TRACK 9: Nexus Governance: Rethinking the Governance of Large Technical Infrastructures

Session Proposers:

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Description:

Growing demands for the global provision of food, energy and water through large socio-technical infrastructures are generating strategic challenges for communities, businesses and governments alike. We refer to the management and resolution of these challenges as 'Nexus governance'. In this session, we will explore the way science, technology and political processes, both formal and informal, are crucially intertwined, and so influence sustainable development outcomes.

We will share a number of cases from different parts of the world that examine how nexus interactions emerge and are governed in different settings. Conventional knowledge framings, and many attempts at 'scientific' management of resources focus on sectoral concerns. Yet in practice – for governance practitioners in public agencies, businesses or among local communities - ecological, technological, institutional and political dimensions are all intimately interlinked. Examples range from technologies allowing the global exchange of information and communication along value chains in real-time, to infrastructure systems such as the mobility of persons and goods, or the production and distribution of electricity and other energy forms.

An important dimension of nexus governance addresses the resolution of conflicts between different stakeholders, each looking at the systems in question from different angles. This includes professional stakeholders as well as citizens, who often complain about sight, sound and smell nuisance caused by (the construction of) new infrastructures. In addition, risks are regularly an issue, as for example in the case of cellular phone technologies, high-voltage power lines and nuclear power plants.

This presents fundamental challenges for how to facilitate transitions to sustainability, as envisaged by the Sustainable Development Goals. In turn, this requires rethinking the relationships between science, technology and innovation in resource management, as well as the institutional arrangements and practices required. This goes beyond standard state-centred regulatory responses to a wider set of socio-technical and political arrangements known from decades of enquiries that have more specifically questioned the provision of bio-resources through research, innovation and value chain management.

Illustrated by the case studies or theoretical reflections to be presented in the session, we argue that transformative changes in framing, organisational arrangements, structural and institutional dynamics, and social-technical innovations for sustainability transitions are required. Research questions to be addressed include:

- While mono-disciplinary, single-sector and state-led approaches are clearly insufficient, what alternative conceptual models should be put in their place? And what example of new forms of nexus governance can be identified?
- What are the critical issues major factors at work in shaping and conditioning the success of new forms of nexus governance?
- What role does STI policies play in addressing nexus governance challenges in a state of transition?
- What lessons can we learn from research regarding the embedding of technologies in society and the governance of technological risks?
- Are there governance processes and instruments which are more promising than the ones currently employed?
- How can decisions on new infrastructures become more democratic, more acceptable and more sustainable?

The focus will extend to collective, transversal system innovations and social movement encounters, rather than only on hierarchical forms of governance and knowledge production, including ways of challenging standard scientific-technical frameworks and historically-rooted incumbent regimes, and the roles of knowledge intermediaries and brokers in facilitating transition.

The session favours contributions that reflect on the coupling of STI policies and resources policies in order to pay attention to incumbent limitations of harnessing sustainable transitions through sectorial knowledge and innovation systems. Case studies that examine nexus governance of water, food and energy, and their interactions are welcome, from any region of Europe or elsewhere. The session encourages contributions that pay particular attention to the challenge of transitions to sustainability and the processes of collective action, citizen mobilisation, state-business interaction and public policy making that influence governance. Paper proposals addressed at problems of governing large technical infrastructures are welcome and may focus on problem finding/agenda setting, decision finding/planning, decision making, implementation, evaluation or termination of policies.

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