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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
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!