

**Global Pressure – Local Transition:
The German “Energiewende” as Interdisciplinary Research Problem in the Helmholtz
Alliance ENERGY-TRANS**

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Global events have effects on local policies. As for energy supply, we can observe three major global issues. (1) The observation of accidents (especially regarding nuclear power plants in the USA, Ukraine, or Japan), or of environmental degradation (e.g. oil spillage in coastal regions or on oil fields in Latin America, Africa, Russia etc.) with severe consequences. (2) The increasing global demand for energy sources, and simultaneously the growing scarcity of energy carrier (e.g. “peak oil”). (3) The scientific observation of changes in the climate system, and the struggle for global political solutions. All these events and developments cause irritation and lead to various reactions on local levels: fear and opposition against large technology-projects, change in values and lifestyle and in political programs. In the case of Germany, we can look back to a long debate about the *pros* and *cons* of nuclear technology or fossil energy generation, leading in the end to the project, or some call it “experiment”, of the *Energiewende*.

The *Energiewende* is a political program to foster the development and implementation of technical systems which are able to exploit renewable energy sources. It is clear by now that the energy transition is not only a problem of physics. There is a need for solutions to socio-technical problems on the level of the energy system as a functional unity, of organizations, regimes and networks, as well as on the level of individual action. The common theme, underlying of all these problems is the relation of stability *and* change. There is a demand for new technical and organizational paradigms, but also the strong expectation of reliability, security, and affordability.

The breaches and tensions arise on the

- macro-level in terms of the societal function of the energy system: for example the old but still existing paradigm of large technical systems vs. the new, competing idea of decentralized energy production;
- meso-level of regimes, networks, niches in terms of the still existing dominance of large enterprises vs. the inclusion of manifold small-sized actors;
- micro-level of households and individuals in the form of the still widespread demeanor of unreflective *availment* of energy (energy flat rate) vs. a more active future role of “prosumers”.

The Helmholtz-Association “ENERGY-TRANS” addresses the need for interdisciplinary research along the common referential research problem of stability and change. This scientific endeavor associates researchers from engineering sciences, economics, sociology, psychology, political sciences and more.