January – Feburary 2022 Webinar Series

Integrating Sustainable Development Goals Into Energy Systems Modelling

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ENERGY TECHNOLOGY SYSTEMS ANALYSIS PROGRAM

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As defined by the United Nations, the sustainable development goals represent the “blueprint for achieving a better and more sustainable future for all”. Interlinkages between sustainable development goals, energy, and climate, call for holistic approaches in their assessment.

The ETSAP community has performed several model developments and knowledge exchanges regarding the integrated assessment of the economic and energy systems in view of sustainable development. The aim is to expand the boundaries of energy modelling and incorporate new systemic interdependencies in a broader sense and contribute to a more holistic understanding of future development pathways

In this context, three workshops are organized that address different sustainable development goals and their interaction with the energy system.

The main objectives of the three workshops are:

- To analyze methodologies for integrating sustainable development goals into energy systems modelling
- To assess required associated data
- To provide insights on the value-added gained for policy analysis

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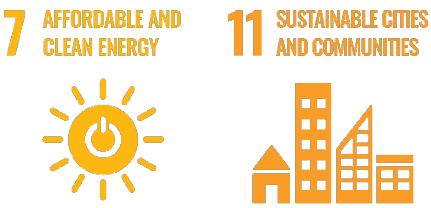


January 13th 2022
Resilience and sustainability of power systems with high shares of renewables

The provision of reliable, secure and affordable electricity is essential to power economic growth and development. The drop in the cost of renewable technologies makes them an increasingly viable option. Moving towards a weather-dependent electricity generation raises resilience issues against supply disruptions, while back up storage systems depend on critical supplies of rare-earth materials.

This webinar aims to give a better understanding of how resilience can be achieved in future power systems with high shares of renewables to ensure affordable and sustainable electricity supply while at the same time mitigating criticalities in supply chains of materials. Three of the top modelling teams share insights on methodologies and data about integrating resilience and sustainability indicators of renewable energy technologies into energy systems models.

Indicative program:

Kirsten HALSNÆS, DTU, Coordinating Lead Author of the Chapter 17 "Accelerating the transition in the context of sustainable development" of the IPCC Sixth Assessment Report

Vincent MAZAURIC, Schneider Electric, Principal Scientist and IP Director, IPCC Reviewer Expert

Gondia Sokhna SECK, IFPEN, Senior Energy Specialist (modeling and analyses of energy systems)

Moderators:
[tba], ETSAP
Nadia Maïzi, Mines Paris - PSL

January 20th 2022
Energy and land-use nexus

Land use is central to many environmental and socio-economic issues. The twin challenge of reversing biodiversity declines and mitigating climate change, while producing sufficient food to ensure zero hunger and providing new land areas for renewable energies, must be tackled together. While a transition towards cleaner, less emission-intensive energy systems has been the focus to date, the role of agriculture in generating GHG emissions is becoming increasingly clear. Further, negative emission technologies or land use types which accumulate carbon are getting more in the focus with the climate neutrality targets and will be even more important in the future.

This webinar aims at providing a deeper understanding of the role of land-use change to reduce GHG emissions while contributing to other strategic priorities such as food production and biodiversity. It brings three top modelling teams to share insights on methodologies and data about integrating energy and land systems, to identify suitable sustainable development indicators and exchange on required policies and their impacts.

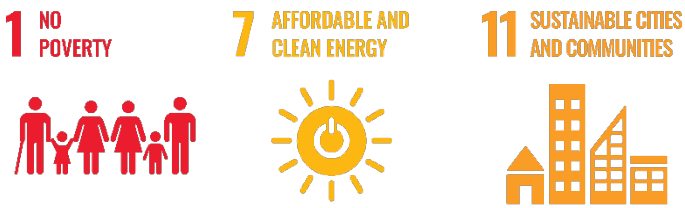
Indicative program:

Adriano VINCA; IIASA: MESSAGEix model

Miodrag STEVANOVIC, PIK: MaGPIE-REMIND model coupling

Vera SEHN; IER: Integrating agriculture and land-use aspects into TIMES Pan-EU

Moderators:
[tba], ETSAP
Markus Blesl, IER



February 10th 2022
Energy poverty and energy access

Today 789 million people around the world lack access to electricity. In addition, about 2.8 billion people need improved access to clean and safe cooking fuels and technologies. On top of the socio-economic impacts of energy poverty, achieving ambitious goals for climate change mitigation requires energy services based on clean electricity and cooking fuels. As the COVID-19 pandemic showed to us, lack of access to energy also hampers efforts to contain diseases across many parts of the world.

This webinar brings together three top modelling teams to share insights on methodologies and data about integrating energy poverty and energy access into energy systems models. Suitable sustainable development Indicators on this topic, e.g. population without access to clean energy or health impacts, will be identified and discussed.

Indicative program:

Shonali PACHAURI, IIASA, Group leader of Transformative Insitutional and Social Solutions

Gianluca TONOLO, **IEA**, Leader of the energy access modelling team of the IEA World Energy Model

Anteneh DAGNACHEW, PBL, Leader of the energy access modelling team of the IMAGE model

Moderators:
[tba], ETSAP
Evangelos Panos, Paul Scherrer Institute

Images are from the United Nations Department of Economic and Social Affairs Sustainable Development