

Symposium Climate and energy: Challenges and options from a physics perspective (SYCE)

jointly organized by
the Physics of Socio-economic Systems Division (SOE),
the Dynamics and Statistical Physics Division (DY),
the Environmental Physics Division (UP),
the Working Group on Energy (AKE), and
the Working Group "Young DPG" (AKjDPG)

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Climate change poses pressing challenges about its implications as well as about understanding complex systems, including the transition of our energy system to completely renewable supply, understanding boundary conditions and understanding climate function and impact. Physics essentially contributes to this issue because it underlies developing and improving renewable energy supply devices and plants and also adds a holistic perspective towards planning and operation of fully renewable energy systems as well as socio-economic systems as a whole. The Symposium on the energy transition, climate and its impact as well as human interactions with these processes brings together approaches from physics and the exact sciences to provide a platform for cross-disciplinary discussions. Specifically, we address the pivotal issue how to most effectively and quickly make the transition to renewable generation and distribution in the areas of heating, and mobility, both in the private and industrial sectors.

Overview of Invited Talks and Sessions

(Lecture hall HSZ 02)

Invited Talks

SYCE 1.1	Wed	9:30–10:00	HSZ 02	Towards a carbon-free energy system: Expectations from R&D in renewable energy technologies — ●BERND RECH, RUTGER SCHLATTMANN
SYCE 1.2	Wed	10:00–10:30	HSZ 02	Decarbonizing the Heating Sector - Challenges and Solutions — ●FLORIAN WEISER
SYCE 1.3	Wed	10:30–11:00	HSZ 02	The challenge of anthropogenic climate change - Earth system analysis can guide climate mitigation policy — ●MATTHIAS HOFMANN
SYCE 1.4	Wed	11:15–11:45	HSZ 02	A carbon-free Energy System in 2050: Modelling the Energy Transition — ●CHRISTOPH KOST, PHILIP STERCHELE, HANS-MARTIN HENNING
SYCE 1.5	Wed	11:45–12:15	HSZ 02	The transition of the electricity system to 100% renewable energy: agent-based modeling of investment decisions under climate policies — ●KRISTIAN LINDGREN

Sessions

SYCE 1.1–1.5	Wed	9:30–12:15	HSZ 02	Climate and Energy: challenges and options from a physics perspective
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