Sustainable Places 2020
Workshop DHC
28/10/2020

Speaker: **Georg Hamann**
ENSO Energie Sachsen Ost AG
Dresden

MATCHUP

Subproject:
District heating in Dresden

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 774477

MAtchUP

European Lighthouse Cities and their followers

Dresden team

Funding amount:

- 17,5 Mio. € entire consortium
- 48 Actions - 4,5 Mio. € Dresden

duration: 10/2017 .. 10/2022

Green district heating in Dresden

ENERGY

Improved integration of fluctuating renewable energies into the district heating network

1. Expansion of the heat storage tank in the innovative power plant by
   - Measuring and monitoring system for dynamic operating behaviour
2. Potential location for solar thermal plants
   - Feasibility study DH line
3. Investigation to reduce district heating inlet temperatures (LowEx)
   - reduction of losses
   - improved feed-in option for RES

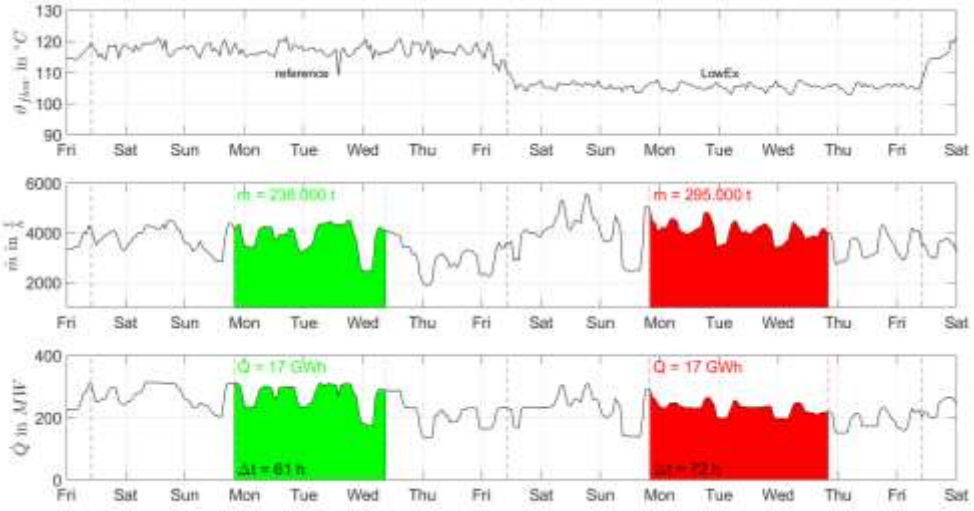
Field study „LowEx“

ENERGY

Lowering inlet temperatures of the DH grid

scope

- Feasibility studies and simulations
- hardware installation
- lowering inlet temperature of DH system by 10 K to 105 °C for one week
- Investigation of thermal, hydraulic behaviour, return temperatures, system components



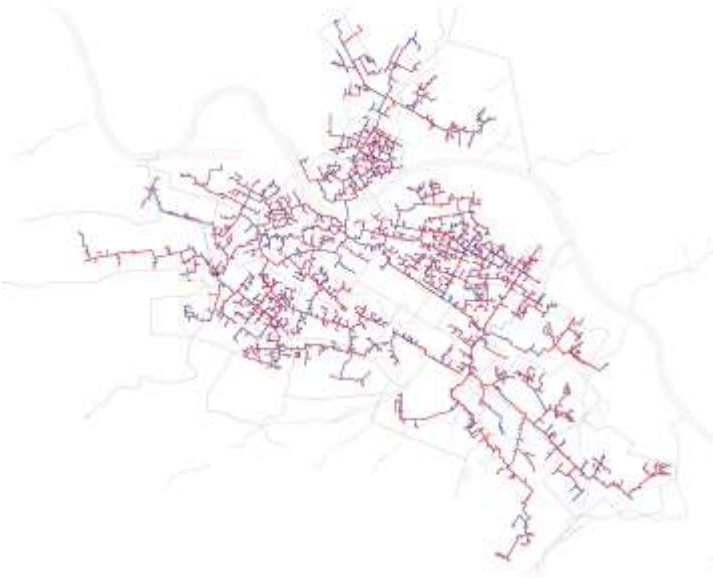
expectations

- reduce exergetic losses
- knowledge about the dynamic reaction

Results and outlook

ENERGY

- field study completed, evaluation still on-going
- savings in CO^2 determined
- investigation of further boundaries necessary (operating behaviour, …)
- system temperatures below 105 °C necessary for RES
- interest from municipal side in the results



CONTACT US

Project coordinator

Ayuntamiento de València

coordinator@matchup-project.eu

local project partner

DREWAG/ENSO Dresden

georg.hamann@enso.de

+49 351 468 4437

MATCHUP

www.matchup-project.eu

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Backup

ENERGY

New thermal storage

ENERGY

- New heat storage at Innovation Power Plant: Run dynamic scenarios on behaviour of thermal storage
- Studies on integration of fluctuating renewables