

2024 INTERNATIONAL ENERGY WORKSHOP

42nd EDITION

26-28 JUNE 2024

Design Offices, Neuer Bundeskanzlerplatz
Bonn, Germany

SPONSORS



PROGRAMME OVERVIEW

26 June – Wednesday (Click for detailed agenda)	27 June – Thursday (Click for detailed agenda)	28 June – Friday (Click for detailed agenda)
8:15 – 9:00 Registration & Coffee Location: Entrance/Lobby	8:15 – 9:00 Registration & Coffee Location: Entrance/Lobby	8:15 – 9:00 Coffee Location: Lobby
9:00 – 9:30 Opening Session Moderator and Introduction to the 42nd IEW: Geoffrey Blanford (EPRI) Opening remarks: Mr. Francesco La Camera (IRENA) Presentation: Dr. Roland Roesch (IRENA) Location: Bio Room	9:00 – 11:30 Plenary Session 2: Policy-Energy Modelling Linkage Moderator: Dr. Ute Collier (IRENA) Dr. Sonia Yeh (Chalmers University) Prof. Bjarne Steffen (ETH Zurich) Dr. Gunnar Luderer (PIK) Location: Bio Room	9:00 – 11:30 Plenary Session 3: Data Advances in Energy Modelling Moderator: Bob Van der Zwaan (TNO) Dr. David McCollum (Oak Ridge National Laboratory) Mr. Michael Taylor (IRENA) Dr. Keigo Akimoto (RITE) Location: Bio Room
9:30 – 12:00 Plenary Session 1: Climate-Energy Modelling Linkage Moderator: Massimo Tavoni (EIEE) Prof. Jim Skea (IPCC) (Virtual) Dr. Carlo Buontempo (ECMWF) Dr. Delavane Diaz (EPRI) Dr. Stelios Pasmajoglou (UNFCCC) Location: Bio Room	11:40 – 12:35 Parallel Session 3: Hydrogen Trade Land Availability Towards Low Carbon Transport Modelling Methodologies I Climate Policy I	11:40 – 13:05 Parallel Session 7: Hydrogen Economy Critical Materials Storage for the Energy Transition Circular Economy Roads to Net Zero I
12:00 – 13:15 Lunch & Lunchtime Seminar IRENA Event: Participatory processes for national long-term energy scenario development Location: Lobby & Bio Room	12:35 – 13:50 Lunch & Lunchtime Seminar ETSAP Event: Book launch “Aligning the energy transition with SDGs” Location: Lobby & Bio Room	13:05 – 14:20 Lunch & Lunchtime Event IRENA team poster session Location: Lobby
13:20 – 15:00 Parallel Session 1: Addressing Flexibility in Energy Systems Energy Access & Poverty Infrastructure for the Energy Transition A Spatial Perspective on Energy Modelling Transition Pathways – Case Studies I	13:55 – 15:35 Parallel Session 4: Sector Coupling Energy Transition Economics Linking Mobility & Electricity Sectors Addressing Uncertainty in Scenarios Climate Policy II	14:30 – 16:35 Parallel Session 8: Prospects for VRE Energy & Environmental Justice II Decarbonizing the Residential Sector Modelling Methodologies II Roads to Net-Zero II
15:00 – 15:25 Coffee Break Location: Lobby	15:35 – 16:00 Coffee Break Location: Lobby	16:35 – 17:00 Farewell Coffee Location: Lobby
15:30 – 17:10 Parallel Session 2: Role of Bioenergy Socio-Economic Impacts Decarbonizing Steel Industry Incorporating Climate in Energy Modelling Energy Transition in the Global South	16:05 – 17:20 Parallel Session 5: Technology Change Energy & Environmental Justice I Hard-to-abate industrial emissions Transition pathways – Case studies II Energy Policy I	
17:15 – 18:15 ECMWF Event: Environmental data to support energy modelling Location: Bio Room	17:25 – 18:40 Parallel Session 6: Hydropower Role of Hydrogen Power-to-X Carbon Dioxide Removal I Energy Policy II	
19:30 – 20:30 Welcome Reception hosted by the City of Bonn Location: Bonn Old Town Hall (Altes Rathaus)	19:15 – 21:00 Social event hosted by IRENA Location: Parkrestaurant RheinAue	

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ABOUT THE INTERNATIONAL ENERGY WORKSHOP

The International Energy Workshop (IEW) is one of the leading conferences for the international energy modelling research community. In a world of environmental and economic constraints, energy modelling is an increasingly important tool for addressing the complexity of energy planning and policy making.

The IEW provides a venue for analysts to compare quantitative energy projections, to understand the reasons for diverging views of future energy developments, and to observe new trends in global energy production and consumption.

The annual conference typically includes three plenary sessions and more than 100 presentations in parallel sessions focusing on a wide array of topics, including energy supply and price forecasts, energy savings and efficiency, renewable and innovative energy technologies, environmental and climate policy, and the intersection between energy analysis, economics, and the natural sciences.

The first International Energy Workshop was organised in Palo Alto in 1981 by Stanford University's Alan S. Manne, one of the founding fathers of energy economics. With the cooperation of Leo Schrattenholzer, a leading energy technology systems specialist at the International Institute of Applied Systems Analysis (IIASA), the workshop became an annual conference, first alternating between IIASA and the United States, and more recently expanding to other locations in Europe, Asia and Africa.

Throughout the history of IEW, a number of organizations have contributed to the success of these annual conferences,

including notably the Energy Modeling Forum (EMF), the Electric Power Research Institute (EPRI) and the International Renewable Energy Agency (IRENA).

From 1981 to 1997 the IEW published annual editions of the IEW Poll, which became an important part of the Morita Database, compiled as basis for the IPCC Special Report on Emission Scenarios (SRES). From 2006 to 2008, the IEW was organized by co-directors Leo Schrattenholzer and Joseph E. Aldy.

In June 2009 three new co-directors were elected by the IEW Steering Committee to run the International Energy Workshop:

- Geoffrey Blanford, Electric Power Research Institute (EPRI), USA
- Massimo Tavoni, RFF-CMCC European Institute on Economics and Environment (EIEE), Italy
- Bob van der Zwaan, Netherlands Organisation for Applied Scientific Research (TNO), Netherlands

ABOUT IRENA

The International Renewable Energy Agency (IRENA) is a lead global intergovernmental agency for energy transformation that serves as the principal platform for international cooperation on the topic, supports countries in their energy transitions, and provides state of the art data and analyses on technology, innovation, policy, finance and investment.

IRENA drives the widespread adoption and sustainable use of all forms of renewable energy, including bioenergy, geothermal, hydropower, ocean, solar and wind energy in the pursuit of sustainable development, energy access, and energy security, for economic and social resilience and prosperity and a climate-proof future.

IRENA's membership comprises 168 countries and the EU. Together, they decide on the Agency's strategic direction and programmatic activities, in line with the global energy discourse and priorities to accelerate the deployment of renewables-based energy transitions worldwide.

IRENA support includes the provision of data and statistics, advice on best practices and policies, insights on financial mechanisms, technological expertise, and capacity-building programmes, along with a large and growing range of publications and tools on renewable energy.

IRENA carries out its operations mainly through the following programmatic divisions:

Knowledge, Policy and Finance Centre (KPFC), which collects data, develops knowledge platforms and conducts analysis to help create enabling conditions for investment and growth in renewables. This

entails policy and finance analysis, building a knowledge gateway, input to IRENA advisory services and targeted engagement with the private sector and civil society to advance the sustainable energy transition;

Country Engagement and Partnerships (CEP), which helps countries and regions accelerate the introduction of renewable energy. The division works with a wide variety of public and private stakeholders on developing and implementing strategies to increase renewable energy use in Africa, Asia, Europe and Latin America as well as in small island developing states;

Project Facilitation and Support (PFS), which leads the Agency's work related to project development, access to finance and investment, and the Climate Investment Platform. The division also maintains partnerships with multilateral banks, financing institutions, private investors and stakeholders along the project development value chain;

The IRENA Innovation and Technology Centre (IITC), which provides cutting-edge information on renewable energy technologies and innovations, while seeking new pathways for the global transition to a sustainable energy future. Based at IRENA's office in Bonn, Germany, the centre stays abreast of the latest developments and translates them into practical, policy- friendly tools. Researchers produce cost data for renewable energy technologies; provide tools for planning, project development and grid management; and offer strategies to strengthen technological innovation for renewables.

SPONSORS



ECMWF is the European Centre for Medium-Range Weather Forecasts. We are both a research institute and a 24/7 operational service, producing global numerical weather predictions and other data for our Member and Co-operating States and the broader community. The Centre has one of the largest supercomputer facilities and meteorological data archives in the world. Other strategic activities include delivering advanced training and assisting the WMO in implementing its programmes.

We are a key player in Copernicus, the Earth Observation component of the European Union's Space programme, offering quality-assured information on climate change (Copernicus Climate Change Service), atmospheric composition (Copernicus Atmosphere Monitoring Service), flooding and fire danger (Copernicus Emergency Management Service), and through the EU's Destination Earth initiative, we are developing prototype digital twins of the Earth.



The Energy Technology Systems Analysis Programme (ETSAP) is an Implementing Agreement of the International Energy Agency (IEA), first established in 1976. It functions as a consortium of member country teams and invited teams that actively cooperate to establish, maintain, and expand a consistent multi-country energy/economy/environment/ engineering (4E) analytical capability.

Its backbone consists of individual national teams in nearly 70 countries, and a common, comparable and combinable methodology, mainly based on the MARKAL / TIMES family of models, permitting the compilation of long term energy scenarios and in-depth national, multi-country, and global energy and environmental analyses. ETSAP promotes and supports the application of technical economic tools at the global, regional, national and local levels. It aims at preparing sustainable strategies for economic development, energy security, climate change mitigation and environment.



The Electric Power Research Institute, Inc. (EPRI) conducts research, development and demonstration (RD&D) relating to the generation, delivery and use of electricity for the benefit of the public. An independent, nonprofit organisation, EPRI brings together scientists and engineers as well as experts from academia and the industry to help address challenges in electricity, including reliability, efficiency, affordability, health, safety and environment.

EPRI's work spans nearly every area of electricity generation, delivery and use, management and environmental responsibility, and provides both short- and long-term solutions in these research areas for the electricity industry, its customers and society. Since its beginnings in 1972, the Electric Power Research Institute's membership has grown to represent approximately 90% of the electricity generated in the United States and extends to more than 30 countries internationally.

PROGRAMME COMMITTEE



Geoffrey Blanford

*Principal Technical
Executive*

Electric Power Research
Institute (EPRI)

IEW Co-Director



Massimo Tavoni

Director

RFF-CMCC European
Institute on Economics and
Environment

IEW Co-Director



Bob van der Zwaan

Principal Scientist

Netherlands Organisation
for Applied Scientific
Research (TNO)

IEW Co-Director



Chiara Cagnazzo

*Sectoral Information System
Manager, Copernicus
Climate Change Service*

European Centre for
Medium-Range Weather
Forecasts (ECMWF)



Roland Roesch

*Director, IRENA Innovation and
Technology Centre*

International Renewable Energy
Agency (IRENA)



Asami Miketa

*Head, Energy Transition Planning and
Power Sector Transformation*

International Renewable Energy
Agency (IRENA)



Ute Collier

*Deputy Director, Knowledge, Policy
and Finance Centre*

International Renewable Energy
Agency (IRENA)

ORGANISING COMMITTEE



Asami Miketa

*Head, Energy Transition
Planning and Power Sector
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International Renewable
Energy Agency (IRENA)



Karen Grajeda

*Chief of Operations, IRENA
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International Renewable
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*Long-term planning for the
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Ling Ling Federhen

*Administrative Assistant, IRENA
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International Renewable Energy
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Christoph Mehler

*Intern, Planning for the Global Energy
Transition*

International Renewable Energy
Agency (IRENA)

KEYNOTE SPEAKERS

Keigo Akimoto

received Ph.D. degree from Yokohama National University in 1999. He joined Research Institute of Innovative Technology for the Earth (RITE) to work with the Systems Analysis Group in 1999. Currently he is the Leader of the Group and a chief researcher at RITE. From November 2022, he is a specially appointed professor, Institute of Innovative Research, Tokyo Institute of Technology. He was a Lead Author for the Fifth and Sixth Assessment Report of IPCC and is a member for several advisory bodies including advisory committee for natural resources and energy. His scientific interests are in modeling and analysis of energy and environment systems.



Carlo Buontempo

is the director of the Copernicus Climate Change Service at ECMWF. In this capacity he leads a team of scientists and technical experts to ensure the service can meet the needs of its large and diverse global community of users. Carlo has been working on climate science and services since the early 2000s, first as a post-doc and then as leader of the climate services team at the Hadley Centre. Carlo has led international projects on climate services, contributed as author to the last IPCC WG1 report and is an associated editor to the Journal of Climate Services.



Sonia Yeh

is a professor of transport and energy systems at Chalmers University of Technology, Sweden, and a co-director of the area of advanced energy. Her academic interests encompass energy economics, system modeling, and sustainable transportation. She has served as a Senior Editor for the *Energy Policy* Journal since 2018. She is on the advisory board of several journals, including *Joule*, *Progress in Energy*, and *Nature in Sustainable Mobility and Transport*. Dr. Yeh's scholarly contributions include her work on the Transport Chapter of the IPCC Sixth Assessment Report. She has been a member of the Swedish Government's Transport Analysis Scientific Council since 2024.



Bjarne Steffen

is Assistant Professor and the head of ETH Zurich's Climate Finance and Policy Group, an interdisciplinary research group concerned with the governance of the low-carbon energy transition. He is the principal investigator of the ERC Starting Grant project GREENFIN: Effective Green Financial Policies for the Low-Carbon Transition. Bjarne holds a Master's in economics from the University of Mannheim and a PhD in energy economics from the University of Duisburg-Essen. He formerly worked at the World Economic Forum and for many years in strategy consulting, focusing on energy and infrastructure industries.



Gunnar Luderer

leads the Energy Systems Research at the Potsdam Institute for Climate Impact Research and is the Lead Scientist for the REMIND Integrated Energy Economy Climate Model as well as Deputy Chair of Research Department 3 - Transformation Pathways and Professor of Global Energy Systems Analysis at the Technische Universität Berlin. His research explores sustainable energy transformation pathways towards climate neutrality on the global, regional and national level. He contributed to several IPCC assessments as well as UNEP's Emissions Gap Reports.



Delavane Diaz

is a Principal Team Lead in the Energy Systems and Climate Analysis Group at EPRI where her research focuses on the implications of climate and energy policy on the electric sector, resiliency and risk management strategies, and the social cost of carbon. She returned to EPRI from pursuing her doctorate at Stanford University, where she worked as a research assistant for the Energy Modeling Forum. Her dissertation examined the representation of climate impacts, adaptation, and mitigation technology costs in integrated assessment models, with a focus on coastal vulnerability and sea level rise. Before joining EPRI, she served as an Air Force acquisitions officer, working on a space surveillance radar program.



Stelios Pesmajoglou

is the Manager of the Mitigation sub-division at the UNFCCC Secretariat that deals with mitigation ambition, nationally determined contributions (NDCs), long-term low emissions development strategies (LT-LEDs), sectoral approaches (including emissions from international aviation and maritime transport), and the assessment of response measures. Stelios has been working on climate change since the mid-1990s and has been involved with the negotiations on the Kyoto Protocol, the Paris Agreement and the ICAO Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA).



David McCollum

is a Distinguished R&D Staff in the Mobility and Energy Transitions Analysis (META) Group at Oak Ridge National Laboratory, and holds a Joint Faculty Appointment at the University of Tennessee's Baker School of Public Policy. David's research attempts to inform state, national and global energy and environmental issues on matters related to, among others, deep decarbonization, net-zero emissions pathways, energy-transport-climate policies, electric sector planning, end-use sector electrification (transport, buildings, industry), Sustainable Development Goals (including inter-dependencies), financing needs for the energy system transformation, and human dimensions of climate change.



Michael Taylor

has 30 years' experience in energy modeling, the economic analysis of energy sector issues and energy policy development. He is responsible for IRENA's analysis of renewable technologies cost and performance and those that facilitate the energy transition. He is the author of IRENA's *Renewable Power Generation Costs* series and numerous other publications since 2012 at IRENA. He provides cost data and advice to IRENA's member states, industry, researchers, policy makers and others (incl. the World Bank, IEA, REN21, etc). Prior to IRENA Michael has worked for the New Zealand and UK governments, and at the IEA as one of the lead authors of the groundbreaking series *Energy Technology Perspectives: Scenarios and Strategies to 2050*.



SIDE EVENTS

Wednesday 26 June:

IRENA Event: Participatory processes for national long-term energy scenario development

Over the past 6 years, IRENA's Global Network of Long-term Energy Scenarios Practitioners (Global LTES Network) has coordinated activities and dialogues with experts from governments and the scientific community to explore how countries meaningfully engage stakeholders in their energy planning processes to improve their scenarios and support their implementation. These discussions have led to the development of a "Participatory Processes Toolkit" for national energy scenario development. The event will feature case studies and learnings from experts in the scientific community and government planners on developing and implementing collaborative processes and platforms for planning energy scenarios.

ECMWF Event: Environmental data to support energy modelling

The European Centre for Medium-Range Weather Forecasts (ECMWF) and its involvement in various programmes, such as Copernicus and DestinE, can provide the energy sector with a range of open and free environmental data that can be beneficial for current and future challenges faced by different energy activities. This interactive session will include presentations to learn more about the available products, and an opportunity to engage in informal discussion with ECMWF experts and discover more about ECMWF activities.

Thursday 27 June:

ETSAP Event: Book launch "Aligning the energy transition with SDGs"

The IEA Energy Technology Systems Analysis Program (IEA-ETSAP), one of the longest running Technology Collaboration Programmes of the International Energy Agency (IEA) is proud to present its third book on energy system modelling, recently published: "[Aligning the energy transition with SDGs: Key Insights from Energy System Modelling](#)". This open access book brings together concrete analyses from around the world, spanning various scales, that shed light on strategies for implementing essential energy and climate transitions within the broader context of UN Sustainable Development Goal (SDG) imperatives. A roundtable with coauthors of the book and invited speakers will discuss how this book exemplifies the advancement, adaptation, and utilization of energy systems models to address intricate policy issues around pathways to achieve net-zero emissions, enhance energy security, optimize investments, and understand their societal implications.

Friday 28 June:

IRENA Event: Team poster session

Seven IRENA teams will be available during this lunchtime side event to present and discuss more about their work and publications. This informal session will include information on IRENA's work in: energy planning and power sector transformation; innovation; knowledge, policy, and finance; renewable energy roadmaps; and technology and infrastructure.

GENERAL INFORMATION

Conference Venue

The 42nd Edition of the International Energy Workshop will be held at the Design Offices building in Bonn Neuer Kanzlerplatz.

Address:

Design Offices
Neuer Bundeskanzlerplatz 2D
53113 Bonn
Germany

How to reach the venue:

From Bonn, take **tram #16 or #66** towards Bad Godesberg.

Alight at Museum Koenig or Hausallee/Museummeile tram station;

The Design Offices building is located at the Neuer Kanzlerplatz; approximately 500 meters / 5 minutes' walk from either tram station. Below is the walking map:

Registration and Information Desk

The Registration and Information Desk will be open at the building entrance (see floorplan on next page) during these hours:

Wednesday, 26 June 8:15 – 17:00.

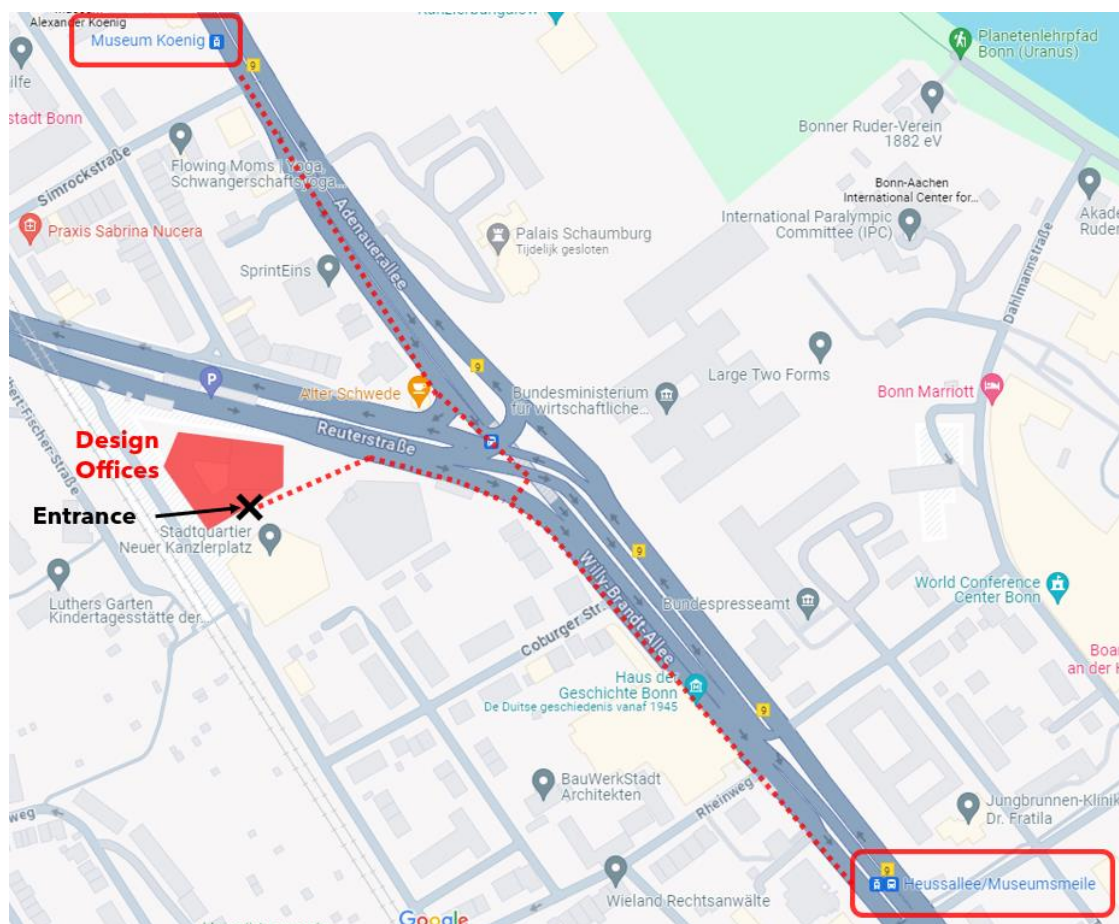
Thursday, 27 June 8:15 – 17:00.

Friday, 28 June 9:00 – 16:00.

If you have any questions, please feel free to visit the Registration and Information Desk, or contact the workshop secretariat:

Secretariat email: iew@irena.org

Ling Ling Federhen, lfederhen@irena.org,
+ 4915125404548 (Germany)



GENERAL INFORMATION (CONT'D)

Floorplan

The venue floorplan is pictured further below. IRENA banners will be placed to mark the venue entrance in the plaza. The opening and plenary sessions will be held in the Arena (red), and the parallel sessions will be split between the Arena, Solar, Hydro, Geothermal and Wind rooms. The schedule of parallel sessions at the end of this programme is labeled with the rooms for each session, and they will have signs in the venue. Please note that the Wind room is on the top floor of the building and can be reached by elevator.

Lunches and Coffee Breaks

Lunch and coffee will be served in the lobby area on the ground floor of the building. For the lunchtime seminars, participants are invited to bring their lunch into the Arena room.

Welcome Reception

26 June 2024, 19:30 – 20:30.

A welcome reception is scheduled at the Bonn Old Town Hall on the first day of the conference (Altes Rathaus, Markt 2, 53111 Bonn, Germany). Finger food and refreshments will be served.

Social Event

27 June 2024, 19:15 – 21:00

IRENA will be hosting a social event on the second day of the conference at the Parkrestaurant RheinAue (Ludwig-Erhard-Allee 20, 53175 Bonn, Germany). Finger food and refreshments will be served.

1. Entrance
2. Registration
3. Lobby
4. Bio
5. Solar
6. Water
7. Geothermal
8. Wind



GENERAL INFORMATION (CONT'D)

Transportation to Bonn

Please note that participants will be responsible for organizing their own transportation to and from the venue.

The distance between Cologne-Bonn Airport (CGN) and Bonn city centre is approximately 25 km (25 minutes) and costs EUR 50-65 by taxi.

Alternatively, the Airport Express bus SB 60 operates every 30 minutes on weekdays between Bonn city centre and the airport, and every 30 or 60 minutes on Saturdays and Sundays. The bus journey to the airport takes 25-30 minutes. One-way tickets cost EUR 7.70.

From Frankfurt Airport (FFM), take the long-distance ICE train from Fernbahnhof Frankfurt Flughafen to Siegburg. Train duration will take 45 mins. From Siegburg, you take the tram 66 to Bonn city center, the tram ride will take around 25 mins.

Useful Information

Climate: June in Bonn is warm with temperatures averaging between 20-25 °C (68-77 °F). However, air conditioning can make it relatively chilly indoors, so it is advisable to dress accordingly.

Electrical Current: 220 volts

Currency: The local currency in Germany is Euro.

EUR 1 = USD 1.09

Time Zone: Central European Summer Time (UTC+2)

Telephone Use: We advise you to consult with your telephone operator to verify that your mobile phone device works in Bonn. Most major cell phone operators have full mobile and data service

Participant Identification

All participants are required to wear the IEW 2024 badge at all times. Attendees with participant badges will have access to all plenary sessions, parallel sessions, welcome reception on Wednesday, social event on Thursday night, as well as the coffee breaks and lunches. Companion badges exclude any entry to technical session admission.

CONFERENCE FORMAT

Background and Structure

The 42nd edition of the IEW includes three plenary sessions and more than 130 presentations in 40 parallel sessions, focusing on a wide array of topics. In addition, two lunchtime seminars and one evening seminar will be organised during the three days. The ETSAP regular workshop will take place preceding the IEW on 24-25 June.

Instructions to Chairpersons

Each session will be assigned a chairperson. Every session has two to five papers, and each paper has a total time slot of 25 minutes. This includes a presentation of 20 minutes followed by 5 minutes for questions and discussion. The chairpersons are kindly requested to observe the start and closure time of each session, and to be strict on the time allocation as a way to give equal opportunity to all speakers.

All rooms are equipped with a projector and a laptop computer for PowerPoint presentations. The chairperson assigned to each room should ensure that presentations are loaded and ready to run. The chairperson should arrive at least 5 minutes before the start of the session.

Instructions to Speakers in Parallel Sessions

Speakers have 20 minutes for the paper presentation, followed by 5 minutes of questions and discussion. Speakers are kindly requested to strictly adhere to the allocated time in consideration of other speakers and participants, and to maintain smooth running of the sessions.

All conference rooms will be equipped with a projector and computer for PowerPoint presentations. Each room will have a host to provide basic support. Speakers should arrive 5 minutes before the session begins and make contact with the host and the chair of the session.

We kindly request that your presentation be sent to the IEW@IRENA.ORG email no later than 21 June. This will ensure that time is not lost loading presentations during the sessions.

DAY 1 – WEDNESDAY, 26 JUNE 2024

[Go Back to Programme Overview](#)

8:15 – 9:00

Registration & Coffee | Location: Entrance/Lobby

9:00 – 9:30

Opening Session

Moderator and Introduction to the 42nd IEW: Geoffrey Blanford (EPRI)

Opening remarks: Mr. Francesco La Camera (IRENA)

Presentation: Dr. Roland Roesch (IRENA)

Location: Bio Room

9:30 – 12:00

Plenary Session 1: Climate-Energy Modelling Linkage

Moderator: Massimo Tavoni (EIEE)

Prof. Jim Skea (IPCC) (Virtual): *Importance of energy modelling in the IPCC process*

Dr. Carlo Buontempo (ECMWF): [Copernicus Climate Change Service](#)

Dr. Delavane Diaz (EPRI): [Climate Resilience through Integrated Energy System Research](#)

Dr. Stelios Pasmajoglou (UNFCCC): [Energy Modelling in the context of the Paris Agreement](#)

Location: Bio Room

12:00 – 13:15

Lunch & Lunchtime Seminar

IRENA LTES Event: Participatory processes for national long-term energy scenario development

Location: Lobby & Bio Room

13:20 – 15:00

Parallel Session 1: Addressing Flexibility in Energy Systems | Energy Access & Poverty | Infrastructure for the Energy Transition | A Spatial Perspective on Energy Modelling | Transition Pathways – Case Studies I

15:00 – 15:25

Coffee Break | Location: Lobby

15:30 – 17:10

Parallel Session 2: Role of Bioenergy | Socio-Economic Impacts | Decarbonizing Steel Industry | Incorporating Climate in Energy Modelling | Energy Transition in the Global South

17:15 – 18:15

ECMWF Event: Environmental data to support energy modelling

Location: Arena

19:30 – 20:30

Welcome Reception

Hosted by the City of Bonn

Location: Bonn Old Town Hall (Altes Rathaus)

Parallel Session 1: 13:20 – 15:00 - WEDNESDAY

Parallel A Room: BIO	Parallel B Room: SOLAR	Parallel C Room: WATER	Parallel D Room: GEO	Parallel E Room: WIND
Addressing Flexibility in Energy Systems Chair: Larissa Nogueira	Energy Access & Poverty Chair: Ute Collier	Infrastructure for the Energy Transition Chair: Himalaya Bir Shrestha	A spatial perspective on Energy Modelling Chair: Bilal Hussain	Transition pathways - Case studies I Chair: Daniel Russo
Modelling system flexibility in the context of energy transition CHRISTOPH KOST (Fraunhofer ISE, Germany)	Comprehensive Energy Solution Planning (CESP) framework: an evidence-based approach for sustainable energy access projects in developing countries RICCARDO MEREU (Politecnico di Milano, Italy)	Assessing the One Sun One World One Grid plan: Could global smoothing of solar power production be cost-effective? LINA REICHENBERG (Chalmers University, Sweden)	Decarbonization of cement industry in China: a spatially explicit analysis SHIYAN CHANG (Tsinghua University, China)	Evaluation of sub-sectorial GHGs emissions abatement costs through bottom-up energy system modeling: an Italian case study MATTEO NICOLI (Politecnico di Torino, Italy)
Flexible resource planning for high-renewable energy system using a multi-model method YA-HSUAN CHIU (Industrial Technology Research Institute, Taiwan)	Closing electricity access gap in West Africa – Role of battery storage and mini-grids THIERRY ODOU (IRENA, Germany)	Accelerating transmission capacity expansion by using advanced conductors in existing right-of-way EMILIA CHOJKIEWICZ (UC Berkeley, US)	Spatial modeling of the decarbonization of long-distance road freight in the Scandinavian-Mediterranean corridor ANTONIA GOLAB (TU Wien, Austria)	Evaluating Bolivia's Nationally Determined Contribution using a power system model with hydro cascade integration ALIZON HUALLPARA (Universidad Mayor de San Simón, Bolivia)
What is the value of EV flexibility when different smart charging strategies are adopted? FRANCESCO SANVITO (TU Delft, Netherlands)	How have the post-pandemic recovery and the war in Ukraine affected energy poverty? MERCEDES BURGUILLO (Universidad de Alcalá, Spain)	Integrated energy modelling and multi-value transmission planning to assess interprovincial transmission benefits in Canada MADELEINE MCPHERSON (University of Victoria, Canada)	Stuck in the energy transition: a spatial analysis of transport poverty in the Netherlands FRANCESCO DALLA LONGA (TNO, Netherlands)	Reducing emissions through electricity purchase conditions: A Danish case study LISSY LANGER (DTU, Denmark)
Study on residential load to maximise demand side management ALISON HUGHES (University of Cape Town, South Africa)	Addressing Challenges in Long-Term Strategic Energy Planning in LMICs: Learning Pathways in an Energy Planning Ecosystem CARLA CANNONE (Loughborough University, England)	Modelling African Power Systems: Storage and Transmission for Renewable Energy Integration NICOLO' STEVANATO (Politecnico di Milano, Italy)	Unraveling spatial aspects in the energy system modeling, a systematic review KOMAR JAVANMARDI (Utrecht University, Netherlands)	The Emissions Impact of Grid-Based Hydrogen Production in India MALINI NAMBIAR (Princeton University, US)

Parallel Session 2: 15:30 – 17:10 - WEDNESDAY

Parallel A Room: BIO	Parallel B Room: SOLAR	Parallel C Room: WATER	Parallel D Room: GEO	Parallel E Room: WIND
Role of Bioenergy Chair: Chun Sheng Goh	Socio-Economic Impacts of the Energy Transition Chair: Bishal Parajuli	Decarbonizing Steel Industry Chair: Francisco Boshell	Incorporating Climate in Energy Modelling Chair: Rebecca Bisangwa	Energy Transition in the Global South Chair: Asami Miketa
The Role and Implications of BECCS in Ireland's Energy System Decarbonisation Transition WEIPENG XIE (UC Cork, Ireland)	Fit-For-55 and beyond: European power system transition and its social impacts ALICE DI BELLA (Politecnico di Milano, Italy)	Operational Uncertainty in Blast Furnace CO2 Emissions ELINA HOFFMANN (Carnegie Mellon University, US)	Representative and Hazardous Future Climate Event Selection for Power System Modeling SHENG LUN CAO (Carnegie Mellon University, US)	Assessing the willingness to adopt E-motorbikes and government policy interventions to enhance uptake in Kenya ALOIS MBUTURA (EED Advisory, Kenya)
Diversity of biomass usage pathways to achieve emissions targets in the European energy system MARKUS MILLINGER (Chalmers University, Sweden)	Passenger transport decarbonisation under equity and sustainability considerations DIRK-JAN VAN DE VEN (Basque Centre for Climate Change, Spain)	Decarbonizing Steel Production: Evaluating DRI Plant Strategies in Diverse Economic Environments SIMON KAMMERER (TU Dortmund, Germany)	Multi-channel, climate and non-climate damages in an integrated assessment model KOJI TOKIMATSU (Tokyo Institute of Technology, Japan)	Reaching Zero Carbon Emissions: Is there an Affordable Way for Developing Countries? THUY DOAN (Fulbright University, Vietnam)
The controversial role of energy crops in the future German energy system: The trade offs of a phase-out and allocation priorities of the remaining biomass residues HARRY SCHINDLER (Deutsches Biomasseforschungszentrum, Germany)	The impacts of phasing out coal plants on local labor markets: Evidence from the creation of a coal capacity reserve in Germany VAIOS TRIANTAFYLLOU (Cornell University, US)	The impact of decarbonising the iron and steel industry on European power and hydrogen systems DERCK KOOLEN (European Commission, Belgium)	Exploring the Role of Structural Transformation in Addressing Climate Change JOHANNES KOCH (PIK, Germany)	Mobility scenarios for the Global South: Developing an evidence-based framework for a large-scale IAM ANKITA GAUR (UC Cork, Ireland)
An Assessment of the Renewable Natural Gas (RNG) Economic Supply in the United States and Its Potential Contribution to a Clean Energy Transition JEFFREY PETRUSA (RTI International, US)	Employment creation potential from European industrial hydrogen demand: insights for just transition planning KATE LONERGAN (ETH Zurich, Switzerland)	Assessing the Economic Viability of Applying Green Hydrogen for Decarbonization in the Brazilian Steel Industry SABRINA MACEDO (University of Sao Paulo, Brazil)	The role of indirect emissions in capacity investment decisions for a net-zero European power system REBEKA BÉRES (University of Groningen, Netherlands)	Integrated energy access and agricultural supply chain planning: A many-objective optimisation of a rural energy, transport and food system in Uganda across 7 different SDGs PHILIPP TROTTER (University of Oxford, England)

DAY 2 – THURSDAY, 27 JUNE 2024

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8:15 – 9:00

Registration & Coffee

Location: Entrance/Lobby

9:00 – 11:30

Plenary Session 2: Policy-Energy Modelling Linkage

Moderator: Dr. Ute Collier (IRENA)

Dr. Sonia Yeh (Chalmers): [Guiding Sustainable Transport Transitions with Data, Behavior Insights, Modeling, and Policy](#)

Prof. Bjarne Steffen (ETH): [Financing the energy transition: How models can inform policymaking](#)

Dr. Gunnar Luderer (PIK): [Model-Based Analysis of Europe's Transformation Pathways to Climate Neutrality and Possible 2040 GHG Reduction Targets](#)

Location: Bio Room

11:40 – 12:35

Parallel Session 3: Hydrogen Trade | Land Availability | Towards Low Carbon Transport | Modelling Methodologies I | Climate Policy I

12:35 – 13:50

Lunch & Lunchtime Seminar

ETSAP Event: Book launch “[Aligning the energy transition with SDGs](#)”

Location: Lobby & Bio Room

13:55 – 15:35

Parallel Session 4: Sector Coupling | Energy Transition Economics | Linking Mobility & Electricity Sectors | Addressing Uncertainty in Scenarios | Climate Policy II

15:35 – 16:00

Coffee Break | Location: Lobby

16:05 – 17:20

Parallel Session 5: Technology Change | Energy & Environmental Justice I | Hard-to-abate industrial emissions | Transition pathways - Case studies II | Energy Policy I

17:25 – 18:40

Parallel Session 6: Hydropower | Role of Hydrogen | Power-to-X | Carbon Dioxide Removal I | Energy Policy II

19:15 – 21:00

Social event hosted by IRENA

Location: Parkrestaurant RheinAue

Parallel Session 3: 11:40 – 12:35 - THURSDAY

Parallel A Room: BIO	Parallel B Room: SOLAR	Parallel C Room: WATER	Parallel D Room: GEO	Parallel E Room: WIND
Hydrogen Trade Chair: Ann-Kathrin Lipponer	Land Availability Chair: Paula Nardone	Towards Low Carbon Transport Chair: Carlos Ruiz	Climate Policy Mechanisms I Chair: Iris van der Lugt	Advancing Modelling Methodologies I Chair: Nadeem Goussous
Feasibility of hydrogen trade between Europe and North Africa VICTOR GUILLOT (Mines Paris, France)	The land squeeze: A review of how Integrated Assessment Models capture dynamics between energy food and land systems DOORGESHWAREE JAGGESHAR (UC Cork, Ireland)	Role of biofuels, electro-fuels, and blue fuels in the energy transition of the shipping sector FAYAS MALIK KANCHIRALLA (Chalmers University, Sweden)	Co-benefits of the Irish carbon tax and the European Emissions Trading System on outdoor air pollution in Ireland CAGACAN DEGER (ESRI, Ireland)	Use of emulators for enhancing insights from long-term projections SARA GIAROLA (University of Milan, Italy)
Implications of Hydrogen and Ammonia trade between Europe and MENA AMIR FATTAHI TNO, Netherlands	Limited land availability complicates infrastructure development for India's net-zero energy transition GANESH HEGDE (Princeton University, US)	Driving energy and emissions: the built environment influence on car efficiency and energy-relevant travel behavior CHRIS TEN DAM (Utrecht University, Netherlands)	Installation. Production and Global Trade of Clean Energy Technologies: A Macroeconomic Modelling Approach to Assess the Risks of Low Carbon Leakage CHRISTIAN LUTZ (GWS Osnabrück, Germany)	Changing patterns in a future green steel sector: technology, circularity, and trade JAKOB DUERRWAECHTER (PIK, Germany)

Parallel Session 4: 13:55 – 15:35 - THURSDAY

Parallel A Room: BIO	Parallel B Room: SOLAR	Parallel C Room: WATER	Parallel D Room: GEO	Parallel E Room: WIND
Sector Coupling Chair: Jaidev Dhavle	Energy Transition Economics Chair: Yong Chen	Linking Mobility & Electricity Sectors Chair: Gayathri Nair	Addressing Uncertainty in Climate & Energy Scenarios Chair: Nolwazi Khumalo	Climate Policy Mechanisms II Chair: Milenko Matosic
Electricity- and Hydrogen-Driven Energy System Sector-Coupling in Net-Zero CO2 Emission Pathways BOB VAN DER ZWAAN (TNO, Netherlands)	Capital Adjustment Costs and the Low-Carbon Transition: How Cost-Effective are Net Zero Commitments? ANNA-MARIA GOETH (World Bank, Germany)	Modelling the Grid Impacts of Electric Vehicle Uptake in British Columbia KAMARIA KULING (Simon Fraser University, Canada)	Beyond Delayed Transition: imperfect foresight puts climate targets out of reach THIBAUT BRIERA (CIRED, Belgium)	Modelling the economy-wide effects of unilateral CO2 pricing under different revenue recycling schemes in Austria - Potentials for a triple dividend CLAUDIA KETTNER (WIFO, Austria)
Sector-coupled, spatially resolved modelling for assessing energy transition pathways in German federal states HANNAH NOLTE (Fraunhofer ISE, Germany)	Quantifying the local economic supply chain impacts of renewable energy investment in Kenya CANDISE HENRY (RTI International, US)	Electric carsharing: impacts on a future renewable energy-dominated power system ADELINE GUÉRET (DIW Berlin, Germany)	Strengthening energy system resilience planning under uncertainty using optimization models and regret MASHAEL YAZDANIE (EMPA, Switzerland)	Empirical Study of the Prefectural Emission Trading System in Japan KAITOH HIDANO (NUS, Singapore)
Will hydrogen and synthetic fuels energize our future? Their role in Europe's climate-neutral energy system and power system dynamics WOUTER NIJS (University of Groningen, Netherlands)	A review of macroeconomic modelling tools for analysing industrial transformation AHMED ELBERRY (TNO, Netherlands)	Interaction between Electricity and Mobility Sectors for Decarbonizing the Indian Energy System TARUN SHARMA (IIT, India)	What are we likely on track for? The use of Monte Carlo Analysis in an integrated global energy system and temperature modeling framework MAHMOUD MOBIR (Rhodium Group, US)	Carbon pricing or installation ban - how to decarbonise space heating in the EU? ROBIN HASSE (PIK, Germany)
Freight transport decarbonisation crossroads: Cross-sectoral implications of electrification, biofuel and e-fuel strategies JONAS FORSBERG (Luleå University, Sweden)	The Economic Effect of Hydrogen Production Development in Saudi Arabia using Input Output Analysis MUHAMMAD AKIMAYA (King Fahd University, Saudi Arabia)	Impacts of EV charging strategies on low-voltage grids THERESE LUNDBLAD (Chalmers University, Sweden)	Probabilities of reaching required capacities of granular energy technologies in European countries NIK ZIELONKA (University of Geneva, Switzerland)	Trade War to Cooperation: Scrutinizing China's Strategies to the EU Carbon Border Adjustment Mechanism SIGIT PERDANA (EPFL, Switzerland)

Parallel Session 5: 15:55 – 17:10 - THURSDAY

Parallel A Room: BIO	Parallel B Room: SOLAR	Parallel C Room: WATER	Parallel D Room: GEO	Parallel E Room: WIND
Technology Change Chair: Gayathri Prakash	Energy & Environmental Justice I Chair: Arno van den Bos	Hard-to-abate industrial emissions Chair: Krisly Guerra	Transition pathways - Case studies II Chair: Karan Kochar	Energy Policy I Chair: Ines Jacob
Demand-side mitigation potentials: An integrated modeling perspective on mobility and technological shifts in the transport sector JARUSCH MUESSEL (PIK, Germany)	Towards closing the fairness gap: What is the highest possible ambition for the European Union's pathway towards greenhouse gas neutrality? GUNNAR LUDERER (PIK, Germany)	Cost reduction analysis of sustainable ethylene production technologies DANIELA TORIBIO RAMIREZ (University of Amsterdam, Netherlands)	Impacts of the Transition in the Irish Economy through Electrification AYKUT MERT YAKUT (ESRI, Ireland)	How do we successfully transform energy analysis into Government policy? FIONN ROGAN (UC Cork, Ireland)
Emerging clean technologies: policy-driven cost reductions, implications and perspectives MOHAMED ATOUIFE (Princeton University, US)	Welfare and inequality impacts of carbon pricing and compensation schemes on different types of fuel poverty VERONIKA KULMER (University of Graz, Austria)	Mapping the techno-economic landscape for the hard-to-electrify sectors CLARA BACHORZ (PIK, Germany)	Planning Energy Transition Under Economic Diversification Scenarios in GCC Countries: A Qatar case study PANKAJ KUMAR (Environment and Energy Research Institute, Qatar)	Heterogeneous Effects of Government Energy Assistance Programs: Covid-19 Lockdowns in the Republic of Georgia ANNA ALBERINI (University of Maryland, US)
Assessing the implications of hydrogen blending on the European energy system towards 2050 KONSTANTIN LÖFFLER (TU Berlin, Germany)	Unequal Income Effects of Home Insulation across Heterogeneous Households: A Microsimulation Analysis for the Netherlands PETER MULDER (TNO, Netherlands)	The Cooperative Emission Reduction Efforts of Japan, South Korea and China: The Evaluation of 2030 NDC Targets and Impacts on Chemical Sector DAHUYUN KANG (RITE, Japan)	Trade-offs between direct and indirect electrification of German transport sector defossilization pathways NIKLAS WULFF (DLR, Germany)	Modeling of Policy Mixes for an Effective, Just, and Public Budget Conscious Household Energy Transition in Switzerland ALEXANDRE TORNÉ (University of Geneva, Switzerland)

Parallel Session 6: 17:25 – 18:40 - THURSDAY

Parallel A Room: BIO	Parallel B Room: SOLAR	Parallel C Room: WATER	Parallel D Room: GEO	Parallel E Room: WIND
Hydropower for the Energy Transition Chair: Francisco Gafaro	On the role of Hydrogen Chair: Deborah Ayres	Power-to-X Chair: James Walker	Carbon Dioxide Removal Chair: Omar Marzouk	Energy Policy II Chair: Gondia Seck
The role of hydropower in renewable-rich energy systems under climate change ENRICO ANTONINI (CMCC Foundation, Italy)	Green H2 is Expensive but Important for India's Energy Transition UTKARSH PATEL (CSEP Research Foundation, India)	Offshore power and hydrogen networks for Europe's North Sea PHILIPP GLAUM (TU Berlin, Germany)	Assessing the impact of CDR on the EU ETS SEBASTIAN OSORIO (PIK, Germany)	Wholesale Electricity Market Design to Support Resource Adequacy BETHANY FREW (NREL, US)
Coupling a power system model with a hydrological model improves the representation of hydropower flexibility LAURE BARATGIN (CIRED, Belgium)	Modeling Demand for 24/7 Carbon-Free Electricity: The Case of the 45V Clean Hydrogen Production Tax Credit GEOFFREY BLANFORD (EPRI, US)	Green Energy Transition: A Co-Optimized Approach for Integrated Electricity and Hydrogen Planning LARISSA NOGUEIRA (IRENA, Germany)	Future CO2 Supply and Demand for Carbon Capture and Utilization (CCU) and the potential role of DAC TOBIAS BUCHMANN (ZSW, Germany)	Energy Transitions Post-Russia-Ukraine War: Challenges and Policy Implications in Germany and Italy YEONG JAE KIM (KDI, South Korea)
Flexible Hydropower for Enhanced Wind Integration TODD LEVIN (Argonne National Laboratory, US)	On the cost competitiveness of blue and green hydrogen FALKO UECKERDT (PIK, Germany)	Technological representation of Power to Hydrogen in long-term planning ALEXANDER HOOGSTEYN (KU Leuven, Belgium)	Provincial-Level Assessment of Carbon Dioxide Removal to Meet China's 2060 Carbon Neutrality Goal HANWOONG KIM (Pacific Northwest National Laboratory, US)	The interaction effect of decarbonisation policy measures: quantifying the impact on energy and CO2 emissions FIONN ROGAN (UC Cork, Ireland)

DAY 3 – FRIDAY, 28 JUNE 2024

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8:15 – 9:00

Coffee

Location: Lobby

9:00 – 11:30

Plenary Session 3: Data Advances in Energy Modelling

Moderator: Bob van der Zwaan (TNO)

Dr. David McCollum (Oak Ridge National Laboratory): [Data, AI, and the Future of Energy Modeling on the Path to Net Zero](#)

Mr. Michael Taylor (IRENA): [Renewable Power Cost Trends – What have we learned?](#)

Dr. Keigo Akimoto (RITE): [Demand side solutions for the transformation towards net-zero society – EDITS Project](#)

Location: Bio Room

11:40 – 13:05

Parallel Session 7: Hydrogen Economy | Critical Materials | Storage for the Energy Transition | Circular Economy | Roads to Net Zero I

13:05 – 14:20

Lunch & Lunchtime Event

IRENA team poster session

Location: Lobby

14:30 – 16:35

Parallel Session 8: Prospects for VRE | Energy & Environmental Justice II | Decarbonizing the Residential Sector | Modelling Methodologies II | Roads to Net-Zero II

16:35 – 17:00

Farewell Coffee | Location: Lobby

Parallel Session 7: 11:40 – 13:05 - FRIDAY

Parallel A Room: BIO	Parallel B Room: SOLAR	Parallel C Room: WATER	Parallel D Room: GEO	Parallel E Room: WIND
Strategies to Advance the Hydrogen Economy Chair: Adrian Gonzalez	Critical Materials Chair: Deepti Siddhanti	Storage for the Energy Transition Chair: Raul Miranda	Circular Economy in Energy Models Chair: Lourdes Zamora	Roads to Net Zero I Chair: Mengzhu Xiao
One Does Not Simply Walk into the Hydrogen Economy: Charting New Zealand's Course to Net-Zero REBECCA PEER & JANNIK HAAS (University of Canterbury, New Zealand)	Assessing the critical materials requirements for China's solar photovoltaics towards 2060 with consideration of uncertainties YANHUA WANG (Renmin University, China)	Effects of Storage Participation on Wholesale Electricity Markets ZHENHUA ZHANG (UC San Diego, US)	A Critical Review of the Integration of Technology Adoption and Energy Consumption Behavior in Energy System Models HANNAH GALSTER (TNO, Netherlands)	The potential role of different flexibility options to reach net zero emissions ADRIANA MARCUCCI (ETH Zurich, Switzerland)
On the Transition towards the Clean Hydrogen Economy in Colombia: an Energy System Model to Inform a National Hydrogen Strategy CESAR BARRAZA-BOTET (Universidad de La Sabana, Colombia)	Critical Minerals, Electric Goods, and the Global Energy Transition EMILSON SILVA (University of Auckland, New Zealand)	Ultra-long-duration energy storage anywhere: methanol with carbon cycling TOM BROWN (TU Berlin, Germany)	The Combined Economic Impacts of Decarbonization and Circular Economy Scenarios in Austria INA MEYER (WIFO, Austria)	From net-zero to gross-zero: Transformation to a fossil-free European energy system by 2050 FELIX SCHREYER (PIK, Germany)
Green hydrogen for sustainable development DRIELLI PEYERL (University of Amsterdam, Netherlands)	Analysis of critical mineral demand under different emissions scenarios for net-zero AYAMI HAYASHI (RITE, Japan)	Broad Range of Technologies Could Firm Up Wind and Solar Generation in Net Zero Carbon Dioxide Emission Electricity Systems ALICIA WONGEL (Carnegie Science, US)	Do sufficiency consumption changes drive emissions down? A production network approach CÉLIA ESCRIBE (CIRED, Belgium)	High-ambition climate action in all sectors can achieve 65% greenhouse gas emissions reduction in the United States by 2035 ADRIANA BRYANT (University of Maryland, US)

Parallel Session 8: 14:30 – 16:35 - FRIDAY

Parallel A Room: BIO	Parallel B Room: SOLAR	Parallel C Room: WATER	Parallel D Room: GEO	Parallel E Room: WIND
Prospects for VRE Chair: Sean Collins	Energy & Environmental Justice II Chair: Gondia Seck	Decarbonizing the Residential Sector Chair: Maisarah Abdul Kadir	Advancing Modelling Methodologies II Chair: Juan Jose Garcia	Roads to Net Zero II Chair: Mengzhu Xiao
Potential transformation and impacts of solar PV global supply chain CAN CUI (ETH Zurich, Switzerland)	Environmental Justice in the Energy Transition: Challenges in Modeling Capacity Expansion and Air Pollutant Dispersion for Equitable Decarbonization Pathways JORDAN FRENCH (UT Austin, US)	Decarbonisation Scenarios for the European Residential Sector STEVEN SERGIJ SALIM (TNO, NL)	Insights on EU2040 targets - a model intercomparison exercise of EU Climate Neutrality Pathways ROBERT PIETZCKER (PIK, Germany)	Global energy investments and supply chain implications of reaching a 1.5 °C target KIMON KERAMIDAS (European Commission, Belgium)
Multidimensional Analysis of Interlinked Systems of 100% Renewable Energy in Cuba within the Framework of Sustainable Development ANAELY SAUNDERS (University of Turku, Finland)	Macroeconomic and distributional impacts of US electricity decarbonization pathways MAXWELL BROWN (Colorado School of Mines, US)	Is France on track for decarbonizing its residential sector? Assessing recent policy changes and the way forward LOUIS-GAETAN GIRAUDET (CIRED, Belgium)	Multi-Agent Reinforcement Learning for Assessment and Design of Decarbonized Electricity Markets JAVIER JOSE GONZALEZ RUIZ (Politecnico di Milano, Italy)	Productivity scenarios for the Net Zero transition EMILIEN RAVIGNÉ (University of Oxford, England)
Global growth of wind and solar power in light of historical national trajectories AVI JAKHMOLA (Chalmers University, Sweden)	Air Quality Emissions of Economy-wide Deep Decarbonization: US-REGEN Scenarios QIANRU ZHU (EPRI, US)	Urban green space and heat adaptation multi-scale evidence from OECD countries GIACOMO FALCHETTA (CMCC, Italy)	Inter-annual variations in energy systems modeling of future energy systems SIMON ÖBERG (Chalmers University, Sweden)	Are the options for European net-zero energy system really diversified? Considering household income level, size of national economy, and distributional justice MEIJUN CHEN (TU Delft, NL)
Future global green value chains: estimating the renewables pull and understanding its impact on industrial relocation PHILIPP VERPOORT (PIK, Germany)	Income inequality and climate policy polarization WALDEMAR MARZ (IFO Institute, Germany)	Decarbonizing the EU Residential Sector: A Modelling Assessment of Current Policies and Future Strategies. LUCAS VIVIER (CIRED, Belgium)	Advancing participatory energy systems modelling CONNOR MCGOOKIN (Simon Fraser University, Canada)	Energy System Transition for Climate Neutrality: A Country-Level Analysis Using Cumulative Carbon Budgets HANNAH DALY (UC Cork, Ireland)
Five-dimensional assessment of China's centralized and distributed photovoltaic potential: From solar irradiation to CO2 mitigation TIAN TIAN WANG (Renmin University, China)	How much do connected households in Sierra Leone value enhanced electricity service reliability? RAFIA ZAMAN (Duke University, US)	Regional analysis of building decarbonization scenarios for a net-zero U.S. energy economy by 2050 ANAHI MOLAR-CRUZ (EPRI, US)	Bidirectional coupling of a long-term integrated assessment model REMIND v3.0.0 with an hourly power sector model DIETER v1.0.2 CHEN GONG (PIK, Germany)	Feasibility of peak temperature targets in light of institutional constraints CHRISTOPH BERTRAM (University of Maryland, US)

PARTICIPANT LIST

Name	Institution	Role	Session
Adeline Guéret	DIW Berlin, Germany	Speaker	4C
Adrian Gonzalez	IRENA, Germany	Staff	
Adriana Bryant	University of Maryland, US	Speaker	7E
Adriana Marcucci	ETH Zurich, Switzerland	Speaker	7E
Ahmed Elberry	TNO, Netherlands	Speaker	4B
Alejandro Espejo	Wartsila, US	Participant	
Alexander Hoogsteyn	KU Leuven, Belgium	Speaker	6C
Alexandre Torné	University of Geneva, Switzerland	Speaker	5E
Alice Di Bella	Politecnico di Milano, Italy	Speaker	2B
Alicia Wongel	Carnegie Science, US	Speaker	7C
Alison Hughes	University of Cape Town, South Africa	Speaker	1A
Alizon Huallpara	Universidad Mayor de San Simón, Bolivia	Speaker	1E
Alois Mbutura	EED Advisory Limited, Kenya	Speaker	2E
Amir Fattahi	TNO, Netherlands	Speaker	3A
Anaely Saunders	University of Turku, Finland	Speaker	8A
Anahi Molar-Cruz	EPRI, US	Speaker	8C
Ananya Saraf	Wärtsilä, Finland	Participant	
Aniruddh Mohan	Princeton University, US	Participant	
Ankita Gaur	UC Cork, Ireland	Speaker	2E
Anna Alberini	University of Maryland, US	Speaker	5E
Anna Cororaton	US Energy Information Administration, US	Participant	
Anna Krook-Riekkola	Luleå University, Sweden	Participant	
Anna-Maria Goeth	World Bank, Germany	Speaker	4B
Annika Boldrini	Utrecht University, Netherlands	Participant	
Ann-Kathrin Lipponer	IRENA, Germany	Staff	
Antonia Golab	TU Wien, Austria	Speaker	1D
Arno van den Bos	IRENA, Germany	Staff	
Asami Miketa	IRENA, Germany	Programme Committee	
Ashraf Aljamal	Al-Jamal Company, Jordan	Participant	
Avi Jakhmola	Chalmers University, Sweden	Speaker	8A
Ayami Hayashi	RITE, Japan	Speaker	7B
Aykut Mert Yakut	ESRI, Ireland	Speaker	5D
Bethany Frew	NREL, US	Speaker	6E
Bilal Hussain	IRENA, Germany	Staff	
Bishal Parajuli	IRENA, Germany	Staff	
Bjarne Steffen	ETH Zurich, Switzerland	Keynote	Plenary 2
Bob van der Zwaan	TNO, Netherlands	Speaker	4A
Brian O Gallachoir	UC Cork, Ireland	Speaker	5E
Briera Thibault	CIREN, Belgium	Speaker	4D
Cagacan Deger	ESRI, Ireland	Speaker	3E
Can Cui	ETH Zurich, Switzerland	Speaker	8A

Name	Institution	Role	Session
Candise Henry	RTI International, US	Speaker	4B
Carla Cannone	Loughborough University, England	Speaker	1B
Carlo Buontempo	ECMWF, Germany	Keynote	Plenary 1
Carlos Ruiz	IRENA, Germany	Staff	
Carmen Lucila Crexell	Argentine Senate, Argentina	Participant	
Célia Escribe	CIREN, Belgium	Speaker	7D
Cesar Barraza-Botet	Universidad de La Sabana, Colombia	Speaker	7A
Chen Gong	PIK, Germany	Speaker	8D
Chiara Cagnazzo	ECMWF, Germany	Programme Committee	
Chris Stewart	ECMWF, Germany	Participant	
Chris ten Dam	Utrecht University, Netherlands	Speaker	3C
Christian Contreras	The Nature Conservancy, Peru	Participant	
Christian Lutz	GWS Osnabrück, Germany	Speaker	3E
Christoph Bertram	University of Maryland, US	Speaker	8E
Christoph Kost	Fraunhofer ISE, Germany	Speaker	1A
Christoph Mehler	IRENA, Germany	Organizing Committee	
Chun Sheng Goh	IRENA, Germany	Staff	
Clara Bachorz	PIK, Germany	Speaker	5C
Claudia Kettner	WIFO, Austria	Speaker	4E
Connor McGookin	Simon Fraser University, Canada	Speaker	8D
Dahyun Kang	RITE, Japan	Speaker	5C
Daniel Russo	IRENA, Germany	Organizing Committee	
Daniela Toribio Ramirez	University of Amsterdam, Netherlands	Speaker	5C
David McCollum	Oak Ridge National Laboratory, US	Keynote	Plenary 3
Deborah Ayres	IRENA, Germany	Staff	
Deepti Siddhanti	IRENA, Germany	Staff	
Delavane Diaz	EPRI, US	Keynote	Plenary 1
Derck Koolen	European Commission, Belgium	Speaker	2C
Dirk-Jan van de Ven	Basque Centre for Climate Change, Spain	Speaker	2B
Doorgeshwaree Jaggeshar	UC Cork, Ireland	Speaker	3B
Drielli Peyert	University of Amsterdam, Netherlands	Speaker	7A
Elina Hoffmann	Carnegie Mellon University, US	Speaker	2C
Emilia Chojkiewicz	UC Berkeley, US	Speaker	1C
Emilien Ravigné	University of Oxford, England	Speaker	8E
Emilson Silva	University of Auckland, New Zealand	Speaker	7B
Emma Pidduck	ECMWF, Germany	Participant	
Enrico Antonini	CMCC Foundation, Italy	Speaker	6A
Enya Lenaerts	VITO, Belgium	Participant	
Erik Ahlgren	Chalmers University, Sweden	Participant	
Falko Ueckerdt	PIK, Germany	Speaker	6B
Fayas Malik Kanchiralla	Chalmers University, Sweden	Speaker	3C
Felix Schreyer	PIK, Germany	Speaker	7E
Fionn Rogan	UC Cork, Ireland	Speaker	6E

Name	Institution	Role	Session
Francesco Dalla Longa	TNO, Netherlands	Speaker	1D
Francesco Lovat Arranz	Danish Energy Agency, Denmark	Participant	
Francesco Nappo	Politecnico di Milano, Italy	Participant	
Francesco Sanvito	TU Delft, Netherlands	Speaker	1A
Francisco Boshell	IRENA, Germany	Staff	
Francisco Gafaro	IRENA, Germany	Staff	
Ganesh Hegde	Princeton University, US	Speaker	3B
Gaspard Lhermitte	Alpiq AG, Switzerland	Participant	
Gayathri Prakash	IRENA, Germany	Staff	
Gaythri Nair	IRENA, Germany	Staff	
Geoffrey Blanford	EPRI, US	Speaker	6B
Giacomo Falchetta	CMCC, Italy	Speaker	8C
Gildas Siggini	GIZ GmbH, Germany	Participant	
Gondia Seck	IRENA, Germany	Staff	
Gunnar Luderer	PIK, Germany	Speaker	5B
Hannah Daly	UC Cork, Ireland	Speaker	8E
Hannah Galster	TNO, Netherlands	Speaker	7D
Hannah Nolte	Fraunhofer ISE, Germany	Speaker	4A
Hanwoong Kim	PNNL, US	Speaker	6D
Harry Schindler	Biomasseforschungszentrum, Germany	Speaker	2A
Himalaya Bir Shrestha	IRENA, Germany	Staff	
Hiroshi Hamasaki	Deloitte Tohmatsu Consulting, Japan	Participant	
Ina Meyer	WIFO, Austria	Speaker	7D
Ines Jacob	IRENA, Germany	Staff	
Iris van der Lugt	IRENA, Germany	Staff	
Jaidev Dhavle	IRENA, Germany	Staff	
Jakob Duerwaechter	PIK, Germany	Speaker	3D
James Glynn	ESMA, Ireland	Participant	
James Walker	IRENA, Germany	Staff	
Jannik Haas	University of Canterbury, New Zealand	Speaker	7A
Jan-Philipp Sasse	Alpiq AG, Switzerland	Participant	
Jarusch Muessel	PIK, Germany	Speaker	5A
Javier Gonzalez Ruiz	Politecnico di Milano, Italy	Speaker	8D
Jeffrey Petrusa	RTI International, US	Speaker	2A
Jens Weibezahn	CBS, Denmark	Participant	
Johannes Koch	PIK, Germany	Speaker	2D
Jonas Forsberg	Luleå University, Sweden	Speaker	4A
Jonathan Wang	ITRI GEL, Taiwan	Participant	
Jordan French	University of Texas at Austin, US	Speaker	8B
Jörn Hoffmann	ECMWF, Germany	Participant	
Juan Jose Garcia	IRENA, Germany	Staff	
Julie Letertre	ECMWF, Germany	Participant	
Kaitoh Hidano	NUS, Singapore	Speaker	4E
Kamaria Kuling	Simon Fraser University, Canada	Speaker	4C

Name	Institution	Role	Session
Karan Kochar	IRENA, Germany	Staff	
Karen Grajeda	IRENA, Germany	Organizing Committee	
Karl Steininger	University of Graz, Austria	Participant	
Kate Lonergan	ETH Zurich, Switzerland	Speaker	2B
Katharina Hembach	GWS, Germany	Participant	
Keigo Akimoto	RITE, Japan	Keynote	Plenary 3
Kelly Wu	RMI, US	Participant	
Kenneth Karlsson	IVL, Sweden	Participant	
Kimon Keramidas	European Commission, Belgium	Speaker	8E
Koji Tokimatsu	Tokyo Institute of Technology, Japan	Speaker	2D
Komar Javanmardi	Utrecht University, Netherlands	Speaker	1D
Konstantin Löffler	TU Berlin, Germany	Speaker	5A
Konstantinos Athanasiou	Danish Energy Agency, Denmark	Participant	
Krisly Guerra	IRENA, Germany	Staff	
Larissa Nogueira	IRENA, Germany	Speaker	6C
Laure Baratgin	CIREN, Belgium	Speaker	6A
Lina Reichenberg	Chalmers University, Sweden	Speaker	1C
Ling Ling Federhen	IRENA, Germany	Organizing Committee	
Lissy Langer	DTU, Denmark	Speaker	1E
Loïc De Weerd	Princeton University, US	Participant	
Louis-Gaetan Giraudet	CIREN, Belgium	Speaker	8C
Lourdes Zamora	IRENA, Germany	Staff	
Lucas Desport	Mines Paris, France	Participant	
Lucas Vivier	CIREN, Belgium	Speaker	8C
Lucie Mc Govern	European Commission, Belgium	Participant	
Lyu Wenbin	ERI, China	Participant	
Madeleine McPherson	University of Victoria, Canada	Speaker	1C
Mahmoud Mobir	Rhodium Group, US	Speaker	4D
Maike Groninger	GIZ GmbH, Germany	Participant	
Maisarah Abdul Kadir	IRENA, Germany	Staff	
Malini Nambiar	Princeton University, US	Speaker	1E
Manoj Sharma	Royal University, Bhutan	Participant	
Mark Parrington	ECMWF, Germany	Participant	
Marko Emersic	IRENA, Germany	Organizing Committee	
Markus Millinger	Chalmers University, Sweden	Speaker	2A
Martin Hafemann	HTWK Leipzig, Germany	Participant	
Mashaël Yazdanie	EMPA, Switzerland	Speaker	4D
Massimo Tavoni	EIEE, Italy	Programme Committee	
Matteo Nicoli	Politecnico di Torino, Italy	Speaker	1E
Maxwell Brown	Colorado School of Mines, US	Speaker	8B
Meijun Chen	TU Delft, Netherlands	Speaker	8E
Mengzhu Xiao	IRENA, Germany	Staff	
Mercedes Burguillo	Universidad de Alcala, Spain	Speaker	1B

Name	Institution	Role	Session
Michael Taylor	IRENA, Germany	Keynote	Plenary 3
Milenko Matosic	IRENA, Germany	Staff	
Mohamed Atouife	Princeton University, US	Speaker	5A
Muhammad Akimaya	King Fahd University, Saudi Arabia	Speaker	4B
Nadeem Goussous	IRENA, Germany	Staff	
Nicolo' Stevanato	Politecnico di Milano, Italy	Speaker	1C
Nik Zielonka	University of Geneva, Switzerland	Speaker	4D
Niklas Wulff	DLR, Germany	Speaker	5D
Nishant Tyagi	KU Leuven, Belgium	Participant	
Nolwazi Khumalo	IRENA, Germany	Staff	
Nube Gonzalez-Reviriego	ECMWF, Germany	Participant	
Omar Marzouk	IRENA, Germany	Staff	
Onur Özgün	DNV, England	Participant	
Pai-Ho Li	Saudi Aramco, Saudi Arabia	Participant	
Pankaj Kumar	QEERI, Qatar	Speaker	5D
Patrick Wolf	ZSW, Germany	Participant	
Paula Nardone	IRENA, Germany	Staff	
Peter Mulder	TNO, Netherlands	Speaker	5B
Philipp Glaum	TU Berlin, Germany	Speaker	6C
Philipp Trotter	University of Oxford, England	Speaker	2E
Philipp Verpoort	PIK, Germany	Speaker	8A
Pietro Altermatt	Trinasolar, China	Participant	
Qianru Zhu	EPRI, US	Speaker	8B
Racheal Nalule	GIZ, Uganda	Participant	
Rafia Zaman	Duke University, US	Speaker	8B
Raul Miranda	IRENA, Germany	Staff	
Rebecca Bisangwa	IRENA, Germany	Staff	
Rebecca Peer	University of Canterbury, New Zealand	Speaker	7A
Rebeka Béres	University of Groningen, Netherlands	Speaker	2D
Riccardo Mereu	Politecnico di Milano, Italy	Speaker	1B
Richard Daly	ECMWF, Germany	Participant	
Robert Pietzcker	PIK, Germany	Speaker	8D
Robin Hasse	PIK, Germany	Speaker	4E
Roland Roesch	IRENA, Germany	Programme Committee	
Sabrina Macedo	University of Sao Paulo, Brazil	Speaker	2C
Sara Giarola	University of Milan, Italy	Speaker	3D
Sean Collins	IRENA, Germany	Staff	
Sebastian Osorio	PIK, Germany	Speaker	6D
Sheng Lun Cao	Carnegie Mellon University, US	Speaker	2D
Shiyan Chang	Tsinghua University, China	Speaker	1D
Shubham Sharma	TU Delft, Netherlands	Participant	
Sigit Perdana	EPFL, Switzerland	Speaker	4E
Simon Kammerer	TU Dortmund, Germany	Speaker	2C

Name	Institution	Role	Session
Simon Öberg	Chalmers University, Sweden	Speaker	8D
Siobhan Powell	ETH Zurich, Switzerland	Participant	
Sonia Yeh	Chalmers University, Sweden	Keynote	Plenary 2
Stelios Pesmajoglou	UNFCCC, Germany	Keynote	Plenary 1
Stella Nadine Steidl	University of Canterbury, New Zealand	Participant	
Steven Sergij Salim	TNO, Netherlands	Speaker	8C
Stijn Vermoote	ECMWF, Germany	Participant	
Sylvain Quoilin	University of Liège, Belgium	Participant	
Tainan Nogueira	Petrobras, Brazil	Participant	
Tarun Sharma	IIT, India	Speaker	4C
Therese Lundblad	Chalmers University, Sweden	Speaker	4C
Thierry Odou	IRENA, Germany	Speaker	1B
Thomas Martinsen	NMBU, Norway	Participant	
Thuy Doan	Fulbright University, Vietnam	Speaker	2E
Tiantian Wang	Renmin University, China	Speaker	8A
Tim Heijmann	ECMWF, Belgium	Participant	
Timon Renzelmann	Chalmers University, Sweden	Participant	
Tobias Buchmann	ZSW, Germany	Speaker	6D
Todd Levin	Argonne National Laboratory, US	Speaker	6A
Tom Brown	TU Berlin, Germany	Speaker	7C
Ute Collier	IRENA, UAE	Programme Committee	
Utkarsh Patel Patel	CSEP Research Foundation, India	Speaker	6B
Vaios Triantafyllou	Cornell University, US	Speaker	2B
Veronika Kulmer	University of Graz, Austria	Speaker	5B
Victor Ecrement	Sorbonne Université, France	Participant	
Victor Guillot	Mines Paris, France	Speaker	3A
Vinzenz Koning	Utrecht University, Netherlands	Participant	
Vitor Sartori	SARTORI, Brasil	Participant	
Waldemar Marz	IFO Institute, Germany	Speaker	8B
Wang Yanhua	Renmin University, China	Speaker	7B
Weipeng Xie	UC Cork, Ireland	Speaker	2A
Will de Sousa	Canada	Participant	
Wouter Schreuder	University of Amsterdam, Netherlands	Participant	
Wouter Nijs	University of Groningen, Netherlands	Speaker	4A
Xinnan Wang	CET, China	Participant	
Xiong Jie	National University, Singapore	Participant	
Ya-hsuan Chiu	ITRI, Taiwan	Speaker	1A
Yeong Jae Kim	KDI, South Korea	Speaker	6E
Yoh Yasuda	University of Strathclyde, Scotland	Participant	
Yong Chen	IRENA, Germany	Staff	
Zhao Yongqiang	ERI, China	Participant	
Zhenhua Zhang	UC San Diego, US	Speaker	7C