

# 15<sup>th</sup> Conference on Energy Economics and Technology

## ENERDAY 2021

### Creative Destruction? - Disruptive innovation in times of Covid and an accelerated energy system transformation

#### Conference Programme Friday, 09 April 2021, 8:00 am **online**

8:00 Virtual Get Together (<https://spatial.chat/s/enerday>)

8:30 **Opening Address** (<https://tu-dresden.zoom.us/j/86212114942>)

Prof. Dr. Dominik Möst (TU Dresden), Prof. Dr. Christian von Hirschhausen (TU Berlin)

8:40 **Keynote Speech: Windnode as a blueprint for a transition towards 100% renewables**

Markus Graebig ( 50Hertz Transmission GmbH )

9:25 **Mini-Break/Joining the Virtual Conference Rooms**

	<b>Power-To-Gas/Hydrogen</b>	<b>Market Design &amp; Congestion Management</b>	<b>P2P Energy</b>	<b>Decarbonization Pathways</b>	<b>Power Systems Modelling</b>
<b>9:30 – 10:45</b>	Virtual Room: Volt Chair: Hendrik Scharf	Virtual Room: Ampere Chair: Christina Wolff	Virtual Room: Joule Chair: Richard Weinhold	Virtual Room: Watt Chair: Steffi Misconel	Virtual Room: Coulomb Chair: Manuel Eising
<b>9:30</b>	<b>Speaker:</b> <i>Thomas Baldauf (DLR):</i> Stocks, Flows and Hydrogen: An Open-Economy Baseline Model  <b>Discussant:</b> <i>Philipp Hauser</i>	<b>Speaker:</b> <i>Tanja Mast (TH Ingolstadt):</i> Potential of Demand Side Management and Biogas Plants in regional market-based congestion management  <b>Discussant:</b> <i>Lisa Lorenz</i>	<b>Speaker:</b> <i>Shandelle Steadman (Loughborough University):</i> Would You Like to Trade Your Energy? A Comparative Survey Experiment on Energy Trading Platforms  <b>Discussant:</b> <i>Jens Weibezahn</i>	<b>Speaker:</b> <i>Alexandra Krumm (TU Berlin):</i> The energy transition in India: quantifying effects of the low-carbon transition on the Indian energy system  <b>Discussant:</b> <i>Björn Steigerwald</i>	<b>Speaker:</b> <i>Maciej Raczyński (AGH University):</i> An integrated modelling approach to evaluate power system operation stability in decarbonization pathways  <b>Discussant:</b> <i>Smaranda Sgarciu</i>

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<b>9:55</b>	<b>Speaker:</b> <i>Leonard Göke (TU Berlin):</i> Role of cogeneration and heating networks in renewable energy systems	<b>Speaker:</b> <i>Alfredo Zamora (TU Berlin):</i> Zonal pricing in Germany – A preferable tradeoff between nodal and uniform pricing?	<b>Speaker:</b> <i>Theresia Perger (TU Wien):</i> Optimal expansion and configuration of peer-to-peer electricity trading in local communities	<b>Speaker:</b> <i>Karlo Hainsch (TU Berlin):</i> European decarbonization pathways: comparison, robust findings and the European Green Deal	<b>Speaker:</b> <i>Martin Kittel (TU Berlin):</i> Renewable Energy Targets and the Storage Cycling Trap: Unintended Effects and Implications for Power Sector Modeling
	<b>Discussant:</b> <i>Thomas Baldauf</i>	<b>Discussant:</b> <i>Tanja Mast</i>	<b>Discussant:</b> <i>Shandelle Steadman</i>	<b>Discussant:</b> <i>Alexandra Krumm</i>	<b>Discussant:</b> <i>Maciej Raczyński</i>
<b>10:20</b>	<b>Speaker:</b> <i>Philipp Hauser (VNG):</i> Impact of Green Gas Imports on Infrastructure Investments	<b>Speaker:</b> <i>Lisa Lorenz (TU Dresden):</i> Market outcomes in Flow-based Market Coupling: a model-based impact analysis of the fundamental parameters	<b>Speaker:</b> <i>Jens Weibezahn (TU Berlin):</i> Prosumer Empowerment through Community-Power-Purchase-Agreements: A Market Design for Peer-to-Peer Swarm Grids	<b>Speaker:</b> <i>Björn Steigerwald (TU Berlin):</i> Production cost uncertainties of Small Modular Reactor concepts - A model-based Monte Carlo analysis	<b>Speaker:</b> <i>Smaranda Sgarciu (BTU Cottbus):</i> Discount factors and hurdle rates: the dark horses of capacity expansion planning
	<b>Discussant:</b> <i>Leonard Göke</i>	<b>Discussant:</b> <i>Alfredo Zamora</i>	<b>Discussant:</b> <i>Theresia Perger</i>	<b>Discussant:</b> <i>Karlo Hainsch</i>	<b>Discussant:</b> <i>Martin Kittel</i>

### 10:45 Break/Joining the Virtual Conference Rooms

	<b>Impacts of Carbon Pricing</b>	<b>Locational Incentives</b>	<b>Flow-based Market Coupling</b>	<b>Flexibility/Decentralized energy systems</b>	<b>E-Mobility</b>
<b>11:00 – 12:15</b>	Virtual Room: Volt Chair: Matthew Schmidt	Virtual Room: Ampere Chair: Hannes Hobbie	Virtual Room: Joule Chair: Martin Lieberwirth	Virtual Room: Watt Chair: Christoph Zöphel	Virtual Room: Coulomb Chair: Julia Gutierrez
11:00	<b>Speaker:</b> <i>Christian Gambardella (PIK):</i> The Joint Impacts of Carbon Pricing and Renewable Generation on Fossil Generation Profits in Germany	<b>Speaker:</b> <i>Anselm Eicke (Hertie School):</i> Where to place new power generation? A methodology to design cost-reflective locational instruments	<b>Speaker:</b> <i>Constantin Dierstein (TU Dresden):</i> Update on Flow Based Market Coupling Parameters - From minRAM to Generation Shift Key	<b>Speaker:</b> <i>Steffi Misconel (TU Dresden):</i> Assessing the value of demand response in a decarbonized energy system - a large-scale model application	<b>Speaker:</b> <i>Carlos Gaete (TU Berlin):</i> Battery-electric vehicles: open-source modeling of time series data and their application in power system models
	<b>Discussant:</b> <i>Michael Bucksteeg</i>	<b>Discussant:</b> <i>Susann Freitag</i>	<b>Discussant:</b> <i>Richard Weinhold</i>	<b>Discussant:</b> <i>Febin Kachirayil</i>	<b>Discussant:</b> <i>Carlo Corinaldesi</i>

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11:25	<p><b>Speaker:</b> <i>Nicolas Fuchs (Fraunhofer ISE):</i> Food Industry case study on the influence of CO2 certificate and internal CO2 pricing on the decarbonization and investment strategies into energy supply technologies <b>Discussant:</b> <i>Christian Gambardella</i></p>	<p><b>Speaker:</b> <i>Siamak Sheykha (RWTH Aachen):</i> Policy Implications of Spatially Differentiated Renewable Energy Promotion: Multi-Level Scenario-Based Analysis of Regional Onshore Wind Auctioning in Germany <b>Discussant:</b> <i>Anselm Eicke</i></p>	<p><b>Speaker:</b> <i>Lucas Lang (FAU Erlangen-Nürnberg):</i> Flow-based market coupling in multi-level electricity market models <b>Discussant:</b> <i>Constantin Dierstein</i></p>	<p><b>Speaker:</b> <i>Alexander Roth (TU Berlin):</i> Modelling Electricity Storage Needs in Europe: A Separation of Drivers <b>Discussant:</b> <i>Steffi Misconel</i></p>	<p><b>Speaker:</b> <i>Anya Heider (Reiner Lemoine Institute):</i> Evaluating policy instruments for the balancing of renewable energies using electric vehicles: On the interplay between distribution and transmission grids <b>Discussant:</b> <i>Carlos Gaete</i></p>
11:50	<p><b>Speaker:</b> <i>Michael Bucksteeg (Univ. Duisburg-Essen):</i> Market integration of Power-to-Gas during the energy transition – Assessing the role of carbon pricing <b>Discussant:</b> <i>Nicolas Fuchs</i></p>	<p><b>Speaker:</b> <i>Susann Freitag (TenneT):</i> Local Incentives and Sector Coupling: Friends or foes? <b>Discussant:</b> <i>Siamak Sheykha</i></p>	<p><b>Speaker:</b> <i>Richard Weinhold (TU Berlin):</i> Flow Based Market Coupling in Fundamental Electricity Market Models: Methods and Parametrization for Renewable-Dominant Power Systems <b>Discussant:</b> <i>Lukas Lang</i></p>	<p><b>Speaker:</b> <i>Febin Kachirayil (Univ. of Aberdeen):</i> Exploring the trade-off between cost and security of supply for decentralized autonomous energy systems <b>Discussant:</b> <i>Alexander Roth</i></p>	<p><b>Speaker:</b> <i>Carlo Corinaldesi (TU Wien):</i> Cost-benefit Analysis of Residential On-Site E-Car-Sharing <b>Discussant:</b> <i>Anya Heider</i></p>
12:15	<b>Lunch Break</b>				
13:15 – 14:30	<p><b>Environmental Policy Instruments</b> Virtual Room: Volt Chair: Michael Bucksteeg</p>	<p><b>Load, efficiency &amp; solar forecasting</b> Virtual Room: Ampere Chair: Wolf Peter-Schill</p>	<p><b>TSOs/Grid Operation</b> Virtual Room: Joule Chair: Constantin Dierstein</p>	<p><b>Energy behaviour</b> Virtual Room: Watt Chair: Jens Weibezahn</p>	<p><b>Gas Infrastructure</b> Virtual Room: Coulomb Chair: Hendrik Scharf</p>
13:15	<p><b>Speaker:</b> <i>Andreas Schröder (ICIS):</i> EU Emissions Trading at Crossroads <b>Discussant:</b> <i>Oliver Ruhnau</i></p>	<p><b>Speaker:</b> <i>Stephan Seim (TU Berlin):</i> Development of subsector electricity load profiles <b>Discussant:</b> <i>Kevin Forbes</i></p>	<p><b>Speaker:</b> <i>Christian Dobelke (TenneT):</i> What a Transmission system operator (TSO) can do and needs for Green Europe in 2050 <b>Discussant:</b> <i>Manuel Eising</i></p>	<p><b>Speaker:</b> <i>Citlali Rodriguez del Angel (TU Berlin):</i> The potential of sufficiency measures to achieve a fully renewable energy system – a case study of Germany <b>Discussant:</b> <i>Tarun Khanna</i></p>	<p><b>Speaker:</b> <i>Matthew Schmidt (TU Dresden):</i> Assessing the Impact of Uncertainties on Infrastructure in the European Natural Gas Market: A robust optimization approach <b>Discussant:</b> <i>Johannes Ruf</i></p>

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13:40	<p><b>Speaker:</b> <i>Reinhard Madlener (RWTH Aachen):</i> The European Market for Guarantees of Origin for Green Electricity: A Model-Based Evaluation of Future Price Scenarios</p> <p><b>Discussant:</b> <i>Andreas Schröder</i></p>	<p><b>Speaker:</b> <i>Hélène Godin (Univ. Stuttgart):</i> Analysis of energy-efficiency measures in multi-cylinder paper drying</p> <p><b>Discussant:</b> <i>Stephan Seim</i></p>	<p><b>Speaker:</b> <i>Erika Kämpf (Univ. Kassel):</i> Efficient concertation of reactive power resources</p> <p><b>Discussant:</b> <i>Christian Dobelke</i></p>	<p><b>Speaker:</b> <i>Fissha Marye (Univ. Vilnius):</i> The Effect of Descriptive Information Provision on Electricity Consumption: Experimental Evidence from Lithuania</p> <p><b>Discussant:</b> <i>Citlali Rodriguez del Angel</i></p>	<p><b>Speaker:</b> <i>Johannes Giehl (TU Berlin):</i> Modelling the impact of the energy transition on gas distribution networks in Germany</p> <p><b>Discussant:</b> <i>Matthew Schmidt</i></p>
14:05	<p><b>Speaker:</b> <i>Oliver Ruhnau (Hertie School):</i> The impact of carbon prices on power sector emissions: insights from a model-comparison experiment</p> <p><b>Discussant:</b> <i>Reinhard Madlener</i></p>	<p><b>Speaker:</b> <i>Kevin Forbes (UC Dublin):</i> Methodology to Improve the Predictability of Solar Energy Generation with Confirmatory Evidence from Germany</p> <p><b>Discussant:</b> <i>Hélène Godin</i></p>	<p><b>Speaker:</b> <i>Manuel Eising (EIFER):</i> Contrasting countertrading mechanisms: market effects between Germany and Denmark West</p> <p><b>Discussant:</b> <i>Erika Kämpf</i></p>	<p><b>Speaker:</b> <i>Tarun Khanna (MCC Berlin):</i> Reducing energy consumption and carbon emissions of residential buildings through behavioral change</p> <p><b>Discussant:</b> <i>Fissha Marye</i></p>	<p><b>Speaker:</b> <i>Johannes Ruf (DVGW):</i> Trial of Basic Control Strategies of Gas Supply and Distribution Networks to Allow Integration of Renewable Gases from Distributed Production</p> <p><b>Discussant:</b> <i>Johannes Giehl</i></p>

**14:30 Break**

**14:45 Keynote Speech: Covid-19 - Merely an interruption or the death blow for the international coal market?**

Prof. Dr. Pao-Yu Oei (Prof. Economics of Sustainable Energy Transition at Europa-Universität Flensburg)

Paola Parra (Research Associate at the Workgroup for Economic and Infrastructure Policy (WIP), TU Berlin)

**15:30 Spatial chat** (<https://spatial.chat/s/energyday>)

**15:50 Award ceremony / Closing remarks** (<https://spatial.chat/s/energyday>)