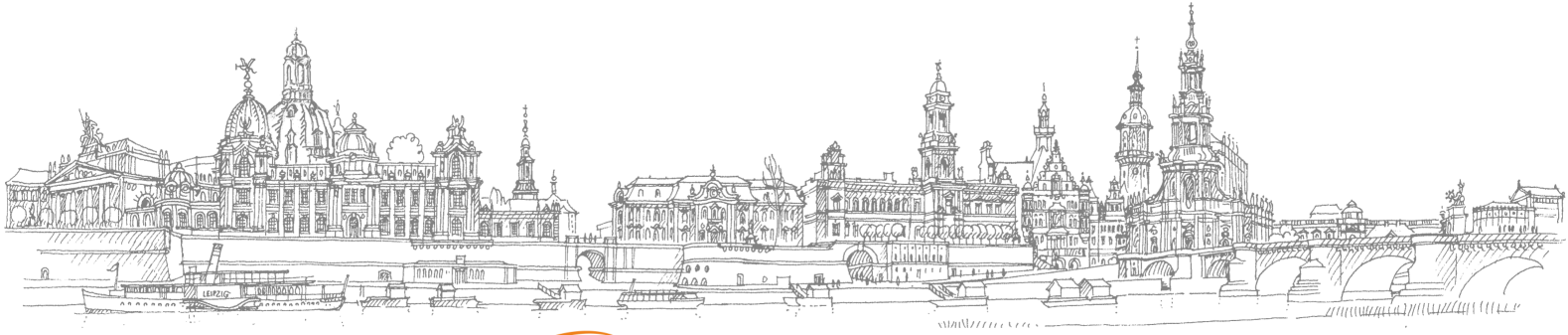
EEM 17

14th INTERNATIONAL CONFERENCE ON THE EUROPEAN ENERGY MARKET

6-9June 2017, Dresden, Germany



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WELCOME TO THE EEM 2017 14th International Conference on the European Energy Market

Stanislaw Tillich

Prime Minister
Free State of Saxony

One of the most important and most complex questions of our time is how to design and control our energy system. This issue is an important one because decisions taken today have effects far beyond our own time and borders, and it is a complex one because conflicting interests need to be reconciled and solutions to be found that are sustainable in the long run. This in turn requires a great deal of detailed knowledge, profound negotiation skills, and considerable compromises.

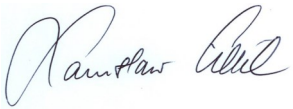
In search of such compromises, the International Conference on the European Energy Market has come to be a most eminent platform for discussion. Year by year, it attracts international top-level decision makers from science, business and politics who enter into a profound discussion of current issues in energy markets, bringing together many different viewpoints. This year, Dresden provides the venue for this important conference. I extend a warm welcome to all participants!

Traditionally, the Free State of Saxony has been a heavyweight in fossil energy use. Coal mining in Saxony goes back to the 10th century. Since the 19th century, lignite from open-cast mining has been the main source of energy in Saxony. Even now lignite mining and lignite-based electricity generation significantly contribute to employment and economic value-added in Saxony. However, Saxon engineers, researchers and scientists are committed to push new, non-fossil energy technologies as well.

With the Energiewende, Germany has embarked upon the extremely ambitious project of transforming our energy-system into a carbon-free one. This project presents us with enormous challenges. The aim of miti-

gating man-made climate change by de-carbonizing our economy needs to be reconciled with the requirement of an energy system that is always stable and cost-efficient. Germany wants to successfully solve this problem, thus further encouraging others to follow up with their own Energiewende.

This said, the EEM 2017's agenda comprises extremely interesting topics. The focus this year is on frictionless market integration of renewable energies, the development of high-capacity storage technologies, and the establishment of efficient energy grids – issues that require efficient solutions on a European scale. Being involved in these discussions myself, I hope the EEM 2017 comes up with new insights, and do therefore wish you a successful conference.



Stanislaw Tillich

Prime Minister of the Free State of Saxony

WELCOME TO THE EEM 2017 14th International Conference on the European Energy Market

Prof. Dr. Dominik Möst

Chair of Energy Economics
Technical University Dresden

Dear participants of the 14th International Conference on the European Energy Market,

On behalf of the Chair of Energy Economics (EE2) at the Technische Universität Dresden, it is my great pleasure to welcome you to the 14th International Conference on the European Energy Market – EEM 2017, on June 6-10, 2017 in Dresden, Germany.

The annual International Conference on the European Energy Market is the premier forum for presenting and exchanging ideas and engaging in open and direct discussions on the development of the energy markets in Europe. It has experienced great success and gained notable attention within the scientific community during past editions covering the electricity and gas markets, policy and regulatory measures as well as issues relating to the development of the European energy markets. The main themes of the conference include empirical analysis, fundamental modelling approaches, best practice examples, energy system aspects, policy and market design as well as technology-specific aspects. It provides a common platform to discuss current challenges and solutions for (European) energy markets and to present new ideas.

In 2017, the EEM is hosted by EE2 – the Chair of Energy Economics at the Technische Universität Dresden. The EEM 2017 offers several sessions with distinguished keynote speakers from European institutions, industry and academia. Our parallel scientific sessions cover a wide variety of topics related to the core conference themes: Market Integration of Renewables, Infrastructure Development and Management, Energy Systems and Market Design, Analysis of Natural Gas, Coal and Oil Markets,

Aspects of Electricity Market Operation and Modelling and Simulation of Energy and Carbon Markets. Additionally, we have prepared a rich networking and social programme, starting with the welcome reception in the Dülfer-Saal, the Gala-Dinner at the VW-Manufaktur, the WomEN – an exlusive event for female participants at the "Lebendige Haus Dresden" and the EnnerConnect trip with an exlusive tour of Dresden. A fast track to your project proposal in the framework of the work programme 2018-2020, the so called project idea lab, technical tours to the lignite power plant Lippendorf and the innovative power plant Reick, the forecast competition and the ITEM Game round out the diverse and interesting programme of the EEM 2017.

In order to encourage young talented researchers, the EEM 2017 is conferring a Best Student Paper Award for the best papers from PhD and Master students.

It is our pleasure to express our sincere gratitude to our sponsors and supporters of the EEM 2017, especially our national supporters (Gold category) 50Hertz Transmission GmbH and the ONTRAS Gastransport GmbH, our regional supporters (Silver category) Drewag – Stadtwerke Dresden GmbH and the European Energy Exchange (EEX), our financial supporters Siemens AG, Vortex Energy Holding AG, Becker Büttner Held (bbh) and Volkswagen Sachsen GmbH - DIE GLÄSERNE MANUFAKTUR as well as our technical sponsor IEEE and the IEEE power and energy society.

As the organisers of the conference, we have carried out a double review of abstracts as well as full paper submissions and hope that you enjoy the high quality of the research presented. In this spirit, we are pleased to have the opportunity to contribute to facilitating a fruitful exchange of ideas and approaches and their practical application with regard to European energy markets. We would like to thank all speakers for their contributions and the participants for their attendance.

We wish you an interesting and enriching conference and an enjoyable stay in Dresden and its surroundings,

Dominik Möst
Chairman of the EEM 2017

Keynote Speakers

Prof. Derek Bunn

Resource Adequacy in the Post-Liberalized British Electricity Market: Auctions and Competition

Tuesday, June 6th, 11:00 - 12:30
HSZ/04/H

Derek W. Bunn is currently a Professor at the London Business School. Author of over 200 research papers and 10 books in the areas of forecasting, decision analysis and energy economics, he has been Editor of Journal of Forecasting since 1984, formerly Editor of Energy Economics, and founding editor of the Journal of Energy Markets. His work in electricity has been extensive. He has acted as a special advisor to the House of Commons on market reform, consultant to the UK competition authority on market abuse, expert advisor to the National Audit Office in their review of the industry and expert witness in several litigation cases before the High Court and international Tribunals. He is currently a member of the UK Government's Panel of Technical Experts for ensuring resource adequacy and an independent panel member of the Balancing and Settlements Code for real-time trading. He has also advised many companies worldwide.

Timo Schulz

The Clean Energy for All Europeans Package - Reflections from a Markets Perspective

Tuesday, June 6th, 11:00 - 12:30
HSZ/04/H

Timo Schulz is a policy adviser at the European Energy Exchange, Europe's largest marketplace for energy and commodities. His work focuses on national and European climate and energy policies, with an emphasis on power market design and carbon pricing. Before joining EEX, Timo Schulz worked on Climate Finance at the European Commission. He holds a double degree masters in Economics and Political Science from University College London, UK.

Prof. Dr. Reinhard Haas

On how to integrate large quantities of variable renewables into electricity systems

Tuesday, June 6th, 14:00 - 15:30
HSZ/04/H

Reinhard Haas is university professor of Energy Economics at Vienna University of Technology in Austria. He teaches Energy Economics, Regulation and Competition in Energy markets, and Energy Modeling.His current research focus is on (i) evaluation and modelling of dissemination strategies for renewables; (ii) modelling paths towards sustainable energy systems; (iii) liberalisation vs regulation of energy markets; (iv) energy policy strategies. He studied Mechanical Engineering and holds a Dr. degree in Energy Economics from the TU Wien. He works in these fields since more than 20 years and has published various papers in reviewed international journals. Moreover, he has coordinated and coordinates projects for Austrian institutions as well as the European Commission and the International Energy Agency.

Jan Steinkohl

The EU Clean Energy Package and the Renewables Directive

Tuesday, June 6th, 14:00 - 15:30
HSZ/04/H

Jan Steinkohl is a Policy Officer in the Directorate General for Energy of the European Commission. Working in the unit for renewables and CCS policy, Jan is part of the team that developed the Commission's proposal for the recast of the Renewable Energy Directive in the Clean Energy for All Europeans Package. He mainly works on topics related consumers, such as self-consumption of renewable electricity and consumer information.

Rainer Baake

The EU winter package and the future of the German Energiewende

Wednesday, June 7th, 11:00 - 12:30
HSZ/04/H

Rainer Baake was appointed State Secretary at the Federal Ministry for Economic Affairs and Energy in January 2014. Born in Witten in 1955, he studied economics in Marburg, graduating as "Diplom-Volkswirt". From 1985 – 1991, he served as First District Councillor for Marburg-Biedenkopf, before being appointed State Secretary at the Ministry for Environment, Energy and Federal Affairs of the state of Hesse. In 1998 he moved on to become State Secretary at the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. From 2006 – 2012 he was the Federal managing director of the NGO German Environmental Aid, and then worked as Executive Director of the Think Tank Agora Energiewende before rejoining the government.

Dr. Dirk Biermann

Grid and Market development – what is needed for German Energiewende?

Wednesday, June 7th, 11:00 - 12:30
HSZ/04/H

Dirk Biermann, born in 1969, is a member of the management board of 50Hertz and holds the position Chief Officer Markets and System Operations since April 2012. Before he was appointed, he headed the Energy Management department in the company with responsibility for the energy business like market design, congestion management, ancillary services and renewables. After his PhD studies at RWTH Aachen, Dirk Biermann started his carrier at former VEAG in 1999. In 2002 he changed to Vattenfall Europe where he was appointed as a manager with the responsibility for grid strategy in 2004.

Dirk Biermann is member of the supervisory boards of EEX in Leipzig and TSCNET in Munich and member of the board of Coreso in Brussels.

Ralph Bahke

Gas Grids under Regulation and Energy Markets in Transition: Challenges for ONTRAS Business Development

Thursday, June 8th, 14:00 - 15:30
HSZ/04/H

Ralph Bahke, born 1964, studied Information Technology at the Technical University of Dresden. He joined VNG – Verbundnetz Gas AG in 1994 and became responsible for the planning of automation technology. In 2001 he changed to the Gas Transportation Department where he held various senior management positions. Between January 2006 and November 2008, Ralph Bahke worked in senior management posts of the Network Marketing Department in the newly established transmission system operator ONTRAS. Since November 2008 he has been one of the two ONTRAS managing directors, responsible for the division controlling and development.

From December 2009 to December 2015 Ralph Bahke was board member of the European Network of Transmission System Operators for Gas (ENTSOG).

In 2011, Ralph Bahke was appointed member of the Energy Advisory Board of the German Free State of Saxony. Since December 2012 he has been Chairman of the board of "Vereinigung der Fernleitungsnetzbetreiber Gas e.V.", the association of German Transmission System Operators for Gas.

Prof. Dr. Marc Oliver Bettzüge

Business Strategies for Energy Sector under Uncertainty

Thursday, June 8th, 14:00 - 15:30
HSZ/04/H

Professor Bettzüge has been full professor of economics, in particular energy economics, and Head of the Chair of Energy Economics – Department of Economics – at the University of Cologne since 2007. He is also Managing Director and Chairman of the Management Board of the Institute of Energy Economics at the University of Cologne (EWI). Besides his obligations as director, Professor Bettzüge deals primarily with basic institutional and economic issues in energy economics and energy policy. Professor Bettzüge has been a member of the German Bundestag's Study Commission on Growth, Wellbeing and Quality from 2011 to 2013.

After studying mathematics and economics at the Universities of Bonn, Cambridge and Berkeley, he received his doctorate in economics with a thesis on "Financial Innovation from a General Equilibrium Perspective." Following that, Professor Bettzüge worked as a researcher at the Universities of Bonn and Zurich, and also as a management consultant with internationally renowned consulting firms. Prior to his appointment to the University of Cologne, he held the position of partner and vice president with the strategy consultancy Boston Consulting Group (BCG).

Prof. Dr. Wolf Fichtner

The Need for New Energy Tariffs

Friday, June 9th, 11:00 - 12:30
HSZ/04/H

Since 2008, Wolf Fichtner is Director of the Institute for Industrial Production (IIP) and the French-German Institute for Environmental Research (DFIU) at Karlsruhe Institute of Technology (KIT). Since 2016, he is Vice Dean of the Department of Economics and Management, KIT. From 2005-2008, he was full professor and holder of the Chair of Energy Economics at the Institute for Energy Technology at Brandenburg University of Technology, Cottbus, Germany. From 1994-1998, he worked as a Research Assistant at the Institute for Industrial Production (IIP) and the French-German Institute for Environmental Research (DFIU) at University of Karlsruhe (TH), subsequently, he was senior lecturer and group leader at IIP and DFIU (from 1998-2004).

Wolf Fichtner received the diploma in Industrial Engineering and Management in 1994 and the Ph.D. degree in Business Administration in 1998 (from University of Karlsruhe (TH), Germany). In 2004, he habilitated at the Faculty of Economics and Management, University of Karlsruhe (TH), Germany, and was granted the venia legendi (teaching authority) in Business Administration.

Prof. Ramteen Sioshansi

Revisiting Restructured Electricity Market Design: What the Past 30 Years Taught Us and What Electricity Systems of the Future Need

Friday, June 9th, 11:00 - 12:30
HSZ/04/H

Ramteen Sioshansi is an associate professor in the Department of Integrated Systems Engineering and an associate fellow in the Center for Automotive Research at The Ohio State University. He holds degrees from the University of California, Berkeley and the London School of Economics and Political Science. His research focuses on the integration of advanced energy technologies, including renewables, energy storage, and electric transportation, in energy systems. He also works in energy policy and electricity market design, especially as they pertain to advanced energy technologies. He has published over 50 academic journal articles and serves on the editorial boards of a number of journals. He is a recipient of the 2010 Campbell Watkins Energy Journal Best Paper Award from the International Association for Energy Economics. He is currently serving a second two-year term on the Electricity Advisory Committee of the U.S. Department of Energy.

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Chair of Energy Economics, TU Dresden

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We express our sincere gratitude to all our scientific reviewers and thank them for their valuable contribution towards ensuring the quality and success of the conference.

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Yannick Phulpin, *EDF, France*

Programme Overview

Podium Sessions

- Developments in Liberalised Electricity Markets
- Market Integration of Renewable Energies
- Electricity Markets & Future Infrastructure
- Forecast Competition
- Business Strategies for the Energy Sector under Uncertainty
- Network Tariffs and Renewable Integration

Technical Tours

• Opencast pit „Lippendorf“	7th of June	12:30 - 14:00	Note: Lunch is served earlier
• Power Station „Reick“	8th of June	14:00 - 18:00	

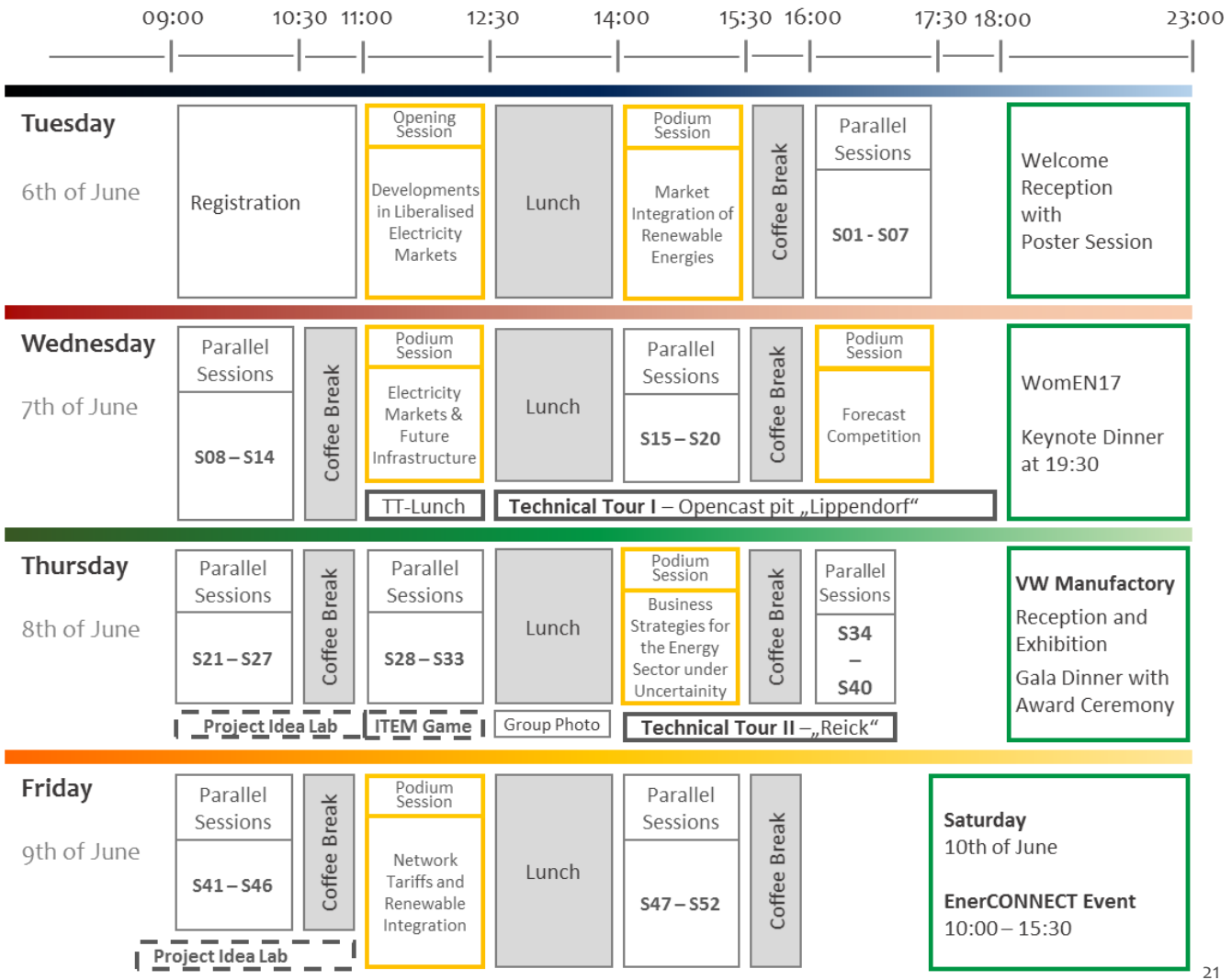
Evening Events & Social Networking

• Welcome Reception	6th of June	18:00 - 21:30	Note: Additional Poster Session
• Keynote Dinner	7th of June	19:30 - 22:30	
• WomEN17	7th of June	18:00 - 22:30	
• Gala Dinner	8th of June	17:30 - 23:00	Note: Guided Manufactury Tours
• EnerConnect	10th of June	9:45 - 15:30	

Special Sessions

• Project Idea Lab	8th of June	09:00 - 12:30 & 9th of June 2017	08:30 - 11:00
• ITEM Game	8th of June	11:00 - 12:30	Note: Laptop required

Note: Group photo on the 8th of June - 13:30 in front of the Hörsaalzentrum (HSZ) (auditorium centre)


09:00
10:30
11:00
12:30
14:00
15:30
16:00
17:30
18:00
23:00
Tuesday
6th of June
Registration
Opening Session
Developments in Liberalised Electricity Markets
Lunch
Podium Session
Market Integration of Renewable Energies
Coffee Break
Parallel Sessions
S01 - S07
Welcome Reception with Poster Session
Wednesday
7th of June
Parallel Sessions
S08 – S14
Coffee Break
Podium Session
Electricity Markets & Future Infrastructure
Lunch
Parallel Sessions
S15 – S20
Coffee Break
Podium Session
Forecast Competition
WomEN17
Keynote Dinner at 19:30
TT-Lunch
Technical Tour I – Opencast pit „Lippendorf“
Thursday
8th of June
Parallel Sessions
S21 – S27
Coffee Break
Parallel Sessions
S28 – S33
Lunch
Podium Session
Business Strategies for the Energy Sector under Uncertainity
Coffee Break
Parallel Sessions
S34 – S40
VW Manufactory
Reception and Exhibition
Gala Dinner with Award Ceremony
Project Idea Lab
ITEM Game
Group Photo
Technical Tour II – „Reick“
Friday
9th of June
Parallel Sessions
S41 – S46
Coffee Break
Podium Session
Network Tariffs and Renewable Integration
Lunch
Parallel Sessions
S47 – S52
Coffee Break
Saturday
10th of June
EnerCONNECT Event
10:00 – 15:30
Project Idea Lab

Scientific Programme

Technical Tour 1: Power plant *Lippendorf* & open-cast pit *Vereinigtes Schleenhain*

The lignite-fuelled power plant **Lippendorf** is part of a network of energy producers located in the Central German lignite district. The open-cast mine **Vereinigtes Schleenhain** uses a 34 km long conveyer belt system for supplying lignite to the power plant. Up to 11 million tons of raw lignite from four coal beds are annually extracted from the mine while maintaing strong environmental management practices, particularly with regard to water resources. Lippendorf/Schleenhain offers a worthwhile experience – its a real must-see!

Lunch for all participants will be served at the Conference Office (11:15). Please note the earlier time.

When? Wednesday, 7th June, 12:15 – ca. 19:30 (incl. transfer)
How to get there? Meeting point (in front of HSZ) at 12:15 (bus departure at 12:30 from Mommsenstraße)
Registration? Those interested in joining last minute need to inquire at the Conference Office about open spots.

Technical Tour 2: Innovative heat plant Reick

The heat plant **Reick** combines both fossil and renewable power generation with the storage of heat and electricity generation for the power grid at one site. At Reick, a commercial battery storage system is being tested as a primary control system for the power grid.

When? Thursday, 8th June, 14:30 – ca. 17:00 (incl. transfer)
How to get there? Meeting point (in front of HSZ) at 14:15 (bus departure at 14:30 from Mommsenstraße)
Registration? Those interested in joining last minute need to inquire at the Conference Office about open spots.

Project Idea Lab

Fast track to developing a project proposal for the framework programme 2018-2020 (H2020)

We would like to invite you to our **Project Idea Lab (PIL)** to develop a project consortium and jointly create a competitive EU project proposal. The two workshop sessions (½ day each) will be hosted by the TU Dresden Project Scouts, European Project Center and the Laboratory of Knowledge Architecture parallel to the conference.

The Project Idea Lab is your fast track to a successful project proposal. You will get to know potential international partners and elaborate joint projects based on your ideas in the field of Energy Markets. Moreover you can create new project ideas among the participants. You will experience a structured and guided proposal writing session over two half days. Funding professionals will accompany your concept and guide you towards a short project sketch. It will be the beginning of your own project success story.

When? 8th June 2017, 09:00 – 12:30 & 9th June 2017, 08:30 – 11:00
Where? Gerber Building Room No. 054—GER054
Registration? Those interested in joining last minute need to inquire at the Conference Office about open spots.

WomEN17

On Wednesday, June 7th, female participants of the EEM 2017 are invited to attend **WomEN17**, an exclusive event aimed at those engaged in the energy field within academic, research and industry circles. Participants of WomEN17 will spend a wonderful evening above the roof tops of Dresden in the lounge *"Felix" (Lebendiges Haus Dresden)* and be given the opportunity to expand their network within the energy community and to exchange professional experiences and innovative ideas.

Kicking off the event, female keynote speakers with leading positions in academia and industry will give insights into their career paths and relay professional experiences. We hope this will be informative and encouraging for younger participants pursuing a career in the energy field and stimulate further discussion.

In the subsequent Lounge Talk, those attending WomEN17 will have the opportunity to join in a discussion of:

"The role of natural gas in Germany`s energy transition"

When? Wednesday, 7th June, 18:00 – ca. 22:30 (incl. transfer)
How to get there? Meeting point (in front of HSZ) at 17:30 (bus departure at 17:45 from Mommsenstraße)
Address: Kleine Brüdergasse 1-5, 01067 Dresden

WomEN17 - Keynote Speakers

Dr.-Ing. Birgit Wetzel

Birgit Wetzel is the head of corporate communication at the DREWAG – Stadtwerke Dresden GmbH and ENSO Energie Sachsen Ost AG. She is in charge of brand management and communication strategy. Mrs. Wetzel studied process technology at the Technical University Dresden. After that, she has specialized in energy engineering and energy economics. She combined both these areas of work in terms of closed energy and efficiency cycles. She got her doctoral degree in 1988. Mrs. Wetzel has held different positions in the energy field since 1988. In the course of the liberalization of the energy market in 1998, she built up the marketing department at the ESAG Energieversorgung Sachsen Ost AG including product development, pricing and communication. During this time, she was in charge of creating the new ENSO brand. From 2006 to 2016, she worked in the sectors of corporate communication and corporate development at the ENSO. At present, her topics involve strategy, communication as well as organization administration.

Dr. Heidi U. Heinrichs

Heidi U. Heinrichs heads the group Assessment of Energy Systems within the Institute of Energy and Climate Research – Systems Analysis and Technology Evaluation (IEK-STE) at the Forschungszentrum Jülich (FZJ). Her research and teaching focus on energy scenarios, modelling pathways towards sustainable energy systems, and integrating social, economic and technical dimensions in energy systems analysis. She worked and works in these fields in Jülich, Cambridge and Karlsruhe and received her Dr. in Engineering in 2013 from the Karlsruhe Institute of Technology (KIT) with a multiple award-winning thesis on „Analysis of the long-term impacts of electric mobility on the German energy system within the European energy network“. She holds a diploma in Mechanical Engineering from RWTH Aachen University.

Dr. Kathrin Kadner

After receiving her diploma in Mechanical Engineering, special subject gas engineering, in 1997 Kathrin Kadner started her PhD. From 1997 to 2001 she worked at Freiberg University of Mining and Technology as well as Norwegian University of Science and Technology Trondheim within the research cooperation "Mechanical Integrity and Operation of Natural Gas Storage". She published her thesis "Experimentelle und theoretische Untersuchungen zur Feuchteentwicklung von Erdgasen in Gasspeicherkavernen" in 2002.

From 2001 to 2009 she was employed at company "eins Energie" in Sachsen (former Erdgas Südsachsen GmbH) in Chemnitz, from 2005 to 2009 as head of technical organization unit. In 2009 Kathrin moved to company ENSO NETZ GmbH in Dresden. ENSO NETZ GmbH is an electricity and gas grid operator in east Saxony and part of Energieverbund Dresden group. Kathrin worked there as head of grid connection sales unit and afterwards as head of commercial grid management unit.

In January 2013 Kathrin moved to another company in Energieverbund Dresden group, DREWAG Stadtwerke Dresden GmbH. She became head of business sales department. As part of an extensive cooperation within the group she also assumed responsibility of business sales department of sister company ENSO Energie Sachsen Ost AG in October 2013. She's responsible for energy sales, energy services and energy efficiency consulting for business clients in east Saxony and Germany.

Dr. Yvonne Kerth

Yvonne Kerth is an associated partner at Gleiss Lutz, Stuttgart. Gleiss Lutz is one of Germany's leading full service law firms with offices in Stuttgart, Berlin, Düsseldorf, Frankfurt/M., Hamburg, Munich and Brussels. She has been a lawyer with Gleiss Lutz since 2006. In 2011 she was seconded to the international law firm Herbert Smith Freehills, London. Yvonne is a lecturer for energy law at Reutlingen University.

Yvonne studied law at the University of Würzburg with a special focus on European law. From 2001 to 2003, after the 1st state examination in law, she was an assistant at the Institute of International Law, European Law and European Private Law at the University of Würzburg. Her doctoral thesis "Emissions Trading in the EU" was awarded the 1st prize by the German Society for Environmental Law (Gesellschaft für Umweltrecht, GfU) in 2004. During her legal traineeship (Referendariat) she worked at the German Emissions Trading Authority (Deutsche Emissionshandelsstelle, DEHSt) at the German Environment Agency (Umweltbundesamt, UBA), Berlin.

Yvonne specialises in transactions and project developments in the energy sector, with a particular focus on renewables (e.g. offshore and onshore wind). Her practice also includes advice on administrative law matters.

WomEN17

Location: Felix/Lebendiges Haus Dresden
Event takes place on Wednesday, 7th June 2017 at 18:00

How to get there:
Arrive at the meeting point (beach flag) in front of the HSZ at 17:30, we will then proceed together to the bus stop.
Bus transfer from Alte Mensa (Mommsenstraße) leaving at 17:45.

There is no transfer service to the hotels after the event. A tram stop is located nearby (Postplatz).

Poster Session

In addition to the Welcome Reception, we would like to invite you to the **Poster Session** where research projects will be displayed in the architecturally distinguished *Atrium* of the „Dülfersaal“.
Entrance to the Poster Session is only permitted in combination with the **mandatory pre-registration for the Welcome Reception**

When? Thursday, 6th June, 18:00
Where? Atrium „Dulfersaal“ (building M13 campus navigator)
Poster submission: 6th June at the Conference Office (HSZ/304/Z) from 9:00 - 15:00
Poster pick-up: 7th & 8th June at the Conference Office (HSZ/304/Z) from 9:00 - 17:00

Entrance to the event in building M13 via Helmholtzstr.
(passage through Günther-Landgraf-Bau *GLB*).

Poster Session

The following posters will be presented in the Poster Session:

- The value of flexible resources to ensure generation adequacy in electricity markets
  Hamid Aghaie (Austrian Institute of Technology)
- Model-Based Analysis of Revenue Opportunities for Battery Storage on the Day-Ahead Market using Phelix and Cap Futures
  Sven Böhme (European Energy Exchange AG)
- Auction design for electricity markets with large penetration of renewable generation
  Philipp Staudt (KIT)
- The Development of the German Heat and Electricity system between 2020 and 2030: Effects of Sector Coupling on Unit Commitment, Grid Use and RES-Integration
  Moritz Vogel (Öko-Institut e.V.)
- A Sector-coupling Spatial Optimization Model for the German Electricity Market – Bringing Gas and Heat into the Equation
  Jens Weibezahn (Technische Universität Berlin)
- Interconnection of the Nordic and UK power markets – Impact on renewable energy integration in the region
  Behnam Zakeri (Aalto University)

ITEM-Game Special Session

Taking investment decisions on power generation technologies, conducting electricity trading in organized markets and managing price and volume risk are critical aspects in liberalized electricity markets, namely for power generation companies. The **ITEM-Game Special Session** aims to bring together players from all over the world and give them the opportunity to gain an understanding of the main features of liberalized electricity markets and the challenges faced by market agents in taking long-term investment decisions and in conducting short-term trading strategies.

Participants will apply investment and trading concepts in a hands-on approach using the **ITEM-Game** (www.item-game.org), an interactive simulation platform where each team (group of 2-3 participants) represents a profit maximizing power company that undertakes investments in power generation units (nuclear, coal, CCGT, hydro, wind, solar) and then trades its generation in a competitive power pool.

The session is organized as follows:

- Review main concepts of investment in power generation and trading in organized electricity markets
- Form teams and set-up the **ITEM-Game** (one laptop for each team is required)
- Play ITEM-Game with 10 interactive rounds of investment and trading
- Discuss the **ITEM-Game** results and analyse the winning strategies

When? Thursday, 8th June, 11:00 – ca. 12:30

Where? Hörsaalzentrum (HSZ) (auditorium centre) - HSZ/201/U

Registration? Please register at the Conference Office

Forecast Competition

Forecasting weather-dependent electricity feed-in is of critical importance for electricity trading and stabile system operation. As of date, this topic has not been addressed adequately in research and industry circles. With the growth in the share of intermittent renewables in Europe, this issue is becoming all the more important. Against this backdrop, in the run up to the conference, a competition was organised to spur interest in devising novel methodological tools to tackle this challenge.

During the two-week competition more than 20 participants from industry as well as public and private research institutions competed to produce the most accurate forecasts. The three top forecast teams present their methodology at the podium session.

When? Wednesday Thursday, 7th June, 16:00 - 17:30 (Podium Session)
Where? Hörsaalzentrum (HSZ) (auditorium centre) - HSZ/04/H

Forecast Competition

The Podiums Session is structured in two parts:

Introduction

- EEM 2017 Forecast Competition Design and Overview of Results
  Dirk Hladik, Hannes Hobbie (TU Dresden, Germany)

Presentations

- Cluster-based regime-switching AR for the EEM2017 Wind Power Forecasting Competition
  Jethro Browell, Ciaran Gilbert (University of Strathclyde, UK)
- EEM 2017 Forecast Competition - Wind power generation prediction using autoregressive models
  Ilias Dimoulkas, Peyman Mazidi, Lars Herre (Comillas Pontifical University Madrid, Spain and KTH Royal Institute of Technology Stockholm, Sweden)
- Day-Ahead Wind Power Generation Forecasting Using Support Vector Machines
  Pierre Huyn (Hitachi America, Ltd., USA)

Social Programme

Welcome Reception

The **welcome reception** will take place on Tuesday, 6th June 2017 following the afternoon sessions. At 18:00 you will be welcomed with a glass of sparkling wine in the „Dülfersaal“, one of the university's banquet halls (building M13 Campus navigator). Following a short welcome address by the rector of the university, you are invited to enjoy a barbecue buffet. Parallel to this, the EEM poster session will take place in the architecturally distinguished *Atrium* of the building. The reception offers an excellent opportunity to meet new people, old friends and to connect with fellow colleagues. The band *Leyenda Latino* will accompany the event with live music. Starting at 19:00 registered participants will have the opportunity to test drive VW's e-mobility fleet. **A pre-registration is mandatory**. Registered drivers must also present valid passports and driving licenses (valid in Europe).

All participants are required to present their **own welcome reception ticket**, which you will receive upon completing your registration at the Conference Office**.** The dress code for the event is „business casual“.

We are looking forward to welcoming you!

Entrance to the event in building M13 via Helmholtzstr. (passage through Günther-Landgraf-Bau *GLB*).

Conference Gala Dinner

The **EEM Gala Dinner** will be held on the evening of Thursday, 8th June 2017. We are happy to announce that this event will take place in the „Gläserne Manufaktur". This unique exhibition space owned by Volkswagen currently serves as a showcase for electromobility with plans to convert the facility to accommodate the future production of premium class and electric vehicles. We look forward to welcoming you to the Manufactory between 17:30 and 17:45 with a champagne reception. Participants will then be invited to take part in exclusive guided tours to experience the Volkswagen exhibition with a focus on electric mobility and their production facilities. Please register in advance for one of the two guided tours: tour 1 (18:00 - 19:00) or tour 2 (19:00 - 20:00).

Particpants interested in experiencing electric mobility first-hand will be afforded the opportunity to take a short test drive in an electric or a hybrid vehicle. **Pre-registration is mandatory** (Conference Office)**!** Do not forget that those wishing to take a test drive must bring their valid passports and their in Europe valid driver´s license. Without these documents VW cannot permit you to operate a vehicle.

This unique reception will be followed by a four-course dinner in the Manufactory's Orangerie. The awards ceremony, where the best conference papers will be recognized, will mark the end of a wonderful Gala evening.

Please note that only participants registered to attend the event will be granted access to the venue. All participants are required to present their **own dinner ticket.** On-site registration is not possible.

Conference Gala Dinner

Location: Gläserne Manufaktur

Event takes place on Thursday, 8th June 2017 at 17:30

How to get there?

Directions from TU Dresden:

Departure:

"Nürnberger Platz" 17:14, Tram No. 8 direction "Hellerau"

Change:

Central Station: 17:21, Tram No. 10 direction "Striesen"

Exit:

"Straßburger Platz", 2 min. walk

Directions from Dresden Central Station:

Departure:

Tram No. 10 direction "Striesen", 17:21

Exit:

"Straßburger Platz", 2 min. walk

Tram No. 10 runs every 10 minutes from Dresden Central Station

Dresdner Verkehrsbetriebe (Public Transport Authority): www.dvb.de

*No guarantee of the accuracy of the information is provided

EnerConnect Event

As a further highlight for your stay in Dresden at the EEM 2017, the EEM17 Organizing Committee together with the **enerCONNECT** association invites you to take part in a social event on 10th June. The event will give you a chance to reflect upon the conference in a leisurely atmosphere and explore another beautiful part of Dresden. We are excited to have you participate!

When? Saturday, 10th June, 9:45 – 15:30
Where? "Port Dresden", Terrassenufer 2, Dresden

Registration? Registration at Conference Office (15 €/pp)

Schedule

10:00	Steamboat cruise on the Elbe river
11:00	Stroll through the lovely neighbourhood of Dresden Loschwitz and visit some unique local stores
11:30	Lunch at the famous Körnergarten, which is well-known for its "Biergarten" and tasty food
1:00	Trip to the top of the Elbe-Valley in a historic cable car. Afterwards, a short hiking tour takes us to the beautiful castles at the Elbe River (about 45 min hike)
14:00	Visit to a "Strausswirtschaft" (wine tavern) located near the castles at the Elbe River. Here, we can enjoy good Saxon wine and delicious tarte flambée
15:30	Take tram no. 11 back to the city center – ending the day´s programme

Tuesday - 6th of June

11:00 - 12:30 **Opening Session:** Developments in Liberalised Electricity Markets

Chair: Mr. Prof. Dr. Dominik Möst (TU Dresden, Germany)

Prof. Bunn: *Resource Adequacy in the Post-Liberalized British Electricity Market: Auctions and Competition*

Mr. Schulz: *The Clean Energy for All Europeans Package - Reflections from a Markets Perspective*

14:00 - 15:30 **Podium Session:** Market Integration of Renewable Energies

Chair: Mr. Prof. Dr. João Tomé Saraiva (Porto University, Portugal)

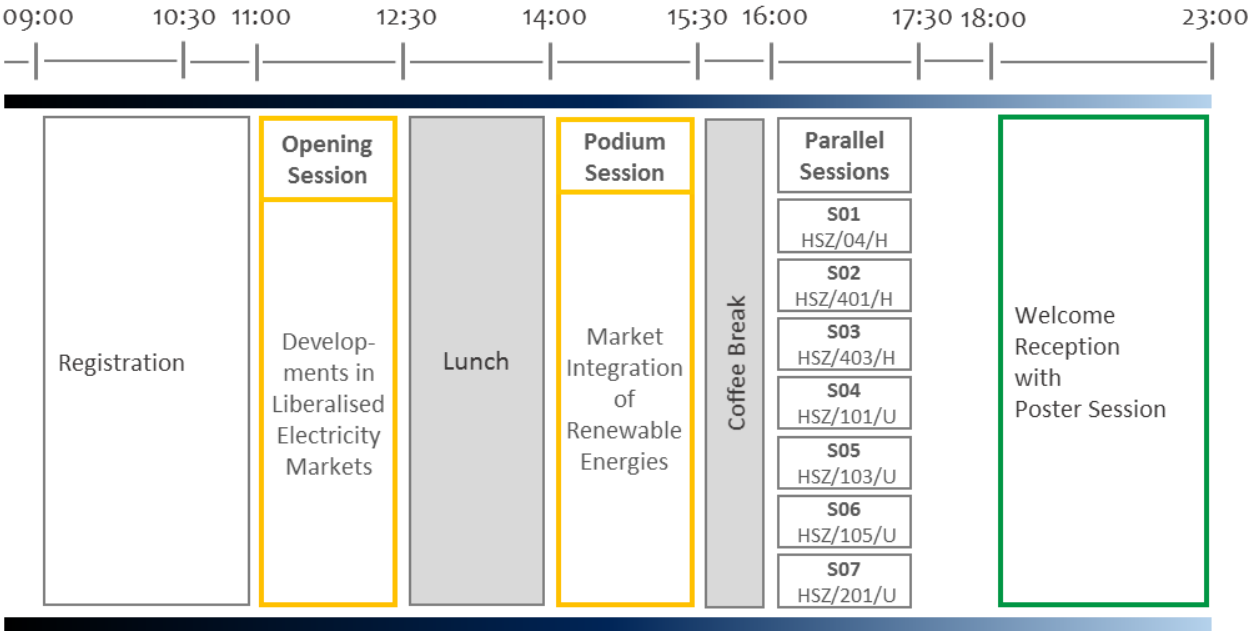
Prof. Dr. Haas: *On how to integrate large quantities of variable renewables into electricity systems*

Mr. Steinkohl: *The EU Clean Energy Package and the Renewables Directive*

18:00 - 21:30 **Welcome Reception**

Poster Session

Detailled Programm Overview



S01: Balancing Markets: Design Options
S02: RES Support Schemes
S03: Flexibility in Energy Systems - I
S04: Energy Finance and Macroeconomic Interdependencies
S05: Grid Modelling and Locational Marginal Pricing
S06: Dealing with Imbalances in Energy Systems
S07: Small Scale Energy Storages

TIME: 16:00 - 17:30 ROOM: HSZ/04/H CHAIR: FLORIAN ZIEL UNIVERSITY DUISBURG-ESSEN, GERMANY

33 **Design and Performance of European Balancing Power Auctions**

Fabian Ocker
Karlsruhe Institute of Technology, Germany

145 **An Analysis of Market Mechanism and Bidding Strategy for Power Balancing Market Mixed by Conventional and Renewable Energy**

Bo Jie
Takao Tsuji
Yokohama National University, Japan

Kenko Uchida
Waseda University, Japan

179 **Social Welfare of Balancing Markets**

Pavel Zolotarev
TransnetBW GmbH, Germany

242 **A framework for ancillary services design**

Samuel Glismann
Flensburg University / TenneT TSO B.V., Germany

Time: 16:00 - 17:30 Room: HSZ/401/H Chair: Joachim Geske Imperial College, UK

119 **Experiences with Auctions for Renewable Energy Support**

Emilie Rosenlund Soysal
Lena Kitzing
David Fernando Mora Alvarez
Technical University of Denmark, Denmark

Fabian Wigand
Sonja Förster
Ana Amazo
Ecofys, Germany

26 **Flexibility-friendly support policies: A Nordic and Baltic perspective**

Luis Boscán
Klaus Skytte
Emilie Roselund Soysal
Energy Economics and Regulation Group, Denmark

182 **Heterogeneity of Intermittent Energy Sources and Cost-effective Renewable Policies**

Clemens Streitberger
Jan Abrell
Sebastian Rausch
ETH Zurich, Switzerland

TIME: 16:00 - 17:30 ROOM: HSZ/403/H CHAIR: BEHNAM ZAKERI AALTO UNIVERSITY, FINLAND

21 **Optimal storage dispatch in a consumer setting with local generation resources**

Dennis Metz
João Tomé Saraiva
University of Porto, Portugal

27 **Assessing the Upward Demand Response Potential for Mitigating the Wind Generation Curtailment: A Case Study**

Mubbashir Ali
Jussi Ekström
Matti Lehtonen
Aalto University, Finland

169 **Energy Flexibility in Retail Buildings: from a Business Ecosystem Perspective**

Zheng Ma
Mikkel Kjærgaard
Bo Nørregaard Jørgensen
Joy Dalmacio Billanes
University of Southern Denmark, Denmark

32 **Application of Priority Service Pricing for Mobilizing Residential Demand Response in Belgium**

Yuting Mou
Anthony Papavasiliou
Philippe Chevalier
Université catholique de Louvain, Belgium

TIME: 16:00 - 17:30 ROOM: HSZ/101/U CHAIR: BARBARA BREITSCHOPF FRAUNHOFER ISI, GERMANY

29 **Links between Production and Consumption of Electricity with Economic Performance in Mexico**

Ricardo Massa
Juan Rosellón
CIDE, Mexico

150 **The role of public investment & development banks in enabling or constraining new power generation technologies**

Bjarne Steffen
Tobias Schmidt
ETH Zurich, Switzerland

74 **How cost effective is EU climate policy? Evidence from Portugal using integrated modelling**

Sara Proença
CERNAS, ESAC/Polytechnic of Coimbra, Portugal

Patrícia Fortes
CENSE, FCT / Nova University of Lisbon, Portugal

125 **Energy Indicators Framework and Climate Change Policy Implications**

Fátima Lima
Manuel Nunes
Jorge Cunha
University of Minho, Portugal

TIME: 16:00 - 17:30 ROOM: HSZ/103/U CHAIR: FRIEDRICH KUNZ DIW BERLIN, GERMANY

168 **Reduced Transmission Grid Representation using the St. Clair Curve applied to the Electric Reliability Council of Texas**

Henry Martin
Technical University of Munich, Germany

Thomas Deetjen
Michael Webber
The University of Texas at Austin, USA

229 **Modelling the potential impacts of locational versus system-wide strike prices in contracts for difference for low carbon generation**

Shona Pennock
Simon Gill
Keith Bell
University of Strathclyde, UK

TIME: 16:00 - 17:30 ROOM: HSZ/105/U CHAIR: CHRISTOPH ZÖPHEL TU DRESDEN, GERMANY

73 **Acquisition of a Balance Responsible Party under grid restrictions in an Extended Scheduling System**

Tobias Zimmermann
Stefan Klaiber
Peter Bretschneider
Fraunhofer IOSB-AST, Germany

81 **Imbalances costs of small-scale renewable not dispatchable power plants in the Italian electricity market**

Grazia Belli
Daniele Menniti
Anna Pinnarelli
Giovanni Brusco
Alessandro Burgio
Nicola Sorrentino
University of Calabria, Italy

237 **Assessment of nodal pricing applied to imbalance settlement: approaches and issues for implementation in zonal markets**

Alessandro Zani
Dario Siface
Maria Vittoria Cazzol
RSE, UK

Stefano Rossi
AEEGSI, Italy

202 **Economic evaluation in using storage to reduce imbalance costs of renewable power plants sources**

Daniele Menniti
Nicola Sorrentino
Anna Pinnarelli
Alessandro Burgio
Gianni Brusco
University of Calabria, Italy

TIME: 16:00 - 17:30 ROOM: HSZ/201/U CHAIR: JOSE NUNO FIDALGO FEUP AND INESC TEC, PORTUGAL

214 **Capacity sharing – economic analysis of home battery systems**

Rafal Dzikowski
Blazej Olek
Lodz University of Technology, Poland

93 **The Role of Energy Storage in Local Energy Markets**

Esther Mengelkamp
Johannes Gärttner
Christof Weinhardt
Karlsruhe Institute of Technology, Germany

91 **Analysis of the Minimum Activation Period of Batteries in Frequency Containment Reserve**

Raphael Hollinger
Agustín Motte Cortés
Fraunhofer ISE, Germany

262 **PV-Battery Community Energy Systems: Economic, Energy Independence and Network Deferral Analysis**

Han Wang
University of Melbourne, Australia

Pierluigi Mancarella
University of Manchester / University of Melbourne, UK / Australia

Kerry Lintern
AusNet Services, Australia

Nicholas Good
University of Manchester, UK

Wednesday - 7th of June

11:00 - 12:30 **Podium Session:** Electricity Markets & Future Infrastructure

Chair: Mr. Prof. Dr. Dominik Möst (TU Dresden, Germany)

Mr. Baake: *The EU winter package and the future of the German Energiewende*

Dr. Biermann: *Grid and Market development – what is needed for German Energiewende?*

16:00 - 17:30 **Podium Session:** Forecast Competition

Mr. Jethro Browell & Mr. Ciaran Gilbert (University of Strathclyde):
Cluster-based regime-switching AR for the EEM 2017 Wind Power Forecasting Competition

Mr. Ilias Dimoulkas, Mr. Peyman Mazidi & Mr. Lars Herre (KTH Royal Institute of Technology):
EEM 2017 Forecast Competition: Wind power generation prediction using autoregressive models

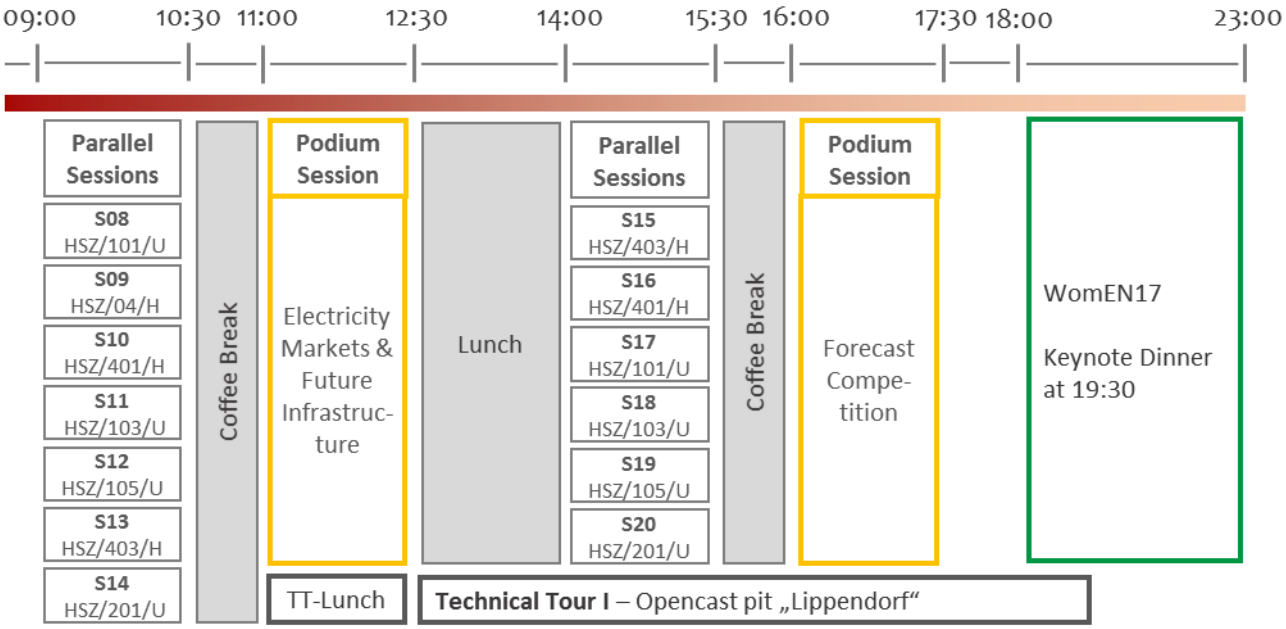
Mr. Pierre Huyn (Hitachi America, Ltd.):
Day-Ahead Wind Power Generation Forecasting Using Support Vector Machines

12:30 - 19:30 **Technical Tour I:** Opencast pit „Lippendorf“

18:00 - 22:30 **WomEN17:** The role of gas in Germany`s energy transition

Dr. Kadner, Dr. Kerth, Dr. Wetzel & Dr. Heinrichs

Detailled Programm Overview



S08: Market Equlibria and Stochastic Approaches
S09: Economic Potential of Storage Systems
S10: Balancing Markets: Sizing Balancing Demand
S11: Analysis of Natural Gas, Coal and Oil Markets: Infrastructure and Uncertainty in Security of Supply
S12: Cross-sectoral Analysis
S13: Congestion Management
S14: Innovative Business Models
S15: Flexibility in Energy Systems - II
S16: Generation Expansion Planning
S17: Energy Markets: Market Coupling
S18: Electricity Market Design for Renewable Integration
S19: System Operators and Security of Supply
S20: Local Energy Markets

TIME: 09:00 - 10:30 ROOM: HSZ/101/U CHAIR: ALEXANDER WEBER TU BERLIN, GERMANY

92 **Assessing the Potential Benefit of Energy Storage in Emission constrained Power Markets using Equilibrium Modeling**

Magnus Askeland
Stefan Jaehnert
SINTEF Energy Research, Norway

Magnus Korpås
Norwegian University of Science and Technology, Norway

211 **Electricity Market Equilibria and Intermittent Renewables – A Stochastic Approach**

Thomas Möbius
Felix Müsgens
BTU Cottbus-Senftenberg, Germany

241 **Assessing the Adaption of Stochastic Clearing Procedure to a Hydro-penetrated Market**

Nilufar Neyestani
Filipe Joel Soares
INESC TEC, Portugal

Rui Alves
Francisco S. Reis
Ricardo Pastor
REN - Redes Energéticas Nacionais, Portugal

152 **Towards a simplified approach for modeling policymaker's decisions in the power sector**

Salvador Doménech Martínez
José Villar
Alberto Campos
Michel Rivier
Comillas Pontifical University, Spain

TIME: 09:00 - 10:30 ROOM:HSZ/04/H CHAIR: NICOLA SORRENTINO UNIVERSITY OF CALABRIA, ITALY

186 **The Value of Energy Storages under Uncertain CO2-Prices and Renewable Shares**

Christoph Zöphel
Dominik Möst
TU Dresden, Germany

212 **Value of Multi-Market Trading for a Hydropower Producer**

Marte Fodstad
Mats Mathisen Aarlott
Kjetil Midthun
SINTEF, Norway

106 **Economics of energy storage in the German Electricity and Reserve Markets**

Behnam Zakeri
Sanna Syri
Aalto University, Finland

Friedrich Wagner
Max-Planck-Institut für Plasmaphysik, Germany

104 **Pumped-Storage Plants improving Brazilian Interconnected System operation when facing high solar and wind sources participation**

Pedro Machado
Dorel Soares Ramos
Gustavo Tenaglia
Universidade de São Paulo, Brazil

Julian Hunt
Universidade Federal do Rio de Janeiro, Brazil

Time: 09:00 - 10:30 Room: HSZ/401/H Chair: Blazej Olek Lodz University of Technology, Poland

82 **Dynamic Dimensioning of Balancing Reserve**

Jens D. Sprey
Albert Moser
Patrick Schultheis
RWTH Aachen , Germany

83 **Endogenous Secondary Reserves Requirements in Long-Term Electricity Generation Models**

Francisco Alberto Campos
Salvador Doménech
José Villar
Pontifical Comillas University, Spain

58 **Machine Learning Analysis for a Flexibility Energy Approach towards Renewable Energy Integration with Dynamic Forecasting of Electricity Balancing Power**

Andreas Essl
E-Control, Austria

Peter Hettegger
Austrian Institute of Technology (AIT), Austria

Reinhard Haas
TU Vienna, Austria

TIME: 09:00 - 10:30 ROOM: HSZ/103/U CHAIR: JOACHIM GESKE IMPERIAL COLLEGE, UK

10 **Investment analysis of unconventional hydrocarbon resources under uncertainty**

Anca Costescu
Amanda Spisto
European Commission, Netherlands

72 **The changing landscape of world gas markets at the horizon 2020**

Sina Heidari
Christoph Weber
University of Duisburg-Essen, Germany

94 **Advanced Simulation Solutions to overcome Limitations to Forecasting Scenarios for Natural Gas Trading**

Joel Enderlin
Benoit Dal Ferro
Beryl Loire
ENGIE, France

Serge Bredin
Romain Crestey
We Are Ants, France

143 **Resilience in the German Natural Gas Network: Modelling Approach for a High-Resolution Natural Gas System**

Philipp Hauser
Hannes Hobbie
Dominik Möst
TU Dresden, Germany

TIME: 09:00 - 10:30 ROOM: HSZ/105/U CHAIR: SARA PROENÇA CERNAS, ESAC/POLYTECHNIC INSTITUTE OF COIMBRA, PORTUGAL

28 **Aggregated modelling approach of power and heat sector coupling technologies in power system models**

Philipp Härtel
Fabian Sandau
Fraunhofer IWES, Germany

126 **Coupling of Electricity and Gas Market Models**

Timo Kern
Benedikt Eberl
Felix Boeing
Serafin von Roon
Forschungsgesellschaft für Energiewirtschaft mbH, Germany

160 **Power market impacts of increased use of electricity in the heating sector**

Torjus Folsland Bolkesjø
Erik Trømborg
Jon Gustav Kirkerud
Norwegian University of Life Sciences, Norway

TIME: 09:00 - 10:30 ROOM: HSZ/403/H CHAIR: FRIEDRICH KUNZ DIW BERLIN, GERMANY

274 **The Division of the Common German-Austrian Electricity Market from a Legal Perspective**

Hans Kristoferitsch
Florian Stangl
CHSH Attorneys at Law, Austria

165 **Analysis of Redispatch and Transmission Capacity Pricing on a Local Electricity Market Setup**

Philipp Staudt
Johannes Gärttner
Riccardo Remo Appino
Christof Weinhardt
KIT, Germany

224 **Combined power market and power grid modeling – First results of the project SystemKontext**

Denis Mende
Diana Böttger
Lothar Löwer
Irina Ganal
Stefan Bofinger
Fraunhofer IWES, Germany

250 **Integrating Balancing Reserves and Congestion Management to Re-balance the German System**

Carla Mendes
University of Basel, Switzerland

Jonas Hörsch
Frankfurt Institute for Advanced Studies, Germany

Time: 09:00 - 10:30 Room: HSZ/201/U Chair: Bjarne Steffen ETH Zurich, Switzerland

176 **Ancillary services – between need for a market and decentral business cases**

Judith Litzenburger
EnergieAgentur.NRW, Germany

227 **Market-based business model for flexible energy aggregators in distribution networks**

Jernej Zupančič
Tomi Medved
Blaz Prislan
Edin Lakić
University of Ljubljana, Slovenia

98 **Effects of Implementing Decentralized Business Models at Neighborhood Energy System Level: A Model Based Cross-sectoral Analysis**

Fabian Scheller
Simon Johanning
Sören Reichardt
Thomas Bruckner
Leipzig University, Germany

David G. Reichelt
Steffen Dienst
Institute for Applied Informatics (InfAI), Germany

228 **A review of business models for small prosumers in a post-RES subsidy and post-priority dispatch world**

Tomi Medved
Jernej Zupančič
Edin Lakić
Andrej Gubina
University of Ljubljana, Slovenia

TIME: 14:00 - 15:30 ROOM: HSZ/403/H CHAIR: NICHOLAS GOOD UNIVERSITY OF MANCHESTER, UK

167 **Value Assessment of Aggregated Energy Flexibility when traded on Multiple Markets**

Pamela MacDougall
Bob Ran
TNO, Netherlands

Michiel Klever
Priogen Energy B.V., Netherlands

Geert Deconinck
University in Leuven, Belgium

78 **The Role of Demand Side Management for the System Integration of Renewable Energies**

Theresa Müller
TU Dresden, Germany

96 **Demand Side Response Aggregators: how they decide customer suitability**

Mitchell Curtis
University of Reading, UK

111 **Assessing Storage and Substitution as Power Flexibility enablers in Industrial Processes**

Margarida Henriques
Elsa Henriques
University of Lisbon, Portugal

Robertus Stikkelman
TU Delft, Netherlands

Time: 14:00 - 15:30 Room: HSZ/401/H Chair: Emre Çelebi Kadir Has University, Turkey

127 **Electricity Capacity Expansion in a Cournot Duopoly**

Stein-Erik Fleten
Axel Storebø
Helene Brøndbo
Norwegian University of Science and Technology, Norway

Trine Boomsma
University of Copenhagen, Denmark

76 **Generation Expansion Planning under Uncertainty: An Application of Stochastic Methods to the German Electricity System**

Friedrich Kunz
Mario Kendziorski
Mona Setje-Eilers
DIW Berlin, Germany

38 **Generation Expansion Planning under Uncertainty Considering Power-to-Gas Technology**

Niklas van Bracht
Albert Moser
Institute of Power Systems and Power Economics (RWTH Aachen University), Germany

95 **Optimizing capacity extensions in power systems: a case study of Bavaria and a comparison to Texas**

Thomas Deetjen
Michael Webber
Joshua Rhodes
University of Texas at Austin, USA

Matthias Hüber
Technische Universität München, Germany

Time: 14:00 - 15:30 Room: HSZ/101/U Chair: Jose Villar Universidad Pontificia Comillas, Spain

88 **Impact of Generation Shift Key Determination on Flow Based Market Coupling**

Constantin Dierstein
TU Dresden, Germany

258 **Market-coupling and the impact of cross border flows on the balancing of power demand**

Michal Wierzbowski
Aleksandra Baczynska
Lodz University of Technology, Poland

273 **What is the impact of the EU Energy Union on electricity prices? Results for selected member states**

Barbara Breitschopf
Jakob Wachsmuth
Fraunhofer ISI, Germany

114 **The application of a flow-based methodology for yearly network analysis according to market data**

Benedetto Aluisio
Maria Dicorato
Giuseppe Forte
Michele Trovato
Politecnico di Bari, Italy

Alessio Sallati
Terna S.p.A., Italy

TIME: 14:00 - 15:30 ROOM: HSZ/103/U CHAIR: LUIS BOSCÁN TECHNICAL UNIVERSITY OF DENMARK (DTU), DENMARK

178 **Defining a day-ahead spot market for unbundled time-specific renewable energy certificates**

Christian Will
Patrick Jochem
Wolf Fichtner
Karlsruhe Institute of Technology (KIT), Germany

112 **Electricity markets overview – market participation possibilities for renewable and distributed energy resources**

Ivan Pavić
Mateo Beus
Hrvoje Pandžić
Tomislav Capuder
University of Zagreb , Croatia

185 **Future Electricity Market Structure to Ensure Large Volume of RES**

Artjoms Obushevs
Irina Oleinikova
Institute of Physical Energetics, Lativa

Mazheruddin Syed
Ammar Zaher
Graeme Burt
University of Strathclyde, UK

263 **Designing electricity markets to integrate both energy efficiency and renewable energy policies: Future-proofing residential electricity retail tariffs**

Lisa Ryan
University College Dublin, Ireland

Time: 14:00 - 15:30 Room: HSZ/105/U Chair: Blazej Olek Lodz University of Technology, Poland

155 **The Operational Difficulty of Standardizing Frequency Restoration Products**

Marc Scherer
Swissgrid Ltd., Switzerland

Michael Pfister
Gabriela Hug
ETH Zürich, Switzerland

64 **Sizing of a Photovoltaic-Storage System for Power System Frequency Support**

Ali Mubbashir
Antti Alahäivälä
Matti Lehtonen
Aalto University, Finland

164 **Energy Markets Impact on the Risk of Cascading Failures in Power Systems**

Bing Li
Giovanni Sansavini
ETH Zürich, Switzerland

292 **Exceptional Events Classification in the Portuguese Quality of Electricity Supply Regulation**

Jorge Esteves
ERSE, Portugal

Time: 14:00 - 15:30 Room: HSZ/201/U Chair: Andrej Gubina University of Ljubljana, Slovenia

139 **Trading on Local Energy Markets: A Comparison of Market Designs and Bidding Strategies**

Esther Mengelkamp
Philipp Staudt
Johannes Gärttner
Christof Weinhardt
Karlsruhe Institute of Technology, Germany

36 **On the Efficiency of Local Electricity Markets**

Hélène Le Cadre
VITO / EnergyVille, Belgium

89 **Waste incineration plants as the supportive element of a local energy network**

Christoph Pieper
Simon Unz
Michael Beckmann
TU Dresden, Germany

122 **Evaluation of the effects of time-of-use pricing for private households based on measured load data**

Michael Hinterstocker
Paul Schott
Serafin von Roon
Forschungsgesellschaft für Energiewirtschaft mbH, Germany

Thursday - 8th of June

09:00 - 12:30 **Project Idea Lab:** Fast Track to your Project Proposal (H2020)

11:00 - 12:30 **ITEM Game:** Investment and Trading in Electricity Markets

14:00 - 15:30 **Podium Session:** Business Strategies for the Energy Sector under Uncertainty

Chair: Mr. Prof. Dr. Jorge Sousa (Instituto Superior de Engenharia de Lisboa, Portugal)

Mr. Bahke:	*Gas Grids under Regulation and Energy Markets in Transition: Challenges for ONTRAS Business Development*
Prof. Dr. Bettzüge:	*Business Strategies for Energy Sector under Uncertainty*

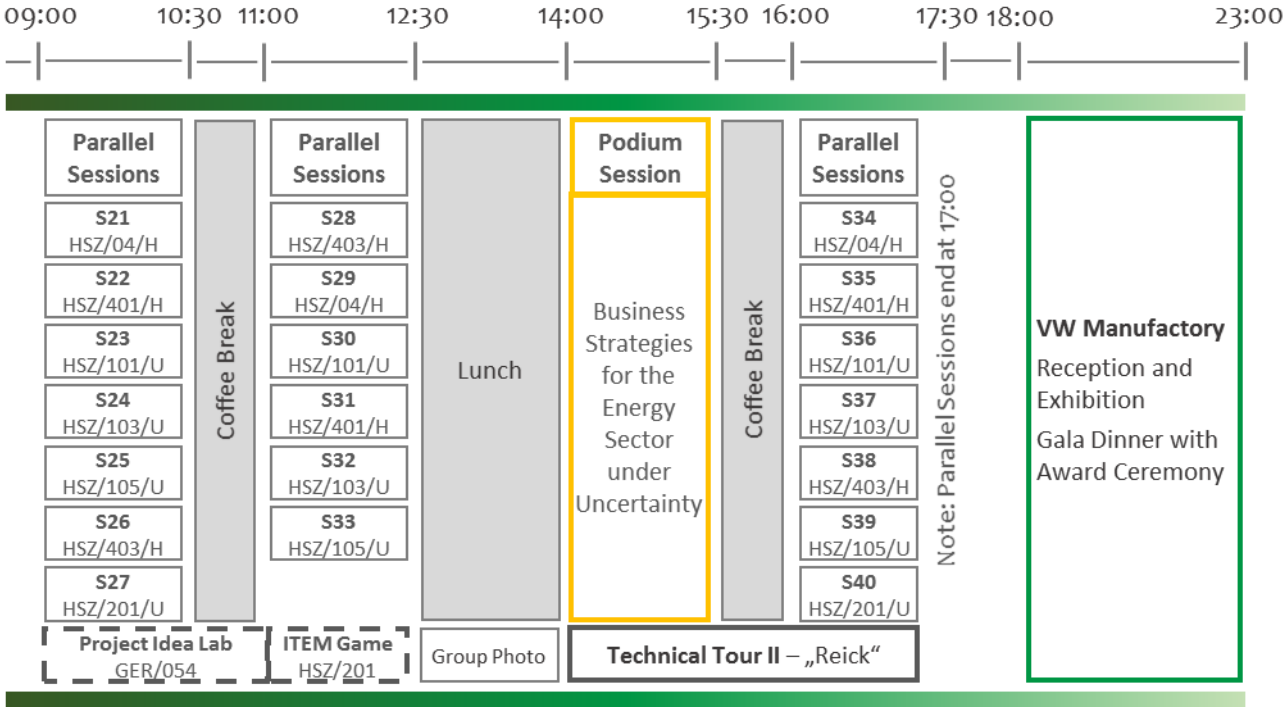
14:00 - 17:00 **Technical Tour II:** Power Station „Reick“

Note: Parallel sessions also conclude at 17:00

17:45 - 23:00 **VW Manufactory:** „Gläserne Manufaktur Dresden“

Reception and exhibition
Gala Dinner and Award Ceremony

Detailled Programm Overview



S21: Modelling Balancing Power Markets
S22: Transmission System Planning
S23: Modelling and Simulation of Energy and Carbon Markets
S24: Mobility Sector
S25: Hydropower
S26: Load Forecasting
S27: Energy System Analysis and Adequacy of Supply
S28: Flexibility in Energy Systems - III
S29: Simulation of Spot Electricity Markets
S30: Analysis of Natural Gas, Coal and Oil Markets: Market Dynamics and Price Volatility
S31: Market Price Analysis
S32: Distribution Networks
S33: Agent-Based Modelling
S34: Wind Energy: System Aspects
S35: Storage Systems and Distribution Network
S36: Wind Forecasting and Assessment
S37: Methodological Aspects and Technologies
S38: Cross Border Trading
S39: Spatial and Temporal Interdepencies in the Power System
S40: Energy Efficiency and Human

TIME: 09:00 - 10:30 ROOM: HSZ/04/H CHAIR: JOSÉ NUNO FIDALGO FEUP AND INESC TEC, PORTUGAL

70 **Modelling reserve management strategies and assessing impacts on short term markets with the OPTIMATE prototype simulation platform**

Marco Schudel
Jean-Yves Bourmaud
RTE, France

80 **Estimation of the Spanish Secondary Reserves Requirements**

José Villar
Francisco Alberto Campos
Salvador Domenech
Comillas Pontifical University, Spain

Cristian Díaz
XM, Colombian System Operator, Colombia

116 **Interdependencies of harmonised procurement of manually and automatically activated FRR in selected Central European Balancing Markets**

Bettina Burgholzer
TU Wien, Austria

260 **Balancing Reserves in the Light of 2050 – From Model Fundamentals to Market Developments**

Casimir Lorenz
Clemens Gerbaulet
TU Berlin / DIW Berlin, Germany

TIME: 09:00 - 10:30 ROOM: HSZ/401/H CHAIR: CHRISTOPH NEUMANN TENNET TSO GMBH, GERMANY

15 **Transmission System Planning Considering Solar Distributed Generation Penetration**

Phillipe Vilaça Gomes
João Tomé Saraiva
INESCTEC , Portugal

295 **Robust Transmission Planning – An Application to the Case of Germany in 2050**

Alexander Weber
TU Berlin, Germany

272 **The role of spatial scale in joint optimisations of generation and transmission for European highly renewable scenarios**

Jonas Hörsch
Tom Brown
Stefan Schramm
Frankfurt Institute for Advanced Studies, Germany

52 **Generation/transmission investment planning integrated with market equilibrium models in electricity markets**

Emre Çelebi
Kadir Has University, Turkey

TIME: 09:00 - 10:30 ROOM: HSZ/101/U CHAIR: THOMAS WALTHER TU DRESDEN, GERMANY

85 **Determinants of Power Hedging Mechanisms in Liberalized Electricity Markets**

Petr Spodniak
Valentin Bertsch
ESRI / Trinity College Dublin, Ireland

199 **Structural breaks in emission allowance prices**

Peter Molnár
University of Stavanger, Norway

Sven Thies
University of Bremen, Germany

148 **Volatility spillovers in the Iberian electricity market**

João Vicente
Ana Martins
Jorge Sousa
João Lagarto
ISEL, Portugal

183 **Carbon Leakage and Competitiveness: Socio-economic Impacts of Greenhouse Gas Emissions Decrease on the European Area Until 2050**

Roland Cunha Montenegro
Ulrich Fahl
University of Stuttgart, Germany

TIME: 09:00 - 10:30 ROOM: HSZ/103/U CHAIR: NILUFAR NEYESTANI INESC TEC, PORTUGAL

223 **Climate policy beyond the European Emissions Trading System: Spotlight on the Transport Sector in Germany**

Heidi Ursula Heinrichs
Jochen Linssen
Bastian Gillessen
Forschungszentrum Jülich, Germany

238 **Using electric vehicles as flexible resource in power systems: A case study in the Netherlands**

Sylvain Quoilin
European Commission / University of Liège, Netherlands / Belgium

Agnese Beltramo
Christian Thiel
European Commission, Netherlands

291 **Macro environmental analysis of the electric vehicle battery second use market**

Robert Reinhardt
Universitat Politècnica de Catalunya - Barcelona, Spain

198 **Valuation of Contract Between Power supplier and Electric Vehicle Owner**

Josip Vasilj
Sebastien Gros
Anders Grauers
Chalmers University of Technology, Sweden

Ivan Krasic
University of Mostar, Bosnia and Herzegovina

Time: 09:00 - 10:30 Room: HSZ/105/U Chair: Theresa Müller TU Dresden, Germany

54 **Operational hydropower scheduling with post-spot distribution of reserve obligations**

Jiehong Kong
Hans Ivar Skjelbred
SINTEF Energy Research, Norway

55 **Operational use of marginal cost curves for hydropower plants as decision support in real-time balancing markets**

Hans Ivar Skjelbred
Jiehong Kong
SINTEF Energy Research, Norway

71 **Hydropower operation in a changing environment**

Moritz Schillinger
Hannes Weigt
University of Basel, Switzerland

René Schumann
Michael Barry
HES-SO, Switzerland

18 **Optimization of Cascaded Hydro Units Modeled as Price Makers Using the linprog Function of MATLAB® and Considering the Tailwater Effect**

João Tomé Saraiva
Mário Castro
FEUP, Portugal

Time: 09:00 - 10:30 Room: HSZ/403/H Chair: Giovanni Sansavini ETH Zurich, Switzerland

207 **Modelling of Demand Response for Utility's Load Forecasting**

Smita Lokhande
Yogesh Kumar Bichpuriya
Vishnu P Menon
Tata Consultancy Services Ltd, India

220 **Where are the electricity load hotspots in 2035? A load curve analysis considering demographic and technological changes**

Anna-Lena Klingler
Rainer Elsland
Tobias Boßmann
Fraunhofer Institute for Systems and Innovation Research ISI, Germany

140 **How to improve Standard Load Profiles: Updating, Regionalization and Smart Meter Data**

Daniel Scholz
Felix Müsgens
University of Technology Cottbus-Senftenberg, Germany

163 **Short-Term Load Forecasting of Multiregion Systems Using Mixed Effects Models**

Miguel López
Sergio Valero
Carolina Senabre
Universidad Miguel Hernandez, Spain
Antonio Gabaldon
Universidad Politecnica de Cartagena, Spain

Time: 09:00 - 10:30 Room: HSZ/201/U Chair: Artjoms Obushevs Institute of Physical Energetics, Latvia

66 **Adequacy of Power Capacity during Winter Peaks in Finland**

Jaakko Jääskeläinen
Behnam Zakeri
Sanna Syri
Aalto University, Finland

190 **Nuclear and Coal Moratoria Effects on the European Electricity System**

Jonas Savelsberg
Carla Mendes
Hannes Weigt
University of Basel, Switzerland

205 **Considering power plants mothballing in long term simulation models for liberalized power markets**

Ahmed Ousman Abani
MINES ParisTech / PSL-Research University / Microeconomix, France

Vincent Rious
Microeconomix / Florence School of Regulation - European University Institute, France / Italy

Marcelo Saguan
Florence School of Regulation - European University Institute, Italy

Nicolas Hary
MINES ParisTech / PSL-Research University, France

90 **Managing Energy Risk – A Case Study Of Bulgaria With No Nuclear Power**

Elena Dimitrova
Ndaona Chokani
Laboratory for Energy Conversion, ETH Zurich, Switzerland

TIME: 11:00 - 12:30 ROOM: HSZ/403/H CHAIR: JEREMY LIN PJM INTERCONNECTION, USA

124 **Attractiveness of demand response in the Nordic electricity market – present state and future prospects**

Antti Rautiainen
Olli Vilppo
Pertti Järventausta
Tampere University of Technology, Finland

128 **Smart Demand Side Management: Storing energy or storing consumption – it is not the same!**

Joachim Geske
Richard Green
Imperial College, UK

Chen Qixin
Yi Wang
Tsinghua University, China

149 **Regulatory Barriers for Activating Flexibility in the Nordic-Baltic Electricity Market**

Claire Bergaentzlé
Luis Boscán
Emilie Rosenlund Soysal
Klaus Skytte
Daniel Møller Sneum
DTU, Denmark

215 **Assessing the Flexibility Potential of the Residential Load in Smart Electricity Grids – A Data-Driven Approach**

Delaram Azari
Karel Keesman
Hans Cappon
Wageningen University, Netherlands

Shahab Shariat Torbaghan
Madeleine Gibescu
Eindhoven University of Technology, Netherlands

Time: 11:00 - 12:30 Room: HSZ/04/H Chair: Christoph Mayer OFFIS e.V., Germany

25 **Empirical comparison of three models for determining market clearing prices in Turkish day-ahead electricity market**

Nermin Elif Kurt
Gokhan Ceyhan
Hikmet Bahadir Sahin
Energy Exchange Istanbul, Turkey

Kurşad Derinkuyu
TOBB University of Economy and Technology, Turkey

Fehmi Tanrisever
Bilkent University, Turkey

87 **Modeling the impact of wind and solar power forecasting errors on intraday electricity prices**

Florian Ziel
University Duisburg-Essen, Germany

172 **Forecasting Volatility in the EPEX market**

Aitor Ciarreta
Ainhoa Zarraga
Peru Muniain
The University of the Basque Country, UPV/EHU, Spain

TIME: 11:00 - 12:30 ROOM: HSZ/101/U CHAIR: PHILIPP HAUSER TU DRESDEN, GERMANY

14 **Price volatility across the Atlantic: the US and the European Natural Gas Markets**

Rafael Garaffa
David Castelo Branco
PPE/COPPE, Brazil

Daniele Costa
Anthony Danko
António Fiúza
FEUP, DEM, Portugal

59 **Russian gas market: domestic market deregulation impact on electricity prices**

Evgenia Vanadzina
Lappeenranta University of Technology, Finland

156 **The end of long-term contracts? Gas price and market dynamics in Central and Eastern Europe**

Jakob Wachsmuth
Barbara Breitschopf
Fraunhofer ISI, Germany

Vija Pakalkaite
Central European University, Hungary

192 **Google Searches and Gasoline Prices**

Peter Molnár
University of Stavanger, Norway

Kuan-Heng Lin
Charles University, Czech Republic

TIME: 11:00 - 12:30 ROOM: HSZ/401/H CHAIR: RICHARD SCHARFF VATTENFALL AB, SWEDEN

147 **Short-term forecasting of electricity prices with a computationally efficient hybrid approach**

Rodrigo de Marcos
Antonio Bello
Javier Reneses
Comillas Pontifical University, Spain

117 **Intraday Market Asymmetries – a Nordic Example**

Emilie Rosenlund Soysal
Klaus Skytte
Ole Jess Olsen
Jonas Khubute Sekamane
Technical University of Denmark, Denmark

79 **Sensitivity of electricity prices in energy-only markets with large amounts of zero marginal cost generation**

Niina Helistö
Juha Kiviluoma
Hannele Holttinen
VTT, Finland

109 **The effect of hydro and wind generation on the mean and volatility of electricity prices in Spain**

João Pedro Pereira
Paulo Rodrigues
Vasco Pesquita
Universidade Nova de Lisboa, Portugal

TIME: 11:00 - 12:30 ROOM: HSZ/103/U CHAIR: CHRISTOPH NEUMANN TENNET TSO GMBH, GERMANY

196 **Policies for an EU smarter grid environment: A Delphi study on DSOs**

Guillermo Ivan Pereira
Patrícia Pereira da Silva
University of Coimbra, Portugal

187 **Minimization of Distribution System Losses By Exploiting Storage and Anticipating Market-Driven Behavior of Wind Power Producers**

Mana Farrokhseresht
Nikolaos G. Paterakis
Madeleine Gibescu
J.G. Han Slootweg
Eindhoven University of Technology TU/e, Netherlands

226 **Procurement of Network Loss – System Operators as Traders?**

Dániel Divényi
Péter Márk Sőrés
Dávid Raisz
Budapest University of Technology and Economics, Hungary

Time: 11:00 - 12:30 Room: HSZ/105/U Chair: Lisa Ryan University College Dublin, Ireland

118 **Price-Based vs. Load-Smoothing Pumped Storage Operation: Long-Term Impacts on Generation Adequacy**

Christoph Fraunholz
Florian Zimmermann
Dogan Keles
Wolf Fichtner
Karlsruhe Institute of Technology, Germany

253 **Agent-based Model of the German Heating Market: Simulations concerning the Use of Wood Pellets and the Sustainability of the Market**

Beatriz Beyer
Jutta Geldermann
Lars-Peter Lauven
Georg-August-University Göttingen, Germany

60 **Simulation of the Iberian Electricity Market Using an Agent Based Model and Considering Hydro Stations**

João Tomé Saraiva
José Carlos Sousa
FEUP / INESCTEC, Portugal

144 **Willingness to pay for green energy: an agent-based model in NetLogo Platform**

Anna Kowalska-Pyzalska
Wroclaw University of Science and Technology, Poland

Time: 16:00 - 17:00 Room: HSZ/04/H Chair: João Tomé Saraiva FEUP and INESC TEC, Portugal

142 **Integration of wind power – challenges and options for market integration and its impact on future cross- sectorial use**

Philip Tafarte
UFZ - Helmholtz Centre for Environmental Research, Germany

Patrick Buck
TU München, Germany

146 **Impacts of offshore grid developments in the North Sea region on market values by 2050: How will offshore wind farms and transmission lines pay?**

Thure Traber
Matti Koivistu
Technical University of Denmark, Denmark

Hardi Koduvere
Tallinn University of Technology, Estonia

135 **Balancing needs and measures in the future West Central European power system with large shares of wind and solar resources**

Ingeborg Graabak
Magnus Korpås
NTNU, Norway

TIME: 16:00 - 17:00 ROOM: HSZ/401/H CHAIR: PETR SPODNIAK ESRI TRINITY COLLEGE DUBLIN, IRELAND

37 **Cost of Optimal Placement of a CHP Plant Within Existing UDN**

Sreto Boljevic
Cork Institute of Technology, Ireland

84 **Techno-Economic Analysis for Optimal Energy Storage Systems Placement Considering Stacked Grid Services**

Dimitrios Karadimos
Dimitrios Doukas
Alexandros Karafoulidis
Paschalis Gkaidatzis
Dimitris Labridis
Aristotle University of Thessaloniki, Greece

Antonis G. Marinopoulos
Joint Research Centre of the European Commission, Netherlands

234 **Energy storing vs. generation curtailment – the measures for controlling renewable generation**

Mateusz Andrychowicz
Blazej Olek
Lodz University of Technology, Poland

Time: 16:00 - 17:00 Room: HSZ/101/U Chair: Tony Klein TU Dresden, Germany

288 **Modeling of Wind Speed Spatio-Temporal Series by Multivariate-GARCH and Copula/GARCH models**

Carlo Lucheroni
Costantino Ragno
University of Camerino, Italy

209 **The Accuracy of Wind Energy Forecasts and Prospects for Improvement**

Kevin Forbes
Ernest Zampelli
Catholic University of America, USA

69 **The Impact of Power Curve Estimation on Commercial Wind Power Forecasts - An Empirical Analysis**

Gianni Goretti
Aidan Duffy
Dublin Institute of Technology, Ireland

Tek Tjing Lie
Auckland University of Technology, New Zealand

Time: 16:00 - 17:00 Room: HSZ/103/U Chair: Michael Zipf TU Dresden, Germany

266 **Cost of Deficit Function: Conceptual and Methodological Aspects with an Evaluation of Impacts on the Operation and Expansion of the Brazilian Electricity Sector**

Clarissa Petrachini Goncalves
Marcos Basile Saviano de Paula
Dorel Soares Ramos
University of São Paulo, Brazil

280 **Solar Energy for Descentralized Energy Supply: a real option approach**

Gheisa Esteves
PUC-Rio, Brazil

TIME: 16:00 - 17:00 ROOM: HSZ/403/H CHAIR: MATTHEW SCHMIDT TU DRESDEN, GERMANY

213 **Cross Border Commercial Flow of Electricity for Germany: What does market data tell us?**

Samarth Kumar
Dominik Möst
TU Dresden, Germany

257 **Direct current market coupling: Sweden – Poland – Lithuania – Sweden**

Michal Wierzbowski
Waldemar Niewiadomski
Lodz University of Technology, Poland

Time: 16:00 - 17:00 Room: HSZ/105/U Chair: Ramteen Sioshansi The Ohio State University, USA

174 **Allocation of nodal costs in heterogeneous highly renewable European electricity networks**

Mirko Schäfer
Leon Joachim Schwenk-Nebbe
Martin Greiner
Aarhus University, Denmark

24 **Spatial and temporal power shifting from flexibility sources. An economic and environmental assessment**

Amanda Spisto
European Commission DG JRC, Netherlands

Silvia Vitiello
European Commission DG JRC, Italy

TIME: 16:00 - 17:00 ROOM: HSZ/201/U CHAIR: HANNES HOBBIE TU DRESDEN, GERMANY

233 **Modeling the impact of energy efficiency in the electricity consumption of the Brazilian tertiary sector**

Giacomo Catenazzi
TEP Energy, Switzerland

Bruno Quaresma Bastos
Rodrigo Flora Calili
Reinaldo Castro Souza
Fernando Luiz Cyrino Oliveira
PUC-Rio, Brazil

43 **Which are the Energy Efficiency determinants in Portuguese innovative firms?**

Margarita Robaina
Mara Madaleno
Marta Ferreira Dias
University of Aveiro, Portugal

133 **Understanding consumers' renewable energy behaviour beyond "homo economicus": An exploratory survey in four European countries**

Kirsi Kotilainen
Pertti Järventausta
Saku Mäkinen J.
Tampere University of Technology, Finland

Friday - 9th of June

08:30 - 11:00 **Project Idea Lab:** Fast Track to your Project Proposal (H2020)

14:00 - 15:30 **Podium Session:** Network Tariffs and Renewable Integration

Chair: Wladyslaw Mielczarski (Lodz University of Technology, Poland)

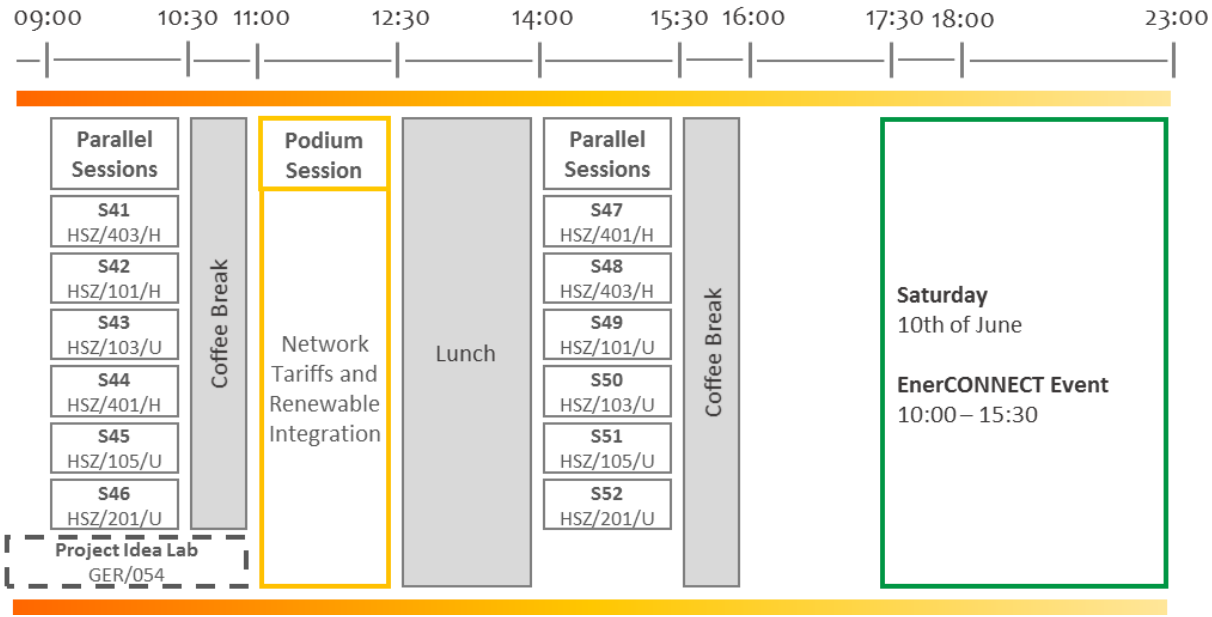
Prof. Dr. Fichtner: The Need for New Energy Tariffs

Prof. Sioshansi: *Revisiting Restructured Electricity Market Design: What the Past 30 Years Taught Us and What Electricity Systems of the Future Need*

Saturday - 10th of June

10:00 - 15:30 **EnerCONNECT:** Excursion and Lunch around Dresden

Detailled Programm Overview



S41: Flexibility in Energy Systems - IV
S42: Grid Tariffs
S43: Impact of RES on Electricity System
S44: Capacity Markets
S45: Scenarios, Modelling and Timely Granularity
S46: Wind Energy: Bidding Strategies & Investment Decisions
S47: Power To X
S48: Integration of European Electriciy Markets
S49: Tariff Structures
S50: Energy Markets
S51: Virtual Power Plants
S52: Market Design Options

TIME: 09:00 - 10:30 ROOM: HSZ/403/H CHAIR: THURE TRABER DTU, DENMARK

230 **Estimation of electricity value for households participating in demand response programs**

Jerzy Andruszkiewicz
Józef Lorenc
Piotr Piasecki
Poznań University of Technology, Poland

246 **Impacts of Different European Renewable Expansion Strategies on the Future Demand for Flexibility Options Like Storage and Transmission Grid**

Mathis Buddeke
Frank Merten
Wuppertal Institut, Germany

203 **Comparison of techno-economic characteristics of different flexibility options in the European energy system**

Julia Michaelis
Fraunhofer Institute for Systems and Innovation Research ISI, Germany

Theresa Müller
TU Dresden, Germany

Ulrich Reiter
TEP Energy GmbH, Switzerland

Francesca Fermi
TRT Trasporti e Territorio, Italy

Artur Wyrwa
AGH University of Science and Technology, Poland

Time: 09:00 - 10:30 Room: HSZ/101/U Chair: Fabian Hinz TU Dresden, Germany

141 **Design of Grid Tariffs in Electricity Systems with Variable Renewable Energy and Power to Heat**

Klaus Skytte
Emilie Rosenlund Soysal
Ole Jess Olsen
Claire Bergaentzlé
DTU Management Engineering, Denmark

136 **Effects of major tariff changes by distribution system operators on profitability of photovoltaic systems**

Jouni Haapaniemi
Arun Narayanan
Ville Tikka
Samuli Honkapuro
Jukka Lassila
Lappeenranta University of Technology, Finland

191 **Network Pricing for Smart Grids considering Customers' Diversified Contribution to System Peak**

Xinhe Yang
Chenghong Gu
Furong Li
University of Bath, UK

243 **How to handle generation at the lowest grid levels in network charges**

Christine Brandstätt
Jacobs University Bremen, Germany

Time: 09:00 - 10:30 Room: HSZ/103/U Chair: Kevin Forbes The Catholic University of America, USA

16 **Analyzing the influence of Climate Change in Brazilian Electricity Markets**

Mário Domingos Pires Coelho
University of Porto / CNPq, Portugal / Brazil

João Tomé Saraiva
INESCTEC / University of Porto, Portugal

Adelino Jorge Coelho Pereira
Coimbra Institute of Engineering, Portugal

39 **The Impact of Electrification on Power System in Northern Europe**

Xiaomei Cheng
Magnus Korpås
Hossein Farahmand
Norwegian University of Science and Technology, Norway

63 **Prospects, Barriers and Possible Mitigation Measures of Integrating Renewable Energy into Kenyan Power System and Market**

Ibrahim Olalekan Abdulganiyu
Samuli Honkapuro
Salla Annala
Lappeenranta University of Technology, Finland

137 **Capabilities of transformation from carbon-based into a sustainable and low-emission energy mix. Case study for Poland.**

Jakub Przybylski
Michal Wierzbowski
Wojciech Lyzwa
Lodz University of Technology, Poland

TIME: 09:00 - 10:30 ROOM: HSZ/401/H CHAIR: JOÃO TOMÉ SARAIVA FEUP AND INESC TEC, PORTUGAL

44 **Impact of Capacity Market Design on Power System Decarbonization**

Jeremy Lin
PJM Interconnection, USA

Marie Petitet
Paris-Dauphine University, France

42 **Energy resources adequacy in the electric sector: A review of market mechanisms and products**

Henry Torres-Valderrama
Luis Eduardo Gallego-Vega
Universidad Nacional de Colombia, Colombia

287 **Capacity market in Poland – evalutaion of the proposed solution**

Izabela Filipiak
Michal Wierzbowski
Lodz University of Technology, Poland

231 **Short Term Clearing of Capacity Markets: An Alternative Approach to Capacity Pricing**

Ariobarzan Sadeghi
Shahab Shariat Torbaghan
Madeleine Gibescu
Eindhoven University of Technology, Netherlands

Time: 09:00 - 10:30 Room: HSZ/105/U Chair: Alexander Weber TU Berlin, Germany

184 **Market integration VS Temporal granularity: how to provide needed flexibility resources?**

Olivier Borne
Marc Petit
CentraleSupélec, France

Yannick Perez
Université Paris-Sud, France

282 **POTEnCIA: A new EU-wide energy sector model**

Leonidas Mantzos
Nicoleta Anca Matei
Mate Roszai
Peter Russ
Antonio Soria Ramirez
European Commission, Spain

134 **Cross-Impact Balance as an Approach for the Development of Consistent Storylines for the European Energy Market**

Paul Kunz
Stefan Vögele
Forschungszentrum Jülich GmbH, Germany

41 **Development of Adaptive Time Patterns for Multi-Dimensional Power System Simulations**

Denis vom Stein
Niklas van Bracht
Andreas Maaz
Albert Moser
RWTH Aachen University, Germany

Time: 09:00 - 10:30 Room: HSZ/201/U Chair: Florian Ziel University Duisburg-Essen, Germany

47 **Medium-term trading portfolio for coordinated wind and thermal energy**

Zechen Wu
Xiuli Wang
Li Yao
Yunpeng Xiao
Xi'an Jiaotong University, China

45 **Optimal Dispatch of Wind Farms Facing Market Prices**

Gilles Bertrand
Anthony Papavasiliou
UCL, Belgium

102 **Valuation of Combined Wind Power Plant and Hydrogen Storage: A Decision Tree Approach**

Thomas Walther
Martin Schuster
TU Dresden, Germany

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68 **Power-to-Hydrogen and Hydrogen-to-X: Which markets? Which economic potential? Answers from the literature**

Martin Robinius
Lara Welder
Forschungszentrum Jülich GmbH, Germany

Olfa Tlili
Christine Mansilla
CEA, Université Paris-Saclay, France

Esther Albertin
Foundation for the Development of New Hydrogen Technologies in Aragon, Spain

151 **Economic Potential of Water Electrolysis within Future Electricity Markets**

Lara Lück
Andreas Maaz
Albert Moser
Patrick Larscheid
Institute of Power Systems and Power Economics, RWTH Aachen University, Germany

248 **Regional Effects of Hydrogen Production in Congested Transmission Grids with Wind and Hydro Power**

Espen Flo Bødal
Magnus Korpås
NTNU, Norway

65 **Power-to-Hydrogen and Hydrogen-to-X pathways: opportunities for next generation energy systems**

Olfa Tlili
Alain Le Duigou
Commissariat à l'Energie Atomique et aux Energies Alternatives, France

Robert Dickinson
Hydricity Systems Australia, Australia

Franceso Dolci
European Commission Joint Research Centre , Netherlands

Nikolaos Lymperopoulos
Fuel Cells and Hydrogen Joint Undertaking, Belgium

TIME: 14:00 - 15:30 ROOM: HSZ/403/H CHAIR: JIEHONG KONG SINTEF ENERGY RESEARCH, NORWAY

40 **Addressing the Question of Regional Generation Adequacy in Capacity Expansion Planning**

Philipp Baumanns
Niklas van Bracht
Alexander Fehler
Albert Moser
Andreas Maaz
RWTH Aachen University, Germany

123 **Multi-area electricity market equilibrium model and its application to the European case**

Alberto Orgaz
Antonio Bello
Javier Reneses
Comillas Pontifical University, Spain

254 **Scenarios for Decarbonizing the European Electricity Sector**

Clemens Gerbaulet
Christian von Hirschhausen
Pao-Yu Oei
Casimir Lorenz
TU Berlin/DIW Berlin, Germany

Claudia Kemfert
DIW Berlin, Germany

210 **The effects of harmonized European climate policy targets in comparison to national targets utilizing a European electricity market model**

Lukas Nacken
Thomas Möbius
BTU Cottbus-Senftenberg, Germany

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129 **Development options for distribution tariff structures in Finland**

Samuli Honkapuro
Jouni Haapaniemi
Juha Haakana
Jukka Lassila
Nadezda Belonogova
Lappeenranta University of Technology, Finland

138 **Aspects of Advancement of Distribution Tariffs for Small Consumers in Finland**

Kimmo Lummi
Antti Rautiainen
Pertti Järventausta
Tampere University of Technology, Finland

Kaisa Huhta
Kim Talus
University of Eastern Finland, Finland

35 **Segmentation of Low Voltage Consumers for Designing Individualized Pricing Policies**

Maria Kotouza
Antonios Chrysopoulos
Pericles Mitkas
Aristotle University of Thessaloniki , Greece

Time: 14:00 - 15:30 Room: HSZ/103/U Chair: Ramteen Sioshansi The Ohio State University, USA

177 **Transparency versus efficiency in the MIBEL market**

Nuno Fidalgo
Paulo Rocha
Porto University, Portugal

188 **Improving Gradient Constraint of Complex Energy Orders on Power Exchanges**

Anna Mogyorósi
Dániel Divényi
Budapest University of Technology and Economics, Hungary

245 **The review of market power detection tools in organised electricity markets**

Edin Lakić
Tomi Medved
Jernej Zupančič
Andrej Ferdo Gubina
University of Ljubljana, Slovenia

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247 **Real time data analytics platform for power grid smart applications**

Manolis Vavalis
Magda Foti
University of Thessaly, Greece

Nihla Akram
Miyuru Dayarathna
Sanjaya De Silva
WSO2, Sri Lanka

TIME: 14:00 - 15:30 ROOM: HSZ/105/U CHAIR: ANDREJ GUBINA UNIVERSITY OF LJUBLJANA, SLOVENIA

158 **Hybrid-Heating-Systems in Local Virtual Power Plants**

Liya Ma
Jens Werner
Tobias Heß
Peter Schegner
TU Dresden, Germany

100 **Transmission Grid Stabilization using Virtual Power Plants**

Sören Graupner
Thomas Bruckner
David-Georg Reichelt
Stefan Kühne
Marika Behnert
University of Leipzig, Germany

56 **Technical integration of Virtual Power Plants into German System Operation**

Andre Richter
Natalia Moskalenko
Ines Hauer
Tamara Schröter
Martin Wolter
Otto-von-Guericke University Magdeburg, Germany

232 **Power parks for maximization of renewable energy consumption**

Mateusz Andrychowicz
Blazej Olek
Lodz University of Technology, Poland

Time: 14:00 - 15:30 Room: HSZ/201/U Chair: Christoph Mayer OFFIS e.V. - Institute for Information Technology, Germany

132 **Rethinking Short-Term Electricity Market Design: Options for Market Segment Integration**

Christoph Neumann
Susanne Rieß
TenneT TSO GmbH, Germany

Samuel Glismann
TenneT TSO B.V. , Netherlands

Michael Schoepf
Gilbert Fridgen
University of Bayreuth, Germany

162 **Electricity and telecommunication markets: A discussion of market designs**

Philipp Staudt
Johannes Gärttner
Christof Weinhardt
KIT, Germany

251 **New Market Roles Changing the Electricity Market Model**

Beáta Polgári
Peter Sörés
Dániel Divényi
Ádám Sleisz
Budapest University of Technology, Hungary

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- Gerber-Bau (GER)
- Alte Mensa (canteen)

Conference Points

- Conference Office (HSZ/304/Z - 3rd floor)
- Welcome Reception

EEM Transfers (Technical Tour & WomEN)

- Meeting point for joint walk to the bus transfer
- Departure point EEM bus transfer

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- Tram stop „Nürnberger Platz“ (Line 3 & 8)
- Public bus stop„Fritz-Förster-Platz“ (Bus 61 & 66)

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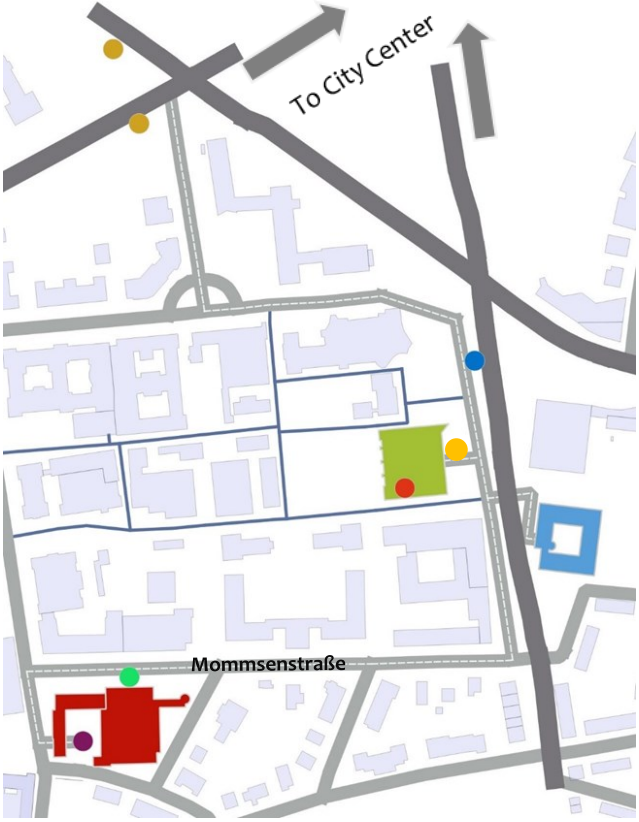
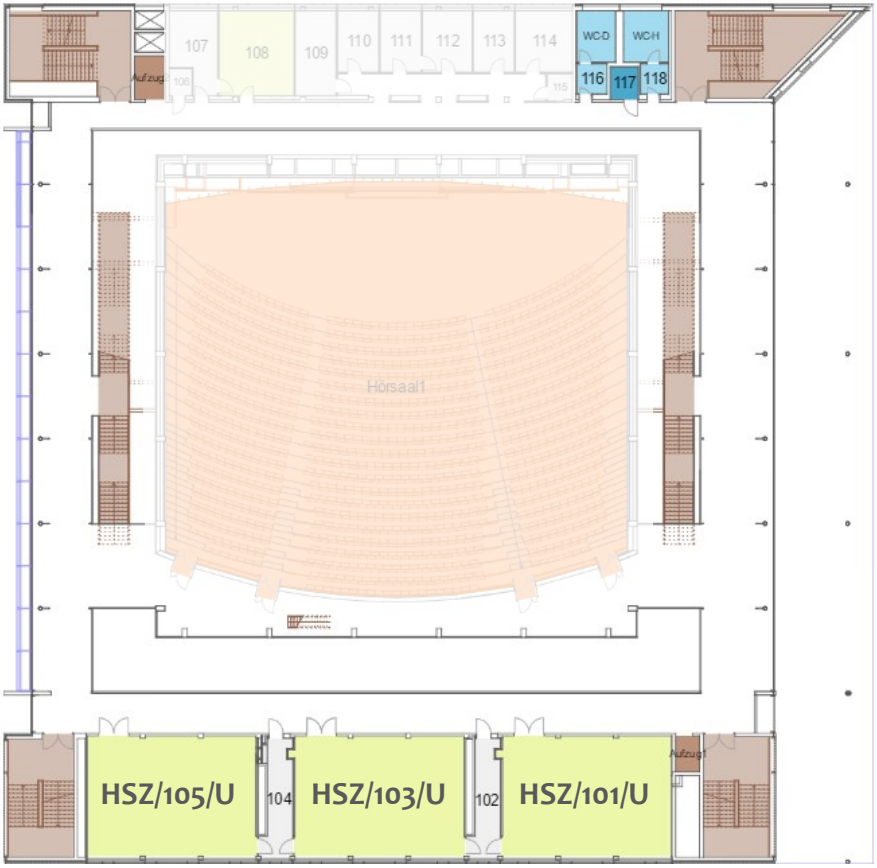




Hörsaalzentrum (HSZ)
1st floor

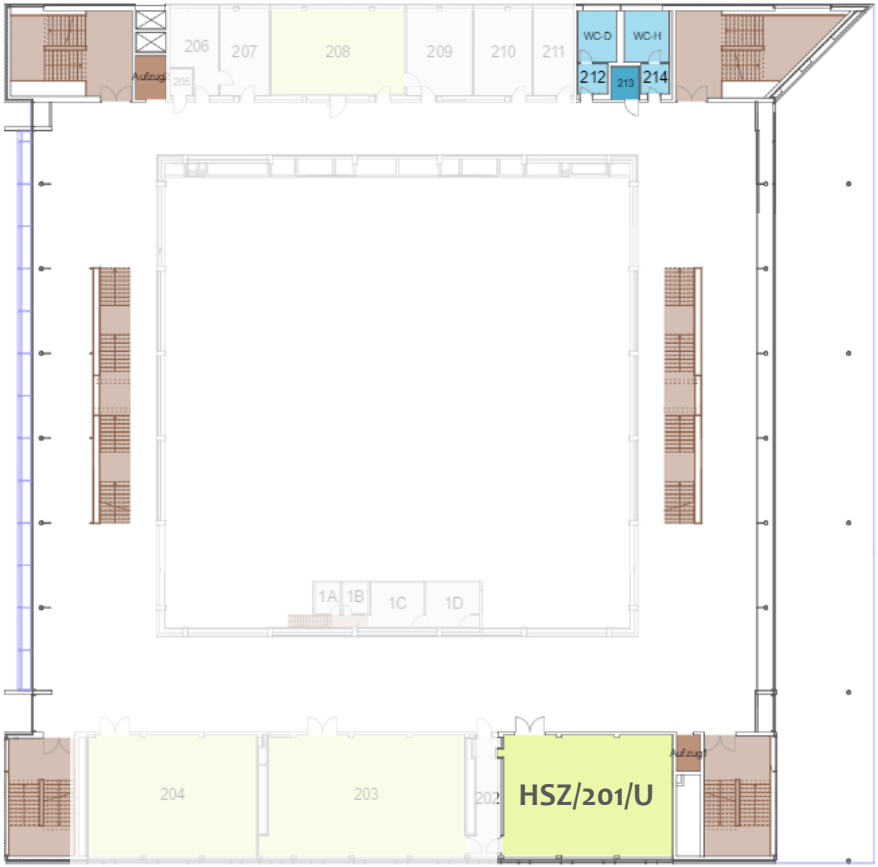
Parallel Sessions

- HSZ/101/U
- HSZ/103/U
- HSZ/105/U

Hörsaalzentrum (HSZ)
2nd floor

Parallel Session

- HSZ/201/U



Hörsaalzentrum (HSZ)
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Conference Office

- HSZ/304/Z

Lunch & Coffee

- HSZ/301/U
- HSZ/304/Z

Hörsaalzentrum (HSZ)
4th floor

Podium Sessions:

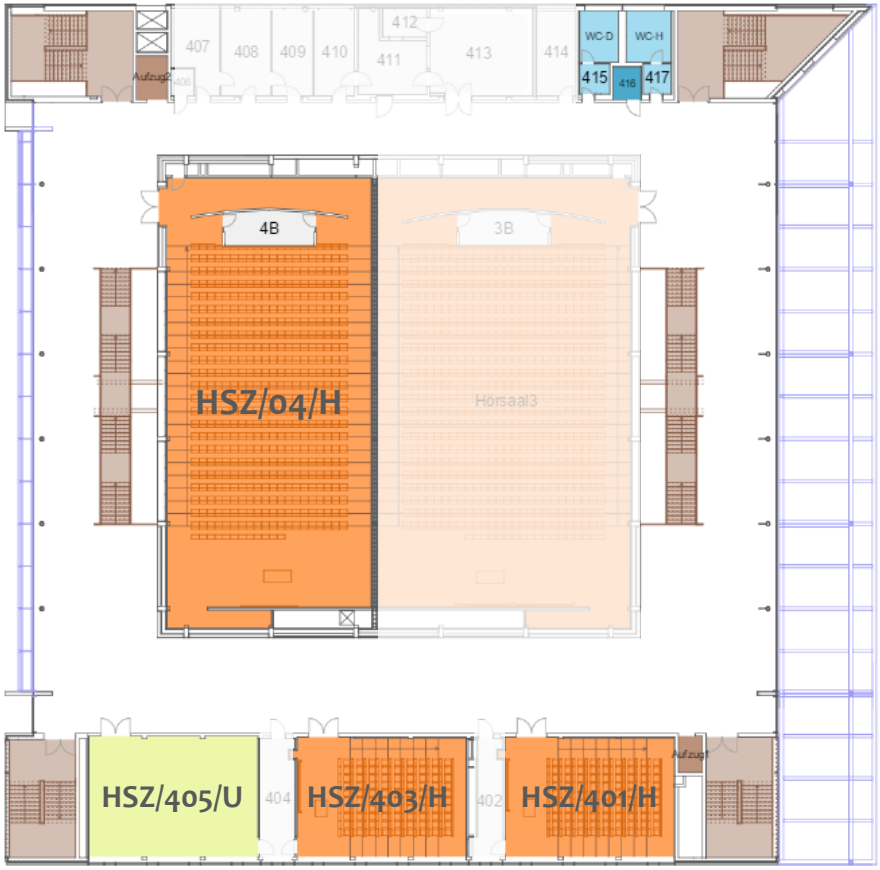
- HSZ/04/H

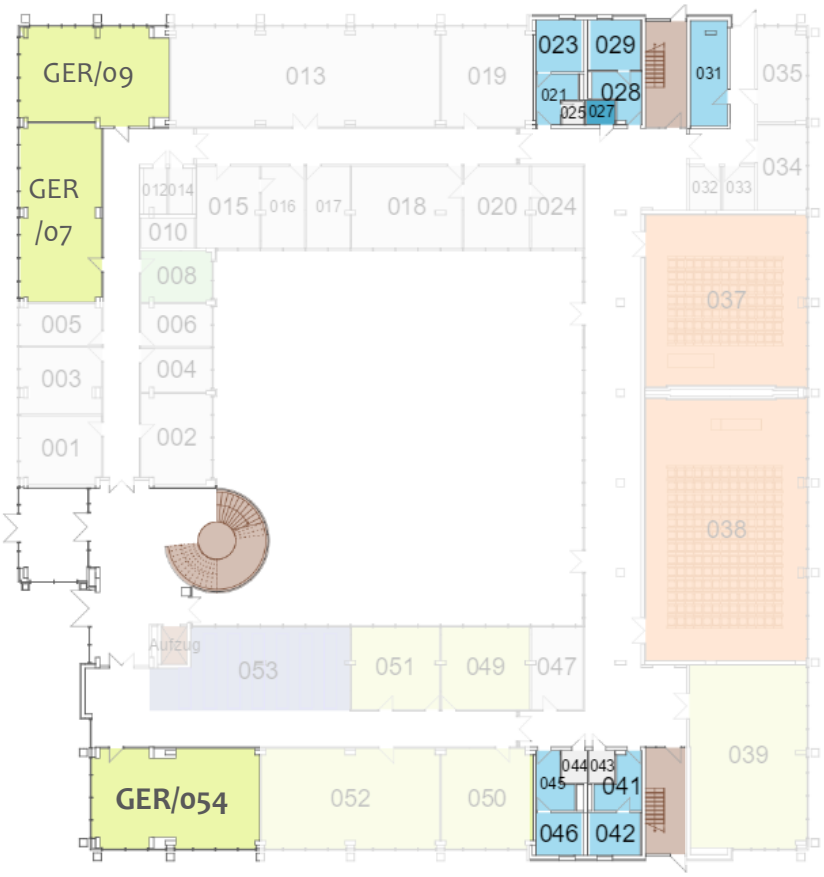
Parallel Sessions

- HSZ/04/H
- HSZ/401/H
- HSZ/403/H

Lunch & Coffee

- HSZ/405/U





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Project Idea Lab

- GER/04

Notes

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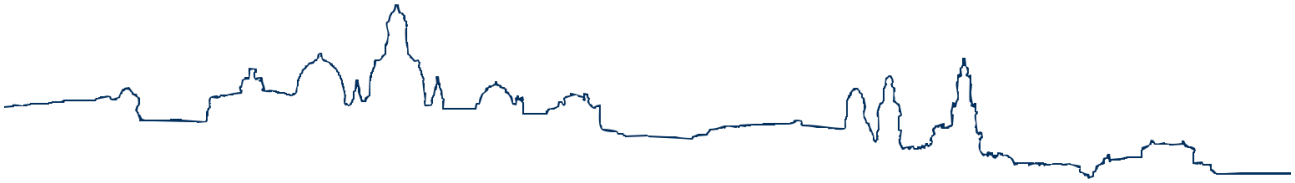

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April 2018

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