



# H-DisNet

## Intelligent Hybrid Thermo-Chemical District Networks

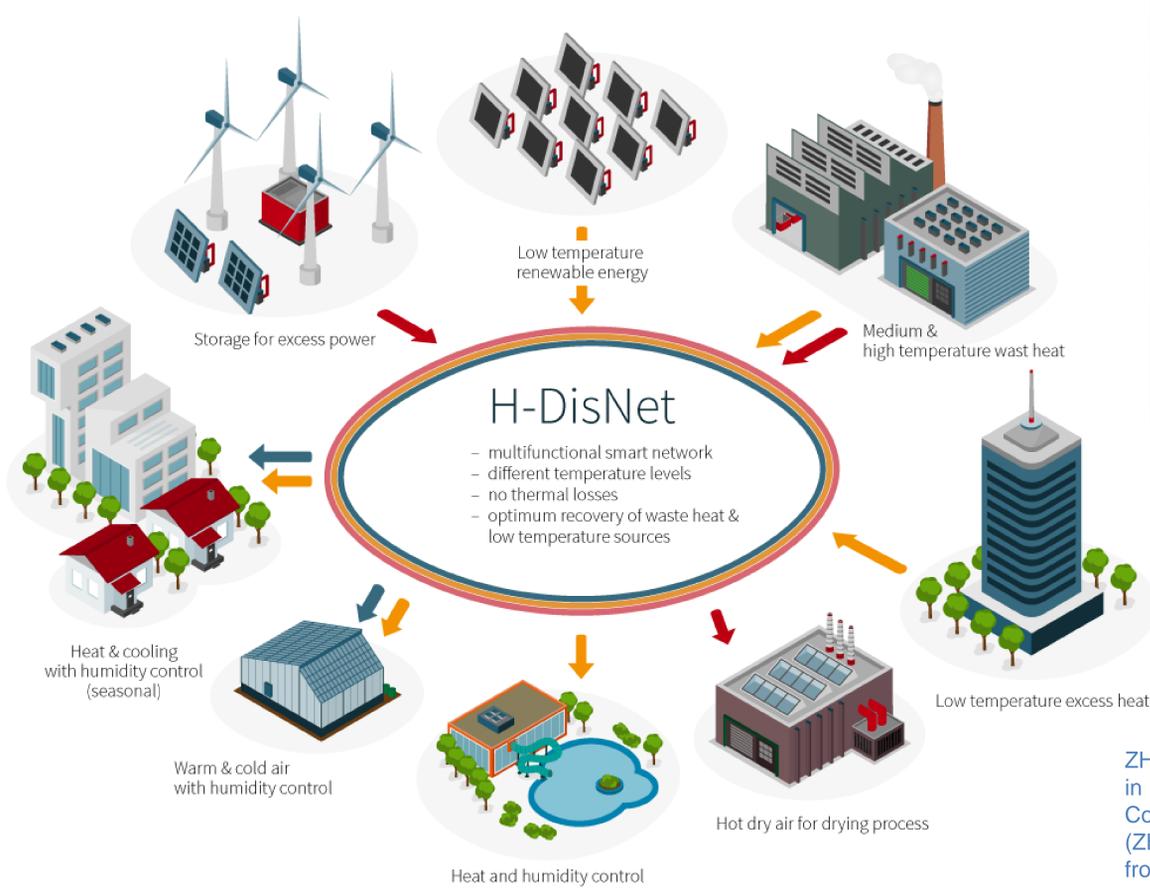
The H-DisNet project develops a new generation of district heating and cooling network: **a district thermochemical network without thermal losses in the storages and transport.**

The core innovation is the use of thermochemical fluids, for example **brine**, instead of water as transport medium: **chemical potential is transported**, not thermal energy, the thermal energy is released by contact between fluid and water vapor. The absorbed water shall be then separated from the fluid to start a new cycle (regeneration) by use of heat also at low temperatures as residual heat or renewables.

H-DisNet allows to transport heat to users far away from the heat sources as well as a time shift between heat production and use.

The technology will be applied to form an intelligent network which will significantly:

- increase **energy efficiency** of heat transport and storage, also long-term storage
- increase utilization of **residual heat and renewables** at low temperature
- contribute to a wider usage of district networks by allowing heating and cooling in one **multifunctional network** and by adding the additional services drying and humidity control
- reduce the **primary energy usage**



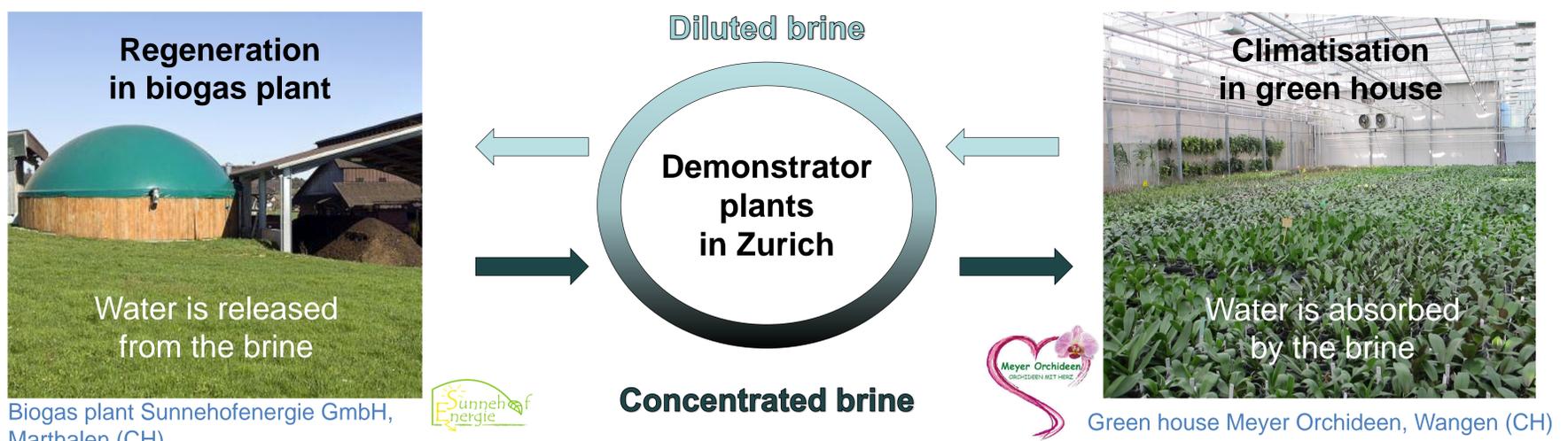
The intelligent Hybrid Thermo-Chemical Network



ZHAW and Watergy tested the absorption technology in previous projects: the High Temperature Condensing Technology, installed by Th. Bergmann (ZHAW) in the power plant Berlin Buch, recovers heat from the flue gas in an ab- /desorption process (top); an absorption box of Watergy is installed in a prototype building in Berlin (bottom)

The technology is tested in different infrastructures in Switzerland, Germany and Great Britain.

The regeneration of the brine and its climatisation effect are being demonstrated in a biogas plant and in a green house in the region of Zurich (Switzerland).



Biogas plant Sunnehofenergie GmbH, Marthalen (CH)



Green house Meyer Orchideen, Wangen (CH)