

Panel Discussion

Decarbonising heating and cooling sector: a whole-system perspective

Time: Dec. 1st 13:00–14:40 (GMT+1)

Many countries around the world have pledged to achieve the net-zero emission target in the next three decades. Decarbonising heating and cooling sector is a crucial step toward reaching carbon neutrality. Given the interdependent nature of the energy system, any major programme for rolling out low-carbon technologies and fuels for heating and cooling will have substantial impacts on other energy vectors such as electricity and hydrogen/gas. The aim of this panel session is to provide an overview of various options for decarbonising heating and cooling, and explore their potential impacts on the whole energy system.

Session chair



**Dr. Meysam
Qardan**
Cardiff University

GMT+1 13:00-13:10

Introduction to the panel and setting the scene

Short Bio

Dr. Meysam Qardan is an EPSRC-UKRI Innovation Fellow and a Reader in Energy Networks and Systems at Cardiff University. His research area covers expansion and operational planning of interdependent energy networks at different scales from community to national level. Two key projects that he is currently leading are on Cross-sectoral flexibility to support the operation of low carbon power systems, and Whole-system impacts of heat decarbonisation pathways. Meysam Qardan is an Associate Editor of IET Energy Systems Integration journal.

Speakers



Mr. Mikael
Jakobsson
CEO at NXITY

GMT+1 13:10-13:25

System Dynamics and Benefits of Pool Operated Multi-fueled District Energy systems

Short Bio

Mr. Mikael Jakobsson is the CEO of NXITY, a district energy business consulting company originated from Sweden. In 2017, Mr. Jakobsson initiated the establishment of the Asia Pacific Urban Energy Association (APUEA), a sector association governed by the International Institute for Energy Conservation (IIEC). Mr. Jakobsson acts as the Executive Director of APUEA.

Mr. Jakobsson is a graduate civil engineer with a master's degree in HVAC/Energy from the Royal Institute of Technology, Sweden. Mr. Jakobsson has more than 20 years of experience within Project Management and Energy Engineering, with specialist knowledge in Design- and Operation optimization of Multi-energy systems including thermal and hydraulic steady-state and transient-state analysis of complex thermal energy systems.

In the past 10 years, Mr. Jakobsson has developed and optimized some 50 District Energy projects in Asia Pacific, whereof the majority in China. Mr. Jakobsson started his career working as an analyst, for the Finnish state-owned energy enterpri



Dr. Graeme
Hawkers
University of
Strathclyde

GMT+1 13:25-13:40

Resiliency in future low-carbon heating and cooling systems: learning from recent events

Short Bio

Dr. Graeme Hawker is a Lecturer in Future Energy Systems at the Department of Electronic and Electrical Engineering at the University of Strathclyde in Scotland. With an industry background in the development of wind energy projects and local energy systems, his current research looks at resiliency and security for future scenarios with decarbonised gas and electricity networks operating in tandem. He is a member of the UK Energy Research Centre and the Energy Institute.



Dr. Patrick
Lauenburg
District Heating Expert
at E.ON

GMT+1 13:40-13:55

The decarbonisation of heat supply in Sweden

Short Bio

Dr. Patrick Lauenburg is a specialist in district heating systems. Since 2018, he is working with optimisation and development in E.ON's largest district heating system in Malmö, Sweden. Before that, he worked at Lund University, Sweden, with district heating research and education in the field of energy systems, with focus on heat supply. He got a PhD in heat and power engineering in 2009.



Dr. David Parra
University of Geneva
GMT+1 13:55-14:10

Making the most of flexibility for renewable energy integration: learnings from an energy system analysis for Switzerland

Short Bio

Dr. David Parra is a senior researcher and teaching fellow at the University of Geneva, where he coordinates the energy storage and hydrogen research since 2016. His research is interdisciplinary in nature and integrates technical, economic, environmental and social dimensions, the latter being currently being expanded. He has proven his ability to lead collaborations on projects and publications in Switzerland and abroad. He is PI of the project Consumer-driven impacts on the grid: Peer effects on the diffusion of technologies and strategies to manage PV electricity and demand (Peer-to-Grid), funded by the Swiss National Science Foundation.

Discussion

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