly to changes in electricity prices on the Nordic electricity exchange.

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# Appendix tables

**Appendix table 1. Energy taxes, precautionary stock fees and oil pollution fees**

Date	Fuels <sup>1)</sup>								Electricity				
	Motor-gasoline, unleaded <sup>2)</sup>	Diesel fuel <sup>3)</sup>	Light fuel oil <sup>12)</sup>	Liquefied petroleum gas	Heavy fuel oil	Hard coal <sup>11)</sup>	Natural gas	Peat	Consumption		Production		
									Electricity, I <sup>4)</sup>	Electricity, II <sup>5)</sup>	Nuclear power	Hydro power	Imports
c/l			c/kg		€/t	€/MWh		c/kWh					
<b>Excise taxes <sup>10)</sup></b>													
1.1.1990	21,53	16,82	0,34	-	0,34	2,69	0,17	0,34	-	-	-	-	-
1.1.1991	26,57	17,49	0,35	-	0,35	2,83	0,18	0,35	-	-	-	-	-
1.1.1992	28,26	17,49	0,35	-	0,35	2,83	0,18	0,35	-	-	-	-	-
1.8.1992	31,62	17,49	0,35	-	0,35	2,83	0,18	0,35	-	-	-	-	-
1.1.1993	39,52	19,17	1,41	-	1,12	5,61	0,35	0,70	0,25	0,25	0,10	-	0,10
1.7.1993	39,52	16,65	1,41	-	1,12	5,61	0,35	0,70	0,25	0,25	0,10	-	0,10
1.1.1994	40,05	17,29	2,05	-	1,98	11,30	1,09	0,35	-	-	0,35	0,03	0,22
1.1.1995	45,12	27,50	3,02	-	3,12	19,53	0,94	0,59	-	-	0,40	0,07	0,37
1.1.1996	51,85	27,50	3,02	-	3,12	19,53	0,94	0,59	-	-	0,40	0,07	0,37
1.1.1997	51,85	27,50	4,88	-	3,72	28,42	1,19	0,71	0,40	0,40	-	-	-
1.4.1997	51,85	27,50	4,88	-	3,72	28,42	1,19	0,71	0,56	0,24	-	-	-
1.1.1998	55,22	30,02	5,50	-	4,34	33,40	1,40	0,82	0,56	0,34	-	-	-
1.9.1998	55,22	30,02	6,37	-	5,40	41,37	1,73	1,51	0,69	0,42	-	-	-
1.1.2003	58,08	31,59	6,71	-	5,68	43,52	1,82	1,59	0,73	0,44	-	-	-
1.7.2005	58,08	31,59	6,71	-	5,68	43,52	1,82	-	0,73	0,44	-	-	-
1.1.2007	58,08	31,59	6,71	-	5,68	43,52	1,82	-	0,73	0,22	-	-	-
1.1.2008	62,02	36,05	8,35	-	6,42	49,32	2,016	-	0,87	0,25	-	-	-
1.1.2011	62,02	36,05	15,70	-	18,51	126,91	8,94	1,90	1,69	0,69	-	-	-
1.1.2012	64,36	46,60	15,70	-	18,51	126,91	8,940	1,90	1,69	0,69	-	-	-
1.1.2013	64,36	46,60	15,99	-	18,93	131,53	11,38	4,90	1,69	0,69	-	-	-
1.1.2014	66,61	49,31	15,99	-	18,93	131,53	11,38	4,90	1,89	0,69	-	-	-
1.1.2015	67,45	50,26	18,39	-	21,84	153,24	15,36	3,40	2,24	0,69	-	-	-
1.1.2016	67,45	50,26	21,05	24,82	25,08	177,36	17,34	3,40	2,24	0,69	-	-	-
1.3.2016	67,45	50,26	21,05	24,82	25,08	177,36	17,34	1,90	2,24	0,69	-	-	-
1.1.2017	69,57	52,67	22,52	26,54	26,83	189,84	18,53	1,90	2,24	0,69	-	-	-
1.1.2018	69,57	52,67	24,04	28,32	28,64	189,84	19,78	1,90	2,24	0,69	-	-	-
<b>Energy content tax <sup>8)</sup></b>													
1.1.2011	50,36	-	7,70	-	8,79	54,54	3,00	-	-	-	-	-	-
1.1.2012	50,36	30,70	7,70	-	8,79	54,54	3,00	-	-	-	-	-	-
1.1.2013	50,36	30,70	6,65	-	7,59	47,10	4,45	-	-	-	-	-	-
1.1.2015	51,20	31,65	6,65	-	7,59	47,10	6,65	-	-	-	-	-	-
1.1.2016	51,20	31,65	6,65	8,50	7,59	47,10	6,65	-	-	-	-	-	-
1.1.2017	52,19	32,77	7,05	9,01	8,05	49,93	7,05	-	-	-	-	-	-
1.1.2018	52,19	32,77	7,50	9,58	8,56	53,13	7,50	-	-	-	-	-	-
<b>Carbon dioxide tax <sup>9)</sup></b>													
1.1.2011	11,66	-	8,00	-	9,72	72,37	5,94	-	-	-	-	-	-
1.1.2012	14,00	15,90	8,00	-	9,72	72,37	5,94	-	-	-	-	-	-
1.1.2013	14,00	15,90	9,34	-	11,34	84,43	6,93	-	-	-	-	-	-
1.1.2014	16,25	18,61	9,34	-	11,34	84,43	6,93	-	-	-	-	-	-

Date	Fuels <sup>1)</sup>								Electricity				
									Consumption		Production		
	Motor-gasoline, unleaded <sup>2)</sup>	Diesel fuel <sup>3)</sup>	Light fuel oil <sup>12)</sup>	Liquefied petroleum gas	Heavy fuel oil	Hard coal <sup>11)</sup>	Natural gas	Peat	Electricity, I <sup>4)</sup>	Electricity, II <sup>5)</sup>	Nuclear power	Hydro power	Imports
c/l			c/kg		€/t	€/MWh		c/kWh					
1.1.2015	16,25	18,61	11,74	-	14,25	106,14	8,71	-	-	-	-	-	-
1.1.2016	16,25	18,61	14,40	16,32	17,49	130,26	10,69	-	-	-	-	-	-
1.1.2017	17,38	19,90	15,47	17,53	18,78	139,91	11,48	-	-	-	-	-	-
1.1.2018	17,38	19,90	16,54	18,74	20,08	149,56	12,28	-	-	-	-	-	-
<b>Energy tax <sup>7)</sup></b>													
1.1.2011	-	-	-	-	-	-	-	1,90	1,69	0,69	-	-	-
1.1.2013	-	-	-	-	-	-	-	4,90	1,69	0,69	-	-	-
1.1.2014	-	-	-	-	-	-	-	4,90	1,89	0,69	-	-	-
1.1.2015	-	-	-	-	-	-	-	3,40	2,24	0,69	-	-	-
1.1.2016	-	-	-	-	-	-	-	3,40	2,24	0,69	-	-	-
1.3.2016	-	-	-	-	-	-	-	1,90	2,24	0,69	-	-	-
<b>Strategic stockpile fees</b>													
1.7.1984	0,72	0,39	0,39	-	0,32	1,48	-	-	-	-	-	-	-
1.1.1997	0,68	0,35	0,35	-	0,28	1,18	0,084	-	0,013	0,013	-	-	-
1.1.2016	0,68	0,35	0,35	0,11	0,28	1,18	0,084	-	0,013	0,013	-	-	-
<b>Oil pollution fees <sup>6)</sup></b>													
1.1.1990	0,28	0,031	0,031	-	0,037	-	-	-	-	-	-	-	-
1.1.2005	0,038	0,042	0,042	-	0,050	-	-	-	-	-	-	-	-
1.1.2010	0,113	0,126	0,126	-	0,150	-	-	-	-	-	-	-	-

1) Fuels in electricity production tax-exempt since 1 January 1997

2) Reformulated, since 1 January 1993, also sulphur-free since 1 September 2004. Fossil fuel

3) Sulphur-free, sulphur content < 50 ppm since 1 July 1993, sulphur content < 10 ppm since 1 September 2004. Fossil fuel.

4) Tax class I: others

5) Tax class II: industry and professional greenhouses

6) Fee for imported oil and oil products: 1,50 €/t

7) Energy tax included in excise taxes

8) Energy content tax included in excise taxes

9) Carbon dioxide tax included in excise taxes

10) Excise taxes contain energy content tax, carbon dioxide tax, and energy tax.

11) Excise taxes for hard coal is in the heat production. In CHP use excise tax is lower.

12) Fossil fuel. Sulphur-free.

**Appendix table 2. Energy prices in heat production in June 2018**

Energy source <sup>3)</sup>	<sup>1)</sup> Price €/MWh	Annual change-%
<sup>2)</sup> Hard coal (VAT 0%)	41,13	7,8
Natural gas (VAT 0%)	50,03	9,5
Forest chips (VAT 0%)	20,29	-1,5
Milled peat (VAT 0%)	14,58	-2,3

1) Inclusive of excise duties.

2) The price is preliminary.

3) Sources: Energy Authority, Finnish Customs, FOEX Indexes Ltd, The Bioenergy Association of Finland,

**Appendix table 3. Consumer prices of heating energy in June 2018**

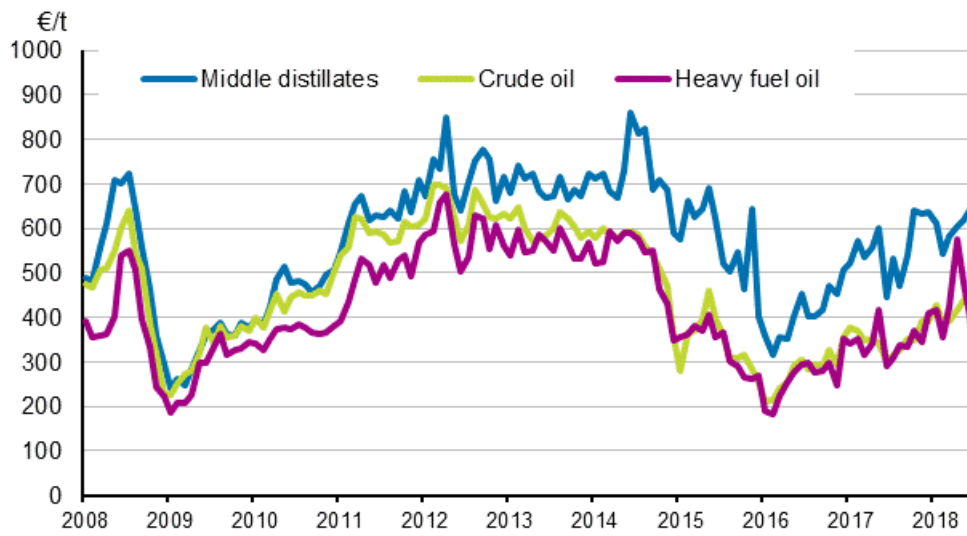
Energy source <sup>2)</sup>	<sup>1)</sup> Price €/MWh	Annual change-%
Light fuel (VAT 24%)	102	24,5
Household electricity, K2 (VAT 24%)	122,8	0,7
Wood pellet (VAT 24%)	57	1,8
District heat, terraced house / low-rise block of flats (VAT 24%)	78,64	0,5

1) The price of wood pellet is from May 2018 and district heat January 2018

2) Sources: Finnish Energy Industries, Energy Authority, Petroleum and Biofuels Association of Finland, Statistics Finland

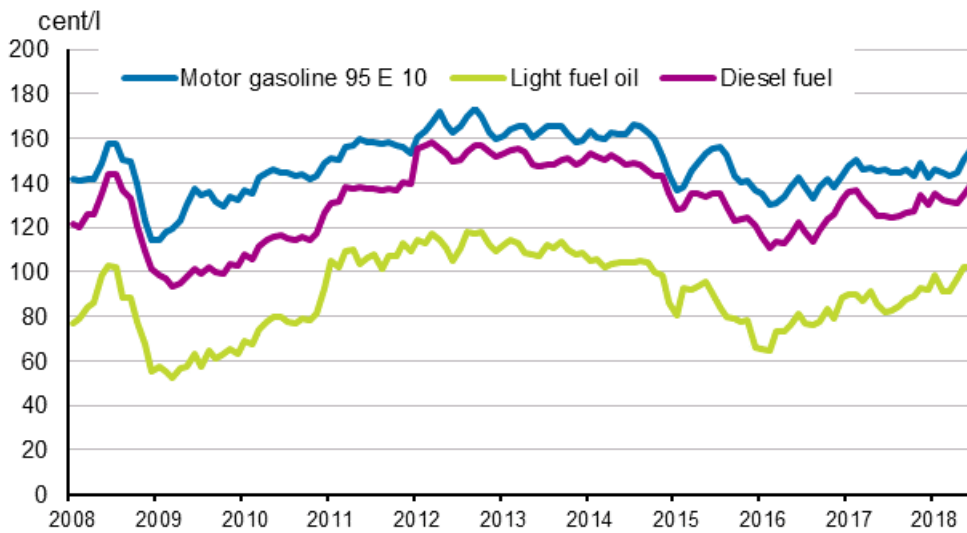
# Appendix figures

**Appendix figure 1. Import prices of oil**



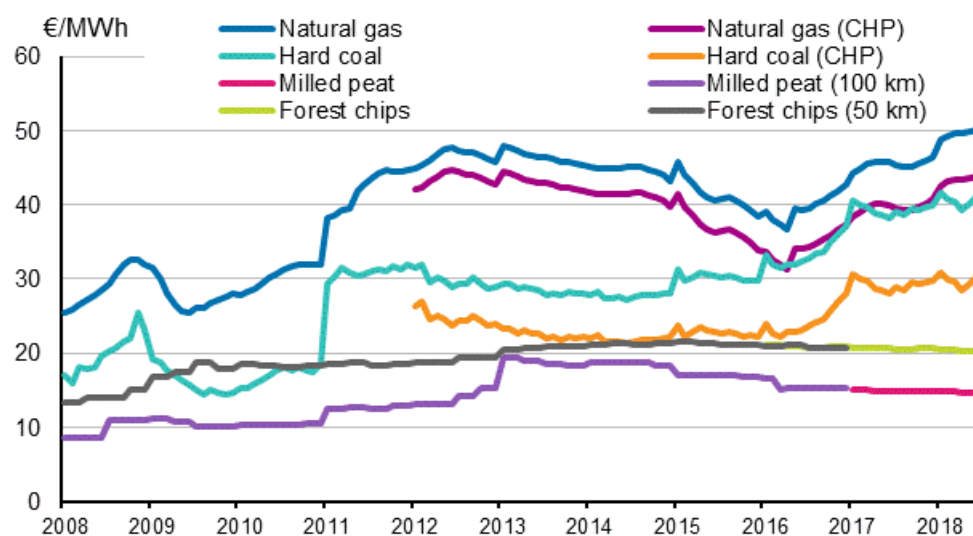
Source: Finnish Customs

**Appendix figure 2. Consumer prices of principal oil products**



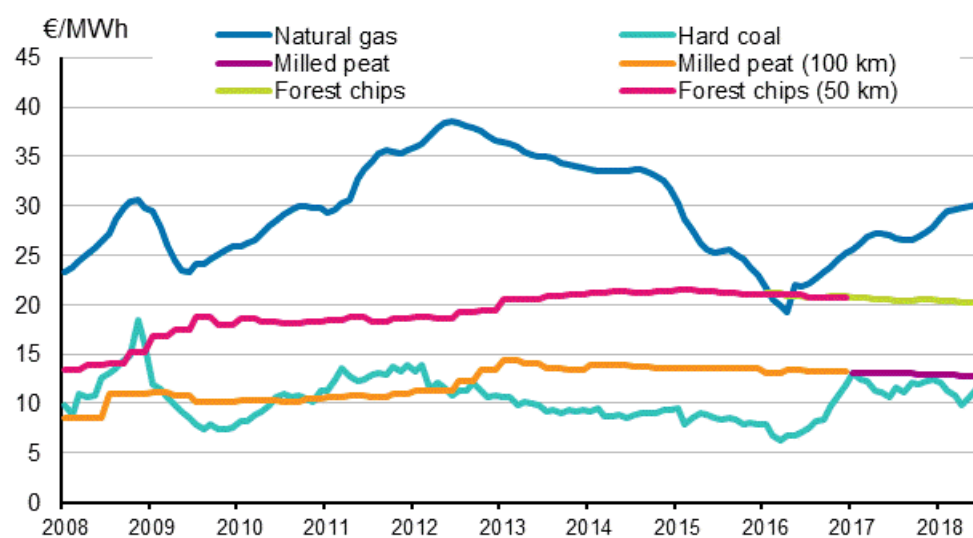
Source: Finnish Petroleum and Biofuels Association

**Appendix figure 3. Fuel prices in heat production**



The prices include excise duties (VAT 0%). The carbon dioxide tax on natural gas and hard coal used in combined heat and power production was halved from the beginning of 2011. Sources: Finnish Customs, Energy Authority, The Bioenergy Association of Finland, Finnish Petroleum and Biofuels Association, FOEX Indexes Ltd

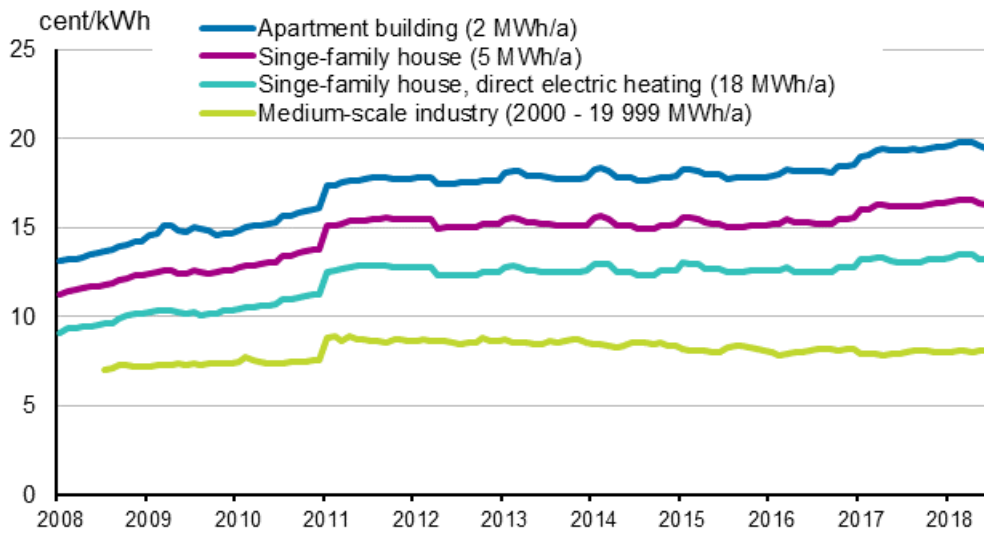
**Appendix figure 4. Fuel prices in electricity production**



The fuels of electricity production are exclusive of tax. Sources: Finnish Customs, Energy Authority, The Bioenergy Association of Finland, Finnish Petroleum and Biofuels Association, FOEX Indexes Ltd

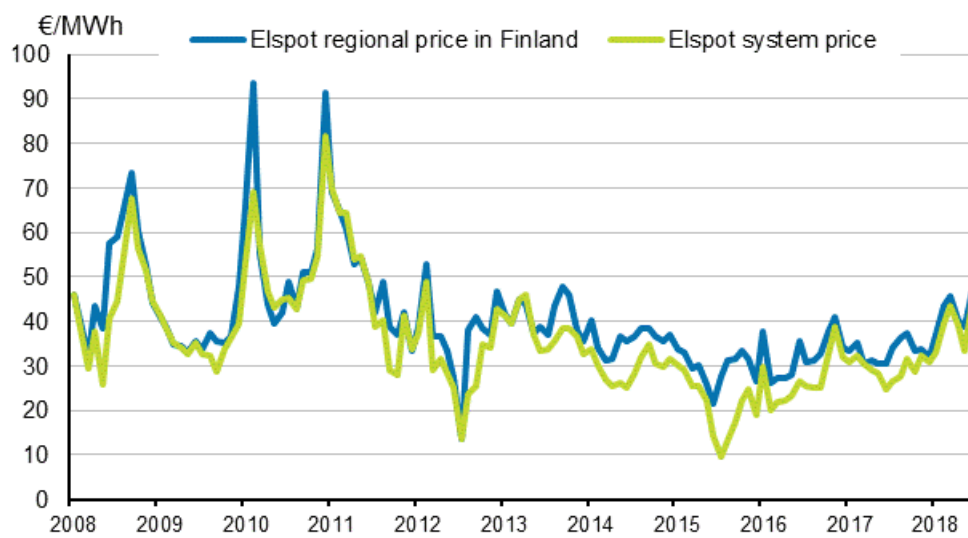


**Appendix figure 5. Price of electricity by type of consumer**



The prices include electrical energy, transmission fee and taxes. Source: Energy Authority, Statistics Finland

**Appendix figure 6. Average monthly spotprices at the Nord Pool Spot power exchange**



Source: Nord Pool Spot

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Source: Statistics Finland, Energy prices