



## FOREWORD

Since May 2016, I am very pleased and also honored to work at EIFER as the new director. I always appreciated to collaborate with EIFER teams, as I worked closely with the institute during my former position as EDF's R&D Director of the Sustainable Cities Program. I do now discover the institute from another perspective - also with the KIT as a stakeholder. I realize that EIFER is a well-established institution in the international research landscape. The increased share of EIFER's public funded projects illustrates EIFER's integration in scientific networks on a local, national and international level.

The work done for innovation is also really promising for future activities. Aside EIFER is positioned on strategic topics for energy futures as well as for the EDF Group: the localization in Germany where "Energiewende" changes the game for utilities, the knowledge related to energy in cities and regions, local multi-energy systems, environmental economics, and innovation for fuel cells, H<sub>2</sub> electrolysis, biomass, geothermal energy ...

Following in the footsteps of Ludmila Gautier is great but also a difficult task, as she was part of EIFER since the foundation in 2002. For the whole staff it was a pleasure to accompany her along her way. At the beginning of July, we celebrated the farewell of our long-standing employee and wish her now all the best for her future.

I am looking forward to my new challenge and to working with such a dynamic EIFER team.

Pascal Terrien  
Director of EIFER

# WHAT'S UP AT EIFER?

JULY 2016 | # 02/16

NEWSLETTER

## CONTENTS

- **Energy in Cities and Territories** page **2-4**
  - EDF City Platform: a Brand New Interface 2
  - EIFER and EDF at Metropolitan Solutions Berlin 3
  - Think Tank "Atelier, Energie et Territoires" at EIFER 4
- **Energy Resources and Decentralized Production** pages **5-6**
  - EIFER at the Hanover Fair 5
  - Kick-off Meeting European Project Sim4Blocks 6
  - EIFER – New Member of the DHC+ Platform 6
- **Economics of Energy Systems and Environment** pages **7-8**
  - Support for the KIT Climate Action Plan 7
  - EIFER Involved in Development of ISO 14008 7
  - Woche der Umwelt / Environment Week in Berlin 8

## IN THE SPOTLIGHT

### EIFER hosted the Board Member of EDF and the President of KIT

Since March 2015, the Senior Executive Vice President Simone Rossi is in charge of international affairs. This direction is the stakeholder of the international activities of EDF's R&D, where EIFER plays an important role. Simone Rossi has been accompanied by 8 members of his management team and by the Vice President of EDF's R&D International & Partnerships Jacques Sacreste. This was a unique opportunity to show EIFER activities and main deliverables for International Affairs, accompanying their business developments: smart and sustainable cities, local energy systems, biomass and fuel cells. The group took advantage of the visit in Karlsruhe and had the possibility to exchange with the President of KIT Professor Dr.-Ing. Holger Hanselka about current projects of the KIT energy research.



Jacques Sacreste, EDF's R&D Vice President for International & Partnerships, Prof. Dr.-Ing. Holger Hanselka, President of KIT, Simone Rossi, EDF Senior Executive Vice President (left to right).

This exchange has been completed during the afternoon by direct impressions and field visits on Campus North. The EnergyLab 2.0, a platform which analysis the interaction of components of future energy systems, the solar storage park and the battery development were highlights that have been visited and discussed by Simone Rossi and his team.

Contact: Nurten Avci

## WHAT'S UP AT EIFER ?



### Development of an Integrated GIS Based Approach for Urban Heat Island Modelling

The paper "Development of an Integrated GIS Based Approach for Urban Heat Island Modelling" by Md. Abdul Muqit Zoarder, Syed Monjur Murshed, Jean-Marie Bahu and Volker Coors was presented at the 4<sup>th</sup> International Conference on Countermeasures to Urban Heat Islands on 30<sup>th</sup> May 2016, held at the National University of Singapore (NUS). The paper received very positive feedback regarding its applicability to cities in different climatic conditions in order to identify and quantify urban heat islands. This event also gave an opportunity for exchange with the NUS and other institutes regarding future research collaborations and to strengthen the activities of the EDF Lab in Singapore.

Contact: Syed Monjur Murshed

### EDF City Platform: The Urban Planning Tool with a Brand New Interface

The platform has been developed by EIFER and EDF and allows cities to compare various urban planning strategies and identify the most appropriate one, thanks to quantified key performance indicators such as GHG, energy, quality of life and costs.



The CEO of HDB presents EDF City Platform in her keynote during the World City Summit in Singapore - 2016 July 12<sup>th</sup>.

In May, EDF City Platform delivered the second version of its web graphical user interface which provides Geographical Information System (GIS) capabilities. This version was well received by the end user in Singapore. Our partner, Veolia has now fully integrated its models and all the elements simulated can be applied to a new version of a neighbourhood.

These new GIS capabilities allow us to work on the integration of PV potential and later on air pollution and many other models. We now also have the capability to calculate volume, area and distance online.

New ergonomics, more convenient but still close to the first version, give access to already existing functions like multi-criteria analysis, comparison of results to targeted values and of course the set-up of initiatives on buildings to simulate and visualise the future of key performance indicators.

To meet the requirements of our participation to an other urban project "Modélisation Urbaine de Gerland" (MUG), EDF City platform is designing a solution to couple the models directly inside the platform. A main simulation engine based on a discrete open source event simulation engine called Simdiasca (developed by EDF's R&D) will be full part of the platform. This will offer the capability to create a handmade systemic approach of the city. To help with this, a new product, called Modev, is being initiated and will be developed by Obeo, increasing the performance of the modelling and integration teams by capitalising input and output parameters and generating code for integration and tests.



Viva Technology Startup Connet in Paris - Bernard Salha, Senior Vice President of EDF's R&D and David Blin from EIFER.

The prototype of a new interface has been presented at the Viva Technology in Paris from 30<sup>th</sup> June to 2<sup>nd</sup> July. The exhibition visitors had the opportunity to explore the city of tomorrow thanks to virtual reality and a large digital and interactive panorama showing results of simulations made with EDF City Platform.

Contact: David Blin

### Shaping New Perspectives: Enhancing Urban Planning by Modelling in Lyon

The first conference for the Modélisation Urbaine Gerland project (MUG) was held on 14<sup>th</sup> April 2016 in Lyon, France. About 70 participants listened to 10 presentations from diverse fields of expertise and engaged in lively discussions. Besides addressing questions on urban modelling, the event provided an opportunity to embed MUG in the context of similar activities. The event

was organised by EDF-EIFER, Métropole de Lyon and Mission Gerland. We would like to thank all participants for the vivid and interesting discussions. Together with the Métropole de Lyon we are looking forward to hosting a second conference in October 2016.



Contact: Monika Heyder

Link: <http://www.lyon-gerland.com/le-projet-urbain/modelisation-urbaine-de-gerland-mug>



## WHAT'S UP AT EIFER ?



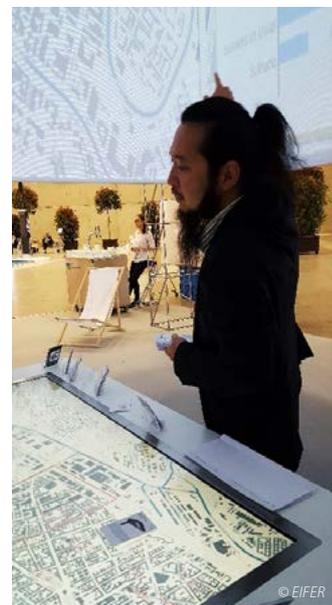
### EIFER and EDF for Smart Cities at Metropolitan Solutions in Berlin

Metropolitan Solutions 2016, a major congress dedicated to smart cities and sustainable urban development, took place in Berlin from 31<sup>st</sup> May to 2<sup>nd</sup> June 2016. It brought together political leaders, municipal decision-makers and experts from various fields including energy, infrastructure and mobility.

Together with EDF Deutschland and smartflower™, EDF and EIFER presented their expertise and worldwide lighthouse projects at a common stand. They met international delegations as well as academic and business stakeholders in the fields of urban energy and smart cities.

Metropolitan Solutions 2016 was also an opportunity to present a new innovative prototype coupling an immersive 3D interface and the EDF City Simulation Platform for simulating the impact of refurbishing public lighting with several techno-economic indicators in the Berlin district of Moabit.

Contact: Jean-Marie Bahu



The EIFER/EDF team hosted the visit of Michael Müller, Governing Mayor of Berlin, as well as visits of other key stakeholders for smart and sustainable cities.

### “Ensemble, la ville”

That was the motto of this year's “Les Entretiens de l'Aménagement” event which took place on 7<sup>th</sup> and 8<sup>th</sup> April in Strasbourg. The two-day event is held every three years and organised by “Le Club Ville Aménagement”. Ludmila Gautier, former director of EIFER, was invited to give the German view on urban projects and presented two exemplary research projects with citizen participation in Karlsruhe and Berlin. These projects have highlighted the importance of citizen participation in urban transformation projects through several collaborative workshops in order to integrate relevant stakeholders and domain experts at an early stage of the planning process. These two days brought together 500 attendees who participated in lively discussions and knowledge exchange with about 40 participants involved in urban development, among others Philippe Labro, the general secretary of EDF's think tank “Atelier, Energie & Territoires”.



Contact: Jeannine Eckstein

Link: <http://alsace.edf.com/innover/ensemble-ville-contribution-deifer/>

## WHAT'S UP AT EIFER ?



### Sélestat, EDF and EIFER: a Partnership for Sustainable Development



On Friday 8 July, Marcel Bauer, mayor of Sélestat, Didier Fruhauf, Director of Local Development EDF Alsace and Andreas Koch, Head of the Group Energy Planning and Geosimulation at EIFER formalized their partnership by signing a cooperation agreement. The agreement is inscribed in the commitment of the Region and EDF to a sustainable development following the law on the energy transition for the green growth strategy. The local government, EDF and EIFER jointly defined four main areas of cooperation with a "sustainable development" approach in favor of the city of Sélestat:

- Energy management of the heritage of the community and residential housing with the creation of an energy information space
- Develop local energy production from renewable energies
- Reduce fuel poverty
- Develop sustainable mobility

Contact: *Andreas Koch, Marie Sevenet*

### Think Tank "Atelier Energie et Territoires" visits EIFER

**ATELIER ÉNERGIE  
& TERRITOIRES**

The "Atelier Energie et Territoires" held its annual meeting at EIFER in Karlsruhe on 22<sup>nd</sup> March 2016. The EDF programme "Ville durable" has set up a think tank to tackle the challenges and new strategies facing cities and regions in terms of the energy transition. This scientific council is composed of experts and professors from various relevant disciplines such as urban planning, engineering, social science, architecture and economics. Among others, the Atelier defines an annual key topic which in 2015 dealt with "Positive energy territories", representing a new important challenge as part of the regional energy transition for the Green Growth Act implemented in 2015.

This year's meeting in Karlsruhe intended to discuss the topic in an international perspective as reflected by EIFER's activities and developments on urban planning support within the context of the specific German energy transition debate. The feedback from the expert panel, including all of the examples, approaches and methods on resource efficient urban development presented, brought amazing insights to the recent discussion in Germany. Especially with regards to differences and complementarities between France and Germany. The main focus of the discussion was on the integration of renewable energies into urban planning as well as specific residents' participation in the implementation of sustainable urban development concepts both at the urban district level, but also for the entire urban spatial model.



*Start-up centre "Perfekt Futur" with about 70 sea containers which are used as offices.*

For Philippe Labro, the general secretary of the Atelier, EIFER's analysing methods and tools have provided a comprehensive overview of the diverse methods for providing support for planning and political decision-making, and have offered valid and scalable methods for facing the complex interactions of a long-term perspective of rising resource-efficient city development.

A presentation by A. Karmann-Woessner, head of the Karlsruhe urban planning department, showed a variety of implemented concepts of resident participation on various scales in recent local urban development activities in Karlsruhe.

Finally, local site visits in recent transformation areas illustrated how the needs of sustainable urban development meet the challenges concerning a reproduction of new location qualities for the implementation of creativity industries and new business development.

Contact: *Markus Peter, Benoit Boutaud*

## WHAT'S UP AT EIFER ?



### Test Bench for High Temperature Electrolysis (HTE) Stacks up to 10kW

In the framework of the German public funded project SUNFIRE, a new test bench for validating HTE stacks up to 10kW electricity (ca. 3Nm<sup>3</sup>/h hydrogen production) was purchased from FuelCon AG in Barleben, Germany. The unit was installed and commissioned at the end of 2015 at the EIFER laboratory dedicated to SOEC (Solid Oxide Electrolysis Cell) and SOFC (Solid Oxide Fuel Cell) cells, stacks and module testing located at ICT Fraunhofer Pfinztal, Germany. The test bench is designed to operate reversibly between the SOEC electrolysis mode in which hydrogen and oxygen is produced by splitting water electrochemically with the use of electricity, and the SOFC fuel cell mode which generates electricity from the reaction of hydrogen and oxygen.



Test bench TB9 at EIFER SOEC/SOFC laboratory at ICT Fraunhofer

Contact: Bastian Ludwig

### EIFER at the Association of American Geographers (AAG) in San Francisco

EIFER hosted a session on GIS and spatial analysis in energy-related research at the AAG Annual Meeting in San Francisco from 29<sup>th</sup> March to 2<sup>nd</sup> April 2016. The conference is the largest in the field of geography with over 10,000 participants. EIFER's session was sponsored by the Geographic Information Science and Systems Specialty Group, and the Energy and Environment Specialty Group. The session featured presentations from diverse backgrounds including SmartGrid applications, urban activity spaces, classification of power lines, and GIS applications in Smart City approaches.



Contact: Jochen Wendel

### Hydrogen Continues to Gain Momentum as a Fuel

With EIFER's technical support, the EDF "Rivière Territoire" Agency in Rodez has developed a winning territorial dynamic for the H<sub>2</sub> technology sector:

- private and public entities worked together to install the H<sub>2</sub> production facility in Rodez with a filling station with the largest capacity in France (140 kg / day) and a fleet of 20 vehicles (project approved in 2015 by the Fuel Cells and Hydrogen Joint Undertaking call)
- after initiating contacts with Fundación Hidrógeno Aragón (FHA) in Spain, a cross-border H<sub>2</sub> mobility corridor linking Catalonia, Aragon, Andorra and Midi-Pyrenees has been approved by the Interreg POCTEFA (Programa de Cooperación Territorial Interreg V-A España-Francia-Andorra) programme. It proposes an H<sub>2</sub> mobility axis between Rodez and Zaragoza with a network of 8 stations, green H<sub>2</sub> production (from hydroelectricity and wind) and an ambitious research programme focused on energy optimisation and vehicle autonomy.

Given these results, the Midi-Pyrenees governance bodies consider the H<sub>2</sub> technology highly strategic for the region, with an ambitious action plan for the territory, aimed in particular at the implementation of an H<sub>2</sub> ecosystem at Toulouse airport.

Contact: Alain Picasso, David Colomar

### EIFER at the Hanover Fair

Between 25<sup>th</sup> and 29<sup>th</sup> April 2016, EIFER presented its activities on fault diagnostic and life-time estimation of fuel cells and its contribution to the European project Sapphire, funded by the FCH-JU, at the Hanover Fair. The project resulted in a fully integrated hardware/software tool for diagnosing faults and estimating the lifetime of Proton exchange membrane fuel cells (PEMFC), a tool which makes use of EIFER's algorithms. The tool was successfully validated on a  $\mu$ -CHP Dantherm system and exhibited at the project's booth.



Contact: Philippe Moçotéguy, Christoph Kaendler

## WHAT'S UP AT EIFER ?



### ReFlex – Successful Project Launched

The kick-off meeting for the ReFlex project, funded by ERA-Net Smart Grids Plus, took place on 19<sup>th</sup> April 2016 in Vienna. ReFlex aims at developing a replicability concept and guidelines for the deployment of technologically feasible, market-based and user-friendly solutions for smart grids. The project team is made up of 5 research organisations and 8 demo region partners from Austria, Switzerland, Sweden and Germany. EIFER's contribution consists of technology assessment and comparison through simulation models as well as the development of communities of practice.

Contact: Paul Haering, Enrique Kremers, Norbert Lewald

### Smart Grids Made in Baden-Württemberg

The state of Baden-Württemberg actively supports the development of energy systems towards smart grids. Back in 2012, it initiated the development of a smart grid roadmap, which was followed by the creation of the association "Smart Grids Plattform Baden-Württemberg e.V" in 2013. Consisting of more than 60 members, the objectives of this network are: to implement the smart grid roadmap, to raise public awareness of smart grid technologies and to launch new projects such as the "C/sells" showcase. This four-year project, which started in early 2016, is one of 5 showcases funded by the SINTEG programme (Smart Energy Showcases – Digital Agenda for the Energy Transition) set up by the Federal Ministry for Economic Affairs and Energy. It focuses on the optimisation of energy generation and consumption based on a cellular approach. Furthermore, the platform has recently organised an international exchange with a Canadian delegation from the field.

As a member of the "Plattform", EIFER regularly participates in the working group and events which aim at developing cooperation through common projects and fostering knowledge exchange among the network of experts from academia and industry.

Contact: Paul Haering, Enrique Kremers

### Kick-off Meeting of the European Project Sim4Blocks in Stuttgart, 5<sup>th</sup> and 6<sup>th</sup> April 2016



EIFER is a partner in the European research project Sim4Blocks, a four-year project funded by the EC's Horizon 2020 programme that will develop innovative demand response services for residential and commercial applications. The project will employ decentralised energy management technology at the blocks-of-buildings scale to enable demand response. The project, which consists of a consortium of 17 partners from across Europe, began on 1<sup>st</sup> April 2016. Sim4Blocks will help to increase energy flexibility in the electricity grid in order to accommodate the fluctuating renewable energy sources that are so important for the decarbonisation of the energy sector.



Contact: Markus Peter, Enrique Kremers

Link: <http://www.sim4blocks.eu>

### EIFER – New Member of the DHC+ Technology Platform



In February 2016, EIFER joined DHC+, the European District Heating and Cooling Technology Platform, part of Euroheat & Power.

DHC+ members come from more than thirty countries and include national district heating and cooling associations, operators, as well as academic and industrial stakeholders active in the sector. On 18<sup>th</sup> April, EIFER was invited to present its activities on heating and cooling to the Steering Committee, which took place in Frankfurt within the scope of the "EnEff Messe" with more than 35 DHC+ participants.

This membership provides EIFER with better visibility of achieved results, in order to enhance their participation in public-funded projects and to reinforce their collaborative relationship with Dalkia, also a member of the platform.

Contact: Guillaume Bardeau, Nicole Pini



## WHAT'S UP AT EIFER ?



### Support for the KIT Climate Action Plan

EIFER is currently supporting its board member KIT by preparing a Climate Action Plan (CAP). In accordance with the German framework for CAPs, the KIT highlights the aspect of sustainability in its Masterplan 2030. Based on the demand and supply of electricity, heat/cold and transport indicators, EIFER calculates the CO<sub>2</sub> and energy balance for all four KIT campuses. Moreover, the potential for a reduction in demand as well as for possible savings is displayed at the building level. With this, the KIT once again recognises EIFER as a valuable partner in the preparation and implementation of strategic decision processes.

Contact: Jeannette Sieber

### Biowaste-to-energy and Bio-based Chemistry Main Trends at EUBCE 2016



EIFER presents its latest results on biowaste utilisation at the European Biomass Conference & Exhibition in Amsterdam on "Techno-Economic Comparison of Biowaste Treatment: Hydrothermal Carbonisation, Anaerobic Waste Fermentation and Composting". Besides biowaste-to-energy, the second main trend is the material use of biomass to valuable chemicals. Combining hydrogen from electrolysis with fossil CO<sub>2</sub> is expected to be the key factor for a future bio-based chemical industry, implemented by catalytic as well as biological industrial processes.

Contact: Stephan Seidelt

### Follow-up Project in Geothermal Research

EIFER's project proposal EWS-Tech-II has been accepted by the Ministry of the Environment, Climate Protection and Energy Sector Baden-Württemberg. This project aims at the development of checkable quality criteria for borehole heat exchanger grouting under realistic boundary conditions. At the heart of the work packages led by EIFER are the investigation of the magnetic susceptibility of doped grouting, and the numerical modelling of the phenomena which occur when applying airlift drilling methods.

The systematic approach should help to provide a framework regarding the required magnetic susceptibility for detecting ally dotted material. The numerical investigations should be able to provide fundamental predictions of air flows in and out of aquifers and surrounding geological formations as well as for varying borehole dimensions and constructions.

Contact: Roman Zorn

### KIT Workshop on Risks, Catastrophes and Safety

On 6<sup>th</sup> April 2016, the KIT held a workshop on "risks, catastrophes and safety". The impulse for this meeting was to build a city competence network and foster better exchange among scientists in the relevant fields within the KIT. Topics such as urban development, climate, environment, IT and risk communication were covered by the participants. The main discussion points included resilience, mitigation and adaptation in risk research. EIFER is now part of the core team led by CEDIM (Center for Disaster Management and Risk Reduction Technology) to highlight cities, energy and climate resilience questions in the existing nexus debate.

Contact: Jeannette Sieber

### EIFER Involved in the Development of ISO 14008 on Monetary Valuation of Environmental Aspects and Impacts



Since February 2016 and on behalf of DIN, EIFER is involved in the discussion of the development of the new International Standard ISO 14008 whose current working title is "Monetary valuation of environmental aspects and impacts – Principles, requirements and guidelines". The aim of the standard is to increase awareness, understanding and transparency of monetary valuations, thereby supporting e.g. cost-benefit analyses, risk management and life cycle assessments for all kinds of organizations. There are 69 members from 22 countries that have signed up to the related ISO working group.

Contact: Till M. Bachmann

Link: <https://committee.iso.org/sites/tc207sc1/home/projects/ongoing/iso-14008.html>

## SAVE THE DATE



### International trade fair, conference and networking event

Each year, about 3,000 experts from 30 countries get together at WORLD OF ENERGY SOLUTIONS in Stuttgart, Germany.

The internationally renowned conference and trade fair highlights the commercial application of efficient and clean battery, hydrogen and fuel cell technologies in industrial production, electric mobility and intelligent urban and municipal infrastructure.

This year's event will especially focus on smart system solutions for connected users. Following the slogan „Let's motivate the market“, WORLD OF ENERGY SOLUTIONS 2016 will present smart key technologies, market and financing models, legal frameworks and best practice cases. EIFER will be present at the conference. For more details please take a look at the preliminary programme which is available under the following link:

<http://www.world-of-energy-solutions.de/en/conference-wes/program-2016.html>

Please note, early bird prices are available until July 31.

Contact: Jeannine Eckstein

## PUBLICATIONS

### Book Contributions and Journal Articles:

**Imbert, I., Nogues, P., Sevenet, M. (2016).** Same but different: On the applicability of fuel poverty indicators across countries - Insights from France. In: Energy Research and Social Science Volume 15, May 2016, Pages 75-85. <http://www.sciencedirect.com/science/article/pii/S2214629616300305>

**Laurin, L., Amor, B., Bachmann, T. M., Bare, J., Koffler, C., Genest, S., Preiss, P., Pierce, J., Satterfield, B., Vigon, B. (2016).** Life cycle assessment capacity roadmap (section 1): decision-making support using LCA. In: The International Journal of Life Cycle Assessment, 1-5. <http://link.springer.com/article/10.1007/s11367-016-1031-y>

**Meier, S., Zorn, R. (2016).** Messdatenerfassung in der Geothermie-Sonde mittels GEOSniff. In: bbr - das Fachmagazin für Leitungsbau, Brunnenbau und Geothermie(4). <http://www.bbr-online.de/archiv/04-I-2016/>

**Pahon, E., Yousfi Steiner, N., Jemei, S., Hissel, D., Moçoteguy, P. (2016).** A signal-based method for fast PEMFC diagnosis. In: Applied Energy, 165, 748-758. <http://dx.doi.org/10.1016/j.apenergy.2015.12.084>

**Wendel, J., Murshed, S.M., Sriramulu, A. and Nichersu, A. (2016).** Development of a Web-Browser Based Interface for 3D Data – A Case Study of a Plug-in Free Approach for Visualizing Energy Modelling Results (S. 185–205). In: Springer International Publishing. [http://link.springer.com/chapter/10.1007%2F978-3-319-19602-2\\_12](http://link.springer.com/chapter/10.1007%2F978-3-319-19602-2_12)

### Woche der Umwelt / Environment Week

#### Woche der Umwelt

7. und 8. Juni 2016, Schloss Bellevue



[www.woche-der-umwelt.de](http://www.woche-der-umwelt.de)

 Der Bundespräsident

 DBU  
Deutsche Bundesförderung Umwelt

The 5<sup>th</sup> Environment Week took place on 7<sup>th</sup> and 8<sup>th</sup> June 2016 at Schloss Bellevue. On the invitation of the President of Germany, about 200 projects and initiatives were presented covering climate protection and energy, resource efficiency, biodiversity, mobility, transport and building. All of these topics were framed by the concept of sustainability. The programme was split into expert panels, exhibition and round table discussions, in addition to a welcome atmosphere of informal meetings and discussions. Among the presenters and exhibitors were the KIT, energy agencies, the German Biomass Research Center, several Fraunhofer institutes, as well as WEMAG AG and Younicos AG.

Contact: Jeannette Sieber

Link: <https://www.woche-der-umwelt.de/>

## IMPRESSUM

### EIFER

European Institute for Energy Research  
Emmy-Noether-Straße 11  
76131 Karlsruhe  
Germany  
Phone +49 (0) 721 6105 1330  
Email: [newsletter@eifer.org](mailto:newsletter@eifer.org)  
[www.eifer.org](http://www.eifer.org)

Editorial Director: Pascal Terrien  
Chief Editor: Nurten Avci,  
Jeannine Eckstein and the  
EIFER Editorial Committee  
Photos: EIFER and EDF intern