

# Revision 2012 – New Renewable Direction for Japan

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Experience with Nordic and European  
Liberalized Power Market

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# Three questions

- ▶ Does it matter how you organize the power industry
- ▶ Is it possible to look at electricity as a commodity
- ▶ What do you want to achieve

# If you want to:

- ▶ Change your production mix
- ▶ Open up for more actors and investors in the power industry
- ▶ Open up for more competition in the whole sale market
- ▶ Better utilization of the transmission grid
- ▶ A more flexible power system

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- ▶ You should consider to change your way to organize your power industry

# Energy Policy

- ▶ Organization model for the electricity sector
  - A challenge for the politicians which will have direct impact on a modern society

# If you want to change how to organize the power industry

- ▶ Why should you do that
- ▶ What options do you have
- ▶ Who should primarily benefit from the changes
- ▶ How should you do it
- ▶ What could be the implications

# The changes which is implemented in the Nordic countries and Europe

- ▶ **From: a monopolized systems**
  - All power companies had monopoly in a geographical area to supply “their customers” with electricity
- ▶ **To: a Liberalized Power Market**
  - Open competition where possible
  - The grid operated as a monopoly

# The Goal

- ▶ Efficient utilization of the total power system
- ▶ Beneficial for the end customer

# Liberalized Power Market

- ▶ **Political decision**
- ▶ **Tool**



# The actors in the whole sale market

- ▶ Producers
  - In a well functioning market it should be at least 5 – 6 independent producers in one market area, in the Nordic system approximately 100 producers.
- ▶ Regional companies
  - Some production
  - Operating in the whole sale market and over the power exchange
  - Selling to industry, end consumers and customers in retail market
  - In most distribution areas it is many retail sale companies
- ▶ Traders,
  - purchase and selling in the whole sale market, but can also sell to retail/residential customer

# Distribution companies

- ▶ Responsible for connecting all customers in their geographical area to the grid (monopoly)
- ▶ Owns, operates and develop the distribution and regional grid
- ▶ Responsible (to some extent) for Security of Supply to their customers
- ▶ Regulated economy, the regulator set a revenue cap each year.

# Power exchanges

- ▶ Setting the price in whole sale market for each hour the next 24 hours (not mandatory)
- ▶ Operates in close cooperation with the TSO companies (the intra day and spot)
- ▶ Have to be independent from any marked actors
- ▶ Will be in competition with brokers who operates an OTC function
- ▶ Different kind of power exchanges
  - Intra day, physical
  - Day ahead, physical (spot)
  - Forward or future markets (weeks, months and years), derivative, financial

# Transmission System Operator

- ▶ Facilitate an efficient electricity market
- ▶ Own, operate and develop the high voltage transmission grid
- ▶ Responsible for system operation of the total system, which include Security of Supply
- ▶ ***Not*** an actor in the market
- ▶ Has to be neutral and independent from all market actors
- ▶ Regulated economy, revenue cap.

**An independent TSO is the backbone of  
a liberalized electricity market**

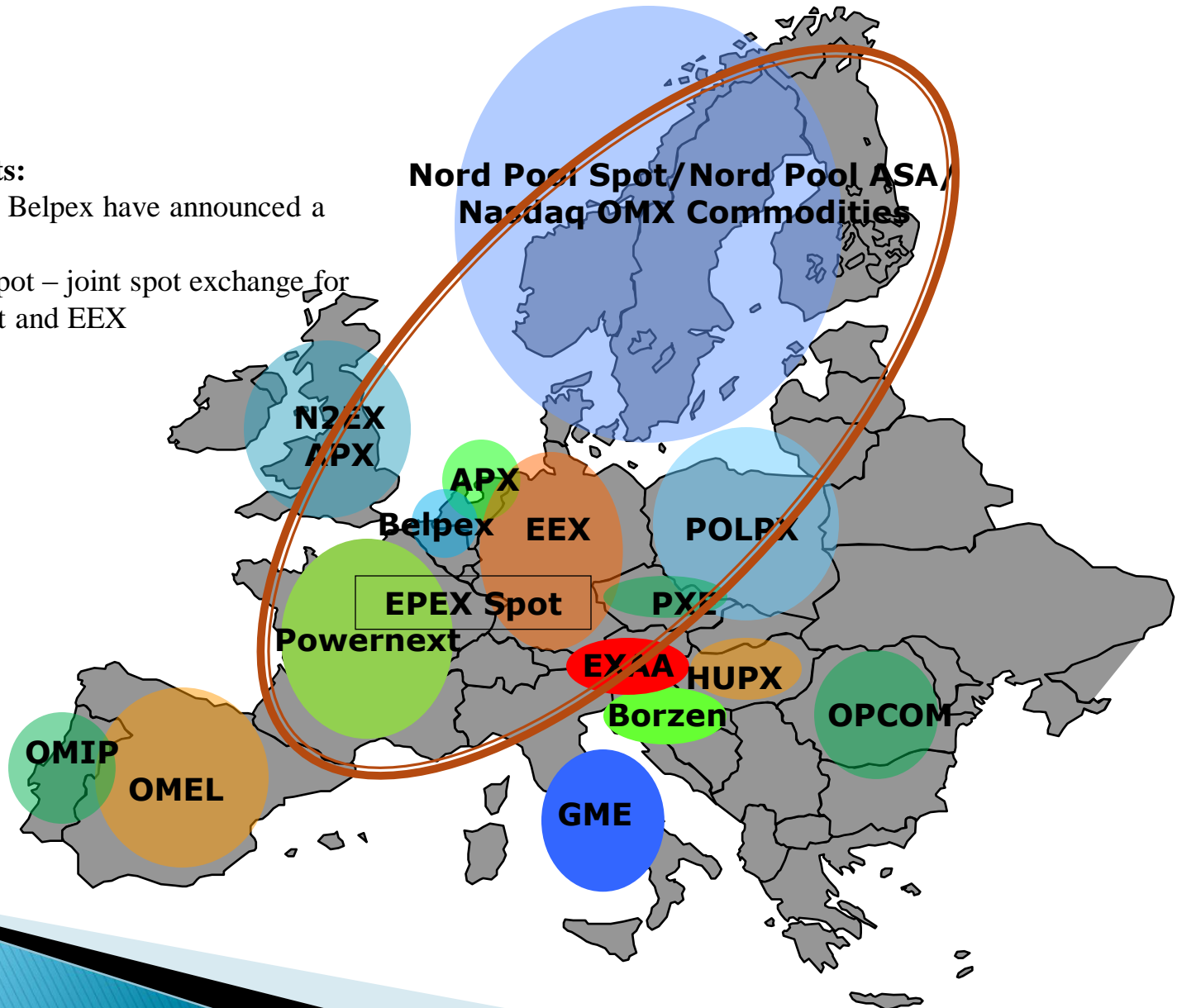
# Key success factors

- ▶ New legislation
- ▶ Independent and neutral TSO (at least in the long run)
- ▶ Regulator
- ▶ Many independent producers in the market area
- ▶ A power exchange with acceptable liquidity

# Power exchanges

## Comments:

- APX and Belpex have announced a merger
- EPEX Spot – joint spot exchange for Powernext and EEX



# An Efficient European Electricity Market

- ▶ Depends on:
  - European, not national, perspectives
  - Common codes and rules
  - Independent TSOs
  - Sufficient transmission capacity, incl interconnectors
  - Openness and transparency
  - Well functioning power exchanges
  - A sufficient number of market players
  - A European competition policy



**Thank you for your attention!**

