Fraunhofer
ISI

FRAUNHOFER INSTITUTE FOR SYSTEMS AND INNOVATION RESEARCH ISI

ANNUAL REPORT 2019

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SYSTEMIC RESEARCH IN TIMES OF CHANGE

2019 was a very eventful year for Fraunhofer ISI and was marked by the institute further developing its research fields. Our intention is to address the manifold structural changes taking place in the economy, science, politics, and society even more intensively than before – and to gain a better understanding of the role that innovation plays in them. Focusing on the topic of "change" reflects two fundamental observations.

First, it is becoming increasingly clear that the huge social challenges of our times – which include the manifold impacts of climate change, the extinction of species, and global social inequality – cannot be managed by technology progress per se or just by making the economy as efficient and productive as possible. Instead, we must change our lifestyles, economic activities, and social interactions. Long-term social compatibility, economic competitiveness, and sustainability must be interconnected in new ways.

Second, we have observed that current technology trends are opening up tremendous new perspectives for change. For example, innovations based on artificial intelligence can make a major contribution to managing the grand challenges and triggering modernization in the economy – with entirely new business models and applications. At the same time, however, these technologies are also raising new ethical and legal questions; some are even fundamentally challenging existing successful economic models.

For us as an Institute for Systems and Innovation Research, this means an even more intensive occupation with the prerequisites, processes, and consequences of fundamental change in society, science, politics, and the economy. We understand this change to be a system transformation. We want to understand how we can change the systems that perform social functions – for example, the energy system, the transport system, and the healthcare system – so that we can overcome these challenges. It is therefore increasingly important for us to understand the individual elements of change – such as innovations, production, and consumption as well as politics – and how they interact, in order to be able to derive specific recommendations for those affected. Only then can we succeed in designing key societal functions like energy supply, transport, healthcare, and food supply to be future-proof.

To achieve these goals, the research on system transformations still has to answer many open questions and must employ a holistic approach. As Fraunhofer ISI, we want to make an even greater contribution than we have done so far. Among other things, we launched an institute-wide research project in 2019 that will run for several years: in "SYSTRA" we are developing a concept and a method to analyze socio-technical system transformations. A current focus here is to include how the actors involved understand their roles as well as how the transformations of interconnected systems interact with each other, for example in the area of energy and mobility.

Our main purpose here is an improved empirical analysis of these complex transformation processes.

Another future research focus is the use of Big Data methods and analyses to map social and economic actors and dynamics. We set the course for this in 2019 as well: one example is the research project "ISDEC (Innovation Systems Data Excellence Center)", which involves all seven of our Competence Centers at Fraunhofer ISI. Our scientists develop the Big Data methods relevant for innovation research and link these with data already available (using geocoding for instance) and competences. This enables us to address data-based questions more effectively in the future by tapping new data sources and gaining experience with new methods (web mining, machine learning, topic modeling etc.). The data analyses can aid the development of demand-side innovation indicators, among other things, or the analysis and visualization of social signals and social innovations.

Last year, we dealt with the topic of AI not only in terms of methodology but also in terms of content. As part of our strategy process and based on regular topic scanning and a survey of stakeholders, in the fall of 2019, we decided that Fraunhofer ISI should have three new overarching topics: "artificial intelligence", "Transformation in Urban Spaces" and "Post-Growth". The increased focus on these three topics in the future builds on many years of preliminary work at the institute.

Our AI research focuses on highlighting the social implications and impacts of AI on innovation processes and system transformation. In addition, we look at AI from a research policy perspective – including the question of Germany's position in this field in an international comparison. The area of transformation in urban spaces focuses on areas of major societal functions such as energy, mobility, health, communication, and water management – research fields that have a long history at the institute. Here, we focus specifically on the transformation of infrastructure systems due to the use of new solutions, the interplay of sectors that have been regarded separately so far, and new forms of data acquisition. The post-growth area, in contrast, focuses on questions surrounding the growth dependency of innovations and innovation systems and the implications of a growth-independent and post-growth-oriented research and innovation policy.

In 2019, there were also structural signs of change at Fraunhofer ISI: in July, the Competence Center "Policy – Industry – Innovation" was divided into two new Competence Centers: "Innovation and Knowledge Economy" and "Policy and Society". We also established three new Business Units: two of them in the field of energy deal with questions concerning the acceptance of innovations and international system transformations; one concerns the importance of regulation and standardization for highly dynamic innovations. In September 2019, the Joint Innovation Hub (JIH) was established, which is led by Prof. Marion A. Weissenberger-Eibl and deals with different kinds of experimental spaces. The key question is: "How do innovations come into the world?" The core task therefore is to test new scientific approaches, new kinds of methods, identify and address new questions and communication formats, and locate them scientifically.

Alongside changes to content and structure, there were also personnel changes at the institute. Our long-standing colleague and deputy head of the institute, Prof. Mario Ragwitz, was appointed head of a new Fraunhofer Institute for Energy Infrastructures and Geothermal Energy IEG in Cottbus on December 1, 2019. He has held this position together with Prof. Rolf Bracke since January 2020. We would like to thank him for his outstanding contribution to the success of Fraunhofer ISI and we look forward to cooperating closely with the Fraunhofer IEG in the future. The new deputy head of Fraunhofer ISI is Prof. Rainer Walz.

Once again, many of our researchers gave presentations at high-ranking conferences last year. At Fraunhofer ISI itself, we organized events such as the NEST Winter School and network meetings such as the annual general meeting of the Eu-SPRI-Forum on future research and innovation policy. In the "ISI seminar series", launched in 2019, we also welcomed international innovation experts like Paula Kivimaa (Finnish Environment Institute und University of Sussex), Abdullah Gök (University of Strathclyde), Marko Hekkert and Simona Negro (both from Utrecht University). We look forward to other interesting presentations in 2020.

The most important part in enhancing the future viability of Fraunhofer ISI was played by our 250 members of staff, who once again performed excellent research in 400 projects and worked intensively to further develop our research topics. We thank not only them, but also our clients, and our research and cooperation partners, with whom we collaborated in 2019.

This annual report gives you an overview of our work over the past year. You can find out about exciting projects and the teaching activities, and presentations of our staff. Details about our memberships, dissertations completed at Fraunhofer ISI and visiting researchers complete the report.

We hope you enjoy reading it in these changing times and look forward to receiving your feedback.

Prof. Dr. Jakob Edler
Executive Director of the Institute

Univ.-Prof. Dr. Marion A. Weissenberger-Eibl
Director of the Institute

HIGH IMPACT PROJECTS

1 Energy Efficiency Networks

The Competence Center Energy Technologies and Energy Systems has co-developed an organizational-social innovation in which 10 to 15 companies come together in a network and agree to set and implement a joint energy efficiency target based on a structured identification of the economic potentials in their enterprises. This decreases their transaction costs and increases their motivation. The enterprises in our networks save twice as much energy on average compared to other companies. 10 German industrial associations have taken up this idea and plan to establish 500 networks by 2020.

2 Privacy Forum

The Privacy Forum research consortium, which is coordinated by the Competence Center Emerging Technologies and funded by the BMBF (German Federal Ministry of Education and Research), deals with issues of privacy protection. The research results are intended not only for scientific discourse, but also for ordinary citizens in society. For instance, problematic aspects of smart technologies were explored from the perspective of privacy protection, and design potentials identified. In addition, implementing the General Data Protection Regulation (GDPR) was supported, for example, through best practices for structures and processes of data protection supervisory authorities.

5 Trace Substances

Following intensive preliminary studies of potential measures to reduce trace substances in aquatic eco-systems, the Competence Center Sustainability and Infrastructure Systems conducted a comprehensive exchange between stakeholders on the federal government's trace substance strategy, and monitored its contents. With the stakeholders, a balanced mix of source, application, as well as end-of-pipe measures was compiled, which is characterized by its effectiveness and high efficiency. The result was presented to policymakers as a recommendation for implementation and the catalogue of measures forms the basis of Germany's trace substance strategy.

6 Mobility and Fuels Strategy

The studies to develop the German government's Mobility and Fuels Strategy conducted by the Competence Center for Sustainability and Infrastructure Systems in the context of scientific advice to the BMVI (Federal Ministry of Transport and Digital Infrastructure) generate the knowledge needed to manage the transformation of the transport system. So far, the results, which form the basis for strategies to achieve the German government's climate and energy targets in the transport sector, have been used by the National Platform Future of Mobility (in the WG Transport and Climate Change) and for negotiations of the Climate Change Cabinet in the BMVI.

9 Climate Action Plan 2050

Commissioned by the BMUB, this project of the Competence Center for Energy Policy and Energy Markets conducted a detailed and public examination with representatives of society of the climate policies up to 2050 intended to foster consensus for the energy transition. National, regional, and local political, economic, and civil society representatives were involved. The climate policies examined are embedded in the Climate Action Plan 2050 to achieve the long-term national energy and climate targets for Germany, which are linked to further European reduction steps and the results of the Paris Climate Change Conference of 2015.

10 Innovation Fund

This project of the Competence Center for Energy Policy and Energy Markets prepared the ground for a so-called low-emission innovation fund for energy-intensive industries, renewable energy sources and subterranean CO_2 storage (CCS) in the context of the European emissions trading system. Together with industrial partners, the project on behalf of the EU Commission laid the analytical foundations for such an innovation fund, which is intended to initiate the transformation process in the period 2020–2030 concerning lower CO_2 emissions, in particular in carbon-intensive industrial sectors such as steel, cement and basic chemicals.

3 Graphene Flagship

Within the context of the European Graphene Flagship, the biggest research initiative in the history of the European Union, the Competence Center Emerging Technologies is elaborating a technology and innovation roadmap. This represents the strategic control element of the flagship and plays a key role when planning the respective funding phases. Through the roadmap, an important instrument of policy advice, the Fraunhofer ISI makes a significant contribution to the innovation strategy of the flagship. As a result, it has gained high visibility in the scientific community and the industrial environment, and is intensively well connected there.

4 r-Family

The accompanying research conducted by the Competence Center for Sustainability and Infrastructure Systems in the context of the BMBF funding program "Innovative Technologies for Resource Efficiency (r-Family)" ensured that the research projects are aligned with the funding objectives. It identified the potentials of solutions developed to improve resource efficiency, especially in energy-intensive materials with regard to sustainability. It showed the contribution that can be expected in relation to societal and political challenges, measured, e.g. against the German government's targets for overall raw material productivity or greenhouse gas reduction.

7 Future Workshop EEG

This project of the Competence Center for Energy Policy and Energy Markets identified and examined options for further developing Germany's Renewable Energy Sources Act (EEG). This made it possible to set the course for the further support of renewable energies towards market proximity. The project also enables the efficient diffusion of renewable energies without placing a greater economic burden on consumers. The project formed an important foundation for the Renewable Energy Sources Act of 2014, which smoothed the way for the further renewables expansion.

8 Pilot Study Renewable Energies

This project realized for the German Federal Ministry for Economic Affairs and Energy (BMWi) "Long-term scenarios and strategies for the expansion of renewable energies in Germany considering sustainable development and regional aspects" is used as the scientific basis for a long-term model of the climate and energy policy transformation process in Germany. Together with other related projects, the project realized in the Competence Center for Energy Policy and Energy Markets is an important driver for developing the energy transition, especially the targets and policies for renewable energies in Germany up to 2050.

11 BMBF Study 3.5 percent

Authors from the Competence Centers for Innovation and Knowledge Economy and from Policy and Society cooperated on this BMBF-funded study, which concluded that medium-sized research enterprises have a large potential to achieve the German government's target of investing 3.5 percent of the GDP in R&D. Another finding was that technological change and digitalization will not be sufficient on their own. This study had a significant impact on the BMBF, associations and the High-Tech Forum.

12 Fraunhofer Foresight Process

Together with the other Fraunhofer institutes in the Fraunhofer Group for Innovation Research, the Competence Center Foresight was commissioned by the Fraunhofer-Gesellschaft to identify important future topics in applied research. In a foresight process, technological and societal developments were analyzed for their innovation potential and their relevance for applied research. The researchers used horizon scanning to identify key future topics and evaluated them using potential analysis. The core points form so-called spotlights such as artificial intelligence, machine learning, and bio-hybrid technologies.

"In the future, we will be focusing more on the topic of transformation, its conditions and consequences"

2019 was a year marked by numerous changes at Fraunhofer ISI – to both our substance and structure: in addition to new research topics, we set up two new Competence Centers. A conversation with the institute's directors about the changes, but also the constants at Fraunhofer ISI.

Herr Edler, 2019 – your first year at Fraunhofer ISI – was a year full of changes at the institute. What are the reasons for this?

Edler: The changes are related to the transformation currently taking place in society, politics, and industry, which is affecting innovations and innovation systems. As a society, we face the task of having to make our economic and social systems much more sustainable, so that they are more compatible with the environment, climate, and society. On the other hand, digitalization and the associated technologies are having fundamental effects on complex and interlinked systems. At Fraunhofer ISI, we want to focus on this transformation, its conditions, and consequences to a much greater extent in the future.

What are the concrete effects on the institute's research?

Edler: We start from our existing expertise and topics and expand their scope in the direction of transformation issues. Let's take the example of the energy transition, which has been a research topic at Fraunhofer ISI for many years. Such a complex transformation depends not only on the energy sector, but also on the economy and on citizens, because the energy transition can only succeed if they are onboard. This is why we analyze not only transformation processes, but also which actors involved, and how they understand and play their parts. Deriving political options for action is and remains an essential task for us.

"DIGITALIZATION WILL FUNDAMENTALLY CHANGE COMPLEX AND NETWORKED SYSTEMS"

You mentioned the political consultation activities of Fraunhofer ISI. Frau Weissenberger-Eibl – how does the new Competence Center Policy and Society intensify these?

Weissenberger-Eibl: Policy advice has always been an essential part of the work we do at Fraunhofer ISI – in all the Competence Centers at the institute. However, the new Competence Center "Policy and Society" focuses more strongly than before on analyzing the requirements that must be met by research and the innovation system as a whole, in order to contribute to overcoming societal challenges. This also concerns the design of research, technology and innovation policies, and what regional, national, and transnational impacts these have.

You talk about managing societal challenges – are these also part of the research performed in the newly founded Joint Innovation Hub?

Weissenberger-Eibl: Yes, of course. In the Joint Innovation Hub, which was established in 2019, we are particularly interested in the question of how innovations come into the world. Core tasks of the Joint Innovation Hub are to try out new scientific approaches,

ask new questions, identify and apply new kinds of methods, and communication formats, and locate them scientifically.

What are the main fields of research in the second newly formed Competence Center "Innovation and Knowledge Economy"?

Edler: Here, building on decades of experience, researchers analyze the prerequisites for innovations and innovation impacts more intensively than before, from company level up to national innovation systems. Studies deal with changes in knowledge and value creation networks, the innovative capability of companies, industries and economies, and new trends in science and technology. Additional fields include the performance of science systems, their economic and social impacts, and knowledge and technology transfer.

Frau Weissenberger-Eibl, your research includes digitalization, innovation and futures research. What role will AI play in the future at Fraunhofer ISI?

Weissenberger-Eibl: Digitalization and AI have played an important role at the institute for a long time. This is demonstrated, for instance, by a research project conducted in 2019 on how AI-based solutions in the context of the energy transition can be used to optimize and manage complex energy systems. We are now highlighting "AI" by positioning this as an overarching research topic in the same way as "Urban spaces" and "Post-growth". Research will focus on the potentials of AI, and we are particularly interested in the impacts on society and innovation processes. We addressed these and other questions concerning AI, for instance, its ethical principles, in two events hosted by Fraunhofer ISI and the Chair for Innovation and Technology Management (iTM) at KIT as part of the lecture series "Focus: Future. Our life in 2050".

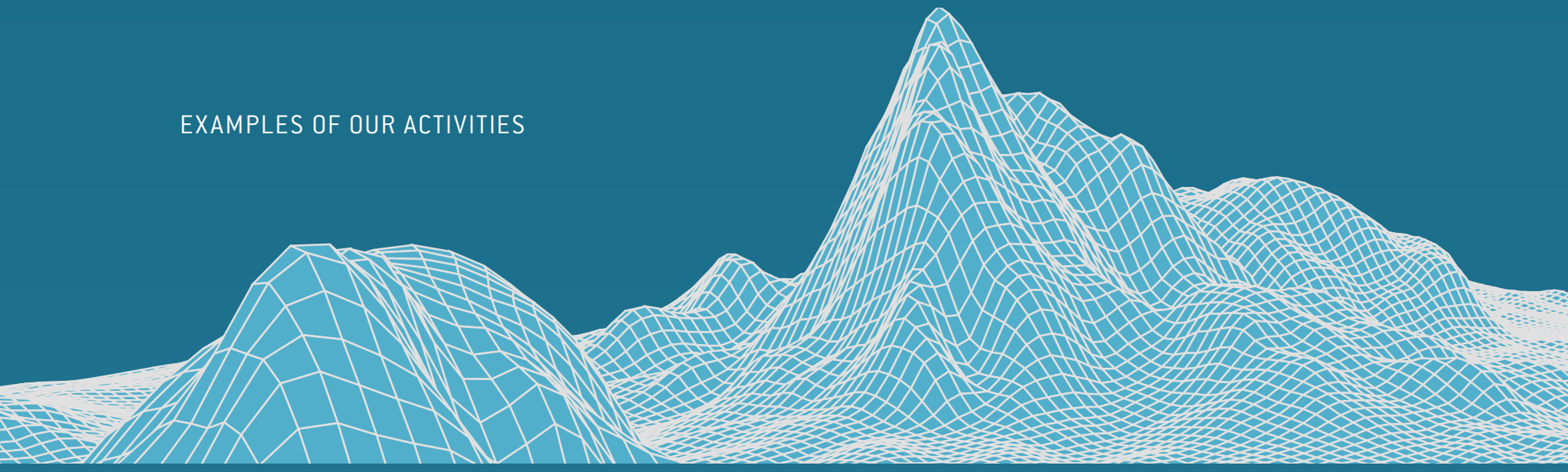
"FRAUNHOFER ISI'S FUTURE RESEARCH ON AI WILL FOCUS ON ITS POTENTIALS AND THE IMPACTS ON SOCIETY AND INNOVATION PROCESSES"

In the lecture series, experts from enterprises, research and politics discuss new topics and technology trends. Is scientific debate and exchange more important than ever before in a world characterized by change and networking?

Edler: Absolutely. We can only gain insights and advance research by exchanging and discussing information, whether at scientific events or through publications. This is why we hosted scientific symposia ourselves in 2019 and launched a new seminar series where we invite leading scientists to present a topic at the institute. It is equally important for us to interlink scientific debate with policy and industry. We benefit from high-profile visitors to Fraunhofer ISI, whom we welcomed in 2019 as well. For instance, we had visitors from the Chinese office of the World Resources Institute (WIR) and from a delegation from the Shanghai Institute for Science of Science (SISS), who were interested in the "Openness of Innovation Systems" and "Morgenstadt (City of the Future)". We also presented the institute's activities in "Industrial Technologies" and "Materials and Raw Materials" to a delegation from Austria made up of representatives of industry, associations, and government. As we are doing research in very similar fields, the findings and insights from other countries are of key interest to us.

Frau Weissenberger-Eibl, Herr Edler, thank you for your comments!

This interview was conducted by Anne-Catherine Jung.



WINTER SCHOOL

Transformation research

The NEST Winter School was held at Fraunhofer ISI in March 2019 under the motto “Methodologies and Methods for Sustainability Transitions Research”. 25 young scientists from South Africa, Japan, Columbia, and Europe discussed transdisciplinarity in transformation research, and transformation issues in the Global South.

EXHIBITION

Bioeconomy of the future

Fraunhofer ISI developed scenarios for the bioeconomy in 2040 for the “BioKompass” project, which is funded by the BMBF (German Federal Ministry of Education and Research). These form part of a special exhibition at the Senckenberg Natural History Museum in Frankfurt that runs from May 28, 2019 until September 30, 2020. Under the heading “Shaping the future – how do we want to live?” the museum also presents solutions for a sustainable bio-economy.

CONFERENCE

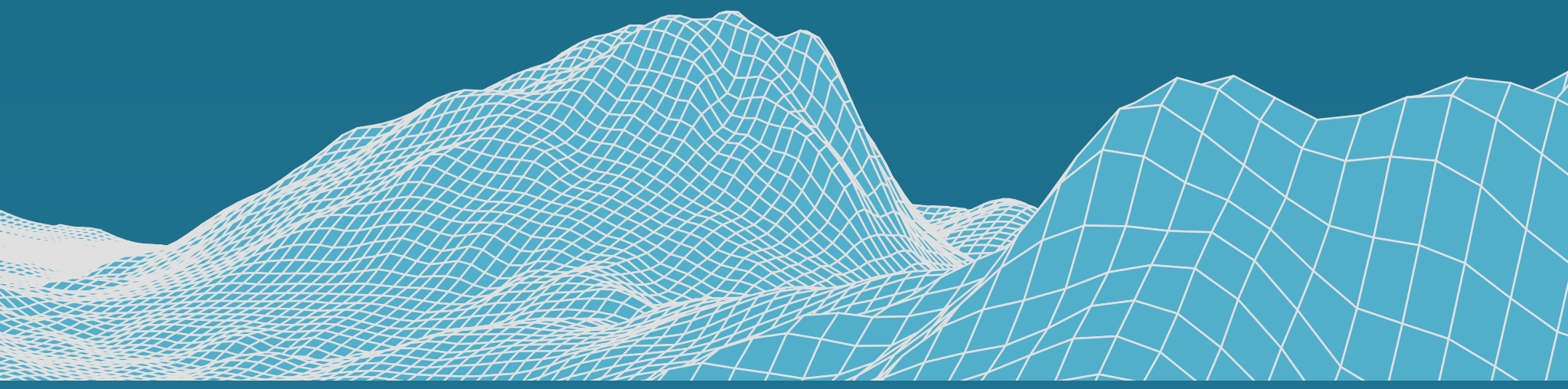
Impact of Science

Fraunhofer ISI was a partner of the renowned conference “Impact of Science: Understanding causalities, correlations and pre-conditions for the different dimensions of societal impact of science”, which took place in Berlin in June 2019. Many of the conference’s topics and questions concerning mission-oriented research policy were directly related to the research at ISI.

KEYNOTE

BMWI

As part of the sectoral dialogue with the electronics industry, the institute’s executive director, Jakob Edler, held a keynote speech in September 2019 at the German Federal Ministry of Economics on the topic of “Shaping changes in an uncertain environment”. Peter Altmaier, the Federal Minister for Economic Affairs (BMWI), took part in the talks, which focused on the current challenges facing the German electronics industry.



PUBLIC DEBATE

Digitalization

In October 2019, as part of the "Colorful night of digitalization", Fraunhofer ISI discussed its own research on artificial intelligence in the energy industry, data protection and the Gigabit Internet with numerous guests in Karlsruhe. The discussions took place under the heading "Digitalization on trial".

KICK-OFF

SONNET project

In October 2019, 30 experts came together at Fraunhofer ISI to talk about social innovations in the energy sector. In addition to science organizations, the Horizon 2020 project integrates cities like Antwerp, Basel, or Mannheim, which will try out variants of social interaction in real-world labs and experimental approaches over the course of the project.

FOCUS: FUTURE

AI and ethics

In November 2019, the lecture series "Focus: Future. Our life in 2050" discussed the ethical aspects of artificial intelligence and what AI means for how we live together in society. "Focus: Future" is a cooperation between Fraunhofer ISI, the Chair iTM of Marion Weissenberger-Eibl and changing industry partners – this time Rockwell Automation.

EU-SPRI

Strategy day at ISI

A strategy workshop of the international network Eu-SPRI, the European Forum for Studies of Policies for Research and Innovation Policy, took place at Fraunhofer ISI in December 2019. 28 researchers from the 18 member institutions discussed the future orientation and instruments of the network. ISI has been an active member since its founding ten years ago.

CC ENERGY POLICY AND ENERGY MARKETS

RELIABLE FRAMEWORK FOR THE TASK OF THE CENTURY

The transformation of the energy system towards sustainability is the task of the century, which includes all areas of energy demand and supply. This task requires a reliable political and institutional framework. The staff of the Competence Center Energy Policy and Energy Markets design, investigate and support such a framework at the national and international level in five business units. The intensive use of renewable energy sources and enhancing energy efficiency are key strategies to ensure the security of supply and to meet energy requirements in a cost-effective, environmentally-friendly, and resource-saving manner.

The Competence Center's analytical work on the effects of the increased use of renewable technologies on employment, income, economic structure, and the environment helps to design effective and practical policy instruments. In addition, the staff of the Competence Center advise governmental and non-governmental organizations at the national and international level as well as companies regarding the introduction of future-oriented technological, economic, and institutional innovations.

The business unit *Renewable Energies* assesses the contribution of renewable energies to climate protection, security of supply and competitiveness, draws up scenarios for future development, and examines the design of energy policy instruments. The business unit *Energy Policy* is concerned with the design and evaluation of energy policy strategies and instruments, the monitoring of energy policy objectives and the impacts of energy policy instruments. The business unit *Climate Policy* focuses on the design of the international climate regime, climate policy instruments and their effects on the environment, economy, and society.

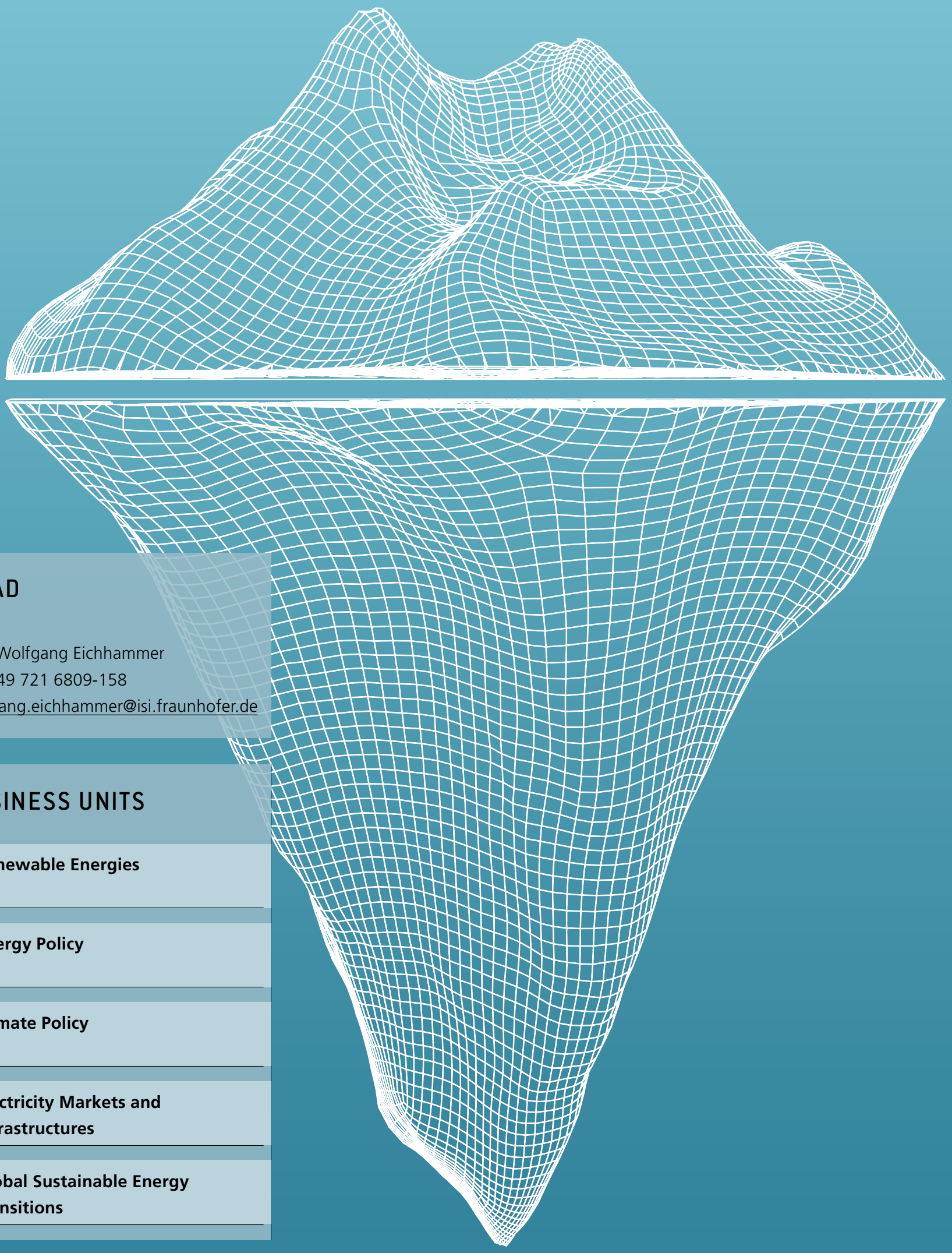
The analysis and development of strategies for policymakers and companies in the electricity sector is a key task of the business unit *Electricity Markets and Infrastructures*. The business unit *Global Sustainable Energy Transitions* focuses on the increasing importance of sustainable energy and development strategies in a global context, particularly in emerging and developing countries, where the reduction of greenhouse gas emissions in conjunction with economic development represents a particularly difficult challenge.

In 2019, for example, the Competence Center presented a roadmap for gas on behalf of the German Environment Agency to adapt the nationwide gas industry and infrastructure. It showed that ambitious climate protection in Germany means that around a third of the country's gas distribution networks will become superfluous, because less gas will be needed. The study was based on the analysis of scenarios from literature and carried out model calculations for infrastructure requirements and the associated costs.

In the German-Chinese cooperation project "Energy System Optimization for Promoting Large-scale Utilization of Renewable Energy (OPTRES100)", the Competence Center is currently developing analyses at a high level of temporal and spatial resolution, which show what 100 percent renewable energy supply for the Chinese power sector could look like, and what demands this would make on flexibility and demand management. These analyses are carried out with the European electricity sector model ENERTILE®, which was further developed and extended to China and its neighboring countries within the project.

The analyses and consultations of the Competence Center are based on a broad spectrum of methods, in particular on quantified scenarios and – in cooperation with the Competence Centers Energy Technologies and Energy Systems as well as Sustainability and Infrastructure Systems – a detailed modeling of the transformation of the energy system. Within the ENERTILE® model, for example, the electricity system of Europe, the Middle East and North Africa is mapped with high temporal and spatial resolution and examined considering various energy policy developments. Recommendations for action are derived from this for European actors as well as those outside Europe, for the Asian region for example.

Other projects of the Competence Center



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BUSINESS UNITS

- **Renewable Energies**
- **Energy Policy**
- **Climate Policy**
- **Electricity Markets and Infrastructures**
- **Global Sustainable Energy Transitions**

TOWARDS A SUSTAINABLE ENERGY SYSTEM

Developing a sustainable energy system requires the substantiated evaluation of innovative technologies and system solutions, among other things. The researchers in the Competence Center Energy Technologies and Energy Systems provide these evaluations based on technical and socio-economic criteria. In addition to technical and economic aspects, they also explore human actions using qualitative and quantitative approaches and perform detailed energy demand modeling. They use the comprehensive results of this systemic perspective to foster the transformation of the energy system.

The business unit *Energy Efficiency* analyzes the innovation potential of energy efficiency measures and develops strategies for companies and politics. Among others, the researchers conducted a preliminary study of high-energy batteries, compared current industrial processes with low-carbon alternatives, and developed a concept to communicate the benefits of energy efficiency.

The business unit *Energy Economy* focuses on market analyses of technologies and services, integrating new powertrains into the transport system, and coupling the energy and transport sectors. Among other things, the team evaluated the role of bio-methane and provided the scientific accompanying research to the hybrid-catenary truck test route in Baden-Wuerttemberg. As a member of the High-Performance Center for Mobility Research Karlsruhe, the business unit also promotes the integration of new powertrains locally.

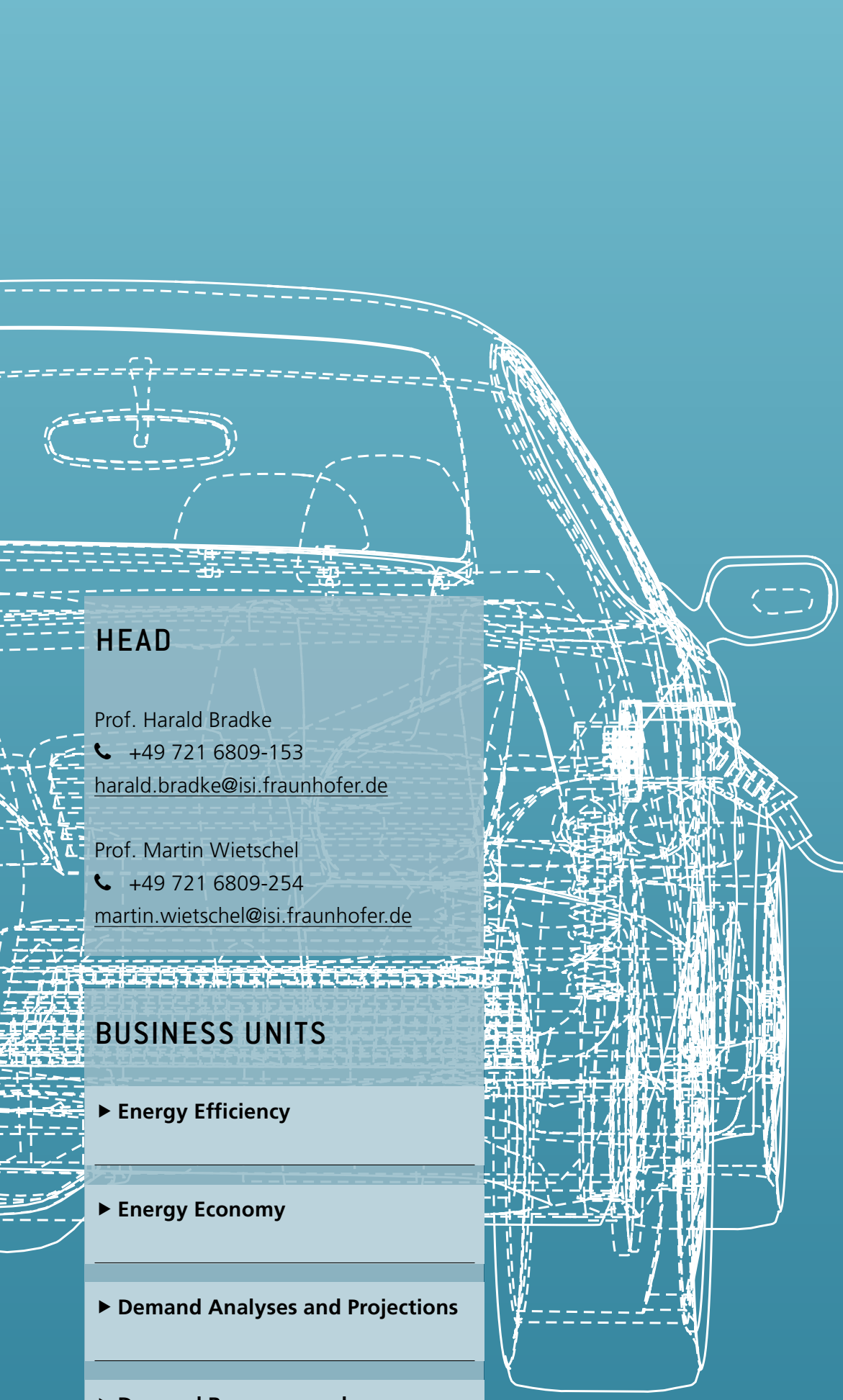
Researchers in the business unit *Demand Analyses and Projections* work on determining the development of energy demand as well as pathways to decarbonizing industry and buildings. Recently completed projects include the analysis of a European energy system in terms of flexibility and technology progress as well as the Climate Protection Scenario 2050.

Digitalization is becoming increasingly important in the energy sector as well: the business unit *Demand Response and Smart Grids* explores how ICT technologies that span sectors enable the smart management of flexibility options. The team analyzes both the regulatory and political framework and the impacts on society that digital business models have. Among other things, they examined the security of supply, and the impacts artificial intelligence has on the energy industry.

People's decisions and their behavior represent a key factor for the success of the energy transition. The business unit *Actors and Acceptance in the Transformation of the Energy System* researches the part that individuals play in the transformation process, and analyzes the social acceptance of policies, innovations, and technology fields. Projects include implementing electric mobility at the municipal level, and strategies for carbon capture, utilization, and storage.

In order to process these complex and future-relevant topics, the Competence Center Energy Technologies and Energy Systems applies a wide variety of different methods: among others, the researchers model energy systems for industry and buildings, flexible electricity demand and sector coupling, as well as distribution networks. Their work also includes the techno-economic modeling of the transport sector and at the level of products and processes. They collect and analyze quantitative and qualitative primary data, and use statistical and computer-assisted evaluations. Impact analyses of policy measures, multi-criteria assessments and participatory processes complete the portfolio.

Other projects of the Competence Center



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BUSINESS UNITS

- **Energy Efficiency**
- **Energy Economy**
- **Demand Analyses and Projections**
- **Demand Response and Smart Grids**
- **Actors and Acceptance in the Transformation of the Energy System**

CC FORESIGHT

DECIDING CONSCIOUSLY WHERE THE JOURNEY WILL LEAD

The Competence Center Foresight develops and conducts scientifically based foresight processes in business, politics, and society. With the help of participatory and discursive formats, the Foresight team promotes the exploration of alternative developments, initiates learning processes, questions thought structures and perceptual filters, and opens up new design possibilities. This way, clients develop futures literacy – the capacity to operationalize future-oriented processes – and become sensitized to a strategic approach to uncertainty.

The team's expertise includes methodological excellence in the scientifically based search for and evaluation of signals of change in technology and society using horizon scanning, uncovering causal relationships and thinking in alternative futures using scenario analyses and futures dialogs, as well as support in the development of robust future strategies. This is reflected in the three business units of the Competence Center Foresight.

The business unit *Futures and Society* encompasses the systematic search for signals of change and their evaluation for client-specific, future-oriented knowledge bases. One example is the "Radical Innovation Breakthrough Inquirer (RIBRI)" project for the European Commission, which identified and evaluated signals for radical technical and social innovations and their potentials for European research and development policy. 100 possible innovation breakthroughs in fields such as artificial intelligence, robotics or biomedicine were investigated, including topics such as biodegradable sensors, 4D printing, policy approaches for a universal basic income, and the car-free city, among others.

The business unit *Futures Dialogs* focuses on the dialog-based development of alternative future scenarios and long-term organizational visions. The aim is to integrate different stakeholder perspectives, broaden the scope for action, and facilitate purposeful organizational change. To this end, a wide range of dialog and workshop formats are continuously developed and deployed, matching client needs with appropriate future-oriented techniques. One example is the Fraunhofer Foresight Process "What's Next?", which investigates new future topics in applied research with an innovative methodological approach developed on behalf of the Fraunhofer-Gesellschaft, and implemented in collaboration with other institutes of the Fraunhofer Group for Innovation Research.

The business unit *Foresight for Strategy Development* supports clients from business and politics in the development of options for action, for example with the help of trend radars, strategy scenarios and roadmaps. This includes the analysis of dynamic operational environments, organizational goal-setting, and establishing metrics and monitoring. The business unit offers a range of services, from workshops to identify the need for action, to custom foresight processes that can build organizational capacity for long-term planning and success. For example, in the EU-funded "Food processing in a box (FOX)" project , continuing analysis of future trends in nutrition for Europe redefines the framework conditions and approaches for food innovations, further enabling partners from research and industry to jointly develop the next generation of agricultural technologies and business models.

The Competence Center Foresight's interdisciplinary team uses science-based foresight methods in its research and consultation projects. Its specific approach and customized results give its clients the opportunity to make conscious decisions about which future they want to work towards.

Other projects of the Competence Center

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BUSINESS UNITS

- **Futures and Society**
- **Futures Dialogs**
- **Foresight for Strategy Development**

CC INNOVATION AND KNOWLEDGE ECONOMY

HOW DO INNOVATIONS ARISE AND WHAT ARE THEIR EFFECTS?

The Competence Center "Innovation and Knowledge Economy" emerged in July 2019 from the former Competence Center "Policy – Industry – Innovation". The researchers analyze the preconditions for innovations and their effects from the company level up to national innovation systems. They examine the various institutions, instruments and strategies in the economy and science that generate new knowledge and innovations.

Based on current concepts of innovation economics, the researchers address current questions concerning the economic and societal effects of innovation processes and identify the underlying influencing factors at the corporate and macroeconomic level. In addition, they study the contributions of science systems to economic, technological, and societal progress.

In the two business units *Industrial Change and New Business Models,* and *Innovation Trends and Knowledge Dynamics*, researchers examine current issues such as changes in knowledge and value added networks, change processes at the corporate level, the innovative capacity of economies as a whole, and scientific and technological trends with a transformative character (e.g. Industry 4.0, digital applications, new business models or platform economies). In addition, members of the Competence Center analyze the performance of science systems, their economic and societal effects (impacts), and the transfer of knowledge and technology.

In a number of projects, the Competence Center Innovation and Knowledge Economy explores how to measure and evaluate the impacts of research institutions. This topic goes beyond the consideration of direct research results and the simplistic question of the direct economic benefits of public investment in research. The term impact aims at verifiable, longer-term, and usually targeted effects. Societal, economic, scientific, technological, ecological, and cultural impacts can be distinguished. For measurements and evaluations, in addition to classic indicators, primarily big data methods are used, which, in many cases, have only recently made impact measurements possible.

In the "RI Impact Pathways" project, for example, a model is being developed that describes the socio-economic effects of research infrastructures and the associated financial investments. The project "Tracking of Research Results" collects a large amount of medium- to long-term data of individuals and organizations, which have been generated within the EU's 7th Research Framework Programme (FP7) and Horizon 2020. The already completed project Data4Impact developed a model for the evaluation of societal, scientific, and ecological impacts in the field of funding health research in the European Union.

For the Competence Center's research projects, qualitative approaches and methods of empirical economic and social research are used in addition to quantitative ones. The repertoire of methods includes primary surveys and secondary data analysis, but also the evaluation of large, structured quantities of data such as publication, patent, trademark, and company data and, more recently, the analysis of unstructured data using text mining, machine learning or other semantic methods.

Other projects of the Competence Center

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BUSINESS UNITS

- **Industrial Change and New Business Models**
- **Innovation Trends and Knowledge Dynamics**

CC SUSTAINABILITY AND INFRASTRUCTURE SYSTEMS

SUSTAINABLE DEVELOPMENT AT ALL LEVELS

The Competence Center Sustainability and Infrastructure Systems analyzes the conditions that can foster the transformation of entire systems in the direction of environmental compatibility and sustainability. When doing so, its researchers consider the environmental, economic, political, and social aspects of the underlying innovation processes. This systems-analytical approach enables them to consider innovations at all the relevant levels, and to derive evidence-based recommendations for the sustainable design of central infrastructure systems, for a circular economy, and for a resource-conserving use of raw materials (including critical ones).

The business unit *Water Resources Management* explores how sustainable water concepts can be developed, evaluated, implemented, and diffused. In addition to the analysis and management of pollutant emissions, this includes examining innovation processes and policy instruments for sustainable water management. The most important projects in 2019 included the "Stakeholder Dialog on the Trace Substance Strategy" of the German federal government, analyzing climate protection and energy efficiency potentials in the wastewater sector, a technological and organizational concept for sustainable desalination in Vietnam, and the transition to a sustainable water-energy infrastructure in Lünen, Germany.

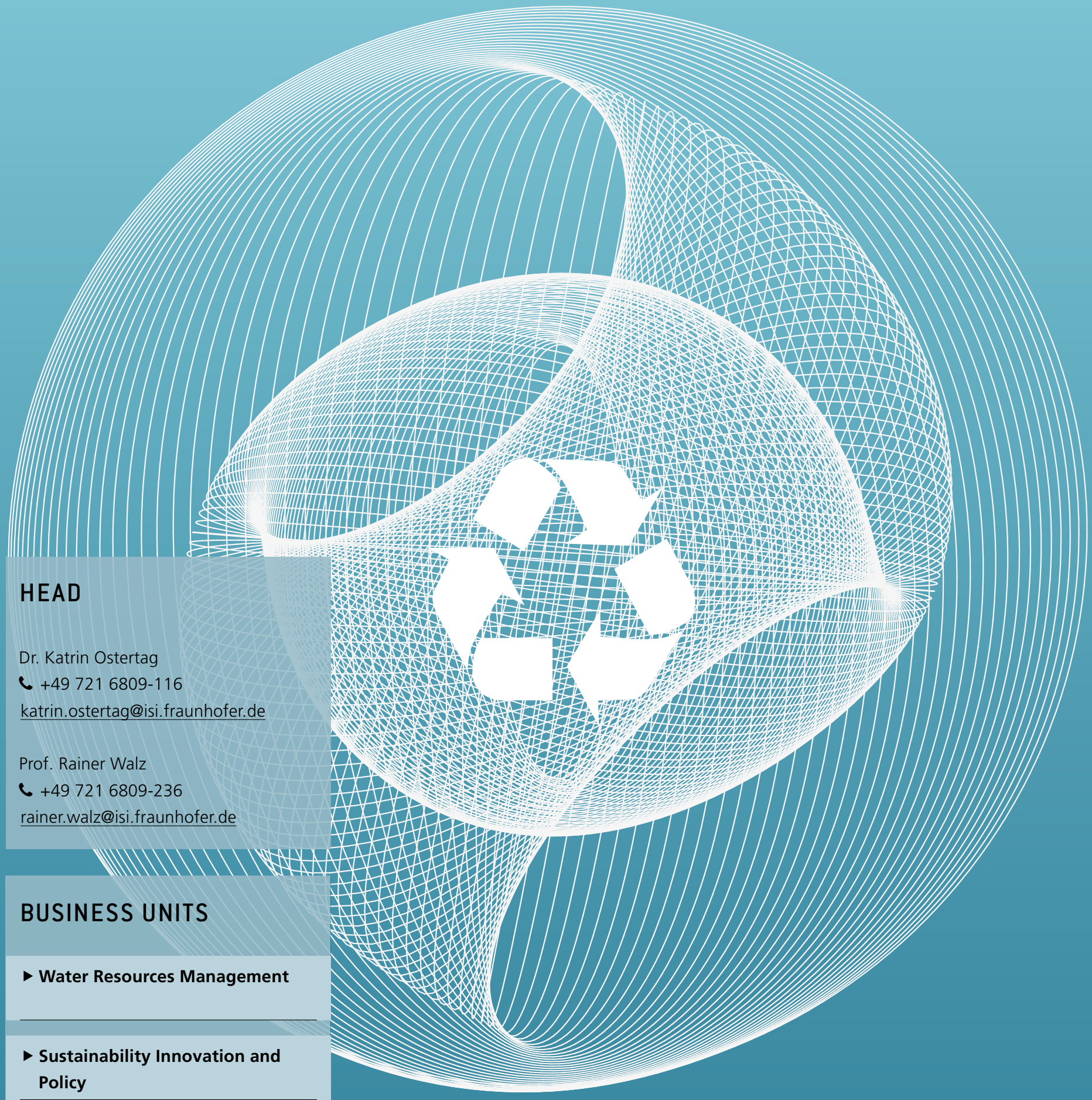
Researchers in the business unit *Mobility* work on innovative concepts, technologies, and business models for private and public transport as well as logistics. They analyze the sustainability of transport policy strategies, emerging technologies, and mobility concepts, and accompany and monitor mobility transformation processes from a supply and demand perspective at regional, national, and international levels. They are active in the High-Performance Center for Mobility Research Karlsruhe, provide scientific monitoring and support for the German government's Mobility and Fuels Strategy, and investigate the transition of mobility systems, transport markets and industries towards carbon neutrality and social equity for local, national, and international clients.

The business unit *Systemic Risks* models raw material cycles to obtain a comprehensive picture of the future demand for raw materials as well as their criticality and supply security. Its research contracts included a project family concerning the dynamic modeling of global and regional copper cycles, contributions to an EU expert network for critical raw materials, and an analysis of the raw material demands of future technologies.

The business unit *Sustainability Innovation and Policy* conducts impact analyses of resource-conserving technologies and policy instruments. Other topics include innovation processes and policy instruments for a climate-friendly circular economy, and the competitiveness and diffusion of sustainable future technologies. These topics are reflected in its projects on conserving resources in the health sector, and on the role of digitalization processes in promoting sustainability, but also in the scientific evaluation for the German Innovation Prize for Climate and the Environment, and the "r+Impuls" transfer project accompanying the German Federal Ministry of Education and Research's funding program.

The systemic and strategic analyses of the Competence Center Sustainability and Infrastructure Systems are based on combining an advanced range of methods with application-oriented expertise. All four business units offer sustainability assessments of innovations, analyses of competitiveness in future green markets, material flow and vulnerability analyses as well as qualitative case studies on innovation activities in its main fields of research. In addition, its researchers design and evaluate measures, construct scenarios, and conduct integrated assessments of environmental, economic, and social impacts.

Other projects of the Competence Center



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BUSINESS UNITS

- **Water Resources Management**
- **Sustainability Innovation and Policy**
- **Systemic Risks**
- **Mobility**

CC EMERGING TECHNOLOGIES

INTERPLAY OF NEW TECHNOLOGIES, INNOVATION, AND SOCIETY

The Competence Center Emerging Technologies examines the change that results from the interplay of new technologies, innovations and society. Its specific research approach combines three perspectives: the scientists identify and analyze technological developments at an early stage, place them in the context of socio-technical transformations, and evaluate their economic and societal effects, resulting in recommendations for governance structures for efficient and sustainable use. The research topics of the Competence Center Emerging Technologies are reflected in four business units.

The business unit *Bioeconomy and Life Sciences* identifies current technological and socio-economic developments in this field, examines their consequences, and analyzes the influence of politics. The BMBF (German Federal Ministry of Education and Research) – funded "Transformation-Bio" project, for example, looked into the question of how the path to a bio-based economy can be formed, and what politics should do to drive such a transformation forward.

The team of the business unit *Innovations in the Health System* evaluates innovations in the healthcare sector in terms of their contribution to societal goals, and accompanies their development. Here, the interests of all actors involved are taken into account: for example, scientific support was provided for the implementation of the "National Plan of Action for People with Rare Diseases", in which participants from German federal politics, self-administration, provision of care, industry, and patient self-help organizations agreed on measures to improve the living and care situation of affected people.

In the business unit *Information and Communication Technologies*, the focus is on the analysis of IT-based innovations and new media. In the research projects, proposals for necessary changes in the economic, political, and legal framework conditions are developed, such as in the BMBF-funded project "Forum Privatheit" (Privacy Forum), in which seven scientific institutions conduct interdisciplinary, critical, and independent research into issues relating to the protection of privacy.

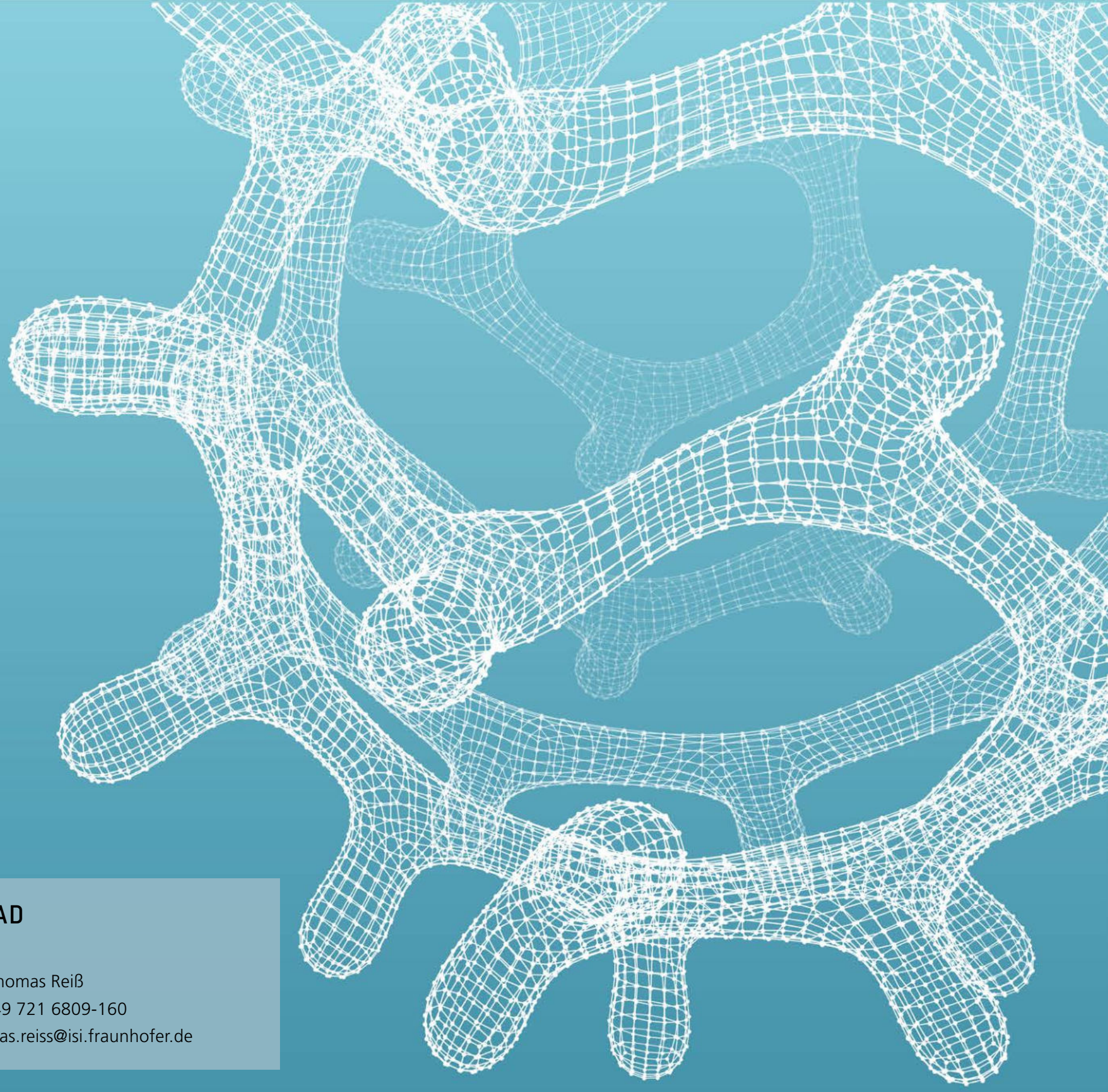
The business unit *Industrial Technologies* analyzes the emergence and development of technologies with regard to issues ranging from materials development to production, market development and recycling. The focus is on the application of technology. One example is the "Research Factory for Battery Cells Germany", which is supported by researchers through the development and implementation of a continuous strategy process. Focal points are the identification of user requirements from research and industry, and a continuous screening of battery and production technologies.

Since implicit knowledge plays a major role in the research of the Competence Center Emerging Technologies, a variety of qualitative methods such as expert interviews, workshops and roadmaps are used, which are supplemented by quantitative methods such as surveys, modeling, and innovation indicators.

The portfolio of methods is embedded in superordinate research concepts. These include responsible research and innovation, privacy, participation, systems research and transformation, impact measurement, evaluation, and accompanying research.

By applying and further developing concepts and methods in different application contexts of new technologies, researchers can use both thematic analogies as well as methodological extensions for their work. The Competence Center Emerging Technologies builds on comprehensive, in-depth, and dynamically developing technology research know-how for its work and competitiveness.

Other projects of the Competence Center



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BUSINESS UNITS

- **Bioeconomy and Life Sciences**
- **Innovations in the Health System**
- **Information and Communication Technologies**
- **Industrial Technologies**

CC POLICY AND SOCIETY

IMPULSES FOR NEW THINKING AND ACTION

The Competence Center Policy and Society was founded on July 1, 2019 as new unit of the former Competence Center Policy – Industry – Innovation. Research and innovation are increasingly called upon to contribute to overcoming societal challenges. The Competence Center examines the resulting requirements for research and innovation systems, and for designing a research, technology and innovation policy committed to sustainability and social well-being and its coordination with other policy fields.

The staff of the Competence Center advise and support clients from politics, policy-related organizations, and science at the supranational, national, regional, and local level in the design of research and innovation policy and transformative strategies as well as in the evaluation and development of funding measures, funding programs, and governance instruments. To do so, they use the latest theoretical approaches, analytical instruments, indicators, benchmarking, and evaluation concepts.

The analysis and evaluation of research, technology and innovation policy measures is the core task of the business unit *Policy Design and Evaluation*. The business unit provides background knowledge and impulses for new ways of thinking and acting for governmental and non-governmental decision-making bodies.

The business unit *Regional Innovation Systems* is concerned with researching systemic aspects of innovation and technology-oriented regional development. The research work is based on the insight that regions and subnational functional areas are of fundamental political importance in terms of increasing competitiveness and employability, technological performance, and innovation.

The business unit *Innovation and Regulation* was newly established on October 1, 2019 and analyzes and evaluates regulatory frameworks with regard to their effects on innovation. It provides background knowledge and impulses for the design of innovation-friendly regulatory frameworks, especially for governmental decision-making bodies. A second aspect is the self-regulation of participants from business and society, especially in the form of standardization.

With their knowledge, the employees of the Competence Center support the implementation of the German federal government's High-Tech Strategy 2025, for example, which focuses German research and innovation policy more strongly on addressing the major societal challenges ("Grand Challenges"). On the one hand, the project promotes the implementation of the twelve missions of the High-Tech Strategy 2025 through evidence-based scientific policy advice and learning processes in the governance of these missions. On the other hand, it develops an innovative concept for measuring the impact of mission policy. In 2019, the Competence Center together with the Competence Center Sustainability and Infrastructure Systems also evaluated the BMBF's (German Federal Ministry of Education and Research) framework programs for promoting sustainability or the Research for Sustainable Development (Forschung für nachhaltige Entwicklung; FONA) concerning the achievement of objectives, effects, and economic efficiency of the funding measures.

In its investigations, the Competence Center draws on a broad spectrum of qualitative and quantitative social and economic analysis methods, which are continuously further developed at Fraunhofer ISI. These include surveys, document and comparison group analyses, social network and discourse analyses, typologizations, as well as patent and publication analyses. In addition, various methods are used for the consultative involvement of experts and stakeholders.

Other projects of the Competence Center

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BUSINESS UNITS

- **Policy Design and Evaluation**
- **Regional Innovation Systems**
- **Innovation and Regulation**

FACTS AND FIGURES

OPERATING BUDGET 2018 in million euros

Total

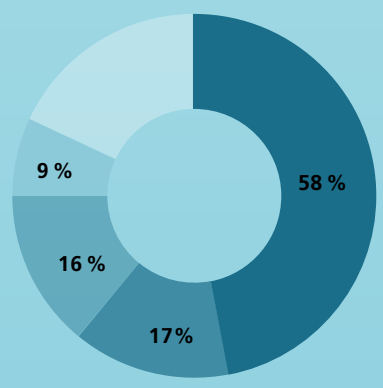
28.6

Basic funding

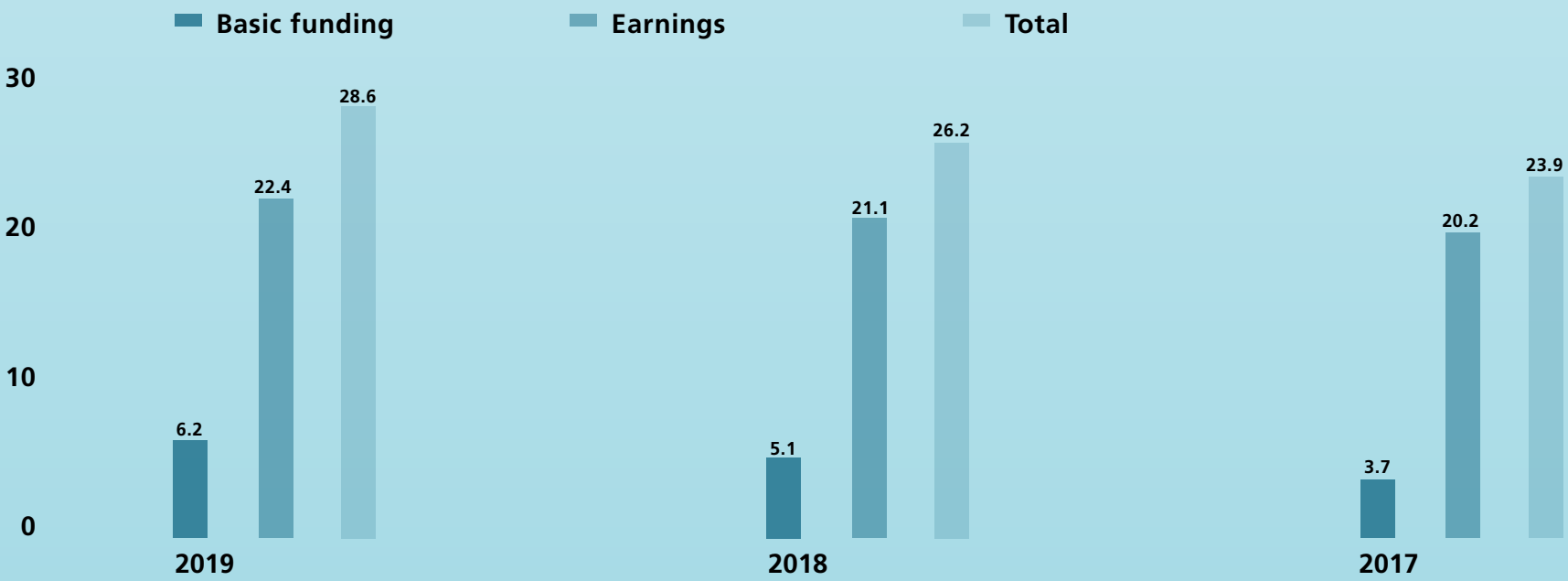
6.2

Earnings

22.4

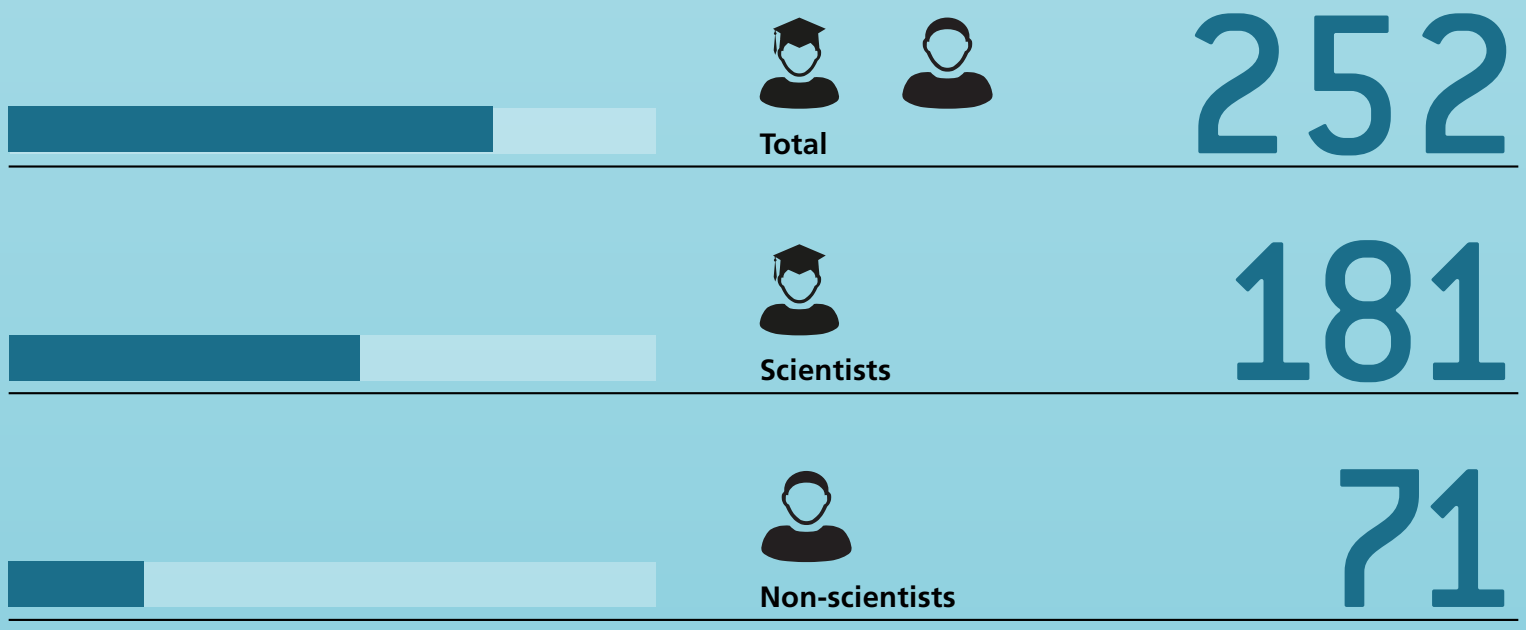


DEVELOPMENT OF TURNOVER in million euros



NUMBER OF STAFF

2019



▸ 2019 ▸ 2018 ▸ 2017

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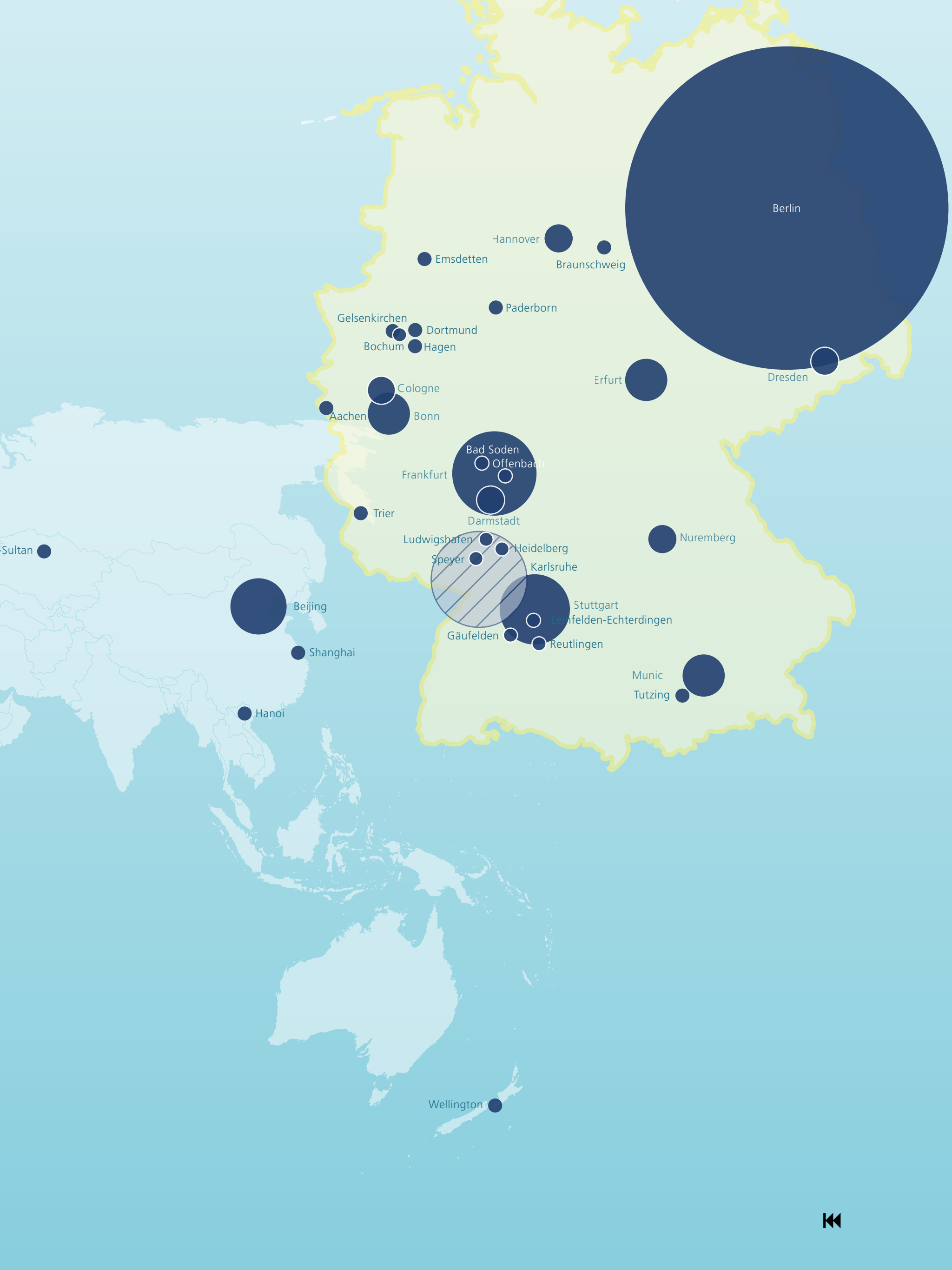
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GROUPS AND ALLIANCES | ACADEMIC TEACHING

GROUPS AND ALLIANCES

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- Innovation Research
- Materials and Components – MATERIALS (Guest)

Fraunhofer ISI a member of the Fraunhofer Alliances:

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- Energy
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Technische Hochschule Bingen

Mario Ragwitz
LECTURE
Climate and Energy Policy
Universität Freiburg

LECTURE
Regulation of Renewable Energy
European University Institute, Florenz, Italy

Thomas Reiß
LECTURE
Management neuer Technologien
Karlsruher Institut für Technologie

Karoline Rogge
LECTURE
Introduction to Energy Policy
University of Sussex
Brighton, Great Britain

Clemens Rohde
LECTURE
Energieeffizienz
Technische Universität Darmstadt

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Energie- und Ressourcenmanagement
Technische Universität Darmstadt

LECTURE
Renewable Energies, Energy scenarios and Climate protection
Technische Universität Darmstadt

Andreas Röß
SEMINAR
Einführung in Niklas Luhmanns Systemtheorie
Hochschule Fulda

Joachim Schleich
LECTURE
Energy Marketing and Strategy
Grenoble Ecole de Management, France

LECTURE
Managerial Economics (MBA)
Grenoble Ecole de Management, France

LECTURE
Advanced Econometrics, PhDs
Grenoble Ecole de Management, France

Ulrich Schmoch
LECTURE
Innovation & Transfer
Deutsche Universität für Verwaltungswissenschaften Speyer

Torben Schubert
LECTURE
Innovation Management
Universität Lund, Sweden

LECTURE
Globalization of Innovation
Universität Lund, Sweden

Felix Tettenborn
LECTURE
Global Challenges and Sustainability
SRH Hochschule Heidelberg

LECTURE
Micropollutants
SRH Hochschule Heidelberg

Rainer Walz
LECTURE
Umwelt- und Ressourcenpolitik
Karlsruher Institut für Technologie

LECTURE
Umweltökonomik und Nachhaltigkeit
Karlsruher Institut für Technologie

LECTURE
Socioeconomic aspects of development planning
Karlsruher Institut für Technologie

HABILITATION | DISSERTATIONS | PRESENTATIONS

Marion Weissenberger-Eibl
SEMINAR
Fallstudienseminar Innovationsmanagement
Karlsruher Institut für Technologie

LECTURE
Innovationsmanagement: Konzepte, Strategien und Methoden
Karlsruher Institut für Technologie

Julius Wesche
SEMINAR
E-Autos, Wärmepumpen & Co. – Wie wird Nachhaltigkeit Mainstream?
Karlsruher Institut für Technologie

Martin Wietschel
LECTURE
Energiepolitik
Karlsruher Institut für Technologie

LECTURE
PhD Program KIC: Energy models – supply and demand side
Grenoble Ecole de Management, France

SEMINAR
Themenfelder Energie und Umwelt
Karlsruher Institut für Technologie

Andrea Zielinski
SEMINAR
Text Mining
Ruprecht-Karls-Universität Heidelberg

HABILITATION

Henning Kroll
An Exploration of Recent Changes in European Regional Policy
Leibniz Universität Hannover

DISSERTATIONS

Hendrik Berghäuser
Die Dritte Mission von Hochschulen in Deutschland
Prof. Dr. Michael Hölscher
Deutsche Universität für Verwaltungswissenschaften Speyer

Miriam Bodenheimer
Behavioral Transitions to Social Sustainability in Global Production Networks: Case Studies from the Smartphone and Garment Sectors
Prof. Dr. Reinhard Loske
Cusanus Hochschule

Gerda Deac
Auswirkungen der Kopplung von Strom- und Wärmemarkt auf die künftige Integration der erneuerbaren Energien und die CO_2-Emissionen in Deutschland
Dr. Frank Sensfuß
Technische Universität Dresden

Stephanie Heitel
Wohnungsunternehmen im Interessenkonflikt. Entwicklung eines Stakeholder-orientierten Managementsansatzes
Prof. Dr. Andreas Pfnür
Technische Universität Darmstadt

Thomas Jackwerth-Rice
The openness of corporate innovation processes. A mechanism-based analysis of innovation projects in the wind energy industry
Prof. Dr. Martin Heidenreich
Carl von Ossietzky Universität Oldenburg

Cornelius Moll
Nachhaltige Dienstleistungsinnovationen in der Logistik – Ein Ansatz zur Entwicklung von Entscheidungsmodellen
Prof. Dr. Karsten Hadwich
Universität Hohenheim

Matthias Pfaff
Material flows in the industrial system: Model-based analysis of material consumption in Germany and the effects of efficiency measures
Prof. Dr. Rainer Walz
Karlsruher Institut für Technologie

Liliya Pullmann
Entwicklung nationaler Standortfaktoren der MOEL in Hinblick auf ihre technologische Leistungsfähigkeit und den Aufbau nationaler Innovationssysteme – ihre Rolle für Wachstums- und Konvergenzprozesse
Prof. Tamás Bauer
Goethe-Universität Frankfurt am Main

Erduana Shala
Foresight and Social Epistemology
Prof. Dr. Armin Grunwald
Karlsruher Institut für Technologie

Katharina Wohlfarth
Energy efficiency and demand flexibility in companies
Prof. Dr. Wolfgang Eichhammer
Universität Utrecht, Netherlands

PRESENTATIONS

AUSWAHL

Ali Aydemir
Abwärme und Wärmeintegration: schlummernde Potentiale
‣ Neues aus der Umwelttechnik und Infrastrukturplanung, Darmstadt

Heike Brugger
Energy Sufficiency in the Transport Sector
‣ Energy Sufficiency – Future reality accepted or suffered – Paris Workshop (eceee), France

Susanne Bührer
Institutions Matter – how to promote RRI by setting suitable institutional incentives
‣ Eu-SPRI Conference 2019, Rome, Italy

What really matters – gender competence and the practice and perceptions of RRI
‣ Eu-SPRI Conference 2019, Rom, Italy

Evaluating Gender Equality in Research and Innovation – Theories, Methods, and Results from the EFFORTI project
‣ EFFORTI Final Event, Brussels, Belgium

Axel Burger
Political ideological orientations and the inclination to cooperate: The role of the in- versus outgroup status of interaction partners
‣ Jahrestagung der International Society of Political Psychology (ISPP), Lisbon, Portugal

Uta Burghard
Market acceptance of shared electric mobility in Germany
‣ Smart Mobility and Intelligent Vehicles. The annual scientific conference of VEDECOM, Paris, France

Chancen und Herausforderungen beim Import von Solarstrom aus Südeuropa. Ergebnisse des MUSTEC-Projekts
‣ DesertFuel: Beiträge solarthermischer Kraftwerke zur Brennstoffversorgung der Zukunft. 10. Workshop des Arbeitskreises Solarthermische Kraftwerke des Netzwerks Kraftwerkstechnik NRW, Cologne

Kerstin Cuhls
Szenarien: Künstliche Intelligenz in der öffentlichen Verwaltung
‣ Fokus: Zukunft. Unser Leben 2050. Karlsruher Institut für Technologie

Foresight and Horizon Scanning for urbanization in the EU context
‣ URMI Project Presentation Conference, Helsinki, Finnland

Jenseits des technischen Fortschritts: Gedanken in Zeiten der Postwachstumsdebatte
‣ Montagskonferenz Universität Heidelberg

Claus Doll
Neue Mobilität und Disruption
‣ Fraunhofer Mobility Infusion, Frankfurt am Main

Is the "User Pays Principle" an Appropriate Tool to Account for the Infrastructure Costs of Transport? Can it Be Implemented in a Socially Just Manner?
‣ 5th Florence International Forum: internalising the External Costs of Transport, Florence, Italy

Ewa Dönitz
Innovationsmanagement im Rahmen der Agilen Woche
‣ Führungslehrgang bei der Führungsakademie Baden-Württemberg, Karlsruhe

Vicki Duscha
GHG-neutral Europe 2050 – a scenario of an EU with net-zero greenhouse gas emissions and its implications
‣ GHG-neutral Europe 2050, Brussels, Belgium

Negative emissions
‣ Climate Recon 2050 – Policy Maker Platform 4, Berlin

Elisabeth Dütschke
Die Energiewende und der Faktor „MENSCH"
‣ Energiewende 2.0. Wege zu sauberen, sicheren und bezahlbaren Lösungen. Tagung der Akademie für politische Bildung Tutzing und der Petra-Kelly-Stiftung, Tutzing

Acceptance for Cooperation
‣ International Conference on Environmental Psychology, Plymouth, Great Britain

Moving towards sustainability: insights from district heating, water systems and communal housing projects in local communities
‣ ECEEE Summer Study, Giens, France

Elisabeth Eberling
Moral Licensing and Rebound Effects in residential lighting – an experimental study
‣ International Conference on Environmental Psychology 2019, Plymouth, Great Britain

Johannes Eckstein
Renewable energies in the context of an NDC update in Indonesia and Mexico
‣ UN Climate Change Conference, Madrid, Spain

German Long-term climate targets and related modeling activities
‣ UN Climate Change Conference, Madrid, Spain

Implications of decreasing cost projections for NDC revision
‣ Renewable Energy & Energy Efficiency Week 2019, Berlin

Jakob Edler
Mission Orientation in Innovation Policy. A critical comparison between China, USA and Europe/Germany
‣ Schwarzman College der Tsinghua Universität, Beijing, People's Republic of China

Dynamics of market formation: a new approach for analyzing innovation initiated emergence of new markets
‣ Eu-SPRI-Jahreskonferenz, Rome, Italy

Konzeptionalisierung von missionsorientierter Politik
‣ OECD und das österreichische Ministerium für Verkehr, Innovation und Technologie, Vienna, Austria

Wolfgang Eichhammer
Study on Energy Savings Scenarios 2050
‣ EU Sustainable Energy Week 2019 – Shaping Europe's Energy Future, Brussels, Belgium

Grünes Gas – wichtiger Baustein der Energiewende, aber ohne deutliche Effizienzfortschritte nicht praktikabel
‣ Hintergrundgespräch DENEFF: Effiziente Energiewende jetzt statt warten auf das grüne Gas, Berlin

Europäische Energiepolitik – Inspiration und Herausforderungen für Deutschland
‣ BAFA Energietag 2019, Frankfurt am Main

Lorenz Erdmann
Grundlegende Veränderungen von Mensch-Technik-Umweltbeziehungen durch Künstliche Intelligenz
‣ Erste Beiratssitzung im Projekt „Gemeinwohlorientierung im Zeitalter der Digitalisierung", Berlin

Zeit-Rebound-Effekt: Arbeitsdefinition für den Zeit-Rebound-Effekt infolge der Verwendung zeiteffizienter Techniken und Praktiken
‣ Erste Beiratssitzung im Projekt „Zeit-Rebound, Zeitwohlstand und nachhaltiger Konsum", Berlin

Credible processing of diverse knowledge types – A generic foresight perspective
‣ International Mountain Conference, Workshop 1.1.D: Climate change in Mountain regions: Bringing together methodologies and knowledge systems, Innsbruck, Austria

Tobias Fleiter
Dekarbonisierung der Industrie bis 2050 – Handlungsbedarf bis 2030
‣ BAFA Energietag, Frankfurt am Main

Deep decarbonisation of the EU industry – A model-based assessment of alternative pathways
‣ Smart Energy Systems Conference, Copenhagen, Denmark

Katja Franke
Modellgestützte Analyse optimaler Anpassungsreaktionen des europäischen Stromsystems an unterschiedliche Wettersituationen
‣ 11. Internationale Energiewirtschaftstagung, Vienna, Austria

Integrated Electricity Systems in Europe as Major Enablers for High Renewables Shares and Scenarios for Integrating Electricity Systems in China and Neighbouring Countries
‣ Analyzing and designing policies and markets for large-scale utilization of renewable energy sources, Beijing, People's Republic of China

Rainer Frietsch
Die Globalisierung der Wissenschaft
‣ GATE-Germany Marketingkongress, Bonn

Motives to Publish – Structures of company publications in scientific journals
‣ Atlanta Conference on Science and Innovation Policy, Atlanta, USA

Patentstatistik – Möglichkeiten, Verlockungen und Fehlinterpretationen
‣ Statistische Woche, Trier

Markus Fritz
Municipalities as promoters of electric mobility? A survey study in Germany
‣ ECEEE Summer Study 2019, Giens, France

Excess heat distribution for private households through existing sewer networks
‣ Sustainable District Energy Conference 2019, Reyjkjavik, Island

Innovative Abwärmenutzung durch Wärmeverteilung über die Kanalisation
‣ IWAR-Vortragsreihe „Neues aus der Umwelttechnik und Infrastrukturplanung", Darmstadt

Simon Funke
Fast charging infrastructure – a cost-economic analysis
‣ International Conference on Mobility Challenges, Paris, France

Ausbau der (Schnell-)Ladeinfrastruktur – eine kostenökonomische Betrachtung
‣ VDI-Fachkonferenz EV Batteriesysteme und Ladetechnik, Nuremberg

Charging infrastructure for EV: Today's situation and future needs
‣ BW-International Auftakt Delegationsreise Taiwanesische Unternehmen, Karlsruhe

Jan George
Indicators to measure intraday electricity market efficiency in 18 selected Member States of the European Union
‣ 16th International Conference on the European Energy Market, Ljubljana, Slovenia

LECTURES

Joachim Globisch
Integration sozialwissenschaftlicher Ergebnisse in techno-ökonomische Modelle
‣ Jahrestreffen Forschungsnetzwerk Energiesystemanalyse, Aachen

Akzeptanz von Elektrofahrzeugen in gewerblichen Fuhrparks – Was beeinflusst die Adoptionsentscheidung von Organisationen?
‣ Seminarreihe der Profilregion Mobilitätssysteme Karlsruhe

Till Gnann
Market potential of catenary hybrid electric trucks in different world regions
‣ 3rd Electric Road Systems Conference 2019, Frankfurt am Main

Electric trolley trucks – a techno-economic assessment for Germany
‣ Electric Vehicle Symposium 32 (EVS32), Lyon, France

How does charging infrastructure influence the market diffusion of plug-in electric vehicles?
‣ Ringvorlesung "International Case Studies In Transportation", Erfurt

Michael Haendel
Grid Expansion Costs Considering Different Price Control Strategies of Power-to-X Options Based on Dynamic Tariffs at the Low-Voltage Level
‣ EEM 19, Ljubljana, Slovenia

Stephanie Heitel
Pfade zur Dekarbonisierung des europäischen Verkehrssektors bis 2050
‣ 13. Jahrestagung der Deutschen Gesellschaft für System Dynamics (DGSD) – Thema „Mobilität und Transformationsstrategien", Braunschweig

Thomas Hillenbrand
Wasserinfrastrukturen der Zukunft – effizient und klimaangepasst.
‣ BMBF Roadshow Nachhaltige Entwicklung – Aus Theorie wird Praxis, Emsdetten

Stakeholder-Dialog „Spurenstoffstrategie des Bundes" – wichtige Aspekte aus Sicht der fachlichen Begleitung.
‣ Dresdner Abwassertagung, Dresden

Umfassende Bewertung von Wasserinfrastruktursystemen im Kontext neuer Anforderungen und Möglichkeiten – neuer Leitfaden zum Arbeitsblatt DWA-A 272
‣ KläranlagenTage – Konzepte – Erfahrungen – Trends, Bad Soden

Claudia Hohmann
Taking a business model perspective to establish sustainable urban water management practices on municipal level
‣ 4th International Conference on New Business Models, Berlin

Geschäftsmodell-Perspektive für eine Nachhaltigkeitstransition der Siedlungswasserwirtschaft in Deutschland
‣ Konferenz Kommunales Infrastrukturmanagement (KIM), Berlin

Sustainability assessment for decentralized water treatment technologies
‣ Vietnam International Water Week VACI 2019, Hanoi, Vietnam

Djerdj Horvat
Why and how to implement Strategic Competence Management in Manufacturing SMEs?
‣ International Conference on Production Research – ICPR25, Chicago, USA

Effects of Automation and Digitalization on Productivity of Manufacturing Companies in the Early Stage of Industry 4.0
‣ International Conference on Production Research – ICPR25, Chicago, USA

Assessing companies' organisational readiness for Industry 4.0 in Serbia – First steps to digital transformation
‣ Serbia Digital Week, German-Serbian Roundtable on Digitalization, Belgrad, Serbia

Simone Kimpeler
Foresight zur Strategieentwicklung
‣ Denkraum Technologischer Wandel, Bosch Stiftung, Stuttgart

Digitale Arbeitswelt und das Leben in der Stadt
‣ Fachtagung Digitale Arbeitswelten, Netzwerk Sozialer Zusammenhalt in Digitaler Arbeitswelt, Stuttgart

Jonathan Köhler
Transition Pathways to very low emissions shipping: the MATISSE-SHIP model
‣ Royal Institution of Naval Architects Wind Propulsion conference, London, Great Britain

Zero carbon propulsion in shipping – scenarios for the development of hydrogen and wind technologies with the MATISSE-SHIP model
‣ Conference Maritime Hydrogen and Marine Energy, Florø, Norway

Transition pathways to very low emissions shipping: the MATISSE-SHIP model
‣ IST 2019 Accelerating Transitions, Ottawa, Canada

Knut Koschatzky
Evaluierung der dritten Förderperiode der Cluster Offensive Bayern
‣ Treffen der Cluster-Geschäftsführer der Cluster Offensive Bayern Munic

Kooperation zwischen Wissenschaft und Wirtschaft – Das Modell Forschungscampus als Innovationstreiber
‣ 1. SICP-Symposium zum Thema Software.Innovation.Cooperation, Paderborn

Research Campus – Long-term oriented strategic research partnerships between universities and industry
‣ KIST/KIRD Europe: University/Public Institution-Industry Research Cooperation Days, Speyer

Michael Krail
Smart Mobility – Chancen und Risiken der Digitalisierung für eine umweltfreundliche Verkehrswende
‣ Stakeholder-Dialog Digitalisierung und ökologischer Strukturwandel – BMU, Berlin

Nationaler Energie- und Klimaplan Luxemburg – Makroökonomische Folgenabschätzung
‣ Vorstellung und Diskussion der Ergebnisse beim luxemburgischen Energieminister und der Umweltministerin, Energieministerium, Luxembourg

Konstantin Krauß
Sharing, Hailing, Selling, …? Was bieten die neuen Mobilitätsservices?
‣ Profilregion Mobilitätssysteme Karlsruhe – Dissemination Academy, Karlsruher Institut für Technologie

Henning Kroll
Standortfaktoren frugaler Innovation – Atlas für inklusive Innovation
‣ So gelingt Smart Simplicity, Stuttgart

Research infrastructures and society – How impact substantiates through co-creation
‣ AESIS Conference, Berlin

Regional technological systems in transition – effects and development of technological portfolios in China
‣ Atlanta Conference for Science and Innovation Policy, Atlanta, USA

Matthias Kühnbach
Does demand response make it worse? Impacts of avalanche effects of price-optimized vehicle charging on the electricity system
‣ 4th AIEE Energy Symposium, Rome, Italy

Netz- und marktseitige Modellierung der Auswirkungen der Elektromobilität auf die Haushaltsstrompreise in Deutschland
‣ 11. Internationale Energiewirtschaftstagung (IEWT 2019) an der TU Wien, Vienna, Austria

Integrating Demand Response in Regional Electricity Markets: An Agent-Based Simulation
‣ EEM 19, Ljubljana, Slovenia

Marianne Kulicke
Entrepreneurship und Hochschulen – Gründerökosystem Ruhrgebiet – Strukturen, Institutionen und Akteure
‣ Workshop Hochschulen und Entrepreneurship, Ruhr-Universität Bochum

Sabine Langkau
Digitalisierung: Chancen und Risiken für eine nachhaltige Entwicklung
‣ Weltuni 2019 – Digitalisierung: Chancen und Gefahren für Nachhaltigkeit und Demokratie, Nuremberg

Menschenrechtliche und ökologische Sorgfaltspflichten für Unternehmen bei der Produktion von Zukunftstechnologien
‣ Zukunftstechnologien smart³ – global: nachhaltig: digital, Erfurt

Christian Lerch
Industrie 4.0 in Baden-Württemberg – Wo stehen wir heute?
‣ 5-Jahresfeier zur Allianz Industrie 4.0 Baden-Württemberg, Stuttgart

Ralf Lindner
Institutions matter – how to promote RRI by setting suitable institutional incentives
‣ Eu-SPRI Conference 2019, Rome, Italy

Aktuelle innovationspolitische Trends und ihre Implikationen
‣ Jahresklausur der Landtagsfraktion der Grünen Baden-Württemberg, Gäufelden

How democratic is e-democracy? A critical view on digital innovation and political participation
‣ think.BDPST Young Leaders Forum, Budapest, Hungary

Tim Mandel
Development of a new modelling concept for providing initial consultation at a federal state level
‣ Internationale Energiewirtschaftstagung (IEWT), Vienna, Austria

Cornelius Moll
Still und leise in der Nacht, kommt die Ware in die Stadt – GeNaLog Projekt für eine geräuscharme Nachtlogistik
‣ Regionalkonferenz Mobilitätswende, Ludwigshafen

Alternative Antriebe in Fahrschulen aus Sicht der Wissenschaft
‣ 5. MOVING Expertenforum 2019, Berlin

Modelling decision-making on implementing sustainable service innovations
‣ ANZMAC Conference 2019, Wellington, Neuseeland

Peter Neuhäusler
Analyzing topics in trademark filings – A classification attempt
‣ European Policy for Intellectual Property (EPIP) 2019 – The Future of IP, Zurich, Switzerland

A concept for the measurement of the interdisciplinarity of research organizations – the example of the Fraunhofer Society
‣ Atlanta Conference for Science and Innovation Policy, Atlanta, USA

Stella Oberle
How relevant is the natural gas distribution grid in comparison to the electricity distribution grid and heating grids?
‣ 4th AIEE Energy Symposium, Rome, Italy

Jose Ordonez
Urban Energy Transitions
‣ International Experts Seminar KAS – DAAD – UANL – Sustainable Urban Development – Green Infrastructure & Energy Savings, Monterrey, Mexico

Katrin Ostertag
Ökonomische Instrumente für eine Circular Economy
‣ Anhörung des Sachverständigenrates für Umweltfragen, Berlin

The role of a life cycle perspective for a sustainable Circular Economy
‣ ifu Life Cycle Workshop, Reutlingen

Matthias Pfaff
The role of unused storage phases (hibernation) in the overall lifetime of a mobile phone – an evaluation of simulation-based scenarios including their environmental impacts
‣ Konferenz Product Lifetimes and the Environment (PLATE), Berlin

Finding the right link: Different model coupling approaches and their impact on scenario results
‣ MENA Network on Climate-Energy-Economy Modelling: Annual Meeting, Beirut, Libanon

Rebound als Nachhaltigkeitsproblem
‣ Interdisziplinäre Ringvorlesung an der Hochschule Luzern: Nachhaltigkeit in Design und Kunst, Luzern, Switzerland

Matthias Reuter
Multiple Benefits of Energy Efficiency
‣ International Experts Seminar KAS – DAAD – UANL – Sustainable Urban Development – Green Infrastructure & Energy Savings, Monterrey, Mexico

Karoline Rogge
Bridging Social Innovation and Policy Mix Research: An Exploration for the Case of Social Innovation in Energy Transitions
‣ European School of Social Innovation ESSI 2019: 5th Global Research Conference "Social Innovation and Socio-Digital Transformation: Towards a Comprehensive Innovation Policy", Dortmund

Exploring the role of political landscape pressures and individual motivations in low-carbon decision making in energy intensive industries in Germany
‣ Eu-SPRI Conference 2019, Rome, Italy

Impulsvortrag im Innovationspolitischen Forum
‣ Fachkonferenz „Ökonomische Instrumente zur Steigerung der Ressourceneffizienz", Berlin

Clemens Rohde
Why do we need Energy Efficiency?
‣ Renewable Energy & Energy Efficiency Week, Berlin

Value multiple benefits – Improve energy efficiency!
‣ ACEEE industrial summer study, Portland, USA

Aktuelle Trends der Energieeffizienzpolitik in Deutschland
‣ Netzwerktreffen der RheinEnergie, Cologne

Christian Sartorius
r+Impuls – Technologietransferprojekt r+TeTra – Ergebnisse aus der Begleitforschung
‣ Berliner Recycling- und Rohstoffkonferenz, Berlin

Vom Labor auf den Markt – r+Impuls setzt Impulse für Ressourceneffizienz in der Industrie
‣ Ressourceneffizienz-Kreislaufwirtschaft-KONGRESS-BW, Leinfelden-Echterdingen

Geschäftsmodelle für Ressourceneffizienz und Kreislaufwirtschaft
‣ 22. Netzwerkkonferenz Ressourceneffizienz und Kreislaufwirtschaft: Zwei Eckpfeiler einer nachhaltigen Rohstoffpolitik, Berlin

Aline Scherrer
Wie werden Elektrofahrzeuge geladen und welche Auswirkungen hat dies auf die Treibhausgasbilanz?
‣ Seminarreihe der Profilregion Mobilitätssysteme Karlsruhe, Karlsruhe

Social acceptance of catenary hybrid trucks in Germany. First results from the accompanying research of eWayBW
‣ 3rd Electric Road Systems Conference 2019, Frankfurt am Main

Determinants of innovation acceptance among actors in the transport sector
‣ NEST – Network of Early Career Researchers in Sustainability Transitions Conference, Lisbon, Portugal

LECTURES | PROJECTS

Elna Schirrmeister
Fraunhofer Foresight
‣ Talenta Fachtag, München

BioKompass – Szenarien der Bioökonomie
‣ Zukunftswerkstatt Gesellschaftliche Transformation, Hagen

Futures Methods für die gesellschaftliche Transformation zur Bioökonomie
‣ Reallabore, Citizen Science, Service Learning & Co. – Transformative Bildung für eine Nachhaltige Entwicklung, Berlin

Joachim Schleich
Conveyance, envy, and homeowners adoption of energy-efficient appliances
‣ Annual Conference of the European Association of Environmental and Resource Economists (EAERE), Manchester, Great Britain

The effects of energy literacy and household income on consumer choice of energy-efficient appliances – insights from a multi-country discrete choice experiment and welfare analysis
‣ Annual Conference of the Florence School of Regulation Climate, Florence, Italy

Barbara Schlomann
Societal trends in energy consumption modelling: the impact of digitalisation
‣ Workshop of the Coalition for Energy Savings: Towards a digital society: heating or cooling the climate?, Brussels, Belgium

Energy savings scenarios 2050
‣ Studiedag: Energie-efficientie: kansen voor vlaanderen dankzij Europa, Brussels, Belgium

Torben Schubert
Universities and Public Research Organisations as Drivers of Economic Development
‣ 2nd Innovation Fair University of Brasilia, Brasil

Universities and Public Research Organisations as Drivers of Economic Development
‣ Internal Seminar at the Chinese Academy of Sciences, Beijing, People's Republic of China

Johannes Schuler
Sharing, Hailing, Selling, ...? Was bieten die neuen Mobilitätsservices?
‣ Profilregionen Mobilitätssysteme Karlsruhe, Dissemination Academy, Karlsruhe

Innovationstreiberin KI – Ein Einstieg und ihre Relevanz beim Konsum
‣ Digi und Öko: AP Digitalisierung und Konsum – BMU, Berlin

Frank Sensfuß
Wind, Sektorkopplung und Übertragungsnetze als Backbone des Energiesystems der Zukunft
‣ Die Umsetzung der europäischen Klimaziele – Herausforderungen und Chancen, Vienna, Austria

Modelling the transition towards high shares of renewable energy sources with the ENERTILE® model
‣ Analyzing and designing policies and markets for large-scale utilization of renewable energy sources, Beijing, People's Republic of China

Luisa Sievers
Employment effects of sustainable transport – A scenario analysis for Germany using input-output modelling
‣ European Transport Conference, Dublin, Irland

Thomas Stahlecker
Zentralität und Lagegunst sind nicht alles! Adressierbare Potenziale kommunaler Wirtschaftsförderung
‣ 26. Jahresveranstaltung der Arbeitsgemeinschaft kommunaler Wirtschaftsförderer (AGKW) 2019, Erfurt

Responsible Research and Innovation – Konsequenzen für die Innovationsforschung
‣ Distanz und Engagement – Zur Rolle normativer Grundlagen in den Sozialwissenschaften, Gelsenkirchen

Organizational factors and innovation mangement in digital enterprises
‣ International Mining and Metallurgical Congress, Nur-Sultan, Kazakhstan

Judith Stute
Elektromobilität in Verbindung mit PV-Heimspeichern – Auswirkungen auf Netzausbau und Netzentgelte
‣ 11. Internationale Energiewirtschaftstagung, TU Vienna, Austria

Luis Tercero Espinoza
Raw material markets between complexity and actual data
‣ Raw Materials Summit, Berlin

Shaping the future of copper recycling
‣ ICA Workshop, 15th Asia Copper Conference, Shanghai, People's Republic of China

How to determine criticality
‣ 3rd EU Critical Raw Materials Event, Raw Materials Week, Brussels, Belgium

Felix Tettenborn
Renewable energies for decentralized water treatment in Vietnam
‣ Vietnam International Water Week-VACI, Hanoi, Vietnam

Perspektiven für den Umgang mit Spurenstoffen in Deutschland, Stand der Spurenstoffstrategie des Bundes
‣ Cleantec-Initiative-Ost – Arbeitskreis Wassertechnologien – Treffen 2, Dresden

Integrierte Ansätze zur Reduktion von Arzneistoffeinträgen aus Gesundheitseinrichtungen in die Gewässer
‣ Mikroschadstoffe in Gewässern – Akademie für Arbeitssicherheit und Umweltschutz, Offenbach

Jakob Wachsmuth
Fairness- and Cost-effectiveness-based Approaches to Effort-sharing under the Paris Agreement
‣ Bonn Climate Change Conference

The energy sector and the role of novel fuels
‣ GHG-neutral EU 2050 – a scenario of an EU with net-zero greenhouse gas emissions and its implications, Brussels, Belgium

Transformation der Gasinfrastruktur im Kontext der internationalen Klimaschutzbemühungen
‣ Kommunale Wärmewende – Zukunft der Infrastrukturen, Berlin

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Der Stellenwert von ökonomischen Instrumenten zur Verbesserung des Gewässerschutzes
‣ Finanzierungssymposium Spurenstoffe: Wie können Maßnahmen zur Reduzierung von Spurenstoffen in den Gewässern finanziert werden, Berlin

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„Zukunftssicht und Zuversicht" – Zukunftsforschung
‣ EDay, Vienna, Austria

„Was im digitalen Jahrhundert auf uns zukommt" – Digitalisierung
‣ Welt Transformationsgipfel, Berlin

„Zukunftsoffenheit versus Innovationsmanagement" – Innovation
‣ Handelsblatt Autogipfel, Stuttgart

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Power-to-X: Potenziale und Handlungsempfehlungen
‣ VDMA Arbeitsgemeinschaft Power-to-X for Application – Auftaktveranstaltung, Frankfurt

Status-Quo und Perspektiven der Elektromobilität
‣ BMW Forum Zukunft, Munic

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‣ Hannover stromert – Fachveranstaltung Elektromobilität, Hannover

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The Clean Energy Package: Implications and Opportunities for the Mediterranean
‣ MEDREG Energy Forum: At the Forefront of Pro-active and Resilient Energy Regulation, Brussels, Belgium

CO_2-Bepreisung und Verlagerung der Stromsteuer – auf die Rentabilität von Sektorkopplungstechnologien und Energieausgaben verschiedener Haushaltstypen
‣ CO_2-Bepreisung: Eignung verschiedener Ansätze und Bedeutung der Einordnung in einen Policy-Mix, Berlin

The World Bank Study – barriers to and recommendations for market-based RE support in the electricity sector of the WB6
‣ Workshop On Support for Renewable Energy to Enable the Energy Transition, Vienna, Austria

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Transformation to the Bioeconomy – Analysis and Scenarios for selected niches
‣ LA BIOÉCONOMIE: Organisation, Innovation, Soutenabilité et Territoire, Reims, France

Key Enabling Technologies – Measurement, Policies and Innovations
‣ 5th BioSC Spotlight Moving the BioEconomy from mind to market – how can technology and innovation management research contribute?, Bonn

Biologisierung – Innovationen, Märkte, Gesellschaft
‣ Praxisforum Bioökonomie Niedersachsen, Hannover

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- SYSTRA: Konzept- und Methodenentwicklung zur Analyse von sozio-technischen Systemtransformationen
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- ISDEC: Innovation System Data Excellence Center
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- Globalinto: New Intangibles for European Growth
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- OSIRIS: Oslo Institute for Research on the Impact of Science
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- BENE: Beratung bei quantitativer Erhebung im Auftrag der Bene Gruppe zum Thema Zukunft der Arbeit
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- Innolith: Strategische Positionierung des Unternehmens Innolith GmbH
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- AURES II: Auctions for Renewable Energy Support II
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- CSP Exec Agency: The Middle East and North Africa Concentrated Solar Power Knowledge and Innovation Program
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- MUSTEC: Market uptake of Solar Thermal Electricity through Cooperation
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- RES-Plattform: Development of a networking platform and support to local and regional authorities for renewable deployment
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- DG ENER PREBS II: Technical Assistance in Realisation of the European Commission 5th Progress Report on Renewable Energy
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- Progress V: Technical assistance in realisation of the 2018 report on renewable energy
Barbara Breitschopf

- RES-Observer: Technical Assistance in Monitoring and Analysis of Renewable Energy Data for the Period 2016–2020
Barbara Breitschopf

- Subsahara: TA for the Monitoring of the Energy Facility's Project
Barbara Breitschopf

- Politikszenarien IX: THG-Projektion: Weiterentwicklung der Methoden und Umsetzung der EU-Effort Sharing Decision im Projektionsbericht 2019
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- Energieszenarien SH: Energiewendeszenarien Schleswig-Holstein 2030 bis 2050
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- ETS 8: Strukturelle Weiterentwicklung des EU-ETS nach 2020
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- ETS-VKK: Modellierung des Emissionshandels im Kontext europäischer energie- und klimapolitischer Maßnahmen: Entwicklung von ETS-spezifischen Vermeidungskostenkurven
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- EUKI-LCS: Intra-EU Exchange to Raise Awareness and Build Capacity on Long-term Climate Strategies
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- LowCarbonEU: Low-Carbon Europe: Entwicklung ambitionierter Klimaschutzszenarien unter Berücksichtigung von Energieversorgungssicherheit, Nachhaltigkeit und Wettbewerbsfähigkeit
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- ParisArt6: Entwicklung von Optionen und Ausgestaltungsmöglichkeiten zum neuen internationalen Marktmechanismus gemäß Art. 6 des Pariser Abkommens
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- DG ENER – Assessment Tool: Technical assistance to develop a tool for assessing energy efficiency policies and measures
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- ENEFIRST: Making Energy Efficiency First principle operational
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- ETSKorea: A1.1 Consultation hotline
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- GIZ LEEN DSM China: Vorträge und Teilnahme an einem Workshop zu den Themen Energieeffizienznetzwerke und Demand Side Management
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- GIZ_China_Waerme: Unterstützung von bilateralen Energiepartnerschaften mit Entwicklungs- und Schwellenländern; Komponente 2 China; Erstellung einer Studie zu deutschen nachhaltigen Wärmeerzeugungs- und -versorgungskonzepten und Best-Practice-Ansätzen für China
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- GIZ_PtX_Marokko: Länderübergreifende Beratung und Unterstützung von bilateralen Energiepartnerschaften mit EL und SL
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- GIZ_Turkey_EU_IPAII: Technical Assistance for Renewable Energy and Energy Efficiency Support for the Municipalities and Universities
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• BfEE Energiesysteme: Ermittlung von Grundlagen für eine das Energiesystem umfassende Abwägung der Grundentscheidung: Energiebedarf senken gegenüber Erhaltung / Schaffung von Versorgungskapazitäten für die Bedarfsdeckung
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• BMWi Evaluierung Ausschreibungen: Evaluierung der Ausschreibungen nach dem Erneuerbare-Energien-Gesetz 2017, dem Windenergie-auf-See-Gesetz und zugehöriger Ausschreibungsverordnungen
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• EC_DH Regulation new RED: Overview of District Heating and Cooling Markets and Regulatory Frameworks under the Revised Renewable Energy Directive
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• MGSCI: Leitung des City Labs Saltillo im Rahmen der Morgenstadt Global Smart Cities Initiative
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• BMWI Klimaschutz: Auswirkungen der Klimaschutzziele und diesbezüglicher Maßnahmen auf den Energiesektor und den Ausbau der erneuerbaren Energien
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• BMWi-Infrastrukturen: Szenarienbasierte Analyse der Anforderungen an die Infrastrukturen im Rahmen der Energiewende und Auswirkungen auf deren Finanzierung und Planung
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• Lux 2030: Scientific advice on the 2030 energy and climate strategy of Luxemburg and assistance on drafting the national integrated energy and climate plan for the period 2021 to 2030 for the implementation of the energy union
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• NL Review 2019: review of Dutch renewable energy tariffs SDE+ 2020
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• Wasserstoffstudie: Verwertungs- und Umsetzungsstudie für Wasserstoff
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• Energy Efficiency Templates 3: Überprüfen und Aktualisieren des Energy Efficiency Templates der IEA für Deutschland
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• ETS-STRAT: Strategien von Unternehmen und Erfolgsfaktoren im EU-Emissionsrechtehandel
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• NostaClimate: Die Relevanz nichtstaatlicher Akteure für individuelle Klimaschutzaktivitäten und Klimapolitik: Eine theoretische, experimentelle und empirische Analyse
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• License: Direct, Indirect, Psychological, and Macro-economic Rebound Effects – Psychological perspective on Rebound Effect and Policy Recommendations
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• BMUB Maßnahmen-Klimaschutzplan: Wissenschaftliche Unterstützung Klimapolitik und Maßnahmenprogramm 2018
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• BMWi Energieeffizienzfonds: Evaluierung und Weiterentwicklung des Energieeffizienzfonds
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• BMWi_Aktualisierung-Maßnahmen: Aktualisierung Zielarchitektur 2020
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• BMWi Folgeabschätzungen 2030: Energiewirtschaftliche Projektionen und Folgenabschätzungen 2030
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• DG Ener Article 7 Assessment: Technical assistance on assessing progress in implementing article 7 of the Energy Efficiency Directive (EED) and preparing the policy implementation in view of the new obligation period 2021–2030
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• EPATEE: Evaluation into Practice to Achieve Targets for Energy Efficiency
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• BMWi Langfristszenarien 3: Langfristszenarien für die Transformation des Energiesystems in Deutschland
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• 1p5dEurope: IPCC-Sonderbericht zu 1,5° Grad: Was das 1,5°C-Ziel für die EU bedeutet
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• DG-CLIMA_Innovation-fund: Support to preparation of the first call for proposals under the Innovation Fund – methodologies for calculation of relevant costs and effectiveness of GHG emissions avoidance
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• Effort-Sharing PA: Implikationen des Pariser Klimaschutzabkommens auf nationale Klimaschutzanstrengungen
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• EE-Finanzierung: Zukünftige Finanzierung von Erneuerbare-Energien-Anlagen in Deutschland
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• EEG-Öffnung: Unterstützungsleistungen bei der Ausgestaltung zur Öffnung von Fördersystemen für Strom aus Erneuerbaren Energien für im Ausland erzeugten Strom
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- RES Auction Online Platform: Assistance in facilitating regional cooperation on deploying and supporting renewable energy across EU Member States by increased transparency and coordination through an online platform and best practice exchange on support policies
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- Weltbank Western Balkan: Scale-up Renewable Energy for Power Generation in the Western Balkan Countries. Phase 1: Gap Analysis
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- DiffusionEE: Modellierung individueller Entscheidungsprozesse und des Einflusses von Intermediären bei der Diffusion von Energieeffizienzmaßnahmen und Erneuerbaren Energien im Gebäudebereich
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- Versorgungssicherheitsbericht: Definition und Monitoring der Versorgungssicherheit an den europäischen Strommärkten von 2017 bis 2019
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- LUBW_Endenergieverbrauch Strom: Endenergieverbrauch Strom in Baden-Württemberg auf Gemeindeebene
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- DG CL Industry Innovations2050: Industrial Innovation and Decarbonising the EU industry: a 2050 and beyond horizon
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- HRE: Heat Roadmap Europe: Building the knowledge, skills, and capacity required to enable new policies and encourage new investments in the heating and cooling sector
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- IEKK BW 2019: Projektmanagement im Rahmen der Fortschreibung des integrierten Energie- und Klimaschutzkonzeptes Baden-Württemberg (IEKK)
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- Klimaschutzszenario 2050
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- sEEnergies: Energy Efficiency Quantification in Synergetic Renewable Energy Systems
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- DG ENER – RES-H-EU: Renewable Space Heating under the Revised Renewable Energy Directive
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- JRC Industry Data: Specific Energy Uses in EU Energy-intensive Industries: Characterisation and Improvement Potential
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- FIS: Inhaltliche Pflege und Bearbeitung von Themengebieten des Forschungs-Informations-Systems (FIS) des BMVI Los 4
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- RouteCharge: Machbarkeitsstudie Hybrid-Oberleitungs-LKW am Beispiel der Strecke Berlin-Peine
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- E2DRIVER: Training on energy audits as an Energy Efficiency DRIVER for the automotive sector
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- REFLEX: Analysis of the European energy system under the aspects of flexibility and technological progress
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- UBA ETS Produkte: Thema, Analyse und Darstellung der Produkte in den im EU-ETS erfassten Industriebranchen, ihrer wirtschaftlichen Bedeutung und ihrer Bedeutung für die CO_2-Emissionen
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- DG ENER LREM2018 Baseline
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- DV+EEG-Erfahrungsbericht: Vorbereitung und Begleitung bei der Erstellung eines Erfahrungsberichtes gemäß §97 Erneuerbare-Energien-Gesetz (EEG 2014)
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- EnSYS-FlexA: Flexible Nachfrage als wichtiger Beitrag zur Energiewende und Baustein in der Energiesystemanalyse
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- BMWi_Batteriespeicher: Batteriespeicher in Netzen
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- Lastmanagement-Monitoring_2018: Aufbereitung der Daten des Lastmanagement-Monitoring 2018
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- UM BW IEKK: Wissenschaftliche Begleitung der Fortschreibung des Klimaschutzgesetzes Baden-Württemberg und des Integrierten Energie- und Klimaschutzkonzeptes Baden-Württemberg (IEKK)
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- BMUB-Aktionsprogramm Klimaschutz: Umsetzung Aktionsprogramm Klimaschutz 2020 – Begleitung der Umsetzung der Maßnahmen des Aktionsprogramms
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- BMUB-Energiekennzahlen: Aufstellung und Anwendung von Energiekennzahlen als Beitrag zur Steigerung der Energieeffizienz in Unternehmen sowie zum Klimaschutz
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- BMWi Anwendungsbilanzen: Erstellung der Energiebilanzen für die Jahre 2018 bis 2020
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- BMWi-Monitoring Netzwerk: Monitoring der Initiative Energieeffizienz-Netzwerke
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- DG ENER – EEFIG 3 Taxonomy: Launch and facilitate the implementation of a new EEFIG working group on Input on energy efficiency to the emerging EU sustainable finance taxonomy and tagging energy efficiency loans
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- DG ENER – EEFIG 3 – DEEP 2.0: Host, maintain and improve the De-risking Energy Efficiency Platform (DEEP)
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- DG ENER – EEFIG 3 – M-Benefits: Launch and facilitate the implementation of a new EEFIG Working Group on Multiple benefits of energy efficiency
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- eWayBW 1: Feldversuch zur Erprobung elektrischer Antriebe bei schweren Nutzfahrzeugen auf Bundesfernstraßen in Baden-Württemberg
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- MethQuest-MethSys: Erzeugung und Einsatz von Methan aus erneuerbaren Quellen in mobilen und stationären Anwendungen; Teilvorhaben: Energiewirtschaftliche Systemanalyse zur Erzeugung und zum Einsatz von Methan aus erneuerbaren Quellen
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- PWC_TecReview: Innovative Technologies Review
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- DVGW_Roadmap Gas 2050: Entwicklung einer Roadmap zur Umsetzung des DVGW-Energieimpulses bis zum Jahr 2050
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- Biogasrat_Klimabilanz: Klimabilanz, Kosten und Potenziale verschiedener Kraftstoffarten und Antriebssysteme für Pkw und Lkw
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- Gas2030+NSW: Abschluss Dialogprozess Gas 2030 und Überführung der Ergebnisse in die Nationale Strategie Wasserstoff (NSW)
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- VDM-Strategieworkshop: Strategieworkshop Elektromobilität und die Auswirkung auf den Rohstoffmarkt
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- Made in China 2025: Modellbasierte Szenarioanalyse der Auswirkungen von Made in China 2025 auf die Wertschöpfungs- und Marktanteile des deutschen Maschinen- und Anlagenbaus
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- DB_InnoAward2020: Begleitung des DB Supplier Innovation Awards 2020
Djerdj Horvat

- Sachsen Systemanalyse: Analysen zum Innovationsstandort Sachsen
Henning Kroll

- Bertelsmann_Frugal: Studie zur Entwicklung eines Potenzialindexes zu bedarfsorientierten Innovationen in Schwellenländern und Europa (inklusive bzw. frugale Innovationen)
Henning Kroll

- Monitoring EU industry: Towards better monitoring innovation strengths, regional specialisation, and business trends in support of industrial modernisation in the EU
Henning Kroll

- EFI-Förderstrukturen: Fachlos 2: Förderstrukturen in der Grundlagenforschung und ihre Auswirkungen auf die Forschung
Henning Kroll

- Innovationsprofile_China: Regionale Innovationsprofile in China: Innovationsbedingungen und Innovationstypen
Henning Kroll

- APRA-Performance_China: APRA-Performance Monitoring mit Schwerpunkt China
Henning Kroll

- Bayern_FTI-Strategie 2019: Unterstützung bei der Überarbeitung der Bayerischen Forschungs-, Technologie- und Innovationsstrategie – Strategieprozess 2019
Henning Kroll

- RI Impact Pathways: Charting Impact Pathways of Investment in Research Infrastructures
Henning Kroll

PROJECTS

- GIZ Albanien: Nachhaltige Wirtschafts- und Regionalentwicklung, Beschäftigungsförderung und Berufliche Bildung, Land: Albanien
Henning Kroll

- NRW-Industrienahe DL: Erstellung einer Studie zur wirtschaftlichen Bedeutung industrieorientierter Dienstleistungen in Nordrhein-Westfalen
Christian Lerch

- B2B_Platt: Studie zur volkswirtschaftlichen Relevanz von B2B-Internetplattformen
Christian Lerch

- Wertschöpfungspotenziale: Bewertung der ungenutzten Wertschöpfungspotenziale der baden-württembergischen und deutschen Industrie in Zeiten der Digitalisierung der Wertschöpfung (Industrie 4.0)
Christian Lerch

- BMBF_TrueCultureDig: Zukunft der Arbeit: Mittelstand – innovativ und sozial
Christian Lerch

- Upper-Rhine 4.0: I4.0-Vergleich der Regionen am Oberrhein
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- WM BW_Readiness I4.0_II: Beraterpräsentation zum Thema I4.0-Readiness – Update 2018
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- BMWi_Exportkreditgarantien: Analyse der Auswirkungen der Digitalisierung der deutschen Exportwirtschaft auf die Exportkreditgarantien des Bundes und der Handlungsoptionen zur Fortentwicklung des Instrumentariums
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- BMBF_Evalu_Innovationen: Evaluation des BMBF-Forschungsprogramms Innovationen für die Produktion, Dienstleistung und Arbeit von morgen (2015–2019) mit der Programmlinie Zukunft der Arbeit
Christian Lerch

- PPP Slowenien 2019: Digitization of German and Slovenian manufacturing companies
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- EFI_PAT_2018: Thema 4: Ergebnisse von öffentlicher und privater Forschung: Patente
Peter Neuhäusler

- RES-Observer: Technical Assistance in Monitoring and Analysis of Renewable Energy Data for the Period 2016–2020
Peter Neuhäusler

- BMBF_QuaFo-INTERDIS: Quantitative Wissenschaftsforschung (QuaFo) – INTERDIS Interdisziplinarität von Wissenschaftseinrichtungen- Strukturen und Effekte
Peter Neuhäusler

- EFI_PAT_2019: Thema 4: Ergebnisse von öffentlicher und privater Forschung: Patente (Kernstudie 2020)
Peter Neuhäusler

- EU_Research_Tracking_Task2: Tracking of Research Results
Peter Neuhäusler

- MIP4: Erhebung des Innovationsverhaltens der Unternehmen in der produzierenden Industrie und in ausgewählten Dienstleistungssektoren in Deutschland
Torben Schubert

- BMBF_QuaFo-PUBMOTIVE: Quantitative Wissenschaftsforschung (QuaFo) – PUBMOTIVE Motives to Publish – Strukturen, Strategien und Motive von Wissenschaftlichen Publikationen durch Unternehmen
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- BIGPROD: Addressing productivity paradox with big data: implications to policy making
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SUSTAINABILITY AND INFRASTRUCTURE SYSTEMS

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- Nach² Bochum-Weitmar: Umsetzung von Klimaanpassungsmaßnahmen
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- LowCarb RFC: Klimafreundlicher Güterverkehr in Europa
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- MKS Innovation SGV: MKS Ausgestaltung eines Förderprogramms für innovative Technologien und Prozesse im Schienengüterverkehr
Claus Doll

- FERI A-Industrie: Perspektiven der Automobilindustrie
Claus Doll

- MKS NRVP 2030: Nationaler Radverkehrsplan 3.0
Claus Doll

- EcoAP2: Weiterentwicklung des deutschen EcoAP: Verbesserung der Rahmenbedingungen für Umweltinnovationen und Weiterentwicklung des deutschen Öko-Innovationsplans (EcoAP)
Carsten Gandenberger

- Wirtschaftsfaktor Umweltschutz: Beschäftigungswirkungen des Umweltschutzes und Wettbewerbsfähigkeit der Umweltwirtschaft – Aktualisierung wichtiger Kenngrößen
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- Digi und Öko: Digitalisierung ökologisch nachhaltig nutzbar machen
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- Standortstudie Mobilität Oberösterreich
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- i.WET Demo Lünen: Innovative Wasser-Energie Transition (i.WET): Demonstrationsvorhaben in Lünen
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- InnoA2: Innovative Abwärmenutzung durch Wärmeverteilung über die Kanalisation (Phase 1+2)
Thomas Hillenbrand

- Mikroschadstoffstrategie: Organisation, Durchführung und Auswertung eines Stakeholderdialogs zur deutschen Mikroschadstoffstrategie
Thomas Hillenbrand

- FIGAWA: Studie zur Folgenabschätzung von dezentralen Enthärtungsanlagen mittels Ionenaustausch
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- CS2-ECO-5.2: Big impact technology Pathways
Jonathan Köhler

- CS2: CS2-ECO-IKOP
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- MAN GHG-Shipping
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- MKS: Green Ports: MKS-Ad-hoc Beratung: Green Ports
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- MKS: Ad-hoc Beratung im Rahmen der Weiterentwicklung der MKS
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- TRIMODE: Services contract for the development of a Europe wide transport model, technology watch data and scenarios
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- MKS_Komplettelektrifizierung: MKS Rahmenbedingungen und Kosten einer Komplettelektrifizierung des deutschen Schienennetzes
Michael Krail

- MKS_EE Kerosin: MKS Einsatz von erneuerbarem Kerosin am Flughafen in Leipzig/Halle
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- MKS_Digitalisierung Schiene: MKS Beiträge zur Digitalisierung und Automatisierung der Sicherungstechnik als Teil der Eisenbahninfrastruktur
Michael Krail

- MKS_China: Wissenschaftliche Begleitung der MKS China in der Metropolregion Jing-Jin-Ji
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- MKS_finanz. Anreize: MKS Finanzielle Anreize für die Dekarbonisierung des Verkehrs
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- MKS_Mobilitätskonzepte: MKS Verlagerungswirkungen und Umwelteffekte veränderter Mobilitätskonzepte im Personenverkehr
Michael Krail

- MKS_Bio-CNG LKW: MKS – Wissenschaftliche Begleitung des Pilotvorhabens zur Nutzung von 4 CNG (Biogas) LKW
Michael Krail

- MKS_Knoten: MKS Verlagerungspotentiale und Verbesserung der Umweltbilanz durch Ausbau kritischer Bahnknoten
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- MKS_Radparken: MKS Fahrradparken an Bahnhöfen – unter besonderer Berücksichtigung von E-Bikes und Ladeinfrastruktur
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- MKS_Koordination2: MKS Gesamtkoordination der Wissenschaftlichen Beratung des BMVI zur Mobilitäts- und Kraftstoffstrategie 2
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- MKS_Strategie 3: Erarbeitung der Mobilitäts- und Kraftstoffstrategie des BMVI
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- MKS_Bahnkorridore: MKS Potenzialanalyse der Korridore des Kernnetzes Schienengüterverkehr
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- MKS Umrüstung LINT: MKS Umrüstung der Abellio LINT 41 Diesel-Triebwagen für das DISA-Netz zum Zweck der CO_2-Emissionsreduzierung
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- MKS-Strategie IV: Unterstützung des BMVI bei der Weiterentwicklung der Mobilitäts- und Kraftstoffstrategie
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- NECP Lux: Wissenschaftliche Beratung bei der Erstellung des Integrierten Nationalen Energie- und Klimaplans für Luxemburg
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- ERA-MIN2-Biomimic: ERA-MIN 2 – Innovative biotechnological methods for effective mining of secondary material
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- Umweltinfo_Digital: ReFoPlan – Umweltinformationen: Systematik, Potenziale und Verwertung im Kontext der Digitalisierung
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- IKU: Innovationspreis für Klima und Umwelt für die Jahre 2018 bis 2022
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- EITRM-MIN-TEA: Materials INnovative TEchnologies Assessment
Sabine Langkau

- PlasticStrategies: Innovation Strategies addressing challenges of the European plastic strategy
Sabine Langkau

- Recycling Horizons: Charting current and future technologies for copper recycling
Antonia Loibl

- MachWasPlus: Begleitvorhaben zu Materialien für eine nachhaltige Wasserwirtschaft
Frank Marscheider-Weidemann

- RohTech III: Studie Rohstoffe für Zukunftstechnologien III
Frank Marscheider-Weidemann

- Gasleitungsberatung ONTRAS: Implementierung von Nachhaltigkeitskriterien im Vergabeprozess
Jutta Niederste-Hollenberg

- INTEGRIS: Gebündelte Infrastrukturplanungen und -zulassungen und integrierter Umbau von regionalen Versorgungssystemen – Herausforderungen für Umwelt- und Nachhaltigkeitsprüfungen
Jutta Niederste-Hollenberg

- Minder^2 – Phase 2: Pilotprojekt zur Minderung des Eintrags von Röntgenkontrastmitteln in die Umwelt – Maßnahmenkombinationen
Jutta Niederste-Hollenberg

- Konzeptphase AMPHORE: Arbeiten im Rahmen der Konzeptphase für das Projekt AMPHORE
Jutta Niederste-Hollenberg

- KlimAW: Klimaschutz- und Energieeffizienzpotenziale in der Abwasserwirtschaft – aktueller Stand und Perspektiven
Jutta Niederste-Hollenberg

- Gesundheit und Ressourcen: Ressourcenschonung im Gesundheitssektor – Erschließung von Synergien zwischen den Politikfeldern Ressourcenschonung und Gesundheit
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- Ökologischer Strukturwandel: Strategien und Handlungsempfehlungen für den ökologischen Strukturwandel in Richtung einer Green Economy
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- Politikszenarien ProgRess: Analyse und Bewertung von Politikmaßnahmen und ökonomischen Instrumenten des Ressourcenschutzes für die Weiterentwicklung von ProgRess
Katrin Ostertag

- r^4-INTRA: r^4 – Wirtschaftsstrategische Rohstoffe, Verbundvorhaben: r^4 INTRA – r^4 Integrations- und Transferprojekt, Teilvorhaben 2: Operative Projektkoordination und Abschätzung der Ressourceneffizienzpotenziale
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- Wirtschaftsfaktor Umweltschutz II: Erfassung der Umweltschutzbeschäftigung und Aktualisierung wichtiger Kenngrößen zur Wettbewerbsfähigkeit der Umweltschutzwirtschaft
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- EITRM-PANORAMA: Physical AccouNts Of RAw MAterial stock and flow Information Service
Matthias Pfaff

- PolRess III: Analyse und (Weiter-) Entwicklung von Umsetzungsmechanismen und Politikansätzen zur Stärkung und Aufwertung des Deutschen Ressourceneffizienzprogramms ProgRess (PolRess III)
Matthias Pfaff

- ProPol: Support for the upcoming Commission Communication towards an EU product policy framework supportive of Circular Economy
Matthias Pfaff

- HyAlt4Chem: Säurebasierte Hydrolyse von unbehandelten Altholzrecyclaten zur Bereitstellung von Biochemikalien
Christian Sartorius

- NRW Umweltcluster III: Bereitstellung eines Managements für das Kompetenznetzwerk Umweltwirtschaft NRW – Durchführung des Innovationsradars
Christian Sartorius

- r+TeTra: r+Impuls Technologietransferprojekt – Teilvorhaben 1: Projektleitung, Wirkungsanalyse und Öffentlichkeitsarbeit
Christian Sartorius

- P-Rück-NRW: Umsetzung der Anforderungen der Klärschlamm-Verordnung zur Phosphorrückgewinnung in Nordrhein-Westfalen
Christian Sartorius

- Wear2Share: ReziProK – Verbundvorhaben: Wear2Share – Innovative Kreislaufgeschäftsmodelle in der Textilwirtschaft – TP1: Koordination und wissenschaftliche Untersuchungen
Johannes Schuler

- SEEK: Wissenschaftliche Begleitung von zwei Pilotprojekten zur Erhöhung der Sammelquoten von Elektro- und Elektronikaltgeräten in Baden-Württemberg
Johannes Schuler

- EE-Rebound: Rebound-Effekte und erneuerbare Energien – Auswirkungen einer umweltfreundlichen Energieerzeugung auf das Verbrauchsverhalten von Konsumenten und Prosumern
Johannes Schuler

PROJECTS

- HBS Besch.effekte_nh_Mobilität: Analyse der Beschäftigungseffekte nachhaltiger Mobilität in Deutschland bis 2035
Johannes Schuler

- HBS Besch.effekte_nh_Mobilität: Analyse der Beschäftigungseffekte nachhaltiger Mobilität in Deutschland bis 2035
Luisa Sievers

- InteRessE: Interdisziplinäre Bewertung des Ressourcenbedarfs für die Energiewende: Rohstoffbedarf für Bereitstellung, Speicherung und Übertragung von Strom und Wärme
Luis Tercero Espinoza

- SCRREEN: Solutions for CRitical Raw materials – a European Expert Network
Luis Tercero Espinoza

- EITRM-CRITICALC: CRITICALity Life long Learning Course
Luis Tercero Espinoza

- ICA-Future-Recycling: The Future of Copper Recycling
Luis Tercero Espinoza

- Cu-Modell IX: Development of a global copper flow model – Phase IX
Luis Tercero Espinoza

- Cu-Losses 2: Losses in the copper cycle
Luis Tercero Espinoza

- ECI-REACH-Fragebogen: Case study: Impacts on the copper value chain in Europe from a potential Authorisation of Lead under REACH
Luis Tercero Espinoza

- VDM-Strategieworkshop: Elektromobilität und die Auswirkung auf den Rohstoffmarkt
Luis Tercero Espinoza

- ReAs2: Reduzierung der Gewässerbelastungen mit Rückständen von Arzneistoffen in ausgewählten Pilotprojekten – Phase 2: Detaillierung und Vorbereitung konkreter Umsetzungen
Felix Tettenborn

- WaKap: Modulares Konzept zur nachhaltigen Wasserentsalzung mittels kapazitiver Entionisierung am Beispiel Vietnam
Felix Tettenborn

- Umwelt Arzneimittel: Umwelteinträge von Arzneimittelwirkstoffen – Bilanzierung der Emissionen sowie Konsequenzen für Risikobewertung und -management – Teil I: Konzepterstellung der Befragungen
Felix Tettenborn

- Competitiveness eco-innovation: Framework Contract in the field of sustainable industrial policy and construction
Rainer Walz

- NaWiKo: Wissenschaftliche Koordination des Förderschwerpunktes Nachhaltiges Wirtschaften: Synthese und Transferökonomie
Rainer Walz

- Globale Nachhaltigkeit: Globale Nachhaltigkeit als Innovationschance
Rainer Walz

EMERGING TECHNOLOGIES

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- CTCelect: Verbundprojekt Technologie und Prozess für die Vereinzelung von frei zirkulierenden Tumorzellen aus Patientenblut, Teilvorhaben: Innovationsbegleitende Studien zu Rahmenbedingungen, Nutzeranforderungen und Marktpotenzialen
Heike Aichinger

- e-SIDES: Ethical and Societal Implications of Data Sciences
Daniel Bachlechner

- Gesundheitsinnovationen
Tanja Bratan

- GeLang: Begleitforschung zur Förderinitiative „Gesund – ein Leben lang“
Tanja Bratan

- Sano: Centre for New Methods in Computational Diagnostics and Personalised Therapy
Tanja Bratan

- FVA Graphene: Anwendungen von CNT-/Graphen-Fasern in mechatronischen Systemen
Henning Döscher

- Fraunhofer-Mission: Neubestimmung der Mission der Fraunhofer-Gesellschaft im deutschen Forschungs- und Innovationssystem
Jakob Edler

- DSFA: Datenschutz-Folgenabschätzungen für die betriebliche und behördliche Praxis
Michael Friedewald

- Privacy Forum II: Forum Privatheit und selbstbestimmtes Leben in der digitalen Welt
Michael Friedewald

- SPARTA: Strategic programs for advanced research and technology in Europe
Michael Friedewald

- Patient Science: Patient Science zur Erforschung seltener Erkrankungen: eine bürgerwissenschaftliche Studie am Beispiel der Mukoviszidose
Nils Heyen

- Deepen Genomics: Chancen und Herausforderungen der Konvergenz von Künstlicher Intelligenz, moderner Humangenomik und Genom-Editierung
Nils Heyen

- TRADINNOVATION: Innovationen in der Bioökonomie in traditionellen Sektoren am Beispiel von drei Innovationslinien zu Fleischanaloga
Bärbel Hüsing

- Bioökonomie-Ressource CO_2: Technologie- und Marktstudie: Übersicht über Technologien zur bioinspirierten CO_2-Fixierung und -nutzung sowie der Akteure in Baden-Württemberg
Bärbel Hüsing

- Super_MoRRI: Monitoring the evolution and benefits of Responsible Research and Innovation
Ralf Lindner

- New HoRRizon: Excellence in science and innovation for Europe by adopting the concept of Responsible Research and Innovation
Ralf Lindner

- Industrieprojekt: Strategische Positionierung eines Unternehmens
Christoph Neef

- FoFeBatt: Forschungsfertigung Batteriezelle Deutschland – Teilprojekt 1: Entwicklung und Inbetriebnahme der Produktionslinie 1
Christoph Neef

- FRAME: Fraunhofer Microelectronics Innovation Enhancement – Innovationsunterstützende Begleitung der Forschungsfabrik Mikroelektronik Deutschland (FMD) – Gründungsprojekt des Fraunhofer-Verbunds Innovationsforschung
Thomas Reiß

- INTEGRAM: Integrierte Forschung: Eine kritische Analyse und wissenschaftspraktische Vermittlung am Beispiel des Forschungsfeldes Mensch-Technik-Interaktion
Thomas Reiß, Sven Wydra

- Mittelstand 4.0 – Kompetenzzentrum Stuttgart
Thomas Reiß, Bernd Beckert

- Graphene Core 2: Graphene Flagship Core Project 2
Thomas Reiß

- Studie Gesundheitsforschung
Thomas Reiß, Tanja Bratan

- Methodik für Patentanalysen
Ulrich Schmoch

- BEMA Phase II: Begleitmaßnahme Batterie 2020
Axel Thielmann

- EASME KETs: Monitoring KETs and Digital Transformation
Axel Thielmann

- DG Grow-Ecodesign Batteries
Axel Thielmann

- Digital Transformation KET
Axel Thielmann

- Industrieprojekte: Strategische Beratung der Batterieindustrie und Systemintegratoren
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- Bio-Monitoring: Ermittlung wirtschaftlicher Kennzahlen und Indikatoren für ein Monitoring des Voranschreitens der Bioökonomie
Sven Wydra

- Monitoring EU Industry: Towards better monitoring innovation strengths, regional specialisation, and business trends in support of industrial modernisation in the EU
Sven Wydra

- Transformation Bio: Bioökonomie als gesellschaftlicher Wandel, Modul 2 (1): Transformation Bio – Reflexive Governance und dynamische Innovationssysteme am Beispiel der energetischen und stofflichen Nutzung biogener Rohstoffe
Sven Wydra

POLICY AND SOCIETY

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- BMBF_PubMotive: Quantitative Wissenschaftsforschung (QuaFo) – Motives to Publish – Strukturen, Strategien und Motive von Wissenschaftlichen Publikationen durch Unternehmen, FOKUS-Anteil
Knut Blind

- EURITO
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- PubMotive: Teilprojekt
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- BMBF_Evaluation FONA: Evaluation der BMBF-Rahmenprogramme Forschung für die Nachhaltigkeit (2005–2009) und Forschung für Nachhaltige Entwicklungen (2010–2014)
Susanne Bührer

- EFFORTI: Evaluation Framework for Promoting Gender Equality in Research and Innovation
Susanne Bührer

- LBG_Eval: Evaluation LBG Career Center
Susanne Bührer

- New HoRRIzon: Excellence in science and innovation for Europe by adopting the concept of Responsible Research and Innovation
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- WorldEconomicForum: Principles for earning trust in technology fovernance – Supporting a World Economic Forum Initiative
Jakob Edler

- Sprunginnovationen: Konzeptionelle Grundlagen und Ausgestaltungsmöglichkeiten einer Agentur für Sprunginnovationen
Jakob Edler, Knut Koschatzky

- StratFo_BW_2017: Strategische Ausrichtung der wissenschaftlichen und industriellen Forschung in Baden-Württemberg
Knut Koschatzky

- Evaluation HIS: Evaluation des „Hessen Ideen Stipendiums“
Marianne Kulicke

- Evaluation PDA: Evaluation des BMBF-Forschungsprogramms „Innovationen für die Produktion, Dienstleistung und Arbeit von morgen“ (2015–2019) mit der Programmlinie „Zukunft der Arbeit“
Marianne Kulicke

- EXIST V: Wissenschaftliche Begleitung und Evaluation des BMWi-Programms „Existenzgründungen aus der Wissenschaft (EXIST)“
Marianne Kulicke

- Gründungsbüros RLP: Untersuchung zu Tätigkeiten und Aufgaben der Gründungsbüros der Hochschulen RLP
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- WIPANO: Evaluation des Programms „WIPANO – Wissens- und Technologietransfer über Patente und Normen“ des Bundesministeriums für Wirtschaft und Energie
Marianne Kulicke

- Hightech-Forum 2025: Das zentrale Beratungsgremium der Bundesregierung für Forschung und Innovation
Ralf Lindner

- HTS 2025 Begleitforschung: Hightech-Strategie 2025 – Wissenschaftliche Unterstützung zu Missionen und Erfolgsmessung im Rahmen der inhaltlichen Begleitung des Hightech-Forums
Ralf Lindner

- SUPER MoRRI: Scientific Understanding and Provision of an Enhanced and Robust Monitoring system for RRI
Ralf Lindner

- WEF-TiGTech: Prinzipien für vertrauenswürdige Governance neuer Technologien
Ralf Lindner

- RMP 2020: Studien zur Integration ökonomischer und problemorientierter innovationspolitischer Rationalitäten im Rahmen der Vorbereitung des Reinhard-Mohn-Preises 2020 der Bertelsmann-Stiftung
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- SONNET: Social Innovation in Energy Transitions: Co-creating a rich understanding of the diversity, processes, contributions, success and future potentials of social innovation in the energy sector
Karoline Rogge

- BBSR Innovationstransfer: Zukunft Bau – Der Weg von Innovationen in die Praxis – systematische Analyse des Innovationstransfers
Thomas Stahlecker

- Cluster Bayern 2018: Evaluierung der dritten Förderperiode der Cluster-Offensive Bayern
Thomas Stahlecker

- High End Society: High End – im Spiegel der Statistik
Thomas Stahlecker

- Inno_Heilbronn: Ausarbeitung und Begleitung einer Regionalen Innovationsstrategie für die Region Heilbronn-Franken
Thomas Stahlecker

- InnoZone: Innovationszonen als struktur- und innovationspolitisches Instrument der Regionalentwicklung – Anwendungsorientierte Studie für die Implementierung einer Innovationszone
Thomas Stahlecker

- MP_RIS: Weiterentwicklung der Regionalen Innovationsstrategie des Landes Mecklenburg-Vorpommern
Thomas Stahlecker

- RISIS 2: European Research Infrastructure for Science, technology and Innovation policy Studies 2
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- Studie BaWü Wirtschaft 4.0: Moderations- und Explorationsstudie zum Thema Wirtschaftsförderung 4.0 in Baden-Württemberg – Bestandsaufnahme und Schlussfolgerung
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- Wirtschaftsförderung 4.0: Erstellung einer Moderations- und Explorationsstudie zum Thema Wirtschaftsförderung 4.0 in Baden-Württemberg
Thomas Stahlecker,
Andrea Zenker

- EOCIC: European Observatory for Clusters and Industrial Change
Andrea Zenker

• SolLabTUN: Förderung von Vorhaben zur Stärkung der innovationsrelevanten Rahmenbedingungen und angewandten Forschung in MENA-Ländern
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