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
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.

- Statnett SF 30%
- Svenska Kraftnät 30%
- Fingrid Oyj 20%
- Energinet.dk 20%

Nord Pool Spot AS
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

**Time**
- 6 Years
- 24 Hours
- 0

**Financial market**

**Elspot-market**

**Elbas-market**

**Balance Services**

**Cash settled**

**Physical delivery**
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
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 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.
Nord Pool Spot
Elspot 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.
Price calculation
No bottlenecks

Six Elspot areas

System price calculation
Purchase \( Ps \)  Sell

Checking transmission limits

One price across the entire exchange area
Price calculation
With bottlenecks

Optimization of transmission capacities

Six Elspot areas

System price calculation

Different prices

Purchase Sell

Ps
Price determination

Theory

Production cost

Average price

Hydro (average)

CHP industry

Combined heat and power

Condensing, coal

Condensing, oil

Gas turbines

Nuclear

100 200 300 400 TWh

Annual Nordic consumption
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
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.
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

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<th>Category</th>
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<td>Clearing customers</td>
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Nord Pool Spot

Our customers Elbas

Customer overview

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From 1998 to 2009
Trust proven by successful volume development

Volume 2009
287 TWh
Prices at Nord Pool

- System price
- FM-weekly prices
- FM-monthly prices

EUR/MWh
System price
Daily average 1999 - 2010

[Graph showing daily average system price from 1999 to 2010 in EUR/MWh]
### European exchanges for electrical energy

#### Overview

<table>
<thead>
<tr>
<th>Exchange</th>
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