

Lecture by Dierk Bauknecht, Workshop 18 October 2005: Changing the Grid - Electricity system governance and the integration of distributed generation

Dierk Bauknecht, born 1971. He graduated in political science at the Free University of Berlin and holds an MSc in Science and Technology Policy from SPRU at the University of Sussex, UK. His studies in the UK were sponsored by the British Foreign Office. Before joining the Oeko-Institut, he was market analyst with a UK based power market consultancy, providing electricity wholesale price and generation models for Europe's liberalising electricity markets. Dierk Bauknecht currently works on power plant investment models, network regulation, decentralised power generation, innovation research and transformation of energy systems. One of his main research questions is how decentralised generation can be integrated into networks and markets. This is also the subject of his PhD dissertation.

Abstract

Changing the Grid - Electricity system governance and the integration of distributed generation

This project deals with the governance of transforming the generation, network and market structure in liberalised electricity markets. A special focus will be on the role of network regulation.

A starting point is the assumption that more sustainable electricity systems requires more than replacing "dirty" plants by "cleaner ones". Rather, a changing generation structure necessitates a more encompassing system transformation. While the sustainability debate surrounding electricity systems is often focused on the generation side (cleaner plants) or the consumption side (saving energy), this contribution focuses on the inter-linkages between generation capacity, network structure and design of competitive markets.

These elements need to be changed in a coordinated way in order to implement a more sustainable electricity system. The network, while having only relatively minor sustainability impacts compared to electricity generation, connects generation, markets (and demand) and thus becomes a focal point in the transformation towards sustainability.

While this project analysis the governance of system transformation in liberalised electricity markets, the ability of these markets to even provide enough generation and network capacity in the medium- to long-term and the design of adequate governance structures for maintaining the current system is still being debated. Transforming the system seems even more challenging.