

# Annual statistics 2004



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## Units and symbols

kW	kilowatt
MW	megawatt = 1,000 kW
GW	gigawatt = 1,000 MW
J	joule
kJ	kilojoule
PJ	petajoule = 10 <sup>15</sup> J
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 nonexistent
..	Data are too uncertain
0	Less than 0.5 of the unit given

## Key figures for 2004

		Nordel	Denmark	Finland	Iceland	Norway	Sweden
Population	mill.	24.5	5.4	5.2	0.3	4.6	9.0
Total consumption	TWh	399.5	35.5	86.9	8.6	122.0	146.4
Maximum load <sup>1</sup>	GW	67.0	6.2	12.9	1.0	20.2	26.7
Electricity generation	TWh	387.9	38.4	81.9	8.6	110.5	148.5
<b>Breakdown of electricity generation</b>							
Hydropower	%	49	0	18	83	99	40
Nuclear Power	%	25	-	26	-	-	50
Other thermal power	%	18	76	42	0	0	4
Other renewable power	%	8	24	14	17	1	6

<sup>1)</sup> Measured 3rd Wednesday in January. - = Data are nonexistent. 0 = Less than 0,5 %.

## Installed capacity

### S1 Installed capacity on 31 Dec. 2004, MW

	Denmark	Finland	Iceland	Norway	Sweden	Nordel
<b>Installed capacity, total <sup>1)</sup></b>	12,710	16,488	1,475	28,327	33,551	<b>92,551</b>
<b>Thermal Power</b>	8,888	11,094	117	121	15,274	<b>35,494</b>
- Nuclear Power	-	2,671	-	-	9,471	<b>12,142</b>
<b>Other Thermal Power <sup>2)</sup></b>	8,888	8,423	117	121	5,803	<b>23,352</b>
- Condensing power and CHP, district heating	8,237	6,627	-	8	3,863 <sup>3)</sup>	<b>18,735</b>
- CHP, industry	381	996	-	49 <sup>4)</sup>	317	<b>1,743</b>
- gas turbines, etc	270	800	117	64	1,623 <sup>3)</sup>	<b>2,874</b>
<b>Renewable Power</b>	3,822	5,394	1,358	28,206	18,277	<b>57,057</b>
- Hydro power	11	2,986	1,156	27,925	16,137	<b>48,215</b>
<b>Other Renewable power</b>	3,811	2,408	202	281	2,140	<b>8,842</b>
- wind power	3,122	79		158	442	<b>3,801</b>
- biofuel	418	2,198		96	1,545	<b>4,257</b>
- waste	271	131		27	153	<b>582</b>
- geothermal power			202			<b>202</b>
<b>Commissioned in 2004</b>	67	187	5	481	323	<b>1,063</b>
<b>Decommissioned in 2004</b>	188	-	6	254	132	<b>580</b>
<b>"Mothballed" <sup>5)</sup></b>	100	255			500	<b>855</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> Fossil fuels (coal, oil, etc).

<sup>3)</sup> Includes capacity of power plants which are included in the agreement considering the power reserve in Sweden.

<sup>4)</sup> Energy recovery from industry.

<sup>5)</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.

### S2 Average-year generation of hydropower in 2004, GWh

	Denmark	Finland	Iceland	Norway	Sweden	Nordel
<b>Average-year generation 2004</b>	-	13,060	6,790	118,829	65,000	<b>203,679</b>
<b>Average-year generation 2003</b>	-	13,045	6,790	118,393	65,000	<b>203,228</b>
<b>Change</b>	-	15	0	436	0	<b>451</b>
<b>Reference period</b>	-	1961-90	1950-00	1970-99	1950-00	

# Installed capacity

## S3 Changes in installed capacity in 2004

Power category	Power plant	Com- missioned MW	Decom- missioned MW	Change in average -year generation (hydropower) GWh	Type of fuel
<b>Denmark East</b>					
CHP	Amagerværket B1		136		Coal
	H.C. Ørstedværket B7		6		Gas/oil
	Rønnværket	2			Oil
CHP, district heating	Decentral kraftvarme	28			Waste/natural gas
<b>Denmark West</b>					
CHP, district heating	Decentral CHP	12			Biofuel
	Decentral CHP	14			Natural gas
	Local CHP	2			Biofuel
	Local CHP	2			Natural gas
CHP, industry	Enstedværket blok 3 1)		40		Hard Coal
CHP, industry			6		Natural gas
Wind power	Various	7			
<b>Finland</b>					
Hydropower	Seitakorva	20		14	
CHP, district heating	Pietarsaari	140			
Wind Power	Various	27			
<b>Iceland</b>					
Hydropower	Nye Bonde	5			
CHP			6		Diesel
<b>Norway</b>					
Hydropower	Nye Tyin	374	192	216	
	Various	49	1	220	
Windpower	Hitra	55			
	Various	3			
CHP	Various		61		
<b>Sweden</b>					
Hydropower	Various changes	21	27		
Nuclear power	Various changes	30			
Condensing power	Marviken	200			Oil
	Various changes		10		
CHP, district heating	Various changes	28			
CHP, industry	Various changes	1			
Gas turbines	Various changes		96		Oil
Wind power	Various changes	43			

<sup>1)</sup> Included as bioboiler.

## Installed capacity

### S4 Power plants (larger than 10 MW): decisions taken

Power category	Power plant	Capacity MW	Estimated start-up Year	Average-year generation (hydropower) GWh	Type of fuel
<b>Denmark - East</b>					
Wind power	Rødsand Havmøllepark 2	200	2009		
<b>Denmark - West</b>					
Wind power	Horns Rev 2	200	2008		
<b>Finland</b>					
CHP, district heating	Pursiala	32	2005		
Hydropower	Petäjäskoski II - III	32	2005-2006	42	
	Ossauskoski I - III	39	2007-2009	42	
Nuclear power	Olkiluoto 3	1,600	2009		
<b>Iceland</b>					
Hydropower	Kárahnjúkar	690	2007	4,600	
Geothermal	Nesjavellir IV	30	2005		
	Hellisheidi	80	2006		
	Reykjanes	100	2006		
<b>Norway</b>					
Hydropower	Follafoss	19	2005	45	
	Nygaard	56	2005	74	
	Øvre Otta	171	2005	525	
	Grunnåi	15	2006	54	
	Bláfalli-Vik	150	2006	106	
	Kløtveit	10	2007	41	
	Hunsfoss	14	2007	65	
Wind Power	Smøla	110	2005		
<b>Sweden</b>					
Nuclear power	Forsmark 1 and 2	100	2005-2006		
CHP, Industry	Various	190	2005-2007		Biofuel
CHP, district heating	Ryaverket	260	2006		Natural gas
Wind power	Various	90	2006-2007		

# System load

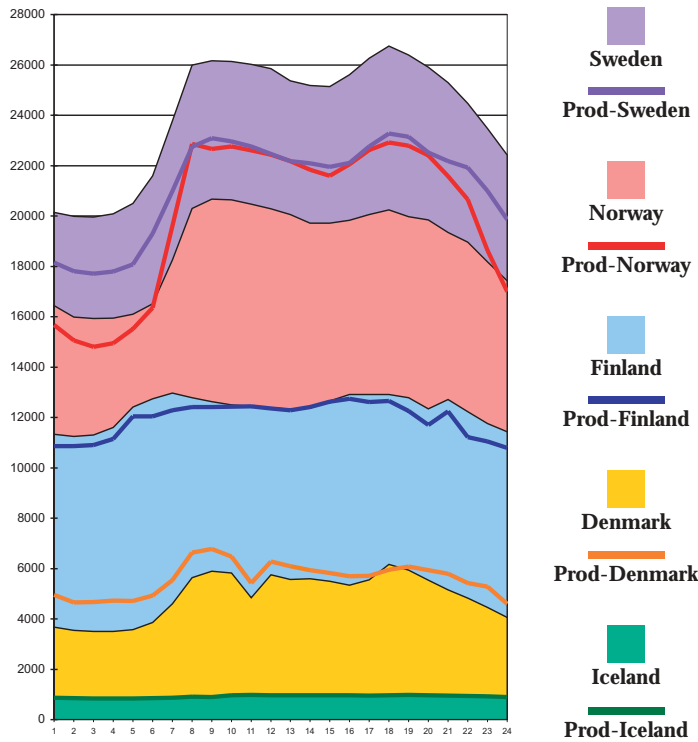
## S5 Maximum system load for each country in 2004 <sup>1)</sup>

	MWh/h	Date/time
<b>Denmark - West</b>	3,618	01.27.04 09.00 - 10.00 am
<b>Denmark - East</b>	2,628	01.06.04 05.00 - 06.00 pm
<b>Finland</b>	13,570	02.11.04 06.00 - 07.00 pm
<b>Iceland</b>	1,033	12.17.04 10.00 - 11.00 am
<b>Norway</b>	20,675	01.21.04 09.00 - 10.00 am
<b>Sweden</b>	27,300	01.22.04 08.00 - 09.00 am

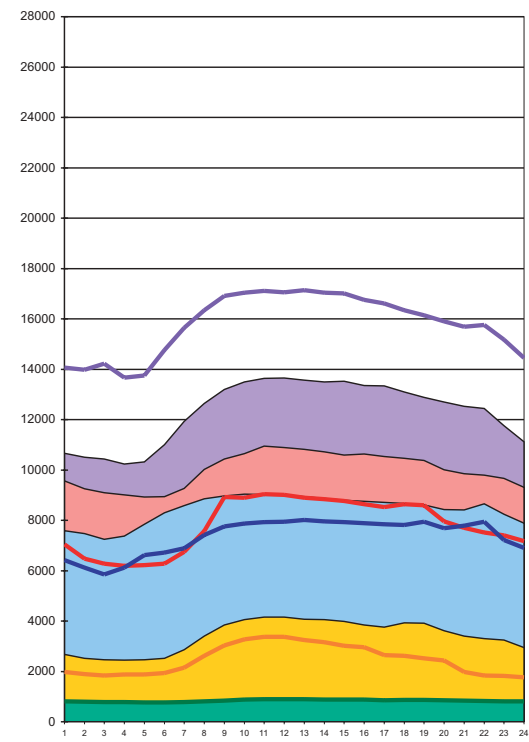
<sup>1)</sup> The system load is not corrected vs. temperatures and is local time.

## System load 3rd Wednesday in January and in July 2004

**Average 24-hour load  
3rd Wednesday in January (1-21-04) MWh/h**



**Average 24-hour load  
3rd Wednesday in July (7-21-04) MWh/h**



## Maximum and minimum system load

	3rd Wednesday in Jan 2004 5:00 - 6:00 PM - MWh/h, max.	3rd Wednesday in July 2004 12:00 - 01:00 PM - MWh/h, min.
<b>Denmark</b>	6,157	4,076
<b>Finland</b>	12,911	8,933
<b>Iceland</b>	974	890
<b>Norway</b>	20,235	10,825
<b>Sweden</b>	26,745	13,562
<b>Nordel</b>	67,023	38,286

All hours are local time.

# Interconnections

## S6 Existing interconnections between the Nordel countries

Countries/Stations	Rated voltage/kV	Transmission capacity as per design rules <sup>1)</sup> MW		Total length of line km	Of which cable km
		From Denmark	To Denmark		
<b>Denmark West - Norway</b>					
Tjele-Kristiansand	250/350=	1,000	1,000	240/pol	127/pol
<b>Denmark East - Sweden</b>					
Teglstrupgård - Mörap 1 and 2	132~	1,350	1,750	23	10
Gørløsegård - Söderåsen	400~			70	8
Hovegård - Söderåsen	400~			91	8
Hasle (Bornholm) - Borrby	60~	60	60	48	43
<b>Denmark West - Sweden</b>					
Vester Hassing - Göteborg	250=	290	270	176	88
Vester Hassing - Lindome	285=	380	360	149	87
<b>Finland - Norway</b>					
Ivalo - Varangerbotn	220~	100	100	228	-
<b>Finland - Sweden</b>					
Ossauskoski - Kalix	220~	1,600 <sup>2)</sup>	1,200 <sup>2)</sup>	93	-
Petäjäskoski - Letsi	400~			230	-
Keminmaa - Svartbyn	400~			134	-
Rauma - Forsmark	400=	550	550	235	200
Senneby - Tingsbacka (Åland)	110~	80	80	81	60
<b>Norway - 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).



## Interconnections

### S7 Existing interconnections between the Nordel countries and other countries

Countries/Stations	Rated voltage/kV	Transmission capacity/MW		Total length of line/km	Of which cable/km
<b>Denmark West - Germany</b>		<b>From Nordel</b>	<b>To Nordel</b>		
Kassø - Audorf	2 x 400~	] 1,200 ]	800 <sup>3)</sup>	107	-
Kassø - Flensburg	220~			40	-
Ensted - Flensburg	220~			34	-
Ensted - Flensburg	150~			26	5
<b>Denmark East - Germany</b>					
Bjæverskov - Rostock	400=	600	600	166	166
<b>Finland - Russia</b>		<b>From Nordel</b>	<b>To Nordel</b>		
Imatra - GES 10	110~	-	100	20	-
Ylikkälä - Viborg <sup>2)</sup>	2 x 400~	] - ]	1,400	2 x 67	-
Kymi - Viborg <sup>2)</sup>	400~			132	-
Nellimö - Kaitakoski	110~			60	50
<b>Norway - Russia</b>		<b>From Nordel</b>	<b>To Nordel</b>		
Kirkenes - Boris Gleb	154~	50	50	10	-
<b>Sweden - Germany</b>		<b>From Nordel</b>	<b>To Nordel</b>		
Västra Kärnstorp - Herrenwyk	450=	600 <sup>1)</sup>	600 <sup>1)</sup>	269	257
<b>Sweden - Poland</b>		<b>From Nordel</b>	<b>To Nordel</b>		
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.

### S8 Interconnections and grid reinforcement: decisions taken

Countries/Stations	Rated voltage kV	Transmission capacity as per design rules MW	Total length of line km	Of which cable km	Estimated commissioning Year
<b>Norway - Netherlands</b>					
NorNed (Fedaa - Eemshaven)	±450=	700	580	580	2007
<b>Finland - Sweden</b>					
Fenno-Skan 2 (Rauma - Finnböle)	500	600 - 800	300	200	2010
<b>Finland-Estland</b>					
Estlink (Espoo-Harku)	±150	350	105	74	2006

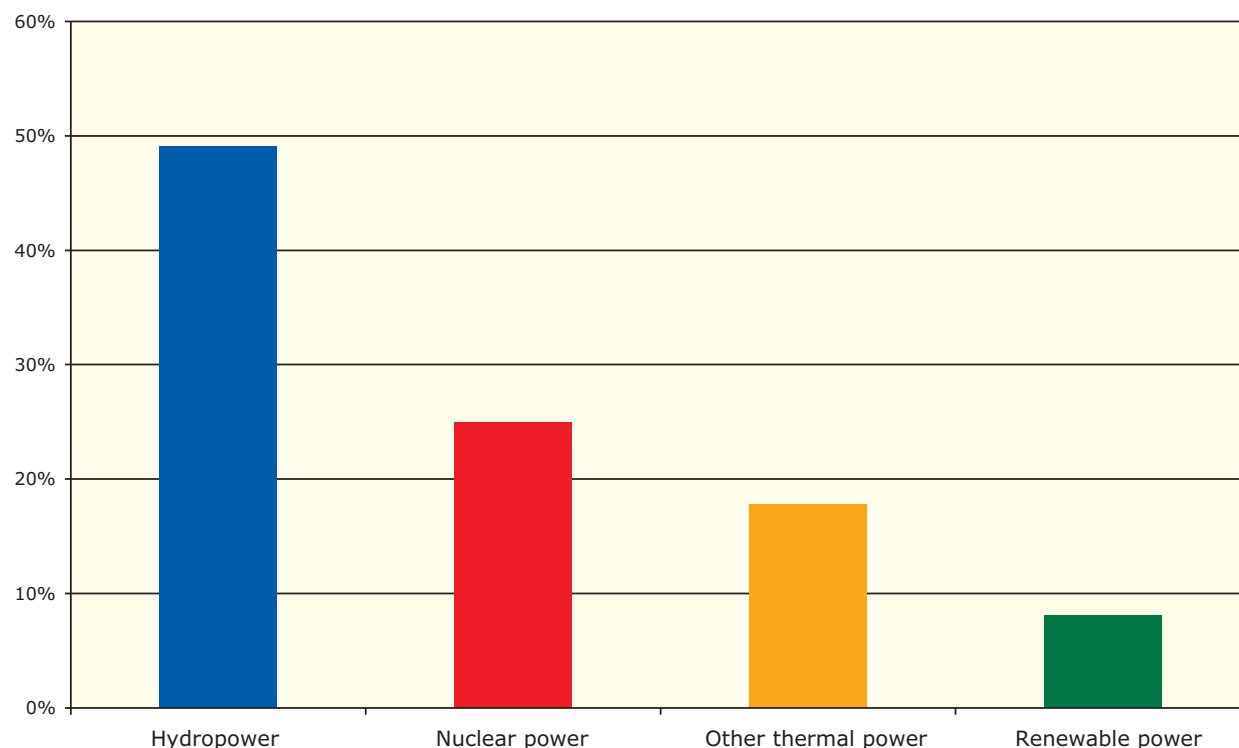
### S9 Transmission lines of 110-400 kV in service on 31 Dec. 2004

	400 kV, AC and DC km	220-300 kV, AC and DC km	110, 132, 150 kV km
<b>Denmark</b>	1,400	500	4,200
<b>Finland</b>	4,000	2,400	15,300
<b>Iceland</b>	100	500	1,300
<b>Norway</b>	2,100 <sup>1)</sup>	5,600	10,500
<b>Sweden</b>	11,100	4,600	15,000

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

# Electricity generation

## S10 Total electricity generation within Nordel 2004



## S11 Electricity generation 2004, GWh

	Denmark	Finland	Iceland	Norway	Sweden	Nordel
<b>Total generation</b>	38,377	81,920	8,621	110,545 <sup>2)</sup>	148,484	<b>387,947</b>
<b>Thermal power</b>	29,050	55,952	5	582	80,323	<b>165,912</b>
- nuclear power	-	21,779	-	-	75,039	<b>96,818</b>
<b>Other thermal power <sup>1)</sup></b>	29,050	34,173	5	582	5,284	<b>69,094</b>
- CHP, district heating and condensing power	27,206	29,971	-	-	3,527	<b>60,704</b>
- CHP, industry	1,841	4,164	-	207 <sup>3)</sup>	1,751	<b>7,963</b>
- gas turbines, etc.	3	38	5	375	6	<b>427</b>
<b>Renewable power</b>	9,327	25,968	8,616	109,963	68,161	<b>222,035</b>
- hydro power	26	14,726	7,132	109,280	59,529	<b>190,693</b>
<b>Other renewable power</b>	9,301	11,242	1,484	683	8,632	<b>31,342</b>
- wind power	6,583	120	-	260	850	<b>7,813</b>
- biofuel	1,365	10,146	-	296	6,971	<b>18,778</b>
- waste	1,353	976	-	127	811	<b>3,267</b>
- geothermal power	-	-	1,484	-	-	<b>1,484</b>
<b>Total generation 2003 <sup>3)</sup></b>	43,754	80,377	8,495	107,122 <sup>2)</sup>	132,547	<b>372,295</b>
<b>Change as against 2003 <sup>3)</sup></b>	-12.3%	1.9%	1.5%	3.2%	12.0%	<b>4.2%</b>

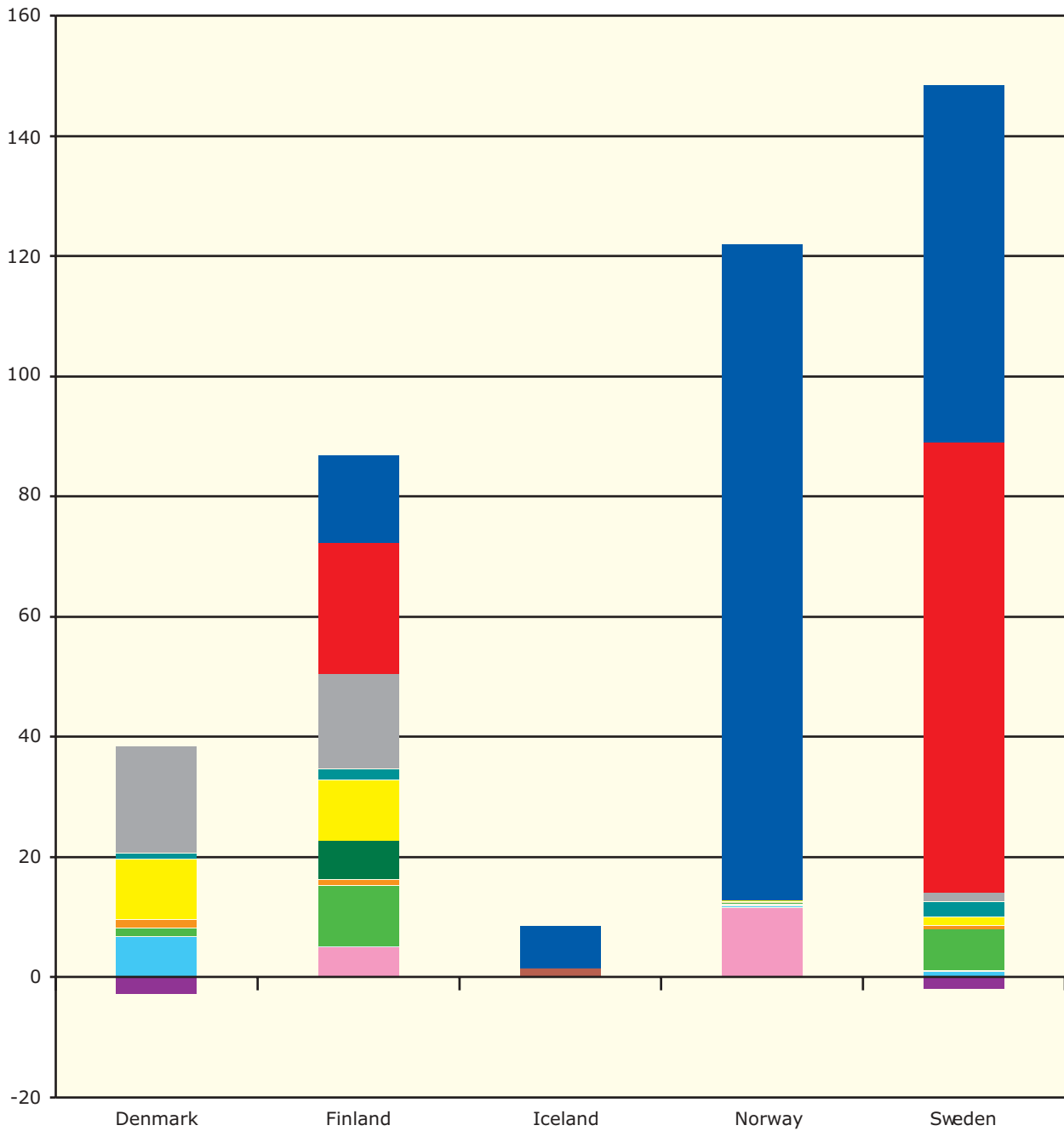
<sup>1)</sup> Fossil fuels (coal, oil, etc).

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

<sup>3)</sup> Includes heat recovery production from industry.

# Electricity generation

S12 Total electricity generation by energy source and net exchange of electricity 2004, TWh



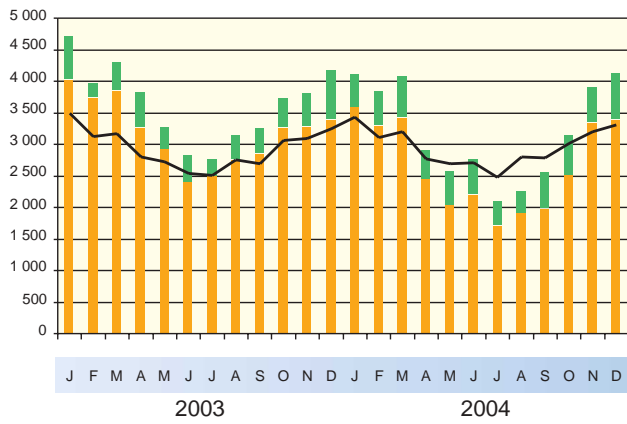
- Net imports
- Other <sup>1)</sup>
- Peat
- Coal
- Net exports (negative value)
- Geothermal power
- Biofuel
- Natural gas
- Nuclear power
- Wind power
- Waste
- Oil
- Hydropower

<sup>1)</sup> DK West refinery gas.

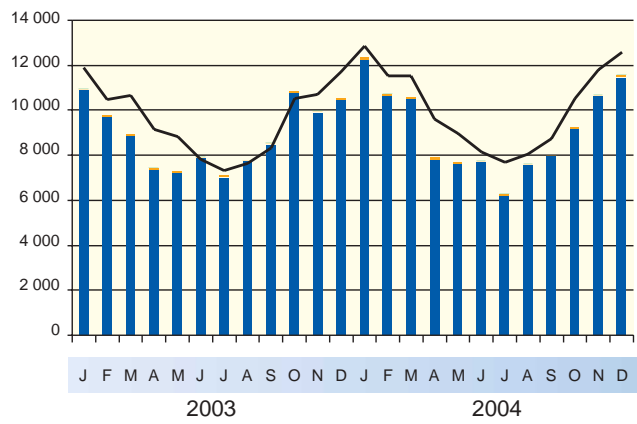
# Electricity generation

S13 Monthly generation and total consumption of electricity 2003-2004, GWh

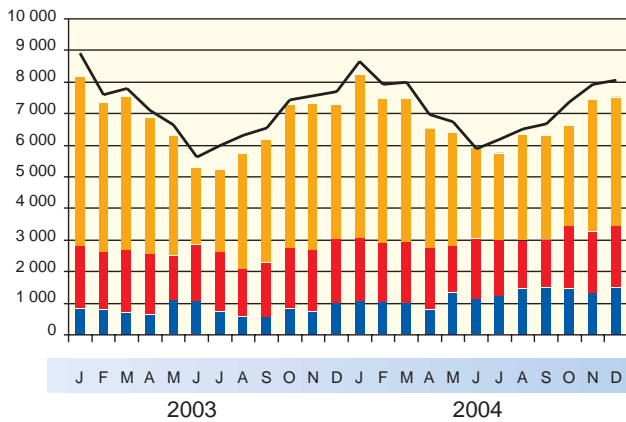
## Denmark



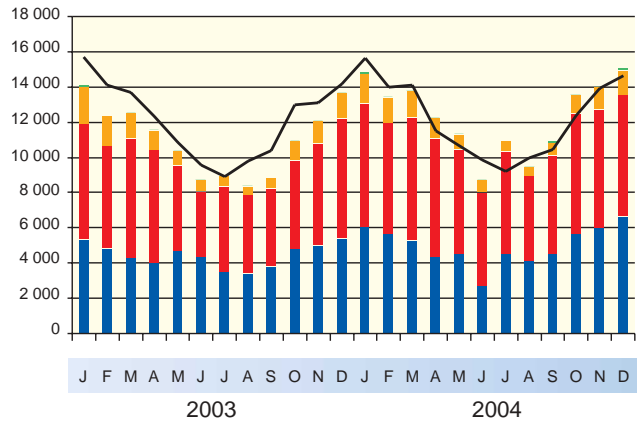
## Norway



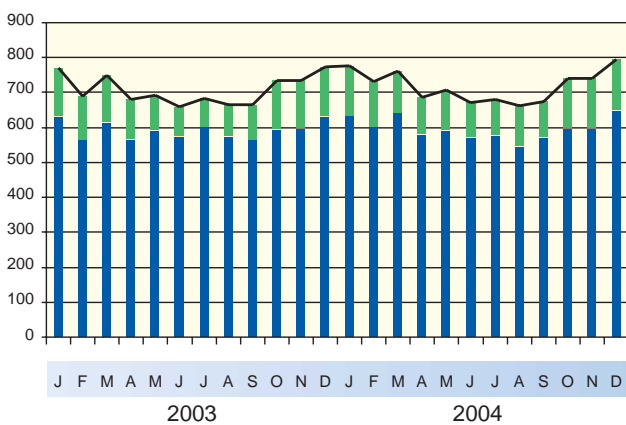
## Finland



## Sweden



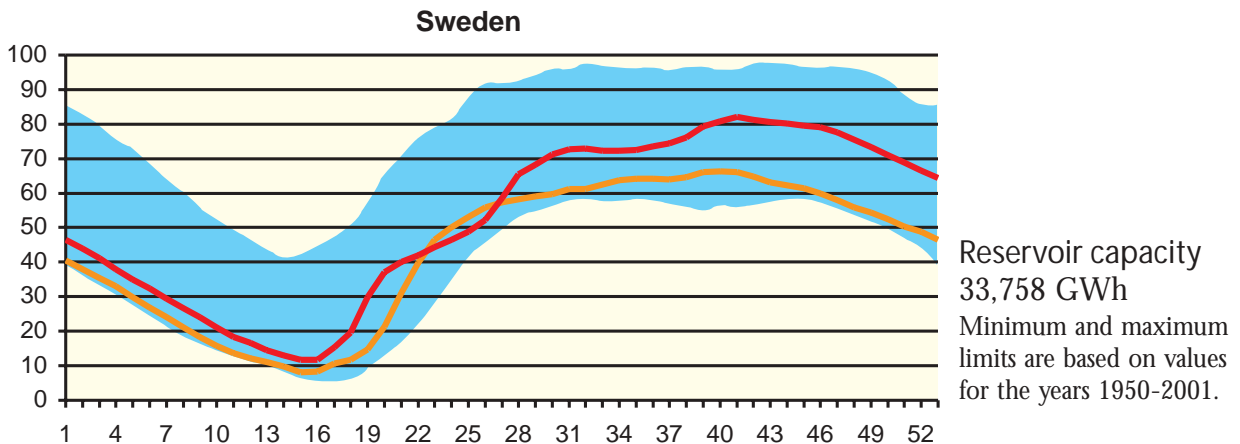
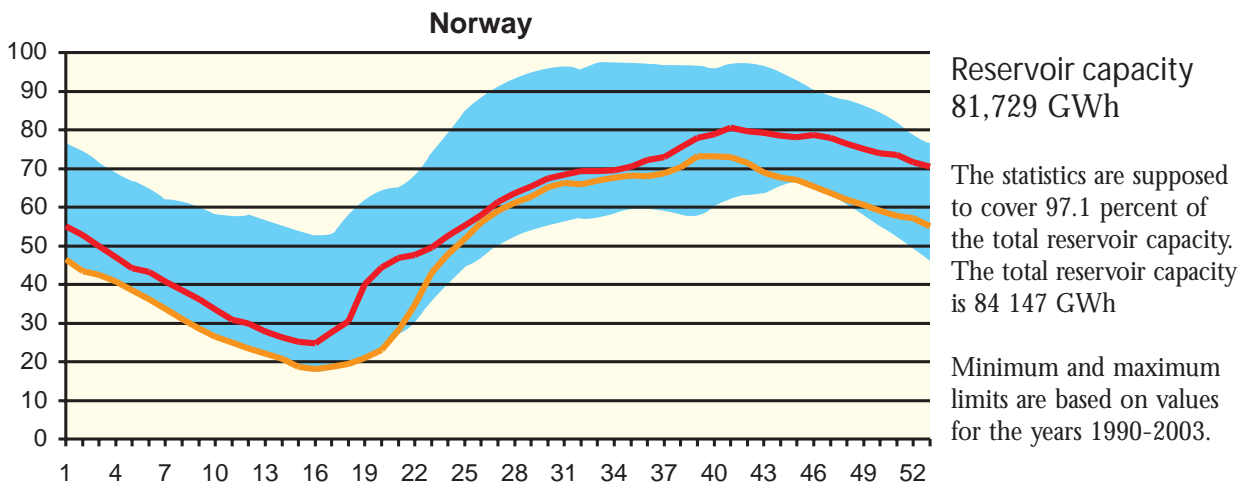
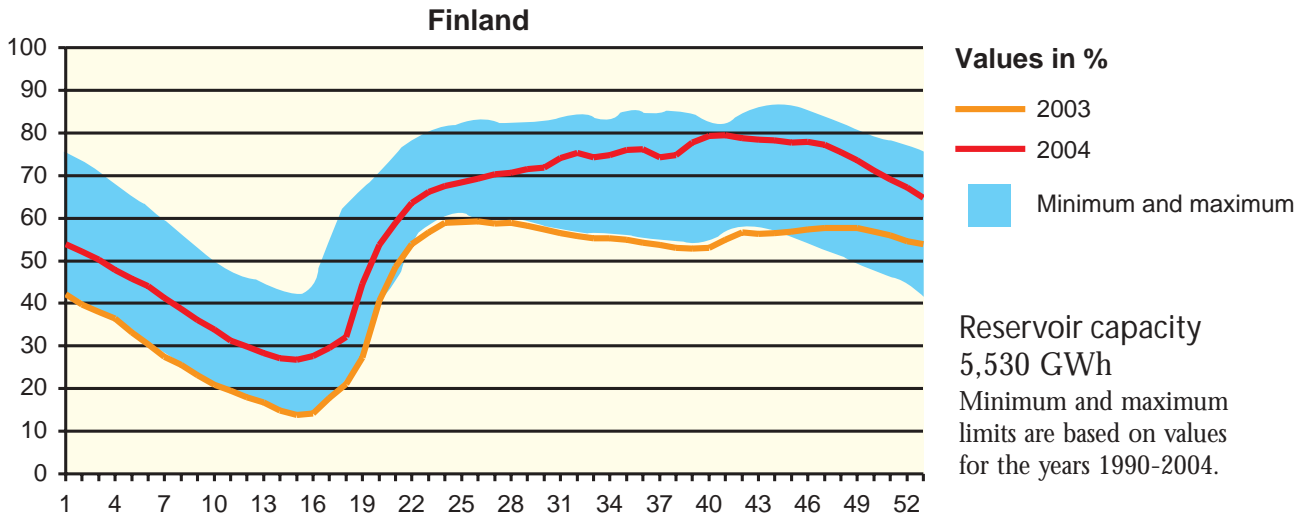
## Iceland



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

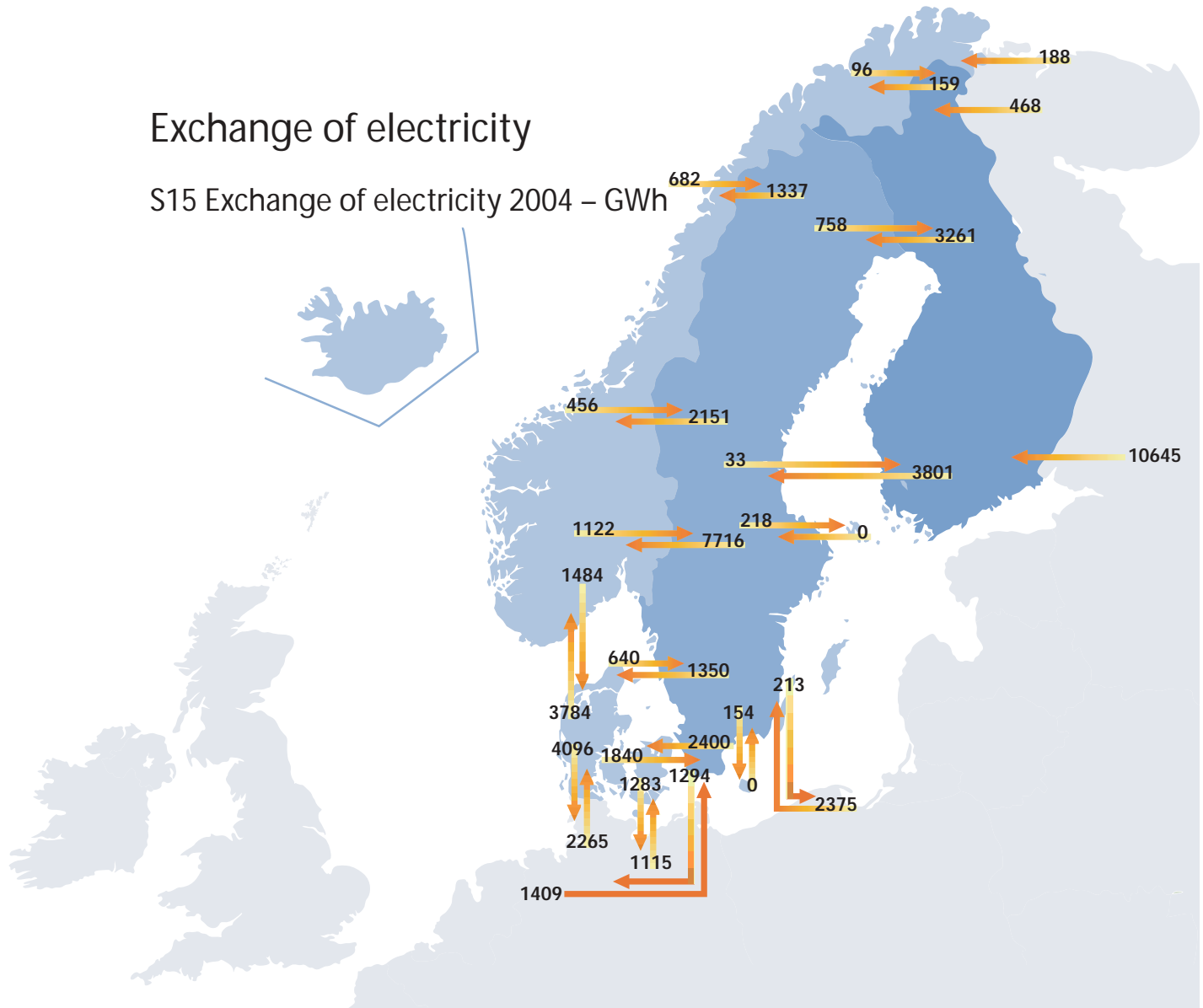
# Water reservoirs

## S14 Water reservoirs 2004



## Exchange of electricity

S15 Exchange of electricity 2004 – GWh



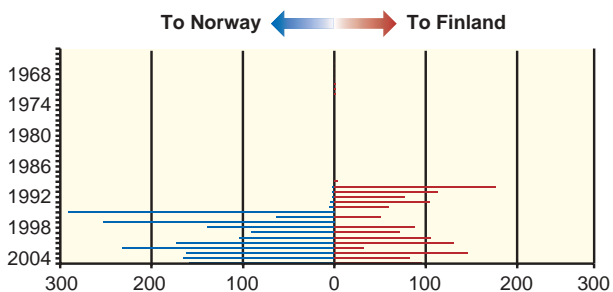
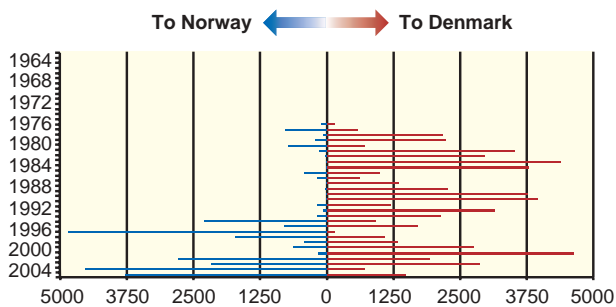
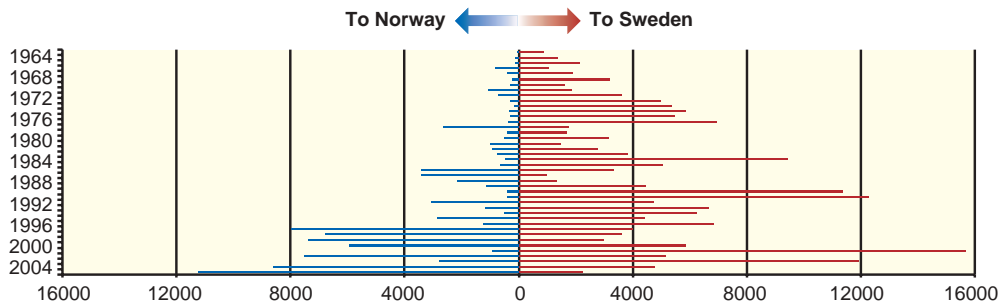
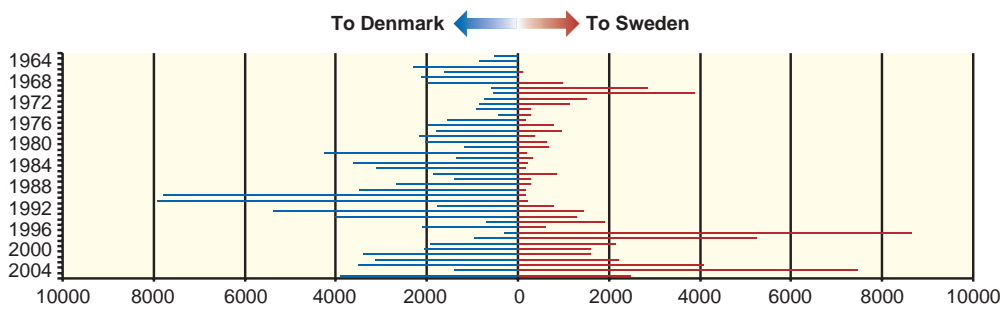
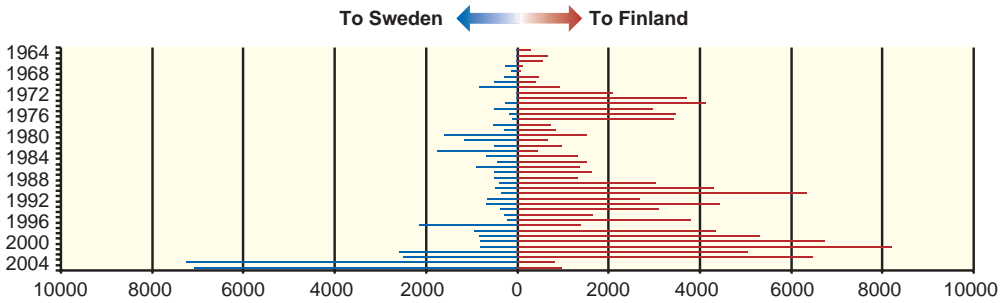
S16 Exchange of electricity 2004 – GWh

From:	To:	Denmark	Finland	Norway	Sweden	Other countries <sup>1)</sup>	Σ From
<b>Denmark</b>		-	-	3,784	2,480	5,379	<b>11,643</b>
<b>Finland</b>		-	-	159	7,062	-	<b>7,221</b>
<b>Norway</b>		1,484	96	-	2,260	-	<b>3,840</b>
<b>Sweden</b>		3,904	1,009	11,204	-	1,507	<b>17,624</b>
<b>Other countries<sup>1)</sup></b>		3,380	11,113	188	3,784	-	<b>18,465</b>
<b>Σ To</b>		<b>8,768</b>	<b>12,218</b>	<b>15,335</b>	<b>15,586</b>	<b>6,886</b>	<b>58,793</b>
							<b>Nordel</b>
<b>Total to</b>		8,768	12,218	15,335	15,586		<b>51,907</b>
<b>Total from</b>		11,643	7,221	3,840	17,624		<b>40,328</b>
<b>Net imports</b>		-2,875	4,997	11,495	-2,038		<b>11,579</b>
<b>Net imports/total consumption</b>		-8.1%	5.7%	9.4%	-1.4%		<b>2.9%</b>

1) Germany, Russia and Poland.

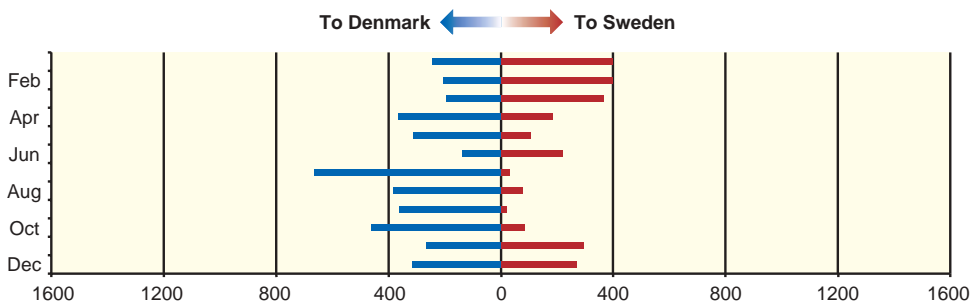
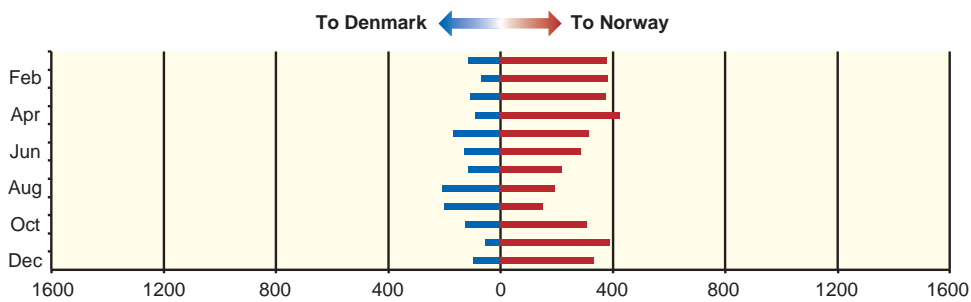
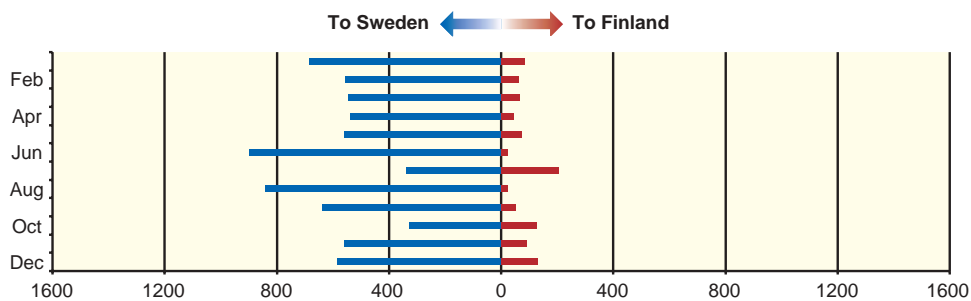
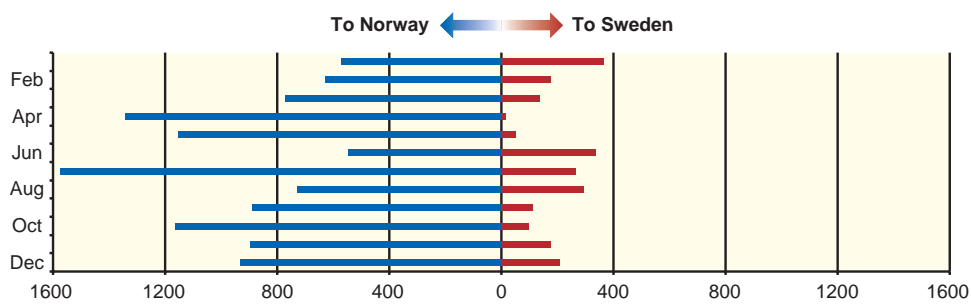
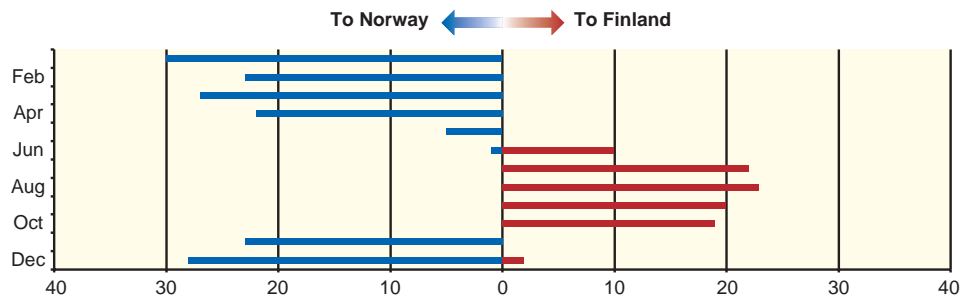
# Exchange of electricity

S17 Exchange of electricity between the Nordel countries 1963 - 2004, GWh



# Exchange of electricity

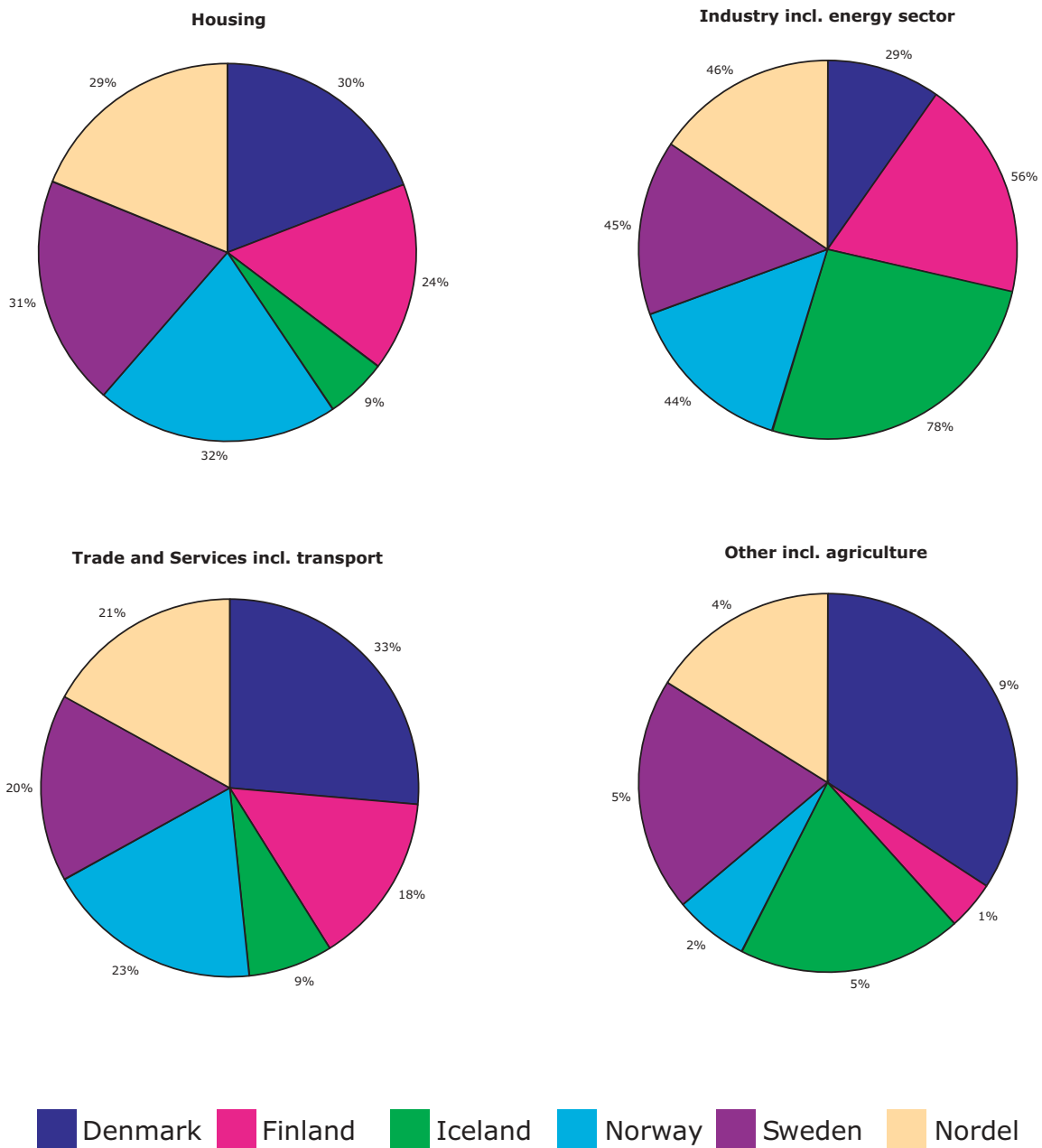
S18 Monthly exchange of electricity between the Nordel countries 2004, GWh





# Electricity consumption

S19 Net consumption of electricity 2004, by consumer category



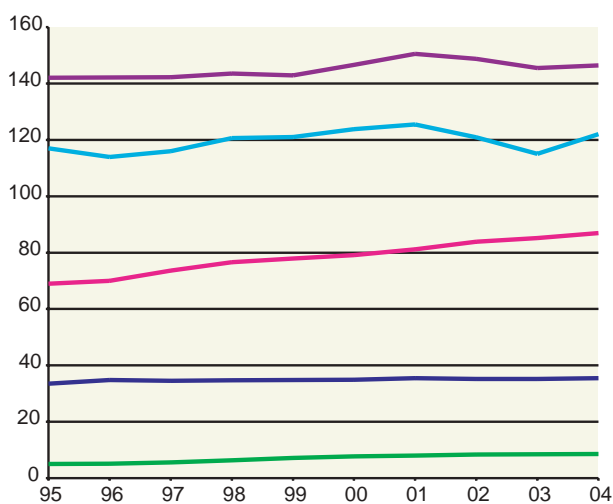
# Electricity consumption

## S20 Electricity consumption 2004, GWh

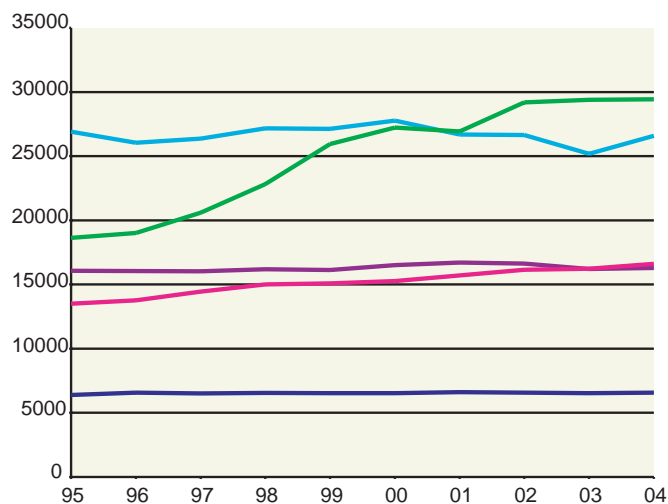
	Denmark	Finland	Iceland	Norway	Sweden	Nordel
<b>Total consumption</b>	35,502	86,917	8,621	122,040	146,446	<b>399,526</b>
Occasional power to electric boilers	-	50	199	3,700	1,414	<b>5,363</b>
Gross temp correct consumption	35,760	86,937	7,843	125,434	147,462	<b>403,436</b>
<b>Gross consumption</b>	35,502	86,867	8,422	118,340	145,032	<b>394,163</b>
Losses, pumped storage power	2,608	3,314	499	9,848	11,240	<b>27,509</b>
<b>Net consumption <sup>1)</sup></b>	32,894	83,553	7,923	108,492	133,792	<b>366,654</b>
- housing	9,800	20,456	676	34,756	40,950	<b>106,638</b>
- industry (incl. energy sector)	9,547	46,976	6,166	47,623	59,594	<b>169,906</b>
- trade and services (incl. transport)	10,747	15,261	706	24,413	26,548	<b>77,675</b>
- other (incl. agriculture)	2,800	860	375	1,700	6,700	<b>12,435</b>
<b>Population (million)</b>	5.40	5.23	0.29	4.59	9.01	<b>24.53</b>
Gross consumption per capita, kWh	6,574	16,600	29,423	26,588	16,252	<b>16,287</b>
<b>Gross consumption 2003</b>	35,210	85,224	8,495	115,008	145,476	<b>389,413</b>
<b>Change as against 2003, %</b>	0.8%	2.0%	1.5%	6.1%	0.7%	<b>2.6%</b>

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

## S21 Total electricity consumption 1995 - 2004, TWh



## S22 Total electricity consumption per capita 1995 - 2004, kWh



■ Iceland 
 ■ Denmark 
 ■ Finland 
 ■ Norway 
 ■ Sweden

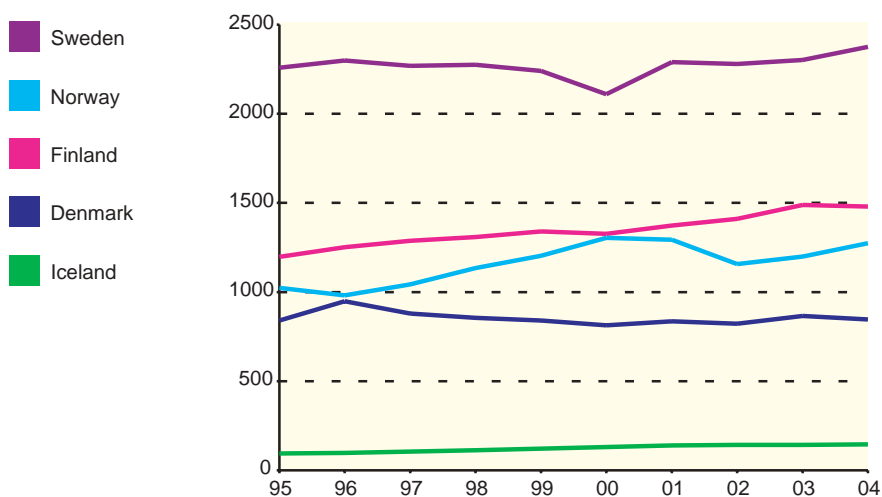
## Electricity consumption

### S23 Total electricity consumption 2004, GWh

	Denmark	Finland	Iceland	Norway	Sweden	Nordel
<b>Generation 2004</b>	38,377	81,920	8,621	110,545	148,484	<b>387,947</b>
<b>Net imports 2004</b>	-2,875	4,997		11,495	-2,038	<b>11,579</b>
<b>Total consumption 2004</b>	35,502	86,917	8,621	122,040	146,446	<b>399,526</b>
<b>Generation 2003</b>	43,754	80,377	8,495	107,122	132,547	<b>372,295</b>
<b>Net imports 2003</b>	-8,544	4,847		7,886	12,929	<b>17,118</b>
<b>Total consumption 2003</b>	35,210	85,224	8,495	115,008	145,476	<b>389,413</b>

## Total energy supply

### S24 Total energy supply 1995 - 2004, PJ



## Prognosis

### S25 Installed capacity, prognosis for available production capacity and maximum system load in 2004, MW

	Denmark West	Denmark East	Finland	Iceland	Norway	Sweden
<b>Installed capacity</b> <sup>1)</sup>	7,488	5,222	16,488	1,475	28,327	33,351
<b>Available production capacity</b> <sup>2)</sup>	4,700	3,170	13,600		22,800	27,700
<b>Maximum system load</b> <sup>3)</sup>	3,618	2,628	13,570	1,033	20,675	27,300

<sup>1)</sup> Installed capacity pr. 12-31-04. 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> Prognosis based on data from the Operational Group in Nordel and shows available production capacity for the market a cold winter day (10-year winter). More information is available in the report Power Balance 2004/2005 at [www.nordel.org](http://www.nordel.org).

<sup>3)</sup> Maximum system load for each country in 2004, MWh/h.

### S26 Total consumption of electricity 2004 and prognosis for 2008, TWh

	Denmark	Finland	Iceland	Norway	Sweden
<b>2004</b> <sup>1)</sup>	36	87	8.6	122	146
<b>2008</b> <sup>2)</sup>	38	94	15,6	133	150

<sup>1)</sup> The consumption is not corrected vs. temperatures.

<sup>2)</sup> Prognosis based on data from the Balance Group in Nordel and shows the total consumption according to normal winter conditions.

<sup>3)</sup> Prognosis based on data from the Energy prognosis committee.

### S27 Maximum system load 2004 and prognosis for winter 2008/09, MWh/h

	DK- West	DK -East	Finland	Iceland	Norway	Sweden
<b>2004</b> <sup>1)</sup>	3,618	2,628	13,570	1,033	20,675	27,300
<b>2008/09</b> <sup>2)</sup>	4,000	3,050	14,700	1,790	22,800	27,600

<sup>1)</sup> The consumption is not corrected vs. temperatures.

<sup>2)</sup> Prognosis based on data from the Balance Group in Nordel and shows the maximum system load according to a 2-years normal winter temp.

<sup>3)</sup> Prognosis based on data from the Energy prognosis committee.

### S28 Prognosis for available production capacity for the market winter 2008/09, MWh/h

	DK- West	DK -East	Finland	Iceland	Norway	Sweden
<b>2008/09</b> <sup>1)</sup>	4,550	3,150	14,200	2,258	23,450	28,300

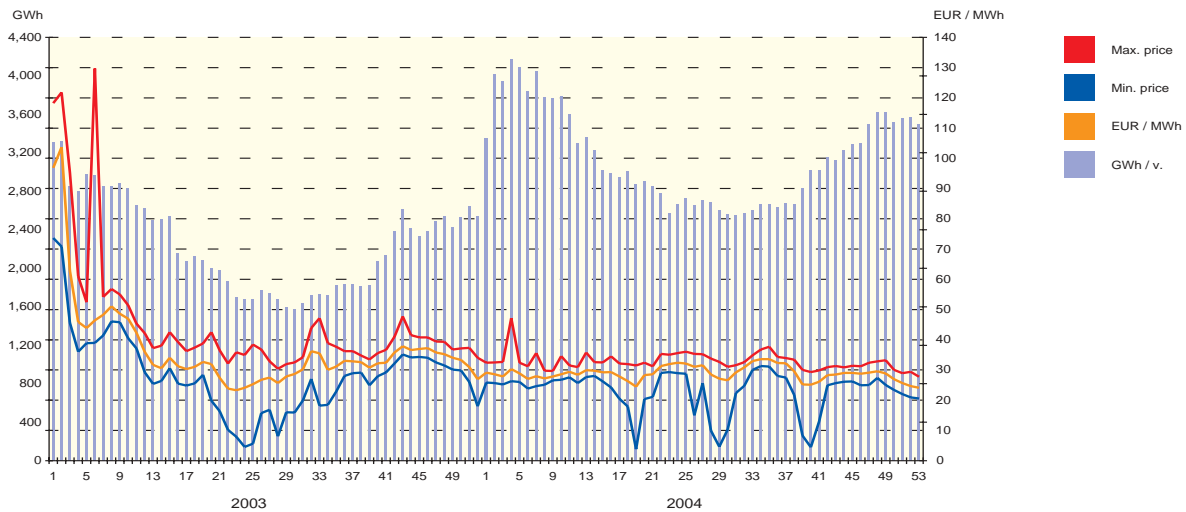
<sup>1)</sup> Prognosis based on data from the Balance Group in Nordel and shows the available capacity for market according to a 2-years normal winter temp.

<sup>2)</sup> Prognosis based on data from the Energy prognosis committee.

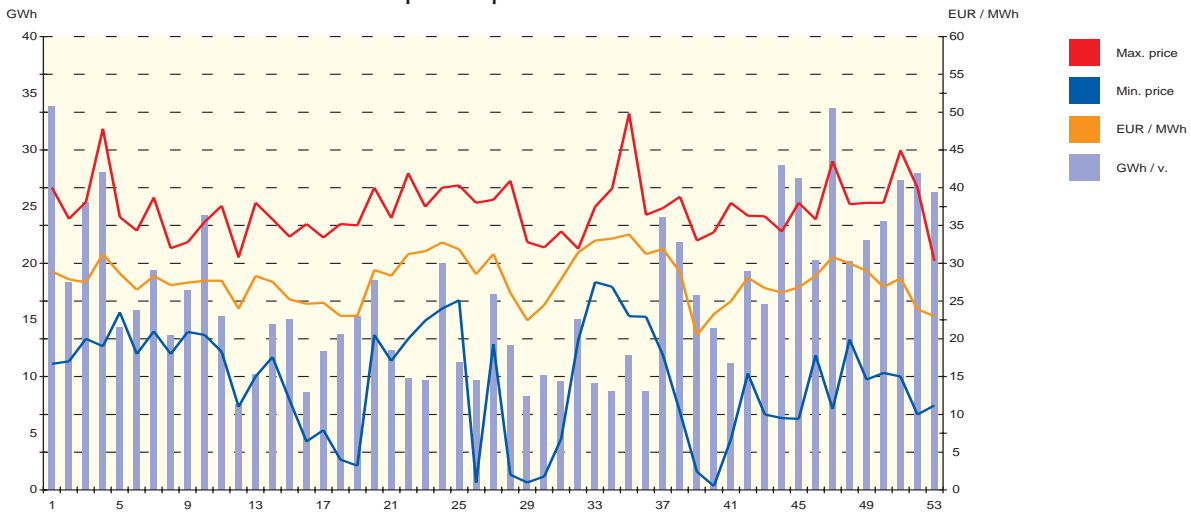
# Spot prices

## S29 Spot prices and turnover on the Nordic electricity exchanges 2003 - 2004

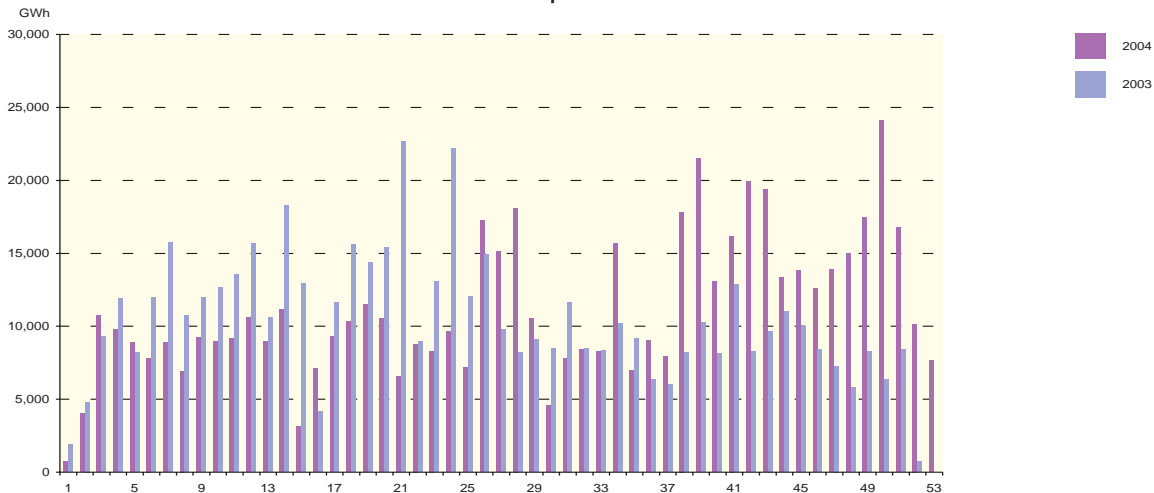
Nord Pool ASA spot market - average system price and turnover per week



ELBAS market - turnover and prices per week 2004



Nord Pool's Financial market - turnover per week 2004





Svenska Kraftnät adapts the management of power lanes in such a way that attention is paid to sensitive environments and the biological diversity benefits. Photo: Alf Linderheim

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# Definitions

## Gross consumption

The sum of domestic generation and imports minus exports and occasional power to electric boilers; usually expressed in GWh.

## Electricity generation

(net generation)

The output of a power plant, excluding the plant's own consumption; usually expressed in GWh. Registration of generation is referred to where the power plant is physically located.

## Exchange of electricity

The monthly sums (in GWh) of the physically registered MWh values for each connection between the individual countries, per hour of exchange.

## Installed capacity

(net capacity)

The sum of the rated capacities of the individual power plant units (expressed in MW), excluding the power plant's own consumption of electricity (exclusive heat production).

## Generation of 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.

## Net consumption

The sum of the energy used by consumers of electricity; usually expressed in GWh.

## Transmission capacity

The power (in MW) that a highvoltage line can transmit under normal conditions, taking into account any limitations that may be imposed on the rated capacity.

## Pumped storage power

The electricity used for pumping water up to a reservoir, for the generation of electricity later on; expressed in GWh.

## Losses

The difference between gross consumption and net consumption plus pumped storage power; usually expressed in GWh.

## Occasional power to electric boilers

Expressed in GWh, this refers to the supply of electricity to electric boilers on special conditions for the generation of steam or hot water, which may alternatively be generated using oil or some other fuel.

## Total consumption

The sum of electricity generation and net imports, expressed in GWh.

## Combined heat and power (CHP) generation

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 industry. Previously known as backpressure generation.

## Other renewable power

Wind power, biofuel, waste and geothermal power.

## Calculation of the electricity consumption

$$\begin{aligned} & \text{Electricity generation} \\ & + \text{Imports} \\ & - \text{Exports} \\ & \hline & = \text{Total consumption} \\ & - \text{Occasional power to} \\ & \quad \text{electric boilers} \\ & \hline & = \text{Gross consumption} \\ & - \text{Losses, pumped storage} \\ & \quad \text{power etc.} \\ & \hline & = \text{Net consumption} \end{aligned}$$

