A SERIES OF VOICES SHAPING SUSTAINABLE CHANGE

Meet the STEP-CHANGErs

Alice Di Bella: **Modelling future scenarios for a clean and resilient European energy system**
This research investigates the challenges of maintaining industrial competitiveness during Europe's transition to a climate-neutral energy system. The first study analyses the decarbonisation of energy-intensive industries within a high-resolution European energy system model, with different industrial production levels. It evaluates alternative strategies for competitiveness, including intra-European relocation, imports of low-carbon intermediates, and targeted subsidies. The second paper examines how trade policies and geopolitical disruptions interact with climate policy by coupling an energy system model with a macroeconomic model. Together, these studies show that industrial decarbonisation outcomes depend critically on competitiveness constraints, trade conditions, and policy design.

Leonardo Chiani**: Untangling uncertainties in coupled climate-economy models**
This research develops and applies novel Global Sensitivity Analysis (GSA) techniques based on Optimal Transport to quantify uncertainties in Integrated Assessment Models (IAMs). The study introduces an R package, gsaot, for estimating multivariate sensitivity indices, and advances computational methods using neural solvers. The framework is applied to policy-relevant models such as RICE50+ and WITCH to identify key drivers of uncertainty in climate and economic projections. By improving uncertainty quantification, this work supports more robust climate policy decisions and enhances the reliability of model-based assessments in climate-economy systems.

The event will be followed by a networking aperitif.

POLITECNICO MILANO 1863

12th February 2026
5:00 - 6:00 pm
Sala Vento,
EN:lab, Building 31,
Department of Energy,
Campus Bovisa

Register here

www.phd-stepchange.polimi.it