



CA18219 Geothermal-DHC

Research network for including geothermal technologies into decarbonized heating and cooling grids

Munich meetings and workshops, detailed program

ABOUT GEOTHERMAL-DHC

The COST Action **CA18219 Geothermal-DHC** deals with the integration of geothermal technologies into heating and cooling grids across Europe. Our Action follows a technological bottom-up approach considering all different technologies covering both shallow and deep geothermal (hydrogeothermal and petrothermal), CCUS-geothermal as well as the combination of underground thermal energy storage (UTES) with other heating and cooling sources. **Geothermal-DHC** started in November 2019 and already comprises more than 70 participants from 31 countries in Europe and abroad.

More information on **Geothermal-DHC** can be found at the COST [website](#).

THE MUNICH MEETINGS AND WORKSHOPS

Between February 18 and 20 2020, the Action consortium will meet for the first time at the **Technical University of Munich (Arcisstraße 21, Munich, Germany)**. Day 1 (February 18) will host management meetings upon personal invitation. Day 2 (February 19) will cover a keynote plenary session in the morning and parallel workshop sessions in the main working groups in the afternoon. Day 3 (February 20) is reserved for a joint field trip to deep and shallow geothermal energy projects in the city of Munich. For more information on the detailed program see below.

We have chosen Munich to be the first venue of our Action as it is one of the geothermal hot spots in Germany aiming at substituting fossil fuels by deep geothermal until 2040 for providing 100% renewable district heating. Moreover, a very productive aquifer below Munich will be used to provide environmental friendly geo-cooling in cooling grids.

DETAILED PROGRAM

TUESDAY, FEBRUARY 18, 2020

Time: 9:00 am until 5:00 pm

Location: Technical University of Munich, Arcisstraße 21, Munich, Germany

The first day of our meetings is reserved for the Executive Committee (ExCo) and Management Committee (MC) board members only. The agenda of the ExCo and MC meetings will be delivered via personal invitation letters.

Session	Title	Participation
Morning session: 09:00 - 12:00	ExCo Meeting #2: Agenda will be delivered separately	ExCo members only (Chair, Vice Chair, PWG leaders)
Lunch break (12:00 - 13:00)		
Afternoon Session: 13:00 - 17:00	MC Meeting #2: Agenda will be delivered separately	MC members

SPECIAL POINTS OF INTEREST:

- About Geothermal
- The Munich meetings and workshops
- Location of the venue
- How to travel from the airport or Main train station to the TUM
- Location of the joint dinner on February 19
- List of proposed hotels

WEDNESDAY, FEBRUARY 19, 2020

Times: 9:00 am until 5:00 pm

Location: Technical University of Munich, Arcisstraße 21, Munich, Germany

The second day of our meetings and workshops will be open for all Action participants and will focus on the work in Geothermal-DHC.

Morning plenary session (09:00 – 12:00): Keynotes on the role of geothermal energy for heating and cooling networks in Germany and Europe

About Geothermal-DHC

- Introduction to the COST Action CA18219 Geothermal-DHC (**G. Goetzl, D. Milenic**, CA18219 Chair)

Geothermal resources, their current application and future opportunities in Germany and Europe

- Deep geothermal energy in Europe – Resources, current uses and future opportunities for the inclusion into district heating grids in Europe (**A. Kujbus**, EGEC)
- Shallow geothermal energy resources in Europe – the current market and outlook on prospective technologies and concepts for its inclusion into low temperature heating and cooling grids (**tbd**)
- The use of geothermal energy for heating and cooling in the city of Munich – a lighthouse for Germany (**K. Zosseder**, TU Munich and **Immanuel Pache** and **Patrick Krystallas**, SWM Services GmbH)
- Exploration challenges in petrothermal energy (**E. L. Puyeo Morer**, IGME)

Requirements and expectations on geothermal energy from the consumer's point of view

- The current situation in district heating systems in European cities and the expectations and intentions towards the use of geothermal energy in the upcoming decade 2021 – 2030 (**A. Provaggi**, Euroheat & Power).
- The expectations and requirements on the inclusion of geothermal energy into industrial processes related to the production of paper (**K. Rademaker**, KCPK)

Lunch break: 12:00 – 13:00

Afternoon workshop sessions (13:00 – 17:00): Getting Geothermal-DHC started

13:00 – 15:00: Working Group WG 1- Technology workshop (plenary)

Chair: G. Mandorne (UNITO) & K. Rademaker (KCPK)

Topics to be addressed:

- Introduction to PWG 1 (G. Mandrone)
- Overview of already existing competences in Geothermal-DHC and remaining gaps based on the Yellow Page registration
- Set-up of technological Ad-Hoc Working Groups and assignment of Ad-Hoc WG leaders – the chairs will present a methodology for the Ad-Hoc Working Groups
- Preparation of the Action Deliverable D6 “Fact Sheets on the reference sites and case studies on the inclusion of geothermal energy into heating and cooling grids, covered by the Action consortium”
- Preparation of the Action Deliverable D7 “Technical report on promising concepts for the inclusion of geothermal energy into heating and cooling grids across Europe”
- Outlook on tasks and activities in Grant Period 2 (May 2020 until April 2021)

Coffee break: 15:00 – 15:30

15:30 – 17:00: Working Group WG 2 to WG 4 - Technology workshop (parallel workshops)

Parallel workshop 1

Working Groups: PWG 2 Outreach and communication & PWG 4 Capitalization and Uptakes

Chairs:

- PWG 2: V. Gemeni (CERTH) & E. Haslinger (AIT)
- PWG 4: K. Zosseder (TU Munich) & A. Vranjes (University of Belgrade)

Topics to be addressed:

- Introduction to PWG 2 (V. Gemeni) and PWG 4 (K. Zosseder)
- Set-up of the Action related web portal (Deliverable D8): General concepts and first steps towards an Action website (PWG 2)
- Knowledge sharing and innovation management inside Geothermal-DHC (PWG 4) – setting up the interlinks between PWG 2 and PWG 4
- Presentation of the C-D-E plan and planning of the communication activities in Grant Period 2 (PWG 2) – introduction to the dissemination strategy and tools of the Action (e.g. flyers, social media)
- Setting up a targeted stakeholder communication for Geothermal-DHC (PWG 4)
- Initialization of Ad-Hoc Working Groups and definition of tasks and activities in Grant Period 2 (PWG 2 & PWG 4)

Parallel workshop 2

Working Group: PWG 3 Promoting Young Careers

Chair: M. Singh (University of Surrey) & N. Rman (GeoZS)

Topics to be addressed:

- Introduction to PWG 3 - Overview of objectives and plans (e.g. Training schools, STSMs etc.)
- Interactive discussion on educational training concept (what topics and instruments on education can be used) – initialization of an Ad-Hoc Working Group “educational concept”
- Targeted stakeholder communication in Geothermal-DHC (PWG 4)
- Initialization of further Ad-Hoc Working Groups needed and definition of tasks and activities in Grant Period 2

From 19:30 on: Joint dinner (own payment)

Location: Löwenbräukeller, Nymphenburger Straße 2, 80335 Munich.

Please note that the dinner needs to be paid for by each partner. The restaurant offers a simplified menu, which is attached to the detailed program.

THURSDAY, FEBRUARY 20, 2020

Joint field trip to geothermal installations and projects in Munich

Important note: Please make sure you have a ticket for the public transport systems in Munich as we are travelling with the underground.

Meeting time: 8:45 am

Meeting point: “Stadtwerte München” district heat station “HKW SÜD” Schäfflarnstraße 10, 81371 Munich; Entrance Brudermühlstraße



Program

1. Field Trip to the Urban Geothermal Drilling Site “Geothermie Schäfflarnstrasse”

- 09:00 Presentation (SWM Services GmbH):
 - Vision and Concept of Geothermal Utilization for district heating in Munich
 - Exploration and Drilling Concept - Site Schäfflarnstraße
 - Design of the District Heating Network and Imbedding Geothermal in Munich
- 10:00: Visit of the Drilling Site

12:00 End of Visit and Departure to ZAE Bayern (Bavarian Centre of Applied Energy Research), Garching: Lunch packages will be provided during the trip

2. Field Trip to ZAE Bayern, Walther-Meißner-Str. 6, Garching

- 13:30: Presentation (ZAE Bayern):
 - Short Introduction of ZAE Bayern
 - Project QWES II (Quality Standards of Borehole Heat Exchanges)
 - Project PIATHERM (geothermal switch heating) and GERDI (CO₂-Heat Pipe Utilization)
- 14:30 Group Photo
- 14:45 Visit of the Research Laboratory:
 - Large Scale Test Station and system triaxial test stations to estimate hydraulic conductivity of BHE
 - model experiment of a geothermal switch heating
 - Test Rig to standardize Thermal Response Tests

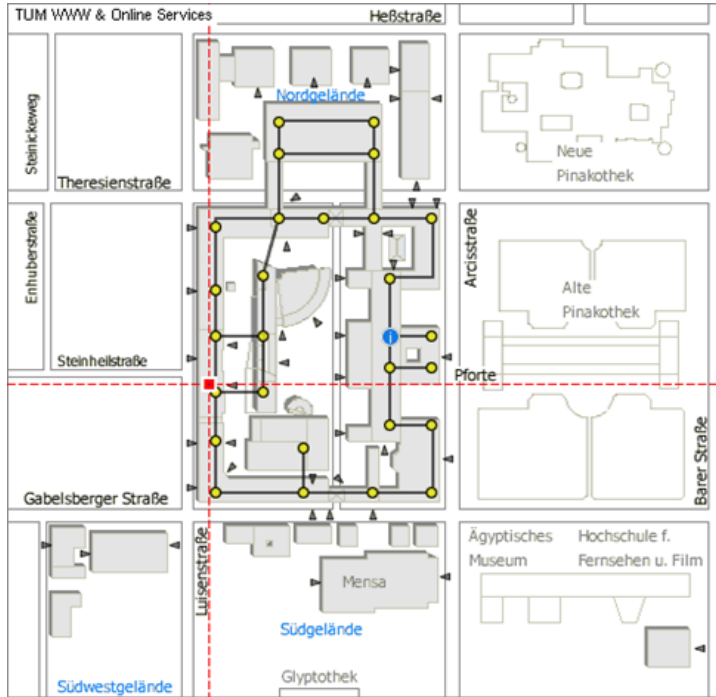
16:00: End of Visit and end of Field Trip

Please note: The last stop of our field trip is halfway to Munich airport. You may save time when carrying your luggage with you during the field trip.

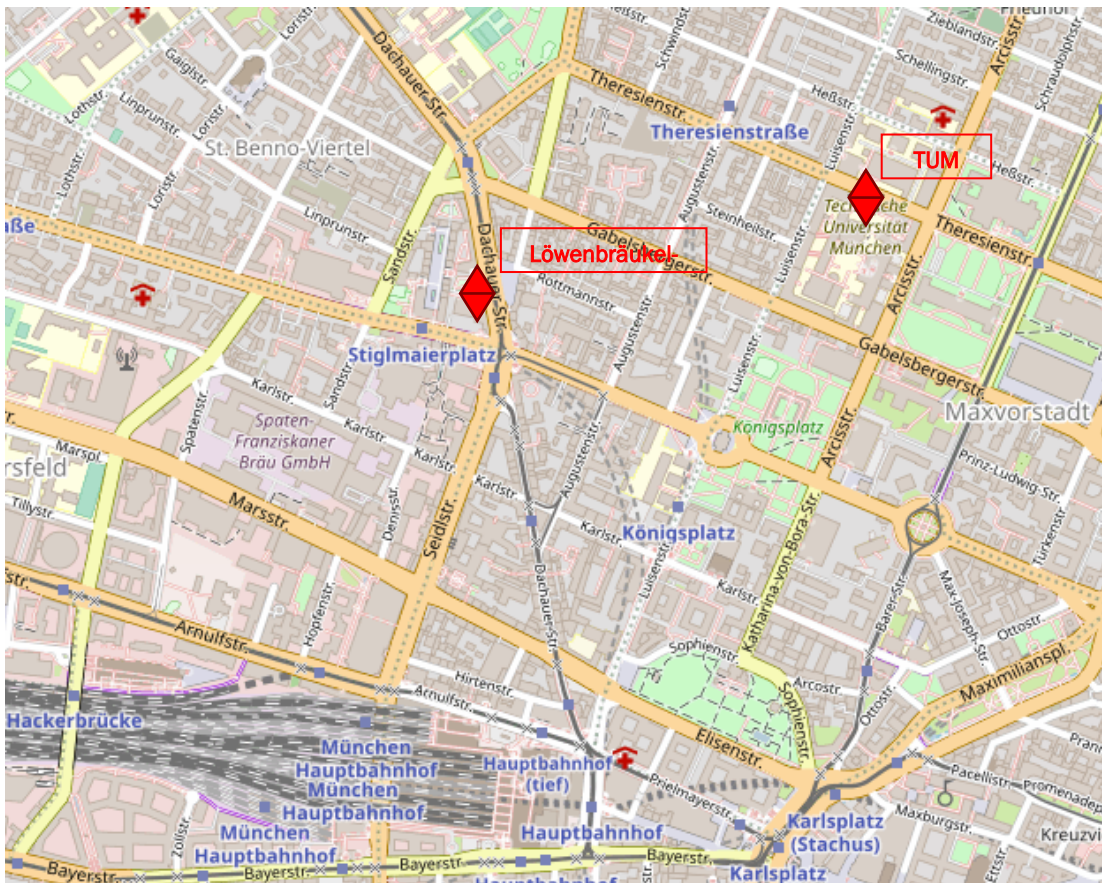
LOGISTICAL SUPPORT

Location of the venue (Technical University of Munich):

Arcisstraße 21, Munich; use entrance VIII at Luisen-/Steinheilstraße



Location of the joint dinner on February 19, 19:30: Löwenbräukeller, Nymphenburger Straße 2, 80335 Munich



How to travel from the airport or Main train station to the TUM

From airport: City Train (S1) to Station Feldmoching, exchange to Subway line U2: Theresienstraße ; 5 minutes' walk from the subway station to the TUM

From Main train station: Subway line U2 (Direction Feldmoching): Subway line U2: Theresienstraße ; 5 minutes' walk from the subway station to the TUM or Bus line 100: bus stop "Technische Universität"

Use the gate VIII in Luisenstraße, opposite of the Steinheilstraße to the Chair of Hydrogeology

List of proposed hotels

- das Hotel: Türkenstraße 35, München, +49 89 288140-0
- das kleine Hotel: Sandstraße 21, München, +49 [89 288 140-0](tel:+49892881400)
- Hotel Königswache: Steinheilstraße 7, München, +49 89 542757-0
- Augusten Hotel: Augustenstraße 2, München, +49 89 516-890-0
- Ruby Lilly Hotel Munich: Dachauer Straße 37, München, +49 89 12 50 952 10
- Hotel Europa: Dachauer Straße 115, München, +49 89 54 242-0

Acknowledgements

This article/publication is based upon work from COST Action **Geothermal-DHC**, supported by COST (European Cooperation in Science and Technology).