



Call for Membership

The German Academy for Spatial Research and Planning (ARL), Leibniz Forum for Spatial Sciences, investigates space both in terms of its physical structure and as a part of societal processes, and analyses pathways towards sustainable spatial development. The Academy addresses the economic, social, ecological, technological and cultural conditions of spatial development and the spatial effects of human activities, providing an innovative perspective on the complex challenges of future societies. As a multi-disciplinary network of experts from academia and practice, the ARL stimulates research activities and provides academic consultancy services. Inter- and transdisciplinary academic working groups at different scales ensure high quality scholarship. To establish an international academic working group (IAK) on

‘Smart grids – smart cities?’

the ARL is currently looking for participants. The members of the working group will address the topic and its sub-aspects both from inter- and transdisciplinary perspectives.

Background

The liberalisation and Europeanisation of electricity markets, climate mitigation policies, and the increasing competitiveness of renewable energy technologies are driving fundamental transitions of European power grids at all levels. This restructuring often results in locational shifts of energy generation within the individual countries (often far away from the major load centres) and has considerable spatial impacts. It not only changes the spatial topology of electricity networks and interferes with land uses, but it also shapes a whole host of spatial relations, including forms of integration, exclusion, bypassing, and proximity. The spatial governance and planning of electricity supply can no longer treat electricity as a homogeneous commodity, but instead has to address the qualities of electricity supply more systematically—the availability of electricity in peak hours and in load centres (or its surplus in off-peak periods and in load peripheries), its low carbon credentials, its capacities to be stored, and its system reliability, among other issues. We thus need to understand how the changing nature of energy networks and economies reshapes forms of socio-spatial order, politics and inequalities—all of which have implications for spatial governance and planning.

Taking advantage of the accelerated innovation in and market diffusion of both renewable energy generation and information and communication technologies (ICTs), the EU Commission and many

national governments are currently promoting the development of smart grids through numerous programmes and research initiatives. Such smart grids come in all spatial shapes and sizes. They can involve smart parts of large transmission networks or decentralised 'island' systems in urban areas or rural communities. Smart grids imply some level of 'in time' or interactive forms of production and consumption. Interesting dimensions of those grids include the ways in which they are being used to decarbonise electricity supply use and to establish more systematic management of the electricity load (spatially by balancing the load centres and peripheries and temporally by balancing peak and off-peak periods); and the ways that they integrate smart meters and new energy storage facilities.

Aims and research questions

Based on recent interest in research and practice on the issues of 'smart grids' and 'smart cities', the objective of the international working group is to explore and to understand how this socio-technical shift from 'linear' to more 'circular' forms of electricity provision is reordering socio-spatial relations and land use patterns. Does the increasing socio-technical diversity of energy supply and use provide tailor-made solutions for specific locations, or does it invoke splintered urban and regional geographies? What are the resulting challenges for spatial governance and planning faced by heterogeneous planning systems in the member states in the context of the weak institutionalisation of spatial planning at the European level? The European expert group will investigate spatial variation and implications of the development of smart grids in Europe. Understanding grids as political terrains and conflict zones, or as junctions that mediate particular socio-spatial relations and land use patterns, is seen as a rewarding research focus. Questions to be addressed include:

- * Where, by whom, and with what aims are smart grids being developed?
- * How are they integrated with and related to one another (e.g. vertically, horizontally, through different markets, political constituencies, transnational agencies/networks)?
- * Which new socio-technical arrangements emerge, and how do they change urban places, urban land uses and metabolisms, and the spatial relationships within and between cities (and with their sub/urban hinterlands)?
- * To what degree does the development of smart grids shape or even replace the extension of the European transmission grid (and vice versa)?
- * Which urban and infrastructural vulnerabilities (risks of urban blackouts, cyber attacks etc.) are associated with the increasing interconnectedness between electricity grids and ICTs?
- * How can, and should, the socio-technical transformation of grids be governed at different policy levels?
- * And finally, which lessons can be drawn for current debates on 'smart cities' or 'smart regions'?

Organisation and procedure

The international academic working group will meet for two to three workshops a year. Meetings will be held at various locations across Europe, mainly where group members are located. The group will consist of up to twelve permanent expert members, complemented by invited experts relevant to and originating from the meeting locations (particularly officials and practitioners from energy utilities, urban and regional governments, energy agencies, technology and consultancy firms, academic scholars, and the like.). Open meetings with the participation of relevant local stakeholders and

scholars are possible to promote exchange and communication across Europe. The ARL will reimburse travel expenses to all working group meetings according to the German Federal Travel Expenses Act.

The research and work programme will be set out in more detail at the constituent meeting. The members are expected to contribute actively to this programme, establishing a fruitful and output-oriented dialogue. The results will be published in a theme-issue of a peer-reviewed international journal, and, in aggregate form, via communication channels of the ARL.

Application

The IAK's work programme requires an inter- and transdisciplinary approach, inviting the involvement of members of research institutions in urban and regional planning, geography, energy or environmental studies, network/energy economics, science and technology studies, history, and other relevant disciplines.

If you are interested in participating in the working group, please submit your statement of interest (in digital form) by

29.01.2016.

In your application you should 1) briefly explain your interest in participating, 2) specify your research perspectives and potential contributions to the working group (max. 500 words) and refer to your relevant professional skills and experience (short CV, including the bibliography of your five most relevant publications/projects; max. two pages). Please send your application in digital form to Evelyn Gustedt as the responsible expert at the Academy for Spatial Research and Planning (ARL). For any further content-related questions, please contact Jochen Monstadt, who will chair the international academic working group.

Dr. Evelyn Gustedt
Academy for Spatial Research and Planning (ARL)
Head of Department "Spatial Planning and Policy"
Hohenzollernstr. 11
30161 Hannover (Germany)
Tel.: +49-511 34842-29
gustedt@arl-net.de

Prof. Dr. Jochen Monstadt
Darmstadt University of Technology
Department of Civil and Environmental Engineering, Chair of Spatial and Infrastructure Planning
Franziska-Braun-Str. 7
64287 Darmstadt (Germany)
Tel.: +49-6151 16-2248
j.monstadt@iwar.tu-darmstadt.de