



Forschungskolloquium | Research Seminar

Vortrag im Rahmen dieses Seminars

Titel:

District heating in a climate-neutral energy system – Modelling of transformation pathways and implications for policies

Autor:

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Abstract:

A rapid transition to climate-neutral heating is essential if the EU is to meet its climate and energy target of net zero greenhouse gas emissions by 2050. District heating networks play a vital role in this transition, especially in densely populated areas. They are an efficient and economically viable way to integrate climate-neutral heat sources on a large scale, including sources unsuitable for individual heating systems, such as deep geothermal energy or industrial excess heat. They can also provide flexibility to accommodate the increasing share of variable renewable energy sources in the electricity grid, mainly through large-scale heat pumps and storage. However, there are challenges associated with transforming and expanding district heating networks due to the high regional and technological heterogeneity involved. These challenges range from integrating climate-neutral heat sources to competition from decentralised heating systems. In this context and with the aim to contribute to overcoming the existing challenges, this research investigates the following question: What are suitable transformation pathways and policy implications for district heating in a climate-neutral European energy system?