

# THE IMPACT ON THE UTILITY OF THE SMART COMMUNITIES DEVELOPMENTS



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EUW Vienna 3.-5.11.2015

# What is a Smart Community?

## Empowered Consumers

- that can choose their own energy form and
- that can manage their own appliances at any one time which is commensurate with their personal
- head (price) and
- heart (values)

# EMPOWERED CONSUMERS AUTOMATIC PURCHASING MACHINE



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# Automatic Purchasing Machine at Household Site - XTN

- Ability to choose energy form from an energy mix which fits consumer's individual values and price
- Retailers and Producers as co-owners in XTN
- Price premiums from consumer values are transferred to XTNs producing co-owners providing an extra margin

# Energy mix & Structural change

- Energy mix: Electricity – Gas – Distant heating
- Mini revolution:
  - Decoupling infrastructure from the energy content
  - Decoupling gas prices from the oil link
- Gas - separate commodity – separate infrastructure – balancing - battery in the grid at household site
- Pipe gas - LNG – Hydrogen fuel cell at Household Site
- LNG - moveable source on the world market - highly competitive
- Hydrogen fuel cell: 2016
- Hot Water at Household Site
- Vertical integration from consumer to producer

# EU - REGULATION

- Demand Side Management systems as decided by the EU Commission 5. november 2013
- Unbundling Distribution from Production as decided by the EU Commissions 3. energy package
- Market Solution as decided by the EU Commissions recommendation of 22. january 2014 to the European Parliament.

# What's in it for the consumers/society

## The Renewable low cost/low carbon society



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**What's in it for the producers  
being co-owners**

**Transferring the  
Renewable price premium  
to  
energy producing co-owners**





## **What's in it for the retailers being co-owners**

**More sales by increased  
competitive strength by  
meeting consumer values**



## **What's in it for the share holders in XTN**

**Producers, Retailers and Investors being share holders enjoying X% of throughput of increased sales and price**

# Game changer

- Consumers can balance Demand Response with multiple energy forms managed by xtn-given prices per energy form versus consumer values

# When ? –

## **XTN Demo project with Retailers and Producers in Germany 1H2016**

### **XTN - System**

- Apps
- Top ware
- Middle ware – a **datahub**

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# Drivers for Change

## - New energy streams in the world

- Renewables having priority in the grid when being produced
- Electricity supply/demand and pricing challenges
- Shale gas - abundant supply – first the US later in Europe – US self sufficient of energy – export position (LNG) - lowering gas prices in Europe.
- "Locked in electricity" in the Nordic region – electricity surplus position with falling prices due to green certificates that stimulates new renewables on top of existing renewables - not enough cables for exporting to the European continent
- Consumers angry due to high prices caused by duties - not having a choice of energy form.
- Proposed Capacity Markets: Sharply increase of consumer prices - backfire on inabel governments. Governments that do not see this will face problems in the next election.
- Consumer concern with climate change - environmental changes and global warming and the inability of governments to do something about it