

Lecture by Jochen Markard, 25 October 2005: Innovation System Analysis

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Jochen Markard has a degree in electrical engineering (Ruhr Universität Bochum) and in energy economics (FH Darmstadt). He received his Ph.D at ETH (Zurich), where he studied the impacts of electricity market liberalization on ecological innovations. In his current research, Jochen Markard concentrates on radical and sustainable innovations, which are analyzed with SST (social study of technology) concepts in the broader realm of evolutionary economics.

Abstract

Innovation System Analysis

Utility systems are currently subjected to considerable transformation pressures: liberalisation of markets, technological innovations and socio-cultural changes challenge these infrastructure sectors that developed strong path dependencies over the past couple of decades.

These transformation pressures have recently opened up new windows of opportunity for radical innovations. Radical innovations may have a major impact on the long term transition of infrastructure systems and they may also lead to improvements in terms of sustainability. Starting from the theoretical background of transition theory we propose an "innovation system analysis" approach to explore possible long-term development paths for innovations. Special emphasis will be given to the interlinked dynamics between the micro level of various niches, the meso level of socio-technical regimes and the macro level of structural changes.

The approach is based on five steps including

- 1) a basic analysis of the innovation system,
- 2) an analysis of the environment (regimes, landscape),

- 3) a screening of variation potentials in technological terms as well as organizational terms,
- 4) a scenario analysis and
- 5) a transition analysis focusing on development paths and windows of opportunity.

Empirically, we report findings from a case-studies on stationary fuel cells, which was embedded in a larger project on the future of infrastructure sectors in Germany.

Attached file

[Presentation Jochen Makard](#)

pdf 144.53 KB