Deep decarbonisation towards 1.5°C – 2°C stabilisation

Final Conference of the European Commission-funded ADVANCE Project
Date: 24 October 2016, 10:30-17:00
Venue: Centre Albert Borschette (Room 0.D.), Rue Froissart 36, 1049 Brussels

The Paris Agreement reinforced the objective of keeping global temperature rise well below 2°C, and of pursuing efforts to limit the temperature increase even further to 1.5°C above pre-industrial levels. The 1.5°C limit is considered a significantly safer defence line against the worst impacts of a changing climate. Such low stabilization requires swift action and an almost full-scale decarbonization of energy systems worldwide.

Integrated Assessment Models (IAM) help quantifying the requirements for climate stabilization and the implications of international climate agreements in general and the Paris Agreement specifically, including costs, economic impacts, as well as feasibility of the rapid transformative changes they involve at the global and regional scales. ADVANCE has put a particular focus on improving the understanding of the crucial dynamics in the low-carbon transformation, such as the technological change, the role of consumer behavior, emission reduction potentials in energy demand sectors, as well as decarbonization bottlenecks in energy supply. The model developments performed in ADVANCE allow a renewed and improved assessment of climate change mitigation strategies. ADVANCE also performs a detailed assessment of the INDCs, and explores pathways towards 2°C and 1.5°C stabilization.

The conference will bring together stakeholders, climate policy experts and ADVANCE scientists. It will present the results of the project and discuss implications for climate and energy policies, as well as priorities for future research. We will address the following questions and topics:

- How can climate stabilization in the 1.5°C-2°C range be achieved, and what are the implications for the energy system transformation?
- How can the demand side and energy efficiency contribute to climate stabilization?
- What are broader sustainability implications of alternative mitigation pathways?
- Can we rely on variable renewable energy sources for future low-carbon energy supply?
- How can we increase confidence in modelling tools for policy advice? How does enhancing transparency, testing validity and capturing uncertainty help?

About ADVANCE (Advanced Model Development and Validation for Improved Analysis of Costs and Impacts of Mitigation Policies): over the past four years, fourteen research institutions from all over the world have joined forces to develop a new generation of Integrated Assessment Models (IAMs). IAMs describe the environmental, social and economic factors and interactions that determine climate change and have become central tools to inform policy makers on different climate mitigation options and impacts. ADVANCE applies the improved models to assess climate policies, including the implications of the Paris Climate Agreement.

ADVANCE Steering Committee: Gunnar Luderer, Elmar Kriegler (PIK), Keywan Riahi, Volker Krey (IIASA), Detlef van Vuuren (Utrecht University/PBL), Massimo Tavoni (FEEM), Bert Saveyn (JRC).

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Conference Agenda

10:30-11:10	Setting the scene *Chair: Elmar Kriegler, PIK*
	Welcome and introduction
	Andrea Tilche, European Commission, DG for Research and Innovation
	Keynote: Climate and energy policy in a Post-Paris World
	Artur Runge-Metzger, European Commission, DG for Climate Action
11:10-11:45	The ADVANCE project: Overview and key insights *Chair: Elmar Kriegler, PIK*
	The challenge of limiting warming to 1.5-2°C
	Gunnar Luderer, Potsdam Institute for Climate Impact Research (PIK)
	Transformations on the demand side: transport, industry, buildings, efficiency
	Detlef van Vuuren, Netherlands Environmental Assessment Agency (PBL)
	Climate policy and sustainable development
	Keywan Riahi, International Institute for Applied Systems Analysis (IIASA)
	Q&As
11:45-12:45	Panel discussion: From research results to real-world transformation *Moderator: Elmar Kriegler, PIK*
	Laura Cozzi, International Energy Agency; Maria Mendiluce, World Business Council for Sustainable Development; Xavier Garcia Casals, Greenpeace International; Andrea Tilche, European Commission, DG for Research and Innovation; Artur Runge-Metzger, European Commission, DG for Climate Action
12:45-13:45	Lunch
13:45-14:35	Climate and energy policy *Chair: Ger Klaassen, DG for Climate Action*
	Implementing the Paris Agreement: system transformations and the contribution towards 1.5-2°C targets
	Bert Saveyn and Zoi Vrontisi, European Commission, DG Joint Research Centre (JRC)
	A look at energy subsidies and climate objectives
	Jessica Jewell, International Institute for Applied Systems Analysis (IIASA)
	Comment by discussant
	Bert Metz, European Climate Foundation
	Q&A
14:35-15:25	Energy transformation pathways *Chair: John Weyant, Stanford University*
	Sustainable power supply and the role of wind and solar
	Robert Pietzcker, Potsdam Institute for Climate Impact Research (PIK)
	Low-carbon pathways for the transportation sector
	Oreane Edelenbosch, Netherlands Environmental Assessment Agency (PBL)
	Comment by discussant
	Pietro Menna, European Commission, DG for Energy
	Q&A
15:25-15:55	Coffee Break
15:55-16:45	Transparency and Robustness *Chair: Laura Cozzi, IEA*
	How to establish credibility? Evaluation and transparency of energy-economy models
	Volker Krey, International Institute for Applied Systems Analysis (IIASA)
	Towards robust insights for policy-making: structured uncertainty analysis
	Massimo Tavoni, Fondazione Eni Enrico Mattei (FEEM)
	Comment by discussant
	Evelina Trutnevyte, ETH Zürich
	Q&A
16:45-17:00	Conclusion