

Invitation to the
TS3 Webinar on “Hybrid Energy Networks”
Integrating district heating and cooling networks with the electricity and gas grid

Tuesday, 27th April 2021, 9:00 to 17:00 (CET)

A side event of the Mission Innovation Austria Online Conference
<https://missioninnovationaustriaweek.at/>

The integration of the different energy networks, such as electricity, gas and heating/ cooling is considered as one of the key measures for decarbonizing the energy system. Although district heating and cooling (DHC) networks traditionally have strong links to electricity and gas networks via combined heat and power (CHP) processes, in the last years, a major step forward has been taken towards the complete integration of the all energy domains.

Aim of the Webinar is to

- understand the current status of integrated DHC networks and see best practice examples
- discuss barriers, trends and solutions for the creation of an integrated energy market
- debate about the situation in Austria, Denmark, Germany, Sweden and United Kingdom
- learn about tools and methods for hybrid energy network planning and operation

The webinar is directed towards:

- Network operators and energy suppliers (DHC, electricity and gas TSO/DSOs)
- Policy makers, energy authorities and associations
- Solution providers, consultancies and engineering offices
- R&D institutes and universities

Attendees may attend free of charge

Registration is required by Friday, 23rd April 2021 (end of working day) via this [LINK](#). The link for the online participation will be send to the registered participants the day before the webinar.

Webinar organization: Ralf-Roman Schmidt, Ralf-Roman.Schmidt@ait.ac.at +43 664 235 19 01

This Webinar is held in the framework of the international cooperation program IEA DHC Annex TS3 „Hybrid Energy Networks“. More information at <http://www.iea-dhc.org/the-research/annexes/2017-2020-annex-ts3-draft.html> The Austrian participation in the IEA DHC Annex TS3 is financed by the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK)

Agenda part 1 (morning / noon)

Version 26.04.2021, all times in CET summertime

Block I – Integrated district heating and cooling networks: introduction and best practices

9:00 *Testing of technical connections*

9:15 **Welcome and introduction to the webinar** (*Ralf-Roman Schmidt, AIT*)

DHC as local sector integration hubs – EU policy perspectives (*Eva Hoss, European Commission/ Renewables and Energy System Integration Policy*)

Trends and opportunities in district energy (*Chiara Delmastro, IEA*)

IKB-Smart-City-Lab – A prototype for hybrid energy provision (*Reinhard Fohringer, IKB Innsbruck (Austria)*)

Sector integration and the role of DHC from a TSO point of view (*Gregor Goričar ELES, d.o.o (the Slovenian TSO)*)

Overview on best practises examples for DHC and sector integration (*Anna Kallert, Fraunhofer IEE*)

2050 Homes, a hybrid energy network in Nottingham (*Anton Ianakiev NTU, UK*)

11:00 *End of Block I*

Block II – Barriers, trends and solutions for the creation of an integrated energy market

11:00 *Testing of technical connections*

11.15 **Welcome and introduction into the webinar** (*Ralf-Roman Schmidt, AIT*)

EU legal framework for energy communities (*Achille Hannoset, European Commission/ Consumers, Local Initiatives, Just Transition*)

Local markets for energy and flexibility exchange (*Wenche Tobiasson, RISE*)

Sector coupling: Overcoming regulatory obstacles with coupled systems (*Michael Kalis, IKEM*)

Overview on different business models and the regulatory framework for hybrid energy networks (*Dennis Cronbach, Fraunhofer IEE/ Inger-Lise Svensson, RISE*)

Discussions and feedback in breakout sessions

12:45 *End of Block II*

This Webinar is held in the framework of the international cooperation program IEA DHC Annex TS3 „Hybrid Energy Networks“. More information at <http://www.iea-dhc.org/the-research/annexes/2017-2020-annex-ts3-draft.html> The Austrian participation in the IEA DHC Annex TS3 is financed by the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK)

Agenda part 2 (afternoon)

Version 26.04.2021, all times in CET summertime

Block III – country-based constraints and synergies on a national level

13:15 *Testing of technical connections*

13:30 **Welcome and introduction into the webinar** (*Ralf-Roman Schmidt, AIT*)

Overview of concepts and technologies for hybrid energy networks (*Peter Sorknæs, Aalborg University*)

Discussion of country-based constraints and synergies in parallel groups – *main language will be English, but some discussion in the native language are possible*

- **Austria** (*hosted by Ralf-Roman Schmidt, AIT*) including presentations on the flexibility demand of the Austria electricity system (*Demet Suna, AIT*) and the evaluation of efficient heat supply options for Austria (*Lukas Kranzl, TU Wien*)
- **Denmark** (*hosted by Peter Sorknæs, Aalborg University*)
- **Germany** (*hosted by Dennis Cronbach, Fraunhofer IEE*)
- **Sweden** (*hosted by Inger-Lise Svensson, RISE*)
- **United Kingdom** (*hosted by Anton Ianakiev NTU*)

Summary of country-based discussion (*each group moderator*)

15:00 *End of Block III*

Block IV – handling the complexity: Advanced tools and methods for planning and operation of hybrid energy networks

15:15 *Testing of technical connections*

15:30 **Welcome and introduction into the webinar** (*Ralf-Roman Schmidt, AIT*)

Preliminary survey results: classification of tools and methods for modelling and simulating hybrid energy networks (*Edmund Widl, AIT*)

Presentation of selected tools and methods

- **EnergyPLAN**: analysing the energy, environmental, and economic impact of hybrid energy systems (*Peter Sorknæs, Aalborg University*)
- **EnergyPRO**: combined technical and financial analysis of hybrid energy systems (*Leif Holm Tambjerg, EMD International*)
- **Pandaplan**: quasi-dynamic assessment of hybrid energy network design and operation (*Dennis Cronbach, Fraunhofer IEE*)
- **Fumola & DisHeatLib**: co-simulation-based analysis of the dynamics of hybrid energy network operation (*Benedikt Leitner, AIT*)

Interactive session on use cases, strengths, weaknesses, opportunities and threats

17:00 *End of Block IV*

This Webinar is held in the framework of the international cooperation program IEA DHC Annex TS3 „Hybrid Energy Networks“. More information at <http://www.iea-dhc.org/the-research/annexes/2017-2020-annex-ts3-draft.html> The Austrian participation in the IEA DHC Annex TS3 is financed by the Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (BMK)