

The 30th AIM International Workshop

Ohyama Memorial Hall in National Institute for Environmental Studies and Online
August 28 and 29, 2024

DAY 1: August 28, 2024

10:00 of JST Open Zoom Account and Registration

10:30-11:40 **Session 1: Opening**

Chairperson: Dr. Toshihiko Masui (NIES)

10:30-10:35 Opening remarks
 Dr. Masahide Kimoto (NIES)

10:35-10:40 Opening remarks
 Ms. Chihiro Takeuchi (MOEJ)

10:40-11:00 Activities in FY 2023-2024
 Dr. Toshihiko Masui (NIES)

11:00-11:20 Keynote speech: Potential Energy and CO₂ Emissions Impacts of Naturally Occurring,
Abundant, Geologic Hydrogen
 Dr. James Edmonds (PNNL)

11:20-11:40 Keynote speech: Can we move to the pathway for 1.5C globally?
 Dr. Kejun Jiang (ERI)

11:40-11:50 Photo session

11:50-13:30 Lunch Break

13:30-15:00 **Session 2: GHG mitigations in Asia (1)**

Chairperson: Dr. Tatsuya Hanaoka (NIES)

13:30-13:45 TBD (India)
 Prof. Manmohan Kapshe (MANIT)

13:45-14:00 Integrated Assessment Model in China: progress and prospect
 Prof. Hancheng Dai (Peking Univ.) and Prof. Yang Xie (BUAA)

14:00-14:15 Energy and Economy-wide Implications of Transport Sector Electrification in Nepal
 Prof. Ram Manohar Shrestha (AITM), Dr. Salony Rajbhandari (NIES) and
 Dr. Bijay B. Pradhan (Thammasat Univ.)

14:15-14:30	Integration of Computable General Equilibrium Model with Power Sector Optimization Models for Net-Zero Scenario Analysis Prof. Yong-Gun Kim, Prof. Tae-Yong Jung (Yonsei Univ.), Prof. Dong-Kun Lee (SNU) and Prof. Chan Park (Univ. of Seoul)
14:30-14:45	Evaluating Taiwan's Optimal Power Supply Mix in 2050 Dr. Yi-Hua Wu (National Applied Research Laboratories)
14:45-15:00	Discussion
15:00-15:30	Break
15:30-17:00	Session 3: GHG mitigations in Asia (2) Chairperson: Dr. Tung Lam Nguyen (VNPI)
15:30-15:40	Introduction of LoCARNet Ms. Tomoko Ishikawa and Dr. Mikiko Kainuma (IGES)
15:40-15:55	Thailand NDC 3.0 Increasing Ambition of the Next Generation NDCs Prof. Bundit Limmeechokchai, Dr. Pornphimol Winyuchakrit, Dr. Piti Pita, Ds. Pemika Misila (Thammasat Univ.), Dr. Salony Rajbhandari and Dr. Achiraya Chaichaloempreecha (NIES)
15:55-16:10	TBD (IPB, Indonesia) Prof. Rizaldi Boer (IPB) and Dr. Rositta Annuri (NIES)
16:10-16:25	Indonesia NZE 2060 of Energy Sector Prof. Retno Gumilang Dewi (ITB)
16:25-16:40	AIM Modelling Application at National to Local Level Planning and Decision Making Process: The Case of Malaysia Prof. Chin Siong Ho (UTM)
16:40-17:00	Discussion
17:00-17:10	Break
17:10-19:30	Session 4: Poster Session and Reception
19:30	Adjourn

DAY2: August 29, 2024

9:30 of JST Open Zoom Account and Registration

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

Chairperson: Dr. Kiyoshi Takahashi (NIES)

10:00-10:15 Subnational Modeling of U.S. Agriculture and Biofuels

Dr. Ronald Sands (USDA)

10:15-10:30 AFOLU relevant AIM global model's activities

Prof. Tomoko Hasegawa (Ritsumeikan Univ.) and Dr. Kazuaki Tsuchiya (NIES)

10:30-10:45 Developing an Integrated Assessment Model to Explore Optimal Cost-Benefit Paths for Shared Socioeconomic Pathways Scenarios

Dr. Xuanming Su (JAMSTEC)

10:45-11:00 Inspecting Climate Justice for Urban Adaptation Planning in Korea

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

11:00-11:15 Projection of impacts on ambulance transport system and economic burden under extremely high temperatures induced by climate change

Dr. Kazutaka Oka (NIES)

11:15-11:40 Discussion

11:40-13:00 Lunch Break

13:00-14:20 Session 6: GHG Mitigation in Japan

Chairperson: Dr. Toshihiko Masui (NIES)

13:00-13:15 Introduction and CGE analysis

Dr. Toshihiko Masui (NIES)

13:15-13:30 Enduse analysis

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

13:30-13:45 Power supply and demand for decarbonized society

Dr. Shuichi Ashina (NIES)

13:45-14:00 From National Decarbonization Scenario to Regional Decarbonization Scenario

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

14:00-14:20 Discussion

14:20-14:40 Coffee Break

14:40-15:40	Session 7: Global analyses of GHG Mitigation	Chairperson: Dr. Tatsuya Hanaoka (NIES)
14:40-14:55	Global modelling for simultaneous achievement of “Deep Decarbonization”, “Air Quality Improvement”, and “Nitrogen Waste Reduction”	Dr. Tatsuya Hanaoka and Dr. Silva Herran Diego (NIES)
14:55-15:10	Updates on AIM global modeling and relevant international activities	Prof. Shinichiro Fujimori and Prof. Ken Oshiro (Kyoto Univ.)
15:10-15:25	IAMC’s SWG on national scenarios	Prof. Saritha Sudharma Vishwanathan (Kyoto Univ.)
15:25-15:40	Discussion	
15:40-16:00	Break	
16:00-17:30	Session 8: Toward the Next 30 Years	Chairperson: Dr. Silva Herran Diego (NIES)
16:00-16:20	Necessary Next Steps	
16:20-17:30	Discussion on Research Proposal toward the Next 30 Years	
17:30-18:00	Session 8: Closing	Chairpersons: Dr. Silva Herran Diego (NIES)
17:30-17:40	Poster Award Ceremony	Dr. Junya Takakura (NIES)
17:40-18:00	Closing remarks	Dr. Mikiko Kainuma (IGES and NIES)
18:00-19:30	Dinner	
19:30	Adjourn	

Poster session

- (1) Analysis of Regional Reallocation of Zero-carbon Ammonia Production in China with Carbon Neutrality Targets
Dr. Pianpian Xiang (Institutes of Science and Development, CAS)
- (2) Economic and Environmental Implications of India's Industry Transition to Net Zero
Dr. Dipti Gupta (IIM Lucknow)
- (3) Macroeconomic Impacts of Policies on Decarbonized Power Sector in Thailand
Dr. Salony Rajbhandari (NIES)
- (4) Decarbonation through the Land Use Change in a Depopulated Society in the Future
Dr. Satoko Kawarasaki (NIES)
- (5) Implications of Transport Demand and Modal Shift Effects on GHG Emissions in Thailand
Dr. Achiraya Chaichaloempreecha (NIES)
- (6) Predicting Flood and Landslide Hazards in Indonesia: A Machine Learning Approach for Risk Assessment and Urban Planning
Ms. Sujung Heo (SNU)
- (7) How Ammonia Can Play a Role in Climate Change, Air Quality, and N Deposition by Being a Carbon-free Fuel?
Dr. Thanapat Jansakoo (Kyoto Univ.)
- (8) Can the Construction of Ecological Civilization Promote the Transformation of the Green Lifestyles of Residents? Evidence from China's Ecological Civilization Pilot Zone
Dr. Wang Chen (Institute of Energy Research, Jiangxi Academy of Sciences)
- (9) Assessment of Spatial and Seasonal Variation of Water Quality in the Plain River Network Area of Taihu Lake, East China
Dr. Yanyan Fan (Institute of Energy Research, Jiangxi Academy of Sciences)
- (10) The Multidimensional Global Poverty and Income Inequality Landscape in a Decarbonizing World
Ms. Shiya Zhao (Kyoto Univ.)
- (11) Impact of Urban Development on the Reduction of Forest Carbon Sink Area in Republic of Korea
Dr. Yong Piao (SNU)
- (12) Assessing Climate Impacts through Integration of a Global Computable General Equilibrium Model with Regional and Sector Specific Damage Functions
Dr. Eun Young Kim (Yonsei Univ.)
- (13) Optimizing Urban Green Space Planning for Enhancing Carbon Storage and Urban Ecosystem Connectivity
Ms. Hyemee Hwang (SNU)
- (14) The Impact of Household Members' Time-Use Patterns on Residential Carbon Emissions in China's Electricity Sector
Ms. Qi Zeng (Tokyo Institute of Technology)
- (15) Strategic Afforestation: Identifying Exclusion Zones for Global Biodiversity Conservation
Dr. Pavithra Rangani Wijenayake (NIES)
- (16) Model for Estimating the Global Energy Potential of Solar and Wind Energies with Hourly Data
Dr. Diego Silva Herran (NIES)

- (17) GHG Emission Reduction Potential in the Industrial Sectors: Comparison of IAM and Sector Model
Dr. Osamu Nishiura (NIES)
- (18) Optimal Pathways for Green Infrastructure toward Climate Resilience
Mr. Saeyeon Jang (SNU)
- (19) Estimation of Photovoltaic Power Generation Potential over 2020-2060: an Empirical Study from China
Prof. Lu Gao (Univ. of South China)
- (20) Reducing Ozone Pollution Alleviates the Adverse Impact of Climate Change Migration Efforts on Global Hunger
Dr. Shujuan Xia (NIES)
- (21) Utilizing Urban IoT Sensor data to Build More Advanced Air Temperature Information Using Machine Learning
Ms. Ayano Aida (Univ. of Seoul)
- (22) Optimizing Urban Forest Allocation for Enhancing Carbon Uptake Using a Deep Learning-Based NPP Prediction Model
Ms. Daseul Kim (SNU)
- (23) Projection of Waste Generation of Solar Panels: Shiga Prefecture
Dr. Reina Kawase (Lake Biwa Environmental Research Institute)
- (24) De-polluting China's Cement Industry while Improving Cement Quality and the Energy and Production Structure
Prof. Zhaoling Li (Shanghai Univ.)
- (25) Critical Enabling Conditions to Realise a Net-zero Climate Resilient Development Pathway in Four ASEAN Member States
Dr. Yosuke Arino (IGES)
- (26) Rethinking the Economic Impact of Future Energy Demand Changes: Focus on Human Thermal Comfort
Mr. Yohan Choi (Univ. of Seoul)
- (27) Vulnerability of the Municipal Government in Aquaculture due to Changes in Sea Surface Temperature - A Case of Tongyeong City
Ms. Yeeun Lee (Yeungnam Univ.)
- (28) Spatial Conservation Priorities Using Species Occurrence Data and Species Distribution Model against Climate Change
Prof. Yongwon Mo (Yeungnam Univ.)
- (29) The Role of Wildlife Protection Areas in the Land-use Change Using Time-series Data in the Republic of Korea
Ms. Min Seon Kim (Yeungnam Univ.)
- (30) Socioeconomic Impacts from Shifting to Sustainable Food Consumption towards Indonesia's Net Zero Emission
Dr. Annuri Rossita (NIES)