

10th Annual Summer Academy 'Energy and the Environment'

Climate Change and the Energy Challenge

Towards an Energy Efficient and Renewable-based System

- An interdisciplinary approach to today's great energy questions -

15 - 21 September 2013 | Brussels | Belgium

The topic

As climate change is forcing us to redesign our energy system and consumption patterns, energy efficiency and renewable energy feature high on the agenda of policy-makers and businesses alike. Energy efficiency measures are rapidly integrated across the economy, and fossil fuel is making way for renewables. But are current efforts enough to mitigate climate change?

This year, the Summer Academy 'Energy and the Environment' will revisit 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 10th anniversary of the Summer Academy 'Energy and the Environment' is the perfect occasion to look back on the major topics addressed over the past decade, to evaluate what progress has been made and to weave new issues and recent (technological) developments into the discussion.

The Academy will kick off with an in-depth study on the state of climate change, climate policy and the continuing dominance of conventional fuels in today's energy infrastruc-

ture and matrix. This diagnosis is the foundation on which the program will develop a comprehensive, interdisciplinary analysis of energy efficiency and renewable energy sources, the building blocks of decarbonization strategies worldwide.

The location

2013 is a special year for the Summer Academy: It marks the 10-year anniversary of this international event! At this occasion, the Academy will be hosted in Brussels, capital of the EU and home to much of the region's innovative sustainable policy-making. The conferences will take place at the Representation of the German State (or Bundesland) Mecklenburg Vorpommern to Brussels from Monday to Thursday. A key player in the German Energiewende, the region Mecklenburg Vorpommern will soon derive all its energy needs from renewable sources. Their vast experience in shifting to a sustainable, energy efficient system makes this Bundesland the ideal cooperation partner for our Summer Academy 'Energy and the Environment' 2013. On Friday, the final conference will be hosted by the Academy's long-time partner, German energy law firm Becker Büttner Held, at their Brussels office.



The program | 15 - 21 September 2013

Climate Change and the Energy Challenge: Towards an Energy Efficient and Renewable-based System

On **Sunday** the 15th of September the Academy begins with a welcome dinner in the center of Brussels. Participants can arrive throughout the day at a time of their convenience, and meet their colleagues and teaching faculty that evening. Information on the key locations in Brussels will be provided, and more details on the program will be distributed. The Academy begins the conferences on **Monday** the 16th with an overview of the current state of climate change and the policies in place to control it. **Tuesday** addresses the dominating role of conventional fuels in the current energy matrix, including controversial new sources like shale gas and tar sand, now available due to new extraction technologies. An economic and environmental cost analysis of conventional vs. renewables shifts the focus to RES (renewable energy sources), with a case study on the German 'Energiewende', a political commitment to reach a 100% renewable energy system by 2050. **Wednesday** will focus on supply-side energy efficiency; starting with energy supply infrastructure and addressing grid-related challenges surround RES integration. Co-generation and distributed vs. centralized distribution are also on the agenda. **Thursday** addresses the topic of energy efficiency on the demand-side, with an analysis of the practice and outlook of energy efficiency in the building, industry and transport sector. The final conference day of the 2013 Academy on **Friday** focuses on the design, effectiveness, challenges and outlook of the new European Union Directive on Energy Efficiency. Case studies on energy efficiency in the UK and Germany will provide deeper insight into which legal instruments do well in under which circumstances. With contributions from legal experts from Martineau and Becker Büttner Held, UK and Germany-based law firms, and international think-tank Ecologic Institute.

Monday

Climate change | International climate policy | EU low carbon policy | Policy drivers | Carbon pricing

The conferences will start on Monday the 16th of September with an overview of the current state of climate change and ensuing considerations for policy-makers. Next on the agenda are the topics of international climate policy, followed by low-carbon policy in the EU and the drivers that shape it. The line-up of the state of climate change and the actual policies in place to curb it will allow for a deeper understanding of the 'policy gap'. A case-study on the European Union's carbon emissions trading scheme (the ETS) will provide insight into the potential (political and economic) shortcomings of carbon pricing systems.

Tuesday

Current energy matrix | Fossil | Nuclear| New Convenctionals: Shale gas | Tar Sand | Tight Oil | Cost comparison of conventional and RES| Transition | RES in the EU | The German 'Energiewende'

On Tuesday, the Academy will first analyze the role of and outlook on conventional energy sources, which continue to dominate our energy matrix. New extraction methods have allowed us to tap into previously inaccessible sources of energy like shale gas and tar sand and tight oil. Their role and influence on policy will be discussed, as will the role of nuclear energy. Moving away from nuclear is a politically popular move in several countries; which energy sources will fill the supply gap of nuclear? A cost comparison between the subsidies and environmental externalities of conventional energy sources vs. RES will transition the Academy's focus to renewable energy. Successes and lessons from Germany's energy transition or 'Energiewende': the country's comprehensive sustainability strategy that aims to reach a 100% renewable energy supply by 2050, will conclude the day.



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Wednesday

Energy Efficiency | Energy supply infrastructures | RES Integration | Supply-side efficiency | Co-Generation | Onsite vs Centralized Distribution

Wednesday is the start of the energy efficiency section of the Summer Academy. Energy efficiency can be integrated into every sector of society, thereby decreasing energy use significantly across the economy. Overall applicability combined with high energy-savings makes energy efficiency one of the most effective and promising instruments on the way to a low-carbon energy system.

The day will begin with a 'diagnosis' of our current energy infrastructure. The absorption of intermittent RES into the grid has proven challenging in many countries. Network-related issues such as grid expansion and update-requirements will be identified, and possible solutions such as smart-grids will be presented.

The Academy will continue the energy-efficiency section of the program with a close-up on supply-side efficiency. What can be done on the production-end of the energy spectrum to increase energy savings? The state of the practice co-generation will be discussed, as will the merits of centralized versus distributed (RES) power distribution.

Thursday

Energy efficiency | Demand-side efficiency | Smart grids | Buildings | Industry | Transport | Energy Convergence | Best practices

The concept of energy efficiency must be implemented in a different way in each sector of the economy, based on their specific energy consumption patterns and requirements. Thursday will focus on demand-side efficiency solutions, taking a closer look at key economic sectors where an increase in resource efficiency significantly contributes to an overall sustainable energy system. The morning will be dedicated to the transport sector, source of at least 25% of all CO₂ emissions. Special attention will be paid to the electric vehicle market. In the afternoon, savings potential of the building sector will be discussed, followed by the industry sector. Special attention will be paid to energy convergence, a concept that combines energy efficiency with increased renewable energy generation. Best practices of energy efficiency will be presented at the end of the day.

Friday

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

With contributions of German law firm Becker Büttner Held and British law firm Martineau.

Friday is the last day of the Summer Academy and will focus on the design and implementation of Directive 2012/27/ EU, the European Union's new Directive on Energy Efficiency. The Directive is meant to ensure the EU will reach the 2020 targets, and provides industry and households with what can be expected after that date. In today's economic climate, environmental sustainability and efficiency concerns are often not considered a priority for most companies and consumers. How will the EU effectively ensure Members States will respect the commitment to the 2020 reduction, and continue to commit past this date? How successful has the common target been so far, and what are the challenges? Today will focus on best practices and lessons learned from the European Union. After the conference, a dinner and drinks in Brussels will conclude the Summer Academy 2013.



Applications

The Summer Academy 2013 'Climate Change and the Energy Challenge: Towards an Energy Efficient and Renewable-based System' is open until *June 20th* to 25 participants working within the field of energy and the environment, or with a specific interest in the annual topic of the Academy. Applicants must have relevant experience in their field of interest, and are selected based on their disciplinary match to the program, as well as academic/professional achievements. Moreover, the Academy aims to find a representative mix of nationalities, as well as gender.

The event will exceptionally be held in September, to take local summer holidays into consideration. The 2013 Summer Academy 'Climate Change and the Energy Challenge: Towards an Energy Efficient and Renewable-based System' will be hosted in Brussels from Sunday evening the 15th of September until Saturday the 21st of September.

PhD researchers, legal practitioners, engineers and other professionals working, studying or educating in the field of energy and the environment with a special interest in energy efficiency in particular are encouraged to apply. Application forms are available on our site: www.ikemsummeracademy.de/applications. Please feel free to contact us at summeracademy2013@ikem-online.de.



Standard fee
€ 1,990



Governments/NGO
€ 1,450



PhD researchers
€ 1,250



single room
Students
€ 950



shared room
Students
€ 750



10 Years of Summer Academy: Experiences



Johan Scheffer | Member of Parliament, Victoria, Australia

'As a Member of Parliament, representing a coal and energy region in Victoria, Australia, I was very impressed with the range of topics considered and the high level of expertise of the presenters at the 2012 IKEM Summer Academy in Berlin. The program was well paced and focused. Discussion amongst participants - who came from more than 18 countries – was also highly informative. The contacts I made have proven to be a great subsequent source of information. The Summer Academy has deeply informed my understanding the implications of energy policy in Victoria'.



Max T. Edkins | MSc University of Oxford, Climate Change and Renewable Energy Consultant, South Africa

'The IKEM Summer Academy was remarkably enlightening - it is incredible how much I learned in a week. I felt that the course really profited from the diversity of the attendees and I certainly felt that I took something home from each one of them. I especially enjoyed the presentations from the course's students because these encouraged a lot of discussion within the group. The diversity of speakers and topics was also very encouraging and I felt that I gained a detailed understanding of the German Energiewende, its successes and challenges'.



James Nelson | University of California at Berkeley, Ph.D. researcher in the Energy and Resources Group, United States of America

'IKEM's Summer Academy gave me the chance engage the pertinent issues in renewable energy integration. Invited speakers highlighted many of the physical, economic, and legal difficulties with shifting the energy system towards more renewable energy. As an American researcher, I learned that the Europeans are approaching this challenge with a different set of priorities than are found in the United States. Through nightly social opportunities I was able to get to know many of the students, speakers, and staff participating in the Summer Academy. The tasty barbecue and subsequent dancing in Berlin was a great way to end the conference!'

Selection of attendees of 2011 and 2012

Government United Nations | DECC (Department of Energy and Climate Change, UK) | German Federal Environment Agency | German Federal Ministry for Transport, Building and Urban Affairs | Victorian Parliament, Australia | IPCC (Intergovernmental Panel on Climate Change) | Commerce and Employment Department from the States of Guernsey **Academics** University of Oxford | University of Berkeley | University of Dundee | Fletcher School of Law and Diplomacy | Australian National University | Kasetsart University, Thailand | University of Amsterdam | University of Budapest | London School of Economics | University of Umeå | Imperial College, London | Free University of Berlin | University of Greifswald | University of Freiburg | University of Surrey | Sejong University, Korea **Legal field** Becker Büttner Held, Germany | Practical Law Company (PLC), United Kingdom | Freshfields Bruckhaus Deringer, United Kingdom | Naborro, United Kingdom | Bond Pearce, United Kingdom **Business & Industry** Eclareon | DONG Energy | TenneT | Siemens | First Solar **Think-tanks & Consultancy** Ecologic | Renewable Grid Initiative | Ecofys | Juwi R&D | CPI (Climate Policy Initiative) Berlin | IFOK



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Stay at the forefront of market developments and benefit from market visibility by becoming one of the sponsors of the Summer Academy 2013. Gain access to IKEM's professional network and learn more about the Institute's tailored research on contemporary challenges in the energy sector that might benefit your particular business.

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- On demand: Insights into a topic of interest to your company in the field of energy and environment



- 10-minute speech on company activities and outlook/interest during Academy's welcome dinner



- Logo and company information included in all promotional material, brochures, programs and posters associated with the event



- Company flyers/material distributed and made available throughout the event
- Presence of a company representative at all conferences for networking purposes
- Inclusion of company description incl. logo in IKEM's biannual newsletters, sent to major companies and stakeholders in the energy and climate business (German market)
- One (or more on request) copy of the Summer Academy Proceedings (published by Lexxion), a collection of articles on energy efficiency written by speakers and participants

Contact

Prof. Michael Rodi

Founder of the Summer Academy



IKEM | Institute for Climate Protection, Energy and Mobility

Organization

Anika Nicolaas Ponder

Publications and Events

summeracademy2013@ikem-online.de

Main office Berlin

Magazinstraße 15-16 | D-10179 | Berlin | Germany

Tel. + 49 (0) 30 408 187 015

Fax + 49 (0) 30 408 187 029

www.ikem-online.de

