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SÉMINAIRE ÉNERGIE – ENVIRONNEMENT
Conférences 2021-2022

European electricity sector risks increasing regional inequalities in benefits and vulnerabilities by 2035

Jan-Philipp Sasse (UNIGE)

Jeudi 2 décembre 2021 à 17h15

Uni Carl Vogt - salle 1 (rez-de-chaussée)
66 bd Carl Vogt, 1205 Genève

Participation en présentiel sur inscription (places limitées) :
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Lien pour la diffusion en direct avec Zoom : https://unige.zoom.us/j/65489922494
ID de réunion : 654 8992 2494
Code secret : 166760

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L'orateur

Jan-Philipp Sasse joined the Renewable Energy Systems group at the University of Geneva as a PhD student in July 2018. His research focuses on spatial modelling of the Swiss and European electricity sector for equitable low-carbon scenarios. His current research project focuses on modelling the future European power system under various "effort-sharing" approaches for reaching national energy and climate targets. The goal is understand potential trade-offs between cost-efficient and regionally equitable electricity systems in terms of the broader benefits and burdens for society.

Prior to joining the group, Jan-Philipp obtained a MSc in mechanical engineering from ETH Zurich with focus on energy systems. His previous work includes optimal micro-siting of wind farms in complex terrain, WRF weather-modelling and optimal-power flow simulations for assessing demand-response potentials in Switzerland.

La conférence

Improving equity is an emerging priority in climate and energy strategies. However, little is known upfront if current strategies will reduce or exacerbate inequalities. Regional inequalities, such as regarding job opportunities or air pollution, are especially relevant in the electricity sector which has the highest ambition to transition towards clean energy sources.

In this study, we find that electricity sector scenarios of Europe in 2035 consistently risk reinforcing already existing regional inequalities. Using spatially-explicit modelling for 296 European regions, we find that the electricity sector is expected to bring benefits at a continental scale in terms of investment, new jobs, and decreased greenhouse gas and particulate matter emissions. However, benefits are again concentrated in rather affluent regions of Northern and Western Europe, while more deprived regions of Southern and Eastern Europe face higher vulnerabilities. Future policy analysis and modelling work should therefore investigate mechanisms for reducing and compensating these inequalities.