

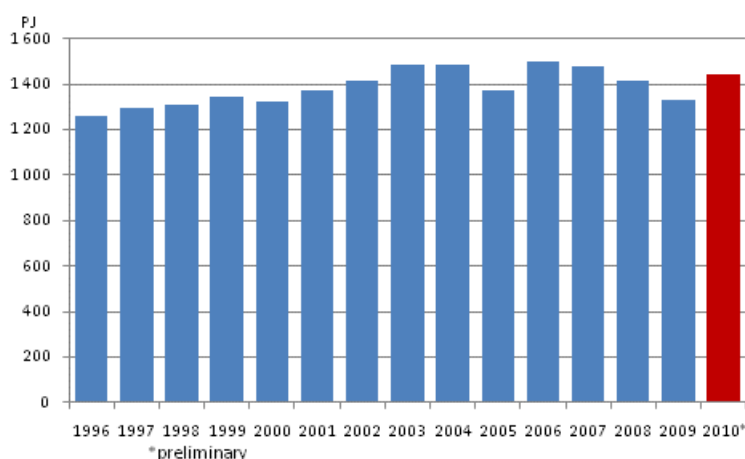
Energy supply, consumption and prices

2010, 4th quarter

Total energy consumption rose by 9 per cent in 2010

According to Statistics Finland's preliminary data, total energy consumption in 2010 amounted to 1,445 PJ (petajoule), or 402 TWh, which was nine per cent more than in 2009. Consumption of electricity amounted to 87.5 TWh, up by 7.6 per cent. Energy consumption was put up by the greater need by the recovery of industrial production and for heating of buildings. Total energy consumption went up to nearly the same level as before the economic downturn. The 11 per cent growth in the use of fossil fuels and the over 30 per cent increase in the use of peat put carbon dioxide emissions of energy production and use up by 15.3 per cent. The use of renewable energy grew by 12.5 per cent. According to the preliminary data for 2010, renewable energy accounted for 26.3 per cent of total energy consumption.

Total energy consumption, PJ



Of individual energy sources, the consumption of wood fuels grew most, by 40.1 PJ, or 15 per cent, and the consumption of coal second most, by 34.9 PJ, or 23 per cent. The use of peat went up the third most, by 21.8 PJ, which was 30 per cent more than in 2009. Energy produced with nuclear energy went down by over three per cent, which was caused by longer maintenance shutdowns in nuclear power plants. The use of natural gas grew by over ten per cent.

The consumption of electricity went up in relative terms most in the forest industry and in the metal industry. In absolute numbers consumption grew most in the forest industry and second most in households and farms. Domestic production of electricity increased by 11 per cent. 12 per cent of the electricity consumed in Finland was covered with imported electricity. Nearly 12.4 per cent more electricity than in the previous year was also produced for exports to the Nordic market. The increase in electricity exports is partly explained by the lower than average water supply in the Nordic countries, particularly in Sweden and Norway, which has reduced the production of electricity with hydro power. Net imports of electricity to Finland declined by 13.1 per cent in all. Growth in electricity production particularly concerned condensate power, which grew by 51 per cent compared with 2009. The value of electricity exports went up by close on 150 per cent in 2010. The production of wind power grew by 6.3 per cent. Energy produced with wind power accounted for 0.1 per cent of total energy production.

Energy products were imported most from Russia to Finland in 2010. The value share of energy imports from Russia was 80 per cent. Around ten per cent of the energy products were imported to Finland from the other EU countries and the value share of exports was nearly 80 per cent to the other EU countries. Oil products and electricity were exported most from Finland. Finland's biggest export country for energy was Sweden, where nearly one third of the energy products are exported, the most significant export product being electricity. The export volumes of wood pellets increased by 40 per cent in 2010.

Total energy consumption by source (TJ) and CO2 emissions (Mt)

Corrected on 4 April 2011. The corrections are indicated in red, were previously 31348 and 4.2.				
Energy source ⁵⁾	2009	2010*	Yearly change -%*	% from total consumption*
Oil	335495	353871	5,5	24,5
Coal ¹⁾	151982	186346	22,6	12,9
Natural gas	134568	148615	10,4	10,3
Nuclear Energy ²⁾	246555	238733	-3,2	16,5
Net Imports of Electricity ³⁾	43504	37802	-13,1	2,6
Hydro and Wind Power ⁴⁾	46259	47010	1,6	3,3
Peat	71743	93544	30,4	6,5
Wood fuels	267501	307600	15,0	21,3
Others	30078	31198	3,7	2,2
Energy total consumption	1327684	1444720	8,8	100
Bunkers	31841	25988	-18,4	
CO2 emissions from energy sector	51,9	59,8	15,3	

1) Coal: includes hard coal, coke, blast furnace gas and coke oven gas.

2) Conversion of electricity generation into fuel units: Nuclear power: 10.91 TJ/GWh (33% total efficiency)

3) Conversion of electricity generation into fuel units: Hydro power, wind power and net imports of electricity: 3.6 TJ/GWh (100%)

4) Conversion of electricity generation into fuel units: Hydro power, wind power and net imports of electricity: 3.6 TJ/GWh (100%)

5) *Preliminary

Energy prices on the rise

The rise in prices of domestic fuels has been lower compared with imported fuels. In the last quarter of the year the price of milled peat was up by 3.9 per cent and that of forest chippings by 1.8 per cent relative to the corresponding period of 2009. The price of consumer pellets fell by 1.2 per cent in November.

At the end of last year, the prices of transport fuels were close to the top prices of 2008. In particular, the prices of diesel and light fuel oil rose. The price of light fuel oil went up by one third over the year. The price of light fuel oil was 47 per cent up year-on-year in December. The consumption of natural gas grew

last year by ten per cent and its prices exceeded the price level of 2008. The consumption of hard coal grew by 23 per cent, its prices rose by 25 per cent, but did not yet reach the highest level of 2008.

The cold winter increased the need for heating and the poor water situation in the Nordic countries and growing demand pushed up the market price of electricity strongly. The area price for Finland on the Nordic electricity market was 53 per cent higher in 2010 than one year before. The consumer prices of electricity have risen slower than its market price.

Statistics on Energy supply, consumption and prices will be divided into two separate statistics in connection with the next release. The new statistics are Energy supply and consumption and Energy prices.

Contents

Tables

Appendix tables

Appendix table 1. Energy taxes, precautionary stock fees and oil pollution fees (Validity 31.12.2010).....	5
--	---

Figures

Appendix figures

Appendix figure 1. Changes in GDP, Final energy consumption and electricity consumption 1995-, %.....	6
Appendix figure 2. Carbon dioxide emissions from fossil fuels and peat use 1990-, Mt.....	6
Appendix figure 3. Coal consumption 1995-, mill. t.....	7
Appendix figure 4. Consumption of natural gas 1995-, bn m3.....	7
Appendix figure 5. Peat consumption 1995-, TWh.....	7
Appendix figure 6. Domestic oil deliveries 1995-, mill. t.....	8
Appendix figure 7. Import prices of oil 1997-, €/t.....	8
Appendix figure 8. Consumer prices of principal oil products 1997-, c/l.....	8
Appendix figure 9. Fuel Prices in Heat Production 1997-, €/MWh.....	9
Appendix figure 10. Fuel prices in electricity production 1997-, €/MWh.....	9
Appendix figure 11. Price of electricity by type of consumer 1997, c/kWh.....	9
Appendix figure 12. Average monthly spotprices at the Nord Pool Spot power exchange 1998-, €/MWh.....	10

Appendix tables

Appendix table 1. Energy taxes, precautionary stock fees and oil pollution fees (Validity 31.12.2010)

Date	Fuels ¹⁾							Electricity					
	Motor gasoline, unleaded ²⁾	Diesel fuel ³⁾	Light fuel oil	Heavy fuel oil	Hard coal	Natural gas	Peat	Consumption		Production			
								Electricity, I ⁴⁾	Electricity, II ⁵⁾	Nuclear power	Hydro power	Imports	
	c/l			c/kg	€/t	c/nm ³	€/MWh	c/kWh					
Excise taxes													
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	0,4	-	-	-	-
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	-	-	-	-
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	-	-	-	-
Oil pollution fees⁶⁾													
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

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

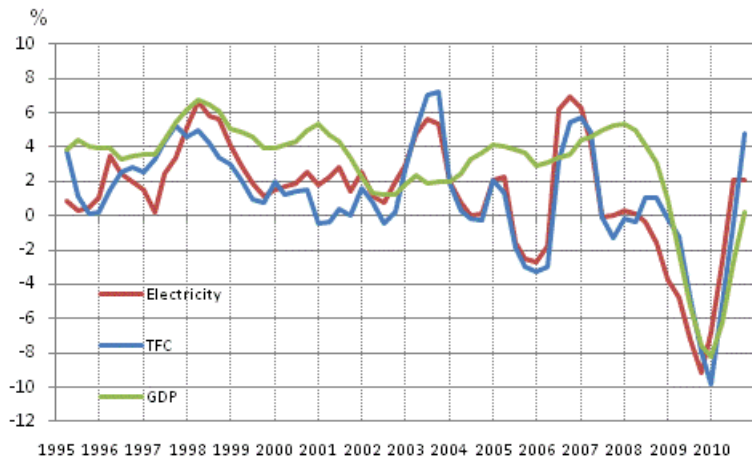
4) Tax class I: others

5) Tax class II: industry and professional greenhouses

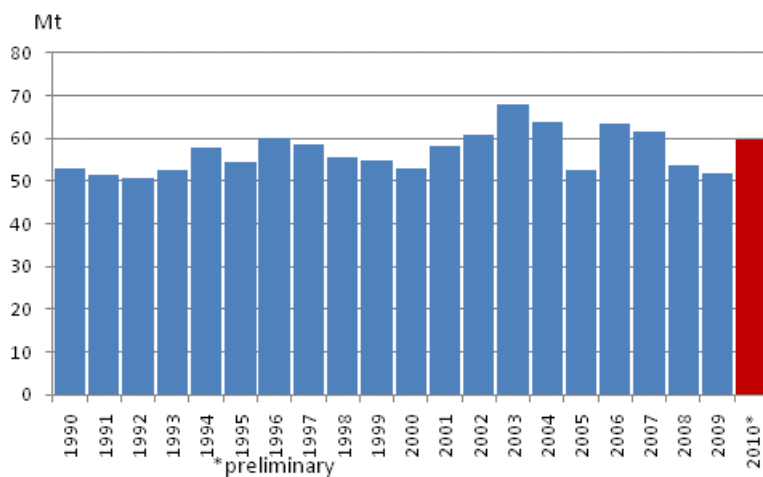
6) Fee for imported oil and oil products: 1,50 €/t

Appendix figures

Appendix figure 1. Changes in GDP, Final energy consumption and electricity consumption 1995-, %

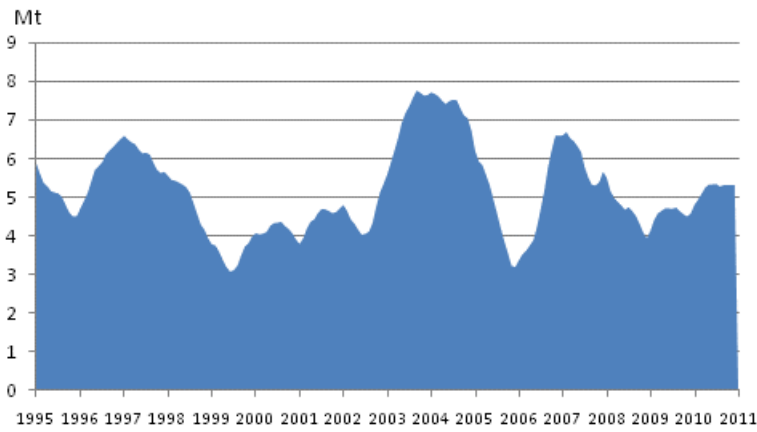


Appendix figure 2. Carbon dioxide emissions from fossil fuels and peat use 1990-, Mt



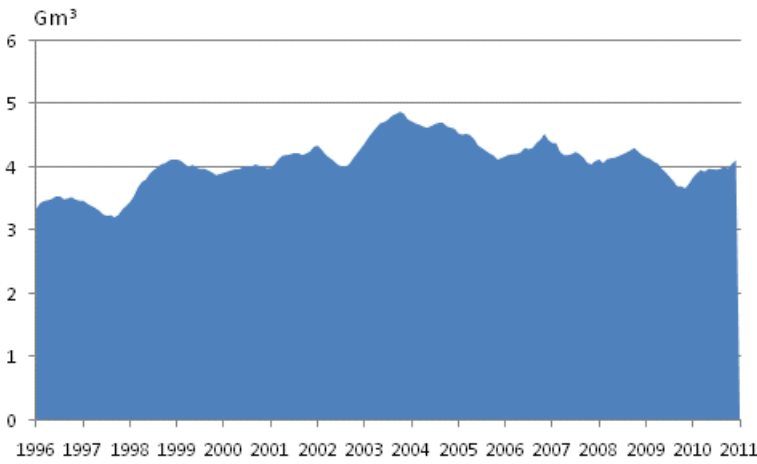
12-month moving total, Source: Statistics Finland

Appendix figure 3. Coal consumption 1995-, mill. t



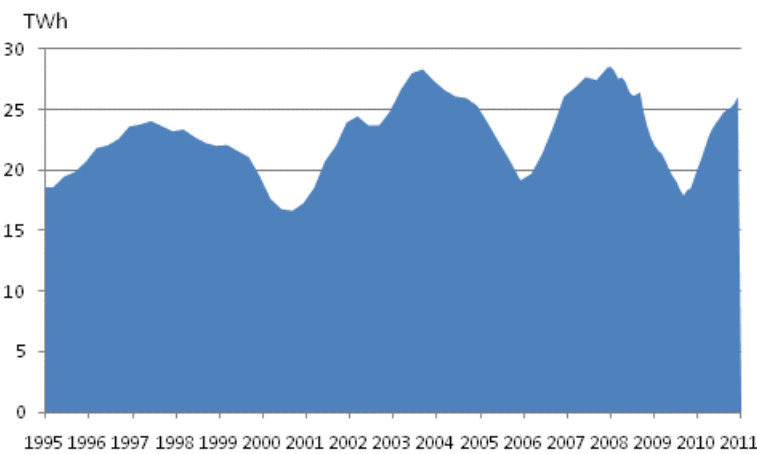
12-month moving total, Source: Statistics Finland, Finnish Energy Industries Federation

Appendix figure 4. Consumption of natural gas 1995-, bn m3



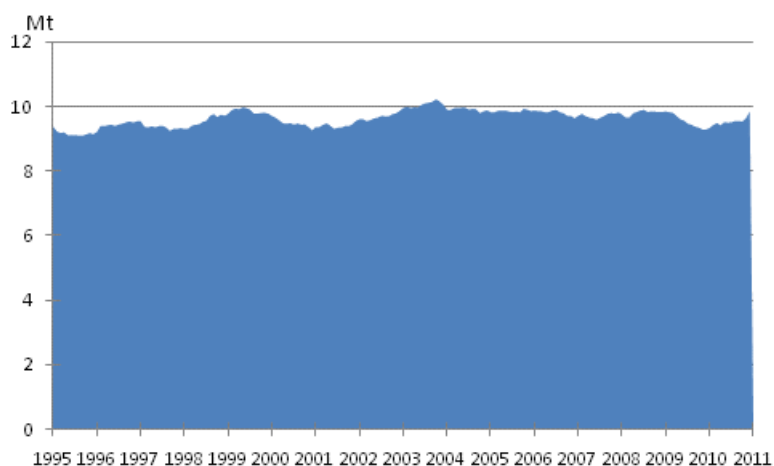
12-month moving total, Source: Finnish Petroleum Federation

Appendix figure 5. Peat consumption 1995-, TWh



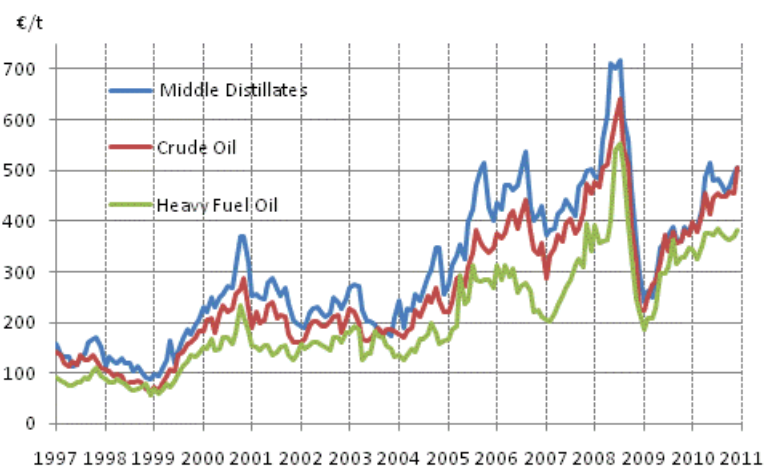
12-month moving total, Source: Association of Finnish Peat Industries

Appendix figure 6. Domestic oil deliveries 1995-, mill. t



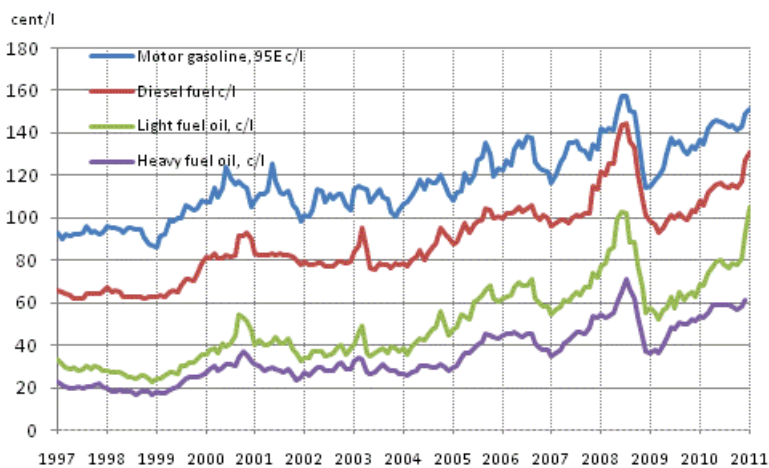
12-month moving total Source: Finnish Petroleum Federation

Appendix figure 7. Import prices of oil 1997-, €/t



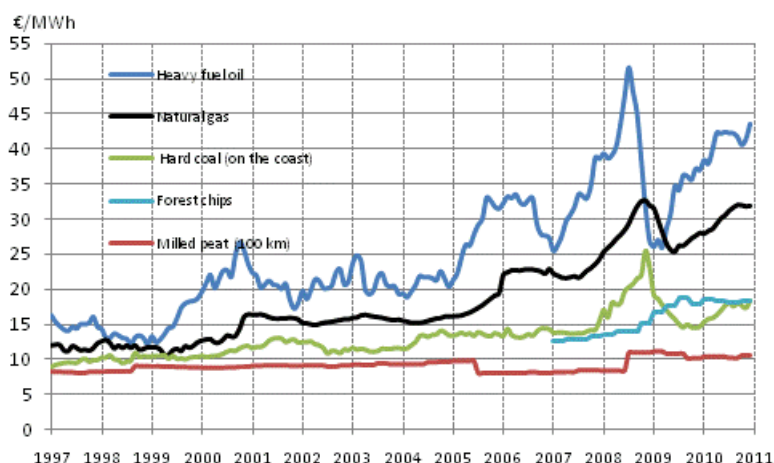
Source: National Board of Customs/Foreign Trade Statistics

Appendix figure 8. Consumer prices of principal oil products 1997-, c/l



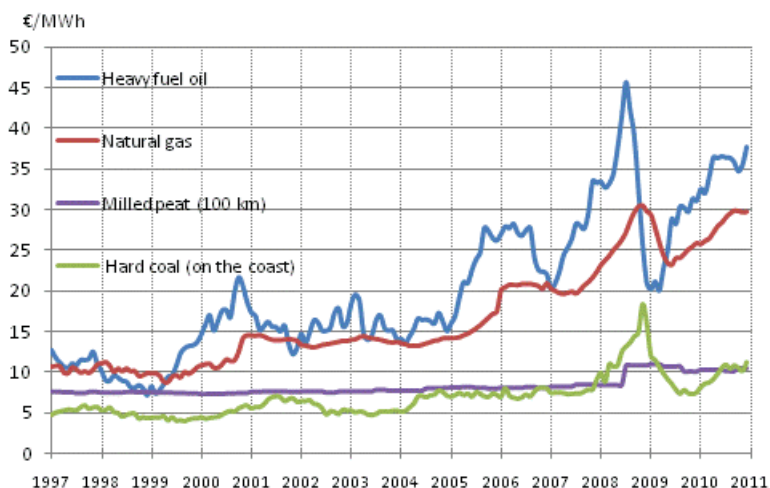
Source: Finnish Petroleum Federation

Appendix figure 9. Fuel Prices in Heat Production 1997-, €/MWh



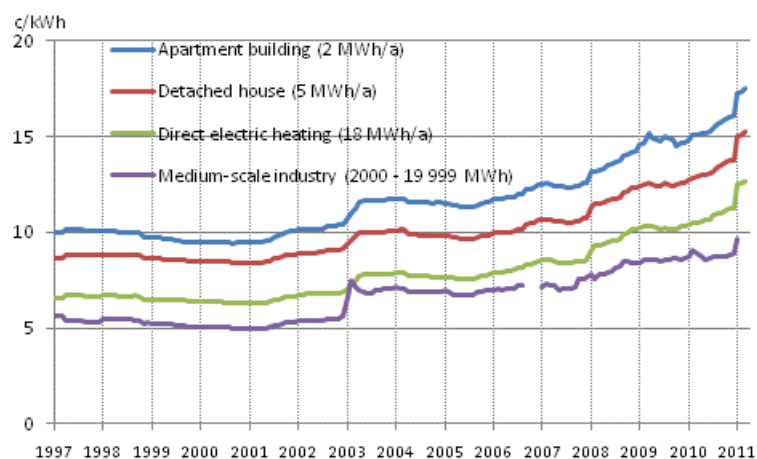
Sources: National Board of Customs/Foreign Trade Statistics, Gasum Oy, Association of Finnish Peat Industries, Finnish Petroleum Federation

Appendix figure 10. Fuel prices in electricity production 1997-, €/MWh



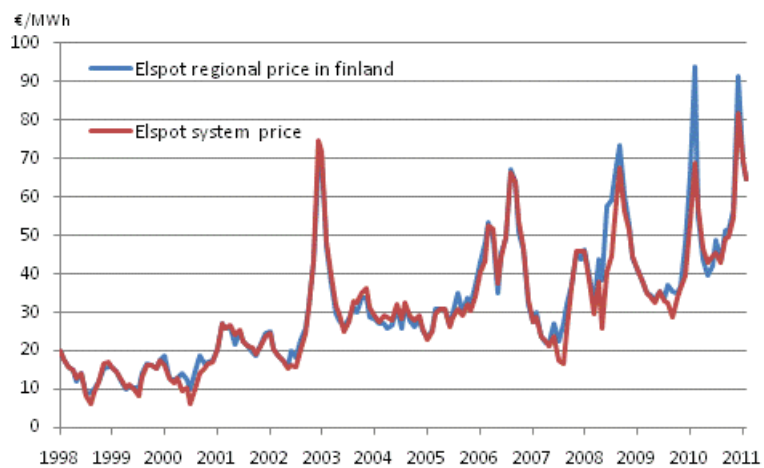
Sources: National Board of Customs/Foreign Trade Statistics, Gasum Oy, Association of Finnish Peat Industries, Finnish Petroleum Federation

Appendix figure 11. Price of electricity by type of consumer 1997, c/kWh



Source: Energy Market Authority

Appendix figure 12. Average monthly spotprices at the Nord Pool Spot power exchange 1998-, €/MWh



Source: Nord Pool Spot

Inquiries

Pentti Wanhatalo 09 1734 2685

Director in charge:

Leena Storgårds

energia@stat.fi

www.stat.fi

Source: Energy supply, consumption and prices, Statistics Finland