Heat market model in Finland

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District heating companies in Finland

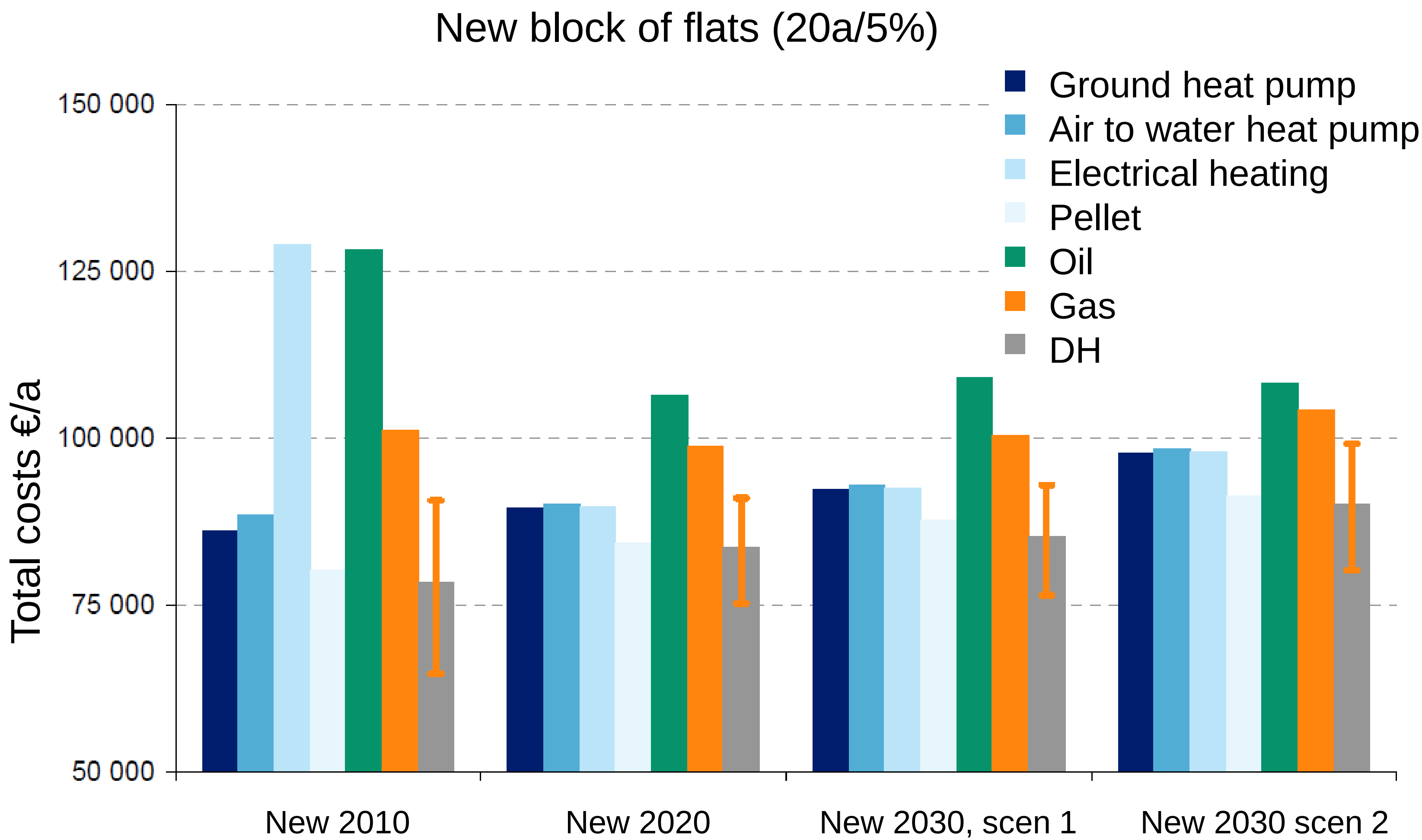
- The DH companies are operated on a business basis
  - Profitable for their owners
- Typically owned by municipalities,
  - 97 % of companies, 86 % of sales
- Around 150 independent district heating companies
  - Size of companies varies from under 5 GWh to over 7000 GWh of sold district heat
- Around 40 district heating companies produce also electricity (CHP)

Free heating markets

- Competition between different heating forms in heating markets
  - Not between DH companies
  - Customers have a freedom of choice

- Level playing field should be the target

Competition is real



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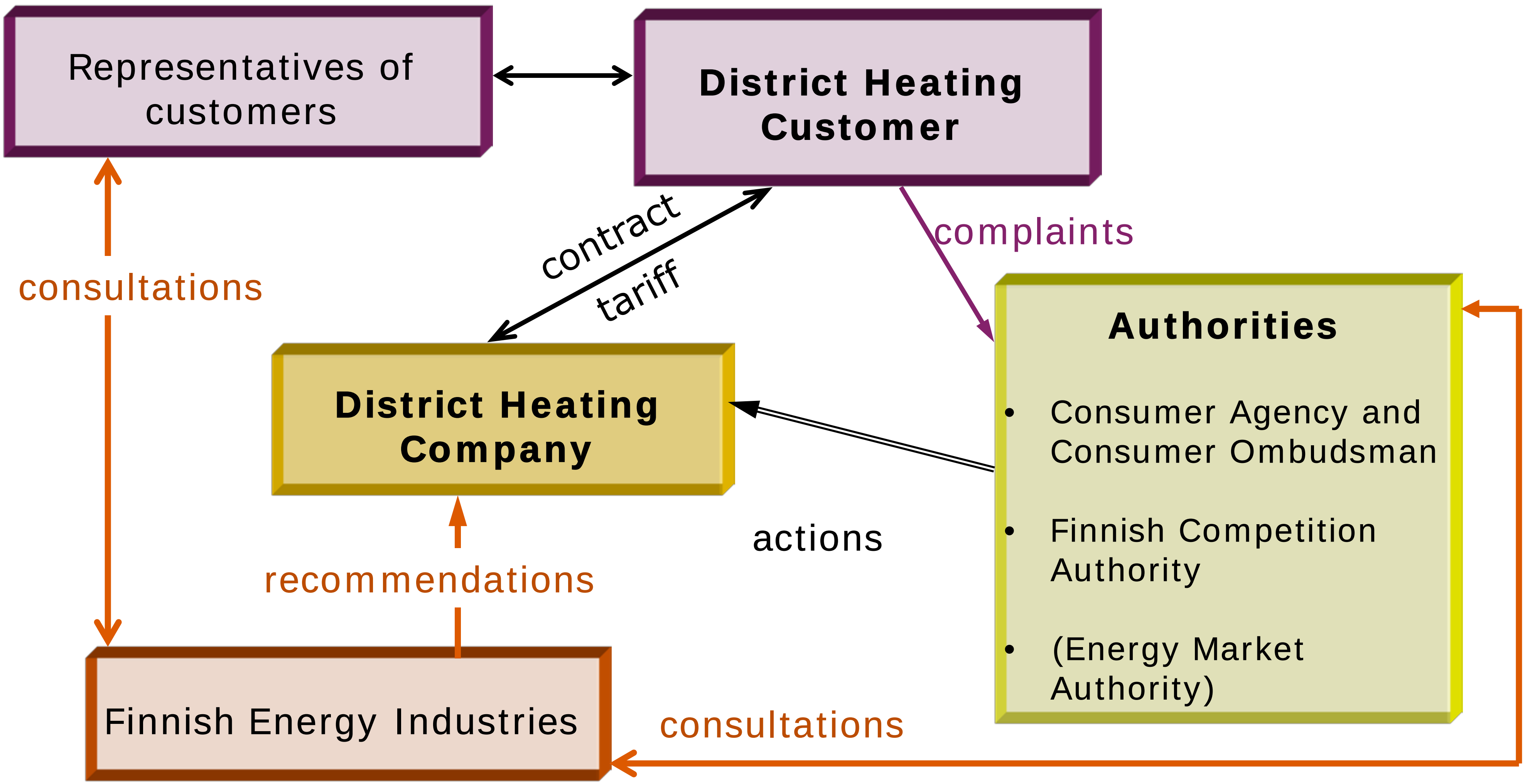
Free heating markets

- No obligations to connect customers to DH network
- “Third party access” on a business basis – no legal provisions
  - One third of district heat is produced by another company than the one, which distributes it
  - Must be profitable for both sides

No specific regulation for district heating

- District heating companies are mainly supervised by general legislation like competition and consumer protection legislation, and related authorities
- The Finnish Competition Authority considers that DH companies are in so-called dominant market position towards their customers
  - Competition legislation prohibits the misuse of the dominant market position

District heating in Finland
Relations Between Different Actors



Prices of district heat in Finland

- Each company decides its tariffs and prices itself
- Competition is central factor
- No price regulation but some requirements because of the dominant market position:
  - Price level of DH may not be excessive
  - It's not allowed to catch customers with a too favourable (dumping) product

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Prices of district heat in Finland

– Same kind of customers must be treated in a same way

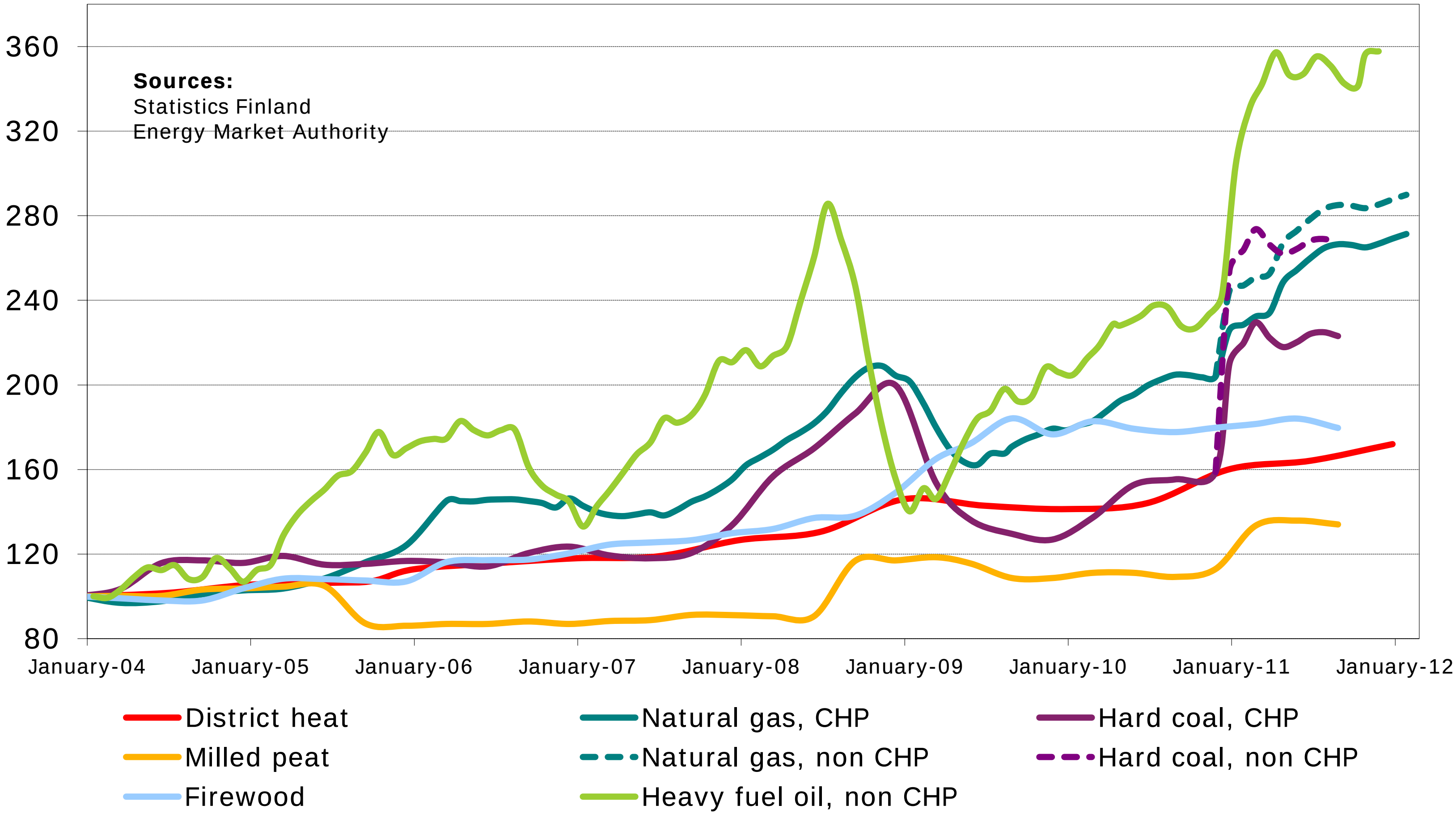
– If different products (heat, steam, electricity etc.) are delivered to the same customer, the product prices may not be artificially bound to each other

– Extra services, which are under competition, must be priced according their costs

– Price setting has to be sufficiently cost related and transparent

→ **Finnish companies obey the rules and the requirements**

Prices of district heat and fuels in heat production
index, January 2004 = 100



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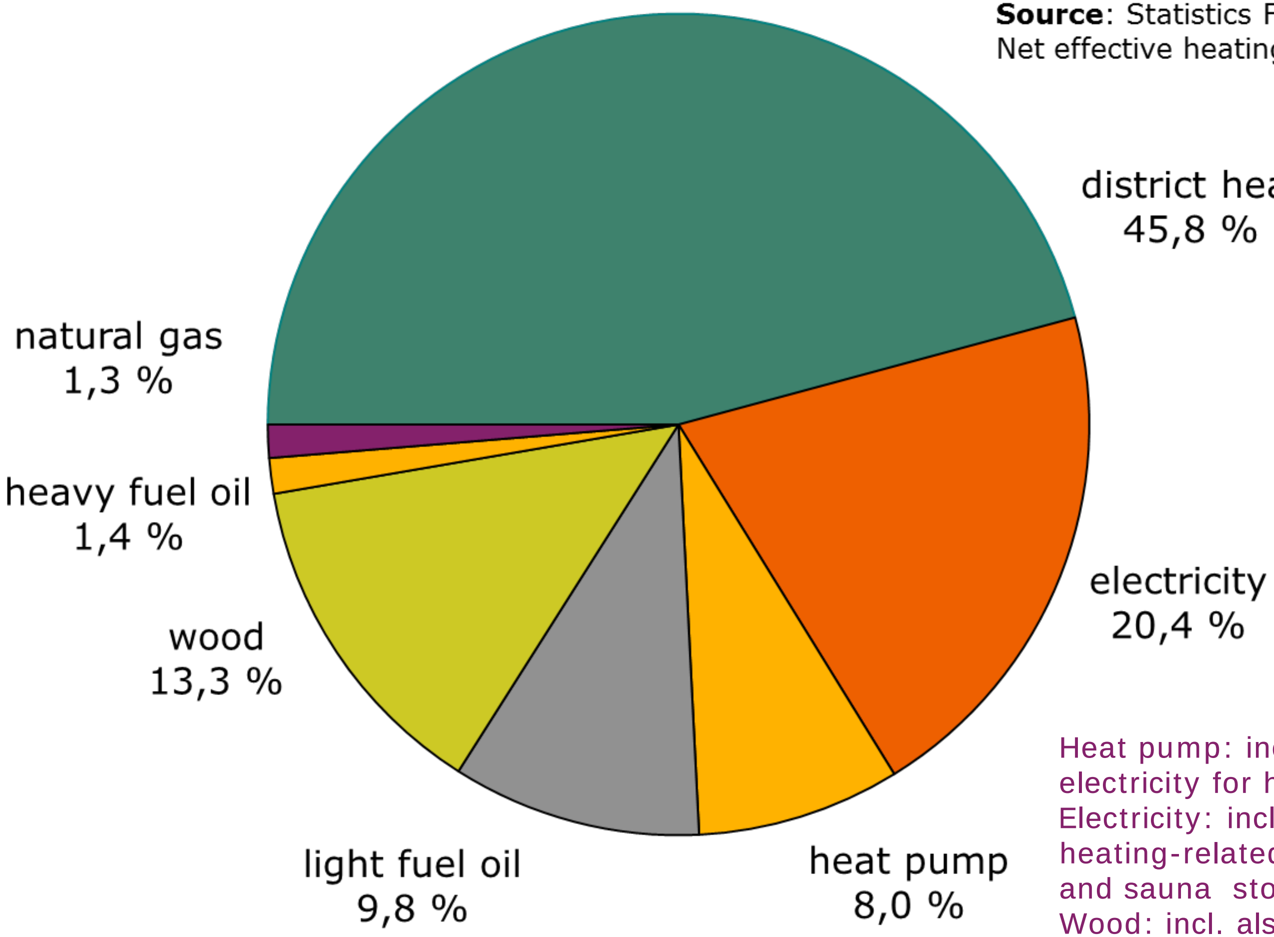
CHP = combined heat and power production

Outcomes of the free competition – **Natural incentive to be efficient**

- Lowest district heating prices in western Europe and lowest in the EU compared to purchasing power
- Most reliable DH system – service security of 99.98 %
- Average network heat loses 8 % - lowest in Europe
- Highest total efficiency of CHP-plants (83 %)
- Based on the customer satisfaction surveys DH customers are satisfied

Market share of space heating
Residential, commercial and public buildings

Source: Statistics Finland
Net effective heating energy, 2010



Heat pump: incl. also electricity for heat pumps.
Electricity: incl. also electricity for heating-related devices (pumps etc.) and sauna stoves.
Wood: incl. also wood for sauna stoves.

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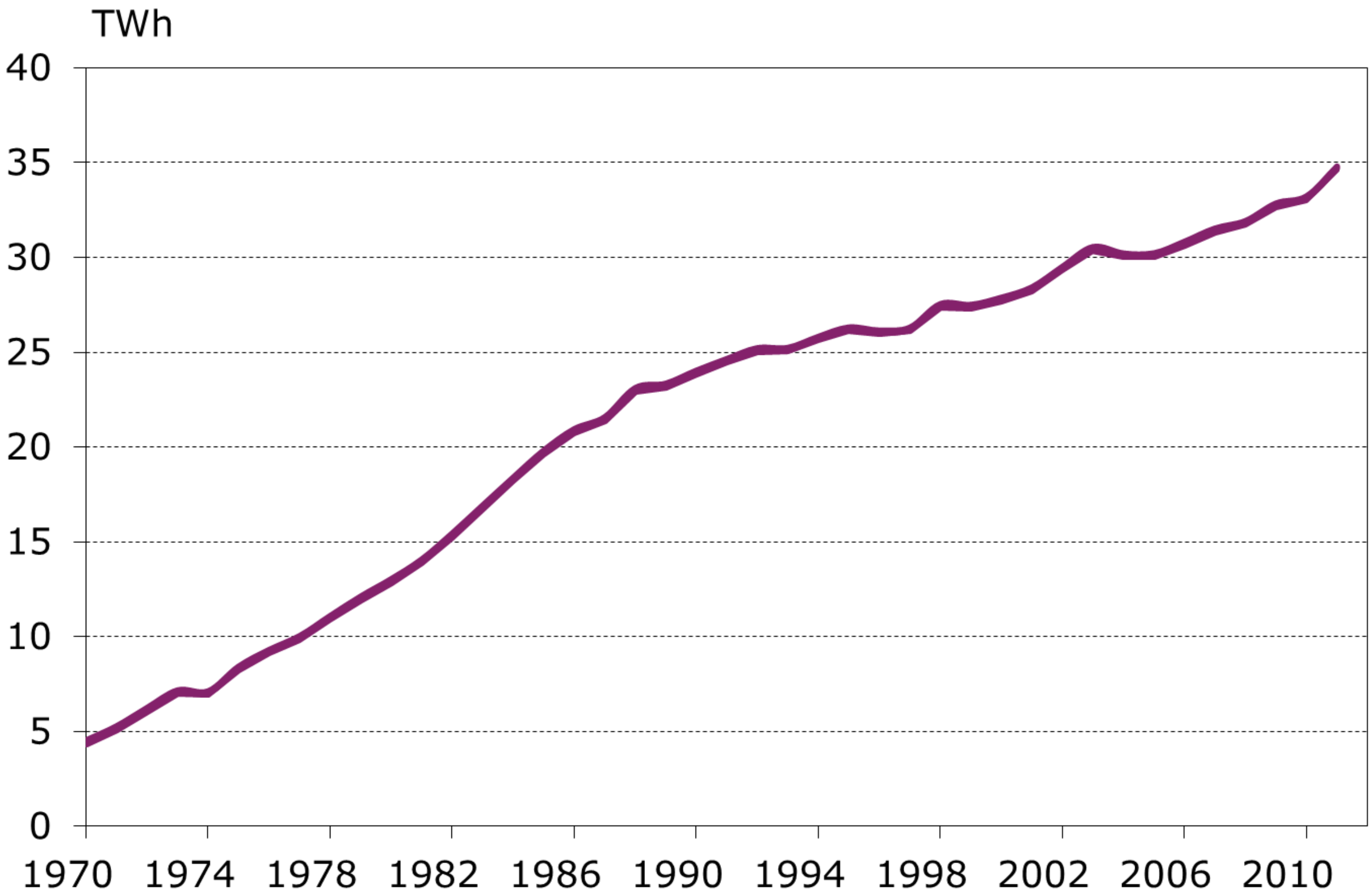
Temperature corrected district heat consumption, TWh



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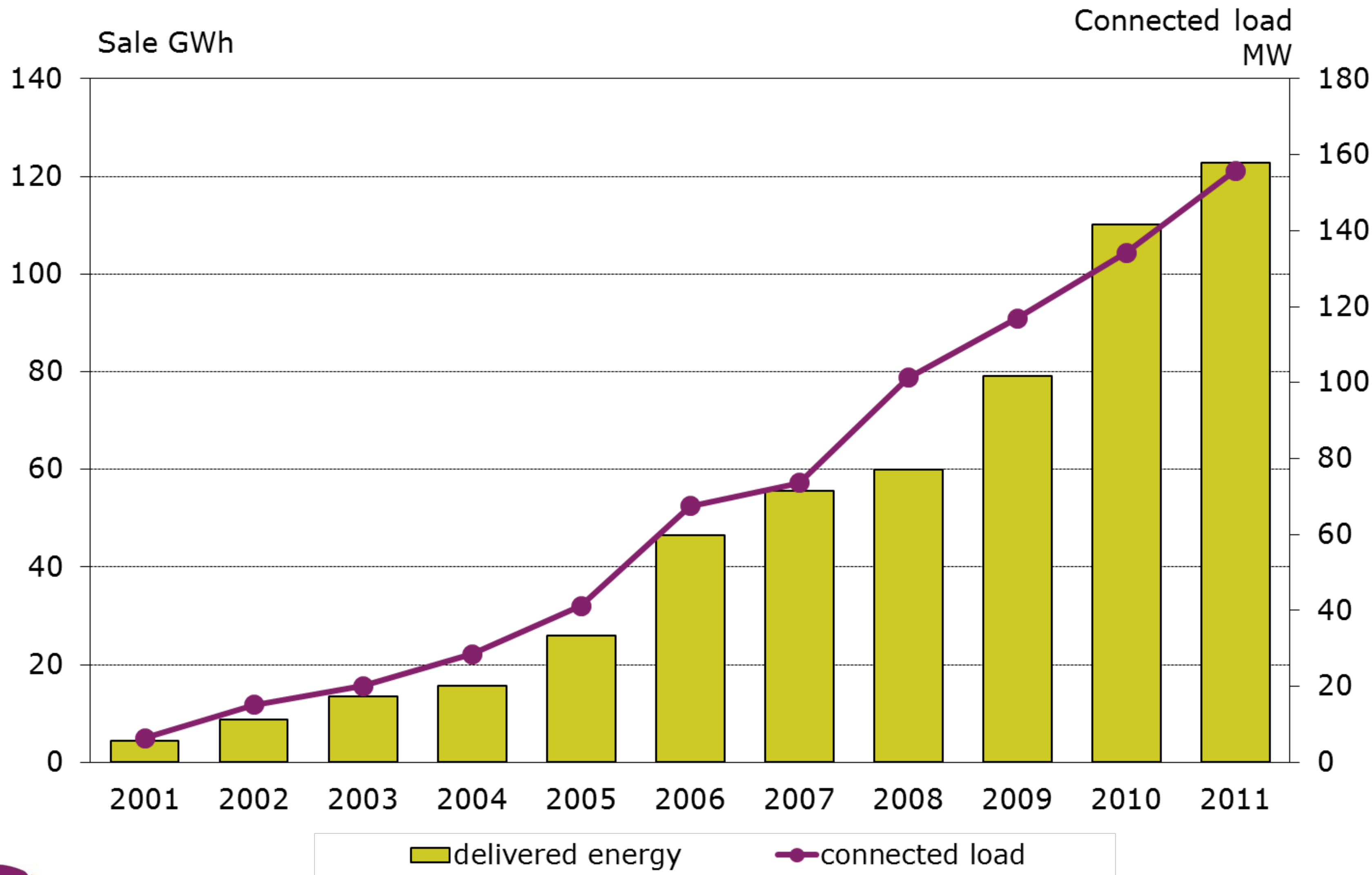
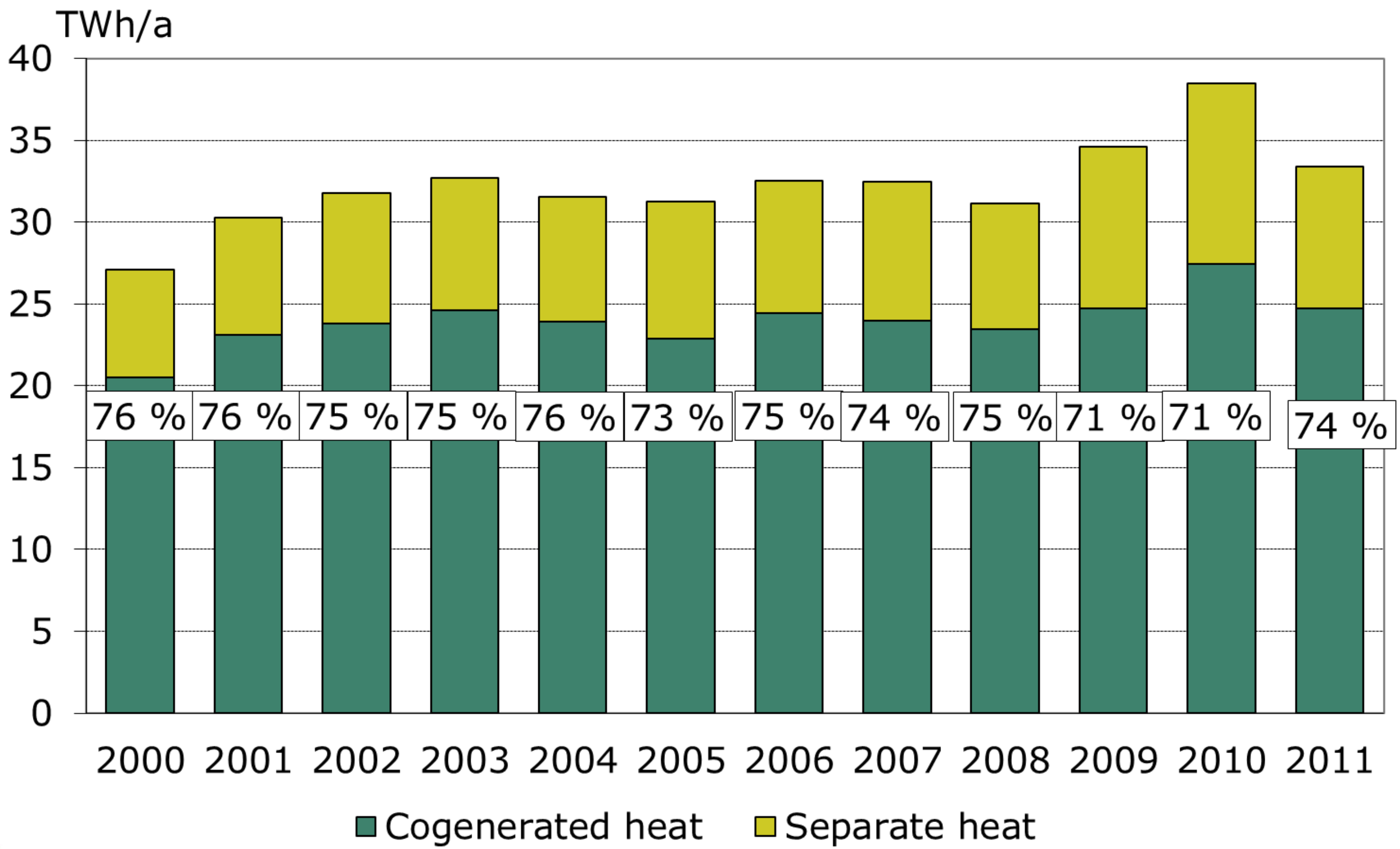
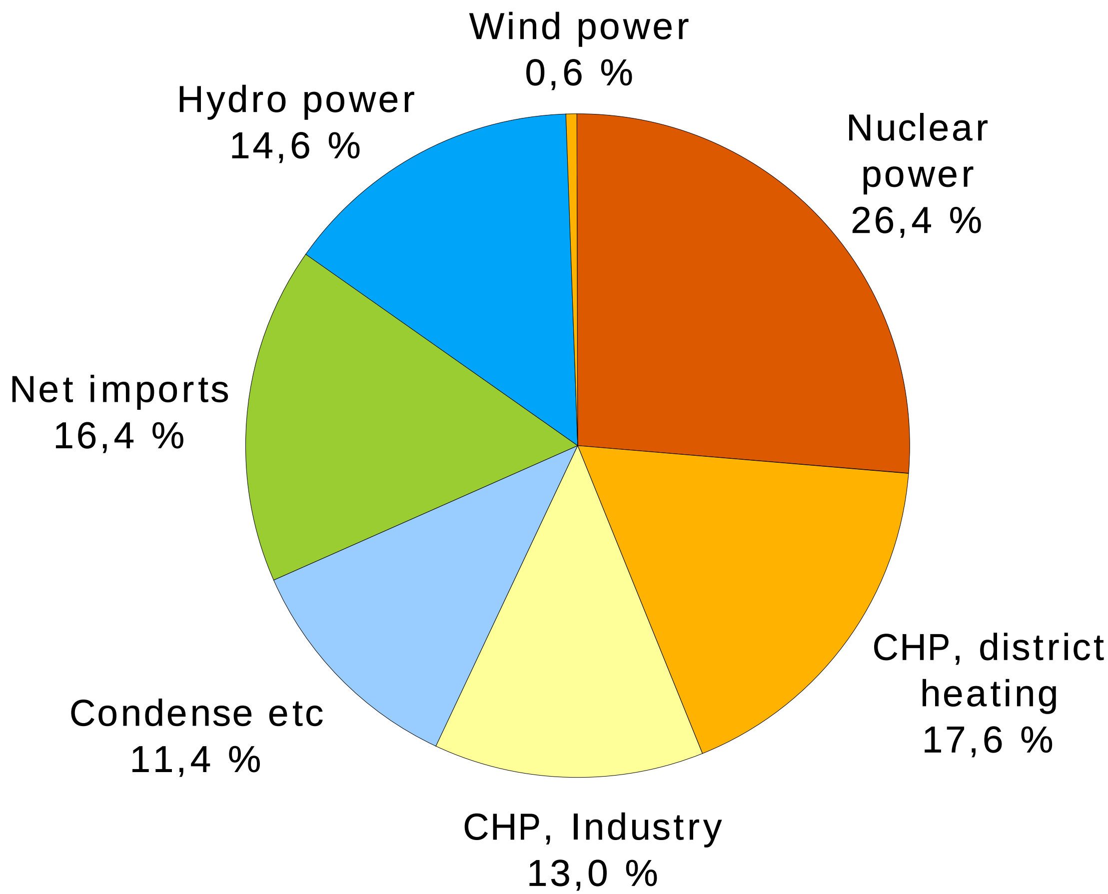
District cooling – delivered energy and connected heat load



District heat production and the share of cogenerated heat



Net Supplies of Electricity 2011
(84.4 TWh)



- In 2011 37 % of domestic electricity production by CHP

Future – no need for regulation

- Investigations of Competition authority (2012)
- Study on official supervision of district heating (Gaia Group Oy, 2006)
- Some consultants, media and even member companies of the FEI wanted to have analogical regulation for DH as it is for electricity and natural gas
- Ministry of Employment and the Economy is still considering that DH business doesn't need further supervision

→ **FEI is satisfied with current general regulation of DH**

Thank you!

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