

DCH in Eurostat statistics

European DHC statistics – Towards better documentation and analysis

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Eurostat collects data on Heat on annual basis in Joint IEA/ESTAT/UNECE Questionnaire for Electricity and Heat

EU Member States (27)

EU Candidate Countries & others

- Croatia
- Turkey
- FYROM

EFTA Countries

- Norway
- Switzerland

Legal constraints

- The official set of data to be collected is specified in the Energy Statistics Regulation (1099/2008/EC)
- The questionnaires are subject to modifications whenever there is a decision at political level to modify/amend/stop the collection of certain data
- The process to make modifications to the Regulation is rather time consuming
- Modifications may consist of changes in format and/or contents of the data collected

Flows collected for Heat:

Supply

Production

(Imports and Exports)

Transmission and Distribution losses

Consumption

Use in Energy Sector

Final Energy Consumption

- Industry by sector

- Other sectors (Residential, Services, etc.)

Calculated supply less observed consumption equals statistical difference.

Heat production:

CHP plants

Main activity producers

Autoproducers (only for heat sold)

Heat plants

Main activity producers

Autoproducers (only for heat sold)

It is assumed that all net heat generation in Main activity plants is sold.

Primary sources of Heat

- Nuclear
- Geothermal
- Solar
- Combustible fuels
- Heat from Chemical sources
- Heat pumps
- Electric boilers

Fuels for heat production

- Fuel input by type of fuel
 - Coals, coal products (including coal gases), peat
 - Crude oil, NGL and petroleum products (11)
 - Natural gas
 - Renewables: wood and wood wastes, renewable MSW, biogases, liquid biofuels
 - Industrial wastes and non-renewable MSW
- Separately for
 - Main Activity CHP plants
 - Main Activity Heat plants
 - Autoproducer CHP plants
 - Autoproducer Heat plants
- Fuel used for the production of heat which is not sold should not be reported.

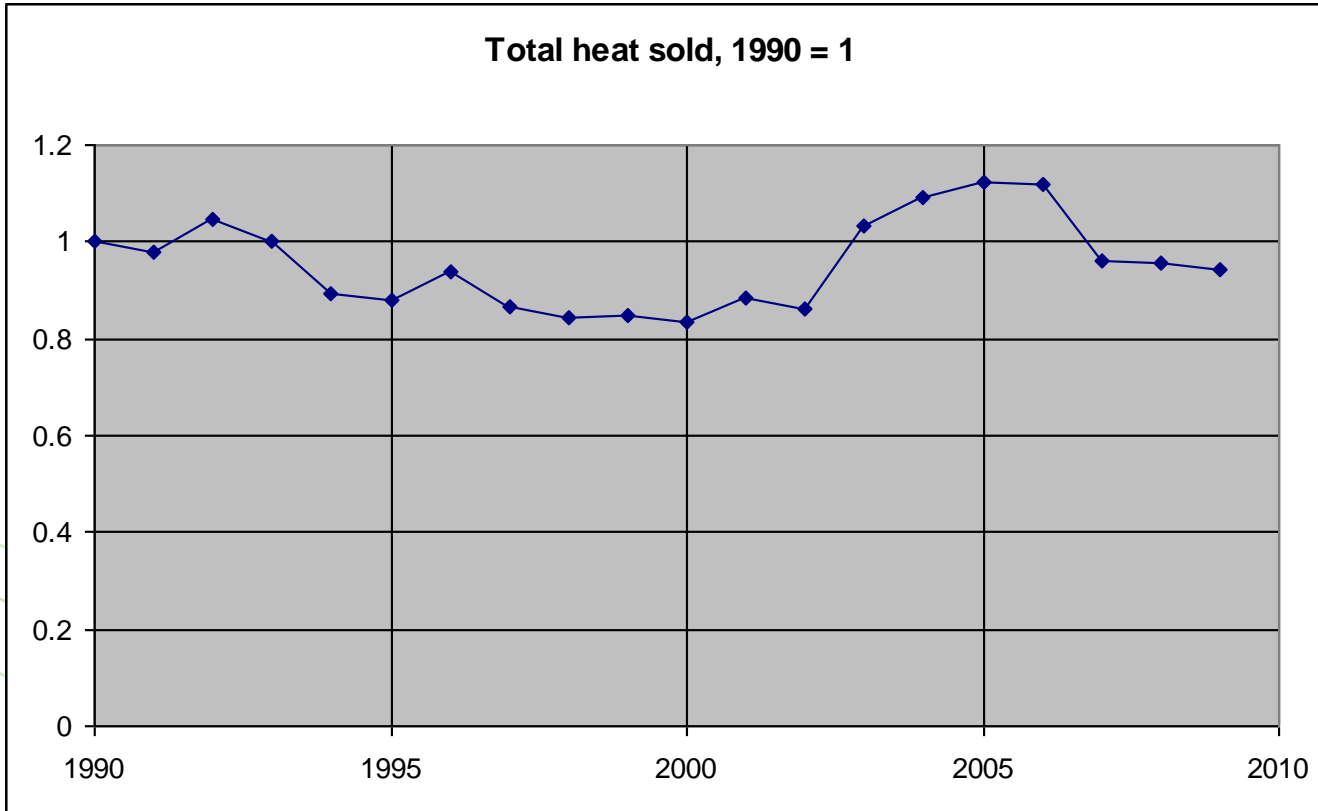
Challenges in statistics for DHC (1)

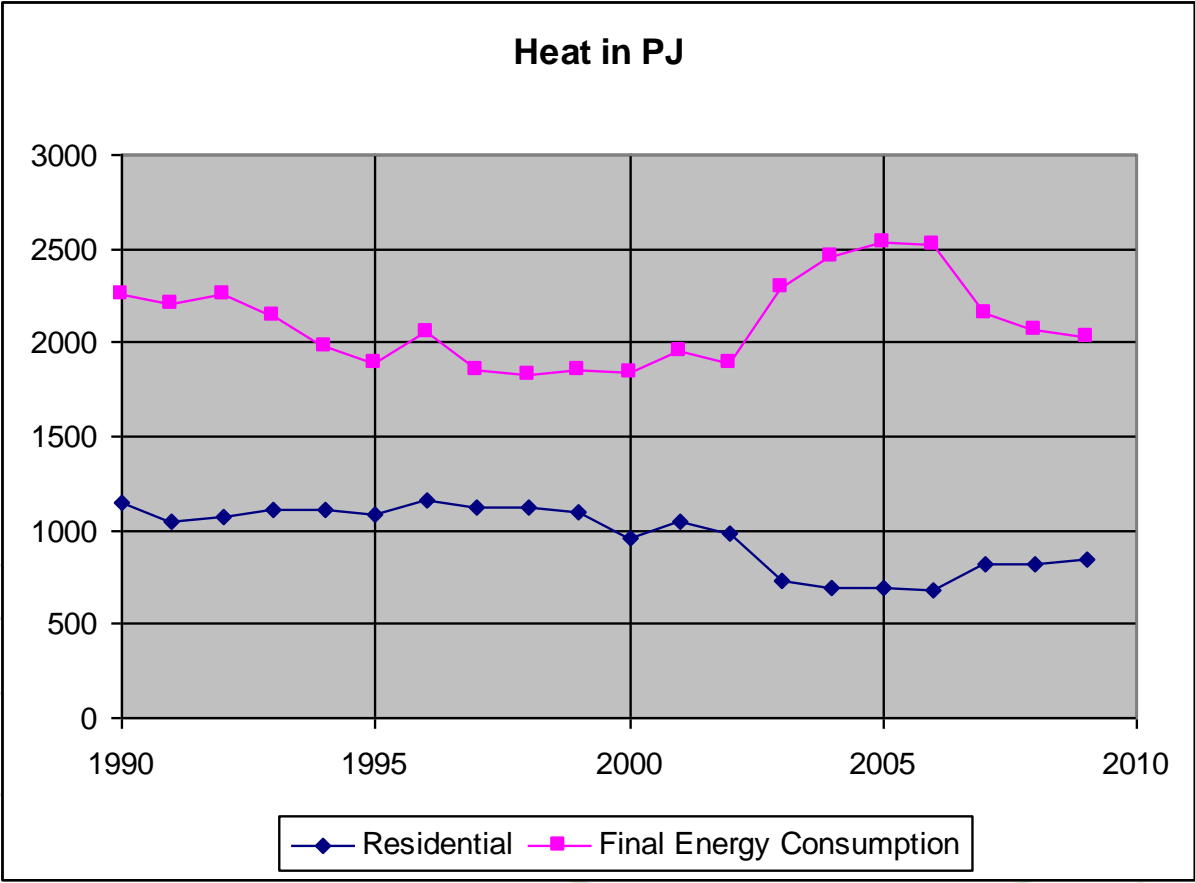
- The product "Heat" covers all the quantities of heat sold to third parties, but some of the heat may be sold to industry for process heat.
- Generally it is thought that the Autoproducers are industrial installations which do not usually sell heat.
- However, heat is to some extent sold also from Autoproducer plants. => **Question: Is this heat sold to DHC?**
- The ownership of the plant determines whether the plant is Main activity producer or Autoproducer plant
- If for example a power company buys all the plants from a pulp and paper company and starts selling process heat to that company, the heat sold by this Main activity producer is not district heat.

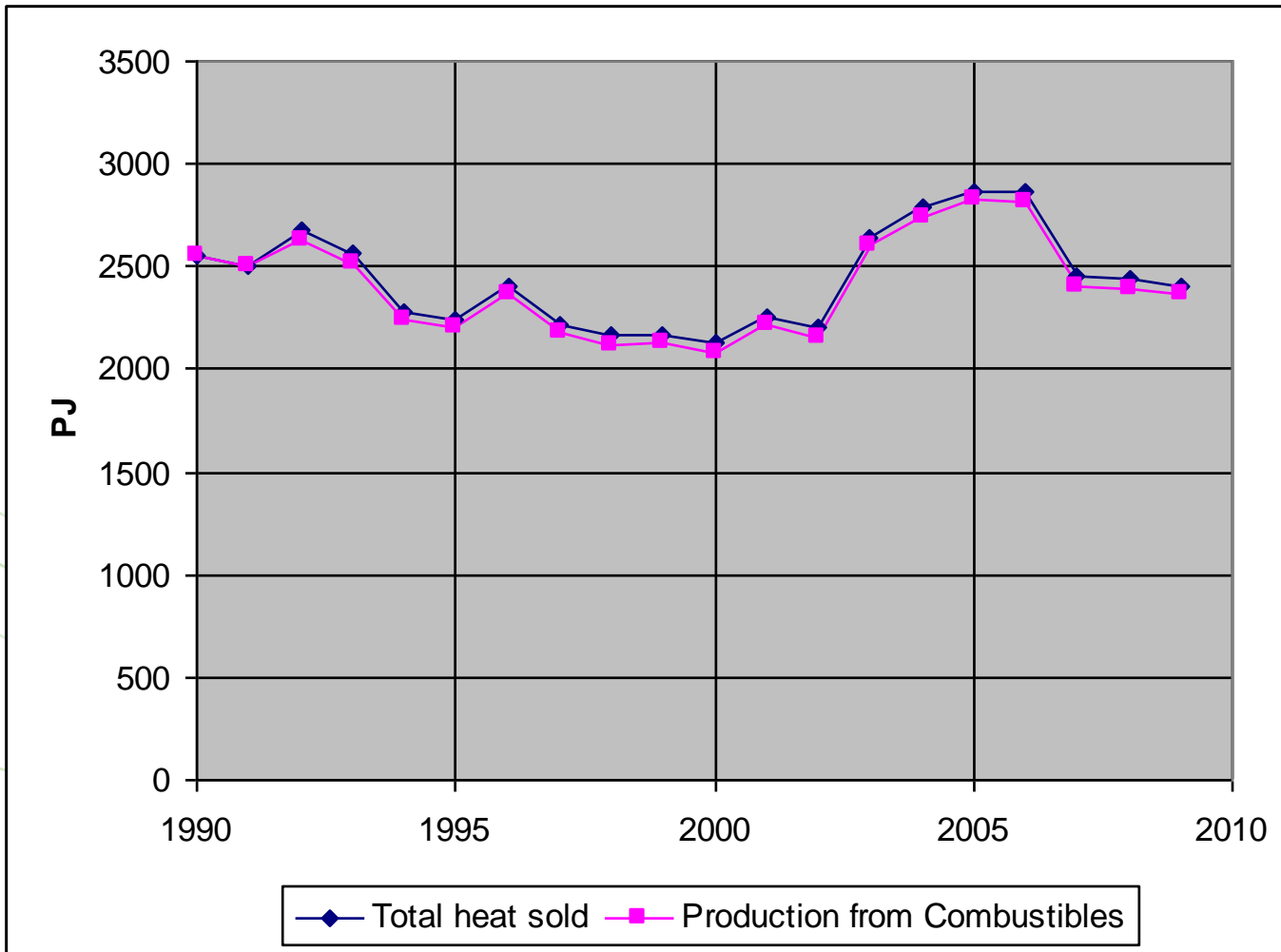
=> Heat produced in Main activity plants can be process heat and Heat produced in Autoproducer plants can be for DHC.

Challenges in statistics for DHC (2)

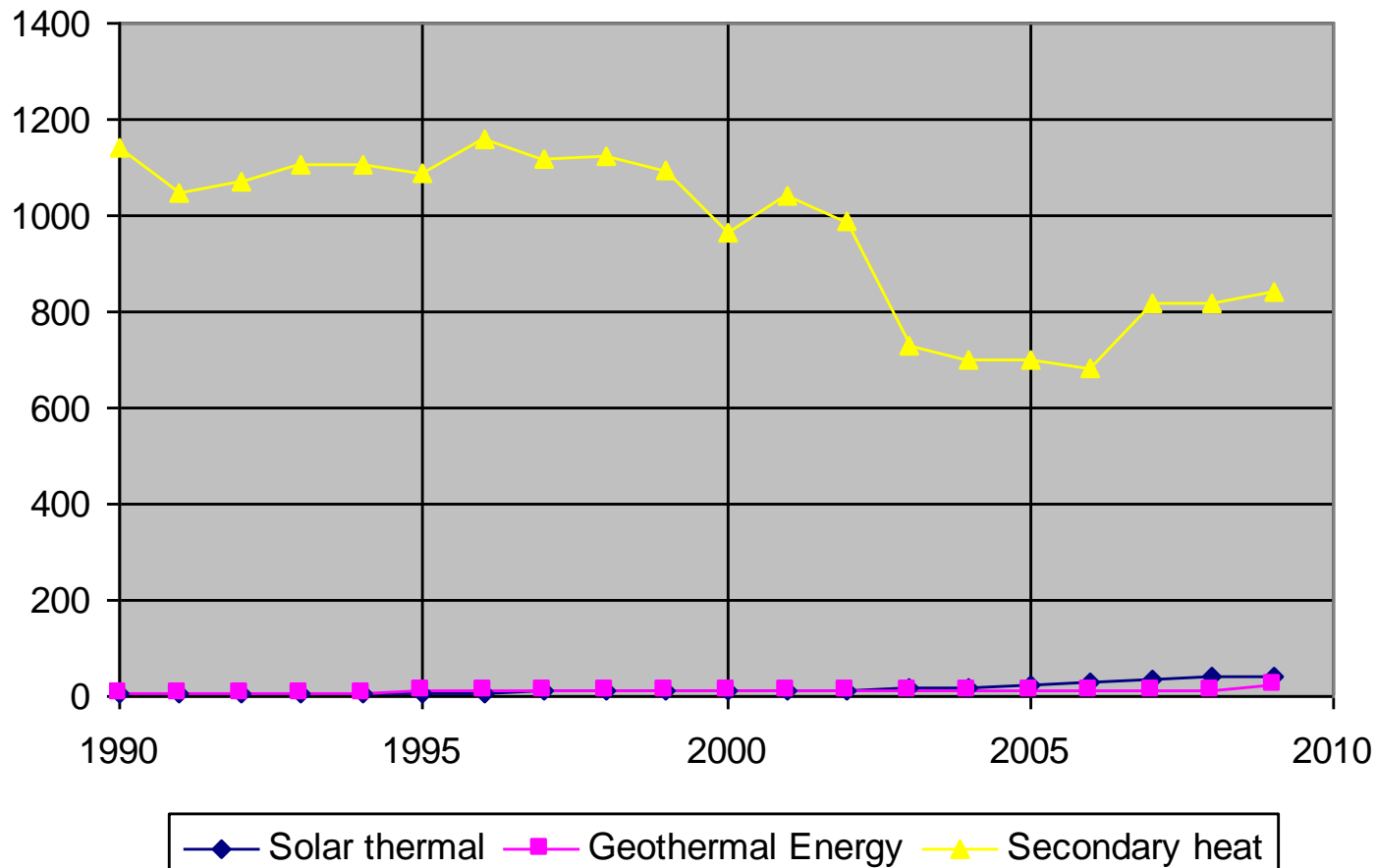
- Heat can be an output product from heating plants or CHP plants, but Geothermal and Solar heat can go directly to consumption.
- There is no harmonised methodology to distribute fuel between electricity and heat in Autoproducer power plants, which generates some uncertainty.
- District cooling is not counted for in annual statistics
 - If cooling power is generated by absorption technology, then the heat/fuel use is recorded as final energy consumption
 - If the cooling power is generated by compressors, the use of electricity is recorded as final energy consumption in the corresponding sector



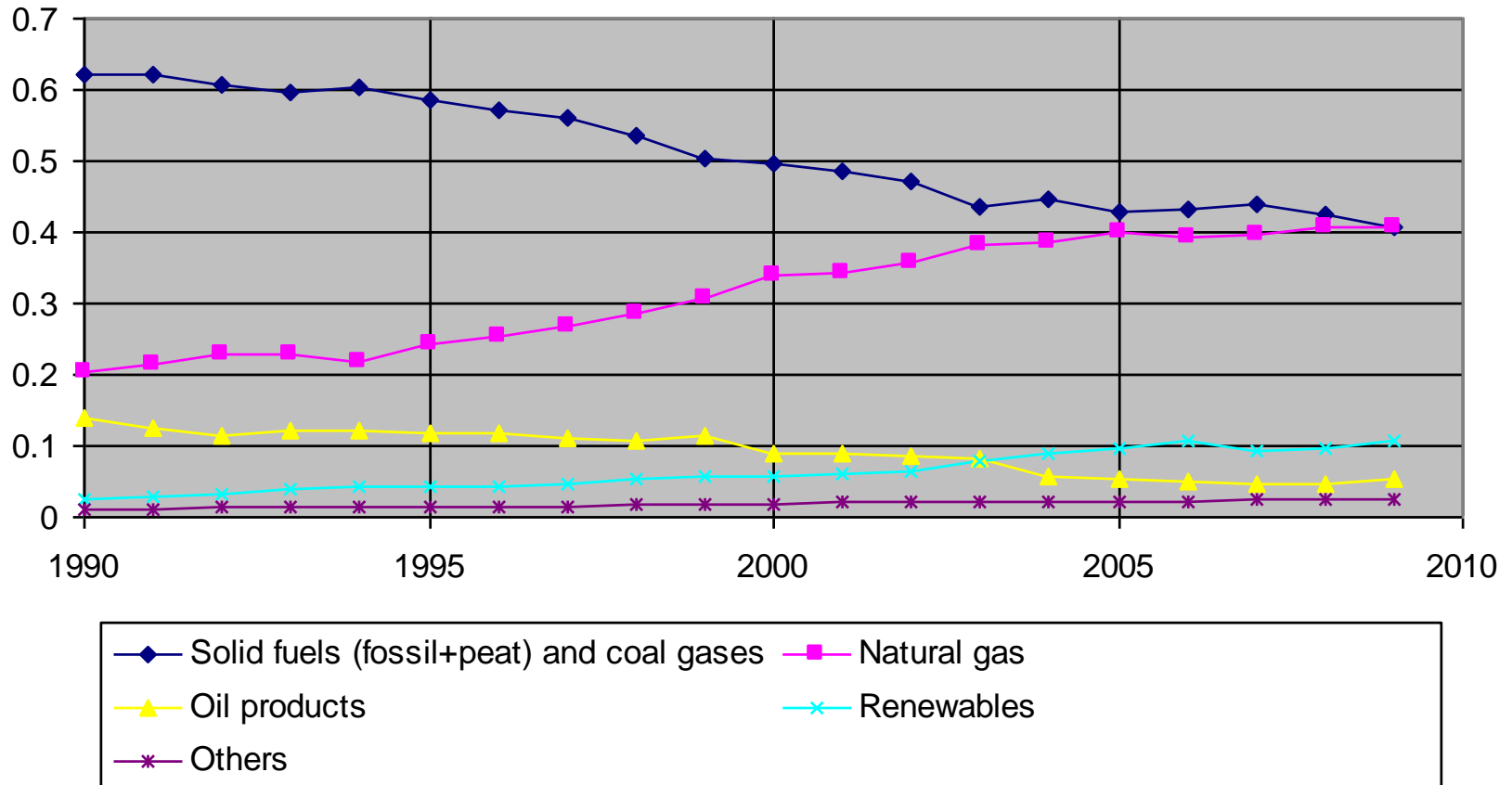




Consumption of heat in Households, PJ



Fuel input, CHP & heating plants



Conclusions

- District heating has not progressed between 1990 and 2009 in EU-27
- There has been a clear shift in fuel consumption from solid fuels to natural gas and to a minor extent to renewables
- Combustible fuels dominate the heat generation
- District cooling is not covered by the current statistics
- There are also at least the following challenges:
 - Separation of heat for industrial processes
 - Methodology for fuel distribution between heat and electricity in Autoproducer plants

Thank you for your attention!