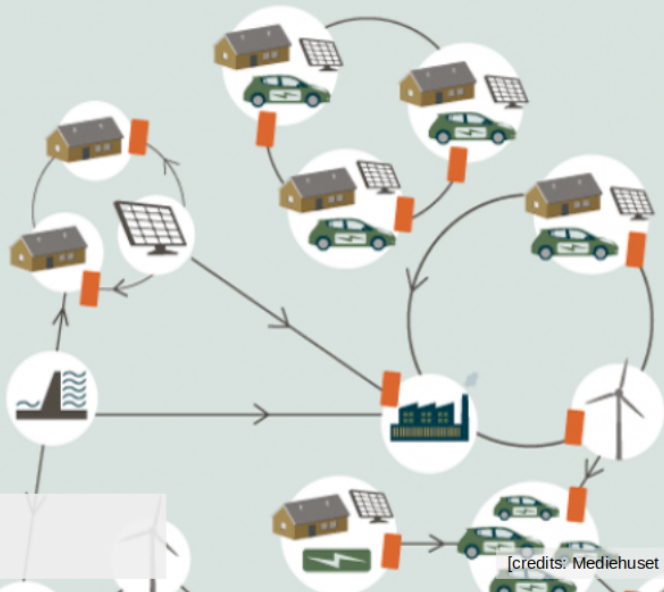
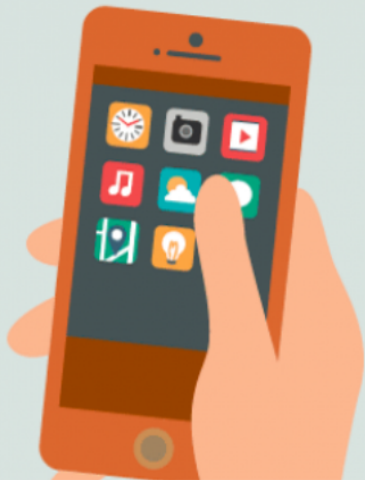


Module 1 – Fundamentals of Electricity Markets

1.1 Historical perspective



Pierre Pinson
Technical University of Denmark

[credits: Mediehuset Ingeniøren]

REGULATED

Prices are all determined by the regulatory/government bodies:

- energy prices
- transmission and distribution prices

Vertically integrated structure

Cannot choose supplier

DEREGULATED

Prices are determined by “invisible hand” of the market

Horizontal restructuring

Competition among a set of suppliers

[Chicago Boys (ca. 1957) - Photo by Ernesto Fontaine]

1980s



- First ideas for liberalization of the electricity sector
- Introduction of electricity market concepts in Chile (influence of the “Chicago Boys”)

1990



- UK (under the leadership of Margaret Thatcher) privatizes the electricity supply industry
- ... to be followed by other Commonwealth member countries e.g. New Zealand and Australia

1991

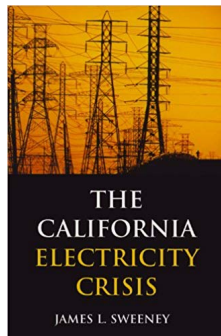


- Beginning of deregulation in Scandinavia...
- ... to be further detailed since zooming on Scandinavia in a few slides

1996



2000-2001

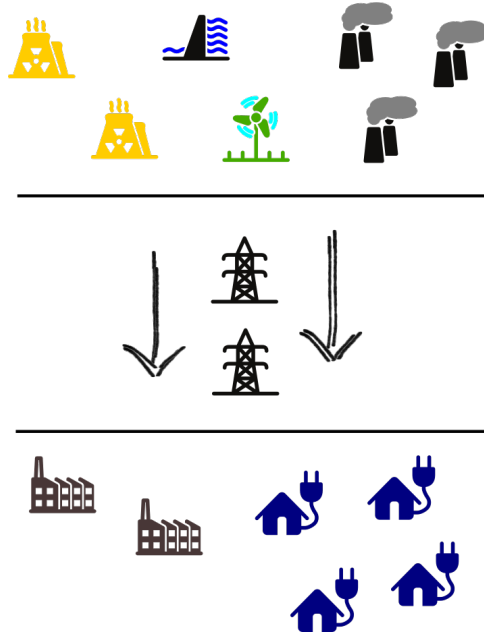


- Deregulation in California...
- California electricity crisis!
In short: shortage of electricity supply, rise in prices, multiple black-outs, state of emergency, bankruptcies, investigation of Enron's role

1991	Deregulation of the Norwegian electricity market
1996	Norwegian-Swedish exchange called Nord Pool
1998	Inclusion of Finland
1998	Western Denmark joins the nordic power exchange area
2000	Eastern Denmark's turn to join
2002	Nord Pool Spot established as a new and separate entity
2008	Nord Pool aquired by NASDAQ
2009	Market coupling between Scandinavia and Germany
2009	Negative prices accepted
2013	All Baltic countries have joined Nord Pool (Estonia-2010, Lithuania-2012, Latvia-2013)

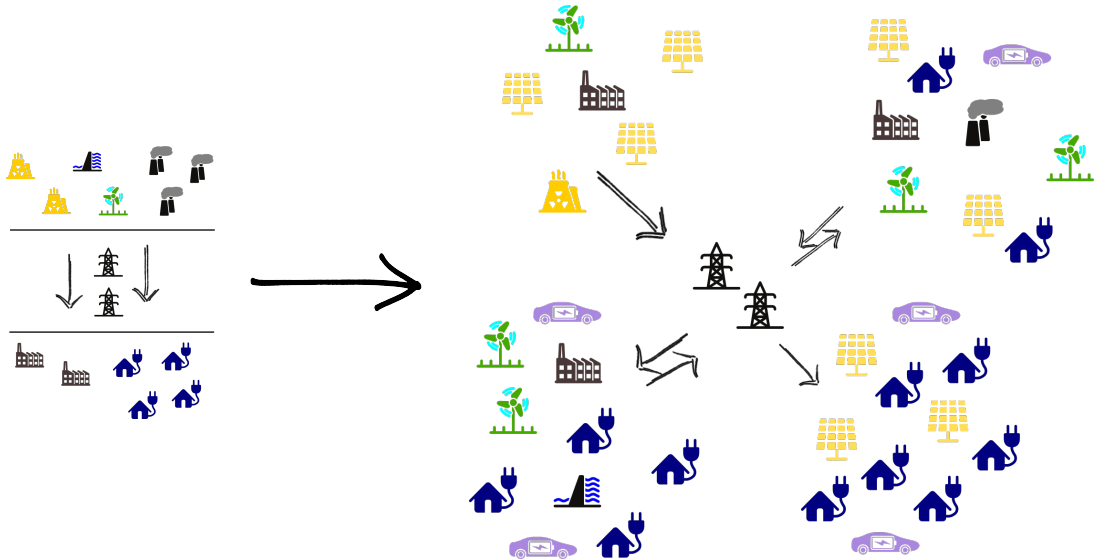
[More on the history of Nord Pool on NASDAQ's website: [NASDAQ OMX - Our history](#)]

Today, from a supplier-centric model...



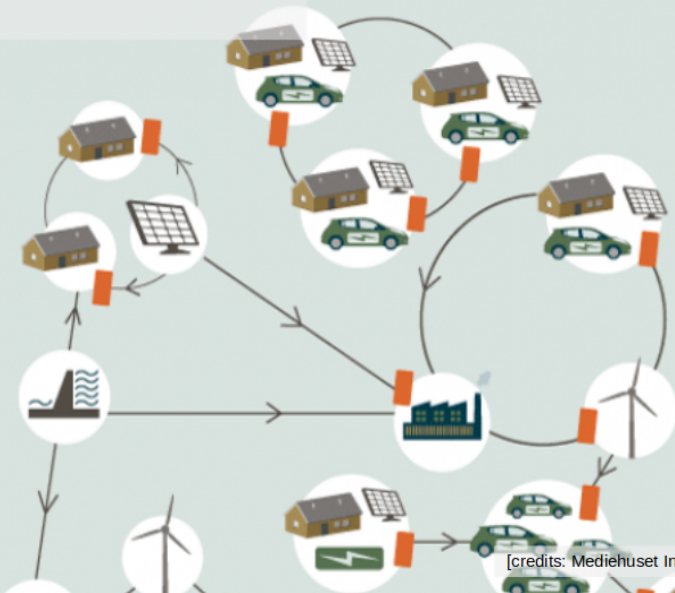
Actors of the electric power network are traditionally organized in a *hierarchical* and *supplier-centric* manner

... to a more decentralized and consumer-centric model



Electricity markets are substantially evolving to adapt to this new reality

Use the self-assessment quizz to check your understanding!



[credits: Mediehuset Ingeniøren]