Eurométropole de Strasbourg

District heating case study using THERMOS

THERMOS Training &
Capacity Building Workshop
Berlin, 06/12/2019

Strasbourg - Context

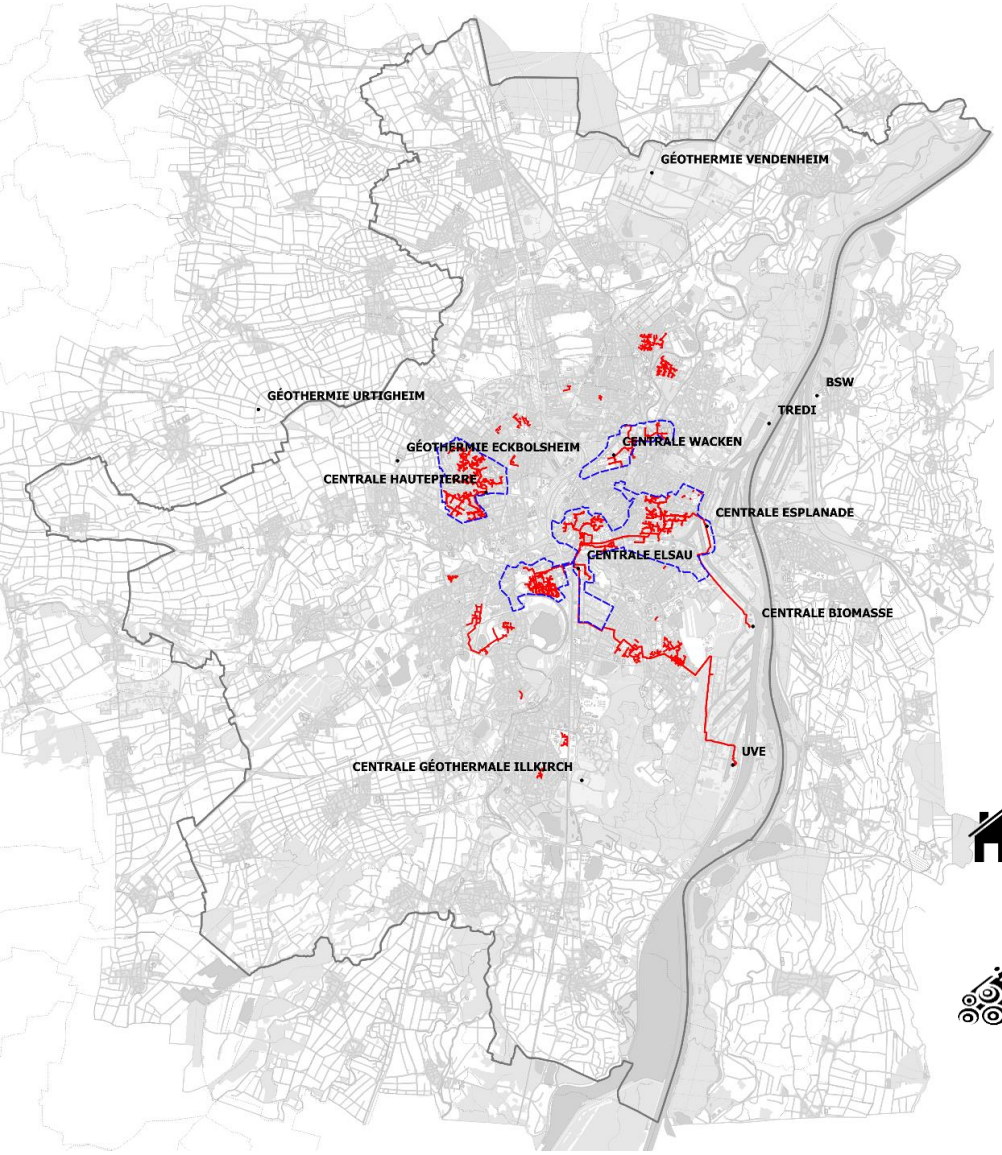
Oceanic/Semi-continental climate

Heading Degree Days
(base 17°C) : 2330

New temperature record reached in June 2019 : 38,8°C

City population : 280 000
Eurométropole pop. : 488 000

2017
Energy demand : 12,1 TWh/year
Heat demand : 4,3 TWh/year
Cooling demand : 0,2 TWh/year



Historic & new District Heating networks

Strong development in the 1970s, renewed development and interest since 2010

4 public DH concessions & several private networks

603 GWh heat delivered (12,5% of the heat demand)

40 % ENR (Biomasse & heat recovery) and 60% gas

Ambitious 2030 goals for DH & DC in Strasbourg :

- 1 093 GWh heat delivered (+80%),
- Increase ENR from 40% to 75% (heat strategy largely focused on geothermal and waste heat recovery).

How ?

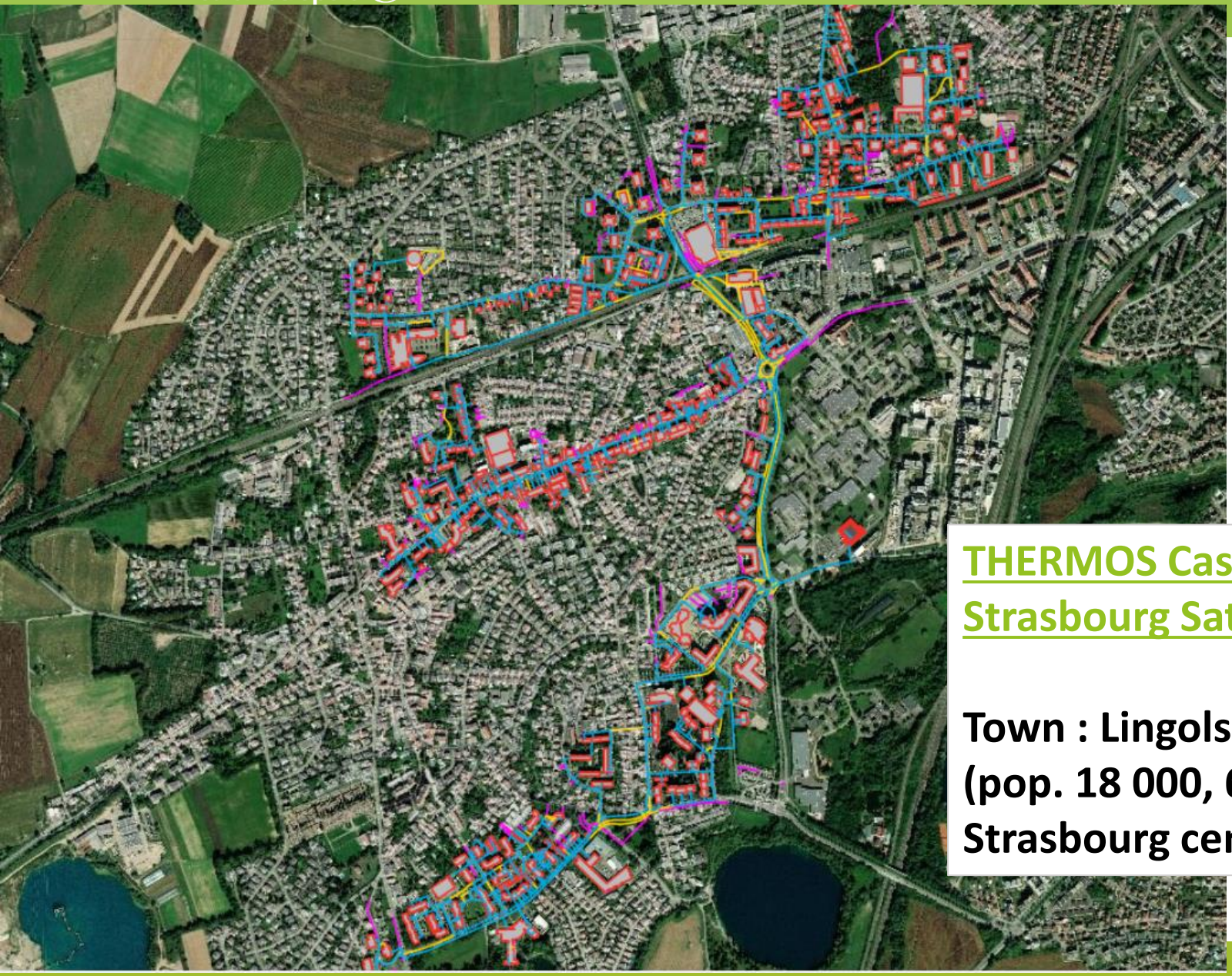
Develop ENRs and develop DH & DC !

- Create an energy company / increase public governance,
- Channel public investment to transport heat,
- Densify existing networks,
- Create DH strategies in the mid-size and small towns surrounding Strasbourg.

To get there, in-house expertise required -> THERMOS

Strasbourg.eu
eurométropole

Capitale européenne



THERMOS Case Study : Strasbourg Satellite Town

Town : Lingolsheim (pop. 18 000, 6km from Strasbourg centre)

First results using THERMOS

Heat demand	115 GWh
Capacity	47 MW
Pipe length	29 km
Pipe cost	14,7 m €
Energy density	4 MWh/ml
Energy production costs (min 65% ENR)	?? Aim : 17 MW ENR - Biomasse - Heat pumps - Heat recovery (industriel site) - Heat purchase from neighbouring DH network

Some difficulties using the tool :

- Setting tariffs at the beginning of the model,
- Setting costs : need to translate local costs using the formula,
- Run time required to find bugs (30 minutes).

Concrete next steps

- Positive reception from local council members & teams,
- Agreement to formalise this area for public DH development,
- Further study & negociation required for heat supply,
- Use thermos to compare different heat sources,
- Question for the group : assistance required for heat demand and network pre-design ?

Overall a very positive experience !