



# Climate Change and the Energy Challenge

Integration of energy efficiency and renewable resources

# IKEM

Institut für Klimaschutz, Energie und Mobilität  
Institute for Climate Protection, Energy and Mobility



An interdisciplinary approach to today's great energy questions  
Summer Academy 'Energy and the Environment' 2013  
15-21 September | Brussels



## Topic

The 10th annual Summer Academy 'Energy and the Environment' revisits the major climate and energy questions of our generation, questions that have driven the event since its very first edition in 2004. Paying special attention to the demand and supply-side potential and challenges of energy efficiency, the Academy looks back on the major environmental topics addressed over the past decade, to evaluate what progress has been made and to weave new issues and (technological) developments into the discussion.

## Program

**Sunday** | Welcome dinner, 19:30 Restaurant Publico, Rue des Chartreux 32

**Monday** | From International negotiations to regional frameworks: Climate Policy Successes and Failures

**Tuesday** | Towards a Sustainable Energy Supply: An Interdisciplinary Analysis of Today's Energy Market

**Wednesday** | Efficiency and Renewable Energy: Supply-side Solutions towards Optimal Integration

**Thursday** | Energy Efficiency across the Economy: Cities, Buildings, Industry and Transport

**Friday** | Energy Efficiency Directive 2012/27/EU: Towards 2020 and Beyond



## About | IKEM

IKEM is an independent research institute promoting interdisciplinary cooperation and applied research to address key legal, economic and policy issues in climate protection, sustainable energy use and energy mobility. Founded in 2009, the Institute works in close cooperation with the University of Greifswald, and has offices in Berlin and Greifswald. IKEM (Institut für Klimaschutz, Energie und Mobilität) offers interdisciplinary research on contemporary topics, for instance the development of the legal framework in Germany to promote RES and the integration of electric vehicles in urban traffic. IKEM has worked with partners like the German Federal Ministry for the Environment, the Technical University of Berlin, think-tanks like Ecologic and Fraunhofer Iwes, companies like Siemens, Vattenfall and Ecofys and of course, IKEM's long standing partner, the German energy law firm Becker Büttner Held.



## About | Summer Academy

For ten years now, the Summer Academy has brought together researchers and professionals around a topic of common interest in the field of energy and the environment. Participants are selected on professional and academic qualifications, while ensuring as accurate a representation of cultures and nationalities as possible. Each country has a different approach to similar problems in the field of energy and the environment, and an international group enriches the discussions and expertise gathered during the Academy. A key element is the inclusion of transition and developing countries, to allow for expertise and sometimes even technology transfer during the event. Many former participants are now established policy-makers, business leaders or academics themselves, and the professional (and social) network they established during their Summer Academy still serves them well.

## Summer Academy 'Energy and the Environment'

### 10 Years of International Cooperation

**2004** - Transition from Nuclear Energy to Renewable Energy Sources | Greifswald, Germany

**2005** - Implementing Kyoto – Chances and Challenges for Transition Countries | Irkutsk, Russia

**2006** - Emissions Trading in Europe – Review and Preview | Greifswald, Germany

**2007** - Bridging the Divide in Global Climate Policy: Strategies for Enhanced Participation and Integration | Budapest, Hungary

**2008** - Realizing the Paradigm Shift towards Energy Sustainability: Climate Change, Technological Innovation, and the Challenge of an Optimal Instrument Mix | Greifswald, Germany

**2009** - Bridging the Divide in Global Climate Policy 2.0: From Bali to Copenhagen | Amsterdam, the Netherlands

**2010** - Transnational Energy Grids: Challenges on the Way to Sustainable Energy Transmission | Greifswald, Germany

**2011** - Socio-Economic Opportunities and Drivers on the Way to a Low-Carbon Society | Guildford and London, United Kingdom

**2012** - Energy Transition: Expansion and Integration of Renewable Energy Sources | Berlin, Germany

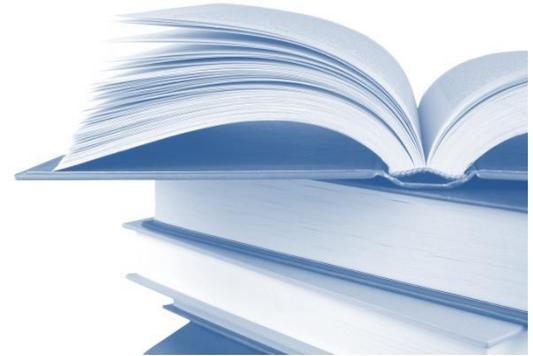
**2013** - Climate Change and the Energy Challenge: Integration of Energy Efficiency and Renewable Resources | Brussels, Belgium



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## From International Negotiations to Regional Frameworks: Climate Policy Successes and Failures

The Academy will begin with a thorough analysis of the state and effectiveness of current international climate policy, paying special attention to the complicated negotiating process that shapes it. Moving from the global to the regional level, climate and energy policy in the European Union will be discussed. Sustainable policy pitfalls are illustrated with the case of EU biofuel policy. The flagship of European climate policy, the carbon pricing system known as ETS is in trouble. The lead-up to (and outlook on) these developments are next on the agenda, followed by an insight into the regulatory challenges on the way to a low-carbon economy in the context of developing countries.



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- 9:30 – 9:45 **Welcome address**  
Prof. Michael Rodi | Director of IKEM
- 9:45 – 10:00 **Introduction to the Region Mecklenburg Vorpommern | Host of the Summer Academy 2013**  
Dr. Reinhard Boest  
*Director of the Mecklenburg Vorpommern Representation to the European Union*
- 10:00 – 11:00 **Climate Change: International Policy Framework, Status and Outlook**  
Francesco Sindico  
*Reader in International Environmental Law, University of Strathclyde Law School*
- 11:00 – 11:15 Coffee break
- 11:15 – 12:00 **Reaching the Climate Objectives: Energy Policy in the EU**  
Niels Ladefoged ★  
*Member of Cabinet of Commissioner Hedegaard (Climate Action), EU*
- 12:00 – 13:00 Lunch
- 13:00 – 13:45 **EU Energy Policy - Aim and Side-effects: The Biofuel Case**  
Giuseppe Nastasi  
*Law and Policy Advisor, Client Earth*
- 13:45 – 15:00 **Carbon Pricing: Lessons from the ETS**  
Michael Mehling  
*President of Ecologic, Washington DC*
- 15:00 -15:15 Coffee break
- 15:15 – 16:00 **Developing Countries and the Low Carbon Economy:  
Regulatory Responses to Climate Change in South Africa**  
Prof. Tumai Murombo  
*Associate Professor, School of Law, University of the Witwatersrand*
- 16:00 – 16:30 Concluding discussions

Evening event (optional)

### Curbing Climate Change through Energy Transformation

*'Klimawende durch Energiewandel – Karikaturen für eine bessere Welt'*

Evening conference | Representation of Brandenburg to the EU

*In close cooperation with the Mecklenburg Vorpommern Representation, Becker Büttner Held and the University of Greifswald*

## Towards a Sustainable Energy Supply: An Interdisciplinary Analysis of Today's Energy Market

Tuesday addresses the state of the energy market and the challenges of shifting to a sustainable system starting with the example of Germany and the 'Energiewende'. China has emerged as a major trade and economic global power, an industrial development driven by energy consumption that is changing the international energy landscape. These developments will be examined, after which energy and trade is on the agenda. Though policy generally strives to achieve an international competitive energy market, in reality political interest, national lobbies and renewable energy promotion often result in protectionism. The (lock-in) effect this has on the energy market and policy is discussed, followed by another powerful global force: The rise and influence of shale gas. Nuclear is another hot energy topic on the agenda, with certain countries moving away from it, and others embracing it as a low-carbon energy source. The day will end with a regional case-study on climate strategies and renewable energy policy in Mecklenburg Vorpommern.

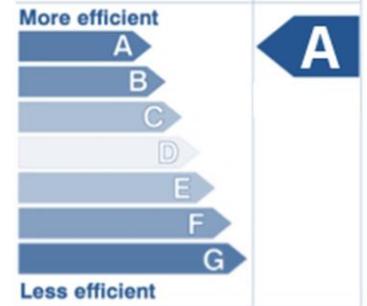


- 9:30 – 10:30 **Germany's Transformation to a Sustainable Energy Economy: A Costly and Risky Experiment?**  
Michael Mehling  
*President of Ecologic, Washington DC*
- 10:30 – 11:15 **Redefining EU-China Relations: Energy, Economics and Geopolitics**  
David Belis  
*Consultant for Climate Change and Environmental Policy, Taishindo Services & PhD Research Fellow, KU Leuven*
- 11:15 – 11:30 Coffee break
- 11:30 – 12:15 **Trade Law, Protectionism and Renewable Energy**  
Fredrik Erixon  
*Director of the European Center for International Political Economy*
- 12:15 – 13:15 Lunch
- 13:15 – 14:15 **Shale Gas: Effect and Externalities of a New Conventional Fuel**  
Francesco Sindico  
*Reader in International Environmental Law, University of Strathclyde*
- 14:15 – 14:30 Coffee break
- 14:30 – 15:15 **Externalities of Nuclear Power Generation**  
 Dr. Tom Vanden Borre  
*Senior Affiliated Researcher, Leuven University (Institute for Energy and Environmental Law)*
- 15:15 -16:00 **Regional Roadmap to a Renewable Energy System: The Case of Mecklenburg Vorpommern**  
Dr. Graham Butt  
*Ministry of Energy, Infrastructure and State Development, Mecklenburg Vorpommern*
- 16:00 – 16:30 **Concluding discussions**

In close cooperation with the Mecklenburg Vorpommern Representation, Becker Büttner Held and the University of Greifswald

## Efficiency and Renewable Energy: Supply-side Solutions towards Optimal Integration

On Wednesday, the Academy turns its focus to energy efficiency and renewable resources. The day begins with a broad analysis of the actual integration of energy efficiency practices today, and will compare this to the total potential efficiency holds, a difference known as the energy efficiency gap. A large part of the supply-side solution to efficiency and renewable energy integration is research and innovation: findings ways to integrate new practices and clean (intermittent) resources into an energy system that was not designed to accommodate them. After the R&D lecture, we take a look at the effect of the financial crisis on the energy transition. Has the movement lost steam? Which policy mechanisms are in place to attract funds? A crucial part of a successful energy transition is a modern, extended electricity grid. How far along are we on this respect? After learning from the insights of ENTSO-E, the Academy will provide an overview of, and outlook on the practice of co-generation, a highly efficient way of producing energy.



- 9:30 – 10:30 **Bridging the Energy Efficiency Gap: Possibilities and Obstacles**  
 Stefan Scheuer  
*Director of Stefan Scheuer Consulting*
- 10:30 – 11:15 **Ensuring security of supply in a transforming energy economy: A need for capacity mechanisms?**  
 Dr. Sven Fischerauer, LL.M. (Cambridge), Lawyer at Becker Büttner Held
- 11:30 – 11:45 Coffee break
- 11:45 – 12:30 **Financing the Energy Transition in Times of Crisis**  
 Dr. Constanze Adolf  
*Director of Green Budget Europe, Brussels*
- 12:30 – 13:30 Lunch
- 13:30 – 14:00 **Renewable Energy Technology at EUREC,**  
 Natalie Richet  
*Master Program Manager*
- 14:00 – 14:45 **Infrastructure Updates and Extension: Enabling Efficiency and RES Integration**  
 Félix Maire  
*System Planning Advisor, ENTSO-E, Ten-Year Network Development Plan (TYNDP) Working Group*
- 14:45 – 15:00 Coffee break
- 15:00 – 16:00 **Co-Generation: The Great Potential of Supply-Side Efficiency**  
 Alexandra Tudoroiu  
*Policy Officer, COGEN Europe*
- 16:00 – 16:30 Concluding discussions



Evening event (optional)

**Concert at the Royal Conservatory of Brussels**

*Neubrandenburg Philharmonic Orchestra plays Wolfgang Amadeus Mozart, Max Bruch and Ludwig van Beethoven*

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## Energy Efficiency across the Economy: Cities, Buildings, Industry and Transport

On Thursday, the Academy focuses on energy efficiency and its various modes and degrees of application. We start the day with efficiency challenges and opportunities for cities, home to the majority of the world's population. In order for energy efficiency practices to be successfully integrated in a given process, they must be tailored to the specifics of the economic sector of that process. The building sector will be discussed with an exemplary study on zero-energy buildings. In a segment on energy efficiency in industry we will see how a well-planned investment in energy efficiency is good business, and can boost an industry's competitiveness. The topic of the transport sector will be analyzed from a current-state and policy strategy in a first step with contributions of the European Commission. In a second step, we will take a look at the marketability and development of electric vehicles. Finally, energy efficiency offers great savings potential for developing countries, too. A singular action of switching households to efficient stoves can reduce deforestation, increase population health and save energy. The hows and whys will be discussed in the final presentation of the day.



**9:30 – 10:15 It Starts in the Cities: Efficiency and Sustainability in an Urban Context**

Michael Klinkenberg  
 Policy Advisor, EURO CITIES

**10:15 – 11:00 Efficiency in the Building Sector: Towards Zero-Energy Buildings**

Sara Kunkel  
 Project Manager, Buildings Performance Institute Europe (BPIE)

11:00 – 11:15 Coffee break

**11:15 – 12:00 Energy Efficiency: Opportunities in Industrial Processes**



12:00 – 13:00 Lunch

**13:00 – 14:00 Sustainable Transport: Policy and Planning Recommendations**

Kemal Önel ★  
 Clean Transport & Sustainable Urban Mobility Unit, DG Mobility & Transport, European Commission

**14:00 – 14:45 From Policy to Practice: Case-studies and Solutions for Sustainable Logistics**

Tom van Lier  
 Research Associate at Mobi (Mobility, Logistics and Automotive Technology Research Centre)

14:45 – 15:00 Coffee break

**15:00 – 15:45 Energy Efficiency: The Potential for Households in Developing Countries**

Alwin Bubendorfer  
 KTH School of Industrial Engineering and Management Division of Climate and Energy, Sweden

**15:45 – 16:15 Concluding discussions**

Last day at the Mecklenburg Vorpommern Representation



Evening event (optional)

**Belgian beer tasting in the center of Brussels**

Delerium bar | Impasse de la Fidélité 4, Brussels

In close cooperation with the Mecklenburg Vorpommern Representation, Becker Büttner Held and the University of Greifswald

## Energy Efficiency Directive 2012/27/EU: Towards 2020 and Beyond

The European Union has set ambitious targets to implement and monitor the integration of energy efficiency and renewable energy. As the first 'deadline' of 2020 is approaching, the day will begin with a deeper understanding of EU efficiency policy, the progress made so far and the post-2020 strategy. EU targets apply to the government practices and infrastructure too, and an insight into the integration of EE in the public sector in EU Member States will bring (technical or financial) obstacles and delays to light. Case studies on the policy framework promoting energy efficiency in Germany, France and the UK will create an overview of the diversity (and the effectiveness) of the different legal instruments implemented by Member States. The business case for energy efficiency is up next, and the conference will end with policy recommendations, followed by a reception with participants and faculty.



- 9:30 – 10:00 **Welcome address**  
 Jana V. Nysten  
*Lawyer and renewable energy expert at Becker Büttner Held*
- 10:00 – 10:45 **Energy Efficiency in the EU: To 2020 and Beyond**  
 Dr. Gergana Miladinova ★  
*Policy officer, European Commission, DG ENER, Unit Energy Efficiency*
- 10:45 – 11:00 Coffee break
- 11:00 – 11:45 **EU Energy Efficiency Policy and the Public Sector: Where Do we Stand?**  
 Dr. Veronika Czako ★  
*Scientific Officer, DG Joint Research Centre, European Commission*
- 11:45 – 12:30 **Energy Efficiency in the EU: Suggestions and Practices from Germany**  
 Jana V. Nysten  
*Lawyer at Becker Büttner Held*
- 12:30 – 13:30 Lunch
- 13:30 – 14:15 **The UK Experience: the Green Deal and other Efficiency Schemes**  
 John Chandler  
*Partner, Energy, SGH Martineau*
- 14:15 – 15:00 **From Regulation to Practice: The French Take on Energy Efficiency**  
 Liisa-Maija Harju  
*Environmental Coordinator at the OECD*
- 15:00 – 15:15 Coffee break
- 15:15 – 16:00 **Value Chain Enhancement: Efficiency Drivers for Businesses**  
 Edgar van de Brug  
*Senior Consultant and Representative Ecofys Belgium*
- 16:00 – 16:30 **Conclusions and closing address**  
 Prof. Michael Rodi  
 Director of IKEM
- 16:30 – 18:00 **Reception at Becker Büttner Held**

**End of the Summer Academy 'Energy and the Environment' 2013**

*In close cooperation with the Mecklenburg Vorpommern Representation, Becker Büttner Held and the University of Greifswald*