P09 / Regional cooperation for the energy transition: steps towards renewable-based regional energy planning

Topic : ENVIRONMENT, SDGs, ENERGY

Chair : Daniel del Barrio Alvarez (The University of Tokyo)

Second Chair : Dinita Setyawati (Ember Energy)

Third Chair : Muyi Yang (University of Technology Sydney)

GENERAL OBJECTIVES, RESEARCH QUESTIONS AND SCIENTIFIC RELEVANCE

Cross-border electricity trade has become a key enabler to facilitate the integration of renewables in large shares, and therefore, a milestone to achieve the energy transition. Countries across the globe are looking at connecting their electricity grids and establishing power trade agreements to support achieving their goals of moving towards sustainable energy systems. Indeed, cross border electricity trade and the benefits of interconnections between large electrical systems are generally found across all regions and continents, including also some global initiatives. Some examples are Northern Europe, United States, Western and Southern Africa, and South Asia (Agostini et al., 2019).

Nonetheless, many regions are encountering difficulties in moving beyond limited exchanges based on dedicated contracts. This represents an important bottleneck towards the goal of sustainable energy planning, as this limits the trade of electricity to large scale (in case mega-) projects that can justify the extraordinary investments by themselves. However, these projects are usually associated with higher environmental and social costs. This can include large scale dams flooding extensive inhabited areas or hydrogen generation projects in areas with limited water resources, among many others. This has led to big controversies around cross border electricity projects that, eventually, could cause strong public opposition to these projects leading to a delay on the sustainable energy transition.

Regional (supra or international) energy planning approaches are considered a suitable alternative to facilitate better coordination, harmonization, and integration of national electricity systems. As such, initiatives such as regional coordination committees, regional regulatory forums, regional capacity building programs are being proposed and experiences in many countries.

However, these experiences and the knowledge derived from them remains scattered, with little capacity for generalization. This panel aims to set a step towards the development of theories and frameworks for the analysis of renewable based regional energy planning.

· Institutional options to facilitate regional planning, operation, and/or regulation

· Financial mechanisms for supranational projects (generation and transmission)

· Innovative technological options for regionally oriented renewables (e.g. offshore energy islands)

· Empirical analyses on cooperation

· Sociotechnical imaginaries

· Geopolitical and energy security drivers for cooperation

· Energy justice and just transition implications of regional energy initiatives (both positive and negative)

References

Agostini, C. A., Guzmán, A. M., Nasirov, S., & Silva, C. (2019). A surplus based framework for cross-border electricity trade in South America. Energy Policy, 128, 673-684.

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CALL FOR PAPERS

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Session 1

Thursday, July 3rd 08:00 to 10:00 (SME-G4)

Building Regional Capacities for a Green Hydrogen Economy: Insights from the UNLOCK Project and Frameworks for Renewable-Based Energy Planning

Beata Kviatek (Hanze University of Applied Sciences Groningen)

Just transition perspectives for cross-border energy planning in Southeast Asia

Daniel del Barrio Alvarez (The University of Tokyo)

Mirza Huda (ISEAS - Yusof Ishak Institute)

(Virtual) The Political Economy of Cross-Border Electricity Trading: A Case Study of the LTMS Power Integration Project

Hannah Lord (Australian National University)

The role of non-state actors in facilitating a regional power market for energy transition in South Asia: insights from a narrative analysis

Anindya Upadhyay (LKY School of Public Policy, National University of Singapore)