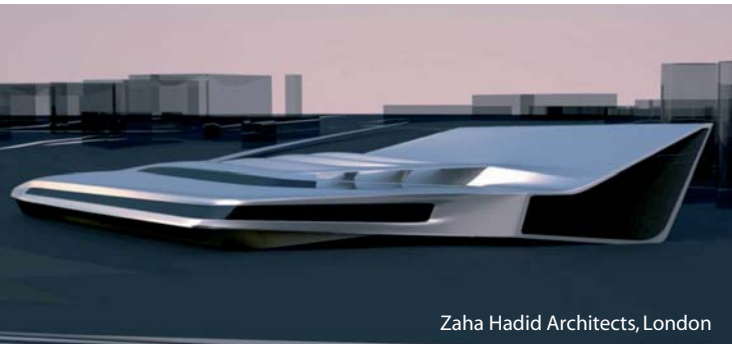


The E.ON Energy Research Center

The Energy Research Center at RWTH Aachen University is an important stepping stone for future-oriented top level research, with an international orientation and vibrancy. From the outset, it maintains strong links to the international scientific community and prime academic, public administration, political and industrial partners.



Zaha Hadid Architects, London

The ERC aims at generating integrated, interdisciplinary and system-related concepts for highly energy-efficient and sustainable energy solutions. It provides these concepts as an interface between basic research and the demands of economy and society, the development of innovative technologies and system-oriented research.

The concept of the E.ON Energy Research Center is characterized by the following two essential criteria:

- It is an ambitious public-private-partnership project, jointly supported by RWTH Aachen University and E.ON;
- The essential pillars of energy research – generation and conversion, distribution and storage – are closely linked with socio-economic research geared towards needs and behavioral aspects.

E.ON ERC Chairs and Research Institutes

Applied Geophysics and Geothermal Energy (Prof. Clauser)
Power Generation and Storage Systems (Prof. De Doncker)
Future Energy Consumer Needs and Behavior (Prof. Madlener)
Energy Efficient Buildings and Indoor Climate (Prof. Müller)
Automation of Complex Power Systems (N.N.)

Contact information

fcn Institute for Future
Energy Consumer Needs
and Behavior

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Research in Energy Economics and Management
at RWTH Aachen University

Directed and run by the Chair of Energy Economics and Management, the Institute for Future Energy Consumer Needs and Behavior is part of the Faculty of Business and Economics. Further, it constitutes one of the five pillars of the recently established interdisciplinary E.ON Energy Research Center (E.ON ERC) at RWTH Aachen University.

Positioning

The Institute for Future Energy Consumer Needs and Behavior is a new research institute at RWTH Aachen University. It is focused on applied theoretical and empirical research in energy economics, management and policy, with a particular thematic focus on the adaptation and diffusion of innovative technologies and on energy consumer needs and behavior.

We apply economic and management science theory to the sustainable production and use of energy. Research is undertaken both stand-alone and in collaboration with other social, engineering and natural scientists. Explicit consideration of behavioral aspects and motives, attitudes and needs of firms, private households and governments that shape their energy-using behavior is sought for.



Prof. Madlener and staff

Strong emphasis is put on the adoption and diffusion of innovative technologies in supporting a sustainable energy development. In contrast to 'pure' academic research often found in mainstream economics (highly stylized, ahistorical), the aim is to explicitly account for the technological basis and its change and, wherever possible, socio-economic aspects.

Mission Statement

The provision and use of sustainable energy services plays an important role for social welfare. A better understanding and shaping of energy consumer needs and behavior is a great societal, scientific and political challenge.

The FCN accepts this challenge as a main guiding principle, and aims at providing reliable scientific evidence and guidance to policy-makers, other decisionmakers, and society in general regarding the way energy needs arise, and the way economic agents behave to satisfy their energy needs. The main research interest of the institute lies in the study of past, present, and future energy needs and consumer behavior, and changes thereof.

The chair specially aims at guiding decision-makers in the private and public sectors by analyzing topical energy economics, policy and management issues, the design of energy policy measures, and the critical scientific evaluation of energy policy instruments and policy programs. Particular emphasis is put on improvements in the understanding of the demand side of energy use.

The contribution of the FCN for a better understanding of the energy problematique is at least threefold:

- 1** It points out opportunities, risks, and obstacles related to the development and diffusion of innovative energy technologies, and trends in society and industry.
- 2** It supports necessary transformations in the economy and society towards a more sustainable energy system.
- 3** By means of economic analyses, it contributes to a successful development and dissemination of energy-related sustainable business and technological innovations.

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Research Outline

Research Fields of Interest

- Energy Economics, Management, and Policy
- Economics of Technology Adoption and Diffusion
- Economics of Technical Change and Technology Transfer
- Behavioral Economics and Economic Psychology
- (Market-Oriented) Energy Technology Management
- Energy Risk Management
- Ecological Economics
- Applied Microeconomics
- Applied Industrial Economics / Organization
- Quantitative modeling / empirical economic research

Special Research Foci

- Needs and behavior of technology-adopting and -using firms and private households
- Financial and risk (management) aspects
- Regulatory, institutional, and policy issues
- Economic, environmental and social impacts
- (Participatory) Multi-criteria decision aiding
- Applied econometrics

Selected Research Topics

- Impact of risk and uncertainty on investment decisions
- Changes in energy consumer needs and behavior over time
- Design and (ex-post) evaluation of energy, climate and environmental instruments and policies / programs
- Econometric studies of (sectoral) energy demand and demand elasticities
- Regulatory and institutional aspects related to the promotion of renewables and energy efficiency
- Financial aspects of technology adoption
- Bounded rationality in energy technology adoption and use of new energy technologies
- "Science-to-market gap" analysis of innovative energy technologies
- Interplay between the use of information and communications technologies (ICT) and energy consumption