

The 31st AIM International Workshop

Ohyama Memorial Hall in National Institute for Environmental Studies and Online
July 22 and 23, 2025

DAY 1: July 22, 2025

10:30-12:00 **Session 1: Opening**

Chairperson: Dr. Toshihiko Masui (NIES)

10:30-10:35 Opening remarks

Dr. Nobuko Saigusa (NIES)

10:35-10:40 Opening remarks

Mr. Takuya Nomoto (MOEJ)

10:40-11:00 Activities in FY 2024-2025

Dr. Toshihiko Masui (NIES)

11:00-11:20 Keynote speech: The Regional and Global Macroeconomic Consequences of Heat Stress on Agricultural Labor

Dr. James Edmonds (PNNL)

11:20-11:40 Keynote speech: China's Move and Modeling for Next 5 Years

Prof. Kejun Jiang (Hongkong Univ. of Sci. and Tech (Guangzhou)) and
Prof. Xiulian Hu (ERI)

11:40-12:00 Keynote speech: Integrating Material Cycles and Circular Economy Strategies into the MESSAGEix Model and its Application to Mobility Infrastructure

Dr. Volker Krey (IIASA)

12:00-12:10 Photo session

12:10-13:30 Lunch Break

13:30-15:20 **Session 2: GHG mitigations in Asia (1)**

Chairperson: Dr. Tatsuya Hanaoka (NIES)

13:30-13:45 Emission Mitigation from Urban Waste Water Sector: A Spatial Planning Approach

Prof. Manmohan Kapshe and Ms. Mrunmayi Wadwekar (MANIT)

13:45-14:00 2025 Annual Research Progress from AIM China Team

Prof. Hancheng Dai (Peking Univ.) and Prof. Yang Xie (BUAA)

14:00-14:15 Achieving Net Zero Carbon Emissions in Nepal: Role of Green Hydrogen and other Clean Energy Options

Prof. Ram Manohar Shrestha (Univ. of Nepal) and Dr. Salony Rajbhandari (NIES)

14:15-14:30	Analyzing the Economic Implications of GHG Mitigation in Korea with the UNICON Framework Prof. Tae-Yong Jung, Prof. Yong-Gun Kim (Yonsei Univ.), Prof. Chan Park (Seoul Univ.), Dr. Jongwoo Moon (KEI), Prof. Haein Kim and Prof. Eun Young Kim (Yonsei Univ.)
14:30-14:45	A Tentative Evaluation of Taiwan's 2050 Net-Zero Carbon Emissions Target Dr. Yi-Hua Wu (National Cheng Kung Univ.)
14:45-15:00	Update on IAMC SWG National Scenarios Study and Way forward Dr. Sudharmma Vishwanathan Saritha (Kyoto Univ.)
15:00-15:20	Discussion
15:20-15:40	Break
15:40-17:10	Session 3: GHG mitigations in Asia (2) Chairperson: Dr. Shuichi Ashina (NIES)
15:40-15:50	Introduction of LoCARNet Ms. Tomoko Ishikawa and Dr. Mikiko Kainuma (IGES)
15:50-16:05	Thailand's Road to Net-Zero Emissions: An Analytical Perspective using AIM Prof. Bundit Limmeechokchai, (Thammasat Univ.), Dr. Salony Rajbhandari and Dr. Achiraya Chaichaloempreecha (NIES)
16:05-16:20	Investment Needs and Costs of FOLU Mitigation for a Net Zero Future Prof. Rizaldi Boer (IPB) and Dr. Rositta Annuri (NIES)
16:20-16:35	Decarbonization Pathway of Cement Industries in Indonesia Prof. Retno Gumilang Dewi (ITB)
16:35-16:50	Net Zero and NDCs: Science-Based Climate Policymaking and Implementation in Malaysian Cities Prof. Chin Siong Ho (UTM)
16:50-17:10	Discussion
17:10-17:30	Break
17:30-19:30	Session 4: Poster Session and Reception
19:30	Adjourn

DAY2: July 23, 2025

10:00-11:40 Session 5: Climate impact, adaptation, and sustainability

Chairperson: Dr. Kiyoshi Takahashi (NIES)

10:00-10:15 Modeling Global Food Systems

Dr. Ronald Sands (USDA)

10:15-10:30 Climate Impacts, Food System, and Biodiversity in AIM Global Modeling

Dr. Kazuaki Tsuchiya (NIES)

10:30-10:45 Unraveling Uncertainties in Climate Change Mitigation and Poverty Alleviation through Model Intercomparison

Dr. Shiya Zhao (Kyoto Univ.)

10:45-11:00 Developing Multi-Scale Decision-Making Support Tools for Urban Climate Resilience: A Case Example of the Heatwave Assessment Tool

Mr. Sanghyuck Kim (SNU), Dr. Huicheul Jung (KEI) and Prof. Dongkun Lee (SNU)

11:00-11:15 Fine-Scale Projections of Elderly Heat Stress and Associated Adaptation Costs in Japan

Dr. Takahiro Oyama (NIES)

11:15-11:40 Discussion

11:40-13:00 Lunch Break

13:00-15:00 Session 6: Roadmap toward Net-Zero GHG Emissions in Japan

Chairperson: Dr. Toshihiko Masui (NIES)

13:00-13:10 Introduction of This Session

Dr. Toshihiko Masui (NIES)

13:10-13:25 Emissions Scenario Analysis for Consideration of Japan's Reduction Target using the AIM Model

Mr. Go Hibino (NIES) and Mr. Tomoki Hirayama (MHRT)

13:25-13:40 Trade-offs between Increase in Storage Batteries and Strengthening Grid Capacities to Enhance Renewable Energy Use in Japan

Dr. Shuichi Ashina (NIES)

13:40-13:55 Analysis of Regional GHG Reductions Consistent with Japan's GHG Reduction Targets

Dr. Yuko Kanamori and Dr. Kei Gomi (NIES)

13:55-15:00 Discussion of National Analyses based on AIM Including Discussion of the Next 5-Year Plan of NIES

Dr. Toshihiko Masui (NIES)

15:00-15:20 Coffee Break

15:20-16:50	Session 7: Global Mitigation Analyses: Focusing on & Collaboration with Asia	Chairperson: Dr. Tatsuya Hanaoka (NIES)
15:20-15:35	Scenario MIP Activities and (preliminary) Results Dr. Osamu Nishiura (NIES), Prof Tomoko Hasegawa (Ritsumeikan Univ.)	
15:35-15:50	Updates on AIM Global Modeling and Relevant International Activities Prof. Shinichiro Fujimori (Kyoto Univ.)	
15:50-16:05	The Current and Next Phases of AIM Global Modelling - Considering Climate Change and other Environmental Conventions - Dr. Tatsuya Hanaoka and Dr. Silva Herran Diego (NIES)	
16:05-16:50	AIM Global Research Dr. Diego Silva Herran and Dr. Kiyoshi Takahashi (NIES)	
16:50-17:00	Break	
17:00-17:20	Session 8: Closing	Chairperson: Dr. Silva Herran Diego (NIES)
17:00-17:10	Poster Award Ceremony Dr. Junya Takakura (NIES)	
17:10-17:20	Closing Remarks Dr. Mikiko Kainuma (IGES and NIES)	
17:20-19:30	Dinner	
19:30	Adjourn	

Poster session

- (1) Fertilizer Dependency of Detrimental Ground-Level Ozone Effect on Photosynthesis in Rice
Dr. Yutaka Tsutsumi-Morita (NIES)
- (2) Research on Carbon Emission Reduction Path of the Power Sector in Yunnan Province
Ms. Zexin Qi (Shanghai Jiao Tong Univ.)
- (3) Land Use Proposals to Promote Decarbonization under Depopulation in Japan
Dr. Satoko Kawarasaki (NIES)
- (4) Linking Top-down and Bottom-up Models for Macroeconomic Analysis of Decarbonization in Northeast Asia
Dr. Eun Young Kim (Yonsei Univ.)
- (5) The Development of AI on Taiwan's Economy and Electricity Demand
Ms. Tingwei Chao (Tamkang Univ.)
- (6) Impacts of Wildfire on Future Forest Carbon Sink
Dr. Chaeyeon Park (AIST)
- (7) Afforestation and Reforestation Have Varying Biodiversity Impacts across and within Biomes
Dr. Pavithra Rangani Wijenayake (NIES)
- (8) Influence of Climate Change on Inter-annual Variation of PM_{2.5} and O₃
Ms. Racha Samermit (Kyoto Univ.)
- (9) Towards Net Zero 2070: Potential of Indian Cities
Ms. Aditi Jain (MANIT)
- (10) Energy Potential from an Emerging Renewable Technology: Airborne Wind Energy Systems
Dr. Diego Silva Herran (NIES)
- (11) Predicting *Eremias argus* Habitat Changes Due to Climate Change -Republic of Korea-
Ms. Min Ji An (Cheongju Univ.)
- (12) 3D Information-Based Wild Boar Habitat Analysis – A Case Study of Seoul
Mr. Kyung Youl Baek (Cheongju Univ.)
- (13) Research on Public-Private Investment Paths for Low-Carbon Transformation in China's Iron and Steel Industry
Ms. Xiaoyang Chen (Shanghai Jiao Tong Univ.)
- (14) Thailand's Economy-wide Implications of Delaying Carbon Emissions Peak to 2030: Analysis of New NDC
Dr. Salony Rajbhandari (NIES)
- (15) The Impact of Climate-Change-Driven Species Distribution Shifts on Food Security
Mr. Yang Lan (Beihang Univ.)
- (16) Towards a Low-Carbon Future: High-Quality Development Pathways for the Photovoltaic Industry
Ms. Xinyu Luo (Shanghai Univ.)
- (17) Electricity Trade in East, Southeast, and South Asia under the 1.5°C Goal
Mr. Shotaro Mori (Kyoto Univ.)
- (18) Framework for a Living Lab on Climate Change Adaptation in Palgongsan National Park
Mr. Giyeong Jeong (Yeungnam Univ.)
- (19) The Role of Indonesia's Social Forestry in Achieving Net Zero: Impacts on People, Planet, and Profit
Dr. Annuri Rossita (NIES)

- (20) Direct Air Carbon Capture and Storage (DACCS) for India's Net Zero Target
Mr. Anuj Pathak (Kyoto Univ.)
- (21) Vegetation Index Changes in Climate Change Using Google Earth Engine in the Palgongsan Mountain Natural Park
Mr. Daham Hyeon (Yeungnam Univ.)
- (22) High-Resolution Land Cover Classification Using Drone LiDAR for Climate Change Adaptation
Ms. Minseon Kim (Yeungnam Univ.)
- (23) Regional Distribution of Temperature-Environment Response Characteristics on Domestic Water Supply in Eastern Japan
Dr. Masashi Okada (NIES)
- (24) Can Climate Mitigation and Sustainable Food Systems Pathway Enhance Global Cropland Soil Organic Carbon Sequestration?
Ms. Dianti Farhana Kamasela (Kyoto Univ.)
- (25) Landslide-Induced Impacts on Amphibian Habitats under Climate Change Scenarios -Republic of Korea-
Mr. Jun Woo Kim (Cheongju Univ.)
- (26) Thailand's Transport Transition: Analyzing Deep Decarbonization, Economic Impacts, and Co-benefit
Dr. Achiraya Chaichaloempreecha (NIES)
- (27) A Research Framework for Biodiversity Insurance Effects on Climate Change-Induced Phenological Mismatch
Prof. Yong won Mo (Yeungnam Univ.)