



MOBILISING THE RESEARCH, INNOVATION AND EDUCATIONAL CAPACITIES OF EUROPE'S UNIVERSITIES IN THE SET-PLAN



**“Universities in the Energy Transition:
Science & Skills for Renewables Integration”**
5th UNI-SET Energy Clustering Event

#UNISSET2017BE

KU Leuven, Belgium

31 May – 2 June 2017

Preliminary Schedule

Wednesday, 31 May 2017

19.00-19.30	Registration
19.30-21.00	Welcome Reception Jubileumzaal, Universiteitshal Naamsestraat 22, 3000 Leuven

Thursday, 1 June 2017

8.30-9.00	Registration
9.00-9.15	Welcome Addresses – <i>Prof. Torbjørn Digernes, Chair of the UNI-SET Steering Committee; former Rector, Norwegian University of Science and Technology</i> – <i>Prof. Katlijn Malfliet, Vice-Rector, KU Leuven</i>
9.15-10.45	Opening by the European Commission – <i>Jose M. Jimenez Mingo, Head of Sector – SET Plan and Energy Union, DG Research & Innovation, European Commission</i> “Developing the next generation of power systems engineers in the US” – <i>Dr. Ben Kroposki, Center Director for Power Systems Engineering, National Renewable Energy Laboratory (NREL)</i> „Learning at the speed of innovation“ – <i>Prof. Frank Gielen, Education Director, EIT InnoEnergy</i>
10.45-11.15	Coffee break



11.15-12.00	<p>Plenary Introduction to UNI-SET and the Conference Objectives</p> <ul style="list-style-type: none"> – <i>Dr Lidia Borrell-Damian, Director for Research & Innovation, EUA; UNI-SET Project Coordinator</i> – <i>Prof. Johan Driesen, KU Leuven; Education Director, KIC InnoEnergy; UNI-SET Project Leader</i> <p>KU Leuven Energy Research & EnergyVille</p> <ul style="list-style-type: none"> – <i>Prof. Johan Driesen, KU Leuven; Education Director, KIC InnoEnergy; UNI-SET Project Leader</i>
12.00-13.00	<p>Plenary session Setting the Scene –Universities’ Perspectives on Renewables Integration</p> <p>What are different ways in which universities contribute to the transition towards a clean and sustainable energy system? This question will be explored from different angles by three speakers. They will share what they see as most important issues to address as universities and which role they see for universities in the Energy Union.</p> <p>“A European Outlook for Universities active in the Energy Field”</p> <ul style="list-style-type: none"> – <i>Prof. Ronnie Belmans, KU Leuven; CEO, EnergyVille</i> <p>“Clean Energy Research and Education combining Technical and Social Knowledge”</p> <ul style="list-style-type: none"> – <i>Prof. Alberto Bertucco, Director, Interdepartmental Centre Giorgio Levi Cases for Energy Economics and Technology, University of Padova</i> <p>“Energy Systems Integration Research & Education– Challenges and Opportunities”</p> <ul style="list-style-type: none"> – <i>Dr Sara Walker, Newcastle University; Associate Director for the National Centre for Energy Systems Integration</i>
13.00-14.00	Lunch
14.00-15.30	<p>Parallel Sessions Good Practices in Multidisciplinary Research, Innovation and Education</p> <p>In the parallel sessions, speakers will have the opportunity to present good practices and case studies of innovative, multidisciplinary and collaborative research or education actions in relation to renewables technology and renewables integration or institutional energy initiatives cutting across the activities of different departments, faculties or centres dedicated to energy.</p> <p>Session 1: Universities in Local and Regional Initiatives Chair: Prof. Fabrice Lemoine, University of Lorraine Rapporteur: Dr Justin Chiu, Royal Institute of Technology KTH</p> <ul style="list-style-type: none"> – <i>Dr Thomas Ammerl, Head of Unit Environment, Energy & Bioeconomy, Bavarian Research Alliance (BayFOR): “Synergies between Horizon 2020 and ESIF in the energy sector & BayFOR’s approach”</i> – <i>Luis Ramirez Camargo, Technische Hochschule Deggendorf: “CrossEnergy: cross-border energy infrastructure – future perspectives for a region in change”</i> – <i>Antti Seppälä, Research Assistant, Aalto University: “Climate Streets in Helsinki and Vantaa, Finland - test beds for climate friendly solutions”</i>

	<p>Session 2: Institutional Initiatives for Energy Research Chair: Prof. Giovanni Fracastoro, Politecnico di Torino Rapporteur: Prof. Josep Bordonau, UPC BarcelonaTech</p> <ul style="list-style-type: none"> – <i>Tanja Drobek, Darmstadt Graduate School of Excellence – Energy Science and Engineering, TU Darmstadt: “Darmstadt Graduate School of Excellence Energy Science and Engineering”</i> – <i>Kristin G. Frøysa, University of Bergen: “The Bergen Energy Lab - an initiative to mobilize university skills, industry and regional government”</i> – <i>Siri M. Kalvig, Associate Professor, University of Stavanger: “The Smart Energy Hub”</i> <p>Session 3: Energy Education & Training at Master & Doctorate Level Chair: Prof. Torsten Fransson, Royal Institute of Technology KTH Rapporteur: Borana Taraj, EUA</p> <ul style="list-style-type: none"> – <i>Prof. Maarten Arentsen, Associate Professor, University of Twente: “BioEnergyTrain (BET)”</i> – <i>Prof. Finn Gunnar Nielsen, University of Bergen: “Master education for an energy sector in rapid transformation”</i> – <i>Christos Ioakeimidis, Professor/ERA-Chair Holder, University of Mons: “The use of the ERA-Chair Scheme for the development of an Erasmus Mundus Joint Master Degree (EMJMD) in Sustainable Cities and Communities”</i> – <i>Prof. João Serra, Faculdade de Ciências, Universidade de Lisboa: “The human factor for driving the energy transition”</i>
15.30-16.00	Coffee break
16.00-16.30	<p>Plenary “European Perspectives on Renewables Integration – Market Design and Implications for Research and Innovation”</p> <ul style="list-style-type: none"> – <i>Dr Matti Supponen, DG Energy, European Commission</i>
16.30-18.00	<p>Clustering Sessions Going Carbon Neutral through Renewables</p> <p>These sessions aim to support the exchange of knowledge between experts in different disciplines and fields of science to support the development of new research ideas and cross-disciplinary perspectives on the different topics. Clustering in this context stands for the interaction of researchers working on similar challenges from the perspective of different scientific disciplines, with the objective of identifying cross-disciplinary challenges and opportunities for collaboration. The sessions also seek to facilitate linkages between research and education. Each speaker will provide a specific angle on the topic.</p> <p>Session 1: Economic & Regulatory Context of Renewables Integration The successful expansion of renewables capacity and their integration into the electricity system strongly depends on the economic outlook and feasibility of renewable energy. This depends on policy signals and regulation of renewables and energy markets. The future development will therefore not just require multidisciplinary research into the interplay between energy systems and markets,</p>

but also the training of a new generation of professionals with a sound understanding of the underlying mechanisms.

Chair: Prof. Johan Driesen, KU Leuven & Prof. Karol Sztékler, AGH University of Technology

Rapporteur: Prof. Andrzej Adamski, Jagiellonian University

- *Frederik Loeckx, Coordinator of the Flemish Energy Cluster; General Director of Smart Grids Flanders*
- *Prof. Poul Erik Morthorst, Head of Division, DTU Management Engineering, Technical University of Denmark*
- *Peter Van Den Heede, Head of Sales Council & Business Development Benelux, ABB*

Session 2: Social and Environmental Perspectives

The success of renewables also relies on the public support of wind parks, transmission lines and other physical infrastructures, as well as the backing for energy policies affecting energy prices, changes affecting the labour force or jobs, and the environmental impact of renewables. This session therefore looks into the dynamics between the social, technological and environmental sphere, and the role of research, education and universities.

Chair: Dr Lidia Borrell-Damian, EUA & Dr John Smith, EUA

Rapporteur: Borana Taraj, EUA

- *Prof. Dagnija Blumberga, Director, Institute of Energy Systems and Environment, Riga Technical University*
- *Jan Dirk Fijnheer, Universiteit Utrecht*
- *Dr Gregoire Wallenborn, Senior Researcher, Center for Studies on Sustainable Development, Université libre de Bruxelles (ULB)*

Session 3: System integration of sustainable technologies

Large and small-scale system integration of sustainable technologies, including renewable energy, is a multidisciplinary challenge and requires research, innovation and knowledge from a variety of professional and scientific backgrounds. This session aims to facilitate a dialogue about the research and training needs in this domain.

Chair: Prof. Paulien Herder, TU Delft & Prof. Torbjørn Digernes, NTNU

Rapporteur: Lien Van Schepdal, KU Leuven

- *Dr Peter H. Madsen, DTU Technical University of Denmark; Coordinator, EERA JP Wind Energy*
- *Nathalie Richet, Master Programme Manager, The Association of European Renewable Energy Research Centres (EUREC)*
- *Prof. Mark O'Malley, University College Dublin; Coordinator, EERA JP Energy Systems Integration*

20.00-22:30

Dinner

De Hoorn
Sluisstraat 79
3000 Leuven

Friday, 2 June 2017

9.00-9.30	Plenary Session - Reporting of Day 1
9.30-10.45	<p>Outlook Sessions <i>Supporting Renewables Integration through Research & Education</i></p> <p>The outlook sessions aim at identifying trends in university-based energy research and education with relevance for society. They seek to detect emerging challenges and trends in research and propose recommendations for policy makers.</p> <p><i>Session 1: Renewables and the Energy Resources Mix</i> An increased use of renewable energy inevitably effects the energy resources mix. With the overall goal of significantly reducing greenhouse gas emissions, a systemic perspective is required to assess the impact and trajectories of expanding the use of renewable energy sources. What does this mean for research, education and cooperation?</p> <p>Chair: Prof. Johan Driesen, KU Leuven & Prof. Fabrice Lemoine, University of Lorraine Rapporteur: Borana Taraj, EUA</p> <ul style="list-style-type: none"> – <i>Prof. Manuel Silva, Department of Energy Engineering, University of Sevilla</i> – <i>Prof. William D’Haeseleer, Director, KU Leuven Energy Institute, KU Leuven</i> – <i>Dr Douglas Halliday, Director of the Multidisciplinary Centre for Doctoral Training in Energy, Durham University</i> <p><i>Session 2: ICT and Big Data for Renewables Integration</i> The importance of big data, ICT technologies and IoT applications is likely to increase with the deployment of more decentralised renewable energy capacity, energy storage and smart solutions for energy consumers. This session will discuss how this emerging trend is or should be reflected in multidisciplinary research and training of future professionals in the energy sector.</p> <p>Chair: Prof. Tim Green, Imperial College London & Prof. Mihaela Albu, University Politehnica of Bucharest Rapporteur: Lennart Stoy, EUA</p> <ul style="list-style-type: none"> – <i>Prof. Geert Deconinck, Head of Electrical Energy and Computing Architectures (ELECTA) Research Group, KU Leuven</i> – <i>Prof. Tero Vartiainen, University of Vaasa</i> – <i>Dr Wim JC Melis, Senior Lecturer, University of Greenwich</i> <p><i>Session 3: The Role of Universities: Multidisciplinary Education and Research</i> The energy transition is a challenge requiring collaboration and insights from the perspectives of different scientific disciplines. This session will explore trends and the future of multidisciplinary and interdisciplinary education for professionals in the energy sector or those in positions which require sound understanding of the socio-technical aspects of the energy system.</p> <p>Chair: Prof. Torbjørn Digernes, NTNU & Giovanni Fracastoro, Politecnico di Torino Rapporteur: Dr John Smith, EUA</p> <ul style="list-style-type: none"> – <i>Prof. Patrick Hendrick, Head of Aero-Thermo-Mechanics Department, Université libre de Bruxelles (ULB); Chairman, Belgian Energy Research Alliance</i>

	<ul style="list-style-type: none"> – <i>Prof. Edwin Constable, University of Basel; Steering Committee member, EUA-Council for Doctoral Education</i> – <i>Prof. Xavier Giménez Font, Department of Physical Chemistry, University of Barcelona</i>
10.45-11.15	Coffee Break
11.15-11.30	Plenary - Reporting of Day 2
11.30-13.00	<p>Panel Discussion <i>Consumers, (Citizen) Science, and Renewable Energy – How to Engage?</i></p> <p>Current European energy policy is gearing towards a more consumer-centred approach. Meanwhile citizen science and open science are gaining traction in the scientific community. This panel discussion aims to provide a dialogue how both trends materialise in the field of energy research. How, for example, can scientists include the consumer dimension in their energy research projects and how can students be trained towards more awareness of consumer and citizen matters in their education?</p> <p>Chair: Dr Lidia Borrell-Damian, Director for Research & Innovation, EUA</p> <ul style="list-style-type: none"> – <i>Dr Jon Bird, School of Mathematics, Computer Science & Engineering, City University of London</i> – <i>Prof. Johan Hustad, Director of NTNU Energy, Norwegian University of Science and Technology</i> – <i>Gerd Schönwälder, DG Research & Innovation, “Energy Strategy” Unit, European Commission</i> – <i>Luc Sterckx, President, FEBELIEC, Federation of Belgian Industrial Energy Consumers</i> – <i>Geert Vanhorebeek, Sustainability Coordinator, City of Leuven</i>
13.00-13.15	Closing Ceremony
13.15-14:00	Farewell Lunch