

# Modeling carbon neutral pathways for the EU

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## ■Abstract

The EU is signatory to the Paris agreement and has committed to reducing its emissions to well below 2°C: with the European Green Deal and the subsequent Climate Law the EU has committed to carbon neutrality by 2050 and to a reduce emission reductions by 55% in 2030 compared to 1990. In the presentation, we present the challenges and improvements undertaken in the PRIMES energy system model to improve the representation of selected sectors when modelling pathways to carbon neutrality. The challenges to improve representation of the new elements in the system such as circular economy, and energy efficiency in buildings, industry and transport taking into account the inertia of the system, as well as the changes required in the supply side including the high share of renewable energy sources and the required flexibility of the energy system, as well as the production and storage of new energy carriers. We then present the effects of moving from the current legislated targets to a 55% emission reduction in 2030 compared to 1990 and the effects on selected sectors of buildings and power generation.

## ■Biography

Alessia De Vita, Project Manager energy analysis and policy

Alessia De Vita is a senior expert collaborator in the energy and transport modelling teams of E3-Modelling, focusing on policy analysis and scenario design. She leads and participates in numerous projects in the field of energy and transport. She has 11 years of experience in energy, transport, economy and environmental policy modelling and impact assessment studies. She has extensive experience in project and team management, as well as quality control. Her experience also lies in the areas of international climate change negotiations, ETS, technology development as well as decentralized energy systems and microfinancing. Before E3-Modelling, she worked at the Energy Research Centre of the Netherlands (ECN) following and preparing inputs for national and EU delegations for the climate negotiations at the UNFCCC on e.g. MRV, and among others on the ETS, at the Arrhenius Institute for Energy and Climate Policy in Hamburg-Germany on technology development and at Microenergy International in Berlin-Germany on decentralised energy systems and microfinance. She holds a degree in energy and process engineering (Diplom-Ingenieurin) from the Technical University of Berlin-Germany.