

NORD POOL

NORD POOL SPOT AS

Welcome to Nord Pool Spot

The largest market for electrical energy in the world



Our function?

- Provide a liquid market for electrical energy
- Provide information to the market
- Provide equal opportunities for all participants
- The central counter party in all trades guaranteeing settlement for trade

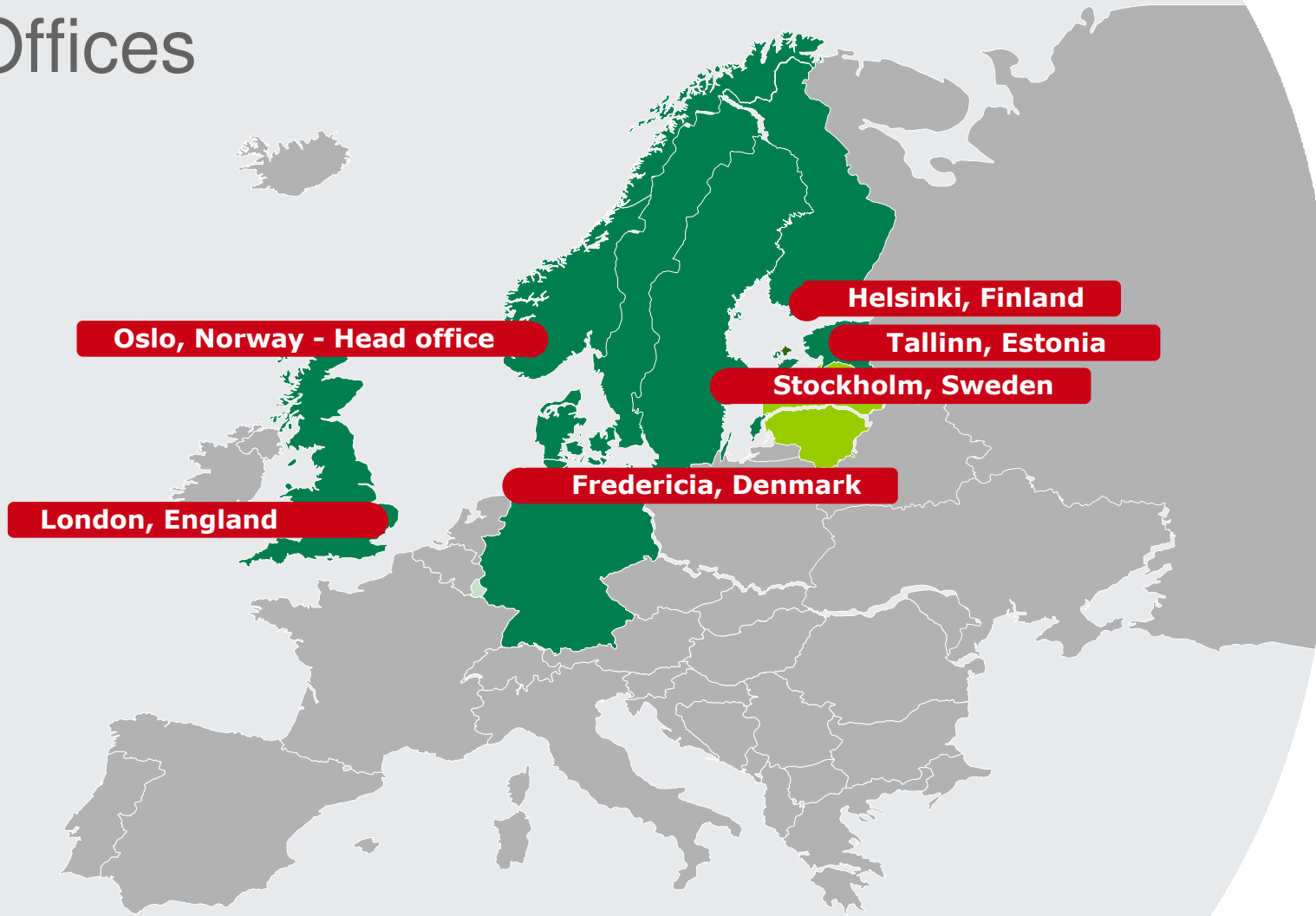


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Offices



London, England

Oslo, Norway - Head office

Fredericia, Denmark

Stockholm, Sweden

Tallinn, Estonia

Helsinki, Finland

Our vision and mission

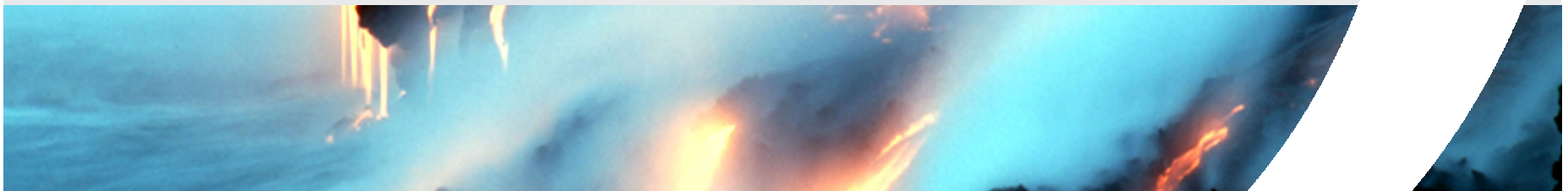
Vision: Nord Pool Spot will be the leading European exchange for electrical energy

Mission: We add value to our customers by providing price transparency and quoting reliable prices



Our business goals

- Nord Pool Spot will drive the development and integration of the European energy markets
- Nord Pool Spot will have profitable growth
- Nord Pool Spot will provide the preferred market place for customers in Europe
- Nord Pool Spot will be an efficient and customer driven organisation
- Nord Pool Spot will be a European organisation with high competence and strong team spirit



History

1991: The Norwegian electricity market is deregulated

1993: Statnett Marked is established

1996: A joint Norwegian-Swedish exchange is established and renamed to Nord Pool

1998: Finland joins the Nordic exchange

2000: The Nordic market becomes fully integrated as Denmark joins the exchange

2002: Nord Pool Spot is established as a separate company

2005: Nord Pool Spot opens the Kontek bidding area in Germany

2009: Market coupling NPS and EPEX through EMCC launched.

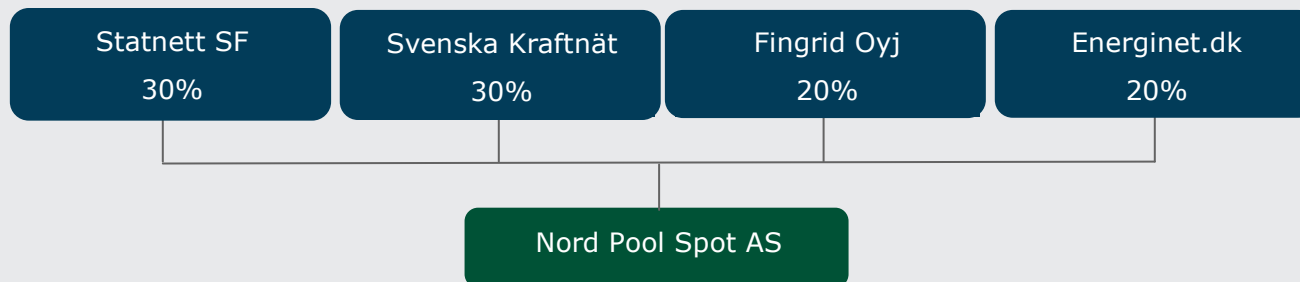
2010: Nord Pool Spot and NASDAQ OMX Commodities launch the UK market N2EX.

Nord Pool Spot opens a bidding area in Estonia and delivers the technical solution for a new Lithuanian market place



Ownership

We are owned by the Nordic transmission system operators.



Power exchange concept

- **Elspot-market**

Auction - supply and demand cross. Mechanism for handling of constraints

- **Elbas-market**

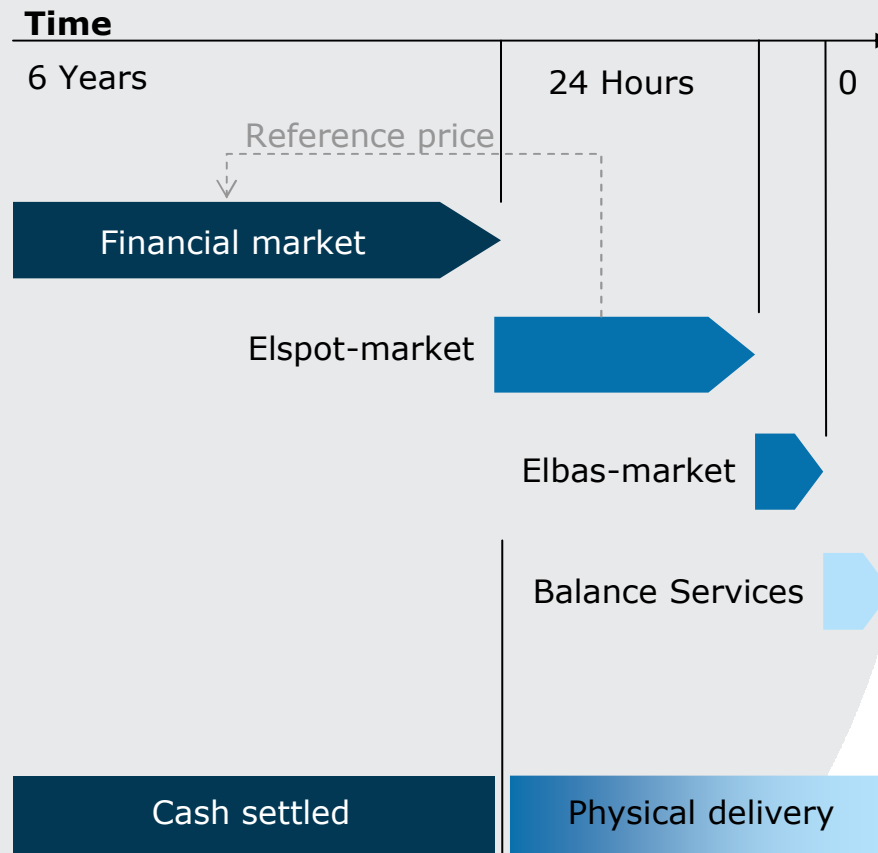
Continuous hourly market for balance adjustment

- **Balance services**

Operated by transmission system operators

- **Financial market**

Cash settled futures, forwards and options. Clearing services



Elspot

- The spot market for electrical energy – and the cornerstone of Nordic trading
- Auction-based market for trading of electrical energy for delivery the next day
- Covers Norway, Sweden, Finland, Denmark and Estonia.
- 72 per cent of the total consumption of electrical energy in the Nordic countries is traded on the Elspot-market



Elbas

- Serves as an adjustment market for Finland, Sweden, Denmark, Norway and Germany
- Continuous intraday market for electrical energy where one-hour contracts are traded until one hour prior to delivery





Nord Pool Spot

Electrical energy markets

ELSPOT Overview

- Product: Hourly contracts, physical delivery.
- Delivery period: All 24 hours through the next day (12-36 hours ahead in time).
- Type of trading: Auction trading. Accumulated bids and offers that form equilibrium point prices via an Implicit Auction that also reflects usage of a available transmission capacities between bidding areas.
- Trading days: All days through the year.
- Bidding: Bids and offers in standard exchange format (internet, EDIEL).
- Trade currencies: Euro, NOK, SEK, DKK.
- Price calculation: 1200 am every day.

ELBAS Overview

- Product: Hourly contracts, physical delivery.
- Delivery period: All hours with Elspot price in present day and following day up to 60 minutes before delivery.
- Type of trading: Continuous
- Trading days: Every day through out the year 24h

Nord Pool Spot Elspot market

Hourly bidding

- The hourly bid is the basic type of Elspot market order
- The bid is used for both purchase and sale of power
- Each participant selects the range of price steps for the hourly bid individually.
- The bid may consist of up to 62 price steps in addition to the current ceiling and floor price limits set by Nord Pool Spot.

Bidding form
Bid/Offer valid for: (Cross off)

Week: _____
Area: _____

Mon	Tue	Wed	Thu	Fri	Sat	Sun	WholeWeek	Correction	
	x							Date:	Time:

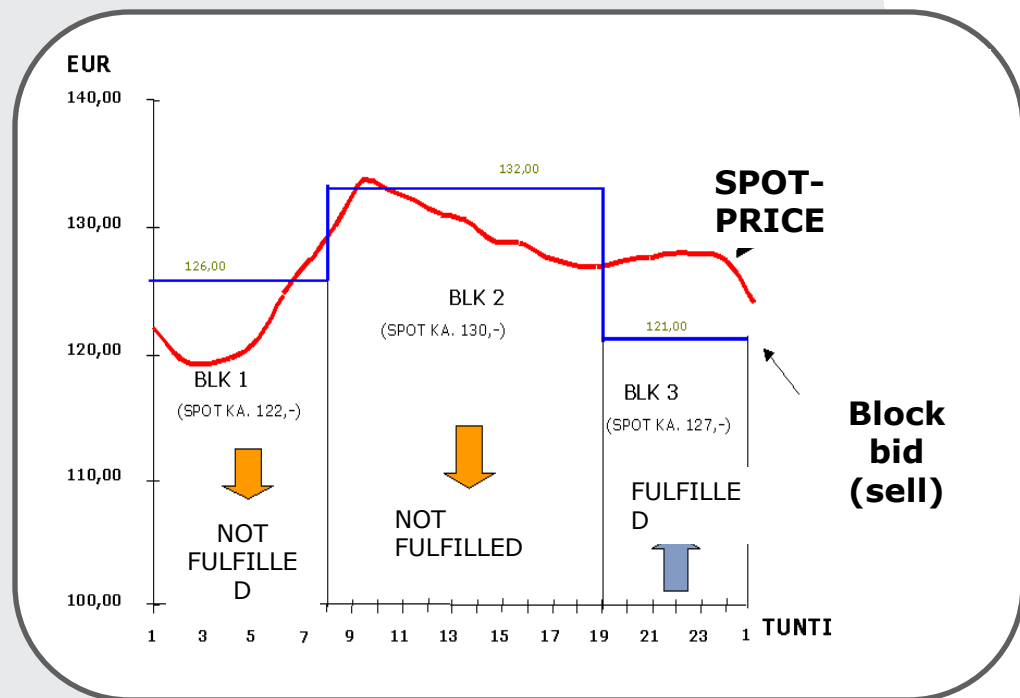
From Hour	Price Hour	Price														
		0	100	101	150	151	200	201	300	301	650					
1	1															
2	2															
9	9															
24	24															
Sum 24 hour:																

Bid can contain up to 64 prices out of which 0 and 2000 are given

Nord Pool Spot Elsport market

Block Bids

- The block bid gives the participant the opportunity to set an 'all or nothing' condition for all the hours within the block.
- The block bid is an aggregated bid for several hours, with a fixed price and volume throughout these hours.
- The participants can freely pick the start and stop hour of a block.
- The block bid is particularly useful in cases where the cost of starting and stopping power production is high. Also inflexible production, consumption and contracts can be handled efficiently with block bids.

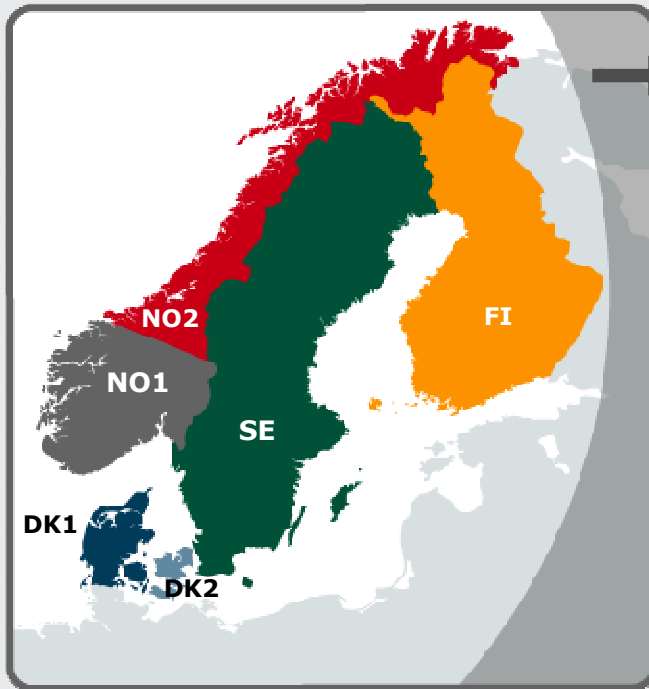


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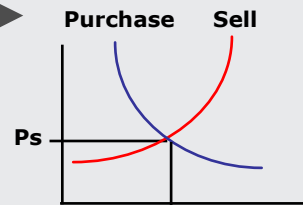
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Price calculation
No bottlenecks

Six Elspot areas



System price calculation



One price
across the entire
exchange area

Checking transmission limits

One price

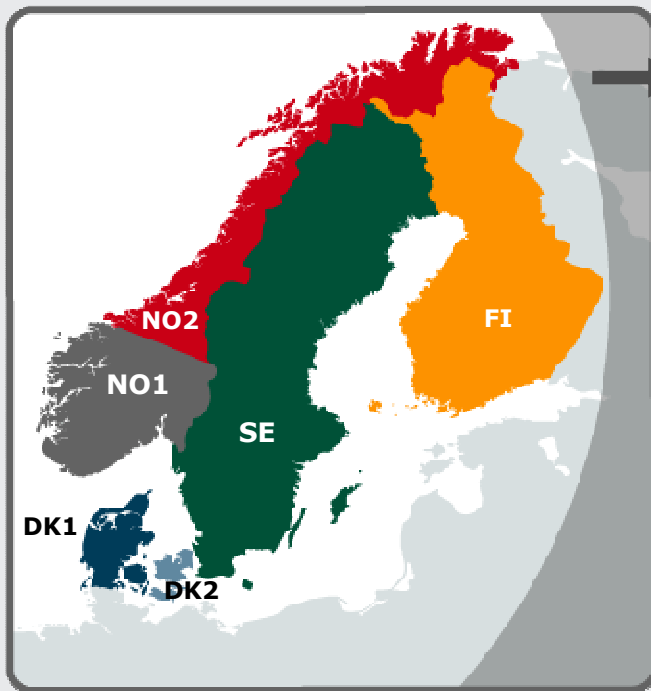


NORD POOL

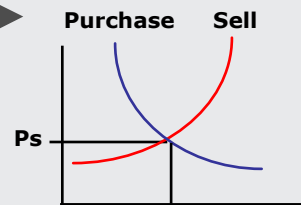
NORD POOL SPOT AS

Price calculation With bottlenecks

Six Elspot areas

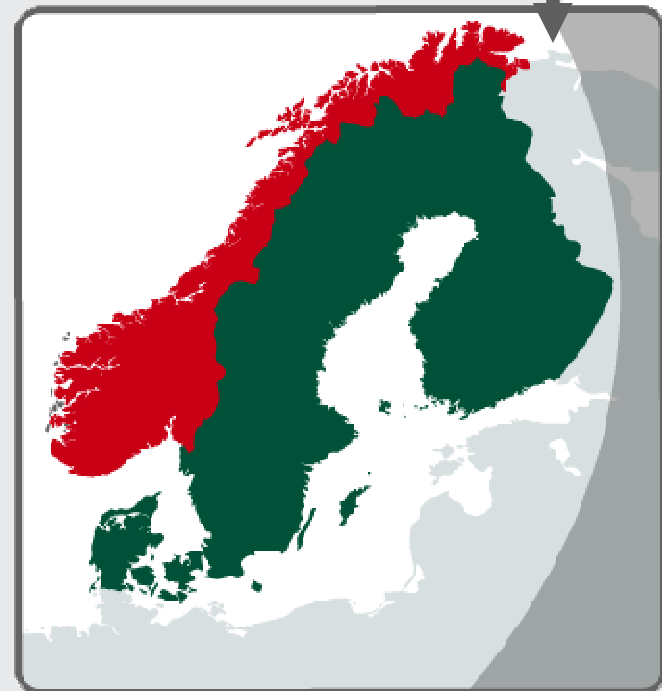


System price calculation



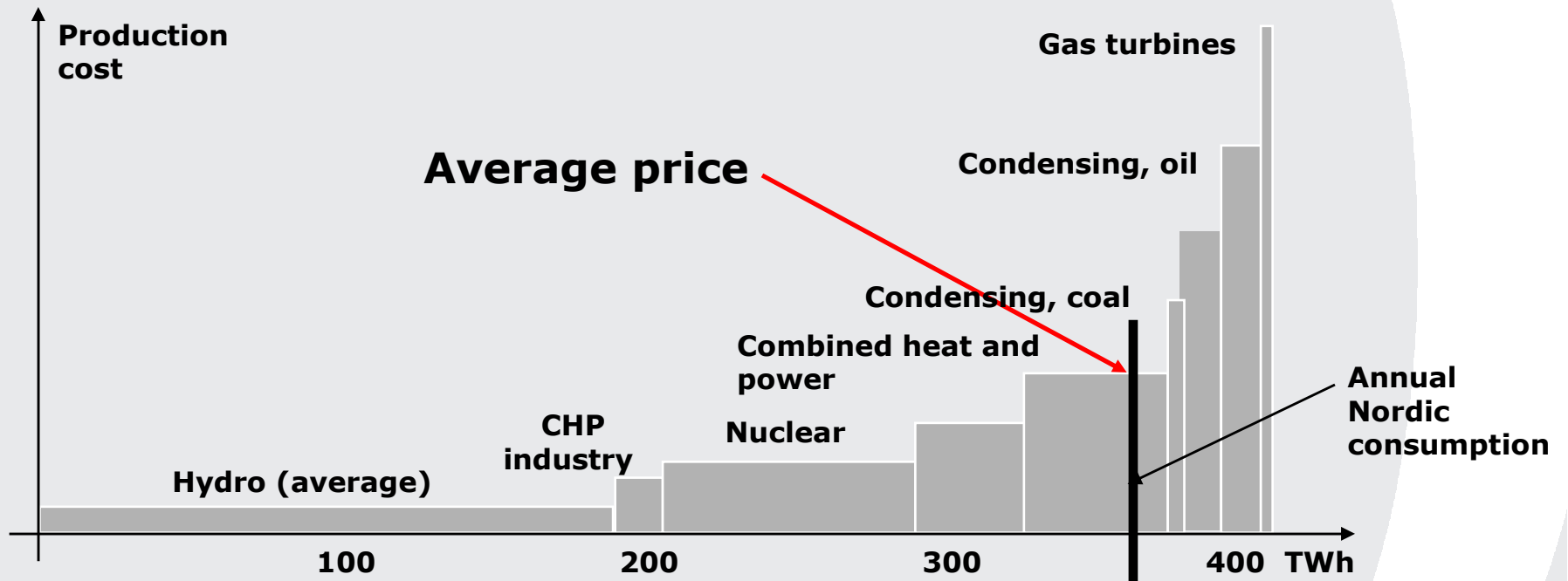
Optimization of
transmission capacities

Different prices





Theory Price determination

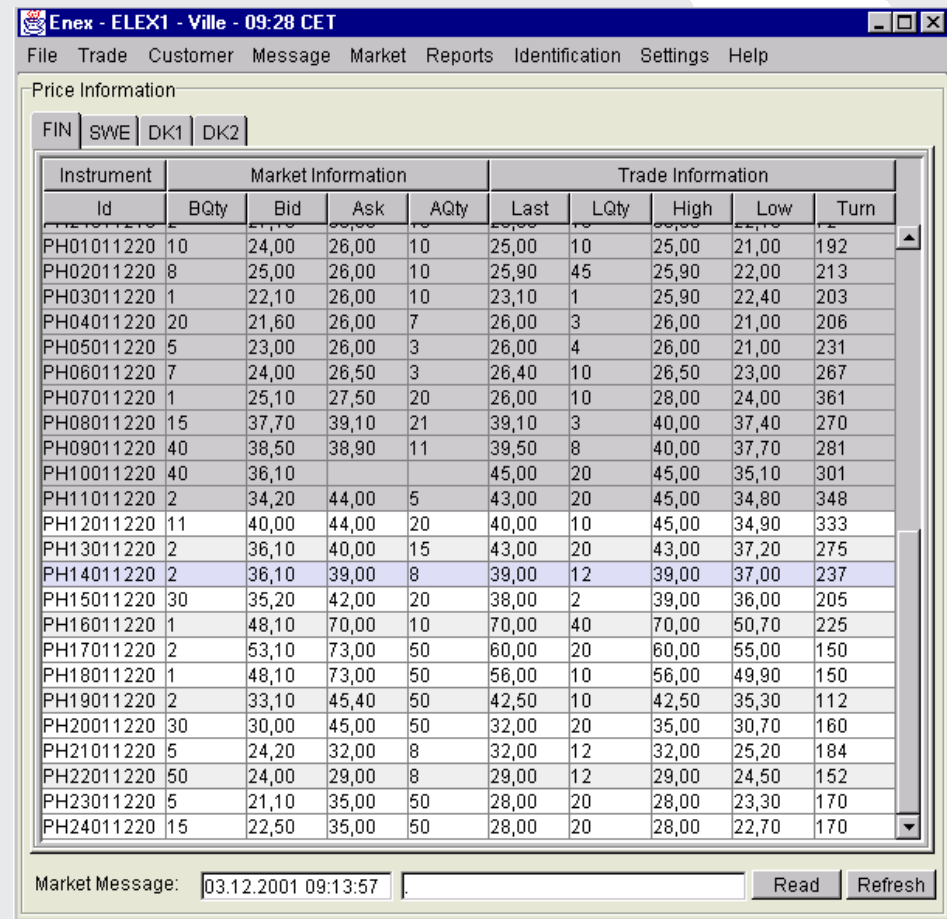


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After market for Elspot Elbas market

- After market for Elspot
- Market areas available; Finland, Sweden, Denmark, Norway and Germany
- Automated control of transmission capacity
- Hourly contracts can be traded until 60 minutes before delivery hour
- Continuous trading 24/7
- Trading currency is Euro
- Market makers 24 hours per day



The screenshot shows a software window titled "Enex - ELEX1 - Ville - 09:28 CET". The window contains a menu bar with "File", "Trade", "Customer", "Message", "Market", "Reports", "Identification", "Settings", and "Help". Below the menu bar is a "Price Information" section with tabs for "FIN", "SWE", "DK1", and "DK2". The main area displays a table with columns for "Instrument", "Market Information", and "Trade Information". The table lists various instruments with their respective market and trade data.

Instrument	Market Information				Trade Information				
	Id	BQty	Bid	Ask	AQty	Last	LQty	High	Low
PH01011220	10	24,00	26,00	10	25,00	10	25,00	21,00	192
PH02011220	8	25,00	26,00	10	25,90	45	25,90	22,00	213
PH03011220	1	22,10	26,00	10	23,10	1	25,90	22,40	203
PH04011220	20	21,60	26,00	7	26,00	3	26,00	21,00	206
PH05011220	5	23,00	26,00	3	26,00	4	26,00	21,00	231
PH06011220	7	24,00	26,50	3	26,40	10	26,50	23,00	267
PH07011220	1	25,10	27,50	20	26,00	10	28,00	24,00	361
PH08011220	15	37,70	39,10	21	39,10	3	40,00	37,40	270
PH09011220	40	38,50	38,90	11	39,50	8	40,00	37,70	281
PH10011220	40	36,10			45,00	20	45,00	35,10	301
PH11011220	2	34,20	44,00	5	43,00	20	45,00	34,80	348
PH12011220	11	40,00	44,00	20	40,00	10	45,00	34,90	333
PH13011220	2	36,10	40,00	15	43,00	20	43,00	37,20	275
PH14011220	2	36,10	39,00	8	39,00	12	39,00	37,00	237
PH15011220	30	35,20	42,00	20	38,00	2	39,00	36,00	205
PH16011220	1	48,10	70,00	10	70,00	40	70,00	50,70	225
PH17011220	2	53,10	73,00	50	60,00	20	60,00	55,00	150
PH18011220	1	48,10	73,00	50	56,00	10	56,00	49,90	150
PH19011220	2	33,10	45,40	50	42,50	10	42,50	35,30	112
PH20011220	30	30,00	45,00	50	32,00	20	35,00	30,70	160
PH21011220	5	24,20	32,00	8	32,00	12	32,00	25,20	184
PH22011220	50	24,00	29,00	8	29,00	12	29,00	24,50	152
PH23011220	5	21,10	35,00	50	28,00	20	28,00	23,30	170
PH24011220	15	22,50	35,00	50	28,00	20	28,00	22,70	170

Market Message: 03.12.2001 09:13:57 .



Reporting and settlement Physical markets

All trades will be transferred automatically to clearing at Nord Pool Spot

- **Delivery**
Nord Pool Spot and participant sends Elspot- and/or Elbas- net positions to system operator
- **Monetary transactions**
Invoice / Credit note every banking day
- **Collateral call**
Based on a rolling net position for the last 7-9 days of trade





Nord Pool Spot Membership categories

Exchange participant

Entity having entered into participant agreement with Nord Pool Spot AS for principal trading

Trading and clearing representative

Entity having entered into participant agreement with Nord Pool Spot AS for principal trading and client trading

Clearing customer

An entity that has been approved by Nord Pool Spot AS to have its trades subject to clearing with Nord Pool Spot AS, when represented by a trading and clearing representative



Nord Pool Spot Trading fees

Annual fee

- Direct participants Elspot & Elbas* EUR 15 000
- Trading & clearing representative Elspot & Elbas* EUR 15 000
- Direct participants Elbas only EUR 10 000
- Clearing customers Elspot & Elbas EUR 2 000
- Additional area/portfolio** EUR 1 250
- View only license Elbas EUR 10 000

Variable trading fee

- Elspot EUR/MWh 0.03
- Elbas EUR/MWh 0.08

* One annual fee covers both Elspot and Elbas

** Companies bidding in more than one area. In this context, Norway or Denmark is considered as one Elspot area. The fee also applies to every additional internal portfolio in Elspot within an area under a direct participant or clearing customer.





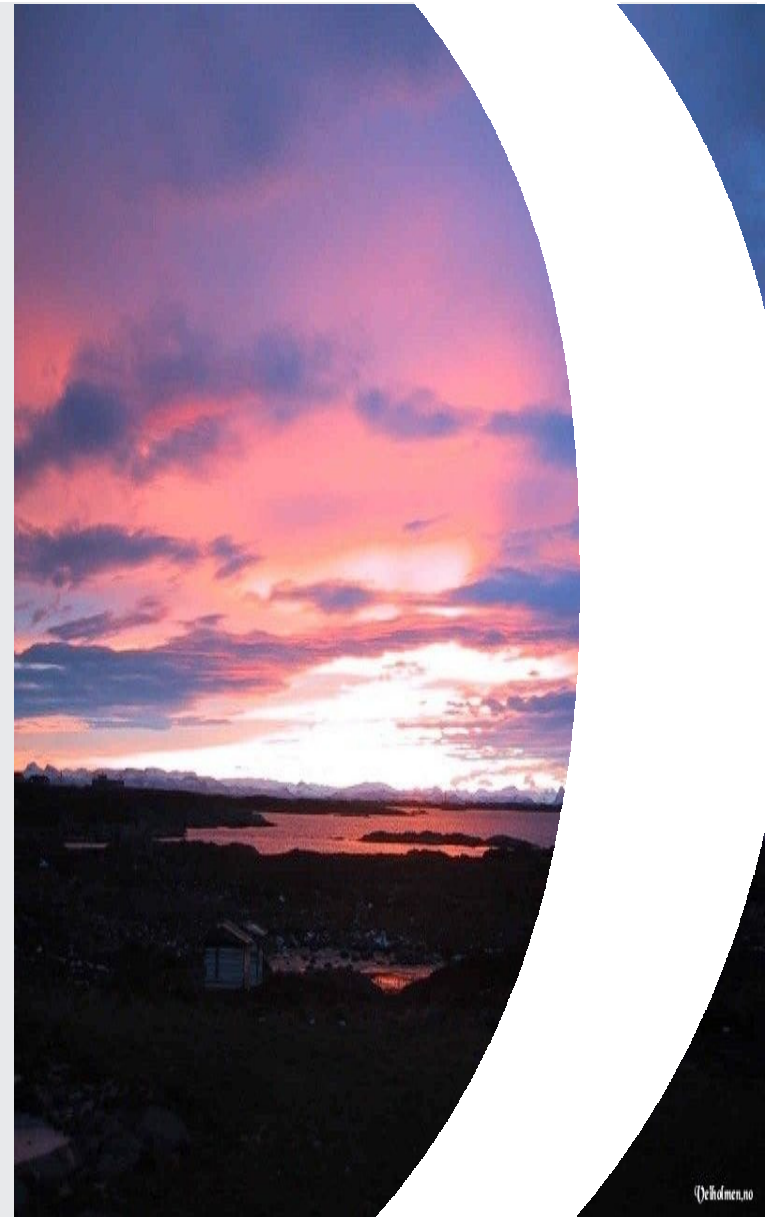
Nord Pool Spot Special offers

Gross bidding

- Agreement available for Elspot direct participants
- The participant undertakes to carry out gross bidding for all sales and purchase portfolios
- No entrance fee for this agreement
- The agreement will include one free charge portfolio for gross bidding purposes
- Gross volume fee of 0.0025 €/MWh with a yearly ceiling

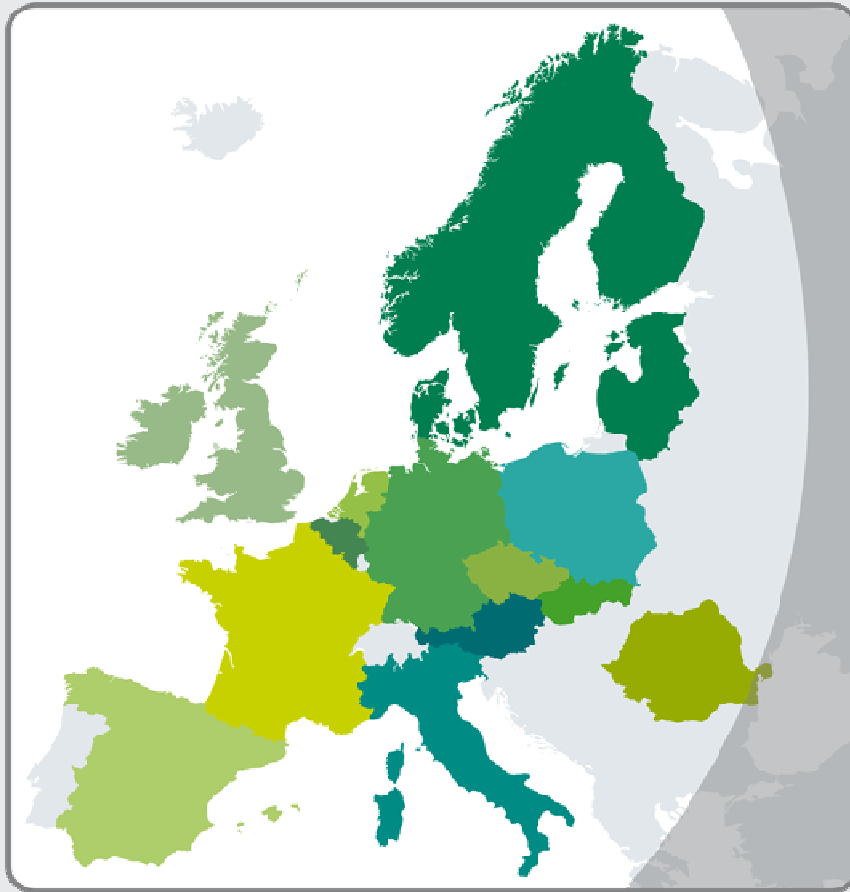
Small customers

- Direct participants at Elspot can waive the annual fee and pay a higher variable fee of €/MWh 0.13
- There is a 3 000 €/year floor for the sum of volume fees in a calendar year





Nord Pool Spot Our customers Elspot



Customer overview

Nord Pool Spot Elspot	311
Direct participants	111
Trading and clearing representatives	7
Clearing customers	193

Nord Pool Spot

Our customers Elbas



Customer overview

Nord Pool Spot Elbas	84
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Direct participants	68
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Trading and clearing representatives	2
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Clearing customers	13
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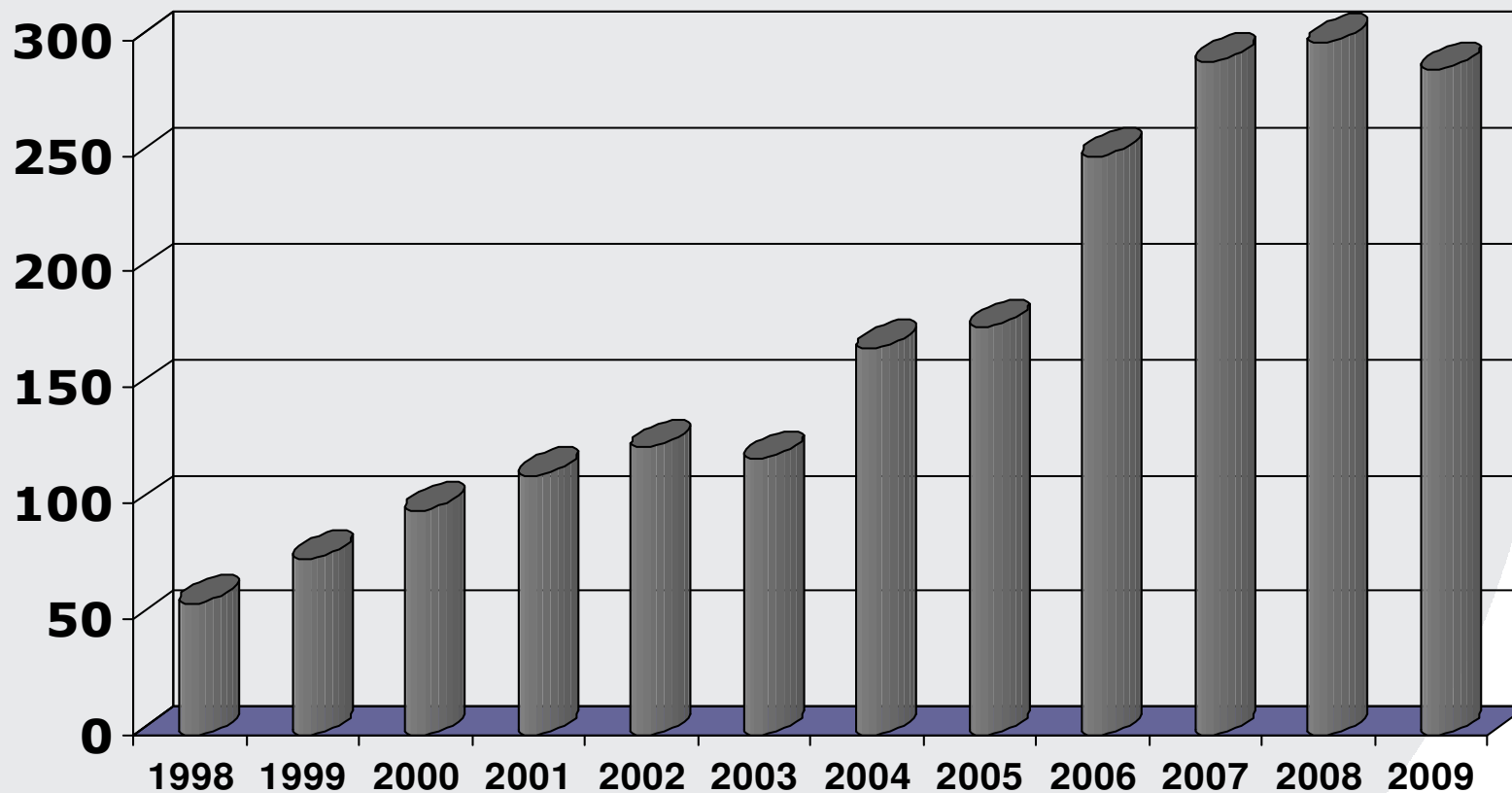
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From 1998 to 2009

Trust proven by successful
volume development

TWh

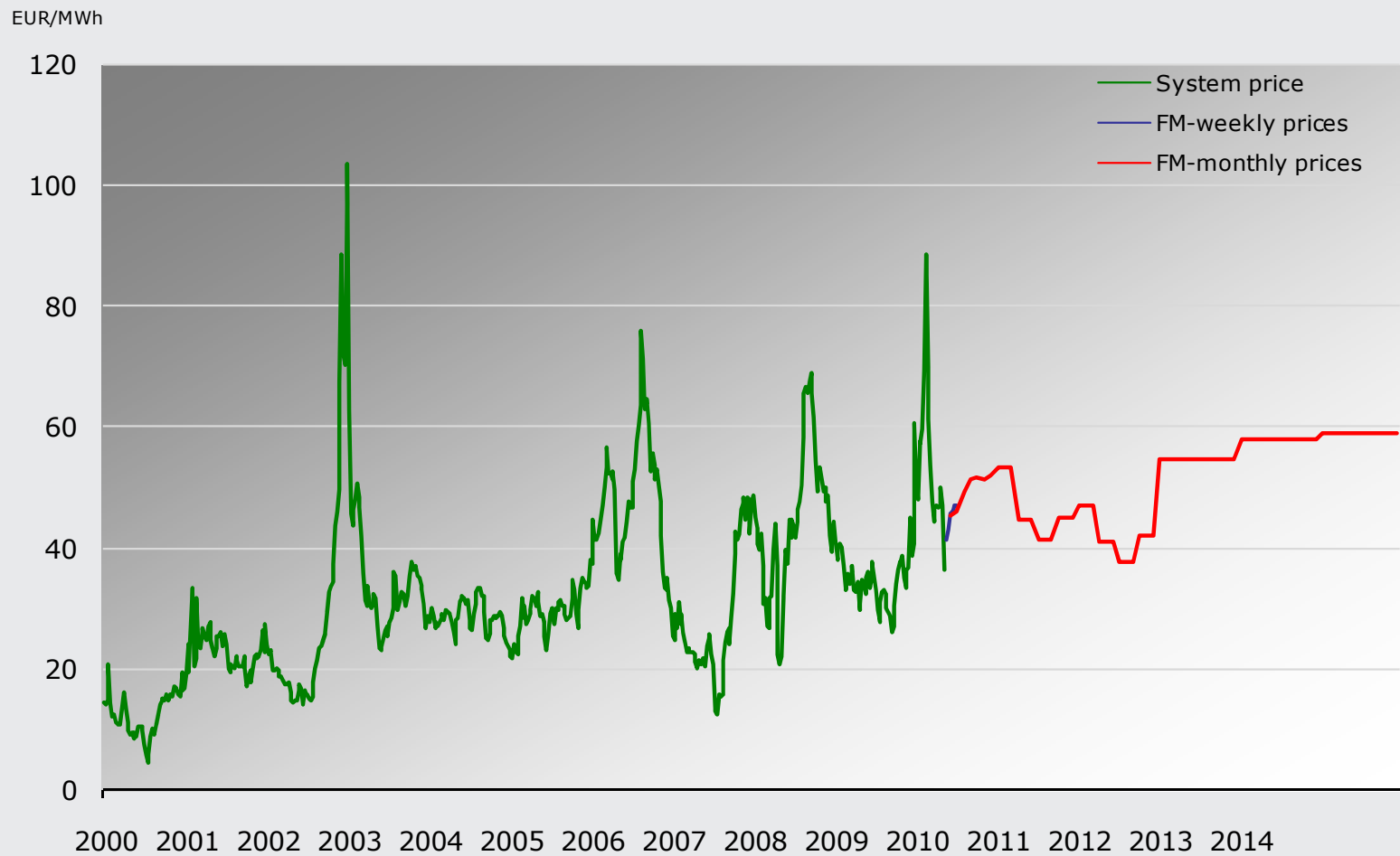
Volume 2009
287 TWh



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Prices at Nord Pool

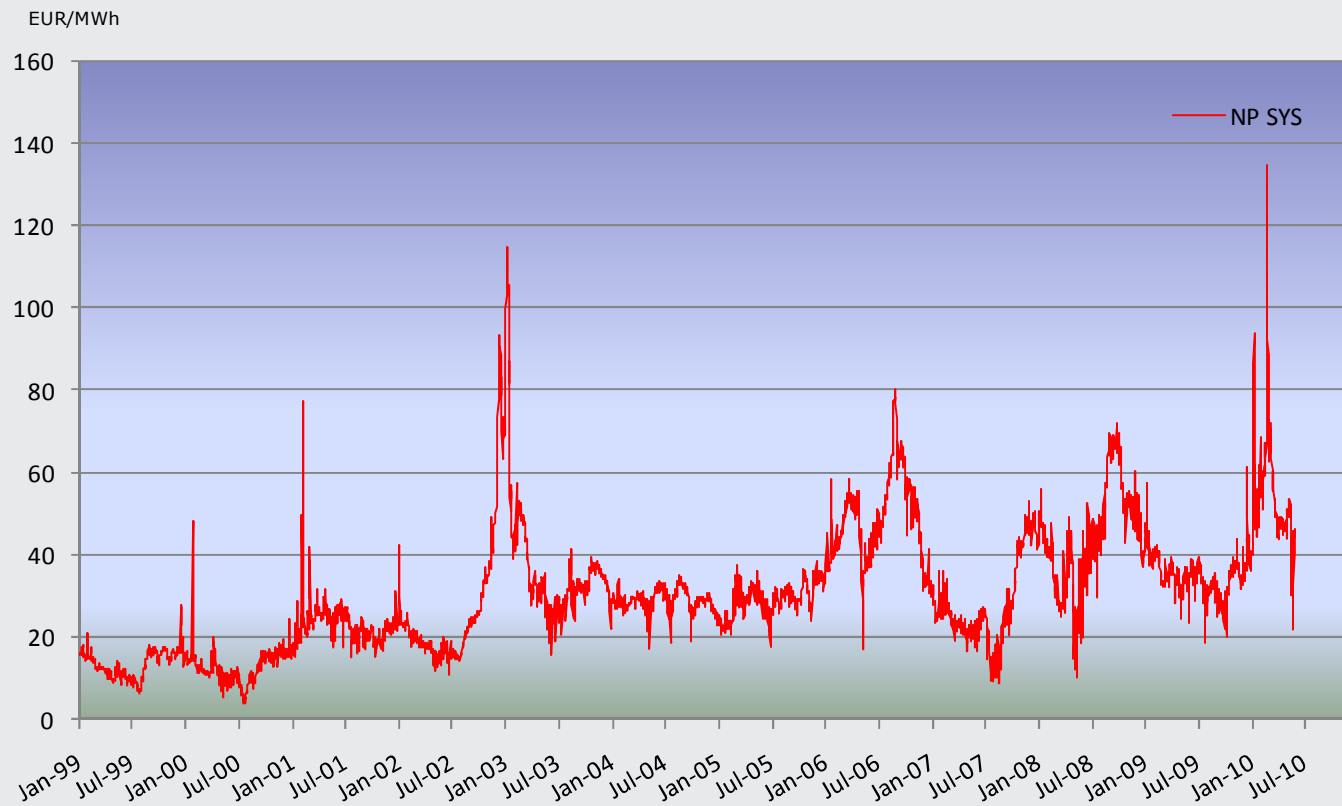


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NORD POOL SPOT AS



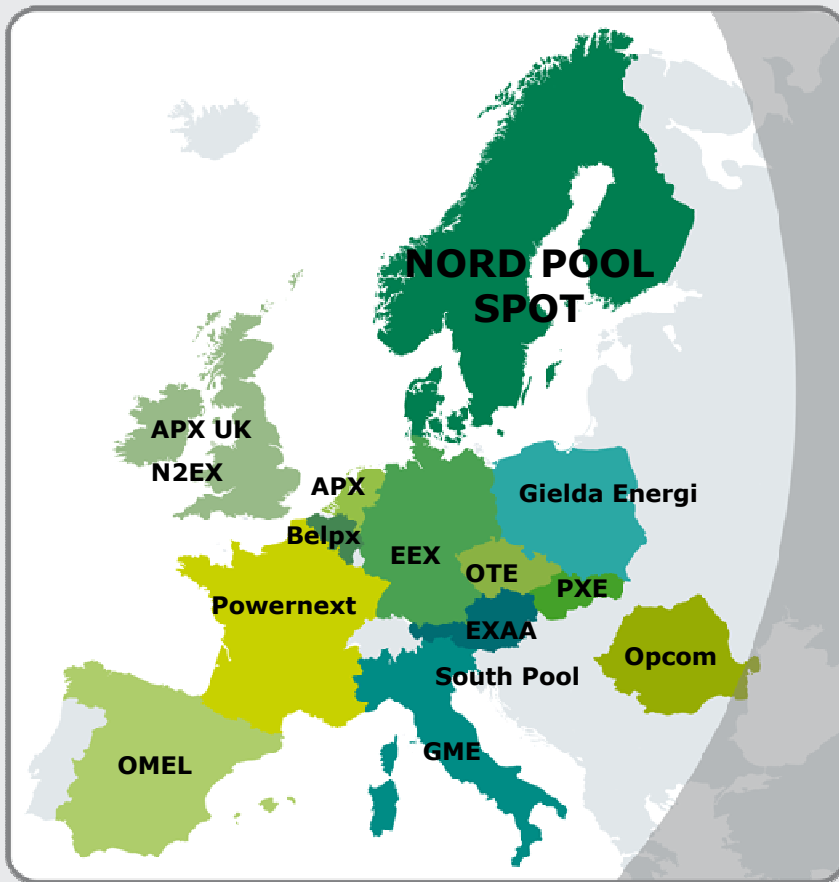
System price Daily average 1999 - 2010



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European exchanges for electrical energy Overview



	2007 TWh	2008 TWh	2009 TWh
Nord Pool Spot	291	298	287
EEX	123	146	-
APX	21	25	-
PowerNext	44	52	-
EPEX Spot	-	-	196