

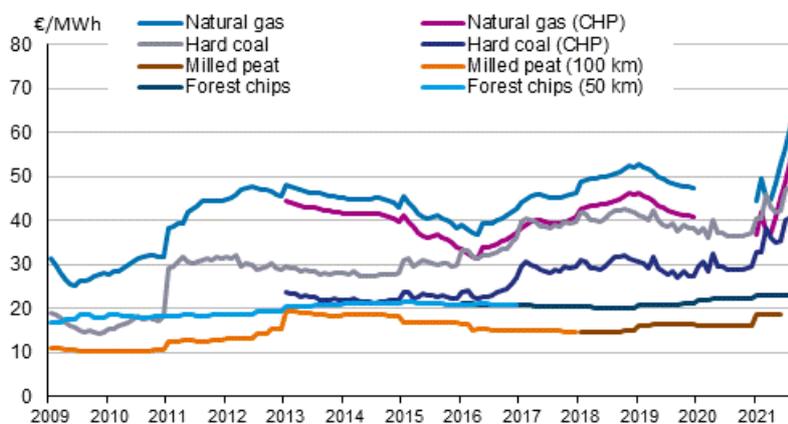
Energy prices

2021, 3rd quarter

Monthly market price of electricity almost record high in the third quarter

The prices of electricity, natural gas and hard coal increased strongly in the third quarter. By contrast, the rise in the price of crude oil levelled off. The rise in the price of natural gas and hard coal reflected world market prices. The rise in fuel prices was also reflected in the price of electricity, because electricity was produced with fuels in a poor water situation.

Fuel prices in heat production



The increase in the price of oil products imported to Finland evened out and the price of crude oil returned to its pre-corona level in the third quarter. The rise in the consumer prices of liquid fuels continued. The price of motor gasoline went up by four per cent, that of diesel by two per cent and the price of light fuel oil by four per cent from July to September. Compared with September of the previous year, the price of motor gasoline was 19 per cent higher, that of diesel 22 per cent higher and the price of light fuel oil 45 per cent higher.

Coal and natural gas are imported to Finland mainly to be used in energy production. The tax-free import price of hard coal was around 60 per cent higher in the third quarter than in the second quarter. The rising price trend is clear. Compared to one year ago, the price was more than double.

Comparable price data on natural gas start from the beginning of the year. The tax-free price of natural gas was around 56 per cent higher in the third quarter than in the second quarter. The rising trend of natural gas prices is also clear. From July to September, the price went up by around 40 per cent. The rise percentages of taxable prices are smaller. The excise duty on power plant fuels rose at the beginning of the year.

The rise in the price of forest chippings halted in the third quarter. Compared with the third quarter of last year, the price of chippings had gone up by four per cent.

In the early part of 2021, the area price for Finland on the electricity market had risen from the record low level of June 2020 to the level of 2019. In summer the rise in prices grew stronger. In September 2021, the average system price was record high and the monthly area price for Finland was close to the records of 2010. In just over a year, the system price thus rose from a record low level to record high. Price variation is characteristic of the electricity market. As the volume of renewable production grows, price variation increases. In addition to the poor water situation, the current situation is affected by the high demand for electricity in Central Europe.

The rise in electricity market prices was also visible in the risen consumer prices of electricity. Households' obligation to deliver prices rose by four to seven per cent from one year ago. Compared with the previous quarter, the rise amounted to a few per cent. The prices for enterprise customers also went up by 6 to 26 per cent from the previous quarter. Compared with the year before, the price change was not uniform. This is because of the source used. 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.

The compilation of price statistics on sod peat has to be discontinued because data could not be collected from sufficiently many data suppliers. The price of milled peat is not published for the same reason. Efforts are made to expand the data collection of sod peat prices.

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

Date	Fuels ¹⁾								Electricity				
	Motor-gasoline, unleaded ²⁾	Diesel fuel ³⁾	Light fuel oil ¹²⁾	Liquefied petroleum gas	Heavy fuel oil	Hard coal ¹¹⁾	Natural gas	Peat	Consumption		Production		
									Electricity, I ⁴⁾	Electricity, II ⁵⁾	Nuclear power	Hydro power	Imports
c/l			c/kg		€/t	€/MWh		c/kWh					
Excise taxes ¹⁰⁾													
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	202,69	19,78	1,90	2,24	0,69	-	-	-
1.1.2019	69,57	52,67	24,53	27,90	27,23	200,58	20,57	3,00	2,24	0,69	-	-	-
1.8.2020	75,28	59,13	24,53	27,90	27,23	200,58	20,57	3,00	2,24	0,69	-	-	-
1.1.2021	75,28	59,13	27,23	31,38	30,26	219,26	23,27	5,70	2,24	0,05	-	-	-
Energy content tax⁸⁾													
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	-	-	-	-	-	-
1.1.2019	52,19	32,77	7,63	9,81	8,56	52,77	7,63	-	-	-	-	-	-
1.8.2020	53,79	34,57	7,63	9,81	8,56	52,77	7,63	-	-	-	-	-	-

Date	Fuels ¹⁾								Electricity						
	Motor-gasoline, unleaded ²⁾			Diesel fuel ³⁾	Light fuel oil ¹²⁾	Liquefied petroleum gas	Heavy fuel oil	Hard coal ¹¹⁾	Natural gas	Peat	Consumption		Production		
	c/l			c/kg		€/t	€/MWh			c/kWh	Electricity, I ⁴⁾	Electricity, II ⁵⁾	Nuclear power	Hydro power	Imports
1.1.2021	53,79	34,57	10,33	13,29	11,59	71,45	10,33	-	-	-	-	-	-	-	-
Carbon dioxide tax ⁹⁾															
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	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-
1.1.2019	17,38	19,90	16,90	18,09	18,67	147,81	12,94	-	-	-	-	-	-	-	-
1.8.2020	21,49	24,56	16,90	18,09	18,67	147,81	12,94	-	-	-	-	-	-	-	-
Energy tax ⁷⁾															
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	-	-	-	-	-
1.1.2019	-	-	-	-	-	-	-	3,00	2,24	0,69	-	-	-	-	-
1.1.2021	-	-	-	-	-	-	-	3,00	2,24	0,05	-	-	-	-	-
Strategic stockpile fees															
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	-	-	-	-	-
Oil pollution fees ⁶⁾															
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	-	-	-	-	-	-	-	-	-	-
1.3.2020	0,000	0,000	0,000	-	0,000	-	-	-	-	-	-	-	-	-	-

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) Collection of oil pollution fees is discontinued until the capital of the oil protection fund falls below 5 million euro.

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 September 2021

Energy source ³⁾	Price €/MWh ¹⁾	Annual change-%
Hard coal (VAT 0%) ²⁾	50.57	38.7
Natural gas (VAT 0%)	70.50	.
Forest chips (VAT 0%) ⁴⁾	23.06	4.1
Milled peat (VAT 0%) ⁴⁾	—	—

1) Inclusive of excise duties.

2) The coal price is preliminary.

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

4) Price of forest chippings average for 3rd quarter, the price of milled peat not published due to too few observations.

Appendix table 3. Consumer prices of heating energy in September 2021

Energy source ²⁾	Price €/MWh ¹⁾	Annual change-%
Light fuel (VAT 24%)	102.9	45.1
Household electricity, L2 (VAT 24%)	145.5	6.2
Wood pellet (VAT 24%) ⁴⁾¹⁾	58.5	0.2
District heat, terraced house / low-rise block of flats (VAT 24%) ¹⁾	85.5	3.5

1) The prices do not take into account energy conversion losses.

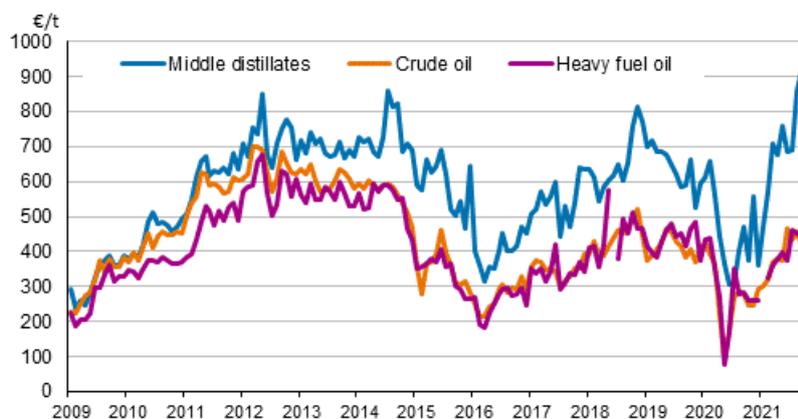
2) Sources: Finnish Energy, Energy Authority, Statistics Finland

3) The price of district heat is from July 2021.

4) Wood pellet price: Producer price indices 2021 August, appendix table 25.

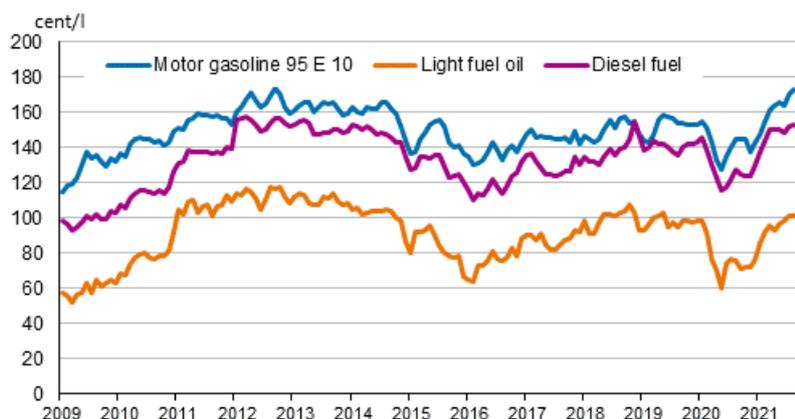
Appendix figures

Appendix figure 1. Import prices of oil



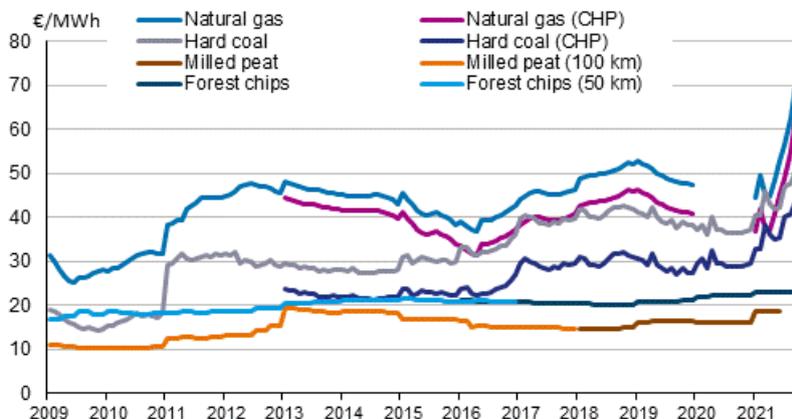
Source: Finnish Customs

Appendix figure 2. Consumer prices of principal oil products



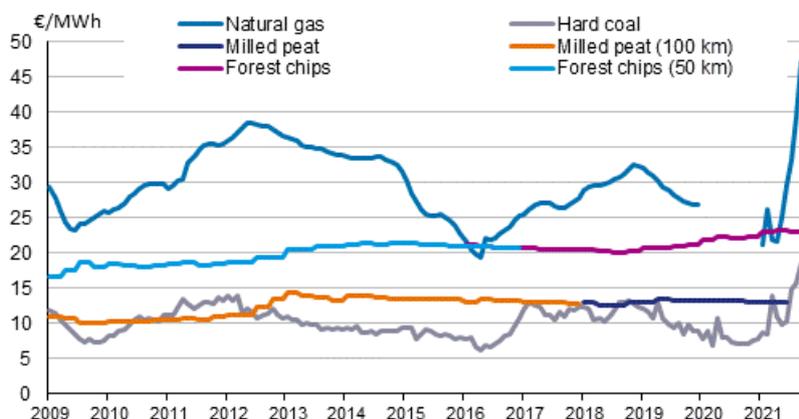
Sources: Finnish Petroleum and Biofuels Association (-11/2018), Statistics Finland (12/2018-).

Appendix figure 3. Fuel prices in heat production



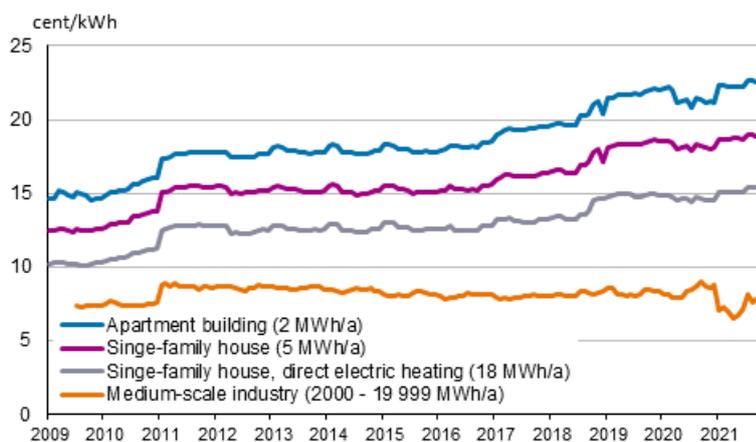
The prices include excise duties (VAT 0%). The energy content tax on natural gas and hard coal used in combined heat and power production has been reduced by € 7.63 per MWh from the beginning of 2019. Sources: Finnish Customs, Energy Authority, The Bioenergy Association of Finland, Statistics Finland, FOEX Indexes Ltd..

Appendix figure 4. Fuel prices in electricity production



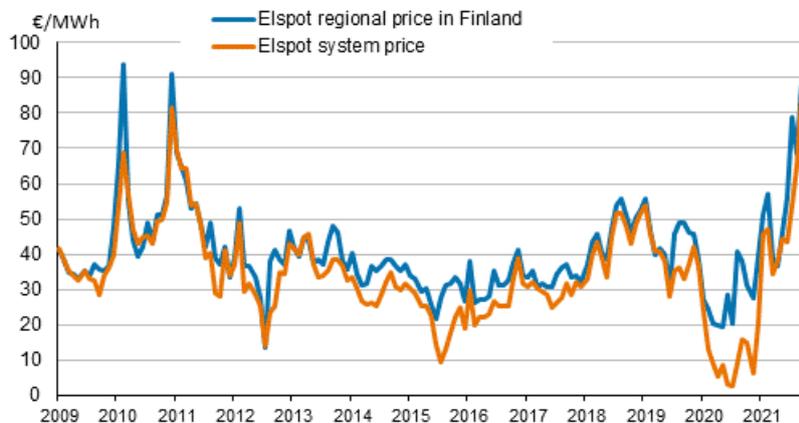
The fuels of electricity production are exclusive of tax. Sources: Finnish Customs, Energy Authority, The Bioenergy Association of Finland, Statistics Finland, FOEX Indexes Ltd..

Appendix figure 5. Price of electricity by type of consumer



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

Appendix figure 6. Average monthly spot prices at the Nord Pool Spot power exchange



Source: Nord Pool Spot

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Source: Statistics Finland, Energy prices