Neas Energy A/S

Balance Responsible Parties and electricity markets
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### Agenda

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Actors in the Danish electricity system

**TSO – Transmission System Operator**
In Denmark Energinet.dk. Also called system responsible

**Nord Pool** – The Nordic Energy exchange

**Balance Responsible Parties (wholesale trading)**
 Production, consumption and trade

**Grid companies (DSOs)**
 Responsible for the distribution grids and the meters at the consumers and producers. Monopolies.

**Trading companies (Electricity Suppliers)**
 Sell electricity nation wide

**Producers / generators**

**Consumers**
Communication in the electricity system

Communication between system responsible TSO (Energinet.dk), the consumers, the producers and the electricity stock market NordPool
The electricity system has to be in balance at all times

This can be achieved in different ways
Balance Responsible Parties

- **The TSO** (in Denmark Energinet.dk) is responsible for the physical system balance.

- **The Balance Responsible Parties** has the **economic and legal responsibilities** for its own balance between:
  
  - **Production** *sold* and actually *produced*
  
  - **Consumption** *bought* and actually *consumed*

- All trading in day ahead markets and intraday markets goes through the Balance Responsible Parties.
Integration in a very decentralized electricity system

Denmark part of the NordPool electricity markets – world’s largest market

Neas Energy also trades in the rest of Europe
The NordPool Spotmarket

Bidding in the spot market at NordPool

• Based on forecasts for production (supply) and consumption (demand) bids are places in the market
• Bids are price dependent – marginal price is essential

Bids for one hour at NordPool:
Electricity markets (DK1)

The day before operation day there is a perfect balance between production and consumption for every hour tomorrow.

In the day of operation there will be imbalances because of:
- Errors in wind forecasts
- Errors in consumption forecasts
- Errors in planning
- Unexpected down time at production plants
- Unexpected down time on interconnectors between countries

Energinet.dk maintains balance in the day of operation through different system services (ancillary)
- Now mostly by production
- In the future also by consumption ex. EV’s and heat
- pumps – that is Smart Grid
A week in the spot and regulating power markets in Denmark West (DK1)
Neas Energy is an independent energy asset management company that provides physical and financial management of energy for customers with assets operating on energy markets in Europe.

Based on more than 15 years of experience from liberalized energy markets Neas Energy today has activities in all major energy markets in Europe.

In 2014 a turnover of 1,490 mill. Euro - About 250 employees

Neas Energy’s customers includes:
- Power Plants & CHP Plants
- Renewables (Wind, PV and Hydro)
- Utilities & Supply companies

Neas Energy was established in 1998 in Aalborg, Denmark by four local public supply companies to purchase electricity in the newly liberalised energy market.

In 2011 legislative restrictions lead to a sale of Neas Energy to a group of private equity investors including the company management and in 2015 Denmark’s largest pension fund ATP and private equity firm Via Venture Partners was included into the group of shareholders.

Neas Energy’s headquarter is located in Aalborg, Denmark and it has offices in London, Hamburg and Stockholm.
Portfolio

1,660 MW
installed capacity
Combined Heat and power

5,028 MW
installed capacity
Renewables

2.091 TWh
Supply & large scale consumption

109,353 MWh
Natural gas trading turnover daily (avg.)
The complexity of the market increases.
That creates opportunities!

- Increasing production capacity of fluctuating generation
- Market coupling supports Europe wide trading
- The amount of products has increased dramatically (Day Ahead, Intraday, Hours, 1/4 Hours, Regulating power, OTC, Posttrade, Tolling contracts, Futures, Forwards, Options...)
- New regulations keep in exciting!

We enable Partners to keep the overview and make use of the opportunities
Creating value with 24/7 trading and according services and products

- 24 Hours 7 days a week 365 days of the year trading with Gas and Power
- > 30 Traders
- 8 Meteorologists

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Exchanges:

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- EXAA
- GME
- HTSO
- hupx
- ICE ENDEX
- MEFF
- NasdaqOMX Commodities Europe
We optimize the asset up to the last minute...

... and through the entire value chain of power trading and operation scheduling.
Flexibility – a valuable property of the asset

With the current spot price development alternative markets increase in importance
Operating on the intraday market

Trading is ongoing for each hour, starts the day before and closes 45 min before delivery

1. Sell when prices are high
2. Buy back later at lower prices
3. Profit potential
We take your flexibility to the market

- 24/7 access to all physical power markets
- 24/7 surveillance and operation management
- Integrated power price and heat demand forecasts
- Automated operation schedule management
- Future requirements e.g. REMIT Reporting

Forecast

Analyze

Optimize

24/7 Surveillance

Reporting

Customizing the product to the needs of the customer