

# Our Energy Future



## Demand Side Management – Demand / Response

# Our Energy Future

- The Low Carbon Society
- Empowering Consumers by choice of energy form and price
- Consumer values per energy form turned into price premiums then transferring these price premiums to upstream
- Demand Side Management
- Balancing Demand/Response with Multiple Energy Forms at Household Site

# XTN Group, Oslo

- Founder & CEO Bjorn Bekkevold
- Matured in Exxon
- 1 of 5 that founded the Oil & Gas Division in Norsk Hydro which is now part of Statoil
- [www.xtngroup.com](http://www.xtngroup.com)

# Market, today

- Each energy form has its own market
- Upstream producers supply energy to utilities for electricity production
- Balancing Demand / Response is restricted within each energy form

# Market, tomorrow

- New energy streams in the world due to:
  - Shale gas - fraction of shale
  - Renewables – wind and sun
  - Green certificates - renewables
  - Carbon quotas - price
  - Closing of atomic plants – loss of balancing power
  - Ocean cables transporting electricity –too little capacity
  - Environmental issues – save the globe
- Imbalance - negative prices, huge economic losses for utilities
- Energiewende - how to balance volume/price for renewables vs. regulars
- Digitalization of the energy industry

# Energiewende (D) - The challenge

## Pricing system - imbalance

- Fixed price for renewables independent of lower market price. Consumers finance the gap as a duty
  - The lower the market price for electricity is due to low price on brown coal, the more the consumers will have to pay in duty
- Stormy days with lots of renewable and surplus electricity give higher cost for consumers not lower cost
- Negative prices to balance Demand / Response
- Consumers subsidize electricity being exported on stormy days

# Energiewende (D) - The challenge (cont)

## Complaints

- Consumers complain about high prices
- Coal producers complain about low prices
- Gas producers complain about being squeezed out.

# Energiewende (D) - The challenge (cont)

## Secure energy

- Goal 80 % from renewables within 2050
- Capacity market - fear of not having electricity on cold, dark days with no wind and sun
- Gas production plants in moth ball
  - outcompeted by subsidized renewables on one side and cheap coal on the other side.
- Dependency on other energy sources.
- Political closure of atomic plants



# Energiewende (D) - The challenge (cont)

Not sustainable

- Release the forces now developing in the market
- Hence, there is an enormous need for a system that is:
  - Secure
  - Competitive
  - Environmentally sound

**all at the same time**

# Energiewende (D) - The challenge (cont)

## Political

- Remake the complex price system - keep the ambitious investment in clean energy.
- No political solution to energy surplus and price
- **A market challenge**

# Regulators

- EU commision decided 5. november 2013 that the challenges now arising in the market shall be solved by

**“Demand Side Management”**

- EU Commision proposed January 2014 to the EU parliament that the challenges arising from the Energiewende shall be solved by

**“The market”**

# Which strategy do you choose?

- Kodak strategy – not facing the realities
- Face the realities – Innovate outside the “accepted frame”
  - This the americans are exceptionally good at (Apple, Microsoft)
- **This is THE CHALLENGE**

# Business Idea

- XTN Group is an energy company that with selected energy companies as co-owners, will release the forces building up in the market, transferring the industry into a new paradigm and as such become the market leader

# The Solution – (functional)

## ”Energy a la Carte at Household Site”

- Virtual chain store that exploits:
  - consumer’s personal values
    - (environmental concern, climate change, pollution, price etc.)
  - when buying preferred energy form
    - (wind, solar, water, gas, coal, regional heating)
- Automatic switching between energy forms after consumer set his personal parameters
- Energy companies as co-owners and suppliers of different forms of energy.
- Co-owners profit by moving this “price premium” from downstream to upstream (in addition to good corporate profit)
- Complys with EUs 4 “shrines”: free flow of Labor, Capital, Goods and Services

## The Solution – (system)

### ”Energy a la Carte at Household Site”

- Middle ware – a datahub – which can turn consumption units in households on/off
- Top Ware – an automatic smart grid – which turns consumption units on/off automatic in accordance with chosen parameters decided by consumers based on offered prices per energy form by XTN Group
- Apps distributed to consumers by SMS

# The Solution – (technology)

## ”Energy a la Carte at Household Site”

- Machine-to-Machine (M2M) communications
- Open standards, implementing separate Application Programming Interfaces (API) for different parties.
- Scalable
- All communications are encrypted using standard SSL encryption



# Competition

- Accenture: "The first company to "bundle" products and services at a single point of contact to consumers will surface 2020-2030"
- Currently hot in US marketing
- XTN Group is here today with a lead of 5-8 years after 7 years of development and USD 20 mil. in investment

# The Result

## **The Low Carbon Society**

# Patent application

- Patent Application is registered with the European Patent Office