SAPHEA

INTEGRATING GEOTHERMAL HEATING AND COOLING NETWORKS IN EUROPE

Dissemination and promotion material and media packages

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Contents

1. Introduction

SAPHEA is a HORIZON Coordination and Support Action (CSA) that addresses the uptake of multivalent heating and cooling networks supplied by geothermal energy and underground storage ('geoHC networks') by creating a durable digital market uptake hub. The hub contains toolboxes and guidelines to support stakeholders in early-stage investment decisions and strategy planning activities, and addresses market actors in districts or municipalities all across Europe. Therefore, the project combines, adapts and expands existing open source tools considering a set of market ready and emerging technological concepts linked to geoHC networks.

The main objectives of the project are:

- Establishing a digital access point for decision making support and consultancy on geothermal energy use in heating and cooling networks
- Adapting and upgrading existing datasets and tools for early stage investment decisions and strategic planning of energy suppliers, communities and municipalities
- Fostering supportive market frameworks to facilitate future investments into 'geoHC networks'
- Reducing social gaps and barriers to bring 'geoHC networks' closer to regional stakeholders across Europe
- Empowering future investors and operators of 'geoHC networks'

2. Description of the Market Uptake Hub and target group

The Market Uptake Hub is a digital platform serving as the central access point for exploring tools, data, and guidance to support the development of geothermal-based district heating and cooling (geoDHC) systems across Europe.

The hub comprises different sections:

- Strategies & Guidelines, bringing together SAPHEA's core strategic outputs. It includes scenario-based planning tools, regulatory overviews, business model recommendations, and financing strategies—providing structured guidance for local and regional geoDHC implementation.
- Data & Viewers. The interactive tools and key datasets have been developed to support spatial and financial planning. The GIS Implementation Viewer, based on COST Action Geothermal-DHC, presents existing geoDHC projects across Europe. The EU27 Financial Mapping Tool helps users identify relevant national and regional funding instruments. A separate collection of spatial datasets compiled by SAPHEA supports local resource assessment and energy planning.
- Knowledge Base where all project outputs are made publicly available, including reports on market conditions, scenario catalogues, policy recommendations, business model blueprints, and spatial data documentation. These resources are designed for reuse by local authorities, researchers, and practitioners.
- Gamebook is an interactive digital guide that supports early-stage planning for geothermal heating and cooling networks. Inspired by the "Choose Your Own Adventure" format, it allows users to take on the role of different market actors, face real-world challenges, and make tailored strategic decisions. Along the way, it offers a structured, engaging path through SAPHEA's key deliverables, making expert content accessible and actionable. Fact sheets, self-assessment tools, and scenario prompts help turn knowledge into practical insight.

Figure 1: Market Uptake Hub visual as in the SAPHEA website

The Market Uptake Hub targets municipal planners, energy utilities, policy advisors, and consultants to guide early-stage decision-making with tailored, evidence-based resources.

Currently, the Market Uptake Hub is hosted on the gogeothermal website, in the section dedicated Resources. The gogeothermal website serves as an online repository of geothermal projects. After the end of the project, both the SAPHEA project website and the Market Uptake Hub website will continue to be maintained by EGEC (partner) and all the Market Uptake Hub will continue to be publicly available.

3. Awareness raising

3.1. Dissemination events and webinars

SPAHEA cross-thematic workshop (September 2024)

The Geothermal District Heating and Cooling Days 2024 kicked off with the SAPHEA workshop, where innovative solutions for integrating geothermal district heating and cooling into European cities and industries were showcased. Presenters discussed current case studies from Spain and France, as well as new funding opportunities. Participants engaged in open discussions about the latest technologies and the challenges and opportunities facing geothermal energy in Europe. This session provided a vital platform for dialogue on the future of geothermal energy [1]. During the workshop, key aspects and tools of the Market Uptake Hub were presented even before the official launch of the digital platform.

SAPHEA Cross-thematic workshop (May 2025)

On 20 May, the final Cross-Thematic SAPHEA Workshop took place at GeoSphere Austria in Vienna, bringing together experts and stakeholders to explore how we can accelerate the uptake of geothermal heating and cooling across Europe.

Organised in the framework of Geothermal District Heating and Cooling Days 2025, the workshop fostered constructive dialogue and knowledge-sharing across disciplines. Breakout sessions focused on some of the most pressing topics analysed within the Market Uptake Hub:

- Estimating geothermal potential
- Integrating geothermal into district heating networks
- Financing and business models for geothermal projects
- Roadmaps and policy frameworks to support deployment

Booth at the European Heat and Power Congress 2025

The SAPHEA project was present at the EUROheat & Power Conference in Prague. The Conference is a well-known event to exchange on legislation, business models, technology and market developments within the district heating and cooling community, reaching around 400 business executives and local authority representatives. As all the above-mentioned topics are addressed on the SAPHEA Market Uptake Hub the presence at the

[1] Geothermal District Heating and Cooling Days 2024: A Landmark Event for Innovation and Collaboration in Paris – Presentations Available! - EGEC - European Geothermal Energy Council

exhibition offered great opportunities to exchange with the present audience and increase the visibility and outreach of the Market Uptake Hub.

- Figure 2: SAPHEA boot at the EHP congress 2025

Italian Dissemination event: Geothermal Energy for District Heating: Discover the Results of the SAPHEA Project (June 2025)

On 6 June, the final event of the European SAPHEA project took place in Italy, with the option to join online. The event showcased tools and results supporting the integration of geothermal energy in district heating and cooling (DHC) networks. Experts presented scenario catalogues, datasets, and open-access resources developed to help cities design low-carbon heating strategies.

Figure 3: Cover picture of SAPHEA event: la geotermia per il teleriscaldamento/raffrescamento risultati del progetto europeo "SAPHEA" (June 2025)

SAPHEA Workshop: How to integrate Geothermal Energy into local heating and cooling planning? (June 2025)

The workshop aimed to show the variety of options to integrate geothermal energy into H&C networks, how geothermal energy can be integrated into local H&C planning activities in exemplary cities, and to showcase available open-source materials to be used in local H&C planning.

The target group of the webinar are persons working on the H&C decarbonisation in cities across Europe, like persons in city administrations, (local and regional) energy agencies, H&C planners and consultants, as well as research, NGOs and other interested persons.

Date: 26 June 2025, 12:30-14:00

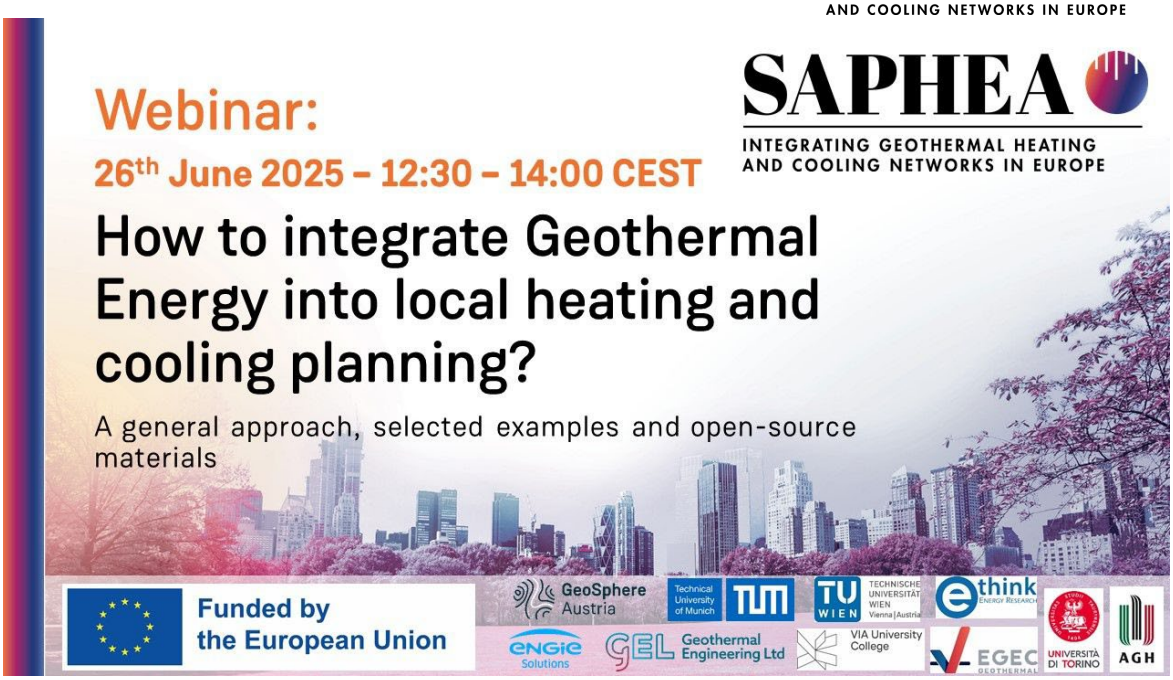

Figure 4: Cover of the SAPHEA workshop: How to integrate geothermal energy into local heating and cooling planning (June 2025)

SAPHEA webinar: Explore the SAPHEA Tools and Market Uptake Hub for Geothermal DHC (June 2025)

This webinar aimed at showcasing SAPHEA tools and the Market Uptake Hub.

Date: 26 June 2025, 14:30-15:30

Recording available here: Explore the SAPHEA Tools and Market Uptake Hub for Geothermal DHC – Egec

Figure 5: SAPHEA webinar: Explore the SAPHEA tools and market uptake hub for geothermal DHC (June 2025)

3.2. Media package

SAPHEA flyers and infographics

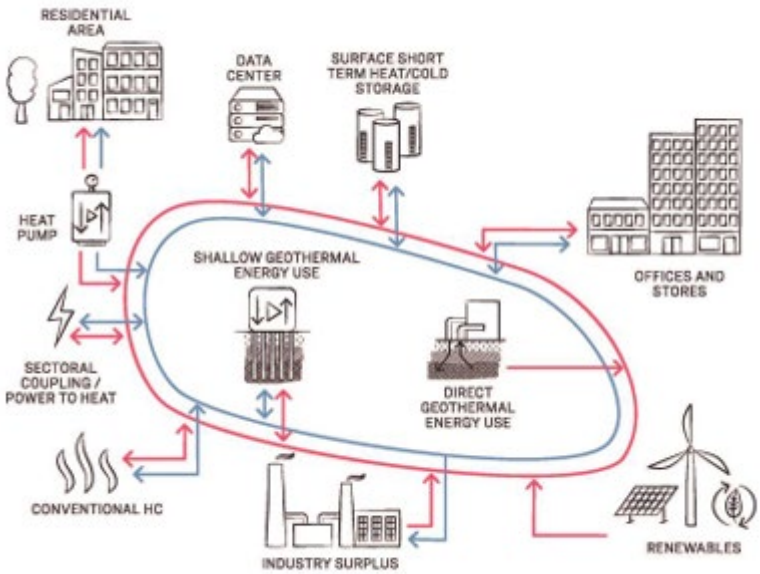

Figure 6: General scheme of a multivalent HC network supplied by geothermal energy [2]

[2] GeoHC-networks.pdf

Figure 7: SAPHEA flyer [3]

[3] Saphea_Flyer.pdf

SAPHEA
INTEGRATING GEOTHERMAL HEATING AND COOLING NETWORKS IN EUROPE

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

In a nutshell

Funding program	HORIZON-CL5-2021-D3-02-03	**Runtime**	10/2022 to 06/2025
Consortium	***Geological Survey of Austria (AT)**, e-think (AT), AGH University of Science and Technology (PL), University of Turin (IT), European Geothermal Energy Council (BE), VIA University College (DK), Technical University of Vienna (AT), Technical University of Munich (DE), ENGIE (FR), Geothermal Engineering Ltd. (Associated Partner, UK).*		
Scope	Integrating geothermal energy (source and storage) at its full technological range into heating (and cooling) networks at temperature ranges between <30°C and up to ~100°C (***'geoHC networks'***)		

Objectives

- *Establishing a **digital access point** for decision making support and consultancy on geothermal energy use in heating and cooling networks*
- *Adapting and **upgrading existing datasets and tools** for early stage investment decisions and strategic planning of energy suppliers, communities and municipalities*
- *Fostering **supportive market frameworks** to facilitate future investments into 'geoHC networks'*
- *Reducing social gaps and barriers to **bring 'geoHC networks' closer to regional stakeholders** across Europe*
- ***Empowering** future investors and operators of 'geoHC networks'*

Approach

- *Investigating key techno-socio-economic drivers to make 'geoHC networks' more attractive*
- *Integrating geoscientific data and knowledge into existing decision support tools*
- *Developing digital interfaces for providing guidance to stakeholders in Europe (e.g. energy suppliers or communities)*
- *Developing a web based hub as well as a network for geothermal energy use in heating and cooling networks*
- *Knowledge transfer and capacity building*

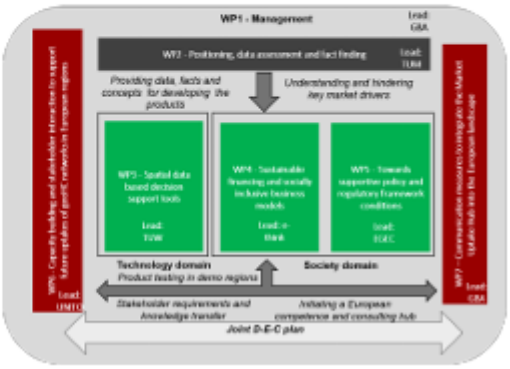

Figure 8: SAPHEA outline [4]

Series of short videos on the Status Report on Financial Mechanisms for geoDHC networks

The "Status Report on Financial Mechanisms for GeoDHC Networks" has shed light on the important steps that must be taken to expand GeoDH systems across Europe and unlock their decarbonisation potential. To promote the key findings of this report, a series of

[4] SAPHEA_Outline_15102022.pdf

videos (4 short videos) has been published as a blog on LinkedIn, each addressing a specific aspect of financial mechanisms for geoDHC networks.

The first video [5] (18 June 2025) introduces the report and the elements that are addressed within it.

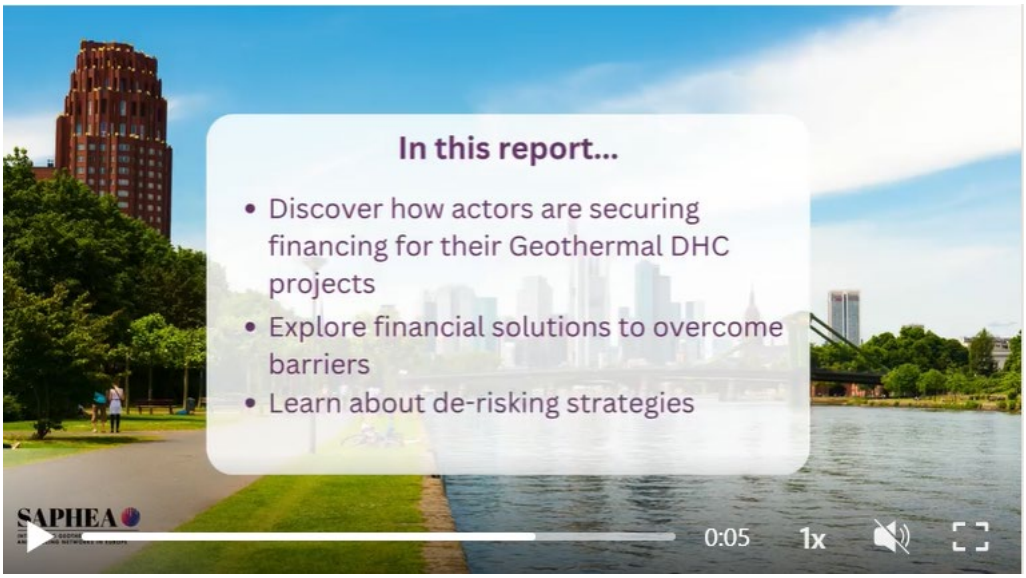

Figure 9: First video on the Status report on Financial Mechanisms for geoDHC networks

The second video [6] (20 June 2025) focuses on the three key barriers to securing funding: high upfront costs, perceived risks, and regulatory uncertainty.

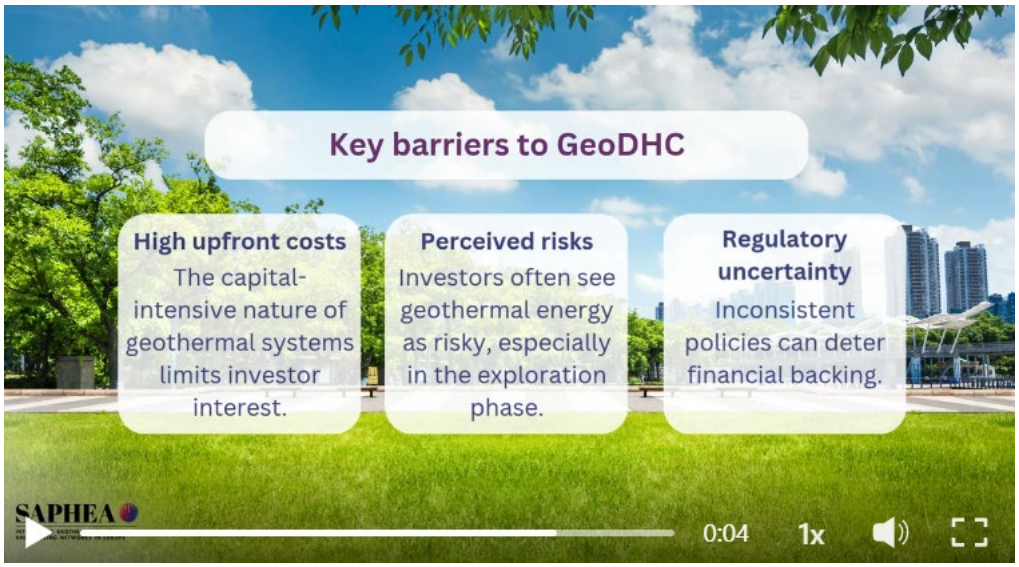

Figure 10: Second video on the Status report on Financial Mechanisms for geoDHC networks

[5] gogeothermal.eu/wp-content/uploads/2025/07/Status-Report-post-1-2-1.mp4

[6] gogeothermal.eu/wp-content/uploads/2025/07/Status-Report-post-2.mp4

The third video [7] (23 June 2025) addresses key de-risking mechanisms that have been considered within the report.

Figure 11: Third video on the Status report on Financial Mechanisms for geoDHC networks

The fourth video [8](24 June 2025) focuses on the measures that are needed to fully unlock the potential of geoDHC systems.

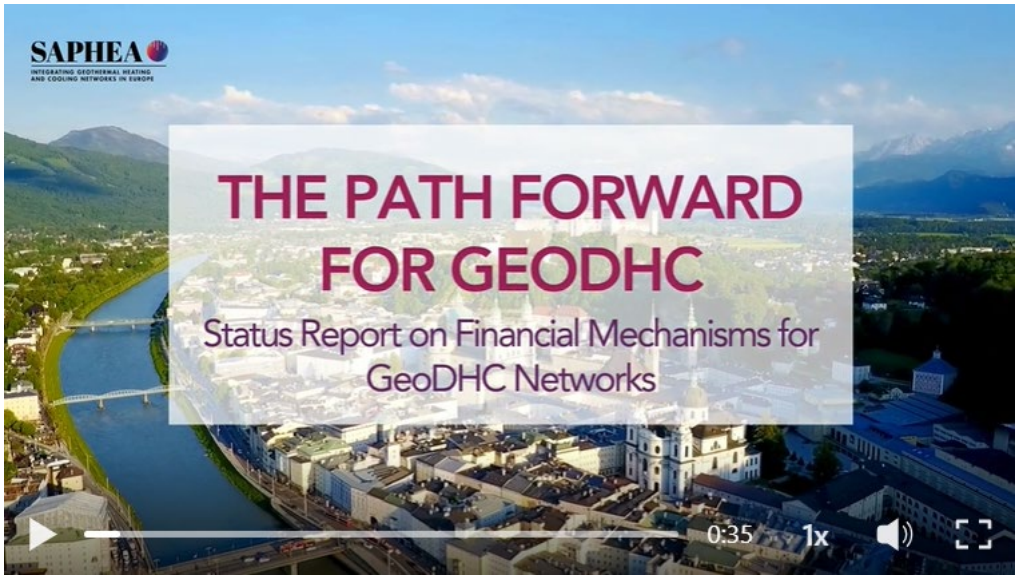

Figure 12: Fourth video on the Status report on financial mechanisms for geoDHC networks

SAPHEA video on business models for geoHC networks in Europe

This video [9]showcases the innovative business models that have been analysed in the Reports on the Status of business models relevant for geoHC and Blueprints for business models.

[7] gogeothermal.eu/wp-content/uploads/2025/07/Status-Report-post-3.mp4

[8] gogeothermal.eu/wp-content/uploads/2025/07/Status-Report-post-4.mp4

Figure 13: SAPHEA video on business models

[9] Geothermal District Heating & Cooling: benefits and business models (SAPHEA Project #HorizonEU)