SAPHEA
INTEGRATING GEOTHERMAL HEATING AND COOLING NETWORKS IN EUROPE

D 7.6 Summary Report on Scientific Dissemination Activities and Measures

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Executive Summary

This report presents a comprehensive overview of the scientific dissemination activities conducted within the SAPHEA Horizon Europe project, aimed at accelerating the deployment of geothermal energy in district heating and cooling (DHC) networks across Europe. Dissemination efforts targeted academic researchers, scientific institutions, industry professionals, and policymakers through presentations at major geothermal conferences, specialized workshops, university course integrations, and online training resources. Key events included the European Geothermal Congress, Polish Geothermal Congress, and EGU Splinter meetings, where SAPHEA's innovative digital tools and datasets were showcased.

The project's open-access approach, through repositories such as GitLab and Zenodo, ensures wide availability and reuse of harmonized geospatial datasets, code, and documentation aligned with FAIR data principles. This transparency supports scientific collaboration and facilitates scenario-based energy planning across Europe. The integration of SAPHEA materials into university curricula further reinforces capacity building, securing the project's long-term impact.

Moving forward, SAPHEA partners plan to sustain dissemination beyond the project lifecycle by maintaining active participation in scientific forums, enhancing policy engagement, and expanding training resources to promote tool adoption. These continued efforts will underpin SAPHEA's contribution to Europe's renewable energy transition and geothermal innovation.

1. Introduction

The SAPHEA project addresses the critical need for sustainable energy solutions by accelerating the integration of geothermal resources into district heating and cooling systems across Europe. Central to its mission is the dissemination of scientific knowledge, tools, and data to foster collaboration and informed decision-making among researchers, industry stakeholders, and policymakers.

This report details the strategic dissemination measures implemented throughout the project, highlighting scientific presentations, workshops, and educational activities designed to engage diverse audiences within the geothermal and energy planning communities. By embedding SAPHEA tools and findings into academic programs and facilitating access to open-source datasets and software, the project promotes transparency, capacity building, and long-term usability of its outputs.

The subsequent sections provide an overview of dissemination activities, a summary of key scientific events, descriptions of open-access data sharing initiatives, and reflections on the project's impact and future recommendations. Together, these elements demonstrate SAPHEA's commitment to enhancing Europe's geothermal sector through collaborative science and knowledge exchange.

2. Overview of Scientific Dissemination Measures

The table below gives a structured overview about the scientific dissemination measures of the project SAPHEA. These activities primarily targeted academic researchers, scientific institutions, and technical networks, and included conference presentations, university-level courses, and specialized workshops.

Table 1: Overview on Scientific dissemination measures

Name	Type	Date	Country	Responsible partner	Key target audience
Polish geothermal congress	Presentation	29.11. – 1.12.2023	Poland	AGH/UST	Researchers, engineers, policymakers, and industry professionals focused on geothermal energy in Poland.
EuroHeat & Power Congress	workshop	2024	Netherlands	E-THINK	District heating operators, municipal energy planners, regulatory bodies, and energy service companies.
Baker Hughes – Policy and Business Models for Geo-DHC	Lecture	October 2024	Italy	EGEC	Young industry professionals
EGU Splinter meeting	Presentation / Workshop	April 2025	Austria	E-THINK, GeoSphere Austria, UNITO	Academia, scientific researchers in geosciences, and climate/energy modeling experts.personnel
Integration of SAPHEA in University Course	Personal	2022 – 2025	Poland (AGH)	AGH/UST	University students (primarily MSc-level) in renewable energy, environmental sciences, and engineering.
European Geothermal Congress 2025	Presentation	Submitted and planned for October 2025	Switzerland	TUM & AGH/UST	Researchers and technical experts in geothermal feasibility, energy systems, and infrastructure planning.
Baker Hughes – Policy and Business Models for Geo-DHC	Lecture	April 2025	Italy	EGEC	Young industry professionals
Spring lecture on Geothermal TUW	Course	April 2025	Austria	TUW	Graduate students, young researchers, and faculty in energy planning and geothermal engineering.

Petroleum Engineering Summer School – Policy and Business Models for Geo-DHC	Lecture	June 2025	Croatia	EGEC	Engineering university students and young professionals

3. Scientific Presentations and Events

Short event description:

Polish Geothermal Congress 2023:

SAPHEA was presented as a Horizon Europe project aimed at accelerating geothermal deployment in district heating and cooling (DHC) networks across Europe. Emphasis was placed on online tools developed to guide sustainable energy planning and reduce reliance on fossil fuels.

https://kongresgeotermalny.pl/viii-ogolnopolski-kongres-geotermalny/projekt-horyzont-europa-saphea-wiecej-geotermii-w-sieciach-cieplowniczych-2/

EGC 2025 Paper AGH/UST:

The SAPHEA team will present the pan-European directory and scenario catalogue designed to assess geothermal energy potential. This resource supports both qualitative and quantitative feasibility studies for integrating geothermal into energy networks.

EGC 2025 Presentation (TUM)

This presentation is submitted as a contribution to the EGC 2025 and will cover the geothermal feasibility assessment parameters and introduced structured methodologies developed by SAPHEA for scenario-linked planning.

EGU 2025 Splinter session:

SAPHEA's digital tools, including the Market Uptake Hub (MUH), financial mapping features, and the Gamebook for scenario planning, were demonstrated. The event brought together scientific researchers from geoscience and energy planning communities.

University Course Integration (AGH/UST)

Between 2022 and 2025, the SAPHEA project was integrated into the teaching curriculum for students in the "Ecological Sources of Energy" program at AGH University, offering academic exposure to the tools and datasets developed.

Spring Lecture on Geothermal at TU Wien

SAPHEA tools were used to engage graduate students in geothermal planning, emphasizing scenario-based decision-making and funding strategy development.

Baker Hughes – Next Leader programme (2024-2025)

EGEC was invited to participate in both 2024 and 2025 edition of the Next Leader Programme organized by Baker Hughes in Florence, Italy. At both editions, EGEC presented the policy and business models for geoDHC analysis that has been carried out within SAPHEA. The lecture addressed young professionals from all over the world with an engineering, economic and geological background.

Petroleum Engineering Summer School (PESS) 2025

EGEC was invited to provide a lecture on geothermal potential in Europe at the PESS 2025 edition in Croatia. Part of the lecture covered policy and business models for geoDHC analysis carried out within the SAPHEA project. Additionally, the Market Uptake Hub and all its tools were presented. The lecture addressed engineering students and young professionals.

Further Scientific dissemination via training and educational events:

Many of the capacity-building activities outlined in Deliverable D6.2 also served a scientific dissemination function. These included participation in academic conferences (e.g., EGU 2025), integration into university courses (e.g., TU Wien, AGH UST), and the facilitation of interactive workshops aimed at researchers and technical experts.

The dissemination was further supported by:

- Online tutorials hosted on the SAPHEA YouTube playlist (Partner: e-think),
- Training documentation and datasets on the Market Uptake Hub,
- Open-source data and tools available on GitLab and Zenodo.

These measures significantly extended SAPHEA's scientific impact and ensured that outputs are accessible and usable beyond the project's lifetime.

4. Open Access and Data Sharing

All developed tools and updated datasets of SPAHEA are available via the Market Uptake Hub and published on Zenodo, as well as on our Github repository https://gitlab.com/saphea-h2020 , including further information.

This repository serves as a digital annex to the SAPHEA HORIZON EUROPE project, providing comprehensive spatial datasets, code, and documentation to support project deliverables—especially the spatial dataset catalogue (Deliverable D2.3).

Key Contents

Data Catalogue & Guidelines: Pan-European and local geospatial datasets harmonized for WP3–WP5 use, with clear conventions on file formats (GeoTIFF, GeoJSON, CSV), coordinate systems (EPSG:3035), metadata structure, licensing, and FAIR compliance

Integration with Tools: Supports ingestion into the Hotmaps GUI and Geophires calculation modules for scenario drafting and techno-economic analysis

Case Study Data: Includes detailed geoscientific parameters for six European locations (Aarhus, Cornwall, Kraków, Nice Montferrato, Vienna, Munich) to feed into Geophires modelling

Structured Folder Layout: Each dataset repository features README.md, datapackage.json, and dedicated data folders, ensuring consistency and retrievability

Purpose & Utility

This repository acts as a digital annex supporting:

- Harmonized and accessible geospatial data across multiple countries.
- Integration-ready inputs for the project's decision-support toolbox.
- Transparency and reuse via published datasets (DOIs included)

5. Conclusions and Recommendations

The SAPHEA project has actively disseminated its scientific outputs across a diverse range of platforms, including national and international conferences, academic courses, and industry workshops. This multi-level engagement has effectively targeted key stakeholder groups: academia, researchers, students, and industry professionals.

Participation in high-impact events such as the European Geothermal Congress (EGC), EGU Splinter Meeting, and the Polish Geothermal Congress enabled the project to share findings with the wider geothermal and energy systems community, contributing to visibility and knowledge transfer at the European level.

Integration of SAPHEA content into university-level courses (e.g., AGH/UST and TU Wien) has contributed to capacity-building efforts, ensuring sustained impact beyond the project duration.

The GitLab repository (https://gitlab.com/saphea-h2020) serves as a robust, transparent, and structured platform for publishing harmonized spatial datasets and tools, enhancing reusability and long-term accessibility. Open-access dissemination through Zenodo has further ensured that datasets, reports, and tools are freely available, supporting the FAIR data principles and encouraging third-party uptake.

Continued scientific dissemination measures

Continue Dissemination Post-Project: Dissemination is actively continuing beyond the official project lifetime. For example, partners from AGH UST and Technical University of Munich have submitted presentations to the European Geothermal Congress 2025 (EGC 2025). Partners are encouraged to keep using established channels such as academic conferences, university curricula, and professional networks.

Strengthen Policy Engagement: Future efforts should prioritize more targeted outreach to policymakers through briefs, webinars, or stakeholder sessions, to help translate scientific results into actionable regional and national policy.

Facilitate Tool Adoption Through Training: Comprehensive online tutorials have been recorded and made publicly available via the Market Uptake Hub and the SAPHEA YouTube playlist hosted by project partner e-think. These materials help onboard new users to the datasets and decision-support tools.

Secure Repository and Data Sustainability: Long-term access to tools and datasets is ensured. The GitLab and Zenodo repositories remain active, and the final project agreement explicitly covers website and data sustainability. All resources are openly accessible, and their FAIR-compliant publication ensures continued usability by the research and energy communities.