Energy Transition Scenarios for a Climate Neutral Europe

ECEMP 2024 is on! Reaching climate neutrality will require large-scale deployment of renewable energy technologies, improving energy efficiency, and strengthening energy security. This demands significant investment in energy infrastructure and incentivizing innovation in the Energy Transition. Energy and climate models offer valuable insights to chart a path towards a carbon-neutral future. **ECEMP 2024** is dedicated to showcasing the latest policy-relevant findings derived from analyses of climate and energy models. It also offers a unique opportunity to share advancements in energy and climate modelling with policymakers, peers, and the interested public.

The conference is co-hosted by the European Commission through the Directorate-General for Energy, the Directorate-General for Climate Action, the Directorate-General for Research and Innovation, and the European Climate Infrastructure and Environment Executive Agency (CINEA). ECEMP aims to serve as a platform for discussing research results and providing policy insights. The ECEMP 2024 Conference will span two days, featuring a diverse range of sessions, plenary discussions, and networking opportunities.

Day 1 – 16th October: Policies to reach Climate Neutrality

Time	Session
09:45-10:00	**ECEMP Welcome**
10:00-11:30	**Plenary I:** Energy Vision Scenarios for Europe: Latest trends, results, and EU reference scenario
11:30-13:00	**Parallel sessions I:**

Energy Policy	Net-Zero Targets & Sectors	Climate Change Impact	Policy and Socio-Econ impacts

Time	Session
13:00-13:45	**Lunch**
13:45-15:15	**Parallel sessions II:**

Climate Change Impact	Industrial Sector	Decarboni-zation Strategies	Circular Economy

Time	Session
15:15-15:45	**Coffee break**
15:45-17:00	**Plenary II:** The European Energy and Climate modelling landscape
19:15-21:00	**Conference Dinner**

Day 2 – 17th October: Frontiers in Energy and Climate Modelling

Time	Session
09:45-10:00	**Welcome**
10:00-11:30	**Plenary III:** Inter-operability in energy and climate models, researcher needs, data needs, and transparent insights
11:30-13:00	**Parallel sessions III:**

Building Sector	Energy Carriers & Materials	EU Projects in Africa	Data and modelling approaches

Time	Session
13:00-13:45	**Lunch**
13:45-15:30	**Parallel sessions IV:**

GHG Emission Targets	Energy Systems Modelling	Energy Scenarios in Global South	Skills Workshop

Time	Session
15:30-16:00	**Coffee break**
16:00-16:30	**Towards ECEMP 2025 and Closing**

ECEMP 2024 will feature segments dedicated to policy-relevant research results (mostly Day1) as well as in-depth discussions on the latest trends in modelling development (Day 2). The conference will be streamed online, with some parallel sessions available exclusively for online attendees. **ECEMP has a hybrid format, allowing for both online and in-person attendance. For online participants please register to this link,** for in-person attendance please email organizers.

For further information please visit the conference website or contact us at: ecemp@ecemf.eu.

Plenary I: Energy Vision Scenarios for Europe: Latest trends, results, and EU decarbonisation scenarios

Energy efficiency policy and sustainable energy systems, Jan Rosenow (RAP/Oxford U.)

Exploring EU's energy system transformation in the context of climate neutrality, Maria Kannavou(E3M)

European Energy Vision 2060: Charting Diverse Pathways for Europe's Energy Transition. Mostafa Barani (NTNU) and Hans Auer (TUW)

European Climate targets and Energy System Transformation Francesco Ferioli (DG Energy, EU Commission) and intervention by DG Clima

Plenary II: The European Energy and Climate Modelling Landscape

EC vision for optimizing climate and energy modelling to better serve EU policy objectives. Philippe Tulkens (Head of Unit Climate and Planetary Boundaries, DG RTD, EU Commission)

The EFECT forum for developing policy and industry relevant insights based on modelling missions, Asgeir Tomasgard (Director NTNU Energy)

The ECEMF forum as a legacy structure to coordinate energy and climate modelling in Europe, Will Usher (KTH)

Plenary III: Inter-operability in energy and climate models, researcher needs, data needs, and transparent insights

Working with data across different model types for research purposes. Christoph Schimeczek (DLR)

Data and Modelling Challenges for EU energy and climate scenarios. Intervention by DG Energy, EU Commission

The modelling process of the Dutch Climate and Energy Outlook. Marit van Hout (PBL)

Parallel Session I

Energy Policy
- *Efficiency and Equity in Green Transitions,* **Camilli (Prometeia)**
- *Market Designs and Values in TradeRES,* **Schimeczek (DLR)**
- *IAM and Policy Response Mechanism,* **Heussaff (Bruegel)**
- *Interconnector expansion: A Pareto Efficiency,* **Emelianova (Köln)**

Net-Zero Targets and Cross-Sector Interactions
- *Screening Curves in Net-Zero Energy Systems,* **Walde (Köln)**
- *Transformation of the energy supply sector,* **Baka (E3M)**
- *Towards climate-neutrality in the EU,* **Pietzker (PIK)**
- *Transport Decarbonization in the Basque Country,* **Golab (TUW)**

Climate Change Impacts (online)
- *Climate Targets and Demand-Side Policies,* **Vivier (CIRED)**
- *Green transition and macro-financial risks,* **Ciola (UNIBS)**
- *Integrated Energy and Land Planning Policies,* **Ferreras (CARTIF)**
- *Narrative on the decarbonisation process,* **Cotroneo (ENEA)**

Policy and Socio-Economic Impacts (online)
- *Fit-For-55 and beyond,* **Di Bella (Politecnico di Milano)**
- *Assessing the Impact of CDR on the EU ETS,* **Osorio (PIK)**
- *China's strategies to the EU CBAM,* **Vielle (EPFL)**
- *Industry-specific effects of GHG reduction,* **Gumin & Lee (Seoul)**

Parallel Session II

Industrial Sector
- *Co-optimizing industry and energy system,* **Burghardt (Freiburg)**
- *Narratives of SSP 3.0 for the industrial sector,* **Maczek (IIASA)**
- *Effects of Industrial Policy Nationalism,* **Baka (E3M)**
- *Advancing hydrogen infrastructure planning,* **Namazifard (Vito)**

Climate Change Impacts
- *Economics of climate policy instruments,* **Antosiewicz (Kobize)**
- *Climate change impact on power generation,* **Schoeninger (AIT)**
- *Analyze Climate Heterogeneity,* **Ramos (UC3M)**
- *Climate Projections and Agent-Based Modelling,* **Guven (ITU)**
- *Energy investments of a 1.5°C target,* **Van der Vorst (EC)**

Decarbonization Strategies (online)
- *Decarbonization Strategies in Building Stock,* **Oezer (TU Wien)**
- *Demand-Side Mitigation Potentials,* **Muessel (PIK)**
- *Green H2 Ambition and Implementation Gap,* **Odenweller (PIK)**
- *Policies of the European green hydrogen sector,* **Kirchem (DIW)**

Circular Economy and Industry (online)
- *Circular Strategies and Low-Carbon Buildings,* **Mastrucci (IIASA)**
- *Circular Economy and Low-Carbon Industry,* **Lotz (Fraunhofer ISI)**
- *Modelling Material and Energy Flows,* **Martin (ip-Paris)**

Parallel Session III

Building Sector
- *Agent-based modeling of the building stock,* **Alibas (Fraunhofer)**
- *Data-driven demand-side management,* **Papantonis (IEECP)**
- *Lessons from Climate City Action plans,* **Mougin (eurocities)**
- *Building stock life cycle scenario assessment,* **Roeck (Leuven)**

Energy Carriers & Materials
- *Methanol production and imports,* **Maenner (Fraunhofer)**
- *Electrification, hydrogen and e-fuels,* **Zhang (PSI)**
- *Integrated energy system and materials flow model,* **Fortes (FCT)**
- *GHG along the construction value chain,* **Simões (LNEG)**
- *Capacity expansion & production cost models,* **Kleanthis (UNIPI)**

Data and Modelling Approaches (online)
- *The Joint Research Centre's Integrated Database,* **Jaxa-Rozen (EC)**
- *Georeferenced Building Characterization,* **Arrizabalaga (Tecnalia)**
- *Integrated Modelling Capacities for industry,* **Munoz (Tecnalia)**

EU Projects in Africa (online)
- The Continental Master Plan
- *Open Modelling Toolbox for Africa,* **Gashaw (Veritas Consulting)**
- *Potential of Off-Grid Systems in Mozambique,* **Cuamba (UEM)**
- *Hydrogen and Ammonia trade: Europe and MENA,* **Fattahi (TNO)**
- Insights on AU-EU energy commodity trade (panel discussion)

Parallel Session IV

GHG Emission Targets
- *Black box of fair emission reduction targets,* **Dekker (PBL)**
- *2040 EU GHG reduction targets,* **Rodrigues (PIK)**
- *Estimating Climate Damage Functions,* **Mekki (SEURECO)**
- *Socio-economic implications of EU climate targets,* **Garaffa (EC)**
- *Disruptive events and related scenarios,* **Al Khourdajie (Imperial)**

Energy System Modeling
- *Sectoral and full-system model comparison,* **Gusheva (TU Delft)**
- *Role of nuclear in France and Europe,* **Juergens (Fraunhofer)**
- *Downscaling energy system models,* **Launer (TU Delft)**
- *Energy system modeling and regional policy,* **Prina (EURAC)**

Energy Scenarios in Global South (online)
- *Designing the Future Power System of Kenya,* **Shen (NTNU)**
- *Energy Trade Between Africa and Europe,* **Kousoulos (Cyprus)**
- *Bolivian Path to a Sustainable Energy Mix,* **Balderrama (UMSS)**

Skills workshop (online)
- *A Recursive Dynamic CGE model,* **Fragkiadakis (E3M)**
- *A post-Keynesian Modelling Framework,* **Pirie (Cambridge)**
- *Residential Energy Demand,* **Pflugradt (Juelich)**
- *Household Electricity Consumption,* **Quesada (Deusto University)**

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