Country case: FINLAND

- The coldest country in EU
- Dr. Arto Nuorkivi

Capacity Building for Sustainable Energy Regulation in Eastern Europe and Central Asia

Energy cooperation between the EU, the littoral states of the Black & Caspian Seas and their neighbouring countries
A) DH Statistics
Finland / 2009
DH in Finland in 2009

- Heat sales (incl. taxes): 1,82 mrd €
- Sold heat energy: 32.4 TWh
- Average price of DH (incl. taxes): 5,62 c/kWh
- Inhabitants in apartments served by DH: 2,62 mill.
- Market share of DH: 47 %
DH production in 2009
34.6 TWh

- CHP heat: 71.4%
- Separate heat: 28.6%
Energy savings due to CHP

Fuel consumption without CHP

Savings due to CHP

Actual fuel consumption

TWh/a

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Market share of space heating in 2008

- District heat: 47.4%
- Electricity: 15.1%
- Wood: 13.5%
- Light fuel oil: 11.8%
- Heat pumps: 9.3%
- Heavy fuel oil: 1.5%
- Others: 1.4%
DH sales and connected heat load of the customers

Heat consumption TWh/a

Connected heat load GW

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Outdoor temperature normalized DH sales

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Breakdown of customers per contracted water flow (m³/h)


- 0.30
- 0.31 - 0.79
0.80 - 3.60
3.61 - 6.39
6.40 -

% in 1990
% in 1995
% in 2000
% in 2003
% in 2006
% in 2009

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Fuels for DH and CHP
57.6 TWh in Finland in 2009

- Natural gas: 34.1%
- Coal: 24.2%
- Wood: 13.5%
- Peat: 16.4%
- Other biofuels: 3.8%
- Oils: 5.2%
- Others: 2.7%
Renewable energy sources in production of DH and CHP

TWh

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Specific heat consumption in DH buildings incl. energy for heating DWW

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Real price of DH
Corrected with cost-of-living index, 1.1.1981 = 100

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ENERGY COOPERATION BETWEEN THE EU, THE LITTORAL STATES OF THE BLACK & CASPIAN SEAS AND THEIR NEIGHBOURING COUNTRIES
Prices of DH
Average, minimum and maximum values incl. VAT

€/MWh


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Breakdown of DH companies per average heat sales price in 2009 (incl. VAT)

- **Weighted average price**: 56.2 €/MWh
- **Arithmetical average price**: 60.2 €/MWh
B) DH Sector Operation
DH companies

- Around 150 independent DH companies,
  - Each has its own strategy, tariffs, contracts, prices, customers, etc.
- Typically owned by municipalities, 95% of companies, 87% of sales
  - Not because of legal provisions, but for natural reasons
  - 5-10 years ago forecast major shift towards privatization didn’t materialize
- Around 40 DH companies generate electricity (CHP) as well
- One third of DH is produced by another company than the one, which distributes it
- The branch has a strong tradition of voluntary cooperation between companies in Finnish Energy Industries (FEI) association.
Finnish Energy Industries - FEI

- Voluntary co-operation among DH and CHP companies;

- Most of DH and CHP companies are members of *Finnish Energy Industries* (the successor of District Heating Association in Finland)

- **Task 1:** Free exchange of experience, keeping statistics, issuing recommendations on technology and tariffs, operation and maintenance practices, etc.

- **Task 2:** Lobbying to authorities regarding reasonable policies, laws and regulations in which the DH sector has interest in, both on national and EU level.
DH tariff components (2009)

- **Connection charge**
  - Customer pays a connection charge when connected to DH network
  - Depends on the size of the customer and also on the heating market competition situation
  - Average: 340 €/kW (type I: single family house, 500 m³)
    75 €/kW (type V: big block of flats, 25 000 m³)

- **Fixed charge**
  - Depends on the size of the customer
  - Average: 36 €/kW, a (incl. VAT 22 % type I)
    20 €/kW, a (incl. VAT 22 %, type V)

- **Energy charge**
  - Average 44 €/MWh (incl. VAT 22 %)
Official supervision of DH

- No specific legislation for district heating;
- Traditionally market-oriented approach, competition between different heating forms;
- District heating companies are supervised by general legislation like competition and consumer protection legislation, and related authorities;
  - Exception: Act on Energy Services of Energy Companies (electricity, DH, fuels), supervised by Energy Market Authority
- The Finnish Competition Authority interprets the legislation to state that DH companies are considered to be in the so-called dominant market position towards their customers;
  - Competition legislation prohibits the abuse of the dominant market position.
Requirements for a DH company being in dominant market position

- Price level of DH must not be excessive;
- Price setting has to be sufficiently cost related and transparent;
- It’s not allowed to catch customers with a too favorable (dumping) product;
- Same kind of customers must be treated in a same way;
- If different products (heat, steam, electricity etc.) are delivered to the same customer, the product prices shall not be artificially bound to each other; and,
- Extra services, which are under competition, must be priced according their real costs.
DH in Finland
Relations Between Actors

District Heating
Customer

District Heating
Company

Consumer Agency and
Consumer Ombudsman

Finnish Competition
Authority

Energy Market
Authority

Finnish Energy
Industries

contract
tariff

complaints

recommendations

legal
actions

consultations

consultations
How the DH companies have acted in the *dominant* market position?

- Price setting is transparent, same kind of customers have the same prices;
- DH connection and sales terms of DH companies are mainly in accordance with the recommendation publication of the Finnish Energy Industries;
- Average interruption time of DH delivery is only 1 hour per year per customer;
- According the customer surveys DH customers are quite satisfied; and,
- Finnish Competition Authority and Consumer Protection Authority receive only 2-3 complaints a year.
Study on official supervision of DH (1)


Steering group:

- Ministry of Trade and Industry
- Energy Market Authority
- Finnish Competition Authority
- Finnish Energy Industries

Targets of the study:

- Evaluation of the competitive position of a heating customer connected to a DH network (main target);
- Evaluation of existing supervision of DH and possible amendments to supervision;
- Evaluation of the possibilities of cross-subsidization between DH and electricity and measures to avoid cross-subsidization; and,
- Evaluation to increase competition by opening the DH networks for competition (capital area).
Study on official supervision of DH (2)

Conclusions:

- No need for DH specific legislation;
- No need for changing the current official supervision and roles of different authorities;
- No cost-effective basis for opening the DH networks;
- No problems with the price level of DH, the stability of DH prices has been very good, security of supply is 99,98%;
- However, the transparency of DH activities should be increased
  - In energy companies DH activity should be numerically differentiated from other business, separate balance sheets and profit and loss accounts should be published
  - Public comparisons of DH prices, even more transparency of price setting.

⇒ Prices and tariff systems in the FEI website
⇒ Reilu kaukolämpö (Fair DH) – quality certificate system
⇒ Ministry of Trade and Industry: “No need for action!”
More information in **English**:

**Consumer Agency and Ombudsman:**

[www.kuluttajavirasto.fi](http://www.kuluttajavirasto.fi)

**Finnish Competition Authority:**

[www.kilpailuvirasto.fi](http://www.kilpailuvirasto.fi)

**Energy Market Authority:**

[www.energiamarkkinavirasto.fi](http://www.energiamarkkinavirasto.fi)

**Finnish Energy Industries:**

[www.energia.fi](http://www.energia.fi)
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Thank you for your attention!