Welcome to VEKS, Nov. 2014

Vist from Taiwan

Enegineer (MSC), environment & energy
Troels Duhn
td@veks.dk

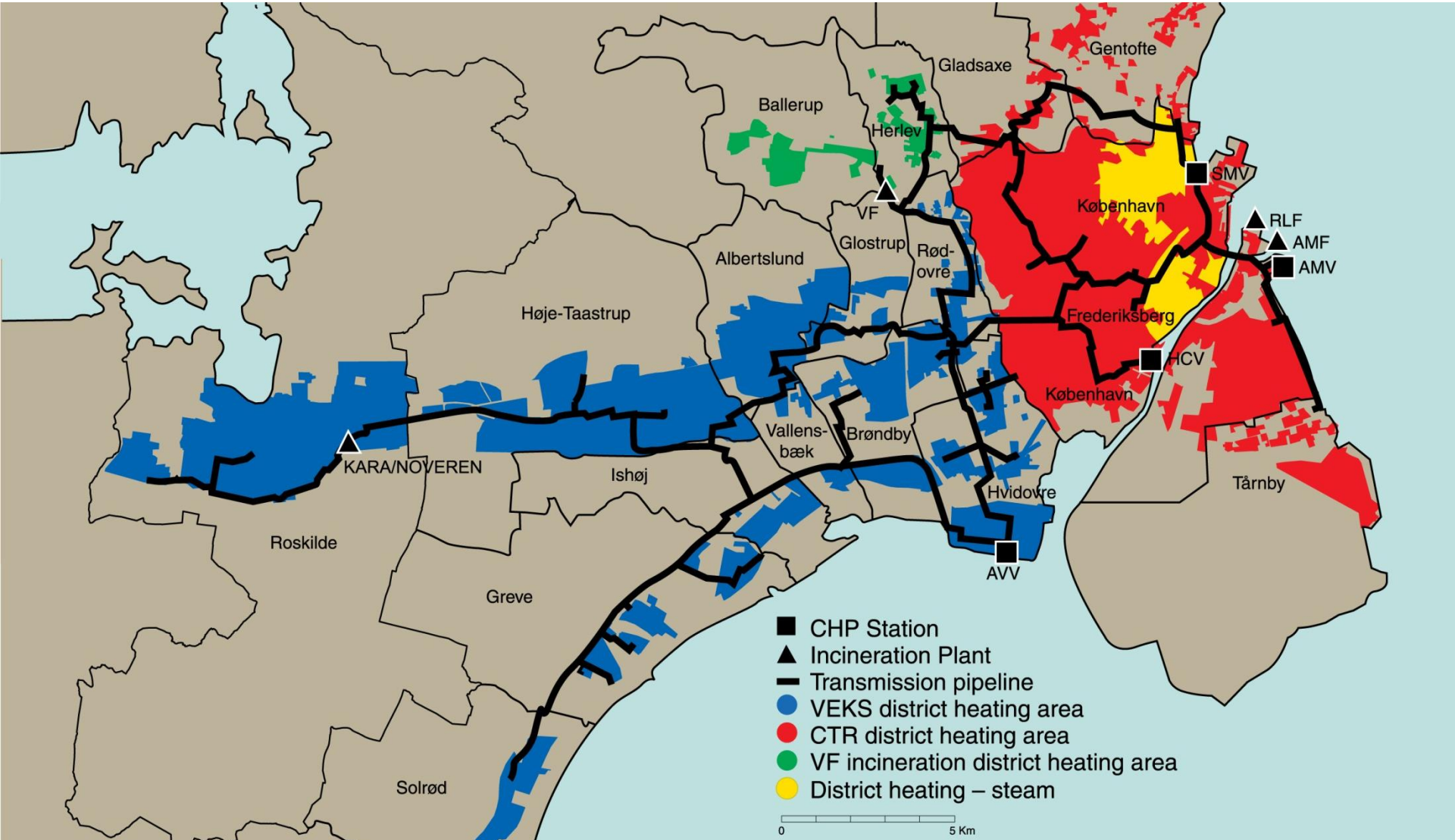
Short presentation of your delegation!

VEKS in general: Background, organization, presentation-film (www.veks.dk)

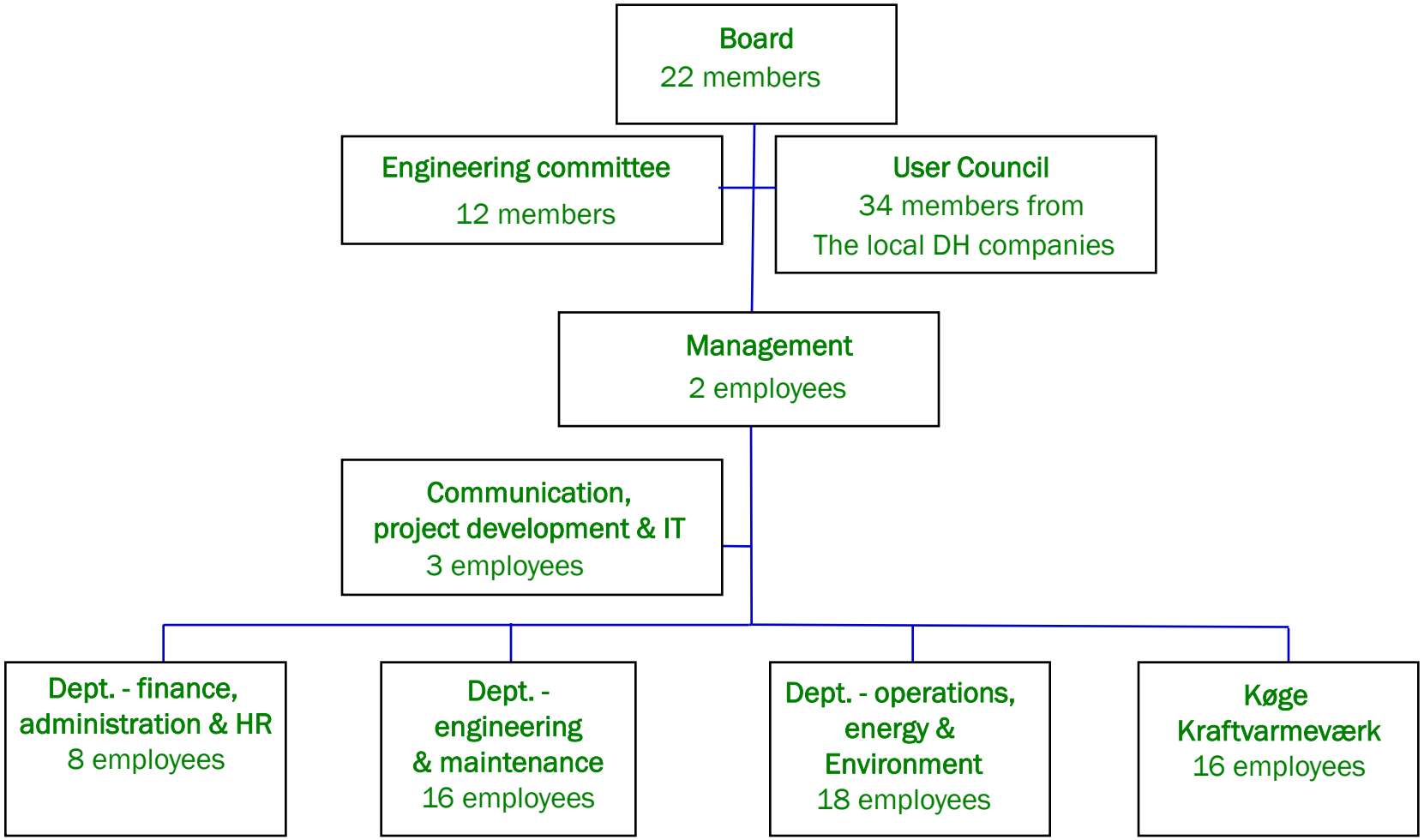
Heat plan for greater Copenhagen (including estimated development)

Questions?

DH in the Copenhagen area



VEKS' organisation 2014



Organisation

- Board of Directors
  - 22 members from town councils
- Officials committee
  - 12 members from municipalities
- User council
  - 34 members representing consumers

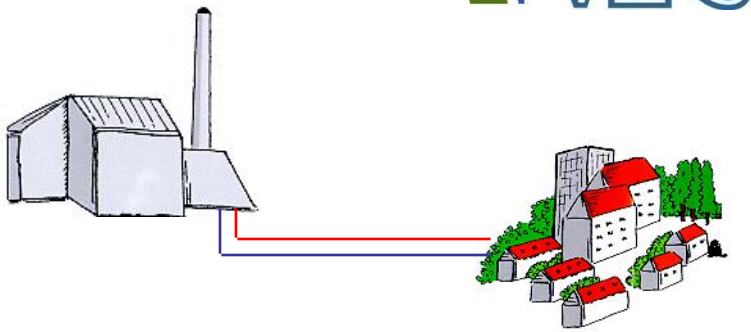
VEKS' objects

- Independence of oil; oil crises
- Saving resources
- Combined heat- & power production (CHP)
- Multiple choice of energy sources
- Economy
- Environmental concerns

Background of VEKS

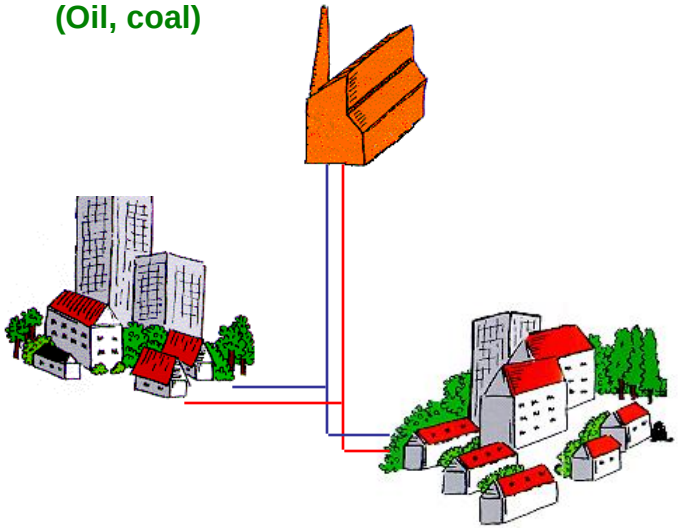
- 1973/74 & 1979: Oil crisis
- 1982: Planning Board
- 1984: Transmission Company
- 1986 - 1992: Construction
- 1212: Purchase of Køge Kraftvarmeværk (CHP-plant)
- 1212 - ?: Expansion: Conversion from Natural Gas to District Heating

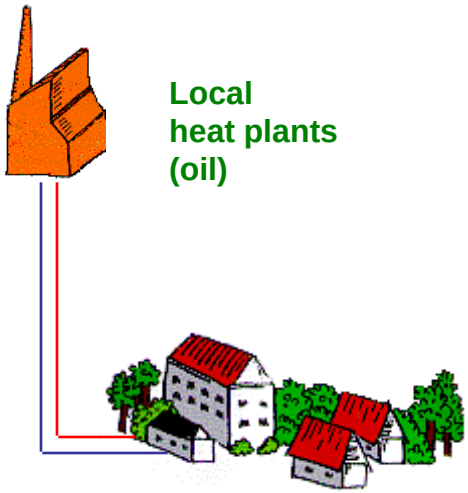
Waste Incineration plant



1985

Local heat plants
(Oil, coal)

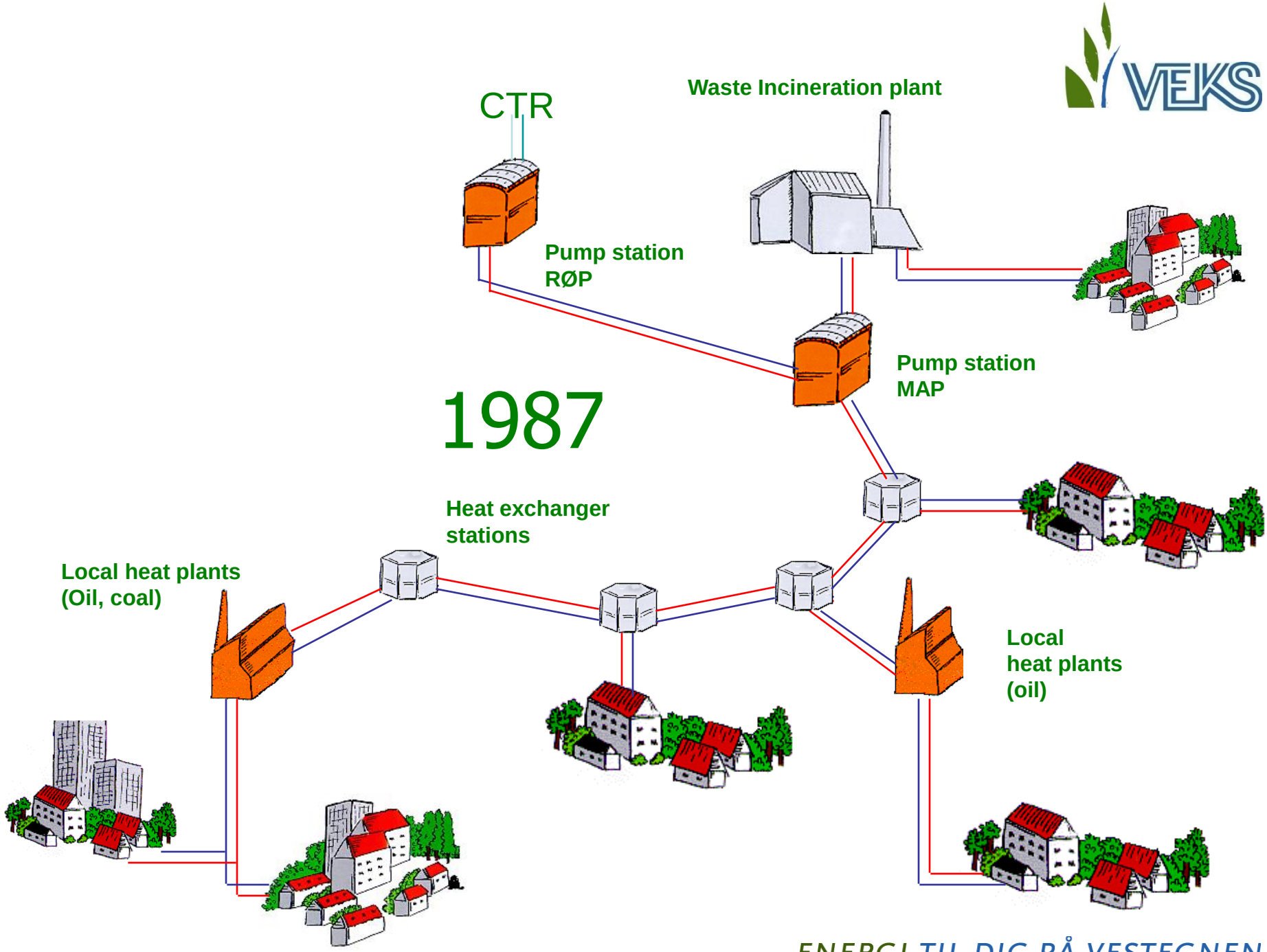




Local
heat plants
(oil)

ENERGI TIL DIG PÅ VESTEGNEN

VEKS - opstart 10 · 2 · 1986
Her graves - DanThor · TuboTec lægger rørene



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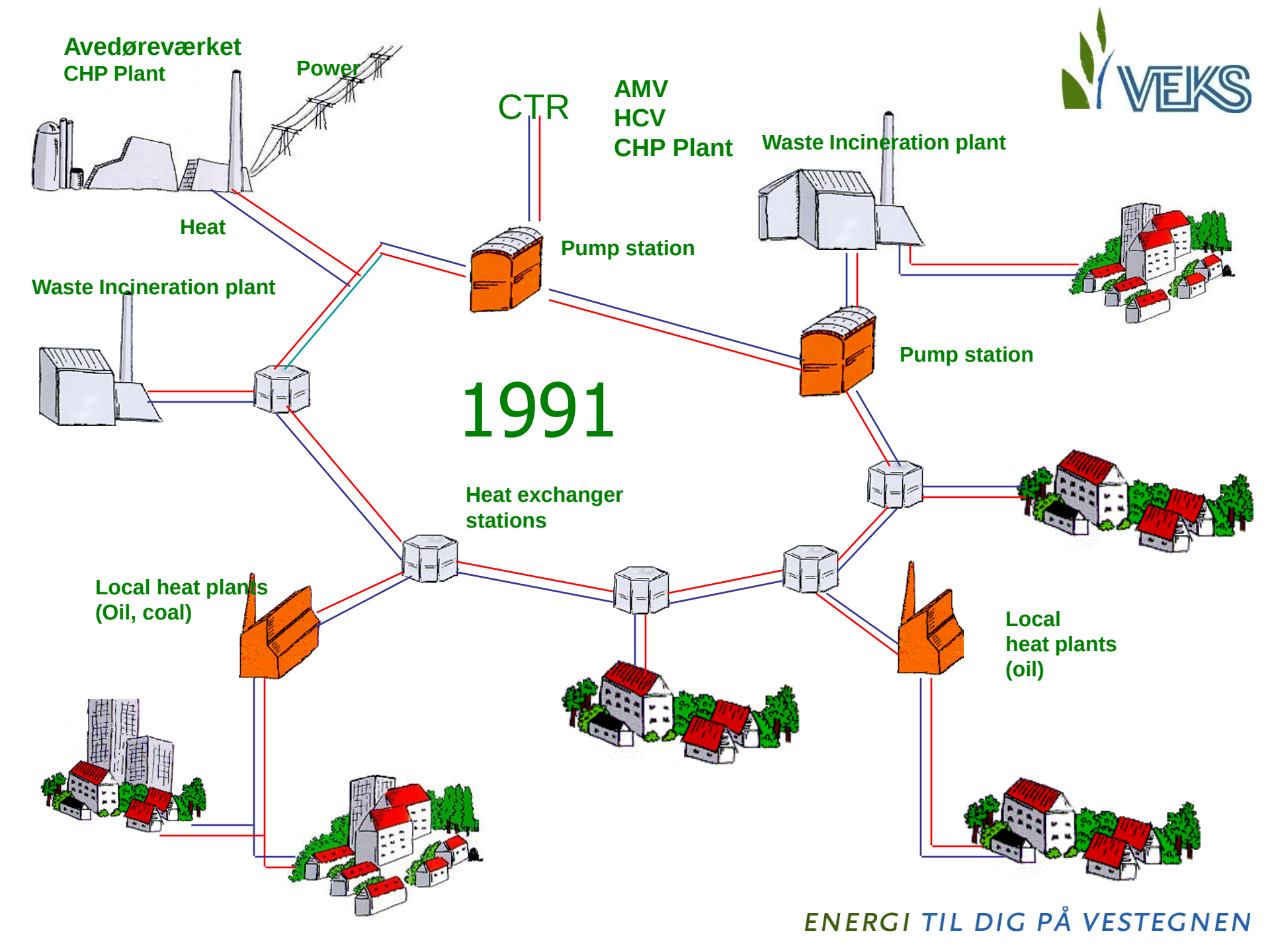

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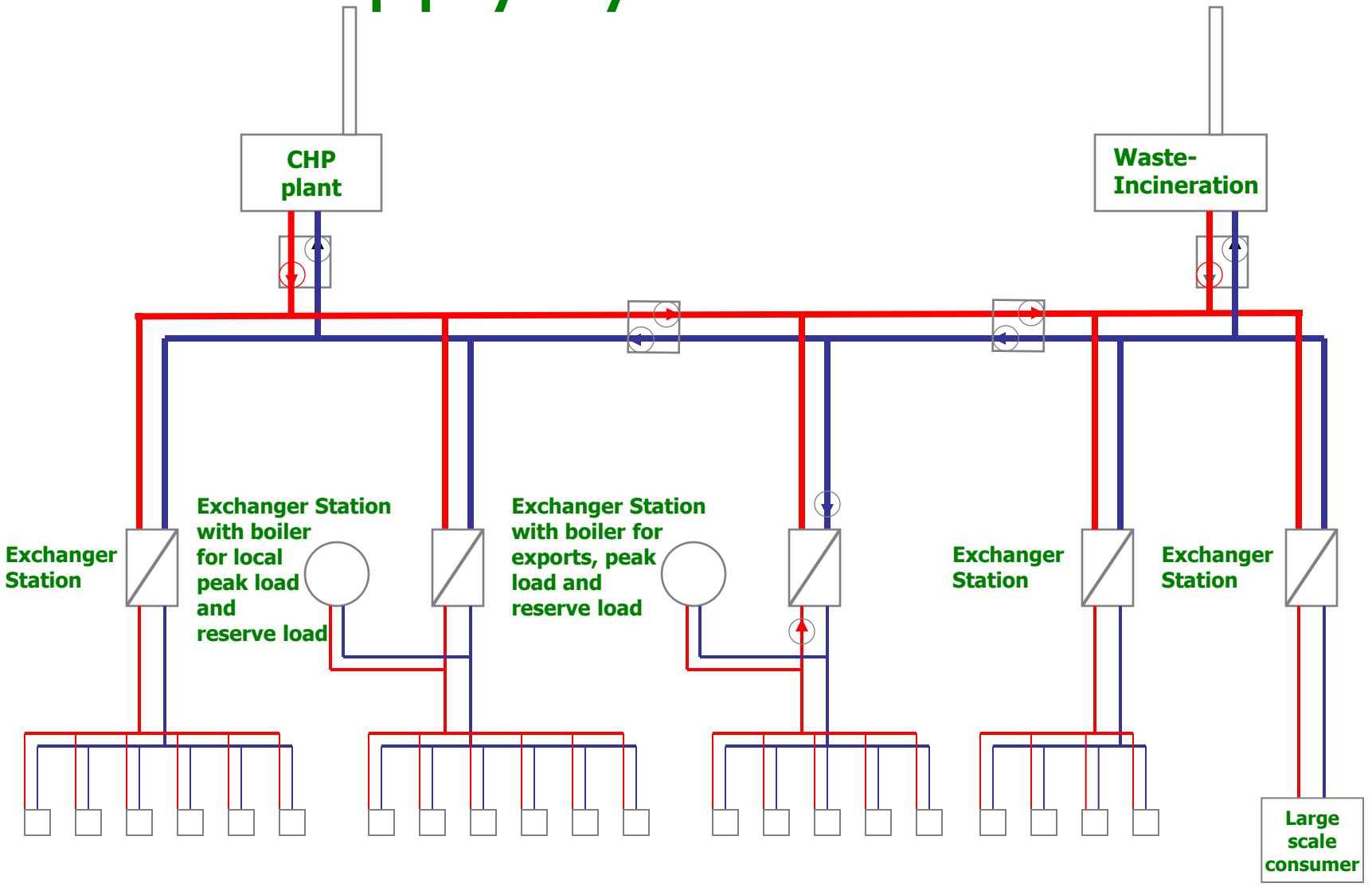
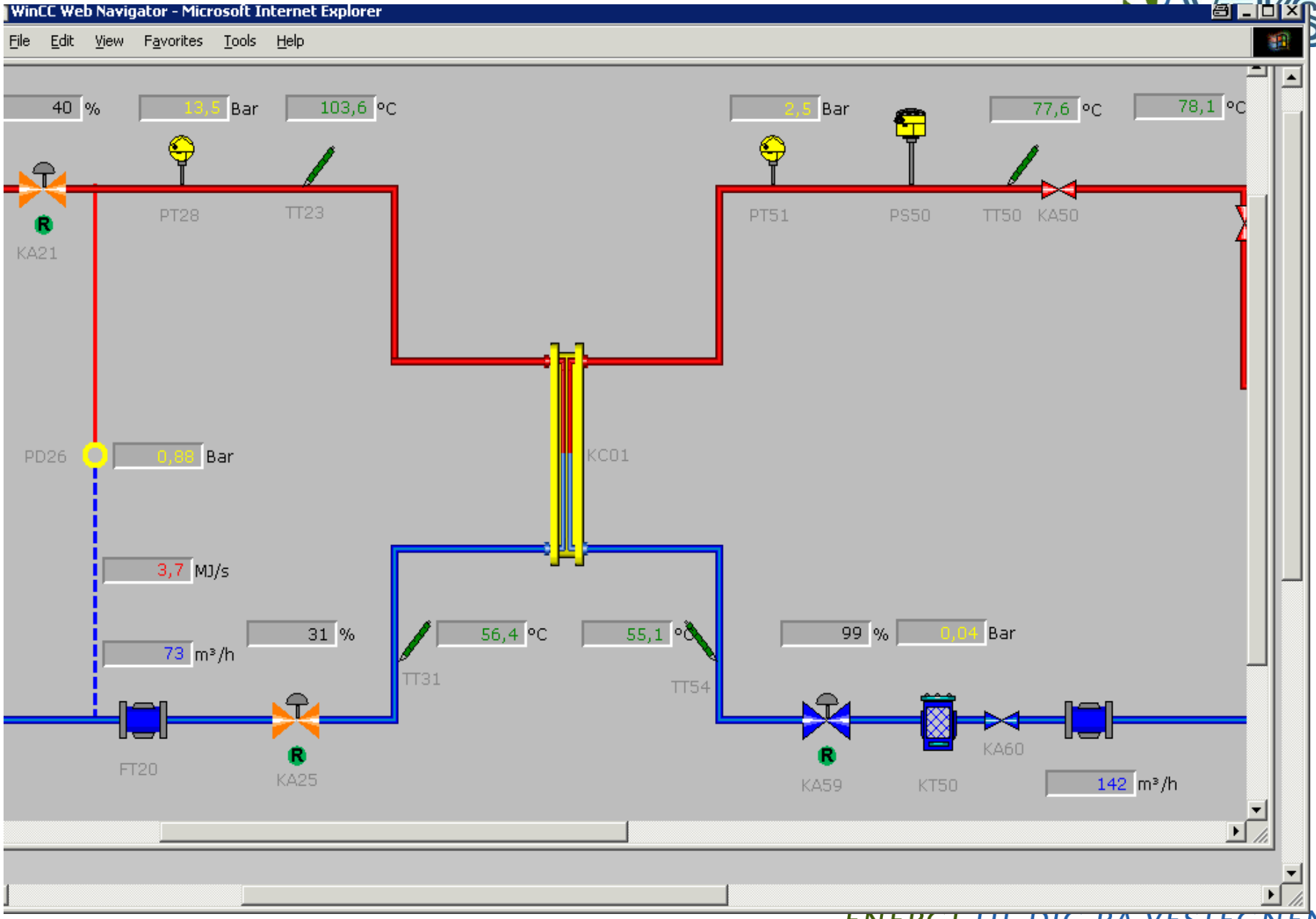
Heat supply system

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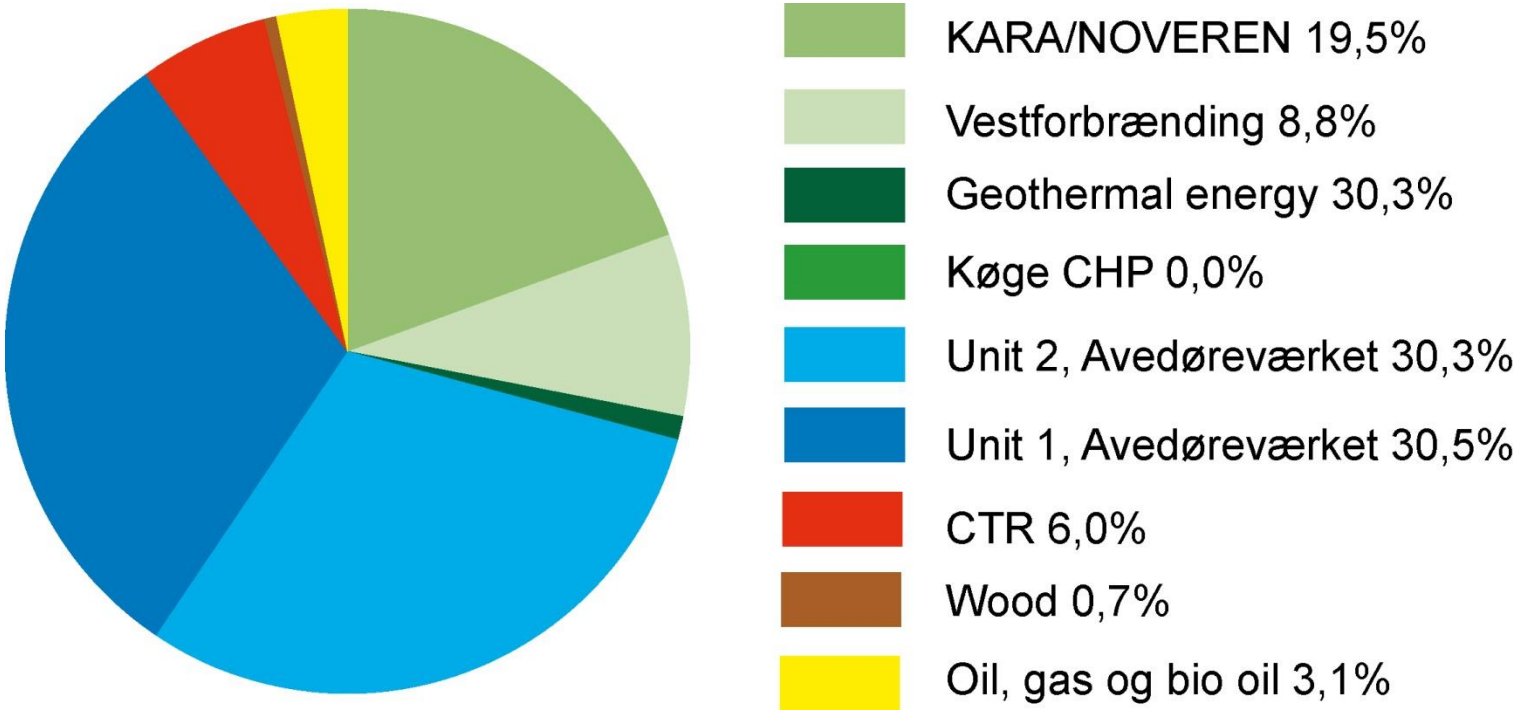
File Edit View Favorites Tools Help
40 %
13,5 Bar
103,6 °C
2,5 Bar
77,6 °C
78,1 °C
PT28
TT23
PT51
PS50
TT50
KA50
KA21
PD26
0,88 Bar
KC01
3,7 MJ/s
73 m³/h
31 %
56,4 °C
55,1 °C
99 %
0,04 Bar
TT31
TT54
FT20
KA25
KA59
KT50
KA60
142 m³/h

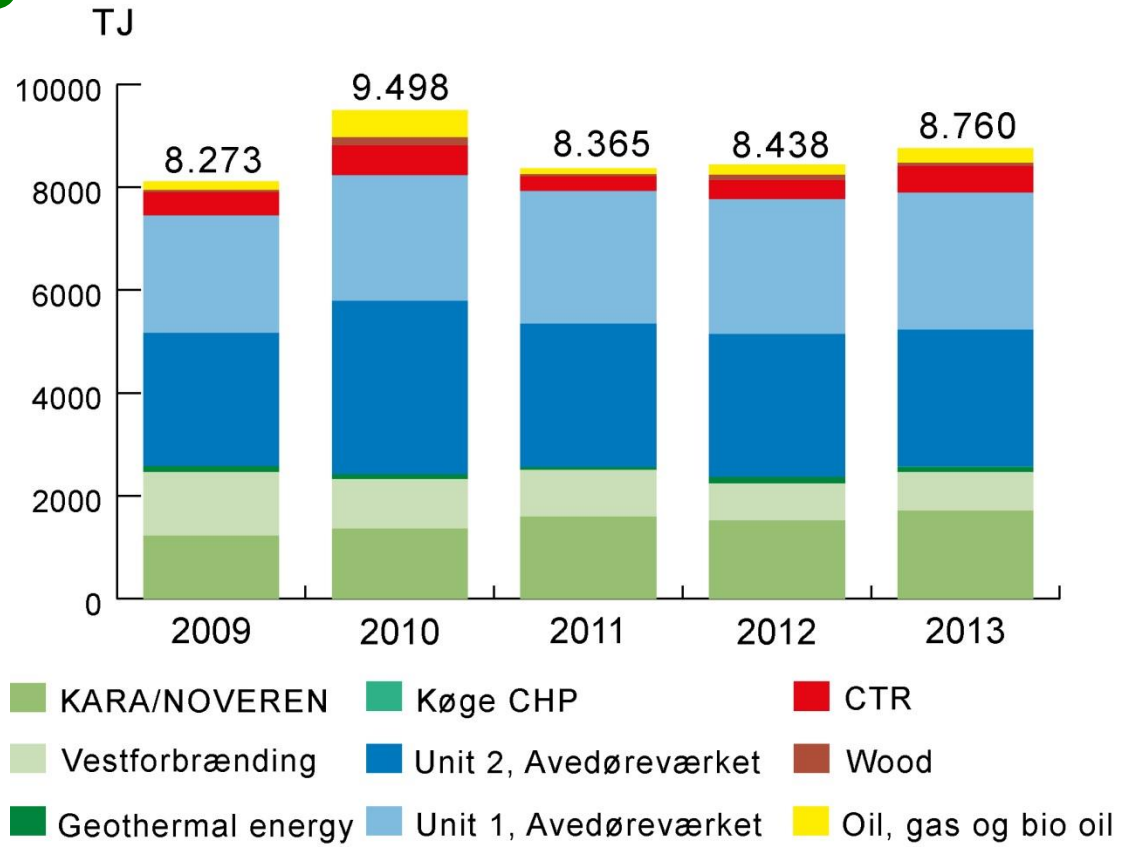
Facts on VEKS

- 125.000 – 150.000 households
- 104 km double-pipes; ø100 - ø800
- 44 exchanger stations
- 26 local heat plants (peak- and reserve loads)
- 7 pumping stations
- 20 customers; district heating companies

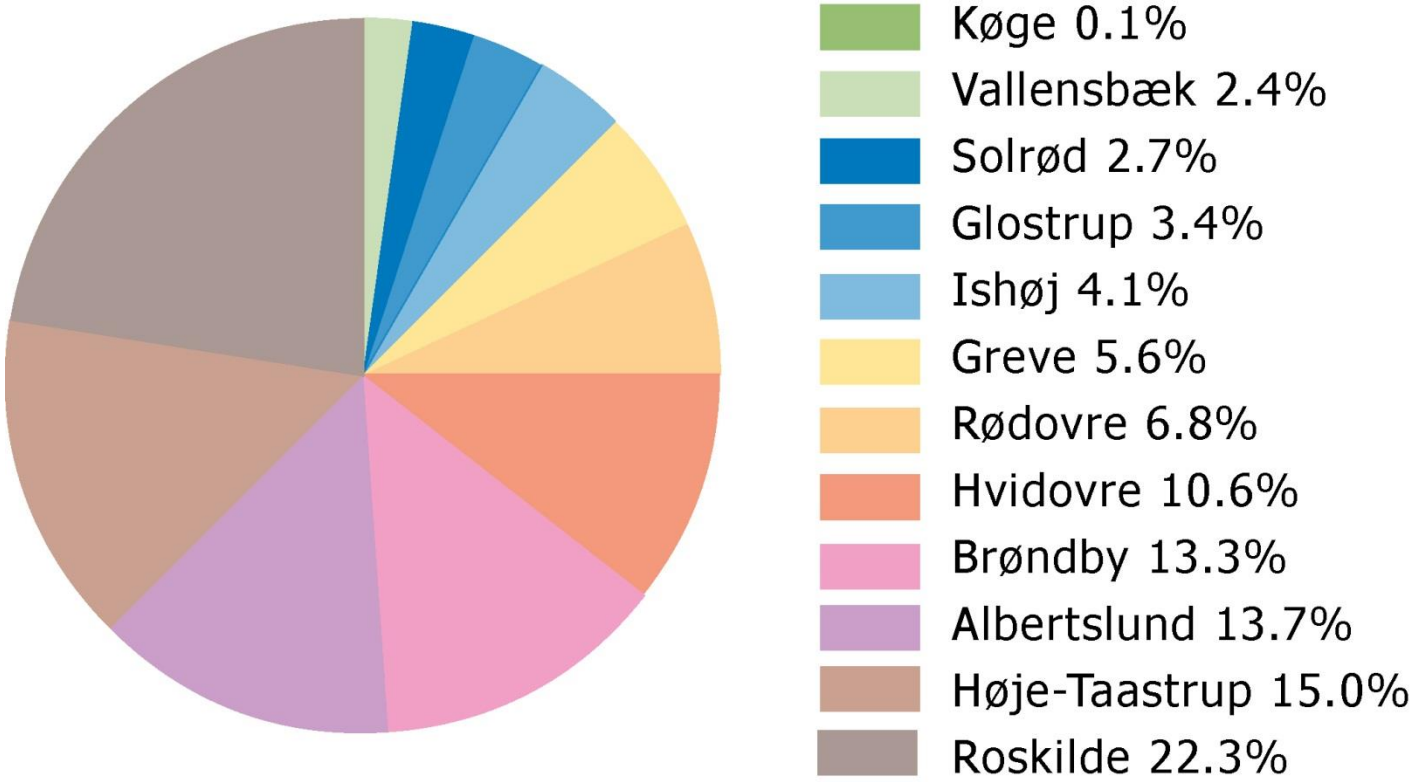
Heat generation 2013



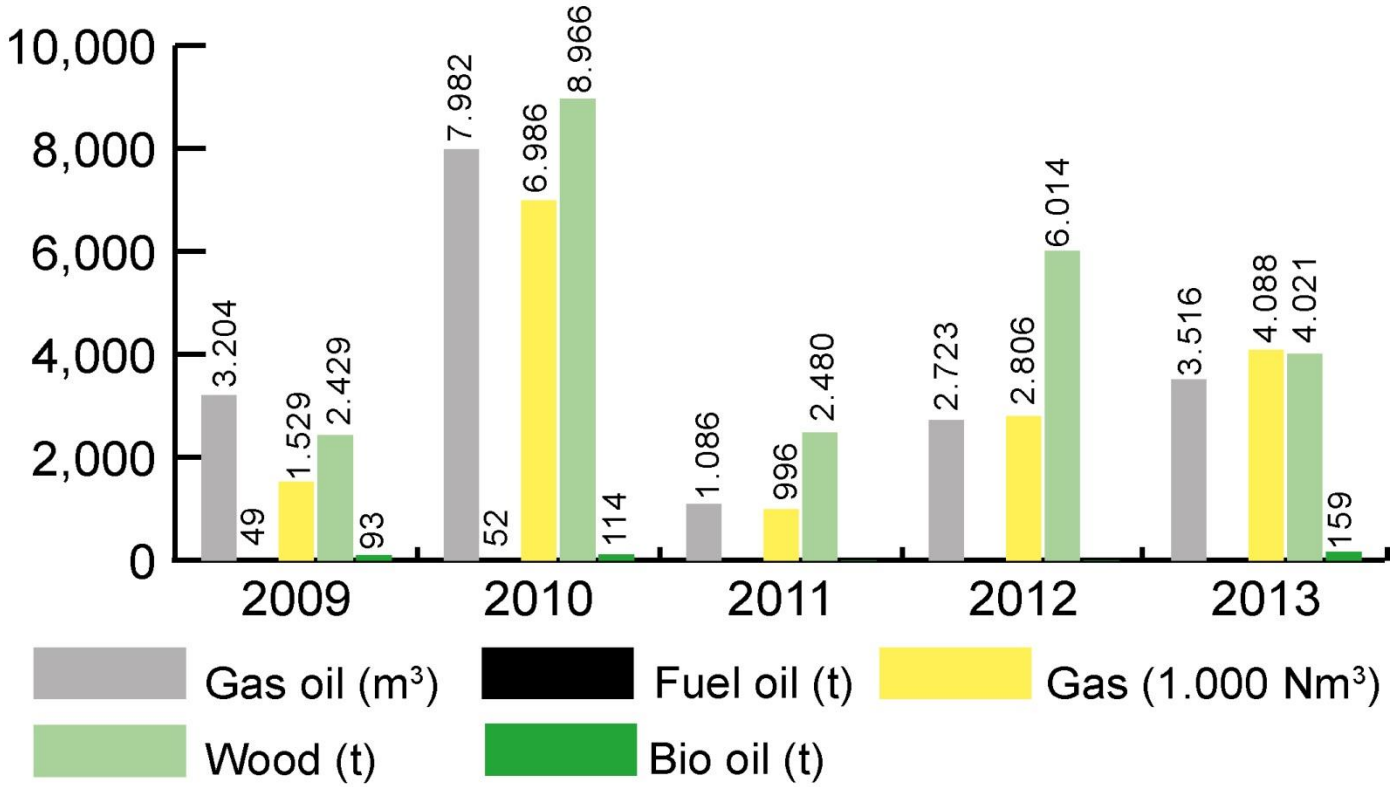
Heat generation



Heat purchased by the municipalities, 2013

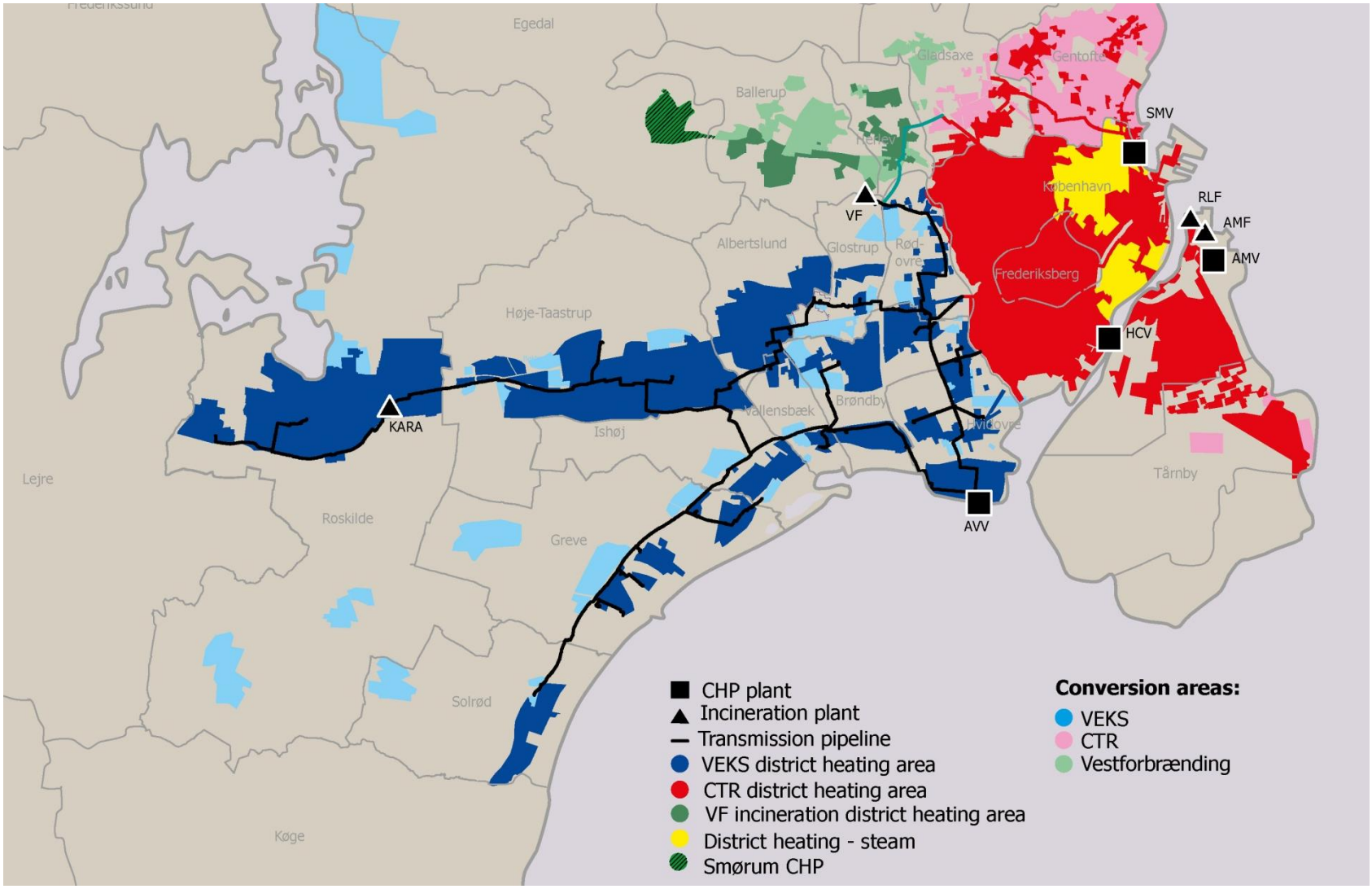


Fuel consumption, peak- and reserve load

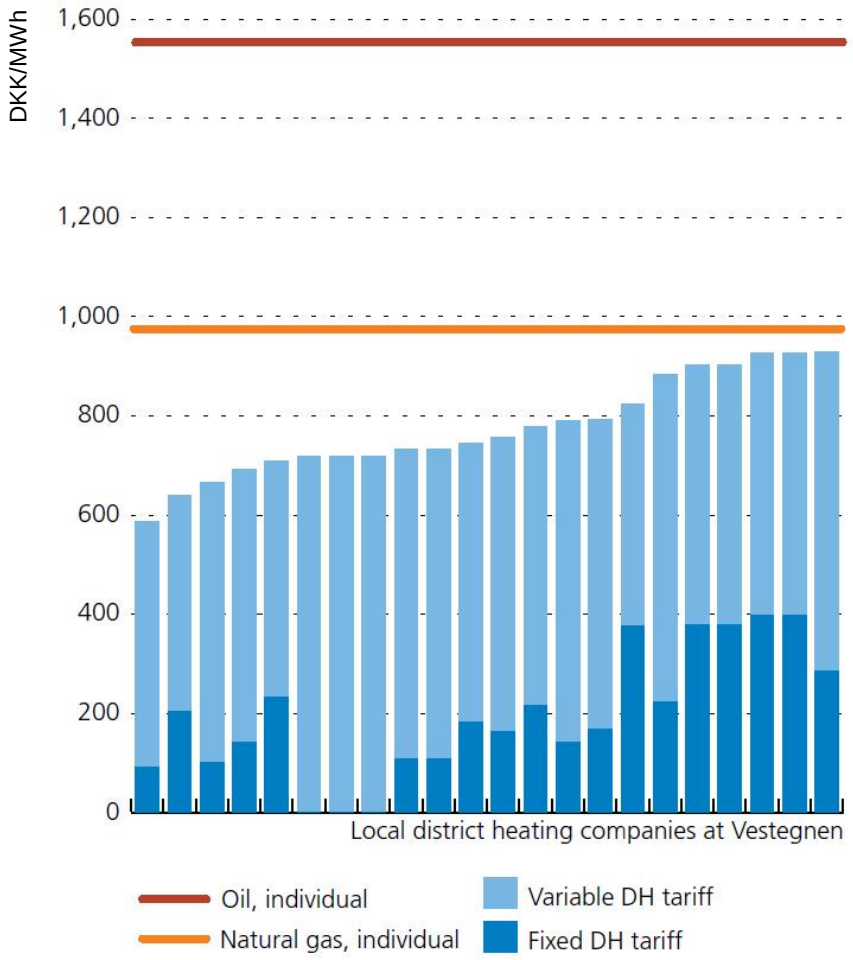


Conversion to DH

in the Copenhagen area



Heating Prices 2013, consumers



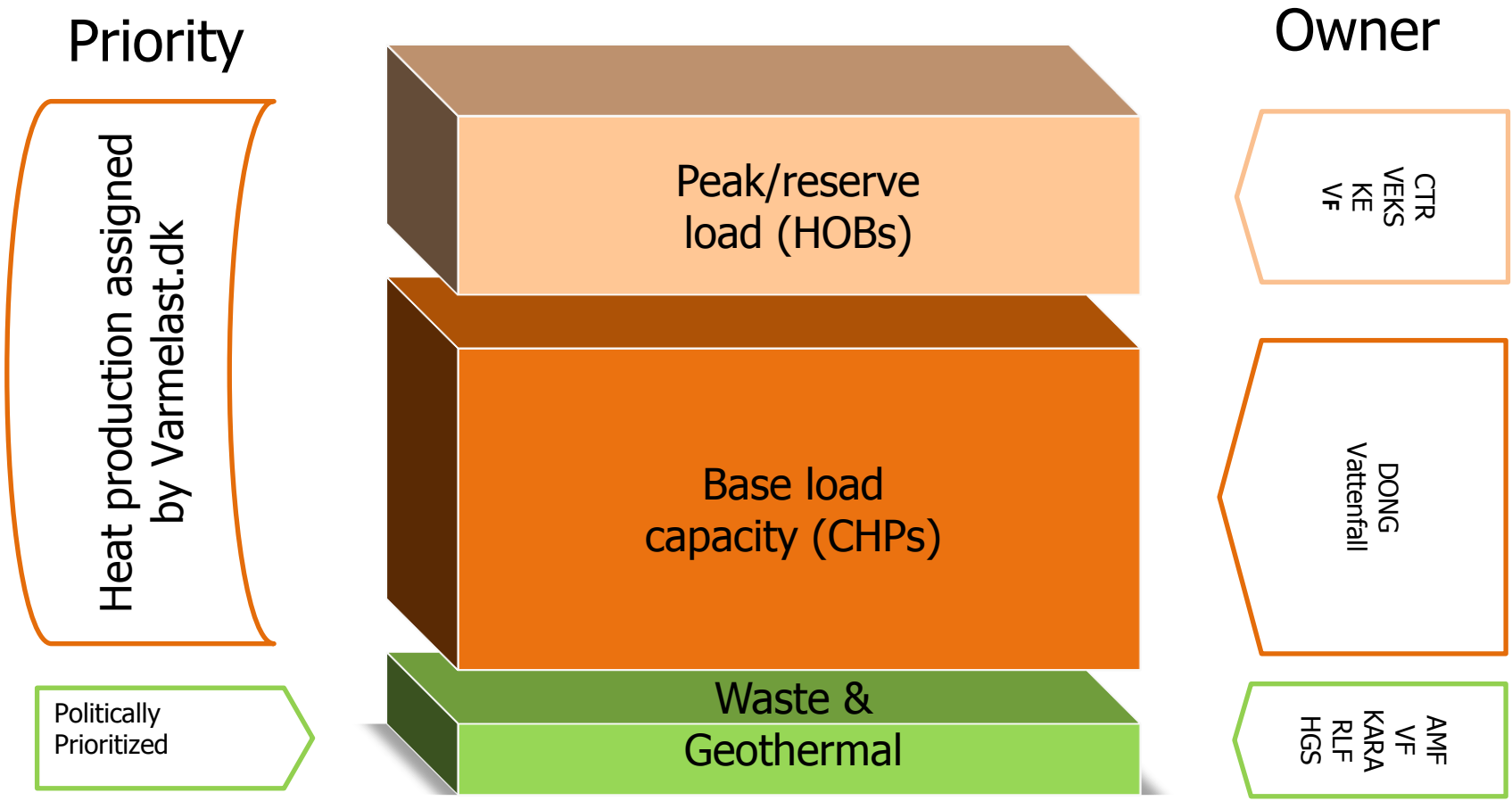
Geothermal Demonstration Plant

Capacity:	Total	27 MW
	Geothermal	14 MW
	Motive Power	13 MW
Annual Heat Delivery	Total	720 TJ
	Geothermal	350 TJ
	Motive Power	370 TJ

Geothermal energy can heat approx. 6,000 housing units

VEKS share is 1/3 of this

Prioritizing production



Questions?

- When the users use the backup heat resource, is the rate of heat energy same as normal resource?
- Does the rate of heat energy proportional with the users distance?
- In addition to the cost of the energy, do the users have other incentives to use heat energy provide by district heating system?