

# Colloquium Thermo- and Fluid Dynamics

## Integrated Development of Low-Carbon Energy Systems (IDLES): The Role of Heating and Storage within a Whole-System National Strategy

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IDLES is a 5-year, £7M (€8M) programme whose overall aim is to provide the evidence needed to facilitate a cost-effective and secure transition to a low-carbon future for the UK. This goal is being pursued by developing a multiscale, whole-energy-systems tool that can identify optimal, integrated systems, while coordinating the complex developments and interactions within the wider energy domain. The IDLES programme comprises six projects, focussing on high temporal and spatial resolution multi-carrier and cross-sectorial energy system modelling, existing and next-generation technology characterisation, data-driven modelling and decentralised control, resilience and risk management of smart whole-energy systems, incremental versus strategic future energy system development, and market design for better alignment of investor, customer and societal objectives.

In this talk, we will review ongoing research within the IDLES programme, and proceed to discuss activities related to the value of select technologies within whole-system assessments. Trade-offs between the performance and cost of existing technologies but also of emerging, disruptive solutions will be discussed, with a focus on heating decarbonisation and the role of energy storage as part of energy transition pathways.



Date: Wednesday, 12 October 2022

Time: 16:15 - 17:15h

Place: ETH Zurich, ML F 36

Host: Prof. Aldo Steinfeld, PREC