

Geothermal-DHC knowledge transfer workshops on market and socio-economic related aspects of geothermal energy use in heating and cooling networks including a stakeholder forum



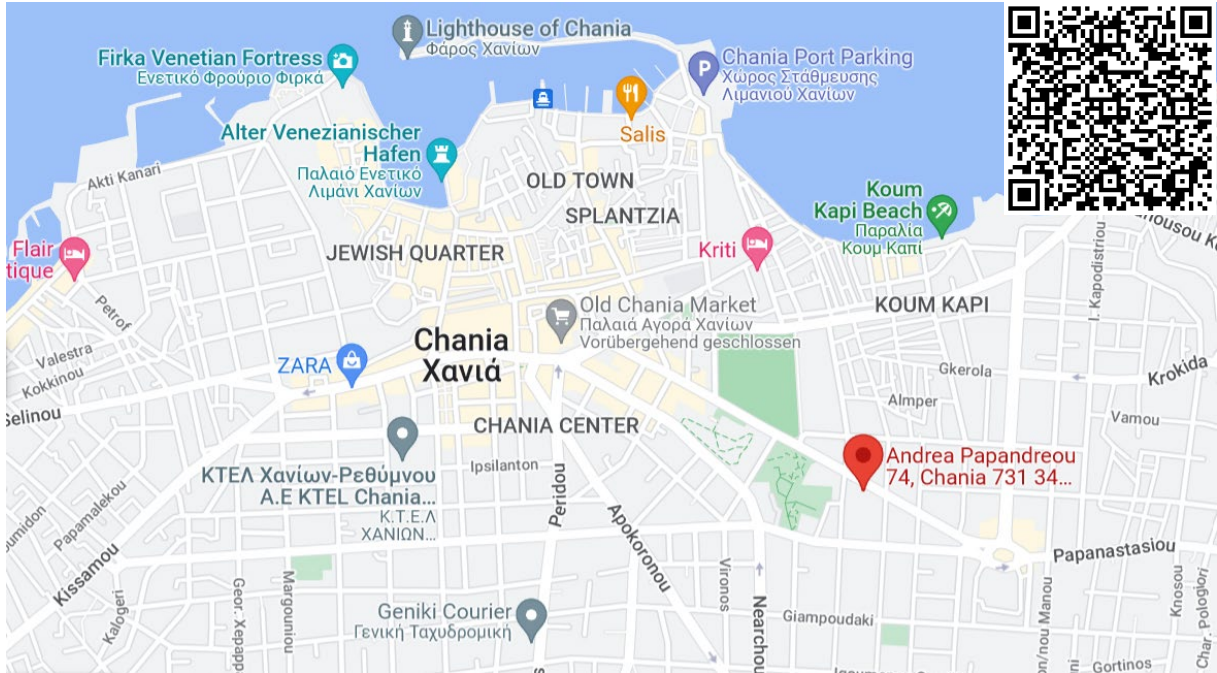
26 to 27 May 2022

Chania, Crete, Greece

The workshop is organized by the EU funded COST action CA18219 Geothermal-DHC and the Region of Crete. Here follows information about the venue, travel and the detailed program

MEETING VENUE

Cultural Centre of Chania Andrea Papandreou 74, Chania, Crete Island, Greece



TRAVEL INFORMATION

Chania has its own airport “Ioannis Daskalogiannis” (coded as CHQ). It is connected with low cost flights and is located 17 min from the venue that is located at the city centre. Alternative ways are by taxi or by car. For further information visit this website: <https://www.chq-airport.gr/en/>

For more on Crete island visit this website: <https://www.incrediblecrete.gr/en/>

DETAILED PROGRAM

Thursday, 26th of May

8:30 – 9:00 Registration

9:00 – 9:30 Opening of the workshops and welcome addresses

Spiros Papaefthymiou (TUC): Welcome address by the host

Gregor Goetzl (Geological Survey of Austria): Welcome address by the chair of CA18219 Geothermal-DHC

9:30 – 11:00 Session 1 – Country representative workshop (part 1)

Chair(s)	Gregor Goetzl, Joao Figueira
Objectives	<ul style="list-style-type: none"> • Briefings and feedbacks concerning the “100 good reason initiative” related to the use of geothermal energy in heating and cooling networks • Providing an overview of market related aspects of geothermal energy use related to heating and cooling networks in Europe from different perspectives • Sharing knowledge on the current situation in the countries participating at the workshop with regard to 1) the use of renewables in the heating and cooling sector, 2) the use of heating (and cooling) networks and 3) the use of geothermal energy as such and with regard to heating and cooling networks • Joint workshop and training on harmonized stakeholder interaction (objectives, target groups, instruments)
Short description of the session	
<p>Prerequisites: A portable PC</p> <p>Program of the session:</p> <ol style="list-style-type: none"> 1. Update of the “100 good reason initiative” to collect and characterize case studies concerning the use of geothermal energy in HC networks (Joao Figueira, Gregor Goetzl, 30 minutes) Introduction to the “100 good reasons initiative on the use of geothermal energy in heating and cooling networks” including a short presentation of the survey (Joao Figueira) How to interact with stakeholders related to geothermal systems used in heating (and cooling) networks in the framework of the 100 good reasons initiative? Practical hints and concepts (Gregor Goetzl) Q&A and short discussion (all) 2. Introduction keynote (70 min), moderation Gregor Goetzl “Current market overview and market drivers related to the use of geothermal energy in heating and cooling networks – a European overview” (Thomas Garabetian, European Geothermal Energy Council) 	

Geothermal energy use in heating and cooling networks from the perspective of an international energy service provider (Dimitri Aymard, ENGIE – requested)

“Social, economic and financial aspects of geothermal heating / cooling systems in Turkey” (Özgür Avsar, Mugla Sitki Kocman University)

“Principles of circular economy and how this topic could be connected to the use of geothermal energy in heating and cooling networks” (David Knaeble, FH Offenburg)

3. *Short country reports round 1 (Country Representatives - CR, 20 minutes)*

Introduction to the country report round and the use of the interactive tool (Miro) (Gregor Goetzl). The CRs will be asked to use the joint Miro Board during the respective sessions. The session chairs will provide technical support.

Country Representative gives a maximum 10 minute (approx. 5 slides) presentation based on a harmonized template provided ahead of the Chania workshops. All Country Representatives are kindly asked to upload their short presentations before May 23 to the following shared folder: <https://projects-gba.geologie.ac.at/s/CDwRzfSbyxkdLAL> and prepare a printed version of their slides (A4 format) to create to be presented as micro posters during the workshop.

11:00 – 11:30 Coffee break

11:30 – 13:00 Session 2 – Country representative workshop (part 2)

Chair	Vasiliki Gemeni, Gregor Goetzl, Joao Figueira
Objectives	<ul style="list-style-type: none"> • Sharing knowledge on the current situation in the countries participating at the workshop with regard to 1) the use of renewables in the heating and cooling sector, 2) the use of heating (and cooling) networks and 3) the use of geothermal energy as such and with regard to heating and cooling networks • Jointly perform a comparative analysis to identify critical factors that impact the use of geothermal energy in district heating and cooling networks
Short description of the session	
Prerequisites: A portable PC	
Program of the session:	
<p>1. <i>Country Reports (continuation of previous session, 60 minutes)</i> Country Representative gives a maximum 10 minute (approx. 5 slides) presentation based on a harmonized template provided ahead of the Chania workshops. All Country Representatives are kindly asked to upload their short presentations before May 23 to the following shared folder: https://projects-gba.geologie.ac.at/s/CDwRzfSbyxkdLAL and prepare a printed version of their slides (A4 format) to create to be presented as micro posters during the workshop.</p>	

2. *Concluding discussion: What is comparable and what is different regarding the presented countries with regards to the use of geothermal energy and the use of heating and cooling networks (CR representatives, moderation by the chair)*

Moderated discussion concluding on the Country Reports given aiming at identifying clusters of comparable framework conditions, which are then complemented by comparative analyses.

13:00 – 14:00 Lunch break - information on lunch break will be released later on

14:00 – 16:00 Session 3 – Market trends and drivers linked to geothermal HC networks

Chair	Konstantinos Tsagarakis (TU Crete)
Objectives	This section aims to benefit from looking into readily available data shared in LinkedIn company profiles by their administrators on geothermal energy. Participants will be assisted to actively participate in data analysis and prepare country presentations of key figures.
Short description of the session	
Prerequisites: A portable PC and a LinkedIn personal account	
Program of the session:	
<p>1. <i>Geothermal activity in LinkedIn (Konstantinos Tsagarakis)</i></p> <p>This presentation will demonstrate basic data collection and profile scraping techniques from LinkedIn based on keywords search. Basic analysis of this data will be demonstrated with focus on Companies. The company data that will be delivered will be among others, Size of the Company (expressed in personnel), Industry involved, Specialties (activities), number of followers, description, headquarters, etc. Participants will gain theoretical experience in data collection and handling with the aim to produce country reports based on the geothermal activity in LinkedIn.</p>	
<p>2. <i>Hands on Practical data mining and evaluation (George Tsironis, Theodoros Daglis, Konstantinos Tsagarakis)</i></p> <p>This a hands-on exercise follows the preceding theoretical presentation that will guide and assist participants to collect data on entrepreneurial activity in LinkedIn from the countries they have experience (Line and or work). A dataset per country will be already available beforehand, which will be made available to the participants. The analysis to be followed will be a guided step-by-step procedure so all countries studied during the workshop will result in comparable results.</p>	

16:00 – 16:30 Coffee break

16:30 – 17:30 Session 4 - Workshop on a special journal issue related to CA18219

Chair(s)	Konstantinos Tsagarakis
Objectives	Drafting the concept for a special issue related to of CA18219 Geothermal-DHC: topics to be addressed

	Setting up the organizational structure related to special issue publication
<p>Program of the session:</p> <ol style="list-style-type: none"><i>COST publishing policy and support (Vasiliki Gemeni)</i> Presentation of the general and Action related, specific policies related to CA18219 Geothermal-DHC as well as related procedures to receive grants for publishing from the COST Action.<i>Publishing strategy of the COST action (Gregor Goetzl)</i> Introduction to the proposed concept of a special issue and financial framework provided by CA12819 in the remaining grant periods.<i>Introduction of publishing opportunities in the journal renewable energy (Soteris Kalogirou)</i> Short introduction of the journal and expectations related to the publishing of a special issue.<i>Successful publishing practices and Closing Remarks (Konstantinos Tsagarakis)</i> Hints and practical information successful publishing (Konstantinos Tsagarakis) Concluding discussion on the final Action dissemination with the participating CA18219 members. Concluding remarks and next steps (Konstantinos Tsagarakis)	

17:30 Recap and closing of Day 1 of the Chania workshops (organizers) and information on the evening activities

19:30 Joint dinner (own costs) - information will be released later on

Friday, 27th of May

9:00 – 11:00 & 12:00-13:30 Session 5 - Exploring the EU public interest in geothermal energy using online search traffic data

Chair	Amaryllis Mavragani
Objectives	The main objective of this session is to investigate the EU public interest in geothermal energy using Google Trends. An open tool provided by Google that mainly shows what was and is trending. Up to this point, Google Trends data have been employed in several research fields and topics, mainly in health and medicine, economics, politics, and the environment. A Worldwide and US analysis will also provide ground for further comparison of public perceptions towards the topic. The team will then further assist the participants with performing country-specific analyses and presentations.
Short description of the session	
<p>Prerequisites: A portable PC</p> <p>Agenda of the session:</p> <ol style="list-style-type: none"> <i>1. Online interest in geothermal energy (Amaryllis Mavragani)</i> At first, a concise overview of Google Trends will be presented, along with representative examples of how online search traffic data have been previously employed in similar approaches. Visual time series analyses at EU level will be performed, using Google Trends data on specific geothermal energy keywords, topics, and languages. The analysis will be conducted at country level (during this part for handpicked examples only), while complementary analyses for the US states as well as a Worldwide assessment of the topic will provide ground for further discussion. <i>2. Hands on Practical data mining and evaluation (Theodoros Daglis, Amaryllis Mavragani)</i> Following the theoretical presentation, a hands on exercise that will guide and assist participants to gain more in-depth skills in correctly defining the parameters and retrieving online data will be provided by the team. This will also assist the participants in better understanding the approaches and tools that can be employed in order to qualitatively and quantitatively analyze such data. A dataset per country will be made available to the participants beforehand, and guidelines for further statistical analysis will be provided step-by-step, in order for all reports/assessments to be consistent amongst the participating countries. 	

11:00 – 11:30 Coffee break

11:30 – 13:30 Session 6a - Geothermal-DHC open Forum

Chair(s)	Spiros Papaefthymiou
Objectives	Inform regional stakeholders on the opportunities and challenges related to geothermal energy use in the heating and cooling sector and foster the interaction between international members of the COST Action and regional to national stakeholders (presentations will be partly given in Greek language)
Short description of the session	
<p>Agenda of the session:</p> <ol style="list-style-type: none"> <i>Opening of the workshop</i> Spiros Papaefthimiou (TUC) <i>Renewable Energy Systems: Current Status in the World and Prospects.</i> Soteris Kalogirou, Technological University of Cyprus, EIC Renewable Energy Journal <i>Introduction notes</i> Gregor Goetzl (chair of CA18219): Introduction to Geothermal-DHC and its relevance for decarbonizing the heating and cooling sector <i>Συστήματα και τεχνολογίες αβαθούς γεωθερμίας</i> Απόστολος Μιχόπουλος, Πανεπιστήμιο Κύπρου <i>Γεωθερμική εφαρμογή κλιματισμού και παραγωγής Ζεστού Νερού Χρήσης σε ξενοδοχειακή μονάδα</i> Στέργιος Παρανυχιανάκης, Μηχανικός Παραγωγής και Διοίκησης Πολυτεχνείου Κρήτης <i>Utilization of low enthalpy geothermal fields - The case of the Municipality of Alexandroupolis</i> Konstantinos Lymperopoulos, Kriton Energy <i>Round table discussion on geothermal energy use in heating and cooling networks</i> 	

11:30 – 13:30 Session 6b (parallel) –summary & conclusions of sessions 3 and 5 (open session)

Chair(s)	Joao Figueira, Amaryllis Mavragani
Objectives	Create a summary and conclusions derived from the previous Country Representatives sessions on 26 May.
Short description of the session	
<p>Agenda of the session:</p> <ol style="list-style-type: none"> <i>Wrap up of the outcomes of the previous sessions linked to the notes of the interactive Miro tool (Joao Figueira)</i> Recap, positioning and planning of further inputs by the Country Representatives <i>Continuation of country report (if required)</i> For details, see description of CR Sessions on May 26. <i>Compilation and conclusions from the presented country reports and the LinkedIn analysis session (Country Representatives, moderation: Joao Figueira)</i> 	

Closing discussion supported by the interactive Tool

Miro supported visualization and summary of the Country Representatives meeting (e.g., country heat maps), related topics and queries, as well as topic comparisons and trends amongst countries or amongst participants). The summary may also include time series analysis, visualizations.

13:30 – 14:30 Lunch break - information on lunch break will be released later on

14:30 – 16:00 Session 7 - Hands-on training on the design of Geothermal Systems

Chair(s)	Apostolos Michopoulos
Objectives	Training for engineers, energy planners, focus on design, shallow geothermal
Short description of the session	
This is a practical technical session, where more technical details about the design of shallow geothermal energy systems will be presented. Design examples will be demonstrated. Finally, there will be hands on exercises for further practical involvement of the participants.	

16:00 – 16:30 - Closing of the workshops and farewell by the organizers