





# Statistics

Key figures .....	3
Definitions, units and symbols .....	3

## Generation capacity and electricity production

S1 Installed capacity .....	5
S2 Average-year generation of hydro power .....	5
S3 Comparison of capacity and maximum system load .....	6
S4 Changes in installed capacity .....	6
S5 Electricity generation .....	7
S6 Total electricity generation by energy source and net exchange of electricity ...	8
S7 Monthly generation and total consumption of electricity 2005-2006 .....	9
S8 Total electricity supply .....	10

## Electricity consumption

S9 Electricity consumption .....	10
S10 Total electricity consumption 1996 - 2006 .....	10
S11 Total electricity consumption per capita 1996 - 2006 .....	10
S12 Net consumption of electricity by consumer category .....	11
S13 System load .....	12

## Transmission grid

S14 Existing interconnections between the Nordel countries .....	13
S15 Existing interconnections between the Nordel countries and other countries ...	14
S16 The most important interconnections and grid reinforcement .....	14
S17 Transmission lines of 110-400 kV in service .....	15

## Electricity exchange

S18 Exchange of electricity (map) .....	16
S19 Exchange of electricity .....	16
S20 Monthly exchange of electricity .....	17
S21 Exchange of electricity between the Nordel countries 1963 - 2006 .....	18

## Other market information

S22 Water reservoirs .....	19
S23 Prices and turnover on the Nordic electricity exchanges 2005-2006 .....	20

Annual statistics is available at  
**[www.nordel.org](http://www.nordel.org)**

## Responsible for statistical data (Statistics Group)

Jussi Matilainen, Fingrid Oyj (Chairman)  
Lars Byberg, Energinet.dk  
Ragnar Stefánsson, Landsnet hf.  
Morten Torgalsbøen, Statnett SF  
Agata Persson, Svenska Kraftnät

## Key figures for 2006

		Nordel	Denmark	Finland	Iceland	Norway	Sweden
Population	mill.	24.8	5.4	5.3	0.3	4.7	9.1
Total consumption	TWh	405.4	36.4	90.1	9.9	122.6	146.4
Maximum load <sup>1</sup>	GW	66.8	6.3	14.2	1.1	19.9	25.4
Electricity generation	TWh	393.9	43.3	78.6	9.9	121.7	140.3
<b>Breakdown of electricity generation:</b>							
Hydropower	%	51	0	14	73	98	44
Nuclear power	%	22	-	28	-	-	46
Other thermal power	%	24	86	58	0	1	9
Wind power	%	3	14	0	-	1	1
Geothermal power	%	-	-	-	27	-	-

<sup>1)</sup> Measured 3rd Wednesday in January    - = Data are non-existent    0 = Less than 0.5 %

## Definitions, units and symbols

### Units and symbols

kW	kilowatt
MW	megawatt = 1,000 kW
GW	gigawatt = 1,000 MW
kWh	kilowatt-hour = 3,600 kJ
MWh	megawatt-hour = 1,000 kWh
GWh	gigawatt-hour = 1,000 MWh
TWh	terawatt-hour = 1,000 GWh
~	Alternating current (AC)
=	Direct current (DC)
-	Data are non-existent
..	Data are too uncertain
0	Less than 0.5 of the unit given

### Calculation of the electricity consumption

Electricity generation  
+ Imports  
- Exports

---

= Total consumption  
- Occasional power to electric boilers

---

= Gross consumption  
- Losses, pumped storage power etc.

---

= Net consumption

## Definitions

### Installed capacity (net capacity)

The rated capacity of the power plants excluding the power plant's own consumption of electricity (exclusive heat production).

### Electricity generation (net electricity generation)

The electrical energy generated by the power plants, excluding the plants' own consumption.

### Condensing power

Generation at a conventional steam power plant where the energy of the steam is used solely for electricity generation and where the steam is condensed to water after the turbine.

### Combined heat and power generation (CHP)

Generation at a steam power plant where some of the energy of the steam is used for electricity generation and some for another purpose, e.g. for district heating or as process steam for the industry.

### Total consumption

The sum of electricity generation and net imports.

### Occasional power to electric boilers

The supply of electricity to electric boilers for the generation of steam or hot water, which may alternatively be generated using oil or some other fuel.

### Gross consumption

The total consumption minus occasional power to electric boilers.

### Gross temperature corrected consumption

Gross consumption corrected to correspond normal yearly temperature variations.

### Net consumption

The sum of the electricity delivered to the end users.

### Pumped storage power

The electricity used for pumping water up to a reservoir for electricity generation later on.

### Losses

Losses in the transmission and distribution networks.

### Transmission capacity

The power that a high voltage line can transmit under normal conditions, taking into account limitations that may be imposed on the rated capacity.

### Exchange of electricity

The physical exchange of electricity between the countries.

### Biofuel

Wood waste, industrial wood fuels, black liquor and pitch oil, wood fuels as wood waste or saw dust, biogas, straw, animal wastes and litter, bio oil.

### Other renewable power

Wind power, waste and geothermal power.

### Sources

Danish Energy Association

Finnish Energy Industries

Icelandic National Energy Authority

Nordel

Nord Pool

Norwegian Water Resources and Energy Directorate

OECD (Organisation for Economic Co-operation and Development)

Statistics Denmark

Statistics Iceland

Statistics Sweden

Swedenergy

# Generation capacity and electricity production

## S1a Installed capacity<sup>1)</sup> by production types on 31 December 2006, MW

	Denmark	Finland	Iceland	Norway	Sweden	Nordel
<b>Installed capacity total <sup>1)</sup></b>	<b>12 699</b>	<b>16 544</b>	<b>1 707</b>	<b>29 268</b>	<b>33 819</b>	<b>94 037</b>
<b>Nuclear power</b>	–	2 671	–	–	8 965	<b>11 636</b>
<b>Other thermal power</b>	9 554	10 743	113	244	8 094	<b>28 748</b>
– Condensing power	993 <sup>2)</sup>	3 301	–	0	2 298	<b>6 592</b>
– CHP, district heating	7 687	3 737	–	131	2 954	<b>14 509</b>
– CHP, industry	567	2 924	–	49	1 229	<b>4 769</b>
– Gas turbines etc.	307	781	113	64	1 613	<b>2 878</b>
<b>Hydro power</b>	10	3 044	1 162	28 691	16 180	<b>49 087</b>
<b>Wind power</b>	3 135	86	–	333	580	<b>4 134</b>
<b>Geothermal power</b>	–	–	432	–	–	<b>432</b>
<b>Mothballed<sup>3)</sup></b>	0	0	0	0	500	<b>500</b>

<sup>1)</sup> Refers to the sum of the rated net capacities of the individual power plant units in the power system, and should not be considered to represent the total capacity available at any single time.

<sup>2)</sup> Includes 100% condensing power in Denmark. The rest is included in CHP, district heating.

<sup>3)</sup> Mothballed capacity that can be recommissioned by decision of the power plant owner. All mothballed plants are considered as unavailable no matter how long in advance the decision of recommissioning must be taken. Mothballed capacity are not included in the total installed capacity.

## S1b Installed capacity<sup>1)</sup> by main energy source on 31 December 2006, MW

	Denmark	Finland	Iceland	Norway	Sweden	Nordel
<b>Installed capacity, total<sup>1)</sup></b>	<b>12 699</b>	<b>16 544</b>	<b>1 707</b>	<b>29 268</b>	<b>33 819</b>	<b>94 037</b>
<b>Nuclear power</b>	–	2 671	–	–	8 965	<b>11 636</b>
<b>Fossil fuels<sup>2)</sup></b>	8 934 <sup>3)</sup>	8 409	113	64	5 132	<b>22 652</b>
<b>Renewable power</b>	3 765	5 464	1 594	29 204	19 722	<b>59 749</b>
– Hydro power	10	3 044	1 162	28 691	16 180	<b>49 087</b>
– Bio fuel	294	2 190	–	96	2 715	<b>5 295</b>
– Waste	326	144	–	84 <sup>4)</sup>	247	<b>801</b>
– Wind power	3 135	86	–	333	580	<b>4 134</b>
– Geothermal power	–	–	432	–	–	
<b>Mothballed<sup>3)</sup></b>	0	0	0	0	500	<b>500</b>

<sup>1)</sup> Refers to the sum of the rated net capacities of the individual power plant units in the power system, and should not be considered to represent the total capacity available at any single time.

<sup>2)</sup> Include coal, oil, gas, etc.

<sup>3)</sup> Mothballed capacity that can be recommissioned by decision of the power plant owner. All mothballed plants are considered as unavailable no matter how long in advance the decision of recommissioning must be taken. Mothballed capacity are not included in the total installed capacity.

<sup>4)</sup> Includes energy recovery from industry.

<sup>5)</sup> Includes 24 MW not specified.

## S2 Average-year generation of hydro power in 2006, GWh

	Denmark	Finland	Iceland	Norway	Sweden	Nordel
<b>Average-year generation 2006</b>	–	13 120	7 289	120 229	65 000	<b>205 638</b>
<b>Average-year generation 2005</b>	–	13 080	7 014	119 723	65 000	<b>204 817</b>
<b>Change</b>	–	40	275	506	0	<b>821</b>
<b>Reference period</b>	–	1961–90	1950–00	1970–99	1950–00	

### S3 Comparison of capacity and maximum system load in 2006, MW

	Denmark	Finland	Iceland	Norway	Sweden
<b>Installed capacity<sup>1)</sup></b>	12 699	16 544	1 707	29 268	33 819
<b>Available production capacity<sup>2)</sup></b>	7 540	13 120	1 571	24 070	28 550
<b>Maximum system load<sup>3)</sup></b>	6 372	14 955	1 348	21 432	26 100

<sup>1)</sup> Installed capacity pr. 31.12.06. Refers to sum of rated net capacities of the individual power plant units in the power system and should not be considered to represent the total capacity available at any single time.

<sup>2)</sup> The data are estimated by the Operational Group in Nordel and shows available production capacity for the market at peak on a cold winter day (10-year winter). More information is available in the report Power Balance 2006/2007 at [www.nordel.org](http://www.nordel.org).

<sup>3)</sup> Maximum system load for each country in winter 2006/2007, MWh/h.

### S4 Changes in installed capacity in 2006

Power category	Type of fuel	Commissioned MW	Decommissioned MW
<b>Denmark<sup>1)</sup></b>			
Condensing power	Coal		1
	Oil		
CHP district heating	Oil	23	
	Natural gas	58	121
	Biofuel	11	9
	Waste	56	7
	Other	23	
CHP Industry	Oil		5
	Natural gas	5	3
	Biofuel		1
	Waste		5
	LPG	1	
Wind power			3
<b>Finland</b>			
Hydro power		27	
CHP, industry	Biofuel	48	
Wind power		4	
<b>Iceland</b>			
Geothermal power		200	
<b>Norway</b>			
Hydro power		354	2
Wind power		47	
<b>Sweden</b>			
Hydro power		40	10
CHP district heating	Biofuel	40	
	Natural gas	260	
	Oil		5
	Waste	33	
CHP Industry	Biofuel	352	152
Gasturbine	Oil		10
Nuclear power		91	87
Wind power		55	
<b>Total</b>		<b>1 728</b>	<b>421</b>

<sup>1)</sup> Excluding change of main fuel for Avedøreværket 2 (560 MW).

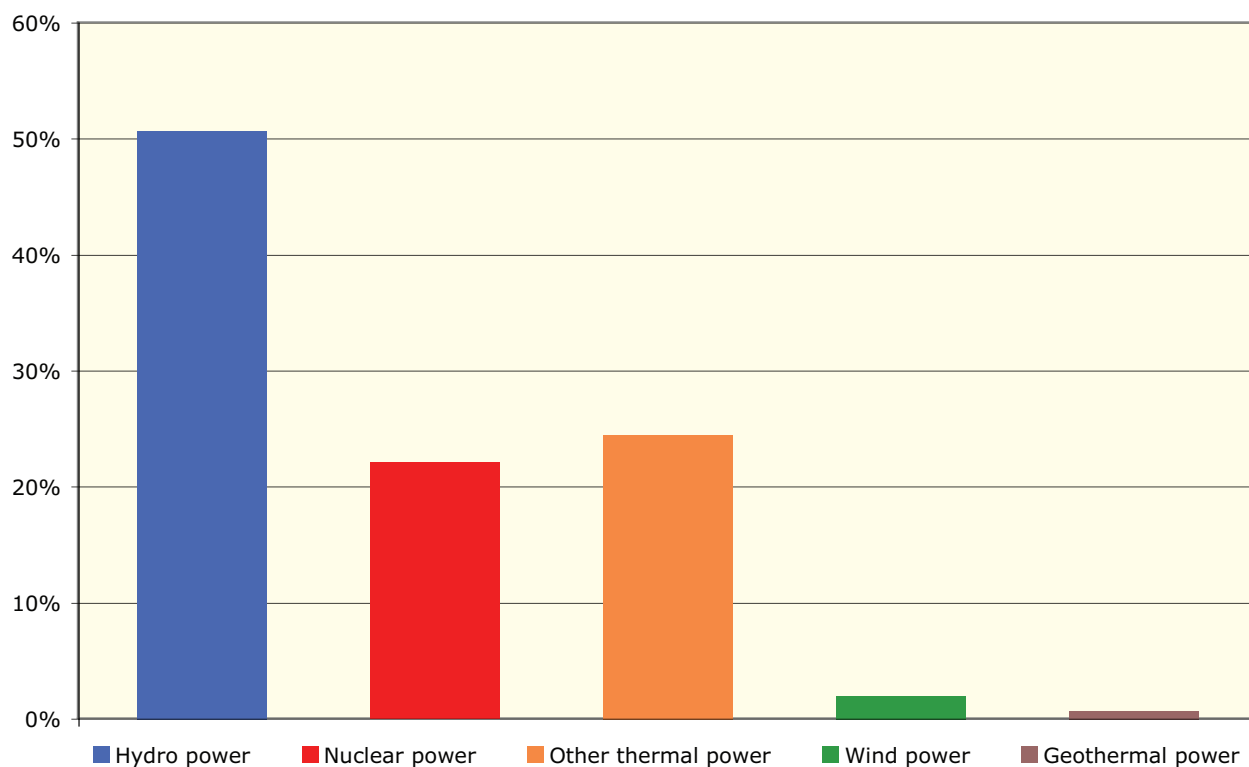
## S5 Electricity generation 2006, GWh

	Denmark	Finland	Iceland	Norway	Sweden	Nordel
<b>Total generation</b>	43 328	78 590	9 925	121 715 <sup>2)</sup>	140 314	<b>393 872</b>
<b>Nuclear power</b>	-	21 982	-	-	64 984	<b>86 966</b>
<b>Other thermal power</b>	37 198	45 119	5	1 123	13 167	<b>96 612</b>
- Condensing power		17 547	-	0	778	<b>18 325</b>
- CHP, district heating	35 433 <sup>1)</sup>	14 505	-	113	6 912	<b>56 963</b>
- CHP, industry	1 762	13 064	-	561	5 464	<b>20 851</b>
- Gas turbines, etc.	3	3	5	449	13	<b>473</b>
<b>Hydro power</b>	23	11 342	7 289	119 919	61 176	<b>199 749</b>
<b>Wind power</b>	6 107	147	-	673	987	<b>7 914</b>
<b>Geothermal power</b>	-	-	2 631	-	-	<b>2 631</b>
<b>Total generation 2005</b>	34 353	67 497	8 679	137 948 <sup>2)</sup>	154 609	<b>403 086</b>
<b>Change compared to 2005</b>	26.1%	16.4%	14.4%	-11.8%	-9.2%	<b>-2.3%</b>

<sup>1)</sup> Includes condensing production.

<sup>2)</sup> Gross production.

## Electricity generation 2006, GWh. Share of total (%)



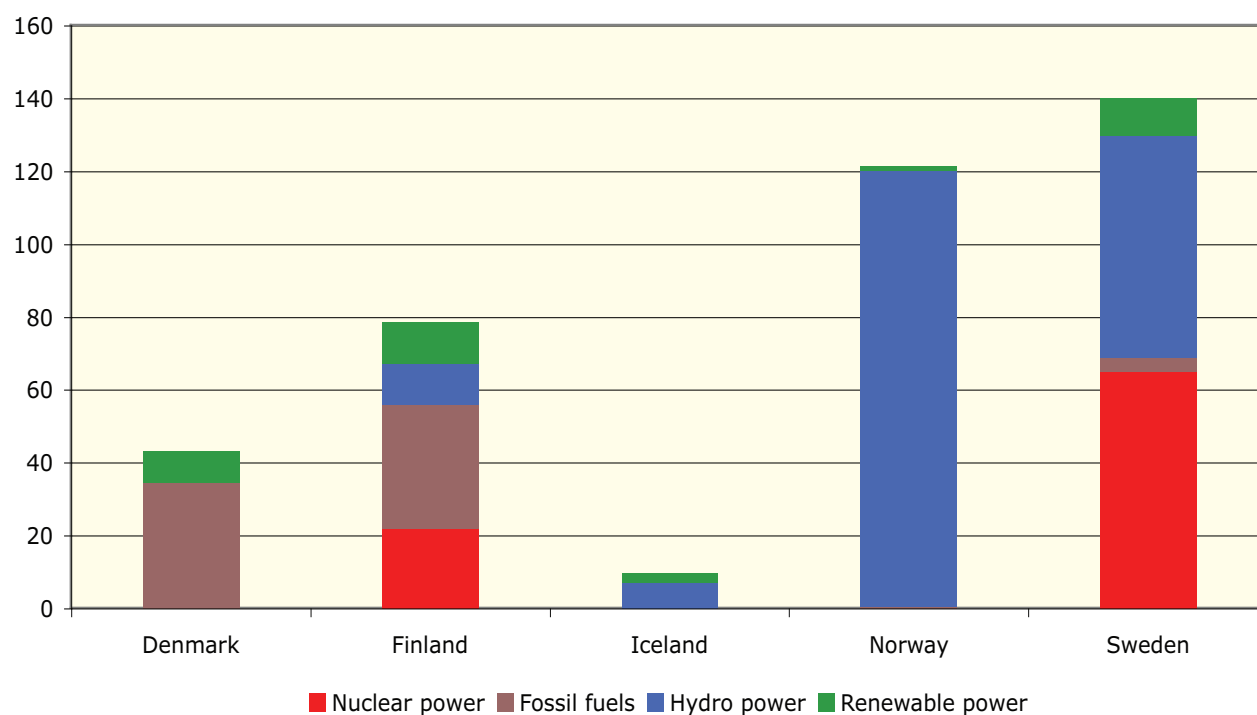
## S6 Total electricity generation by energy source and net exchange of electricity 2006, TWh

	Denmark		Finland		Iceland		Norway		Sweden		Nordel	
	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005	2006	2005
<b>Total generation</b>	<b>43.2</b>	<b>34.4</b>	<b>78.6</b>	<b>67.5</b>	<b>9.9</b>	<b>8.6</b>	<b>121.7</b>	<b>138.0</b>	<b>140.3</b>	<b>154.7</b>	<b>393.7</b>	<b>403.2</b>
<b>Total thermal power</b>	<b>34.6</b>	<b>23.6</b>	<b>55.9</b>	<b>44.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.4</b>	<b>0.4</b>	<b>68.8</b>	<b>73.2</b>	<b>159.7</b>	<b>141.2</b>
- Nuclear power	-	-	22	22.3	-	-	-	-	65	69.5	87	91.8
- Other thermal power <sup>1)</sup>	34.6	23.6	33.9	21.7	0.0	0.0	0.4	0.4	3.8	3.7	72.7	49.4
- Coal	25.8	14.5	16.1	7.0	-	-	-	-	1	1.1	42.9	22.6
- Oil	0.1	0.3	1.8	1.5	-	-	-	-	1.2	1.3	3.1	3.1
- Peat	-	-	6.2	4.3	-	-	-	-	0.1	0.1	6.3	4.4
- Natural gas	8.5	8.6	9.8	8.9	-	-	0.4	0.4	0.9	0.6	19.6	18.5
- Others <sup>2)</sup>	0.2	0.2	-	-	-	-	-	-	0.6	0.6	0.8	0.8
<b>Total renewable power</b>	<b>8.6</b>	<b>10.8</b>	<b>22.7</b>	<b>23.5</b>	<b>9.9</b>	<b>8.7</b>	<b>121.3</b>	<b>137.6</b>	<b>71.5</b>	<b>81.5</b>	<b>234</b>	<b>262.1</b>
- Hydro power	0	0	11.3	13.4	7.3	7.0	119.9	136.5	61.2	72.3	199.7	229.2
- Other renewable power	8.6	10.8	11.4	10.1	2.6	1.7	1.4	1.1	10.3	9.2	34.3	32.9
- Wind power	6.1	6.6	0.2	0.2	-	-	0.7	0.5	1	0.9	8	8.2
- Biofuel	0.8	2.9	10.1	8.9	-	-	0.4	0.3	8.2	7.4	19.5	19.5
- Waste	1.7	1.3	1.1	1.0	-	-	0.3	0.3	1.1	0.9	4.2	3.5
- Geothermal power	-	-	-	-	2.6	1.7	-	-	0	0	2.6	1.7
<b>Net imports</b>	<b>-6.9</b>	<b>1.4</b>	<b>11.5</b>	<b>17.1</b>	<b>-</b>	<b>-</b>	<b>0.9</b>	<b>-12.0</b>	<b>6.1</b>	<b>-7.4</b>	<b>11.5</b>	<b>-0.9</b>

<sup>1)</sup> Fossil fuels.

<sup>2)</sup> DK West refinery gas.

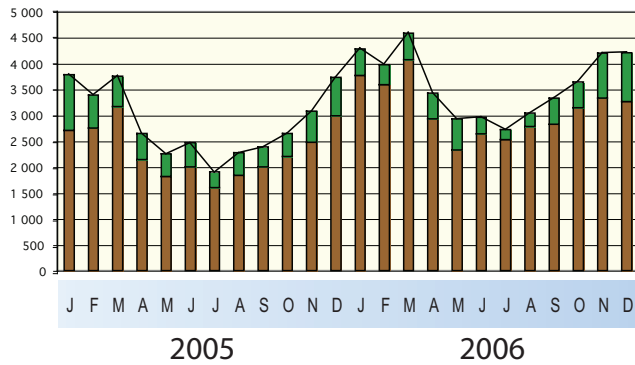
**TWh**



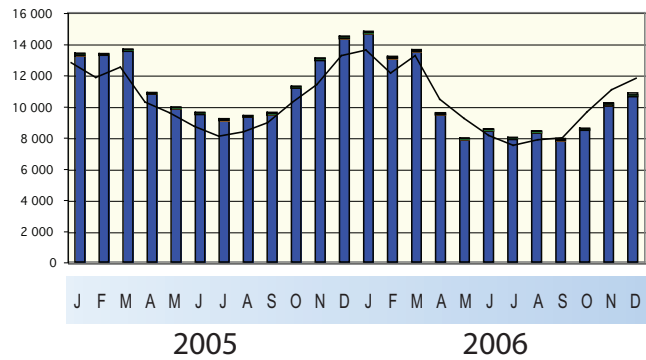


## S7 Monthly generation and total consumption of electricity 2005-2006, GWh

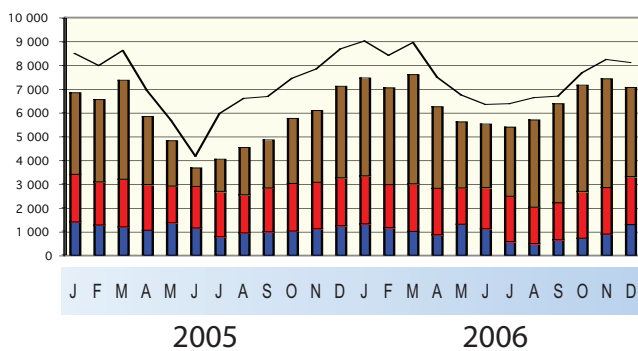
Denmark



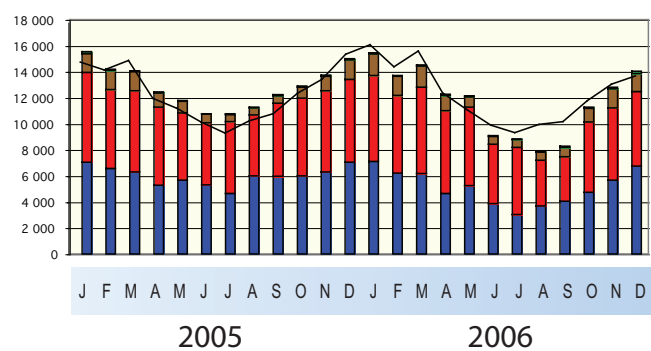
Norway



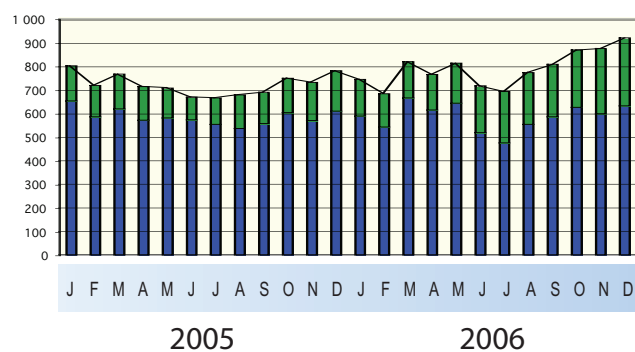
Finland



Sweden



Iceland



- Wind power (Denmark) or geothermal power (Iceland)
- Other thermal power
- Nuclear power
- Hydro power
- Total consumption

## S8 Total electricity supply 2006, GWh

	Denmark	Finland	Iceland	Norway	Sweden	Nordel
<b>Generation 2006</b>	43 328	78 590	9 925	121 715	140 314	<b>393 872</b>
<b>Net imports 2006</b>	-6 936	11 521	-	857	6 052	<b>11 494</b>
<b>Total supply 2006</b>	<b>36 392</b>	<b>89 991</b>	<b>9 925</b>	<b>122 572</b>	<b>146 366</b>	<b>405 246</b>
<b>Generation 2005</b>	34 353	67 497	8 680	137 948	154 729	<b>403 207</b>
<b>Net imports 2005</b>	1 370	17 014	-	-12 040	-7 397	<b>-1 053</b>
<b>Total supply 2005</b>	<b>35 723</b>	<b>84 511</b>	<b>8 680</b>	<b>125 908</b>	<b>147 332</b>	<b>402 154</b>

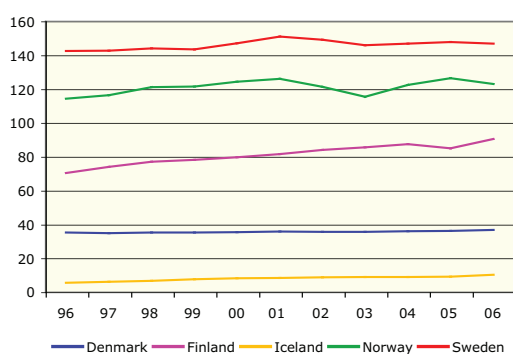
## Electricity consumption

### S9 Electricity consumption 2006, GWh

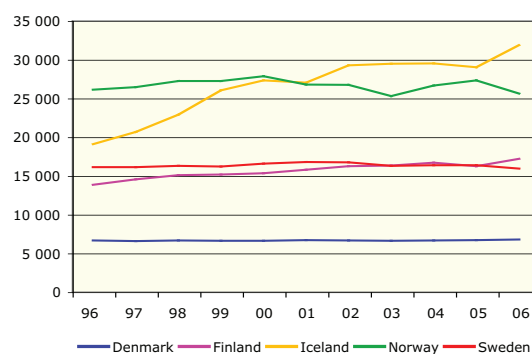
	Denmark	Finland	Iceland	Norway	Sweden	Nordel
<b>Total consumption</b>	<b>36 392</b>	<b>90 111</b>	<b>9 925</b>	<b>122 572</b>	<b>146 366</b>	<b>405 366</b>
Occasional power to electric boilers	-	56	171	3 513	1 312	<b>5 052</b>
<b>Gross consumption</b>	<b>36 392</b>	<b>90 055</b>	<b>9 754</b>	<b>119 059</b>	<b>145 054</b>	<b>400 314</b>
<i>Gross temp corrected consumption</i>	<i>36 520</i>	<i>90 683</i>	<i>9 656</i>	<i>123 018</i>	<i>146 923</i>	<b><i>406 800</i></b>
Losses	2 092	3 398	469	9 280	11 260	<b>26 499</b>
Pumped storage power	0	-	0	540	50	<b>590</b>
<b>Net consumption <sup>1)</sup></b>	<b>34 300</b>	<b>86 657</b>	<b>9 285</b>	<b>109 239</b>	<b>133 744</b>	<b>373 225</b>
- housing	9 800	20 900	934	35 503	40 100	<b>107 237</b>
- industry (incl. energy sector)	10 100	50 163	6 905	48 393	59 900	<b>175 461</b>
- trade and services (incl. transport)	11 400	14 694	963	23 703	27 300	<b>78 060</b>
- other (incl. agriculture)	3 000	900	434	1 640	6 444	<b>12 418</b>
<b>Total consumption 2005</b>	<b>35 723</b>	<b>84 511</b>	<b>8 679</b>	<b>125 908</b>	<b>147 217</b>	<b>402 038</b>
Change compared to 2005, %	1.9 %	6.5 %	14.4 %	-2.6 %	-0.6 %	<b>0.8 %</b>
<b>Population (million)</b>	<b>5.4</b>	<b>5.3</b>	<b>0.3</b>	<b>4.7</b>	<b>9.1</b>	<b>24.8</b>
Gross consumption per capita, kWh	6 693	17 112	31 772	25 549	16 154	<b>16 168</b>

<sup>1)</sup> Estimated net consumption.

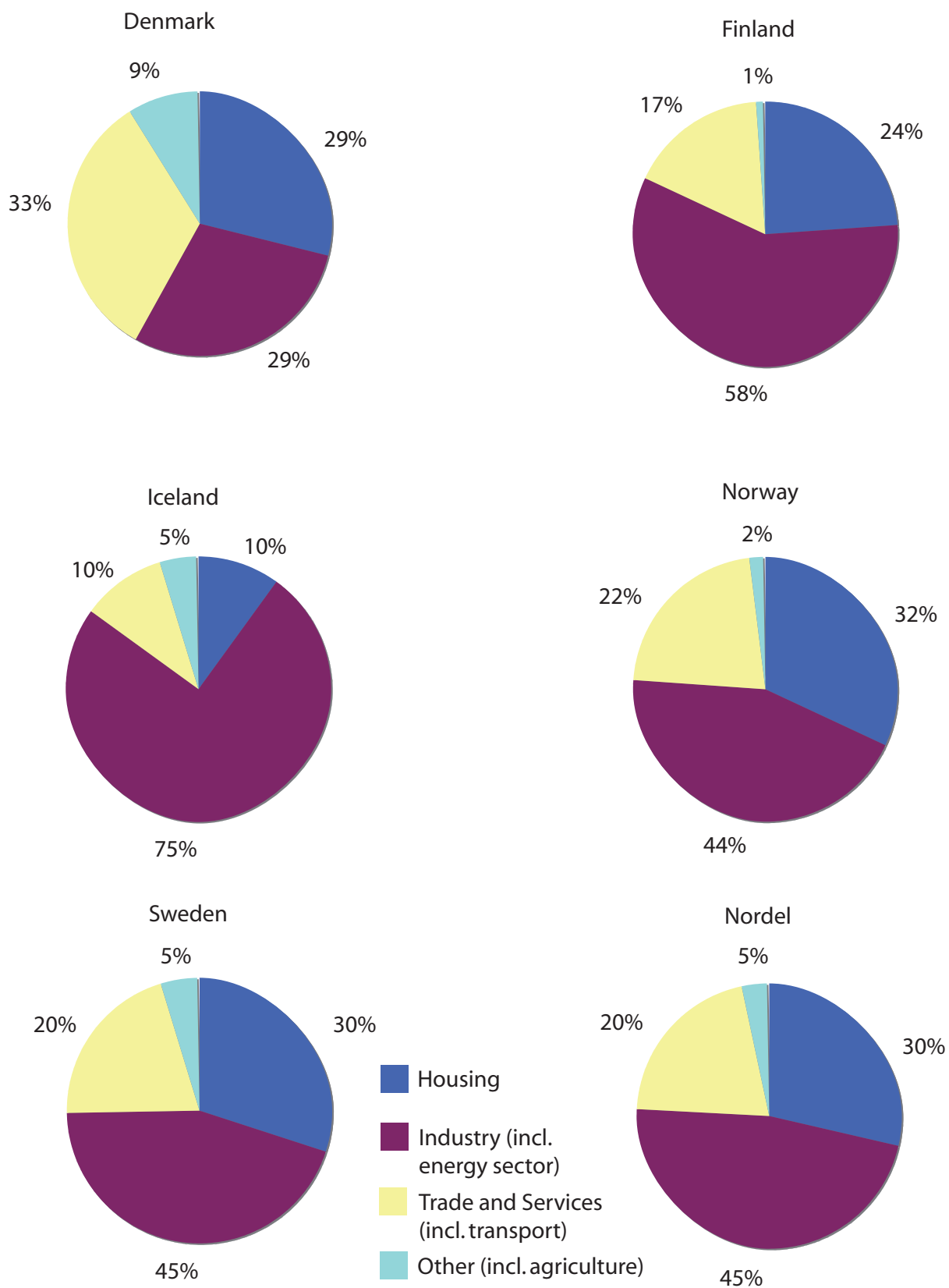
### S10 Total electricity consumption 1996 - 2006, TWh



### S11 Total electricity consumption per capita 1996 - 2006, kWh



## S12 Net consumption of electricity 2006, by consumer category



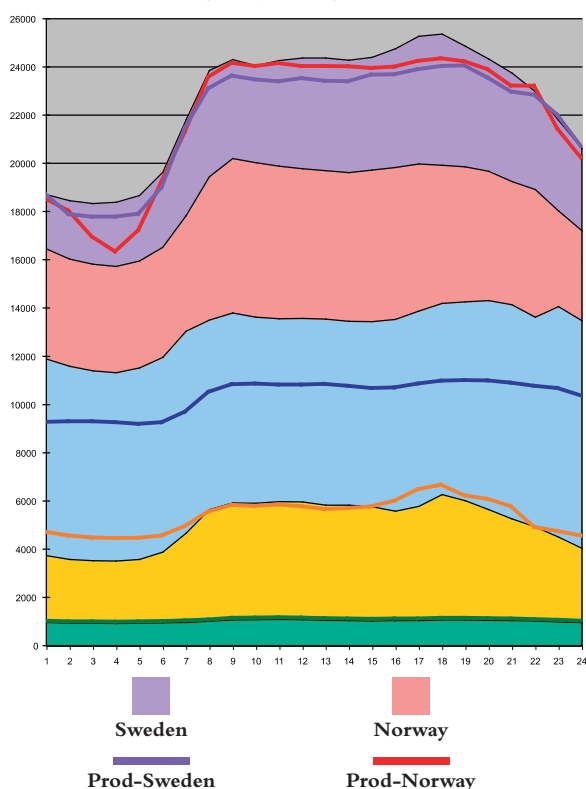
## S13 Maximum system load in 2006

	Simultaneous maximum <sup>1)</sup> 20 January 8:00-9:00 MWh/h		Maximum system load in each country MWh/h	Date/time
Denmark	5 965		6 423	24 Jan 17:00 - 18:00
Finland	14 863		14 863	20 Jan 08:00 - 09:00
Iceland	N.A.		1 337	18 Dec 11:00 - 12:00
Norway	21 368		21 575	06 March 08:00 - 09:00
Sweden	25 743		26 300	19 Jan 18:00 - 19:00
Nordel	67 939			

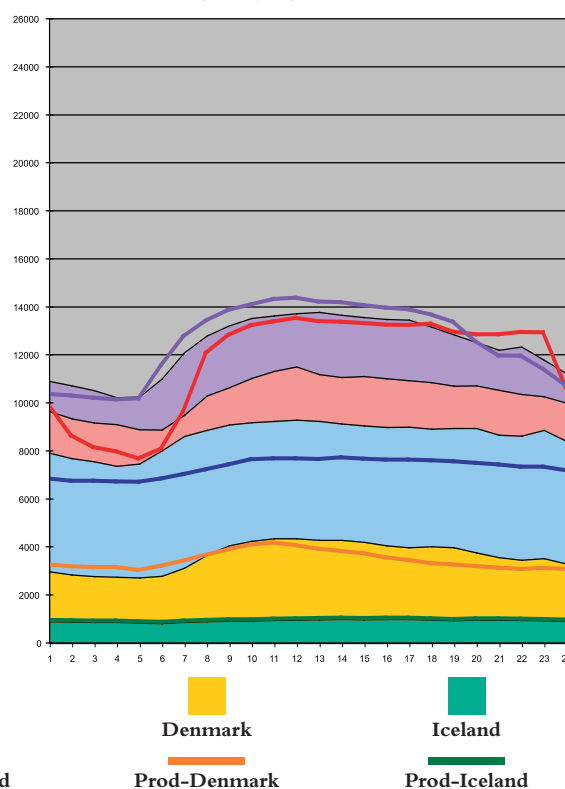
<sup>1)</sup> In the interconnected Nordic power system.

## System load 3rd Wednesday in January and in July 2006

Average 24-hour consumption and production  
3rd Wednesday in January (2006-01-18) MWh/h



Average 24-hour consumption and production  
3rd Wednesday in July (2006-07-19) MWh/h



## Maximum system load 3rd Wednesday in January and in July 2006

	3rd Wednesday in Jan 2006 17:00 - 18:00 - MWh/h		3rd Wednesday in July 2006 12:00 - 13:00 - MWh/h
Denmark	6 257		4 269
Finland	14 189		9 226
Iceland	1 056		962
Norway	19 918		11 183
Sweden	25 361		13 767
Nordel	66 781		39 408

All hours are local time.



# Transmission grid

## S14 Existing interconnections between the Nordel countries 2006

Countries/Stations	Rated voltage kV	Transmission capacity as per design rules <sup>1)</sup> MW		Total length of line km	Of which cable km
<b>Denmark - Norway</b>		<b>From Denmark</b>	<b>To Denmark</b>		
Tjele-Kristiansand 1, 2 and 3	250/350=	1 000	1 000	240/pole	127/pole
<b>Denmark - Sweden</b>		<b>From Sweden</b>	<b>To Sweden</b>		
Teglstrupgård - Mörap 1 and 2	132~	] 1 350	] 1 750	23	10
Görlösegård - Söderåsen	400~			70	8
Hovegård - Söderåsen	400~			91	8
Hasle (Bornholm) - Borrby	60~	60	60	48	43
Vester Hassing - Stenkullen	250= <sup>6)</sup>	290	270	176	88
Vester Hassing - Lindome 1 and 2	2 x 285= <sup>7)</sup>	740	740	149/pole	87/pole
<b>Finland - Norway</b>		<b>From Finland</b>	<b>To Finland</b>		
Ivalo - Varangerbotn	220~	100	100	228	-
<b>Finland - Sweden</b>		<b>From Sweden</b>	<b>To Sweden</b>		
Ossauskoski - Kalix	220~	] 1 600 <sup>2)</sup>	] 1 200 <sup>2)</sup>	93	-
Petäjäskoski - Letsi	400~			230	-
Keminmaa - Svartbyn	400~			134	-
Raumo - Forsmark	400=	550	550	233	200
Tingsbacka (Åland) - Senneby	110~	80	80	81	60
<b>Norway - Sweden</b>		<b>From Sweden</b>	<b>To Sweden</b>		
Sildvik - Tornehamn	132~	] 1 000 <sup>4)</sup>	] 1 300 <sup>3, 4)</sup>	39	-
Ofoten - Ritsem	400~			58	-
Røssåga - Ajaure	220~			117	-
Nea - Järpstrømmen	275~			100	-
Linnvasselv, transformator	220/66~	50	50	-	-
Lutufallet - Höljes	132~	40	20	18	-
Eidskog - Charlottenberg	132~	100	100	13	-
Hasle - Borgvik	400~	] 2 150 <sup>4)</sup>	] 2 150 <sup>4, 5)</sup>	106	-
Halden - Skogssäter	400~			135	-

<sup>1)</sup> Maximum permissible transmission.

<sup>2)</sup> In certain situations, the transmission capacity can be lower than the limit given here.

<sup>3)</sup> Thermal limit. Stability problems and generation in nearby power plants may lower the limit.

<sup>4)</sup> The transmission capacity can in certain situations be lower, owing to bottlenecks in the Norwegian and Swedish network.

<sup>5)</sup> Requires a network protection system during operation (production disconnection).

<sup>6)</sup> Stenkullen decommissioned in August.

<sup>7)</sup> The Lindome 1 utilising right from 1 July.

## S15 Existing interconnections between the Nordel countries and other countries 2006

Countries/Stations	Rated voltage kV	Transmission capacity MW		Total length of line km	Of which cable km
Denmark - Germany		From Nordel	To Nordel		
Kassø - Audorf	2 x 400~	] 1200	] 800 <sup>3)</sup>	107	-
Kassø - Flensburg	220~			40	-
Ensted - Flensburg	220~			34	-
Ensted - Flensburg	150~	150	150	26	5
Bjæverskov - Rostock	400=	600	600	166	166
Finland - Russia		From Nordel	To Nordel		
Imatra - GES 10	110~	-	100	20	-
Yllikkälä - Viborg <sup>2)</sup>	2 x 400~	] -	] 1400	2 x 67	-
Kymi - Viborg <sup>2)</sup>	400~			132	-
Nellimö - Kaitakoski	110~			50	-
Finland - Estonia					
Espoo - Harku	150=	350	350	105	105
Norway - Russia		From Nordel	To Nordel		
Kirkenes - Boris Gleb	154~	50	50	10	-
Sweden - Germany		From Nordel	To Nordel		
Västra Kärrstorp - Herrenwyk	450=	600 <sup>1)</sup>	600 <sup>1)</sup>	269	257
Sweden - Poland		From Nordel	To Nordel		
Stärnö - Slupsk	450=	600	600	256	256

<sup>1)</sup> The transmission capacity is currently limited to 460 MW from Nordel and 390 MW to Nordel due to limitation in the German network.

<sup>2)</sup> Back to Back HVDC ( +85 kV = ) in Viborg and synchronous operation of NWPP power plant.

<sup>3)</sup> The transmission capacity to the north is limited to 800 MW due to internal restrictions in Denmark West.

## S16 The most important interconnections and grid reinforcements

Countries	Stations	Rated voltage kV	Transmission capacity as per design rules <sup>1)</sup> MW	Total length of line km	Of which cable km	Expected commissioning Year	Status
Norway - Netherlands	NorNed (Fedä - Eemshaven)	+450=	700	580	580	2007	Decided and under construction
Finland - Sweden	Fenno-Skan 2 (Rauma - Finnböle)	500	800	300	200	2010	Decided and under construction
Norway - Sweden	Nea-Järpströmmen	420	750	100	0	2009	Decided
Denmark East - Denmark West	Storabält	400 HVDC	600	58	58	2010	Decided
Sweden	Sydälänken	+300= /420~		400		2012	Decided <sup>1)</sup>
Norway - Denmark	Skagerrak	400 HVDC	600	215,3	130,5		Decision to be made in 2007/2008

<sup>1)</sup> The technical application is not decided (HVAC or HVDC).

## S17 Transmission lines of 110-400 kV in service on 31 December 2006

	400 kV, AC and DC km	220-300 kV, AC and DC km	110, 132, 150 kV km	
<b>Denmark</b>	1 400	500	4 100	
<b>Finland</b>	4 400	2 400	15 600	
<b>Iceland</b>	226 <sup>1)</sup>	523	1 168	
<b>Norway</b>	2 680	5 815	11 002	
<b>Sweden</b>	11 100	4 600	15 000	

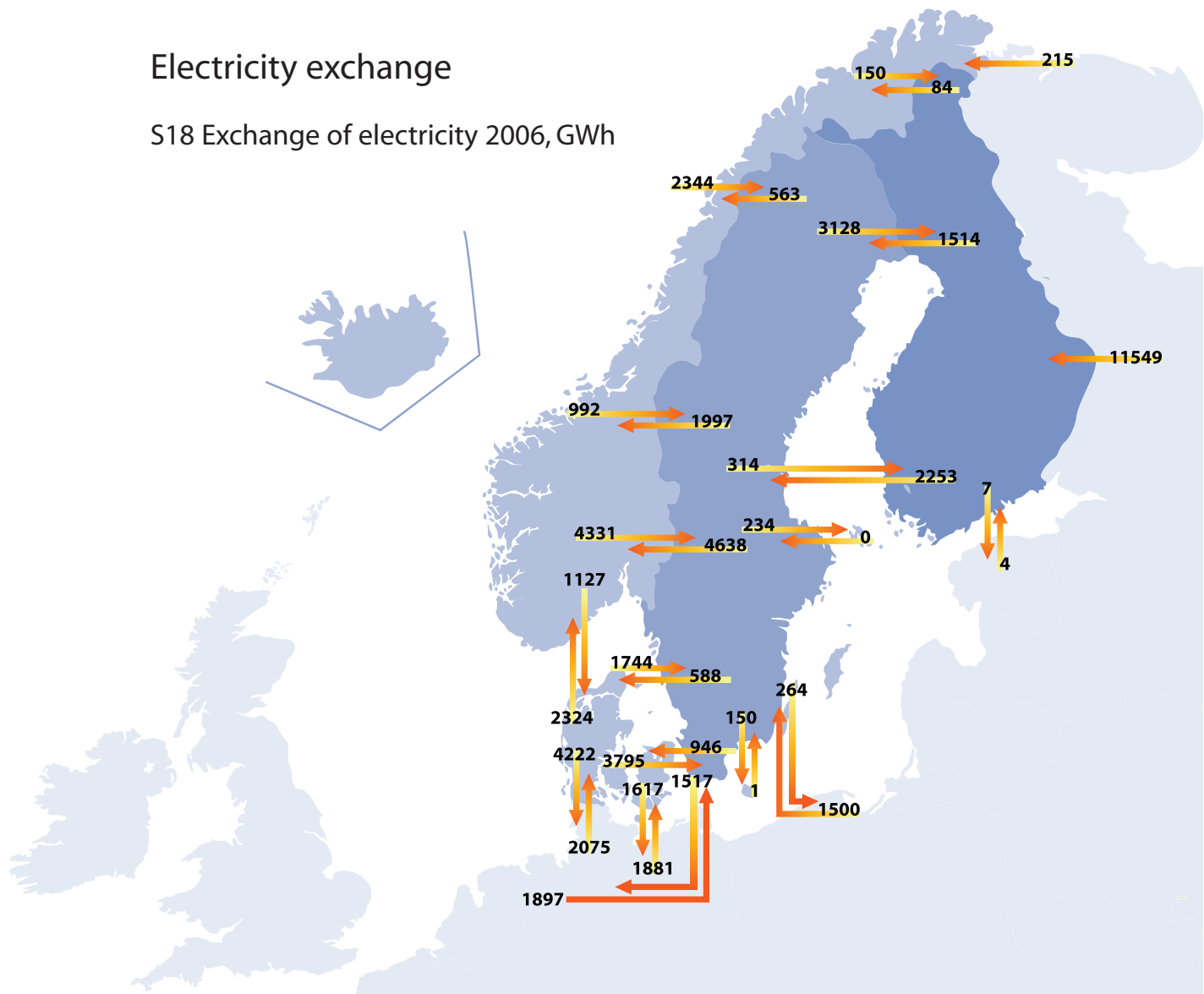
<sup>1)</sup> At present in service with 220 kV.



*A double 400 kV line west of Stockholm, Sweden. Photo: Håkan Flank*

## Electricity exchange

S18 Exchange of electricity 2006, GWh



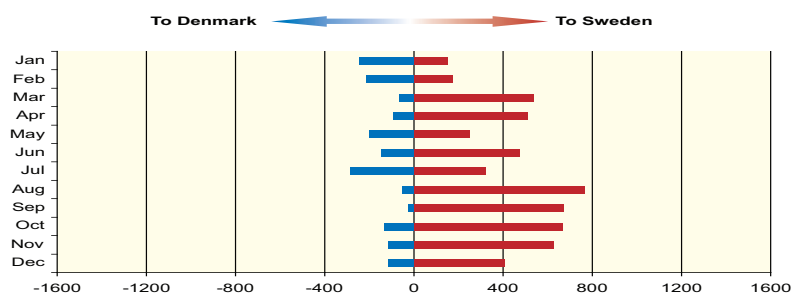
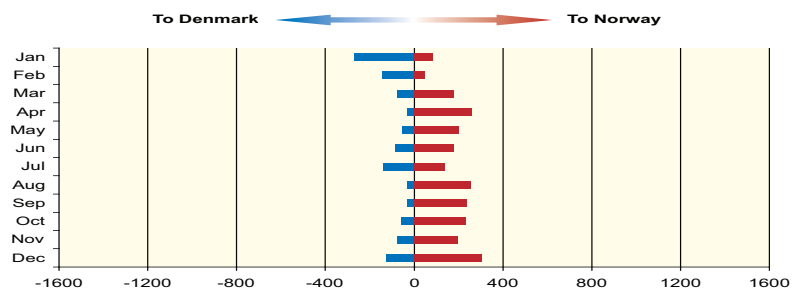
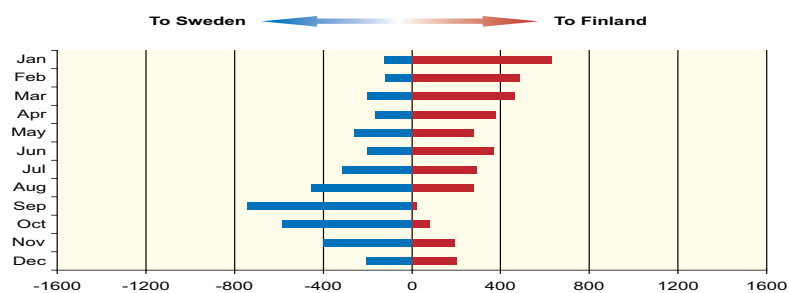
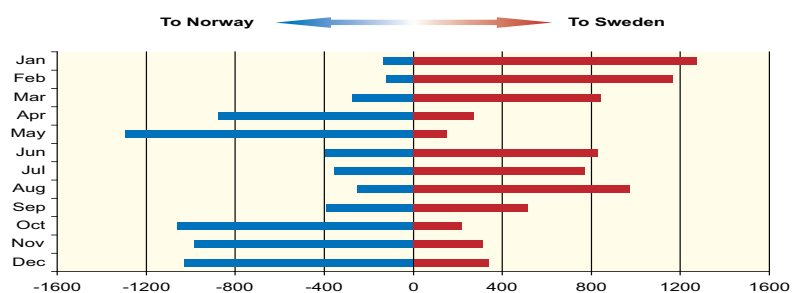
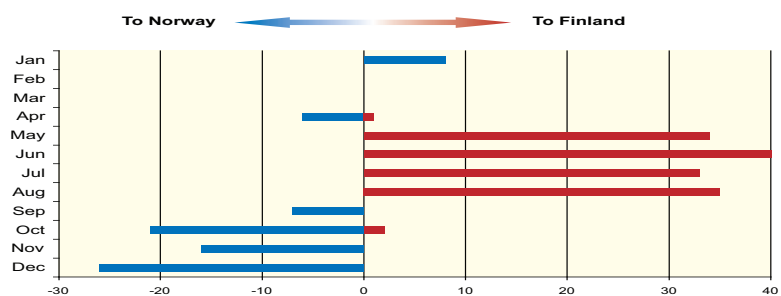
S19 Exchange of electricity 2006, GWh

From:	To:	Denmark	Finland	Norway	Sweden	Other countries <sup>1)</sup>	Total from
Denmark		-	-	2 324	5 540	5 839	13 703
Finland		-	-	84	3 767	7	3 858
Norway		1 127	150	-	7 667	-	8 944
Sweden		1 684	3 676	7 178	-	1 781	14 319
Other countries <sup>1)</sup>		3 956	11 553	215	3 397	-	19 121
Total to		6 767	15 379	9 801	20 371	7 627	59 945
						Nordel	
Total to		6 767	15 379	9 801	20 371	52 318	
Total from		13 703	3 858	8 944	14 319	40 824	
Net imports		-6 936	11 521	857	6 052	11 494	
Net imports/total consumption		-19.1 %	12.8 %	8.6 %	4.9 %	2.8 %	

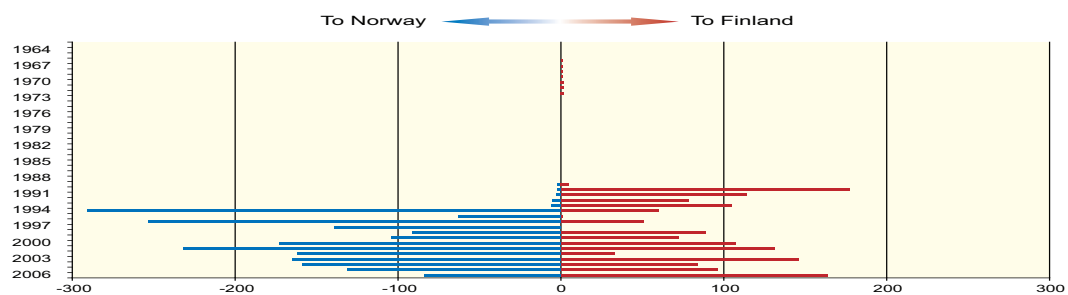
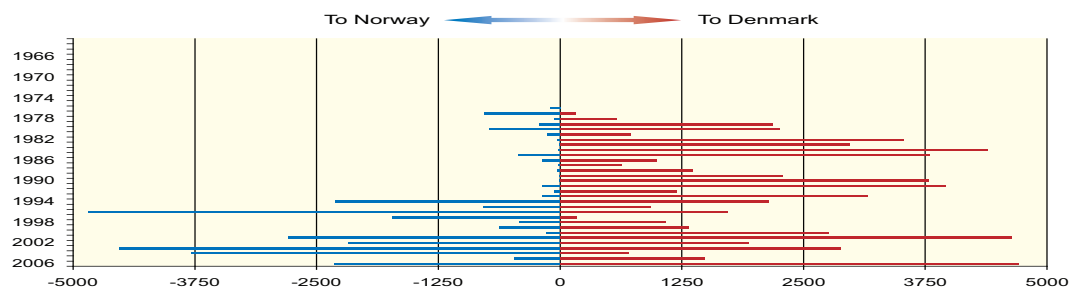
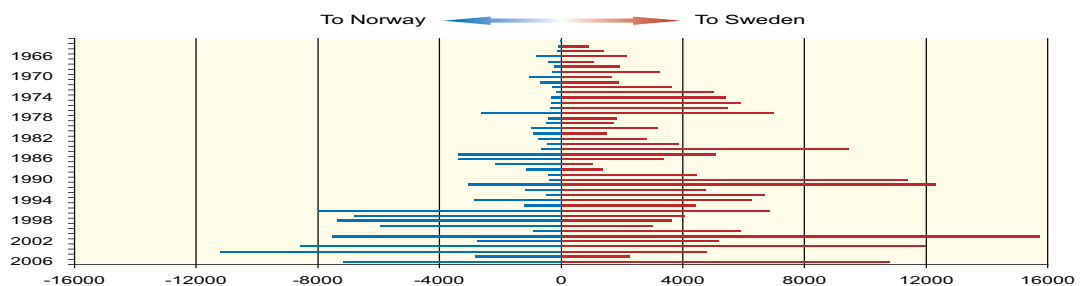
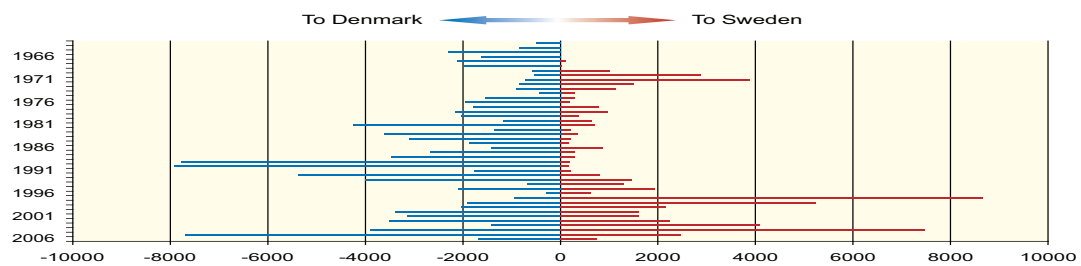
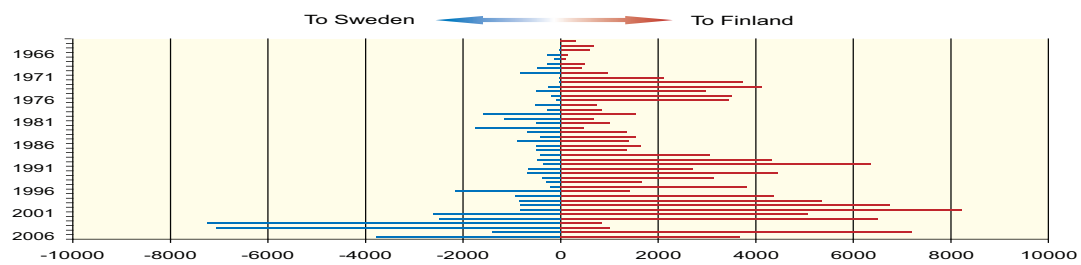
<sup>1)</sup> Russia, Estonia, Germany, Poland.



## S20 Monthly exchange of electricity between the Nordel countries 2006, GWh

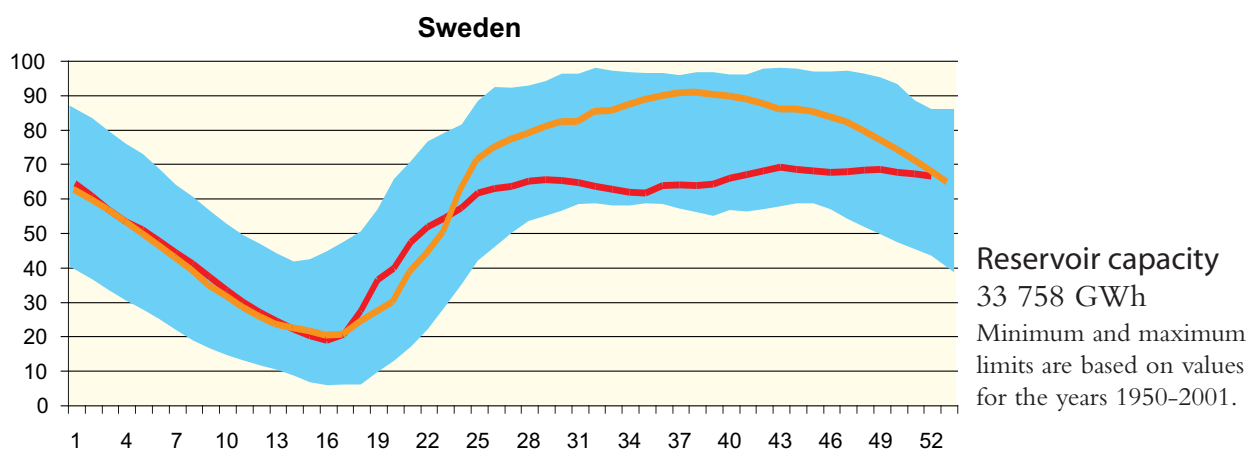
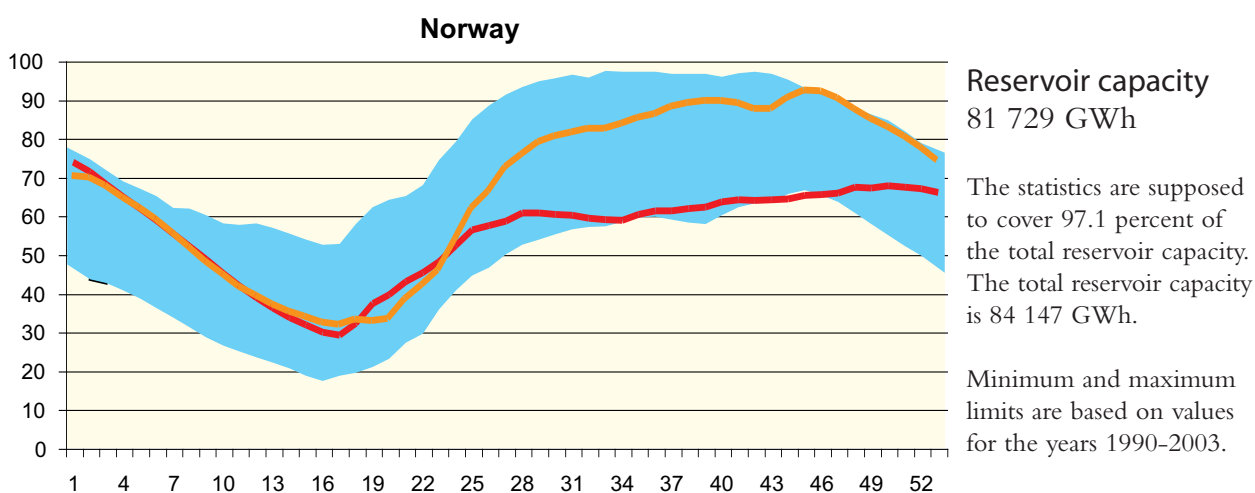
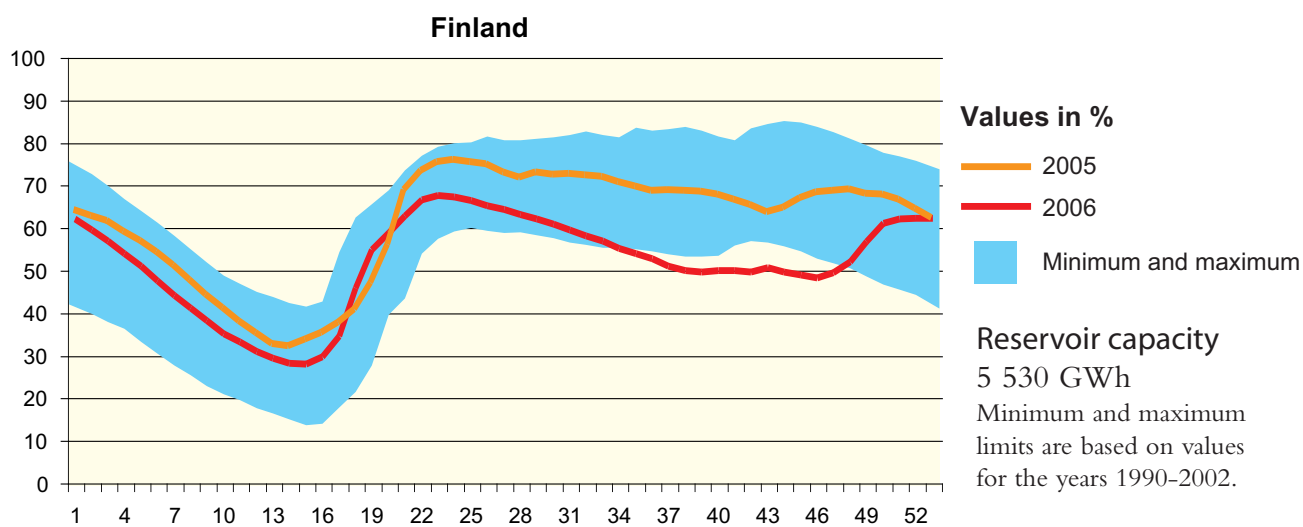


## S21 Exchange of electricity between the Nordel countries 1963 - 2006, GWh



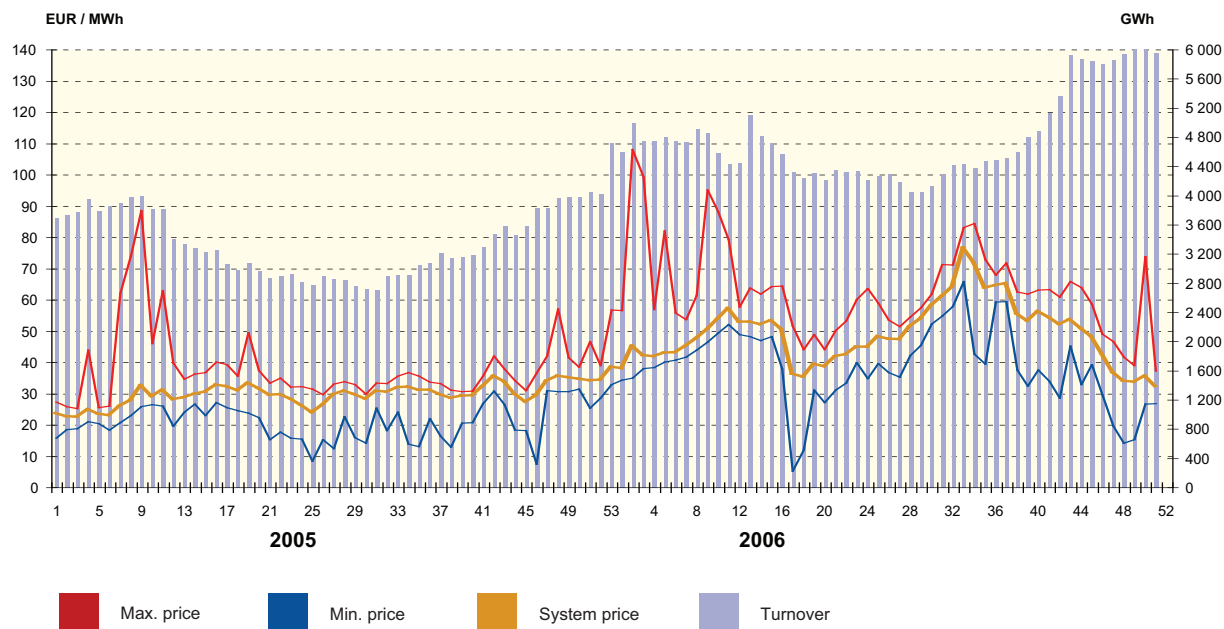
## Other market information

### S22 Water reservoirs 2006

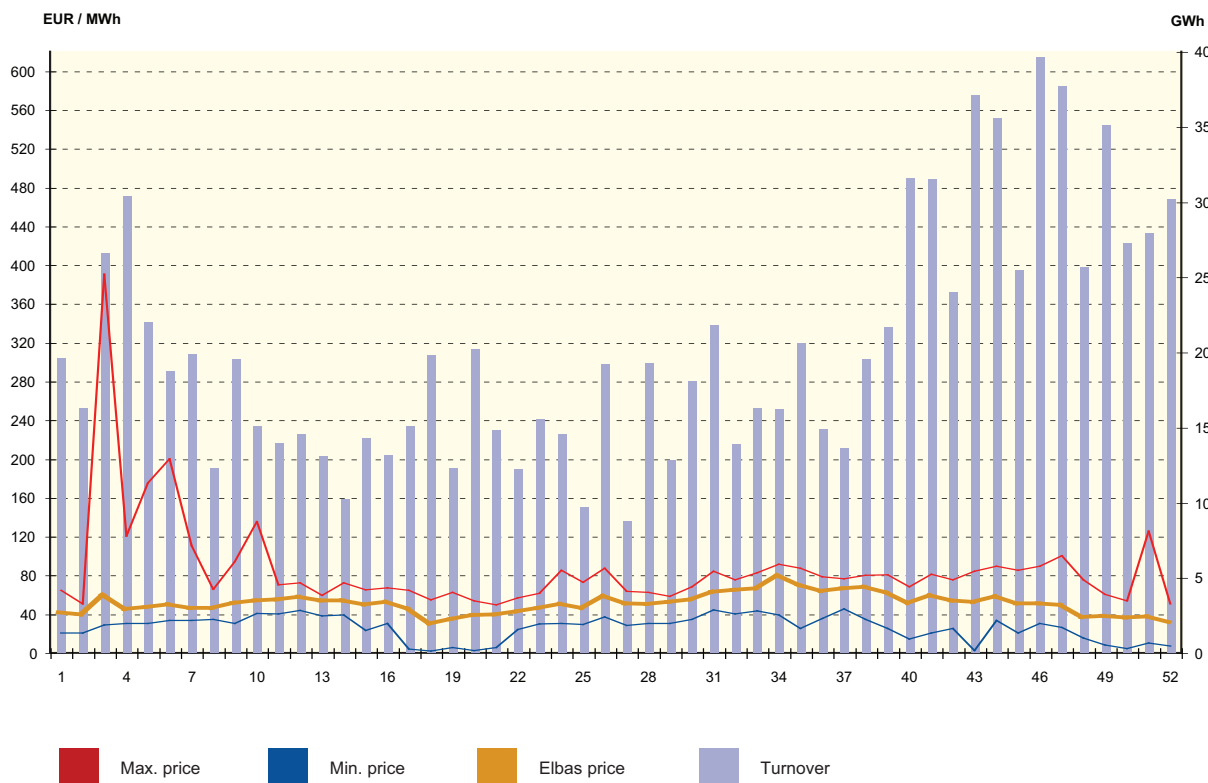


## S23 Prices and turnover on the Nordic electricity exchanges 2005-2006

Nord Pool Spot's Elspot market - average system price and turnover per week 2005 and 2006

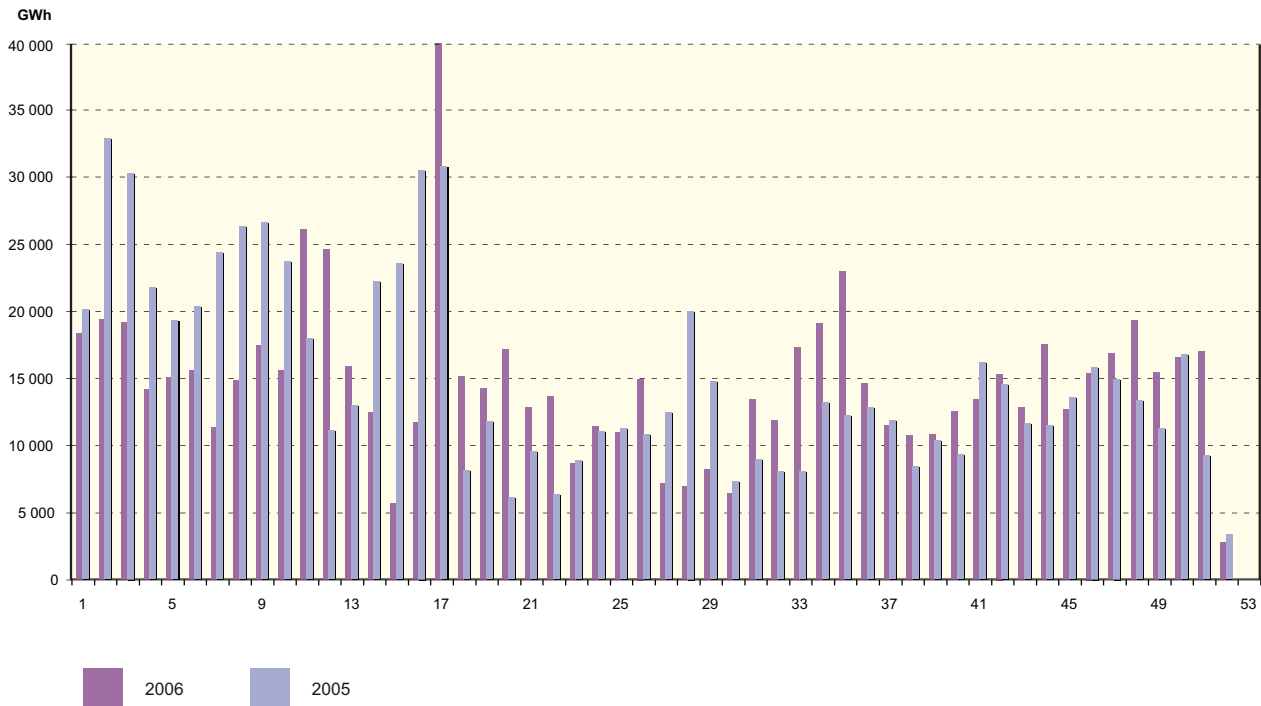


Nord Pool Spot's Elbas market - turnover and prices per week 2006

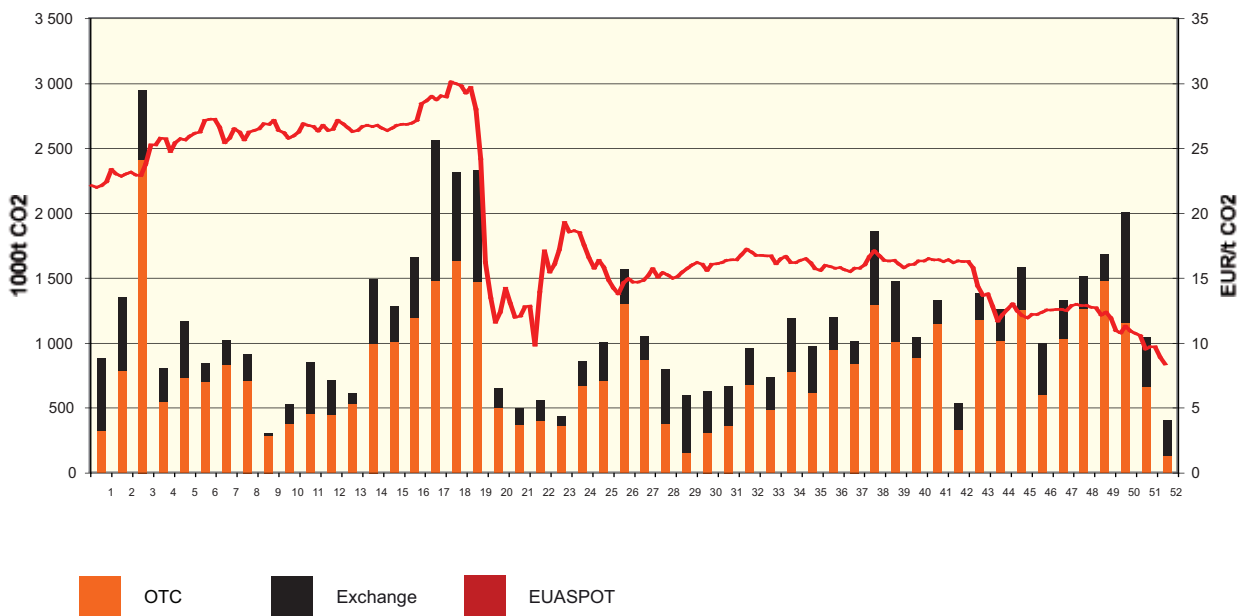


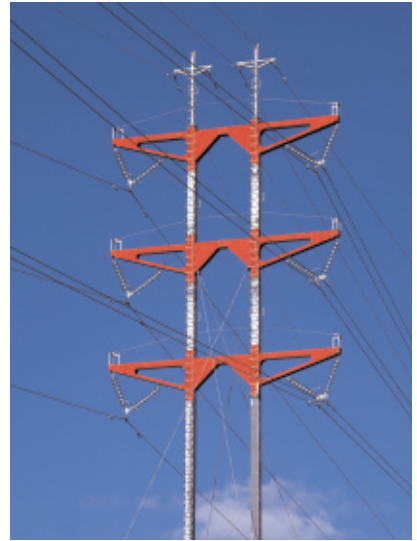
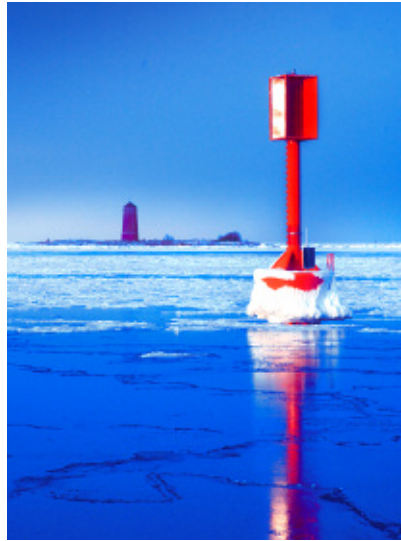


## Nord Pool ASA's Financial market - turnover per week 2005 and 2006



## Nord Pool ASA's Carbon market - volume and prices per week 2006





*Photo: Jørgen Schytte, Tuomo Kouti, Juhani Eskelinen*

## Nordel Secretariat

Fingrid Oyj

Postal address:

P.O. Box 530, FI-00101 Helsinki, Finland

Visiting address:

Arkadiankatu 23 B, Helsinki

Erkki Stam (Secretary of Nordel)

Anders Lundberg (Assisting secretary of Nordel)

Anneli Fagerlund (Assistant of Nordel)

Telephone: +358 30 395 5000

Fax: +358 30 395 5213

Website: [www.nordel.org](http://www.nordel.org)

E-mail: [info@nordel.org](mailto:info@nordel.org)

