



**18th IAMC
Annual Meeting
11-13 November 2025**

Búzios
Rio de Janeiro, Brazil

FINAL PROGRAMME

(UTC-03 time zone)



With the support of



Tuesday, 11th November, 2025

09:00 - 09:15 - Room Tucuns+Tartaruga

OPENING SESSION

Speakers: ROBERTO SCHAEFFER, PPE/COPPE/UFRJ, Brazil; JOHN WEYANT, Stanford University, USA; DETLEF VAN VUUREN, PBL, Netherlands

09:15 - 10:00 - Room Tucuns+Tartaruga

PLENARY SESSION 1 - Food for thought on transitioning away from fossil fuels: What ingredients are needed to make it palatable to all tastes and parties during the 'COP of implementation' in Belém?

Chair: Roberto Schaeffer

At the 1992 United Nations Conference on Environment and Development, held in Brazil in 1992, world leaders signed the UNFCCC, defining principles and the five building-blocks for the multilateral response to climate change: mitigation, adaptation, finance, technology, and capacity-building. And as the world now enters 2025 with the confirmation that 2024 was the warmest year on record, and the first calendar year that the global average temperature exceeded 1.5°C above pre-industrial levels, the Brazilian government's vision is one of transforming COP30 into the "COP of implementation" or the "COP of action", with a focus on fulfilling the diplomatic commitments made by countries since the signing of the Paris Agreement. This will include, for example, the commitment made at COP28, in Dubai, which called for reducing the use of fossil fuels. The decision to transition away from fossil fuels in an orderly and fair manner has already been agreed upon. It is no longer a debate about 'if', but about 'how'. This "COP of implementation," or "COP of action," is expected to make progress in all domains of the needed multilateral response to climate change, with "transitioning away" from fossil fuels being key to that.

Speakers: **FÁBIO JOSÉ FELDMANN**, Brazilian lawyer, environmentalist, and former Congressman and **ALEXANDRE SZKLO**, Energy Planning Program (PPE), Coppe, Universidade Federal do Rio de Janeiro

10:00 - 10:30 - Room Tucuns+Tartaruga

COMMUNITY PROJECTS

Chair: Talita Borges Cruz

This session will feature a variety of ongoing community activities reflecting the diverse interests and contributions of the IAMC community. We will start with the

Scenario Compass Initiative, which aims to make scenarios more accessible and useful to a wide range of user communities.

Coffee break 10:30 - 11:00

11:00 - 12:45 - Room Tucuns+Tartaruga

ENERGY 1

Chair: Diego Silva Herran

Energy supply-sector analysis (including fossil fuels). The session will investigate the advanced analysis of electricity and hydrogen production (including system integration) and the use of these energy carriers in end-use sectors.

303 Energy system developments across the scenarioMIP scenarios

Christoph Bertram¹, Gunnar Luderer², Elina Brutschin³, Fabrice Lecuyer², Brian O'Neill¹, Yang Ou⁴, Mel George¹

¹University of Maryland - Center for Global Sustainability (UMD-CGS), College Park, USA. ²Potsdam Institute for Climate Impact Research, Potsdam, Germany. ³International Institute for Applied Systems Analysis, Laxenburg, Austria. ⁴Peking University - Department of Environmental Science and Engineering, Beijing, China

352 Time is of the essence: Accounting for observed energy transformation progress and upscaling inertia in modelling low-end climate stabilization pathways

Gunnar Luderer, Fabrice Lecuyer, Pascal Weigmann, Rahel Mandroux, Philipp Verpoort, Laurin Köhler-Schindler
PIK, Potsdam, Germany

212 Energy supply sector transformations towards EU's net-zero goal

Maro Baka¹, Panagiotis Fragkos¹, Fotis Sioutas¹, Joanna Sitarz², Sebastian Osorio², Robert Pietzker², Juliette Lecarpentier³, Emir Fejzić⁴, Will Usher⁴, Igor Tatarewicz⁵, Michał Lewarski⁵, Benjamin Lux⁶

¹E3Modelling, Athens, Greece. ²PIK, Potsdam, Germany. ³ARTELYS, Paris, France. ⁴KTH, Stockholm, Sweden. ⁵IOS/PIB-CAKE, Warsaw, Poland. ⁶Fraunhofer, Berlin, Germany

20 Representing policies in probabilistic energy projections: the cases of solar PV and onshore wind power in Europe

Nik Zielonka, Evelina Trutnevyte
University of Geneva, Geneva, Switzerland

138 The Impact of Changes in Nitrogen Gas Emission in Climate Change Mitigation Scenarios on Air Quality in Eastern Asia

Koga YAMAZAKI¹, Shinichiro FUJIMORI¹, Younha KIM², Chen HUANG², Thiago BRITO², Binh NGUYEN², Zbigniew KLIMONT²

¹Kyoto University, Kyoto, Japan. ²IIASA, Vienna, Austria

258 Assessing Daily Power Shortage Risks under Climate Change for China's Power System

Yun Wu¹, Biying Yu¹, Baojun Tang¹, Jing Hu², Robert Harmsen², Wina Crijns-Graus³, Yi-Ming Wei¹

¹ceep-bit, Beijing, China. ²Utrecht University, Utrecht, Netherlands. ³Utrecht University, Utrecht, Netherlands

11:00 - 12:45 - Room Geribá

NATIONAL 1

Chair: John Weyant

Assessment of national mitigation strategies (including non-state actors). This session will focus on assessing the effectiveness and consequences of climate policies at the national scale, including the implementation of nationally determined contributions, net-zero targets and mid-century strategies. The session can also cover the contribution of non-state actors.

227 Integrating Water-Energy interactions in a Power Dispatch model: A case study for Bolivia

Alizon Triny Huallpara Lliully¹, William Usher², Sylvain Quoilin³, Matija Pavičević³

¹Universidad Mayor de San Simón, Cochabamba, Bolivia, Plurinational State of. ²KTH, Stockholm, Sweden. ³University of Liege, Liege, Belgium

307 Distributed Energy Futures for Argentina: A Coupled Energy-Economy Scenario Analysis to 2050

Francisco Lallana, Ignacio Sagardoy, Aliosha Nicolás Behnisch

Fundación Bariloche, San Carlos de Bariloche, Argentina

322 Modelling different low carbon transition pathways for Brazil - An analysis of the energy sector

Fabio A. Diuana¹, Luiz Bernardo Baptista¹, Taísa N. Morais¹, Gerd Angelkorte¹, Pedro R. R. Rochedo^{1,2}, André F. P. Lucena¹, Alexandre Szklo¹, Roberto Schaeffer¹

¹Energy Planning Program (PPE), Coppe, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil.

²Research and Innovation Center on CO₂ and Hydrogen (RICH Center) and Management Science and Engineering Department, Khalifa University, Abu Dhabi, UAE

355 When to Peak: The Price of Delay in India's Climate Transition

Mel George¹, Christoph Bertram¹, Haewon McJeon²

¹Center for Global Sustainability, College Park, USA. ²KAIST, Daejeon, Korea, Republic of

15 Net-zero compatible development pathways in Argentina, Brazil, China, India, Indonesia, Mexico and South Africa: lessons for short-term actions

Yann BRIAND¹, Emilio Lebre La Rovere², Francisco Lallana³, Jordi Tovilla⁴, Fei Teng⁵, Amit Garg⁶, Saritha Sudharamma Vishwanathan^{7,8}, Retno G. Dewi⁹, Rizaldi Boer¹⁰, Bryce McCall¹¹, Christopher Bataille¹², Johannes Svensson¹, Clara Lepin¹, Henri Waisman¹, Luky Anggraeni¹⁰, Vidhee Avashia⁶, Aliosha Behnisch³, Savanha De Kock¹¹, Carolina Dubeux², Thalia Hernandez⁴, Marina Recalde³, Ucok Siagian⁹, Julia Tatham¹¹, William Wills², Daniel Buirá⁴

¹IDDRI, Sciences Po, Paris, France. ²UFRJ, Rio de Janeiro, Brazil. ³Fundacion Bariloche, Buenos Aires, Argentina. ⁴Tempus Analitica, Mexico city, Mexico. ⁵Tsinghua University, Beijing, China. ⁶IIMA, Ahmedabad, India. ⁷IIMA, Adhmedabad, India. ⁸Kyoto University, Kyoto, Japan. ⁹Bandung Institute of Technology, Bandung, Indonesia. ¹⁰Bogor University, Bogor, Indonesia. ¹¹University of Cape Town, Cape Town, South Africa. ¹²IDDRI, Sciences Po, Vancouver, Canada

349 Assessing the Costs and Benefits of Jamaica's Long-Term Strategy

Jam Angulo Paniagua¹, Alrick Campbell², Nekeisha Spencer³, Frédéric Gherzi⁴, Luis Victor-Gallardo¹, Jairo Quirós-Tortós¹, Omar Alcock⁵, Viktoria Dimitrova⁶, Marcela Jaramillo⁶

¹Climate Lead Group, San José, Costa Rica. ²Department of Economics, University of the West Indies, Mona Campus, Vancouver, Canada. ³Department of Economics, University of the West Indies, Mona Campus, Kingston, Jamaica. ⁴CNRS, CIRED, Nogent-sur-Marne, France. ⁵Climate Change Branch, Ministry of Economic Growth and Job Creation of Jamaica, Kingston, Jamaica. ⁶The 2050 Pathways Platform, European Climate Foundation, Paris, France

11:00 - 12:45 - Room João Fernandes

CDR - 1

Chair: Jessica Strefler

This session looks into promising carbon dioxide removal techniques (CCU, BECCS, DACS, and others) and the implications of using these.

314 Integrating Enhanced Weathering and Biochar into COFFEE's Agricultural Sector

Fabio Teixeira Ferreira da Silva¹, Gabrielle Ferreira Pinto¹, Camila Ludovique¹, Gerd Angelkorte¹, Lucas Carvalho¹, Luiz Bernardo Baptista¹, Pedro R.R. Rochedo^{2,1}, Alexandre Szklo¹, Roberto Schaeffer¹

¹Centre for Energy and Environmental Economics (Cenergia), Energy Planning Program (PPE), COPPE, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil. ²Research and Innovation Center on

CO2 and Hydrogen (RICH Center) and Management Science and Engineering Department, Khalifa University, Abu Dhabi, UAE

149 Wetlands Restoration as a Carbon Dioxide Removal (CDR) technology: Methane, carbon sequestration and ecosystem services

Cindy Azuero Pedraza^{1,2}, Carlos Rodriguez-Pardo^{1,2,3}, Lara Aleluia Reis^{1,2}, Laurent Drouet^{1,2}

¹CMCC Foundation- Euro-Mediterranean Center on Climate Change, Lecce, Italy. ²RFF-CMCC European Institute on Economics and the Environment, Milan, Italy. ³Politecnico di Milano, Milan, Italy

319 Uncertainties on current carbon stocks and the role of land use change emissions in ambitious mitigation pathways

Gabriel Abrahao¹, Jens Heinke¹, Michael Crawford¹, Elmar Kriegler^{1,2}, Joeri Rogelj³, Norman Steibert⁴, Jessica Strefler¹, Jan Phillip Dietrich¹, Florian Humpenoder¹, David Klein¹, Christoph Muller¹, Kristine Karstens¹, Alexander Popp¹, Anna Harper⁵, Kjetil Aas⁴, Rosie Fisher⁴, Jared Lewis^{6,7}, Zebedee Nicholls^{6,7}

¹Potsdam Institute for Climate Impact Research, Potsdam, Germany. ²University of Potsdam, Potsdam, Germany. ³Imperial College London, London, United Kingdom. ⁴CICERO Center for International Climate Research, Oslo, Norway. ⁵University of Georgia, Athens, Georgia, USA. ⁶International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria. ⁷The University of Melbourne, Parkville, Australia.

232 Spatiotemporal Optimization of CDR Incentives: A Carbon-Responsive CCUS Strategy for Heterogeneous Coal Power Plants in China

Zhao Yang¹, Kang Jianing¹, Zhang Yunlong¹, Liu Lancui², Wei Yiming¹

¹Center for Energy and Environmental Policy Research, Beijing Institute of Technology (CEEP-BIT), BeiJing, China. ²School of National Safety and Emergency Management, Beijing Normal University, BeiJing, China

68 Analyses on economical potentials of CDR technologies considering their interactions using an IAM

Keigo Akimoto, Fuminori Sano, Hiroshi Harada, Noritaka Mochizuki, Takahiro Nagata
Research Institute of Innovative Technology for the Earth (RITE), Kizugawa-shi, Japan

220 The Role of Carbon Pricing in Regional CDR Deployment: A Multi-Model Assessment

Catrin Harris^{1,2}, Vassilis Daioglou², Oumaima Rhalem^{1,2}, Isabela Schmidt Tagomori², Jay Fuhrman³, James Edmonds³, Yoga Pratama⁴, Anne Merfort⁵, Laurent Drouet⁶, Hattie Whittaker⁷, Sanna O'Connor-Morberg⁷, Detlef van Vuuren^{1,2}

¹Utrecht University, Utrecht, Netherlands. ²PBL, The Hague, Netherlands. ³Pacific Northwest National Laboratory, Maryland, USA. ⁴International Institute for Applied Systems Analysis, Laxenburg, Austria. ⁵PIK, Potsdam, Germany. ⁶CMCC, Milano, Italy. ⁷Carbon Direct, London, United Kingdom

11:00 - 12:45 - Room Ferradura

TRANSPORT, BUILDINGS and CITIES - 1

Chair: Alessio Mastrucci

This session will look into decarbonization strategies for the transport and building sectors, including changing mobility and housing services, improving energy efficiency, electrification, and low carbon fuel substitution. It will also explore the potential impacts of cities on climate change and their role in mitigation and adaptation.

127 Urban-resolved IAM downscaling for subnational climate mitigation scenarios

Angel Hsu¹, Diego Manya², Gunnar Luderer³, Mark Roelfsema^{4,5}, Ying Yu¹

¹University of North Carolina at Chapel Hill, Chapel Hill, USA. ²Data-Driven Enviro Lab, Chapel Hill, USA.

³PIK, Potsdam, Germany. ⁴PBL, The Hague, Netherlands. ⁵Utrecht University, Utrecht, Netherlands

310 Cities at the forefront: current modelling practices and opportunities for integrated assessment models—insights from Athens, Greece

Georgios Xexakis¹, Alexandros Nikas², Konstantinos Koasidis², Natasha Frilingou², Elissaios Sarmas², Vangelis Marinakis², Haris Doukas²

¹HOLISTIC S.A., Athens, Greece. ²Energy Policy Unit, National Technical University of Athens, Athens, Greece

197 Place-Based Photovoltaic Planning: Tailoring Urban Rooftop Solar Strategies to Regional Socio-Techno-Policy Ecosystems

Ran Zhou, Jingjing Xiang, Xiaojing Lin, Yuhang Ji, Jiaqi Wu, Junling Liu

Harbin Institute of Technology, Shenzhen, Shenzhen, China

29 Income-driven responses reshape China's building sector decarbonization

Rongqi Zhu¹, Ying Zhang², Ke Jiang³, Weiguang Cai⁴, Kelly Casper², Hancheng Dai^{1,5}, Yana Jin¹, Yan Li⁴, Teng Ma¹, Stephanie Morris², Brian O'Neil², Wei Peng^{6,7}, Jon Sampedro⁸, Guofeng Shen^{3,5}, Yilong Xiao¹, Xucheng Zhao³, Yang Ou^{1,5}

¹College of Environmental Sciences and Engineering, Peking University, Beijing, China. ²Joint Global Change Research Institute, Pacific Northwest National Laboratory, Maryland, USA. ³College of Urban and Environmental Sciences, Peking University, Beijing, China. ⁴School of Management Science and Real Estate, Chongqing University, Chongqing, China. ⁵Institute of Carbon Neutrality, Peking University, Beijing, China. ⁶Andlinger Center for Energy and the Environment, Princeton University, New Jersey, USA. ⁷School of Public and International Affairs, Princeton University, New Jersey, USA. ⁸Basque Centre for Climate Change (BC3), Leioa, Spain

295 Top-down and bottom-up modelling of current and future decarbonisation trends in the buildings sector across different scales and contexts

Vassilis Stavrakas¹, Nikos Kleanthis¹, Panagiotis Fragkos², Behzad Zamanipour³, Rasmus Magni Johannsen⁴, Eleftheria Zisarou², Dimitris Papantonis¹, Meng Yuan⁴, Jyoti Maheshwari⁵, Farzin Ahmadi³, Jakob Zinck Thellufsen⁴, Ilkka Keppo³, Saritha Vishwanathan^{5,6}, Alexandros Flamos¹

¹Technoeconomics of Energy Systems laboratory (TEESlab), Department of Industrial Management and Technology, University of Piraeus, Piraeus, Greece. ²E3-Modelling S.A., Athens, Greece. ³Department of Energy and Mechanical Engineering, Aalto University, Espoo, Finland. ⁴Aalborg University, Department of Sustainability and Planning, Aalborg, Denmark. ⁵Public Systems Group, Indian Institute of Management Ahmedabad, Ahmedabad, India. ⁶Graduate School of Engineering, Kyoto University, Kyoto, Japan

276 Exploring carbon dioxide removal and storage potential in global building scenarios

Alessio Mastrucci¹, Dominik Steinberger-Maierhofer², Xiaoyang Zhong¹, Nicolas Alaux², Florian Maczek¹, Merle Quade¹, Martin Röck³, Matthew Gidden⁴, Bas van Ruijven¹

¹International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria. ²Graz University of Technology, Graz, Austria. ³KU Leuven, Design and Engineering of Construction and Architecture, Leuven, Belgium. ⁴Pacific Northwest National Laboratory, College Park, USA

12:45 - 13:00 - Group Photo

13:00 - 14:15 - Lunch

14:15 - 15:45 - Room Tucuns+Tartaruga

IMPACTS - 1

Chair: Massimo Tavoni

This session will focus on modelling climate impacts in integrated assessment models. Special attention will be paid to the representation of adaptation in IAMs. Impacts of climate change, such as those on agriculture, energy systems or wider. The session will also look into the representation of the climate system itself (including small climate models and emulators).

209 Mind the gap: linking individual adaptation decisions to global climate mitigation policy

Alessandro Taberna [ORCID iD](#)¹, Johannes Emmerling [ORCID iD](#)¹, Massimo Tavoni [ORCID iD](#)¹, Tatiana Filatova [ORCID iD](#)²

¹RFF-CMCC European Institute on the Economics and the Environment, Milan, Italy. ²Delft University of Technology, Faculty of Technology, Policy and Management, Delft, Netherlands

221 Inequalities within the residential cooling gap and maladaptation impacts

Constance Crassier¹, Vassilis Daioglou¹, Detlef van Vuuren^{1,2}

¹PBL, Den Haag, Netherlands. ²Utrecht University, Utrecht, Netherlands

181 Future desalination capacity and risks of maladaptation

Marina Andrijevic¹, Adriano Vinca¹, Michele Magni², Michelle van Vliet², Michaela Werning¹, Edward Byers¹

¹IIASA, Laxenburg, Austria. ²Utrecht University, Utrecht, Netherlands

153 Global Health and Economic Benefits under Synergistic Implementation of the Paris Agreement and Decent Living Standards Targets

Bo Yang¹, Xiao-Chen Yuan¹, Edward Byers², Giacomo Falchetta^{3,2}, Marina Andrijevic², Yi-Ming Wei¹

¹Center for Energy and Environmental Policy Research, Beijing Institute of Technology, Beijing, China.

²Energy, Climate & Environment Program, International Institute of Applied Systems Analysis, Laxenburg, Austria. ³Centro Euro-Mediterraneo sui Cambiamenti Climatici, Venice, Italy

55 Halving Global Ammonia Emissions with Cost-Effective Measures

Xiuming Zhang¹, Wilfried Winiwarter¹, Baojing Gu²

¹IIASA, Laxenburg, Austria. ²Zhejiang University, Hangzhou, China

14:15 - 15:45 - Room Geribá

NATIONAL - 2

Chair: Saritha Sudharma Vishwanathan

Assessment of national mitigation strategies (including non-state actors). This session will focus on assessing the effectiveness and consequences of climate policies at the national scale, including the implementation of nationally determined contributions, net-zero targets and mid-century strategies. The session can also cover the contribution of non-state actors.

271 Assessing Renewable Energy Policies and Their Associated Socioeconomic Impacts in Vietnam's Sustainable Energy Transition

Giang Ngoc Huong Vu^{1,2}, Camilla Lo Guidice², Shравan Kumar Pinayur Kannan², Maryna Henrysson²

¹University of Lorraine, Nancy, France. ²KTH Royal Institute of Technology, Stockholm, Sweden

125 Enhanced National Climate Policy across all sectors to achieve 62% GHG Emissions Reduction in South Korea by 2035

Hyuntae Choi¹, Alicia Zhao², Sangin Park¹, Ahmed Mahmoud³, Haewon McJeon³

¹Seoul National University, Seoul, Korea, Republic of. ²University of Maryland, College Park, USA. ³Korea Advanced Institute of Science & Technology, Daejeon, Korea, Republic of

210 Modeling the Macroeconomic and Emissions Impacts of Energy Policies in Saudi Arabia: A Soft-Linked GCAM-KGEMM Approach

Fakhri Hasanov, Raphael Apeaning, Puneet Kamboj, Mohamad Hejazi
KAPSARC, Riyadh, Saudi Arabia

111 Toward Ambitious Climate Commitments: Multi-Model Study of China's Updated 2035 NDC

Hongbo Duan¹, Yixin Sun¹, Yang Ou², Fei Guo³, Chen Chris Gong⁴, Xunzhang Pan⁵, Tianpeng Wang⁶

¹School of Economics and Management, University of Chinese Academy of Sciences, Beijing, China. ²School of Environmental Sciences and Engineering, Peking University, Beijing, China. ³Weihai Institute for Interdisciplinary Research, Shandong University, Weihai, China. ⁴Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany. ⁵School of Ecology and Environment, Renmin University of China, Beijing, China. ⁶Institute of Energy, Environment and Economy, Tsinghua University, Beijing, China

37 Implementing Sectoral Policies Advances China's Progress Toward Carbon Neutrality: Aligning Ambition with Feasibility

Huaxuan Wang¹, Yang Liu¹, Fan Wu², Hancheng Dai^{2,3}, Hongbo Duan⁴, Fei Guo^{5,6}, Nate Hultman⁷, Xi Lu^{1,8}, Haewon McJeon⁹, Andy Miller⁷, Bas van Ruijven⁶, Dan Tong¹⁰, Sha Yu⁷, Wenping Yuan³, Da Zhang¹¹, Ryna Cui⁷, Qiang Zhang¹⁰, Yang Ou^{2,3}

¹State Key Laboratory of Regional Environment and Sustainability, School of Environment, Tsinghua University, Beijing, China. ²College of Environmental Sciences and Engineering, Peking University, Beijing, China. ³Institute for Carbon Neutrality, Peking University, Beijing, China. ⁴School of Economics and Management, University of Chinese Academy of Sciences, Beijing, China. ⁵Weihai Institute for Interdisciplinary Research, Shandong University, Weihai, China. ⁶International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria. ⁷Center for Global Sustainability, School of Public Policy, University of Maryland, College Park, MD, USA. ⁸Institute for Carbon Neutrality, Tsinghua University, Beijing, China. ⁹Graduate School of Green Growth & Sustainability, Korea Advanced Institute of Science and Technology, Daejeon, Korea, Republic of. ¹⁰Ministry of Education Key Laboratory for Earth System Modeling, Department of Earth System Science, Tsinghua University, Beijing, China. ¹¹Institute of Energy, Environment and Economy, Tsinghua University, Beijing, China

14:15 - 15:45 - Room João Fernandes

CDR - 2

Chair: Vassilis Daioglou

This session looks into promising carbon dioxide removal techniques (CCU, BECCS, DACS, and others) and the implications of using these.

132 Ocean liming can help to achieve the Paris climate target

Jessica Strefler, Katarzyna Kowalczyk, Verena Hofbauer, Tabea Dorndorf, Lavinia Baumstark
Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany

178 The Role of Carbon Dioxide Removal in Nationally Determined Contributions and Long-Term Strategies

Jay Fuhrman¹, Roan Chadsey¹, Yang Ou², Mel George³, Haewon McJeon⁴, Matthew Gidden¹, Detef Van Vuuren⁵, Catrin Harris⁵, Vassilis Diaoglou⁶, Yoga Pratima⁷, Oumaima Rhalem⁵, Hattie Whittaker⁸, Sanna O'Connor-Morberg⁸

¹Joint Global Change Research Institute, College Park, MD, USA. ²Peking University, Beijing, China. ³Center for Global Sustainability, University of Maryland, College Park, MD, USA. ⁴Korea Advanced Institute of Science and Technology, Daejeon, Korea, Republic of. ⁵Utrecht University, Utrecht, Netherlands. ⁶PBL, The Hague, Netherlands. ⁷IIASA, Laxemburg, Austria. ⁸Carbon Direct, London, United Kingdom

300 Impacts of Novel Carbon Dioxide Removal Portfolios on the Sectoral and Regional Distribution of Residual Emissions

Yoga W. Pratama, Elina Brutschin, Volker Krey, Keywan Riahi
International Institute for Applied Systems Analysis, Laxenburg, Austria

268 Large-Scale Carbon Removal Will Create Public-Health, Economic, and Climate Tradeoffs

Parisa Javadi¹, Patrick O'Rourke², Jay Fuhrman², Scott Doney¹, William Shobe¹, Andres Clarens¹

¹University of Virginia, Charlottesville, VA, USA. ²University of Maryland, College Park, MD, USA

261 Cutting the link between fossil fuels and emissions: How fast can we scale up carbon capture and geologic storage of CO₂ (CCS) and permanent carbon dioxide removal (CDR)?

Anne Merfort^{1,2}, Chen Chris Gong¹, Adrian Odenweller¹, Gunnar Luderer^{2,1}, Elmar Kriegler¹, Jessica Strefler¹

¹Potsdam Institut for Climate Impact Research, Potsdam, Germany. ²Technische Universität Berlin, Berlin, Germany

14:15 - 15:45 - Room Ferradura

TRANSPORT, BUILDINGS and CITIES - 2

Chair: Jan Fuglestvedt

This session will look into decarbonization strategies for the transport and building sectors, including changing mobility and housing services, improving energy efficiency, electrification, and low carbon fuel substitution. It will also explore the

potential impacts of cities on climate change and their role in mitigation and adaptation.

164 Global scenarios of vehicle lifetime extension impacts on material and energy demand

Luja von Köckritz^{1,2}, Oreane Edelenbosch^{1,2}, Frederike Arp^{1,2}, Sebastiaan Dierckx³, Raoul Schram⁴, Roel Brouwer⁴, Christine Staiger⁴, Detlef van Vuuren^{1,2}
¹Copernicus Institute, Utrecht University, Utrecht, Netherlands. ²PBL Netherlands Environmental Assessment Agency, Den Haag, Netherlands. ³CML - Institute of Environmental Sciences, Leiden, Netherlands. ⁴Information and Technology Services, Utrecht University, Utrecht, Netherlands

169 Evaluating Transport Decarbonisation Policies under Carbon Budget Constraints: The Role of Carbon Pricing and ICE Bans

Daniel Cassidy, Kelly de Bruin, Aykut Mert Yakut
Economic and Social Research Institute, Dublin, Ireland

328 Passenger Transport Decarbonisation under Different Equity Considerations

Dirk-Jan van de Ven, Jon Sampedro, Mikel Gonzalez-Eguino, María Victoria Román de Lara
Basque Centre for Climate Change, Bilbao, Spain

160 How can international shipping reach its net-zero goals by 2050? Interfacing sectoral targets with broader energy systems

Diogo Kramel¹, Volker Krey^{2,1}, Oliver Fricko², Florian Maczek², Helene Muri^{1,3}, Anders Strømman¹
¹NTNU, Trondheim, Norway. ²IIASA, Vienna, Austria. ³NILU, Kjeller, Norway

205 Future global temperature impacts of global aviation in the ICAO Long-Term Aspirational Goal scenarios

Jan Sigurd Fuglestad¹, Borgar Aamaas¹, Marianne Lund¹, Anna Totterdill², Bethan Owen², Agnieszka Skowron², David Lee²
¹CICERO, Oslo, Norway. ²Department of Natural Sciences, Faculty of Science and Engineering Manchester Metropolitan University, Manchester, United Kingdom

15:45 - 16:15 - Coffee break

16:15 - 18:15 - Room Tucuns+Tartaruga

IMPACTS - 2

Chair: Alaa Al Khourdajie

Impacts of climate change (including representation of the climate system). This session will focus on modelling climate impacts in integrated assessment models. Special attention will be paid to the representation of adaptation in IAMs. Impacts of climate change, such as those on agriculture, energy systems or wider. The session will also look into the representation of the climate system itself (including small climate models and emulators).

337 ScenarioMIP-CMIP7 probabilistic climate estimates and gridded harmonized emissions

[Jarmo Kikstra](#)¹, Zebedee Nicholls², Annika Hoegner¹

¹IIASA, Laxenburg, Austria. ²Climate Resource, Melbourne, Australia

36 Future Climate Impacts Reshape Building Energy Demand under Different Mitigation Pathways

[Mengting Zhu](#)¹, Mengqi Zhao², Rongqi Zhu¹, Fengqiao Mei¹, Yang Ou^{1,3}

¹Peking University, Beijing, China. ²Pacific Northwest National Laboratory, Richland, WA, USA. ³Institute of Carbon Neutrality, Peking University, Beijing, China

343 Climate change impacts on Brazilian agriculture: evaluating soybean productivity under changing meteorological conditions

[Beatriz Garcia](#)¹, Talita Cruz¹, Gustavo Cretton-Souza¹, Ana Carolina Oliveira Fiorini¹, Tamar Bakman¹, Otávio Gonçalves¹, Gerd Angelkorte¹, Fabio A. Diuana¹, Fábio Teixeira Ferreira da Silva¹, André F. P. Lucena¹, Alexandre Szklo¹, Roberto Schaeffer¹, Joana Portugal-Pereira^{1,2}

¹Centre for Energy and Environmental Economics (Cenergia), Energy Planning Program (PPE), Coppe, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil. ²IN+ Centre for Innovation, Technology and Policy Research, Instituto Superior Técnico, Universidade de Lisboa, Lisbon, Portugal

255 Assessing Climate Change Impacts on Wind and Solar Power Generation in Brazil Based on Historical Operation Data

Felipe Poyer¹, Francisco Lima¹, Rodrigo Costa¹, Fernando Martins², [André Lucena](#)³, Enio Pereira¹

¹INPE, São José dos Campos, Brazil. ²UNIFESP, Santos, Brazil. ³PPE/COPPE/UFRJ, Rio de Janeiro, Brazil

102 China's household water demand scenarios under the carbon neutrality transition

[yujie Jiao](#)¹, kejun jiang²

¹Beijing university of technology, beijing, China. ²Hongkong University of Science and Technology(Guangzhou), guangzhou, China

136 Incorporating fire extremes into the fully coupled Earth-human system Integrated Assessment Model FRIDA

Catherine Li¹, Alex Koberle¹, Ana Russo¹, Ricardo Trigo¹, Chris Wells², William Schoenberg³, Jefferson Rajah³

¹Instituto Dom Luiz, Faculty of Sciences, University of Lisbon, Lisbon, Portugal. ²University of Leeds, Leeds, United Kingdom. ³University of Bergen, Bergen, Norway

290 Towards fire-resilient mitigation pathways in the AFOLU sector: modelling burned area and fire emission feedbacks in integrated assessment models

Théo Rouhette^{1,2}, Dirk-Jan Van de Ven¹, Kanishka Balu Narayan³, Claudia Tebaldi³, Oliver Perkins^{4,5}, Olivia Haas^{4,6}, Neus Escobar^{1,7}

¹Basque Centre for Climate Change (BC3), Bilbao, Spain. ²Institute of Environmental Science and Technology (ICTA), Barcelona, Spain. ³Joint Global Change Research Institute (JGCRI), College Park, USA. ⁴The Leverhulme Centre for Wildfires, Environment, and Society, Imperial College London, London, United Kingdom. ⁵Department of Geography, King's College London, London, United Kingdom. ⁶Geography and Environmental Science, University of Reading, Reading, United Kingdom. ⁷Biodiversity and Natural Resources (BNR) Program, International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria

16:15 - 18:15 - Room Geribá

NATIONAL - 3

Chair: Frédéric Gherzi

This session will focus on assessing the effectiveness and consequences of climate policies at the national scale, including the implementation of nationally determined contributions, net-zero targets and mid-century strategies. The session can also cover the contribution of non-state actors.

92 A nationally calibrated integrated modelling framework for Australia's net zero pathway

Adam C. Castonguay¹, Yingying Lu², Pekka Lauri³, Martin Nolan⁴, Javier Navarro Garcia¹, Stefan Frank³, Duy Nong¹, Raymundo Marcos-Martinez², Petr Havlik³, George Verikios⁵

¹CSIRO, St Lucia, Australia. ²CSIRO, Canberra, Australia. ³IIASA, Laxenburg, Austria. ⁴CSIRO, Adelaide, Australia. ⁵CSIRO, Dutton Park, Australia

333 Macroeconomic effects of achieving Carbon Neutrality in France

Meriem HAMDICHÉRIF¹, Gaël Callonneca², Gissela Landa³, Paul Malliet¹, Frederic Reynes¹, Aurélien Saussay⁴

¹OFCE Sciences Po, Paris, France. ²ademe, paris, France. ³ofce sciences po, paris, France. ⁴Ise, london, United Kingdom

329 Bridging Agriculture and Energy Models: A Marginal Abatement Cost Curve-Based Framework for Cross-Sectoral Net-Zero Pathways in Switzerland

Naima Chabouni

Paul Scherrer Institute-PSI, Villigen, Switzerland

280 Composition of Germany's net zero pathways - the role of ocean alkalinity enhancement and international mitigation efforts

Verena Hofbauer¹, Tabea Dorndorf¹, Jessica Strefler^{1,2,3}

¹Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany. ²Novo Nordisk Foundation CO2 Research Center, Aarhus, Denmark. ³Department of Mechanical and Production Engineering, Aarhus University, Aarhus, Denmark

180 Adaptive and Robust Policy Pathways to Net-Zero: EU Policy Spillovers and Swiss Climate Action

Evangelos Panos^{1,2}, Serafeim Michas³, Meixi Zhang^{1,2}, Russell McKenna^{1,2}, Alexandros Flamos³

¹Paul Scherrer Institute, Villigen PSI, Switzerland. ²ETH, Zurich, Switzerland. ³University of Piraeus, Piraeus, Greece

316 Towards deep cuts in emissions in the residential sector by 2050: Bottom-up demand-side modelling in support of real-world policymaking at the national level

Chrysanthi Anagnostopoulou, Dimitris Papantonis, Dimitra Tzani, Vassilis Stavrakas, Alexandros Flamos

Technoeconomics of Energy Systems laboratory (TEESlab), Department of Industrial Management and Technology, University of Piraeus, Piraeus, Greece

222 Comparing cost-optimal to policy-driven scenarios for a decarbonised European energy system

Natasha Frilingou¹, Dirk-Jan Van de Ven², Jon Sampedro², Russel Horowitz², Clàudia Rodés-Bachs², Shivika Mittal³, Alexandre Torne⁴, Evelina Trutnevyte⁴, Konstantinos Koasidis¹, Alexandros Nikas¹

¹National Technical University of Athens, Athens, Greece. ²Basque Centre for Climate Change, Leioa, Spain. ³CICERO Center for International Climate Research, Oslo, Norway. ⁴University of Geneva, Geneva, Switzerland

16:15 - 18:15 - Room João Fernandes

INTERNATIONAL

Chair: Alexander Popp

This session focuses on the implementation of international climate policy in the context of UNFCCC, including the use of flexible instruments (Art. 6).

219 Analysing the emissions impact and ambition of the 2025 NDCs

Michel den Elzen^{1,2}, Elena Hooijschuur¹, Arthur Beusen¹, Ioannis Dafnomilis¹

¹PBL Netherlands Environmental Assessment Agency, Den Haag, Netherlands. ²Institute for Environmental Studies (IVM), Amsterdam, Netherlands

86 Climate ambition gaps in sectoral transition: A feasibility-based assessment of major emitters

Rahel Mandaroux, Lea Hayez, Laurin Köhler-Schindler, Fabrice Lecuyer, Pascal Weigman, Anne Merfort, Tabea Dorndorf, Falk Benke, Elmar Kriegler, Robert Pietzcker, Gunnar Luderer

Potsdam Institute for Climate Impact Research, Potsdam, Germany

144 The Paris Agreement's 2030 pledges: implications for welfare and distribution in a welfare state

Taran Fæhn^{1,2}, Hidemichi Yonezawa³

¹Statistics Norway, Oslo, Norway. ²CICERO, Oslo, Norway. ³OECD, Paris, France

252 Designing future COP targets for meeting the Paris goals, with widened energy and equity considerations

Anastasis Giannousakis¹, Roberto Schaeffer², Elmar Kriegler³, Nico Bauer³, Jessica Strefler³, Volker Krey⁴, Johannes Emmerling⁵, Vassilis Daioglou⁶, Alice Di Bella⁷, Gamze Unlu⁴, Bas van Ruijven⁴, Detlef van Vuuren⁶, Luiz Bernardo Baptista², Rik van Heerden⁶, Massimo Tavoni⁷, Julien Lefevre⁸, Florian Leblanc⁹, Thomas Le Gallic¹⁰, Gerd Angelkorte², Oliver Fricko⁴, Keywan Riahi⁴, Harmen-Sytze de Boer⁶, Giannis Tolios¹, Panagiotis Fragkos¹

¹E3 Modelling, Athens, Greece. ²Cenergia, Rio de Janeiro, Brazil. ³PIK, Potsdam, Germany. ⁴IIASA, Vienna, Austria. ⁵CMCC, Milan, Italy. ⁶PBL, Utrecht, Netherlands. ⁷EIEE, Milan, Italy. ⁸CIREN, Paris, France. ⁹CNRS, Paris, France. ¹⁰ENPC, Paris, France

281 Towards Net Zero 2050: increasing risks despite ambitious international climate policies

Léa Hayez¹, Oliver Richters¹, Rahel Mandaroux¹, Pascal Weigmann¹, Fabrice Lecuyer¹, Franziska Piontek¹, Patricia Sanchez Juanino², Nico Bauer¹, Elmar Kriegler¹

¹Potsdam Institute for Climate Impact Research, Potsdam, Germany. ²National Institute for Economic and Social Research, London, United Kingdom

235 Assessing the Global Economic Impacts of CBAM Adoption: A Scenario Analysis of EU and Major Economy Implementation

Dimitris Fragkiadakis, Giannis Charalampidis, Zoi Vrontisi
E3Modelling, Athens, Greece

48 The Cascading Impact of U.S. Climate Policy Rollback on Global Temperature

Fan Wu¹, Haewon McJeon², Ryna Cui³, Russell Horowitz⁴, Zebedee Nicholls^{5,6,7}, Dirk-Jan van de Ven⁴, Rongqi Zhu¹, Yang Ou^{1,8}

¹College of Environmental Sciences and Engineering, Peking University, Beijing, China. ²Graduate School of Green Growth & Sustainability, Korea Advanced Institute of Science and Technology, Daejeon, Korea, Republic of. ³Center for Global Sustainability, School of Public Policy, University of Maryland, College Park, MD, USA. ⁴Basque Centre for Climate Change, Leioa, Spain. ⁵International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria. ⁶Climate Resource, Melbourne, Victoria, Australia. ⁷School of Geography, Earth and Atmospheric Sciences, The University of Melbourne, Melbourne, Victoria, Australia. ⁸Institute for Carbon Neutrality, Peking University, Beijing, China

16:15 - 18:15 - Room Ferradura

POLICY

Chair: Elmar Kriegler

This session will focus on the representation of policies in IAMs and the analysis of the impact of different policy instruments.

165 Ten Years of Climate Policy

Ioannis Dafnomilis¹, Elena Hooijschuur¹, Mark Roelfsema¹, Detlef van Vuuren^{1,2}, Michel den Elzen^{1,3}

¹PBL Netherlands Environmental Assessment Agency, The Hague, Netherlands. ²Utrecht University, Utrecht, Netherlands. ³Vrije Universiteit Amsterdam, Amsterdam, Netherlands

292 Analysis of the Implications of Delayed Policies Implementation on Brazil's Climate Commitments

Taísa Nogueira Morais [ORCID iD](#)¹, Luiz Bernardo Baptista [ORCID iD](#)¹, Gerd Angelkorte [ORCID iD](#)¹, Fabio A. Diuana [ORCID iD](#)¹, Pedro Rochedo [ORCID iD](#)^{2,1}

¹Centre for Energy and Environmental Economics (Cenergia), Energy Planning Program (PPE), Coppe, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil. ²Research and Innovation Center on CO2 and Hydrogen (RICH Center) and Management Science and Engineering Department, Khalifa University, Abu Dhabi, UAE

250 Good performance: what can it achieve and what remains out of reach?

Elena Hooijschuur

PBL Netherlands Environmental Assessment Agency, Den Haag, Netherlands

342 Connecting NDCs to global transformation targets using an IAM

Nico Bauer

Potsdam Institute for Climate Impact Research, Potsdam, Germany

49 A global, comprehensive, IAM-ready stocktake and energy-system impact assessment of global COVID-19 recovery policies

Eleftheria Zisarou¹, Panagiotis Fragkos¹, Dirk-Jan Van De Ven², Shivika Mittal^{3,4}, Natasha Frilingou⁵, Clàudia Rodés-Bachs², Stefanos Tsotras⁶, Angelos Potiriadis⁶, Georgios Xexakis⁶, Konstantinos Koasidis⁵, Haris Doukas⁵, Adam Hawkes⁴, Alexandros Nikas⁵

¹E3Modelling S.A., Athens, Greece. ²Basque Centre for Climate Change, Leioa, Spain. ³Center for International Climate and Environmental Research, Oslo, Norway. ⁴Department of Chemical Engineering, Imperial College, London, United Kingdom. ⁵Energy Policy Unit, School of Electrical and Computer Engineering, National Technical University of Athens, Athens, Greece. ⁶Holistic P.C., Athens, Greece

297 Robust Energy Transition Policy for an Uncertain World

Ian Burton, Femke Nijse, James Salter
University of Exeter, Exeter, United Kingdom

190 Quantifying the Energy, Health and Economic Impacts Associated with Federal Climate Policy Rollbacks across U.S. States

Alicia Zhao¹, Ryna Cui¹, Carla Campos Morales², Wei Peng², Jiaxun Sun³, Xiangjie Chen³, Kuishuang Feng³, Claire Squire¹, Kiara Ordonez Olazabal¹, Kowan O'Keefe¹, Adriana Bryant¹, Matthew Binsted¹, Xinyuan Huang², Nate Hultman¹

¹Center for Global Sustainability, University of Maryland, College Park, USA. ²Andlinger Center for Energy and the Environment and School of Public and International Affairs, Princeton University, Princeton, USA. ³Department of Geographical Sciences, University of Maryland, College Park, USA

18:30 - 20:30 - WELCOME COCKTAIL and ONSITE POSTER FESTIVAL

51 Evaluating biomass co-processing in Brazilian oil refineries: a soft-linkage approach between bioenergy production and refining sectoral models

Clarissa Bergman-Fonte¹, Diego R. Amaral¹, Beatriz Nunes Garcia¹, Pedro R. R. Rochedo^{2,1}, Alexandre Szklo¹, Frédéric Lantz³

¹Centre for Energy and Environmental Economics (Cenergia), Energy Planning Program (PPE), COPPE, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil. ²Research and Innovation Center on CO₂ and Hydrogen (RICH Center) and Management Science and Engineering Department, Khalifa University, Abu Dhabi, UAE. ³IFP Energies Nouvelles, IFP School, Rueil-Malmaison, France

346 GCAM-Europe: Enhancing Policy-Relevant Climate Modelling Through Spatial and Sectoral Detail

Dirk-Jan van de Ven, Russell Horowitz, Claudia Rodés Bachs, Jon Sampedro
Basque Centre for Climate Change, Bilbao, Spain

287 Assessing climate change mitigation and net-zero pathways in Kuwait

Maryam Alkhalifi, Pedro Rochedo, Toufic Mezher
Khalifa university, Abu Dhabi, UAE

320 A Methodology for Grounded and Actionable Corporate Climate Targets Aligned with Global Goals: SMARTargets

Steven Rose¹, Claudia Octaviano², Dan Livengood³, Francisco Fonseca¹
¹EPRI, Washington, DC, USA. ²EPRI, Mexico City, Mexico. ³EPRI, Seattle, WA, USA

150 Unpacking the bottlenecks of deploying Direct Air Capture at scale

Leonardo Chiano^{1,2}, Laurent Drouet¹, Massimo Tavoni^{1,2}
¹CMCC, Milan, Italy. ²Politecnico di Milano, Milan, Italy

341 How Would the Increased Mass Timber Demand Affect the Ontario Wood Market? An Economic Analysis Using GLOBIOM-FOREST

Bingyi Hou¹, Pekka Lauri², Andrey Lessa Derci Augustynczik², Rasoul Yousefpour¹
¹University of Toronto, Toronto, Canada. ²International Institute for Applied Systems Analysis, Laxenburg, Austria

177 Assessing Resource Stress under Irrigation Expansion and Climate Variability in Ethiopia

Camilla Lo Giudice, Francesco Gardumi, Daniel Adshead
KTH, Stockholm, Sweden

237 Linking bottom-up and top-down: Macroeconomic impact of inter-regional power transmission in Northeast Asia

Haein Kim¹, Yong Gun Kim¹, Minkyung Ko¹, Eunyoung Kim¹, Jongwoo Moon²
¹Yonsei University, Seoul, Korea, Republic of. ²Korea Environment Institute, Sejong, Korea, Republic of

25 Navigating the unexpected: The impact of disruptive events on mitigation scenarios

Alaa Al Khourdajie^{1,2}, Alexandros Nikas³, Natasha Frilingou³, Shivika Mittal⁴, Dirk Jan Van de Ven⁵, Panagiotis Fragkos⁶, Chris Wells⁷, Billy Schoenberg⁸, Haewon McJeon⁹, Edward Byers², Ilkka Keppo¹⁰, Glen Peters⁴, David McCollum^{2,11}, Eleftheria Zisarou⁶, Chris Smith^{12,2}, Michael Westphal^{13,5}, Adam Hawkes¹, Ajay Gambhir¹⁴

¹Imperial College London, London, United Kingdom. ²International Institute for Applied System Analysis, Vienna, Austria. ³National Technical University of Athens, Athens, Greece. ⁴CICERO, Oslo, Norway. ⁵Basque Centre for Climate Change, Leioa, Spain. ⁶E3Modelling, Athens, Greece. ⁷School of

Earth and Environment, Leeds, United Kingdom. ⁸isee systems inc, Lebanon, USA. ⁹KAIST Graduate School of Green Growth & Sustainability, Daejeon, Korea, Republic of. ¹⁰Aalto University, Espoo, Finland. ¹¹University of Tennessee, Knoxville, USA. ¹²Vrije Universiteit Brussel, Brussels, Belgium. ¹³Georgetown University, Washington D.C., USA. ¹⁴Accelerator for Systemic Risk Assessment, London, United Kingdom

31 Linking Temperature Extremes and Labour Impacts in Integrated Assessment Models: a new modelling framework in AD-WITCH

GABRIELE MANSI^{1,2}, Francesco Colelli¹

¹CMCC, Venezia (VE), Italia, Italy. ²Ca Foscari, Venezia (VE), Italia, Italy

95 Farmers adaptation decision making towards groundwater use from a hydro-economic perspectives.

Sioux Fanny Melo-Leon¹, Stijn Reinhard², Marc F.P. Bierkens^{1,3}, Rens van Beek¹

¹Utrecht University, Utrecht, Netherlands. ²Wageningen University & Research, Den Haag, Netherlands.

³Deltares, Utrecht, Netherlands

299 Assessing and Incorporating Wellbeing in Climate Pathway Design

Camille Wejnert-Depue

Center for Global Sustainability, College Park, USA. University of Maryland, School of Public Policy, College Park, USA

131 Implications of the Global Methane Pledge for Global and Regional Agriculture, Resource Extraction, Waste Management, and the Environment

Duy Nong^{1,2}, George Verikios^{1,2}, Daniel Mason-D'Croz^{3,4}, LY Cao⁵, Ray Marcos Martinez⁶, Hien Pham¹, Magnus Söderberg², Heinz Schandl¹

¹Commonwealth Scientific and Industrial Research Organisation, Brisbane, Australia. ²Griffith University, Brisbane, Australia. ³Cornell University, Ithaca, USA. ⁴Wageningen University and Research, Wageningen, Netherlands. ⁵Department of Agriculture, Fisheries and Forestry, Canberra, Australia.

⁶Commonwealth Scientific and Industrial Research Organisation, Canberra, Australia

225 Evaluating the Distributional Impacts of Low-Carbon Technology and Policy Pathways

Raphael Apeaning¹, Puneet Kamboj², Mohamad Hejazi²

¹KAPSARC, Riyadh, Saudi Arabia. ²KAPSARC, Riyadh, Saudi Arabia

187 From fair shares to global goals: The puzzle of aligning national action with climate ambition

Lara Aleluia Reis^{1,2}, Marco Gambarini¹, Laurent Drouet¹

¹CMCC Foundation - Euro-Mediterranean Center on Climate Change, Lecce, Italy. ²RFF-CMCC European Institute on Economics and the Environment, Milan, Italy

134 How does Green Hydrogen Emerge, Thrive and Dominate in China: the Power of Policy Mix

Yusheng Guan, Kangxin An, Can Wang

Tsinghua University, Beijing, China

351 Divergences in Offshore Wind Energy Scenarios: A Comparison Between IAMs and the International Energy Agency (IEA)

Fabiane Da Cunha Dantas, Bárbara de Araújo Secca

PPE, Rio de Janeiro, Brazil

291 Modern software engineering practices for open and efficient integrated assessment modelling

Georgios Xexakis¹, Konstantinos Koasidis², Alexandros Nikas²

¹HOLISTIC S.A., Athens, Greece. ²Energy Policy Unit, School of Electrical & Computer Engineering, National Technical University of Athens, Athens, Greece

186 Future Scenarios for Hydrogen: A Comparative Analysis Between the Modeled Projections in the Illustrative Mitigation Pathways (IMPS) of the IPCC AR6 and Ongoing Projects for its Production

Bárbara Marques

PPE/COPPE/UFRJ, Rio de Janeiro, Brazil

123 Global transition to healthier diets reduces overall trade in agricultural commodities but increases import dependency

Maksym Chepeliev¹, Anabeth Dawn Jennings¹, Alessandro Gatto², Dominique van der Mensbrugge¹

¹Purdue University, West Lafayette, USA. ²Wageningen University and Research, Den Haag, Netherlands

57 Assessing the Potential Impact of Behavioral Change in Taiwan's Transport Sector

Cheng-Ting LIN, Shih-Ming Chung

Industrial Technology Research Institute, Taipei, Taiwan

293 Representing the Aviation Sector in an Integrated Assessment Model at Global Scale: Model Structure and Exogenous Inputs

Pedro Maia¹, Lucas Barros¹, Luiz Bernardo Baptista¹, Joana Portugal-Pereira^{1,2}, Alexandre Szklo¹

¹Centre for Energy and Environmental Economics (Cenergia), Energy Planning Program (PPE), Coppe, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil. ²IN+ Centre for Innovation, Technology and Policy Research, Instituto Superior Técnico, Universidade de Lisboa, Lisboa, Portugal

234 The Future of E&P in Brazil: Oil Production Pathways and Climate Commitments in the BLUES Model

Julia Paletta, Rebecca Draeger, Camila Ludovique, Rômulo Matos, Alexandre Szklo
Energy Planning Program (PPE), Universidade Federal do Rio de Janeiro (UFRJ), Rio de Janeiro, Brazil

142 Pacing China's Iron and Steel Industry Transformation with Power System Evolution for Enhanced Long-term Decarbonization Benefits

Tianyi Zhang, Kangxin An, Can Wang
Tsinghua University, Beijing, China

264 Sectoral decarbonization pathways for the EU and China from a Dual-IAM Assessment| PROMETHEUS and GCAM insights

Eleftheria Zisarou¹, Panagiotis Fragkos¹, Dirk-Jan Van De Ven²
¹E3Modelling S.A., Athens, Greece. ²Basque Centre for Climate Change, Leioa, Spain

66 Development of a National Integrated Assessment Model (IAM) for Energy and Land Use in Angola using the MESSAGE Framework

Miguel Antonio, Alexandre Szklo, Pedro Rochedo
Federal University of Rio de Janeiro, Rio de Janeiro, Brazil

43 Economic Impact of Green Transition in Odisha: A subnational CGE-based IAM model for India

Sanjib Pohit¹, Anindya Bhattacharya², chetana chaudhuri¹, Devender Pratap¹, Somya Mathur¹, Mohit K. Meena², Malavika Thampi², Srijata Datta¹
¹National Council of Applied Economic Research, Delhi, India. ²The Celestial Earth, Gurgaon, India

161 Sub-annual integrated assessment required for China's net-zero energy transition

Shu Zhang, Wenying Chen
Tsinghua University, Beijing, China

231 Towards a Biomass Merit Order: Cost-Effective Biomass Allocation in a Low-Fossil World

Robert Salzwedel^{1,2}, Alberto Alamia³, Danial Esmaeili Aliabadi⁴, Matthias Jordan⁴, Tom Brown⁵, Tabea Dorndorf¹, Gunnar Luderer¹, Leon Merfort¹, Markus Millinger⁶, Falko Ueckerdt¹, Daniela Thrän^{4,7}, Marta Victoria^{8,3,2}, Jessica Strefler^{1,2,3}
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Technische Universität Berlin, Berlin, Germany. ⁶Built Environment: System Transition: Energy Systems Analysis, RISE Research Institutes of Sweden, Göteborg, Sweden. ⁷Chair of Bioenergy Systems, University of Leipzig, Leipzig, Germany. ⁸Department of Wind and Energy Systems, Technical University of Denmark, Lyngby, Denmark

251 Modeling the Costs and Impacts of Net-Zero Transition within a CGE Model Based Integrated Assessment Framework

Eun Young Kim¹, Yong-Gun Kim¹, Tae Yong Jung¹, Jongwoo Moon², Yoojin Kim¹

¹Yonsei University, Seoul, Korea, Republic of. ²Korea Environment Institute, Sejong, Korea, Republic of

272 Assessing economy-wide employment impacts of the EU Net zero transition with GEM-E3 model

Ioannis Charalampidis, Zoi Vrontisi, Dimitris Fragkiadakis, Eleni-Christina Gkampoura
E3 Modelling, Athens, Greece

311 Establishing accountability for climate overshoot

Carl Schleussner^{1,2}, Gaurav Ganti^{1,2,3}, Sabine Fuss^{2,4}, Setu Pelz¹, Joeri Rogelj^{5,1},

Keywan Riahi¹

¹IIASA, Laxenburg, Austria. ²Humboldt Universität, Berlin, Germany. ³Postdam Institute for Climate Impact Research, Potsdam, Germany. ⁴Postdam Institute for Climate Impact Research, Berlin, Germany. ⁵Imperial College London, London, United Kingdom

193 Modelling future climate impacts on livestock production in Brazil

Fabio Teixeira Ferreira da Silva¹, Gustavo Cretton-Souza¹, Otávio Grassi-Gonçalves¹, Tamar Bakman¹, Beatriz Garcia¹, Gerd Angelkorte¹, Ana Carolina Fiorini¹, Talita Cruz¹, Fabio A. Diuana¹, Alexandre Szklo¹, Roberto Schaeffer¹, André F.P. Lucena¹, Joana Portugal-Pereira^{1,2}

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60 Understanding the representation of climate impacts and adaptation in Integrated Assessment Models

Francesco Granella¹, Mathijs Harmsen², Johannes Emmerling¹, Laurent Drouet¹

¹CMCC, Milano, Italy. ²PBL, Den Haag, Netherlands

173 Global Agricultural Risk Under Climate Change—A Crop-Water Coupled Analysis Using C³IAM

Yu-Xiang Hu, Xiao-Chen Yuan, Yi-Ming Wei

Center for Energy and Environmental Policy Research, Beijing Institute of Technology, Beijing, China

83 Net-Zero Policies May Exacerbate Environmental Inequities: Evidence from Air Quality Modeling

Cheng-Pin Kuo¹, Shih-Ming Chung¹, Yung-Chen Yao¹, Chun-Sheng Huang², Chang-fu Wu²

¹Green Energy and Environment Research Laboratories, Hsinchu, Taiwan. ²National Taiwan University, Taipei, Taiwan

100 rhap: A tool to analyze health impacts attributable to household air pollution

Jon Sampedro¹, Clàudia Rodés-Bachs¹, Steven Smith², Manuel Tomás¹, Ismael Urrutia³, Dirk-Jan Van de Ven¹

¹Basque Centre for Climate Change (BC3), Leioa, Spain. ²Joint Global Change Research Institute, Pacific Northwest National Laboratory, College Park, USA. ³University of the Basque Country (UPV-EHU), Bilbao, Spain

208 Quantification of selected SDGs in the context of China's climate mitigation pathway

Chenmin He¹, Kejun Jiang², Yujie Jiao³, Pianpian Xiang⁴

¹Zhejiang University of Technology, Hangzhou, China. ²Hong Kong University of Science and Technology (Guangzhou), Guangzhou, China. ³Beijing University of Technology, Beijing, China. ⁴Institutes of Science and Development, Chinese Academy of Sciences, Beijing, China

345 Evaluating Brazil's Climate Ambitions Through a Critical Materials Lens

Lucas Barros, Fabio A. Diuana, Igor B. Julião, Luiz Bernardo Baptista, Victor Freret, Alexandre Szklo, Roberto Schaeffer

Centre for Energy and Environmental Economics (Cenergia), Energy Planning Program (PPE), Coppe, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil

356 Modeling the North Carolina Carbon Plan Using GLIMPSE

Trinity White, Noah Kittner

University of North Carolina at Chapel Hill, Chapel Hill, USA

240 Open Science Practices in Integrated Assessment Models

Clàudia Rodés Bachs¹, Jon Sampedro¹, Natasha Frilingou², Francesco Gardumi³, Camilla Lo Giudice³

¹Basque Centre for Climate Change, Bilbao, Spain. ²National Technical University of Athens, Athens, Greece. ³KTH Royal Institute of Technology, Stockholm, Sweden

267 A review of macro-economic models for the analysis of climate change and the representation of ecosystem services.

Gregorio De Alessandri

Ca' Foscari, Venice, Italy. Feem, Venice, Italy

273 Glass half full: Lower emission and temperature projections over a decade of Global Energy and Climate Outlooks

Matthias Weitzel, Javier Aycart, Paul Dowling, [Rafael Garaffa](#), Kimon Keramidas, Jose A. Ordonez
JRC, Seville, Spain

78 Modeling Tunisia's Energy Demand and CO2 Emissions Trajectory Using a Bottom-Up Approach

[Ameni Grayaa](#)^{1,2}, Houyem Chekki^{3,2}, Rafik Missaoui⁴

¹Ecole Supérieure de Commerce de Tunis, Manouba, Tunisia. ²Laboratoire d'Économie et de Gestion Industrielle (LEGI), École Polytechnique de Tunisie, University of Carthage, Carthage, Tunisia, Tunisia.

³Institut Supérieur de Comptabilité et d'Administration des Entreprises, Manouba, Tunisia. ⁴Alcor, Ariana, Tunisia

217 Urban Strategies for Active Mobility

[Áron Dénes Hartvig](#)^{1,2}, Leila Niamir¹

¹International Institute for Applied System Analyses, Laxenburg, Austria. ²Corvinus University of Budapest, Budapest, Hungary

327 The leapfrogging potential of mobility service solutions for the deep electrification of land transport, at the example of India

[Jarusch Muesel](#), Robert Pietzcker, Gunnar Luderer

Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany

358 An Assessment of the Potential Impacts of the Net-Zero Transition in Taiwan's Steel Industry

Tsai-Chen Tsai, [Shih-Ming Chung](#)

Green Energy and Environment Research Laboratories, Industrial Technology Research Institute, Hsinchu, Taiwan

80 "How Much Is Enough?" - Empirically defining minimally aspired living standards

[Karl Scheifinger](#)^{1,2}, Elina Brutschin²

¹Imperial College London, London, United Kingdom. ²IIASA, Laxenburg, Austria

167 Introducing WITCHWISE: A New Generation of the WITCH model with Dynamic Energy Sectors

Nicolas Schlegel, Lara Aleluia Reis, Laurent Drouet, [Massimo Tavoni](#)

Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici CMCC, Milano, Italy

Wednesday, 12th November, 2025

09:00 - 09:45 - Room Tucuns+Tartaruga

PLENARY SESSION 2 - The politics, economics, and integrated assessment of overshooting 1.5°C

Chair: Massimo Tavoni

Another five years of record high emissions have set the world on course to overshooting 1.5°C warming before mid century. Policy makers thus needs to prepare for overshoot while keeping the long-term goal of limiting warming to below 1.5°C in sight. Questions range from interpretations of Articles 2 and 4 in the context of overshoot, the implications for climate impact analysis and adaptation needs in an overshoot world, the analysis of reversibility in the climate response to anthropogenic interference, and the implementation of net zero and net negative emissions strategies to engineer a return to 1.5°C after a peak in warming. Integrated assessment modelling will play an important role in this, and a key question is how an integrated assessment of associated climate risks, adaptation and mitigation needs can be tailored to inform policy makers and stakeholders about the available courses of action in an overshoot world.

Speakers: **LAVANJA RAJAMANI**, University of Oxford, UK and **NICO BAUER**, PIK, Germany

09:45 - 10:30 - Room Tucuns+Tartaruga

PLENARY SESSION 3 - Nature Futures and IPCC AR7 - The Way forward

Chair: Saritha Sudharmma Vishwanathan

Nature plays an essential role in both causing and mitigating climate change. On one hand natural ecosystems like forests, and oceans sequester a major share of carbon dioxide while on other hand they along with coral reefs, wetlands also assist in adaptation from impacts of climate change including extreme events. Ecosystems with higher biodiversity is more resilient to climate change impacts. COP28 highlighted the need for increased finance to protect and restore nature ecosystems. What are the new innovations in modelling the multiscale natural ecosystems to capture the mitigation, and adaptation in natural ecosystems (land, oceans, biodiversity)? What are the challenges and tradeoffs? What is the perspective from stakeholder engagement at community level? What are the new models/mechanisms to scale up finance for nature based solutions?

Speakers: **TOMOKO HASEGAWA**, Ritsumeikan University, Japan; **NICOLA RANGER**, London School of Economics and Political Science, UK; **PAULA HARRISON**, UK Centre for Ecology & Hydrology, UK

10:30 - 11:00 - Coffee break

11:00 - 12:45 - Room Tucuns+Tartaruga

ECONOMY - 1

Chair: Ryna Yiyun Cui

This section focuses on the economic aspects of mitigation and adaptation strategies and risks associated with climate impacts. This also includes climate finance. But also integrated approaches to mitigation, adaptation, and impacts together.

21 Investigating the economic and environmental effects of a carbon tax in a quantitative macroeconomic framework

Adeline Guéret^{1,2}, Frédéric Reynès^{1,3}, Gissela Landa¹, Paul Malliet¹, Meriem Hamdi-Cherif¹, Aurélien Saussay^{1,4}, Gaël Callonnec⁵

¹OFCE, Paris, France. ²DIW Berlin, Berlin, Germany. ³NEO, Delft, Netherlands. ⁴LSE, London, United Kingdom.

⁵ADEME, Paris, France

47 Potential of shifting work hours in reducing heat-related loss and regional disparities in China: a modeling analysis

Mengzhen Zhao

Beijing, Beijing, China

119 Fair climate finance and mitigation benefits under climate uncertainty

Adriano Vinca, Jarmo Kikstra, Marina Andrijevic, Setu Pelz, Edward Byers, Matt Gidden, Volker Krey, Keywan Riahi

International Institute for Applied Systems Analysis, Laxenburg, Austria

82 Quantifying climate finance needs to compensate for macroeconomic losses in developing countries

Limeng Fan¹, Shinichiro Fujimori^{1,2,3}, Osamu Nishiura², Shiya Zhao^{1,3}, Yusuke Umehara¹

¹Kyoto University, Kyoto, Japan. ²National Institute for Environmental Studies (NIES), Tsukuba, Japan.

³International Institute for Applied System Analysis (IIASA), Laxenburg, Austria

117 Evaluating the financial gap for climate mitigation towards 2035: a scenario assessment of the use of carbon tax revenue

Diego Silva Herran¹, Shinichiro Fujimori², Osamu Nishiura¹

¹NIES, Tsukuba, Japan. ²Kyoto University, Kyoto, Japan

191 Development impacts of border carbon adjustments - interactions of local mitigation policy and international climate action

Bence Kiss-Dobronyi^{1,2}, Áron Dénes Hartvig^{3,2}

¹World Bank, Washington, DC, USA. ²Corvinus University of Budapest, Budapest, Hungary. ³IIASA, Laxenburg, Austria

11:00 - 12:45 - Room Geribá

ENERGY - 2

Chair: Peter Russ

The section will investigate the advanced analysis of electricity and hydrogen production (including system integration) and the use of these energy carriers in end-use sectors.

243 Potential and limitations of electrofuels in reducing residual CO₂ emissions in deep mitigation pathways

Oumaima Rhalem¹, Rik van Heerden², Harmen-Sytze de Boer², Oreane Edelenbosch¹, Vassilis Daioglou^{2,1}, Detlef van Vuuren^{2,1}

¹Utrecht University, Utrecht, Netherlands. ²PBL, The Hague, Netherlands

213 Policies to kick-start electrolytic hydrogen production at scale

Pim Vercoulen^{1,2}, Jamie Pirie², Aron Hartvig², Barnabas Benyak², An Vu², Simone Cooper-Searle², Femke Nijssse¹

¹University of Exeter, Exeter, United Kingdom. ²Cambridge Econometrics, Cambridge, United Kingdom

137 The role of international power interconnections in East, Southeast, and South Asia under the 1.5°C goal

Shotaro Mori¹, Shinichiro Fujimori^{1,2,3}, Ken Oshiro⁴

¹Kyoto University, Kyoto, Japan. ²International Institute for Applied System Analysis, Laxenburg, Austria.

³National Institute for Environmental Studies, Tsukuba, Japan. ⁴Hokkaido University, Sapporo, Japan

140 Evaluating CCS Hubs and Potential in the UAE

Shatha Elatrash¹, Pedro Rochedo^{1,2,3}

¹Khalifa University, Abu Dhabi, UAE. ²Cenergia, Rio de Janeiro, Brazil. ³RICH, Abu Dhabi, UAE

282 Building Energy Demand and Expenditures under Future Climate Change in Saudi Arabia

Ansir Ilyas¹, Puneet Kamboj², Mohamad Hejazi², Yoshihide Wada¹

¹Biological and Environmental Science and Engineering Division, King Abdullah University of Science and Technology (KAUST), Thuwal, Saudi Arabia. ²King Abdullah Petroleum Studies and Research Center (KAPSARC), Riyadh, Saudi Arabia

249 Spatial Analysis of Biomass Supply Chains for Co-Processing Pyrolysis Oil in Existing Refineries: A Case Study of the Netherlands and Belgium

Aline T Carvalho¹, Isabela Tagomori^{1,2}, Martin Junginger³, Alexandre Szklo¹

¹PPE/COPPE/UFRJ, Rio de Janeiro, Brazil. ²PBL, The Hague, Netherlands. ³Copernicus Institute of Sustainable Development (Utrecht University), Utrecht, Netherlands

11:00 - 12:45 - Room João Fernandes

METHODS - 1

Chair: Laurent Drouet

This session will specifically look at various methodological issues related to IAMs, including open science and uncertainty analysis. This may also involve model validation, programming languages presentation tools, model solvers, representation of complex policies and model evaluation.

305 Decision analysis of mitigation pathways under uncertainty in the climate response

Elmar Kriegler^{1,2}, Gabriel Abrahao¹, Zebedee Nicholls^{3,4}

¹Potsdam Institute for Climate Impact Research, Potsdam, Germany. ²University of Potsdam, Potsdam, Germany. ³International Institute for Applied Systems Analysis, Laxenburg, Austria. ⁴University of Melbourne, Melbourne, Australia

121 Identifying stable and effective solar geoengineering coalitions

Pietro Andreoni^{1,2}, Massimo Tavoni^{1,2}, Leonardo Chiani^{2,1}

¹CMCC, Milan, Italy. ²Politecnico di Milano, Milan, Italy

308 A Novel Methodology for Subnational Climate Policy Modeling Using IAMs

Bradley Phelps, Kathleen Kennedy, Camille Wejnert-Depue, Stephanie Vo, Kowan O'Keefe, Alicia Zhao, Steve Smith
Center for Global Sustainability, College Park, USA

289 Challenging the representation of the Global South in Integrated Assessment Modelling: the case of material circularity

Fergus Haswell¹, Lucas Straub¹, Oreane Edelenbosch¹, Laura Piscicelli¹, Detlef van Vuuren^{1,2}

¹Utrecht University, Utrecht, Netherlands. ²PBL Netherlands Environmental Assessment Agency, The Hague, Netherlands

155 Reducing Optimization Time in a Global Integrated Assessment Model

Luis Felipe Sivoletta, Luiz Bernardo Baptista, Alexandre Szklo, Roberto Schaeffer
Centre for Energy and Environmental Economics (Cenergia), Energy Planning Program (PPE), Coppe,
Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil

200 New Reporting Metrics to Enhance Explainability in Optimization-Based Integrated Assessment Models: Active Constraints and Generalized Levelized Cost

Takuya Hara^{1,2}, Volker Krey¹, Bas Van Ruijven¹
¹IIASA, Laxenburg, Austria. ²Toyota Motor Corporation, Toyota, Japan

11:00 - 12:45 - Room Ferradura

SSPs - 1

Chair: Keywan Riahi

This session is looking for updates and extensions of the SSP scenarios in various areas and across scales, such as developing national and regional scenarios and their association with appropriate SSP domains. At the same time other new scenarios and focus on the representation of shocks are also welcome.

50 The Unrepresented Worlds: How the SSP-IAM Framework Constrains Mitigation Scenarios

rawad el skaf
institut für philosophie, Hannover, Germany

248 GTAPSSP: Facilitating the Integration of SSPs into Global Trade Analysis Project (GTAP) economic modeling framework

Thiago SIMONATO, Dominique van der Mensbrugghe
Purdue University - GTAP, West Lafayette, USA

254 Scenario Discovering the SSPs using FRIDA

ALEXANDRE KOBERLE¹, Wanderson Costa¹, William Schoenberg², Benjamin Blanz³,
Lennart Ramme⁴, Cecilie Mauritzen⁵

¹Instituto Dom Luiz, University of Lisbon, Lisbon, Portugal. ²University of Bergen, Bergen, Norway.

³University of Hamburg, Hamburg, Germany. ⁴Max-Planck Institut für Meteorologie, Westfälische

Wilhelms-Universität Münster, Munster, Germany. ⁵Norwegian Meteorological Institute, Oslo, Norway

269 Futures Failing the Paris Agreement: The Medium and High end of ScenarioMIP

Vassilis Daioglou^{1,2}, Gerd Angelkorte³, Nico Bauer⁴, Christoph Bertram⁵, Harmen
Sytze de Boer¹, Astrid Bos¹, Ioannis Dafnomilis¹, Jan Philipp Dietrich⁴, Jonathan

Doelman¹, Laurent Drouet⁶, Oliver Fricko⁷, Shinichiro Fujimori⁸, Mel George⁵, Elena Hooijschuur¹, Florian Humpenoder⁴, Jarmo Kickstra⁷, Laurin Kohler-Schindler⁴, Volker Krey⁷, Elmar Kriegler⁴, Fabrice Lecuyer⁴, Gunnar Luderer⁴, Osamu Nishiura⁹, Brian O'Neill¹⁰, Yang Ou¹¹, Alexander Popp⁴, Lara Aleluia Reis⁶, Keywan Riahi⁷, Pedro Rochedo³, Bas van Ruijven⁷, Roberto Schaeffer³, Steve Smith¹⁰, Isabela Tagomori Schmidt¹, Massimo Tavoni⁶, Detlef van Vuuren^{1,2}

¹PBL Netherlands Environmental Assessment Agency, The Hague, Netherlands. ²Utrecht University, Utrecht, Netherlands. ³Centre for Energy and Environmental Economics (Cenergia), Energy Planning Program (PPE), Coppe, Rio de Janeiro, Brazil. ⁴Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany. ⁵University of Maryland, College Park, USA. ⁶RFF-CMCC European Institute on Economics and the Environment, Milan, Italy. ⁷International Institute for Applied Systems Analysis, Laxenburg, Austria. ⁸Kyoto University, Kyoto, Japan. ⁹National Institute for Environmental Studies, Tsukuba, Japan. ¹⁰Joint Global Change Research Institute, Pacific Northwest National Laboratory, College Park, USA. ¹¹Peking University, Beijing, China

331 Range of Possible Futures: GCAM Scenario Ensemble for CMIP7

Andy Miller¹, Mel George¹, Christoph Bertram¹, Steven Smith¹, Xin Zhao¹, Clàudia Rodés-Bachs², Jay Furhman¹, Matthew Gidden¹, Rachel Hoesly¹, Haewon McJeon³, Brian O'Neill¹, Yang Ou⁴, Jon Sampedro², Dirk-Jan van de Van², Ryna Cui¹

¹Center for Global Sustainability (CGS), College Park, USA. ²Basque Center for Climate Change (BC3), Bilbao, Spain. ³KAIST, Daejeon, Korea, Republic of. ⁴Institute of Carbon Neutrality - Peking University (ICN-PKU), Beijing, China

56 FuturePop - Constructing global gridded population maps at multiple scales for SSP scenarios

Laurence Hawker¹, Jason Hilton², Jessica Espey², Andrew Tatem², Evgeny Noi¹, Maksym Bondarenko², Ian Coady², Natalia Tejedor Garavito², Jen Gaskell², Sada Saxton²

¹University of Bristol, Bristol, United Kingdom. ²University of Southampton, Southampton, United Kingdom

12:45 - 14:15 - Lunch

14:15 - 15:45

Scientific Working Group on Data Protocols and Management

Room Tucuns+Tartaruga

Chair: Jessica Strefler

Scientific Working Group on Scenarios

Room Geribá

Chairs: Detlef Van Vuuren, Keywan Riahi

Scientific Working Group on Scenarios for Climate-related Financial Analysis

Room João Fernandes

Chair: Elmar Kriegler

Scientific Working Group on National Scenarios

Room Ferradura

Chairs: Roberto Schaeffer, Saritha Sudharmma Vishwanathan

15:45 - 16:15 - Coffee Break

16:15 - 18:15 - Room Tucuns+Tartaruga

WELLBEING and SUSTAINABILITY

Chairs: André Lucena, Talita Borges Cruz

This session will focus on the representation of human wellbeing and health in IAMs and on the assessment of Sustainable Development strategies, including scenarios aiming to reach multiple SDGs and analysis of the energy-water-land nexus.

58 Extending the SSP narratives and quantifications for health

Kristie Ebi¹, Marina Andrijevic², Bas van Ruijven²

¹University of Washington, Seattle, USA. ²IIASA, Laxenburg, Austria

61 A socioeconomic assessment of projected health impacts from outdoor air pollution under current European climate policy

Clàudia Rodés Bachs¹, Jon Sampedro¹, Mercè Amich^{1,2}, Alexandros Nikas³,

Konstantinos Koasidis³, Claudio Belis⁴, Dirk-Jan Van de Ven¹

¹Basque Centre for Climate Change, Leioa, Spain. ²Euskal Herriko Unibersitatea, Leioa, Spain. ³National Technical University of Athens, Athens, Greece. ⁴Joint Research Centre, Ispra, Italy

64 Integrating health justice into China's carbon neutrality and clean air pathways: a modelling study based on C³IAM

Hao Wang^{1,2,3,4}, Li-Jing Liu^{1,2,3,4}

¹Center for Energy and Environmental Policy Research, Beijing Institute of Technology, Beijing, China.

²School of Management, Beijing Institute of Technology, Beijing, China. ³Beijing Laboratory for System Engineering of Carbon Neutrality, Beijing, China. ⁴Basic Science Center for Energy and Climate Change, Beijing, China

65 Development of a Nitrogen Budget Model for Global Integrated Environmental Assessments

Yuto Osugi¹, Koga Yamazaki¹, Shinichiro Fujimori¹, Tomoko Hasegawa², Kazuya Nishina³

¹Kyoto University, Kyoto, Japan. ²Ritsumeikan University, Kusatsu, Japan. ³National Institute for Environmental Studies, Tsukuba, Japan

195 Impact of Climate Change and Its Mitigation on Poverty Amid Food Price Uncertainties

Tatsuki Ozawa¹, Shinichiro Fujimori^{1,2,3}, Tomoko Hasegawa^{4,1,3}, Junya Takakura³, Kazuki Tsuchiya³, Kiyoshi Takahashi³, Seiya Kawaguchi¹, Shiya Zhao^{1,2}

¹Department of Environmental Engineering, Kyoto University, Kyoto, Japan. ²International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria. ³Social Systems Division, National Institute for Environmental Studies (NIES), Tsukuba, Japan. ⁴Research Organization of Science and Technology, Ritsumeikan University, Kusatsu, Japan

253 Cost implications of short-term and medium-term methane mitigation for Rice production in India

Qumer Ahmed Khan¹, Joyal Arya², Rutva Patel¹, Saritha Sudharmma Vishwanathan³, Vidhee Avashia¹, Jaypalsinh Chauhan⁴, Tomoko Hasegawa³, Amit Garg¹

¹Indian Institute of Management Ahmedabad, Ahmedabad, India. ²Birla Institute of Technology & Science, K.K. Birla Goa Campus, Goa, India. ³Graduate School of Engineering, Kyoto University, Kyoto, Japan. ⁴UNEP Copenhagen Climate Centre, Copenhagen, Denmark

294 SusMIP: model intercomparison of pathways to a sustainable future

Isabela Schmidt Tagomori¹, Geanderson Ambrósio², Vassilis Daioglou^{1,2}, Detlef van Vuuren^{1,2}

¹PBL Netherlands Environmental Assessment Agency, The Hague, Netherlands. ²Utrecht University, Utrecht, Netherlands

16:15 - 18:15 - Room Geribá

JUSTICE

Chair: Marina Andrijevic

Analysis of distributional aspects of mitigation strategies (both at the international and national scale) and the development of just transition strategies. The support for mitigation strategies often depends on the (perceived) fairness of strategies. In this session, we will look into the distributional and fairness aspects of mitigation strategies related to IAM analysis.

340 Climate implications of providing energy for Decent Living Standards and beyond

Jarmo Kikstra, Tommaso Zaini, Elina Brutschin, Keywan Riahi
IIASA, Laxenburg, Austria

301 Planning alternatives under different future-world evolutions: Coupling transformative scenario design with capacity expansion modelling towards carbon-neutral energy systems and just transition strategies

Nikos Kleanthis, Vassilis Stavrakas, Alexandros Flamos

Technoeconomics of Energy Systems laboratory (TEESlab), Piraeus, Greece

105 Trade-offs between (inter- and intra-regional) distributive justice and the 1.5°C target in mitigation pathways

Lukas Eggert, Larissa Kleiner, Niklas Roming

German Environment Agency (Umweltbundesamt), Dessau-Roßlau, Germany

30 Distributional Effects of Climate Policy Scenarios: Energy and Food Price Impacts Across Regions and Income Groups

Jiarui Zhong¹, Franziska Piontek¹, Benjamin Benjamin Bodirsky¹, David Chen¹, Leonard Missbach¹, Robin Hasse¹, Elmar Kriegler^{1,2}

¹Potsdam Institute for Climate Impact Research, Potsdam, Germany. ²University of Potsdam, Potsdam, Germany

226 Intra-country demographic differentiation in global food demand: Implications for consumption, environmental impacts and equity of policy interventions

Marta Kozicka¹, Michael Wögerer¹, Petr Havlík¹, David Leclère¹, Amanda Palazzo¹, Stefan Frank^{1,2}, Sibylle Rouet-Pollakis¹

¹IIASA, Laxenburg, Austria. ²University of Natural Resources and Life Sciences, Vienna, Austria

10 Carbon dioxide removal could perpetuate community-scale inequalities of U.S. air pollution in net-zero scenarios

Candelaria Bergero¹, Jing Cheng², Qiang Zhang³, Yang Ou⁴, Haewon McJeon⁵, Destenie Nock⁶, Inês Azevedo², Steven Davis²

¹University of Wisconsin-Madison, Madison, USA. ²Stanford University, Palo Alto, USA. ³Tsinghua University, Beijing, China. ⁴Peking University, Beijing, China. ⁵Korea Advanced Institute of Science and Technology, Daejeon, Korea, Republic of. ⁶Carnegie Mellon University, Pittsburgh, USA

256 Distributing the Remaining Oil Production: An Economic Dependence-Based Approach

Rebecca Draeger¹, Luiz Bernardo Baptista¹, Alexandre Szklo¹, Pedro Rochedo²

¹Centre for Energy and Environmental Economics (Cenergia), Energy Planning Program (PPE), Coppe, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil. ²Research and Innovation Center on CO₂ and Hydrogen (RICH Center) and Management Science and Engineering Department, Khalifa University, Abu Dhabi, UAE

16:15 - 18:15 - Room João Fernandes

GEOPOLITICS & CRITICAL MATERIALS - 1

Chair: Alexandre Szklo

This session examines how the current geopolitical situation influences climate policy, exploring possible ways forward and the connections between trade, security, and climate policy. Given that the energy transition will drive demand for a wide range of critical materials, the session also considers these dynamics and their potential implications for the transition.

306 Understanding the impacts of uncertain trade policy environment on energy technology costs and investments

Haozhe Yang¹, Wei Peng¹, Allen Fawcett², Jessica Green³, Gokul Iyer², Huilin Luo¹, Jonas Meckling⁴, Jonas Nahm⁵, David Victor⁶

¹Princeton University, Princeton, USA. ²PNNL, College Park, USA. ³University of Toronto, Toronto, Canada. ⁴UC Berkeley, Berkeley, USA. ⁵Johns Hopkins University, Washington DC, USA. ⁶UC San Diego, San Diego, USA

265 Multi-sector demand for critical minerals and materials in energy system development

Yang Qiu, Brinda Yarlagadda, Gokul Iyer, Neal Graham, Matthew Binsted, Marshall Wise, Pralit Patel, Allen Fawcett
PNNL-JGCRI, College Park, USA

175 Advancing the representation of critical minerals supply chains in the global economic models

Maksym Chepeliev¹, Krzysztof Wojtowicz², Eddy Bekkers², Ayse Nihal Yilmaz², Dominique van der Mensbrughe¹

¹Purdue University, West Lafayette, USA. ²World Trade Organization, Geneva, Switzerland

159 Endogenizing critical mineral supply to meet evolving energy system demands

Brinda Yarlagadda¹, Yang Qiu¹, Karan Bhuwalka², Gokul Iyer¹, Pralit Patel¹, Neal Graham¹, Allen Fawcett¹

¹Joint Global Change Research Institute, College Park, USA. ²Stanford University, Stanford, USA

88 Endogenizing metal and mineral intensity in an integrated assessment model, a long-term study with TIAM-FR

Marie, Thuong-Thuong CODET¹, Seungwoo KANG², Sandrine SELOSSE¹

¹Mines Paris - PSL, Center for Applied Mathematics, Paris, France. ²TotalEnergies OneTech, Paris, France

168 Global Environmental and Trade Spillover of the EU Regulation on Deforestation Free Products

Francesco Calciolari¹, Marcello De Maria², Neus Escobar³, Russell Horowitz³, Elena Paglialunga¹, Dirk-Jan Van de Ven³

¹Roma Tre University, Rome, Italy. ²World Wildlife Fund, UK, Surrey, United Kingdom. ³Basque Centre for Climate Change (BC3), Bilbao, Spain

63 Technologically constrained EU mitigation pathways in the light of geopolitical & sociopolitical risks

Panagiotis Fragkos¹, Eleftheria Zisarou¹, Dirk-Jan Van De Ven², Shivika Mittal³, Lorenzo Rinaldi⁴, Matteo Rocco⁴, Clàudia Rodés-Bachs², Natasha Frilingou⁵, Conall Heussaff⁶, Alexandros Nikas⁵

¹E3-Modelling, Athens, Greece. ²Basque Centre for Climate Change, Bilbao, Spain. ³CICERO, Oslo, Norway. ⁴Politecnico di Milano, Milan, Italy. ⁵National Technical University of Athens, Athens, Greece. ⁶Bruegel, Brussels, Belgium

16:15 - 18:15 - Room Ferradura

DEMAND

Chair: Bas van Ruijven

This session will focus on modelling energy demand and the role of efficiency improvement. Attention will also be paid to the role of behavioral change, degrowth and its representation in IAM models. Finally, submissions may investigate the consequences of digitalization and AI.

332 An integrated modeling perspective on climate change mitigation and co-benefits in the transport sector

Jarusch Muesel, Robert Pietzcker, Johanna Hoppe, Philipp Verpoort, David Klein, Gunnar Luderer

Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany

284 Climate change mitigation scenarios incorporating direct and indirect artificial intelligence (AI) impacts

Hamish Beath¹, Shivika Mittal², Joeri Rogelj¹, Robin Lamboll¹

¹Imperial College, London, United Kingdom. ²CICERO, Oslo, Norway

286 Integrated Assessment of the Impacts of Global Transport Demand-side Actions

Xiangwen Fu, Christoph Bertram

Center for Global Sustainability, University of Maryland, College Park, USA

129 Residential Decarbonization in Japan: Low Energy and Material Demand Strategies and Challenges of an Ageing Society

Tao Cao¹, Alessio MASTRUCCI², Masahiro SUGIYAMA¹, Bas van Ruijven², Maryna Henrysson³

¹The University of Tokyo, Tokyo, Japan. ²International Institute for Applied Systems Analysis, Laxenburg, Austria. ³KTH Royal Institute of Technology, Stockholm, Sweden

74 Modeling The Least Cost Energy Transition for Bangladesh and Thailand: Through Clean Energy Supply, End Use Efficiency and Demand-Side Flexibility

Firuz Ahamed Nahid, Joyashree Roy

Asian Institute of Technology, Pathum Thani, Thailand

39 Modelling feedback-based dietary behavioural change in FRIDA v2.1 integrated assessment model

Jefferson K. Rajah¹, Benjamin Blanz², Birgit Kopainsky¹, William Schoenberg^{1,3}

¹System Dynamics Group, University of Bergen, Bergen, Norway. ²Research Unit Sustainability and Climate Risks, University of Hamburg, Hamburg, Germany. ³isee systems inc., New Hampshire, USA

214 Services and Demand in the ScenarioMIP scenarios

Bas van Ruijven¹, Tomasso Zaini¹, Jarmo Kikstra², Volker Krey¹, Oliver Fricko¹, Alessio Mastrucci¹, Aneeqe Javaid¹, Paul Kishimoto¹, Setu Pelz¹, Ken Oshiro³, Osamu Nishiura⁴, Laurin Koehler-Schindler⁵, Roberto Schaeffer⁶, Luis Bernardo⁶, Pedro Rochedo⁶, Gunnar Luderer⁵, Fabrice Lecuyer⁵, Christoph Bertram⁷, Mel George⁷, Harmen-Sytze de Boer⁸, Vassilis Daioglou⁸, Isabela Tagomori⁸, Shinichiro Fujimori⁹, Shotaro Mori⁹, Rik van Heerden⁸, Gerd Angelkort⁶, Luis Felipe Sivoletta¹⁰, Laurent Drouet¹¹

¹IIASA, Laxenburg, Austria. ²IIASA., Laxenburg, Austria. ³Hokudai, Kyoto, Japan. ⁴NIES, Tokyo, Japan. ⁵PIK, Postdam, Germany. ⁶COPPE, Rio de Janeiro, Brazil. ⁷UMD, College Park, USA. ⁸PBL, Den Haag, Netherlands. ⁹KU, Kyoto, Japan. ¹⁰COPPE, Laxenburg, Brazil. ¹¹CMCC, Milan, Italy

Thursday, 13th November, 2025

09:00 - 10:30 - Room Tucuns+Tartaruga

IMPACTS - 3

Chair: Isabela Schmidt Tagomori

This session will focus on modelling climate impacts in integrated assessment models. Special attention will be paid to the representation of adaptation in IAMs. Impacts of climate change, such as those on agriculture, energy systems or wider. The session will also look into the representation of the climate system itself (including small climate models and emulators).

313 RIME-X: Efficient emulation of regional climate impact distributions

Carl Schleussner^{1,2}, Niklas Schwind¹, Michaela Werning¹, Edward Byers¹

¹IIASA, Laxenburg, Austria. ²Humboldt Universität, Berlin, Germany

135 Impacts of Climate Change on Inter-annual Variation of PM_{2.5} and Ozone

Racha Samermit¹, Thanapat Jansakoo², Shinichiro Fujimori^{1,3,4}

¹Department of Environmental Engineering, Kyoto University, Kyoto, Japan. ²Department of Environmental Technology Management, Faculty of Environment, Kasetsart University, Nakhon Pathom, Thailand. ³Social Systems Division, National Institute for Environmental Studies (NIES), Ibaraki, Japan. ⁴International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria

77 A Forward-Looking CGE Analysis of Climate Damages: Revised country-level labour productivity change, Agricultural Yields, and Heat-Related Mortality

Vito Avakumovic^{1,2}, Van Ha Pham², Tom Kompas²

¹University of Hamburg, Hamburg, Germany. ²University of Melbourne, Melbourne, Australia

324 The Economic Impacts of Heat Stress on Workers, Agricultural Markets, Trade and the Macro Economy

James Edmonds¹, Di Sheng¹, Xin Zhao¹, Pralit Patel¹, Christoph Bertram², Iyer Gokul¹, Allen Fawcett¹, Stephanie Morris¹, Jay Fuhrman¹

¹PNL, College Park, USA. ²U.Maryland, College Park, USA

199 Assessing the Economic Costs of Heat Stress on Worker Productivity in Ireland: A CGE Approach

Clement Kweku Kyei¹, Kelly de Bruin¹, Aykut Mert Yakut¹, Loïc Henry²

¹Economic and Social Research Institute (ESRI), Dublin, Ireland. ²Department of Economics, Paris-Dauphine, Paris, France

09:00 - 10:30 - Room Geribá

LAND - 1

Chair: Gabriele Mansi

This session will focus on strategies related to land-related sustainable development problems, including biodiversity conservation, land degradation and climate change.

185 Practical ways to improve biodiversity representation in Integrated Assessment Models

Laurent Drouet^{1,2}, Cindy Azuero Pedraza^{1,2}, Gabriele Mansi^{1,2,3}

¹CMCC Foundation - Euro-Mediterranean Center on Climate Change, Milan, Italy. ²RFF-CMCC European Institute on Economics and the Environment, Milan, Italy. ³CaFoscari University, Venice, Italy

75 Accounting for Ocean Impacts Nearly Doubles the Social Cost of Carbon

B.A. Bastien-Olvera¹, Johannes Emmerling²

¹UNAM, Mexico City, Mexico. ²CMCC, Milan, Italy

87 Exploring Sustainable Agricultural Transition Opportunities with a Global IAM

Gerd Angelkorte¹, Lucas Carvalho², Fábio da Silva¹, Fabio A. Diuana¹, Luiz Bernardo Baptista¹, Huang Wei¹, Pedro Rochedo^{1,3}, Alexandre Szklo¹, Roberto Schaeffer¹

¹Centre for Energy and Environmental Economics (Cenergia), Energy Planning Program (PPE), Coppe, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil. ²Centre for Energy and Environmental Economics (Cenergia), Energy Planning Program (PPE), Coppe, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil. ³Research and Innovation Center on CO₂ and Hydrogen (RICH Center) and Management Science and Engineering Department, Khalifa University, Abu Dhabi, UAE

246 Quantifying just pathways for transformative change in the food and biomass supply chains towards goals for nature, climate and people

Sibylle Rouet-Pollakis¹, David Leclère¹, Marta Kozicka¹, Felicity Addo¹, Elliott Woodhouse¹, Christopher Wong¹, Larissa Nowak², Thomas Kastner², Daniel Braun³, Koen Kuipers⁴, Francesca Veronesi⁵, Petr Havlik¹, Stefan Frank¹, Flavia Aschi⁶

¹International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria. ²Senckenberg Biodiversity and Climate Research Centre, Frankfurt, Germany. ³Rheinische Friedrich-Wilhelms-Universität Bonn (UBO), Bonn, Germany. ⁴Stichting Radboud Universiteit (RU), Nijmegen, Netherlands. ⁵Norwegian University of Science and Technology (NTNU), Trondheim, Norway. ⁶Utrecht University, Utrecht, Netherlands

34 Agro-Ecosystem Loss and Conservation in the EU: A Macroeconomic Assessment

GABRIELE MANSI¹, Francesco Bosello², Gabriele Standardi²

¹Venezia (VE), Italia, Venezia (VE), Italia, Italy. ²CMCC, Venezia (VE), Italia, Italy

09:00 - 10:30 - Room João Fernandes

FEASIBILITY

Chair: Steven Rose

This section will focus on the representation of socio-technical transitions in IAM research (including institutional change) and issues related to feasibility. Specifically, it will address how to combine insights from social-technical transition research, insights on institutional change and governance and IAM modelling. One of the relevant topics here can be dealing with different forms of feasibility (technical, economic, and social or political), enablers of effective climate policy and barriers.

274 A Bottom-up Approach to Modeling Socio-Political Feasibility in GCAM-USA

Kathleen Kennedy¹, Bradley Phelps¹, Dhruv Modi¹, Stephanie Vo¹, Alicia Zhao¹, Steven Smith^{1,2}, Nathan Hultman¹

¹Center for Global Sustainability, University of Maryland College Park, College Park, USA. ²Joint Global Change Research Center, College Park, USA

348 Short-term feasibility of global low-emissions hydrogen production in IAMs: a comparative analysis with real-world data

Otávio Grassi-Gonçalves, Huang Ken Wei, Luiz Bernardo Baptista, Camila Ludovique Callegari, Alexandre Szklo

Centre for Energy and Environmental Economics (Cenergia), Energy Planning Program (PPE), Coppe, Universidade Federal do Rio de Janeiro, Brazil, Rio de Janeiro, Brazil

85 Acceptance of highly uncertain climate change mitigation measures by informed European citizens: implications for modeling

Valeria Sorgato¹, Morris Krainz², Tobias Brosch², Evelina Trutnevyte¹

¹University of Geneva, Geneva, Switzerland. ²University of Geneva, Genève, Switzerland

163 Public opinion and international negotiations shape mitigation pathways: An IAM-ABM approach.

Adrien Poujon, Giacomo Marangoni, Tatiana Filatova, Jan Kwakkel
TUDELFT, Delft, Netherlands

130 Technology without Borders: Solar and Wind Spillovers as a Global Subsidy for a Just Transition

Yusheng Guan¹, Kangxin An¹, Shihui Zhang², Can Wang¹

¹Tsinghua University, Beijing, China. ²Renmin University of China, Beijing, China

09:00 - 10:30 - Room Ferradura

INDUSTRY - 1

Chair: Rafael Garaffa

Integrated assessment of pathways to carbon neutrality and circularity in industry, including in-depth analyses of industry sub-sectors and considerations of circular economy and material efficiency. Studies on changing supply chains during the transition, including associated risks and opportunities, are also invited for submission to this session.

336 Exploring long term futures of the industry sector - quantifications of SSP narratives with MESSAGEix-Materials

Florian Maczek¹, Yiyi Ju^{1,2}, Volker Krey^{1,3}

¹IIASA, Laxenburg, Austria. ²Waseda Institute for Advanced Study, Tokyo, Japan. ³Norwegian University of Science and Technology, Trondheim, Norway

224 Material production and associated environmental pressures in the Shared Socioeconomic Pathways

Tommi Ekholm¹, Benedikt Grammer², Hannu Savolainen³, Saana Springare³, Jan Streeck², Dominik Wiedenhofer²

¹Finnish Meteorological Institute, Helsinki, Finland. ²The University of Natural Resources and Life Sciences, Vienna, Vienna, Austria. ³Finnish Environment Institute, Helsinki, Finland

179 Towards a Climate-neutral Chemical Industry: Evaluating Technological and Circular Strategies with REMIND-Materials

Qianzhi Zhang^{1,2}, Jakob Dürrwächter², Bennet Weiss², Michaja Pehl³, Wenying Chen¹, Falko Ueckerdt²

¹Tsinghua University, Beijing, China. ²Potsdam Institute for Climate Impact Research, Potsdam, Germany. ³Potsdam Institute for Climate Impact Research, Potsdam, China

216 Integrating Circular Economy Strategies into Integrated Assessment Models: A Case Study for Transport and Electricity Sector in the WITCH Model

Leticia Magalar^{1,2}, Laurent Drouet¹, Alexandre Szklo², Elena Verdolini^{1,3}

¹CMCC, Milan, Italy. ²PPE, Rio de Janeiro, Brazil. ³Department of Law, University of Brescia, Brescia, Italy

257 Would it still be *hard-to-abate*? A model comparison of the circularity potential for steel decarbonization

Marianne Zanon Zotin^{1,2}, Luja von Köckritz^{3,4}, Frederike Arp^{3,4}, Leticia Magalar^{5,6}, Ramiro Parrado⁷, Christian Hauenstein⁸, Dimitris Fragkiadakis⁹, Martijn van Engelenburg¹⁰, Peter Berril¹⁰, Patricia Fortes¹¹, Sebastiaan Deetman¹⁰, Oreane Edelenbosch^{3,4}, Leonidas Paroussos⁹, Tomer Fishman¹⁰, Francesco Bosello⁷, Stefan Pauliuk⁸, Detlef van Vuuren^{4,3}

¹Utrecht University, Utrecht, Netherlands. ²PBL Planbureau voor de Leefomgeving, The Hague, Netherlands. ³Copernicus Institute, Utrecht University, Utrecht, Netherlands, Utrecht, Netherlands. ⁴PBL Netherlands Environmental Assessment Agency, Den Haag, Netherlands, The Hague, Netherlands. ⁵CMCC Foundation - Euro-Mediterranean Center on Climate Change, Lecce, Italy. ⁶RFF-CMCC European Institute on Economics and the Environment, Milan, Italy. ⁷Centro Euro-Mediterraneo sui Cambiamenti Climatici, Venice, Italy. ⁸Industrial Ecology Group, Faculty of Environment and Natural Resources, University of Freiburg,, Freiburg, Germany. ⁹E3Modelling S.A., Athens, Greece. ¹⁰CML - Institute of Environmental Sciences, Leiden, Netherlands. ¹¹CENSE - Centre for Environmental and Sustainability Research Energy and Climate & CHANGE - Global Change and Sustainability Institute, NOVA School of Science and Technology, NOVA University Lisbon,, Lisbon, Portugal

10:30 - 11:00 - Coffee break

11:00 - 12:45 - Room Tucuns+Tartaruga

ECONOMY - 2 and METHODS - 2

Chair: Alicia Zhao

The first part of the session focuses on the economic aspects of mitigation and adaptation strategies and risks associated with climate impacts. The second part of the session will specifically look at various methodological issues related to IAMs, including open science and uncertainty analysis.

147 Modeling the Financial Dynamics of Energy Transitions

Frédéric Gherzi^{1,2}, Angélique Sarre^{1,3,4}, Quentin Couix^{1,5}, Jacques Després⁶

¹CIREN, Paris, France. ²CNRS, Paris, France. ³SMASH, Paris, France. ⁴EHESS, Paris, France. ⁵ENPC, Paris, France. ⁶Enerdata, Grenoble, France

189 Subnational Fiscal Vulnerability and the Challenge of Just Transition in Nigeria

Alexander Uchenna Nnamani

Centre for Climate Change and Development, Alex-Ekwueme Federal University, Ikwo, Ebonyi State, Nigeria

245 Asset-Level Climate Stress Testing for Global Power Sector Transition Risks

Kevin Tang¹, Fatih Yilmaz², Raphael Apeaning³, Antonio Buller⁴, Jakub Cervenka⁴, Bertrand Gaalice⁴, Mohamad Hejazi², Puneet Kamboj², Maxim Oweysi⁴

¹University of Cambridge, Cambridge, United Kingdom. ²KAPSARC, Riyadh, Saudi Arabia. ³*KAPSARC, Riyadh, Saudi Arabia. ⁴THEIA Finance, Berlin, Germany

79 Introducing the Scenario Compass: Insights from the First Annual Community Scenario Update

Keywan Riahi¹, Leon Clarke², Karl Scheifinger^{3,1}

¹IIASA, Laxenburg, Austria. ²Bezos Earth Fund, Seattle, USA. ³Imperial College London, London, United Kingdom

238 Modeling the river-sea *continuum* with open-source tools to support coastal adaptation across different estuaries

Júlia Kaiser¹, Giorgia Verri¹, Fabio Viola¹, Alessandro De Lorenzis¹, Leonardo Saccotelli¹, Rosalia Maglietta²

¹CMCC Foundation - Euro-Mediterranean Center on Climate Change, Lecce, Italy. ²National Research Council, Bari, Italy

317 Stakeholder Interaction in Integrated Assessment Modelling: Comparing Three National Mitigation Scenario Processes in Ecuador

Rafael Soria¹, Daniel Villamar², Pedro Rochedo^{3,4}

¹Department of Mechanical Engineering, Universidad San Francisco de Quito, Diego de Robles y Vía Interoceánica, Campus Cumbayá, 170901, Quito, Ecuador. ²Universidad San Francisco de Quito, Diego de Robles y Vía Interoceánica, Campus Cumbayá, 170901 Quito, Ecuador, Quito, Ecuador. ³Energy Planning Program (PPE), Alberto Luiz Coimbra Institute for Graduate Studies and Research in Engineering (COPPE), Universidade Federal do Rio de Janeiro (UFRJ), 21941-917, Rio de Janeiro, Brazil. ⁴Research and Innovation Center on CO₂ and Hydrogen (RICH Center), Management Science and Engineering Department, Khalifa University, 127788, Abu Dhabi, UAE

11:00 - 12:45 - Room Geribá

LAND - 2

Chair: Tomoko Hagesawa

This session will focus on strategies related to land-related sustainable development problems, including biodiversity conservation, land degradation and climate change.

106 Exploring land-use futures, their GHG emissions and broader sustainability impacts: Insights from CMIP7 ScenarioMIP

Alexander Popp¹, Florian Humpenöder¹, Tomoko Hasegawa², Shinichiro FUJIMORI³, Gerd Brantes Angelkorte⁴, Pedro Rochedo⁴, Jonathan Doelman⁵, Astrid Bos⁵, Detlef van Vuuren⁵, Stefan Frank⁶, Oliver Fricko⁶, Keywan RIAHI⁶, Jan Dietrich¹, Yazhen Wu⁶, Elmar Kriegler¹, Cindy Azuero⁷, Laurent Drouet⁷, Xin Zhao⁸

¹PIK, Potsdam, Germany. ²Ritsumeikan University, Kyoto, Japan. ³Kyoto University, Kyoto, Japan.

⁴COPPE, Sao Paulo, Brazil. ⁵PBL, Den Hague, Netherlands. ⁶IIASA, Vienna, Austria. ⁷CMCC, Milano, Italy.

⁸PNNL, Washington, USA

176 Scaling Land-Based Mitigation in Integrated Assessment Models with Earth System Model Constraints: Addressing Uncertainty in 1.5°C Pathways

SIRISHA KALIDINDI¹, Joeri Rogelj¹, Gabriel Abrahão²

¹Imperial College London, London, United Kingdom. ²Potsdam Institute for Climate Impact Research, Postdam, Germany

171 Modelling Land Demand Pathways for Rice Cultivation in India using AFOLU-B Model

Joyal Arya¹, Rutva Patel², Vidhee Avashia², Qumer Ahmed Khan², Jaypalsinh Chauhan³, Rajiv Kumar Chaturvedi¹, Tomoko Hasegawa^{4,5}, Saritha Sudharmma Vishwanathan^{5,2}, Amit Garg²

¹Birla Institute of Technology & Science, K.K. Birla Goa Campus, Goa, India. ²Indian Institute of Management Ahmedabad, Ahmedabad, India. ³UNEP Copenhagen Climate Centre, Copenhagen, Denmark. ⁴Research Organization of Science and Technology, Ritsumeikan University, Kusatsu, Japan. ⁵Graduate School of Engineering, Kyoto University, Kyoto, Japan

206 Modelling Global Carbon Sequestration: Afforestation, Soil Carbon, and Biochar

Dianti Kamasela¹, Shinichiro FUJIMORI^{1,2}, Tomoko HASEGAWA^{3,2,1}, Saritha VISHWANATHAN^{1,4}

¹Department of Environmental Engineering, Kyoto University, C1-3 361, Kyotodaigaku Katsura, Nishikyoku, Kyoto, Japan. ²Center for Social and Environmental Systems Research, National Institute for Environmental Studies (NIES), 16-2 Onogawa, Tsukuba, Ibaraki 305-8506, Tsukuba, Japan. ³Research Organization of Science and Technology, Ritsumeikan University, Kusatsu, Japan. ⁴Indian Institute of Management, Ahmedabad (IIMA), Gujarat, India, Gujarat, India

325 The role of agriculture sector in climate change mitigation pathways - insights from the ScenarioMIP trajectories quantified by MESSAGEix-GLOBIOM-GAINS

Yazhen Wu^{1,2}, Stefan Frank^{1,3}, Mykola Gusti¹, Oliver Fricko¹, Marta Kozicka¹, Tamás Krisztin¹, Amanda Palazzo¹, Leopold Ringwald¹, Michael Wögerer¹, David Leclère¹, Andrey Lessa Derci Augustynczyk¹, Volker Krey¹, Petr Havlík¹

¹International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria. ²Wageningen University, Wageningen, Netherlands. ³University of Natural Resources and Life Sciences, Vienna, Austria

233 Addressing Strengths and Weaknesses of Land Use Change Emissions Calculations by Combining Three Modelling Approaches

Diego Amara^{1,2}, Isabela Tagomori³, Renan Novaes², Aline Soterroni⁴, Roberto Schaeffer¹, Joana Portugal-Pereira^{1,5}

¹Centre for Energy and Environmental Economics (Cenergia), Energy Planning Program (PPE), COPPE, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil. ²Embrapa Meio Ambiente, Jaguariúna, Brazil. ³PBL Netherlands Environmental Agency, The Hague, Netherlands. ⁴University of Oxford, Oxford, United Kingdom. ⁵IN+ Centre for Innovation, Technology and Policy Research, Instituto Superior Técnico, Universidade de Lisboa, Lisboa, Portugal

11:00 - 12:45 - Room João Fernandes

SSPs - 2 and GEOPOLITICS & CRITICAL MATERIALS - 2

Chair: Detlef Van Vuuren

The first part of the session is looking for updates and extensions of the SSP scenarios in various areas and across scales. The second part looks into how the current geopolitical situation influences climate policy and discusses possible ways forward. Moreover, given that the energy transition will drive demand for a wide range of critical materials, the session also considers the dynamics of energy transition and critical materials demand and their potential implications.

344 Illustrative futures to inform the Paris Agreement: The Low Scenarios of ScenarioMIP for CMIP7

Laurin Köhler-Schindler¹, Nico Bauer¹, Elmar Kriegler¹, Gerd Angelkorte², Luiz Bernardo Baptista², Christoph Bertram³, Astrid Bos⁴, Vassilis Daioglou⁴, Harmen Sytze de Boer⁴, Jonathan Doelman⁴, Laurent Drouet⁵, Oliver Fricko⁶, Shinichiro Fujimori⁷, Mel George³, Florian Humpenöder¹, Jarmo Kikstra⁶, Volker Krey⁶, Fabrice Lecuyer¹, Gunnar Luderer¹, Osamu Nishiura⁷, Brian O'Neill⁸, Yang Ou⁹, Alexander Popp¹, Lara Aleluia Reis⁵, Keywan Riahi⁶, Bas van Ruijven⁶, Roberto Schaeffer², Steve Smith⁸, Isabela Tagomori⁴, Massimo Tavoni⁵, Detlef van Vuuren⁴

¹Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany. ²COPPE, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil. ³Center for Global Sustainability (CGS), College Park, USA. ⁴PBL Netherlands Environmental Assessment Agency, The Hague, Netherlands. ⁵Fondazione Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC), Lecce, Italy. ⁶International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria. ⁷National Institute for Environmental Studies (NIES), Tsukuba, Japan. ⁸Pacific Northwest National Laboratory (PNNL), Richland, USA. ⁹Peking University, Peking, China

62 Improving Industrial Demand Representation in SSPs through Dynamic Material Flow Analysis

JINGYANG SONG^{1,2}, ZHI CAO³, HANCHENG DAI^{1,2}, YANG OU^{1,2}

¹College of Environmental Sciences and Engineering, Peking University, Beijing, China. ²Institute of Carbon Neutrality, Peking University, Beijing, China. ³College of Environmental Science and Engineering, Nankai University, Beijing, China

162 Subnational scenarios of income distribution on provincial, urban, and rural levels for China from 2020 to 2100

Mingyu Lei¹, Setu Pelz², Shonali Pachauri², Wenjia Cai¹

¹Institute for Global Change Studies, Department of Earth System Science, Tsinghua University, Beijing, China. ²International Institute for Applied Systems Analysis, Vienna, Austria

145 Financing Global Paris-Aligned Pathways in a Volatile World: Geopolitical Implications of Fluctuating and Uneven Capital Costs

Diamantis Koutsandreas, [Nico Bauer](#), Laurin Köhler-Schindler, Benjamin Peeters, Leon Merfort, Falk Benke
Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany

151 Industrial Policy Nationalism has negative impacts on economies and the climate

[Panagiotis Fragkos](#)¹, [Lukas Hermwille](#)², [Kostas Fragkiadakis](#)¹, [Dimitris Fragkiadakis](#)¹
¹E3Modelling, Athens, Greece. ²Wuppertal Institute, Wuppertal, Germany

192 Quantifying methane emissions along the natural gas supply chain with changing trade dynamics

[Ryna Cui](#)¹, [Jiaxun Sun](#)¹, [Brinda Yarlagadda](#)¹, [Rachel Hoesly](#)¹, [Julie Miller](#)², [Andy Miller](#)¹,
[Christoph Bertram](#)¹, [Xinzhao Cheng](#)¹, [Gabrielle Dreyfus](#)², [Tad Ferris](#)², [Nathan Hultman](#)¹,
[Steve Smith](#)¹, [Xiaopu Sun](#)², [Mengye Zhu](#)¹
¹Center for Global Sustainability, University of Maryland, College Park, USA. ²Institute for Governance & Sustainable Development, Washington D.C., USA

11:00 - 12:45 - Room Ferradura

INDUSTRY - 2

Chair: Marianne Zanon Zotin

Integrated assessment of pathways to carbon neutrality and circularity in industry, including in-depth analyses of industry sub-sectors and considerations of circular economy and material efficiency. Studies on changing supply chains during the transition, including associated risks and opportunities, are also invited for submission to this session.

116 Minimizing the global fossil steel lock-in requires a policy push toward DRI-based steel production

[Clara Bachorz](#)^{1,2}, [Jakob Dürrwächter](#)¹, [Chen Chris Gong](#)¹, [Adrian Odenweller](#)¹,
[Michaja Pehl](#)¹, [Felix Schreyer](#)¹, [Philipp Verpoort](#)¹, [Falko Ueckerdt](#)¹, [Gunnar Luderer](#)^{1,2}
¹Potsdam Institute for Climate Impact Research, Potsdam, Germany. ²TU Berlin, Berlin, Germany

230 Decarbonizing India's Steel Sector with Bamboo-Based Biochar: A Techno-Economic and Spatial Analysis for 2030.

[Rutva Patel](#), [Vidhee Avashia](#), [Amit Garg](#)
Indian Institute of Management Ahmedabad, Ahmedabad, India

242 Decarbonization Pathways for the Brazilian Steel Industry: A Regionalized Energy-Economic Assessment

Matheus Poggio, Otto Hebeda, Bruno S. L. Cunha, Fernanda Andreza, Alex Y. G. Yukizaki, Marcos Conde, Glaucio Faria, Gabriel Konzen, Arnaldo dos Santos
Energy Research Office - EPE, Rio de Janeiro, Brazil

259 EU-China Industrial Decarbonization Pathways: Exploring the Steel Sector and the role of Hydrogen under Varying Degrees of Cooperation

Sonja Sechi, Anastasis Giannousakis, Maro Baka, George Plessias, Fotis Sioutas, Michail Madianos, Eleftheria Zisarou, Panagiotis Fragkos
E3 Modelling (E3M), Athens, Greece

114 Analysis of China's Zero-Carbon Steel Layout Based on Renewable Energy

Weiye Jiang
Peking University, Beijing, China

120 Accelerated industrial decarbonization in China substantially saves the global 1.5 °C carbon budget and investment costs

Xinyuan Liu¹, Hancheng Dai^{1,2}, Yan Yan³, Gang Yan³, Xiao Wu⁴, Jing Yang Song¹
¹College of Environmental Science and Engineering, Peking University, Beijing, China. ²Institute of Carbon Neutrality, Peking University, Beijing, China. ³Chinese Academy of Environmental Planning, Beijing, China. ⁴Beihang University, Beijing, China

12:45 - 14:15 - Lunch

14:15 - 15:00 - Room Tucuns+Tartaruga

PLENARY SESSION 4 - Geopolitics, trade and security

Chair: Detlef Van Vuuren

The world seems to have changed a lot since last year's IAMC conference. The Trump administration in the USA announced stepping out of the UNFCCC and openly used trade-policies as part of their geopolitical strategy. At the same time, increasing the climate change consensus has been challenged. But maybe we have to admit that the world around climate policy was already becoming increasingly political, with also international, multilateral response strategies becoming increasingly pressured. In other words, can we in our analysis still rely on United Nations based processes like UNFCCC? How should a climate policy landscape look like that would be based on the more fragmented world we are seeing today? In the session, these topics will be introduced by two speakers followed by a interaction with the audience.

Speakers: **DAVID VICTOR**, UC San Diego, USA; **LARA ALELUIA REIS**, CMCC, Italy

15:00 - 15:45 - Room Tucuns+Tartaruga

PLENARY SESSION 5 - Integrating Fairness and Justice into Integrated Assessment Modeling

Chair: Keywan Riahi

As climate action enters a decisive decade, the questions of *fairness* and *justice* are becoming central to the design and evaluation of mitigation, adaptation, and impact pathways. Integrated Assessment Models (IAMs) are increasingly called upon not only to chart efficient transitions, but also to illuminate their distributional, ethical, and legal implications. This session explores how IAMs can better represent equity – across regions, income groups, and generations – and incorporate power dynamics, institutional asymmetries, and evolving legal frameworks, including the most recent rulings of the International Court of Justice (ICJ) on states' obligations regarding climate harm.

Discussions will address how distributional justice can be integrated into quantitative modeling, how to represent a "decent life for all" within planetary limits, and how concepts of *power transitions* can support more equitable and politically viable solutions. The session will also review emerging activities across the modeling community that aim to operationalize justice and fairness within IAMs and scenario frameworks.

Speakers: **APRIL WILLIAMSON**, University of Oxford, UK; **SARITHA SUDHARMMA VISHWANATHAN**, IIMA, India

15:45 - 16:15 - Coffee break

16:15 - 17:15 - Room Tucuns+Tartaruga

Reporting back from SWG

Chair: Roberto Schaeffer

SWG on Data Protocols and Management - Jessica Strefler

SWG on Evaluation and Diagnostics - Elmar Kriegler

SWG on Scenarios for Climate-related Financial Analysis - Elmar Kriegler

SWG on Scenarios - Detlef van Vuuren, Keywan Riahi

SWG on National Scenarios - Roberto Schaeffer, Saritha Sudharmma Vishwanathan

17:15 - 17:45 - Room Tucuns+Tartaruga

AWARDS CEREMONY

17:45 - 18:00 Room Tucuns+Tartaruga

CLOSING SESSION

Chairs: John Weyant, Roberto Schaeffer

Tuesday, 28th October, 2025 - 10:00 - 11:30

ONLINE POSTER FESTIVAL - day 1

172 Bending the emissions curve: how technologies and policy instruments help achieve Saudi Arabia's net-zero ambition by 2060?

Puneet Kamboj, Raphael Apeaning, Mohamad Hejazi
KAPSARC, Riyadh, Saudi Arabia

194 2040 GHG reduction targets and energy transitions in line with the EU Green Deal

Renato Rodrigues¹, Robert Pietzcker¹, Gunnar Luderer^{2,1}
¹PIK, Potsdam, Germany. ²Technische Universität Berlin, Berlin, Germany

218 A Computable General Equilibrium (CGE) Assessment of India's COP 26 NDC Targets

Basanta K Pradhan¹, Sangeeta Yadav², Joydeep Ghosh³, Anjali Prashad⁴, Ankit Singh Kharwar¹
¹IGIDR, Mumbai, India. ²NDIM, Delhi, India. ³NUS, Heng Mui Keng Terrace, Singapore. ⁴DU, Delhi, India

304 From Global Climate Discourse to Plant-level Dynamics: A Novel Hierarchical Modeling Framework for Carbon Market Policy Assessment in India

Shreeyash Nitin Malode, Anoop Singh
Indian Institute of Technology Kanpur (IITK), Kanpur, India

338 Analyzing the Impact of Pakistan's Economic Growth Projection Scenarios on Climate Mitigation and Sustainable Electrification

Arfa Yaseen¹, Muhammad Awais², Talha Manzoor¹
¹Lahore University of Management Sciences (LUMS), Lahore, Pakistan. ²International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria

84 Carbon dioxide removal deployment and sustainability assessment in the low emission scenarios for CMIP7

Osamu Nishiura¹, Shinichiro Fujimori^{2,1,3}, Tomoko Hasegawa², Ken Oshiro⁴, Tatsuya Hanaoka¹, Kiyoshi Takahashi¹, Shotaro Mori², Koga Yamazaki², Luiz Bernardo Baptista⁵, Gerd Angelkorte⁵, Roberto Schaeffer⁵, Pedro R. R. Rochedo^{5,6}, Jay Fuhrman⁷, Haewon McJeon⁸, Mel George⁹, Vassilis Daioglou¹⁰, Jonathan Doelman¹⁰, Harmen-Sytze de Boer¹⁰, Detlef van Vuuren¹⁰, Isabela Tagomori Schmidt¹⁰, Astrid Bos¹⁰, Yoga W. Pratama³, Oliver Fricko³, Volker Krey³, Keywan Riahi³, Siddarth Joshi³, Matthew Gidden^{3,9}, Yazhen WU³, Stefan Frank³, Alexander Popp¹¹, Florian Humpenöder¹¹,

Patrick von Jeetze¹¹, Kristine Karstens¹¹, Jessica Strefler¹¹, Laurent Drouet^{12,13}, Cindy Giselle Azuero Pedraza^{12,13}, Marco Gambarini^{12,13}

¹Social System Division, National Institute for Environmental Studies (NIES), Tsukuba, Japan.

²Department of Environmental Engineering, Kyoto University, Kyoto, Japan. ³International Institute for Applied Systems Analysis (IIASA), Laxenburg, Austria. ⁴Faculty of Environmental Earth Science,

Hokkaido University, Sapporo, Japan. ⁵Centre for Energy and Environmental Economics (Cenergia), Energy Planning Program (PPE), Coppe, Universidade Federal do Rio de Janeiro, Rio de Janeiro, Brazil.

⁶Research and Innovation Center on CO₂ and Hydrogen (RICH Center) and Management Science and Engineering Department, Khalifa University, Abu Dhabi, UAE. ⁷Joint Global Change Research Institute, College Park MD, USA. ⁸KAIST Graduate School of Green Growth and Sustainability, Daejeon, Korea, Republic of. ⁹Center for Global Sustainability (CGS), University of Maryland, College Park MD, USA.

¹⁰PBL Netherlands Environmental Assessment Agency, The Hague, Netherlands. ¹¹Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany. ¹²CMCC Foundation - Euro-Mediterranean Center on Climate Change, Milan, Italy. ¹³RFF-CMCC European Institute on Economics and the Environment, Milan, Italy

98 INTEMPERISMO APRIMORADO PARA CAPTURA DE CO₂ - ANÁLISE DE OPORTUNIDADES E DESAFIOS EM MODELAGEM INTEGRADA DE CENÁRIOS GLOBAIS DE MITIGAÇÃO

Gabrielle Ferreira

PPE/COPPE/UFRJ, RIO DE JANEIRO, Brazil

16 Title: Assessing the Impacts of Climate Change on Water Resources and Pastoralists Livelihoods In Kajiado West Sub-County, Kenya

Sammy Oleku^{1,2}, Prof. Chris Oludhe², Prof. George Outa³

¹Pastoralists Organization for Water And Environmental Research (POWER), Kiserian, Kenya. ²University of Nairobi, Nairobi, Kenya. ³Technical University of Kenya, Nairobi, Kenya

204 Direct Climate Damage on Capital across Sectors and Regions

Benjamin Peeters, Franziska Piontek

Potsdam Institute for Climate Impact Research (PIK), Potsdam, Germany

270 Climate impacts on European heating and cooling energy demand using recent climate projections

Kimon Keramidas¹, Paul Dowling¹, Corrado Motta², Luc Feyen²

¹European Commission, Joint Research Centre, Seville, Spain. ²European Commission, Joint Research Centre, Ispra, Italy

298 Dynamics and future projection of Indian forest carbon stocks in different scenarios using CMIP6 and process-based model simulations

Fathima Fitha J

BITS Pilani, South Goa, India

309 On Climate, Growth, and Cross-Country Panels

Channing Arndt¹, Tim Thomas², Uchuchukwu Jarrett³, Hamid Mohtadi⁴

¹Global Trade Analysis Project, West Lafayette, USA. ²IFPRI, Washington DC, USA. ³University of Nebraska, Lincoln, USA. ⁴University of Wisconsin, Milwaukee, USA

44 GCAM-China v7: Continuing to promote the community-based integrated assessment model for China's multi-sector dynamics

Yang Liu¹, Weidong Jia², Yuqin Li³, Andy Miller⁴, Jianxiang Shen⁵, Yisheng Sun¹, Fan Wu⁶, Rui Wang⁴, Huaxuan Wang¹, Zihua Yin¹, Sha Yu⁷, Rongqi Zhu⁶, Ryna Cui⁴, Qiang Zhang⁸, Yang Ou^{6,9}

¹State Key Laboratory of Regional Environment and Sustainability, School of Environment, Tsinghua University, Beijing, China. ²Institute of Blue and Green Development, Shandong University, Weihai, China. ³State Key Joint Laboratory of Environmental Simulation and Pollution Control, School of Environment, Beijing Normal University, Beijing, China. ⁴Center for Global Sustainability, School of Public Policy, University of Maryland, College Park, USA. ⁵Ministry of Education Key Laboratory for Earth System Modeling, Department of Earth System Science, Tsinghua University, Beijing, China. ⁶College of Environmental Sciences and Engineering, Peking University, Beijing, China. ⁷Center for Global Sustainability, School of Public Policy, University of Maryland, Beijing, USA. ⁸Ministry of Education Key Laboratory for Earth System Modeling, Department of Earth System Science, Beijing, China. ⁹Institute for Carbon Neutrality, Peking University, Beijing, China

52 REMIND-PyPSA-Eur: Price-based soft coupling of an integrated assessment and a power system model

Adrian Odenweller^{1,2}, Falko Ueckerdt¹, Johannes Hampp³, Ivan Ramirez¹, Felix Schreyer¹, Robin Hasse¹, Jarusch Müßel¹, Chen Chris Gong¹, Robert Pietzcker¹, Gunnar Luderer^{1,2}

¹Potsdam Institute for Climate Impact Research, Potsdam, Germany. ²Global Energy Systems Analysis, Technical University of Berlin, Berlin, Germany. ³Open Energy Transition, n/a, Germany

112 Leveraging Machine Learning to Reveal Transparency in Integrated Assessment Model Ensembles

Hongbo Duan¹, Yixin Sun¹, Yun Tang¹, Xiyu Li¹, Gokul Iyer²

¹School of Economics and Management, University of Chinese Academy of Sciences, Beijing, China. ²Center for Global Sustainability, University of Maryland, College Park, USA

260 A novel toolbox for thalweg identification and salt wedge intrusion assessment: methodological advances supporting estuarine dynamics

Fabio Viola, Alessandro De Lorenzis, Júlia Kaiser, Giorgia Verri
CMCC, Lecce, Italy

330 A novel approach to expanded multi-model assessments

Anastasis Giannousakis¹, Fotis Sioutas¹, Stratis Alexandrou², Natassa Frilingkou²
¹E3M, Athens, Greece. ²NTUA, Athens, Greece

188 Analysing the Energy Implications of Hydrogen Deployment in the European Union with an Integrated Assessment Model

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