

Key outputs of SAPHEA

Digital market hub for consultancy and fostering geothermal heating & cooling (geoHC) networks in Europe

- Early stage decision support tools to evaluate the techno-economic feasibility for deploying geoHC networks in your region
- Digital instruments to develop strategic roadmaps for deploying geoHC network in your region
- Access to expert knowledge on key market drivers, business models and financing instruments to make your geoHC network viable
- Access to information on technological options to develop the most suitable geoHC network in your region
- B2B network of competence and interest to improve energy policies and foster knowledge transfer
- Targeted events, webinars and trainings to bring geoHC networks closer to decision makers

Get in contact

www.saphea.eu



SAPHEA in a nutshell

SAPHEA - Developing a single access point for the market uptake of geothermal energy use in multivalent heating and cooling networks across Europe

Funding programme: Horizon Europe

Grant Agreement number: 101075510

Runtime: October 2022 – June 2025

Consortium: GeoSphere Austria (Coordinator), 9 partners representing universities, research labs, interest groups and industry representatives covering key heating and cooling markets in Europe (Austria, Denmark, France, Germany, Italy, Poland and United Kingdom)



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SAPHEA

INTEGRATING GEOTHERMAL HEATING AND COOLING NETWORKS IN EUROPE

„Europe is sitting on a goldmine of unaccounted for renewable energy“

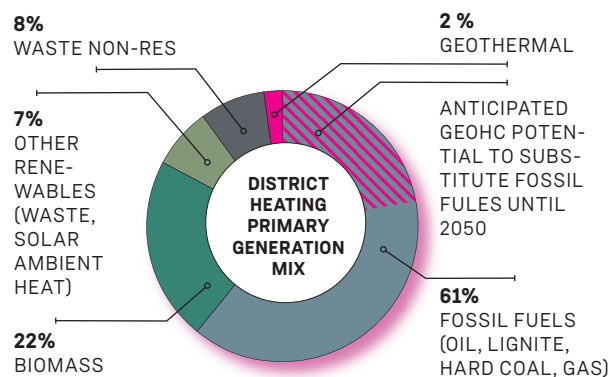
Stephan Brandligt

Vice President of EnergyCities

Column of Euractiv.com; 02.12.2021

The challenge SAPHEA tackles

- Heating and cooling in buildings accounts for 50% of the EU's energy consumption ⁽¹⁾
- Only 23% of heating and cooling is generated by renewable sources ⁽²⁾
- District heating only covers 11% of final energy use ⁽³⁾
- Geothermal energy only covers 2% of heat supply in district heating supply, while fossil fuels are still dominating (61%) ⁽³⁾
- District heating and cooling networks supplied by renewable energy sources represent a key leverage to provide a clean, energy-efficient, and cost-effective alternative to fossil-fuel based heating



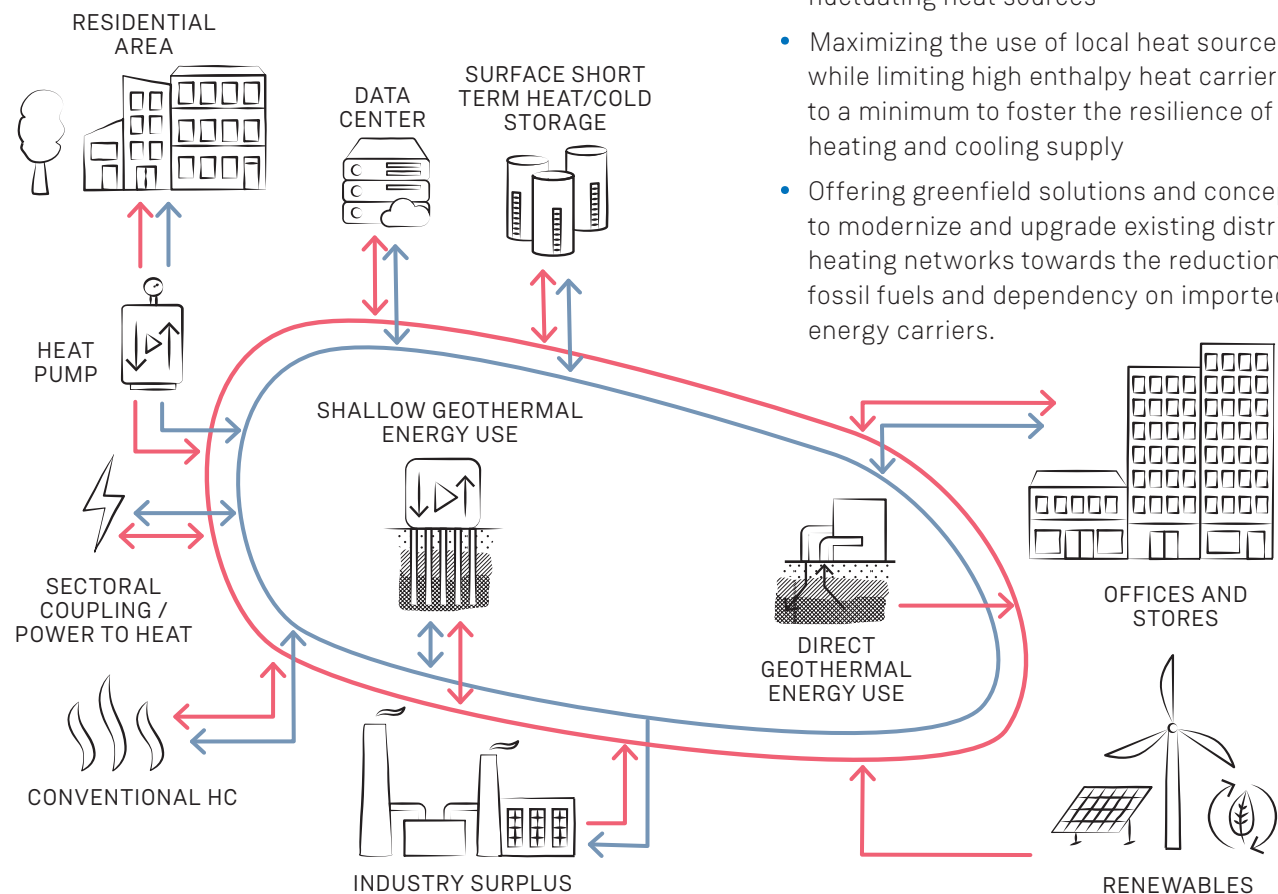
Scheme based on the publication DGE ENER/C1/2018-494, edited
(1) IEA 2020; (2) Eurostat; (3) DGE ENER/C1/2018-494

„SAPHEA will tackle the challenge in promoting geothermal energy supplied heating and cooling networks to become a key element of the green and sustainable transformation of the European energy sector“

(Gregor Goetzl - main proposer SAPHEA)

The mission of SAPHEA

- Increasing the share of geoHC networks inside the European heating and cooling market to at least 10% by 2050
- Seeding 3.000 new geoHC networks for substituting at least 180 TWh per year of fossil supplied heat and cold by 2050
- Seeding at least 90.000 local to international green jobs linked to the deployment and maintenance of geoHC networks
- Saving scarce urban space by shifting the energy supply system to the subsurface



The „geoHC“ network concept by SAPHEA

GeoHC networks represent bi-to Multivalent heating and cooling networks supplied by geothermal energy.

- Local to city-scale heating (and cooling) networks operating at temperature ranges below 30°C and up to around 120°C and peak load capacity levels between around 500 kW and several tens to hundreds of MW
- Geothermal energy provides base load supply or seasonal heat storage for on-site available, fluctuating heat sources
- Maximizing the use of local heat sources while limiting high enthalpy heat carriers to a minimum to foster the resilience of heating and cooling supply
- Offering greenfield solutions and concepts to modernize and upgrade existing district heating networks towards the reduction of fossil fuels and dependency on imported energy carriers.