

Launching of our proposal on “NAMAs and MRV Guidebooks: Lessons from Asia”

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on behalf of “NAMAs and MRV Guidebooks:
Lessons from Asia” drafting team



Ministry of the Environment



Mitsubishi UFJ Research and Consulting



Net Global Reduction for Sustainable Development

National

Sector

Regional

Program

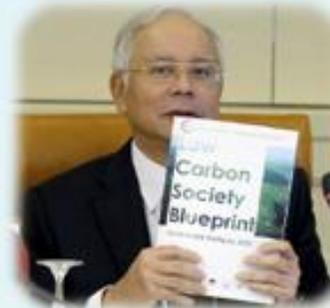
Activity

etc.

NAMAs



MRV



Activity	2004	2007	2009
Energy Industry	100	150	120
Flight Transport	50	100	80
Passenger Transport	20	40	30
Manufacturing	30	60	50
Commercial	10	20	15
Household	10	20	15
Total	343	500	377

Lessons from field experiences

Developing and implementing NAMAs / MRV based on Handbooks

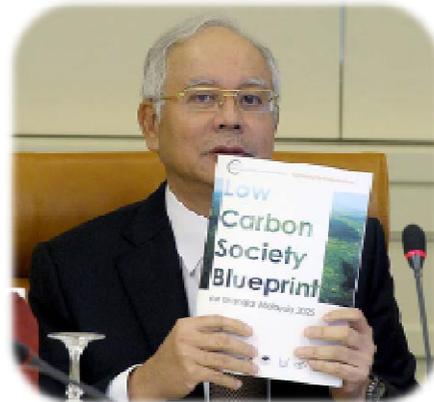
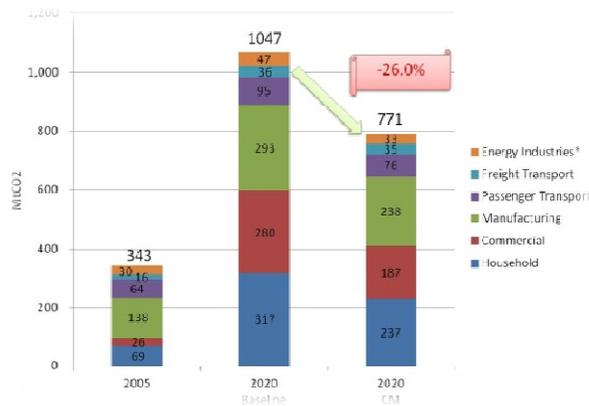
Lessons from field experiences

NAMAs and MRV Handbooks

Characteristics of our Guidebooks

1. Comprehensive understanding of NAMAs and MRV (e.g. project-based bottom-up approach and policy-based top-down approach)
2. Based on case studies in Asia and the world that we have conducted together with Asian and global experts
3. Invite any kind of volunteer efforts to create “NAMAs and MRV Guidebooks” as our common goods to achieve net global GHG reduction and sustainable development

Our experience



AIM (Asia-Pacific Integrated Model) simulations to meet reduction target in Indonesia

A local mitigation action plan has been reported to Prime Minister (Malaysia, Dec. 2012)

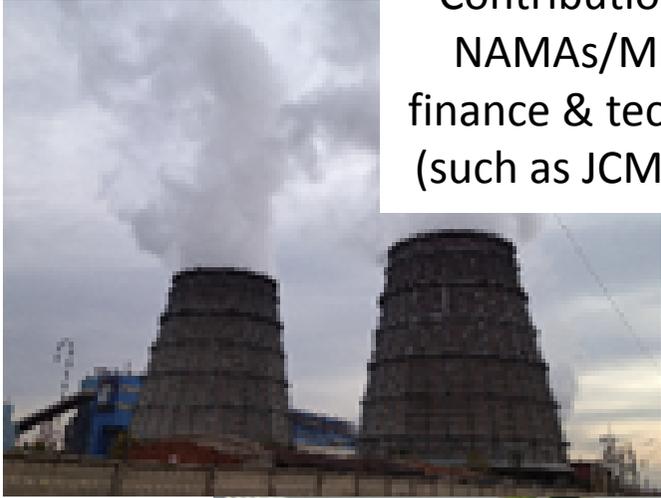
Energy diagnosis for technology transfer thru NAMA and JCM (Mongolia, January 2013)



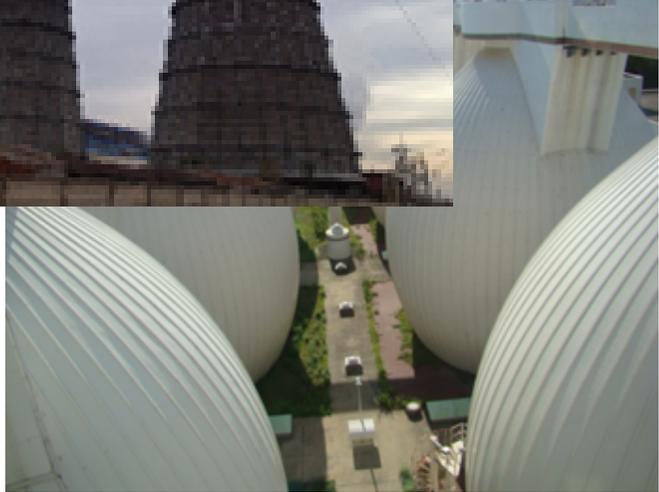
Stakeholder workshop to discuss national NAMA using AIM simulations (Vietnam, April 2013)

Category	Item	Value	Unit		
Energy	Coal	10000	kg		
	Oil	5000	kg		
	Natural Gas	2000	kg		
	Electricity	1000	kg		
	Renewable Energy	500	kg		
	Other	100	kg		
	Transport	Passenger Transport	1000	kg	
		Freight Transport	500	kg	
		Other	100	kg	
		Industry	Manufacturing	1000	kg
Construction			500	kg	
Other			100	kg	
Other			Household	1000	kg
			Commercial	500	kg
			Other	100	kg

Practical Feedback from Capacity-building activities



Contribution to real NAMAs/MRV with finance & technologies (such as JCM projects)



Joint Elaboration and Discussion by Experts



Support of capacity building of other Asian countries' national GHG inventory preparation



- For non-Annex I countries, national GHG inventories with reliable time series data are Measurable, Reportable and Verifiable (MRV) indices for Nationally Appropriate Mitigation Actions (NAMA) .
- The **Greenhouse Gas Inventory Office of Japan (GIO)** supports capacity building of other Asian countries' inventory preparation through:
 - Holding **Workshop on GHG Inventories in Asia (WGIA)**
 - Lecturing and exchanging comments on current compilation system and estimation methods.
- **Greenhouse Gas Inventory Office of Japan (GIO)** was established in June, 2002, as the organization in charge of actual work of Japan's periodical GHG inventory preparation.
- GIO is located in the National Institute for Environmental Studies (NIES) in Tsukuba, Japan



Workshop on GHG Inventories in Asia (WGIA)



Objective:

To support countries in Asia to improve the quality of national GHG inventories via **regional information exchange**

Organizers:

GIO and Host Country Organizations

Participating Countries:

Cambodia, China, India, Indonesia, Japan, the Republic of Korea, Lao PDR, Malaysia, Mongolia, Myanmar, Philippines, Singapore, Thailand and Vietnam

Participating Organizations:

e.g., UNFCCC Secretariat, IPCC, USEPA, Australia

Covered sectors: all sectors in the GHG inventory

Style: Annual workshop since 2003

Funding: Ministry of the Environment of Japan



The 10th WGIA held in Vietnam



Greenhouse gas Inventory Office of Japan

Outcomes from WGIA

- Improved national GHG inventories through exchanging information on methodologies and institutional arrangements,
- Established a WGIA network platform to exchange information on climate change, mitigation measures and national GHG inventories,
- Identified common issues on national GHG inventories and found out possible solutions,
- Shared information on each country's activities and experiences on national GHG inventories and National Communications,
- Updated information on member countries' status of inventory development and improvement.



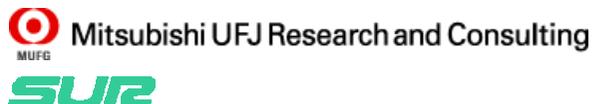
Participants in WGIA10



Mutual learning session in WGIA10

Overview of the GHG inventory capacity building project by JICA

- The Japan International Cooperation Agency (JICA) is currently carrying out capacity building project on MRV in Asia.
- The ultimate goal of the projects is to strengthen the countries' capacity to prepare national GHG inventories on a regular basis.
- Projects are underway in **Vietnam** and **Indonesia**.



◆ Vietnam

● Counterparts

- ✓ Ministry of Natural Resources and Environment (MONRE)
- ✓ The Vietnam Institute of Meteorology, Hydrology and Environment (IMHEN)
- ✓ Vietnam Environment Administration (VEA)
- ✓ The Institute of Strategy and Policy on Natural Resources and Environment (ISPONRE)

● Project duration: 2010-2014

◆ Indonesia

● Counterparts

- ✓ Ministry of Environment Indonesia (KLH)
- ✓ Department of Environment Indonesia (BLH) of North and South Sumatera

● Project length: 2011-2015

Achievements/challenges of the GHG inventory projects in Asia

■ Achievements

- The project has developed a design and roadmap for a sustainable, efficient, and effective national system for the country taking into consideration the existing national circumstances.
- The project has trained individual sector experts to plan, prepare, and manage the national GHG inventory.
- The development of a GHG inventory manual and QA/QC plan.

■ Challenges

- Lack of human resources, high turnover (always a challenge, but the development of an easy to follow manual can ensure that the quality of the GHG inventory can be maintained in the future).
- Legalizing/formalizing the national system (key issue for sustainability of the process. Need strong commitment from the counterpart organization).

JCM/BOCM Feasibility Study Programme to develop methodologies

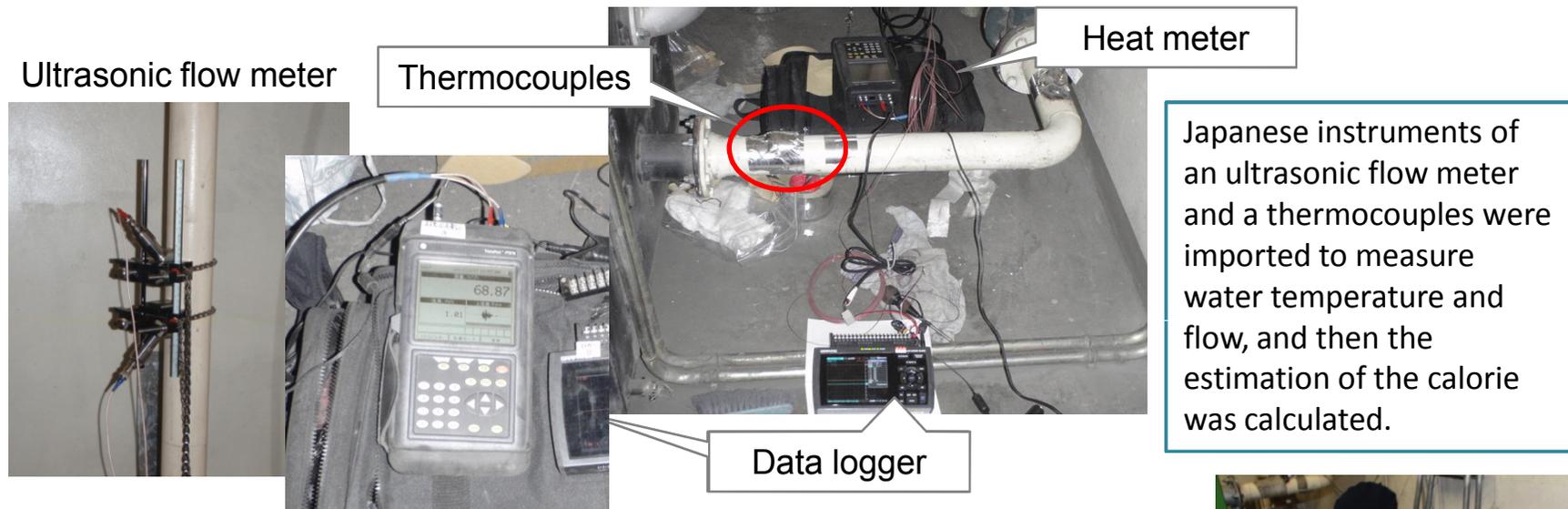
- The Ministry of the Environment, Japan (MOEJ) implements the JCM/BOCM Feasibility Study Programme, whose secretariat is served by Global Environment Centre Foundation (GEC).
- Each feasibility study (FS) is undertaken by Japanese private entity in the collaboration with host country's local counterpart(s) (project proponent(s) such as private entity/ies and public organisation(s)).

Host Country	Examples of local counterparts
Mongolia	National Renewable Energy Centre (NREC); Energy, Environment research and Consulting services (EEC Co.Ltd.); Building Energy Efficiency Centre (BEEC)
Indonesia	PLN; Jambi Provincial Government; University of Jambi; Palangkaraya University
Viet Nam	Hanoi Beer, Alcohol and Beverages Corporation; Hanoi Taxi Group; Vietnam Forestry University
Thailand	Department of Alternative Energy Development and Energy (DEDE); Office of Transport and Traffic Policy and Planning (OTP)

- FS outcome contributes to the development of project-based MRV process and structure.
 - FS aims at developing and implementing the actual JCM/BOCM project.
 - The concrete output of FS is a draft MRV methodology applicable to the JCM/BOCM project.

Trial MRV Practice: an example undertaken in MOEJ's MRV Demonstration Study

1. Developing a **draft MRV methodology** applicable to JCM/BOCM project.
2. Conducting the trail practice of actual monitoring activity by local project proponent with the cooperation with Japanese study entity, based on the draft methodology.
→ photos below: monitoring instruments for efficiency improvement of heating boilers in Mongolia



3. Creating a draft monitoring report (whose format is a part of the draft methodology, in MS Excel file), by filling in the actual numbers resulted from the monitoring activity (including data logger records).
* Note that some monitoring parameters were defaulted in the draft methodology, so that such parameters should not be monitored.
4. A third party entity verified the monitoring report, in a trial basis.
→ Since no accredited verifier existed in the host country, a Japanese DOE provided the GHG verification training in the study, then the trial verification was successfully completed.



MRV Demonstration Studies using Model Projects & JCM/BOCM Feasibility Studies in FY2012

Mongolia:

- ◆ Geo-Thermal Heat Pump for Heating
- ◆ High-Efficient Heat Only Boilers (HOBs)

India:

- ◆ Bagasse-based Power Generation w/ Waste Heat Utilization

Moldova:

- ◆ Biomass Boiler Heating using Agricultural Waste as Fuel

Sri Lanka:

- ◆ Biomass-based Thermal Energy Generation

Lao PDR:

- ◆ Efficient Buses and Provision of Good Services
- ◇ Mechanical Biological Treatment (MBT) of MSW,/Landfill Gas (LFG) Capture, Flaring and Utilization

Indonesia:

- ◇ Solar-Diesel Hybrid Power Generation to Stabilize PV Power Generation
- ◇ Prevention of Peat Degradation through Groundwater Management and Rice Husk-based Power Generation
- ◇ REDD+ for Conservation of Peat Swamp Forest, and Biomass-based Power Generation using Timber Mill Waste to Process Indigenous Trees derived from Conserved Forest

Thailand:

- ◆ Bagasse-based Cogen. at Sugar Mill
- ◆ Construction of MRT System
- ◆ Energy Savings through BEMS
- ◆ Waste Heat Recovery System w/ Cogen.
- ◇ Electronic Gate to Int.Trade Port to Improve Port-related Traffic Jam

Viet Nam

- ◆ Integrated EE Project at Beer Factory
- ◇ Biogas-based Cogen. w/ Digestion of Methane from Food/Beverage Factory Wastewater
- ◇ Improvement of Vehicle Fuel Efficiency through Introduction of Eco-Drive Management System
- ◇ REDD+ through Forest Mgmt and Biomass-based Power Gen. using Timber Industry Waste

Viet Nam, and Indonesia

- ◇ MRT System

Cambodia:

- ◆ Methane Recovery and Utilization from Livestock Manure using Bio-digesters
- ◇ Small-scale Biomass Power Generation w/ Stirling Engine
- ◇ REDD+ in Tropical Lowland Forest

◆-- MRV Demonstration Study (DS)

◇-- Feasibility Study (FS)

EE= Energy Efficiency

MRT= Mass Rapid Transit

Mexico:

- ◆ Small-scale Wind Power Generation with Remote Monitoring System

Colombia:

- ◇ Geothermal Power Generation under Suppressed Demand

13 MRV Demonstration Studies and 12 Feasibility Studies in FY2012
29 Feasibility Studies in FY2011

Capacity Building Support in Asia by IGES for Market Mechanisms

- CDM (2003~)
- JCM, New Market Mechanisms (2011~)

Our activities:

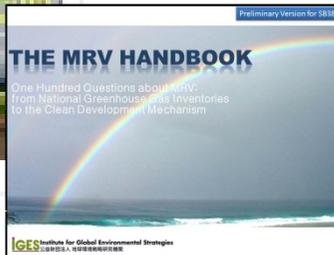
- Awareness raising and consultation
- Training
- Methodology development
- Policy research and outreach



Source: IGES Website. <http://www.iges.or.jp/en/index.html>

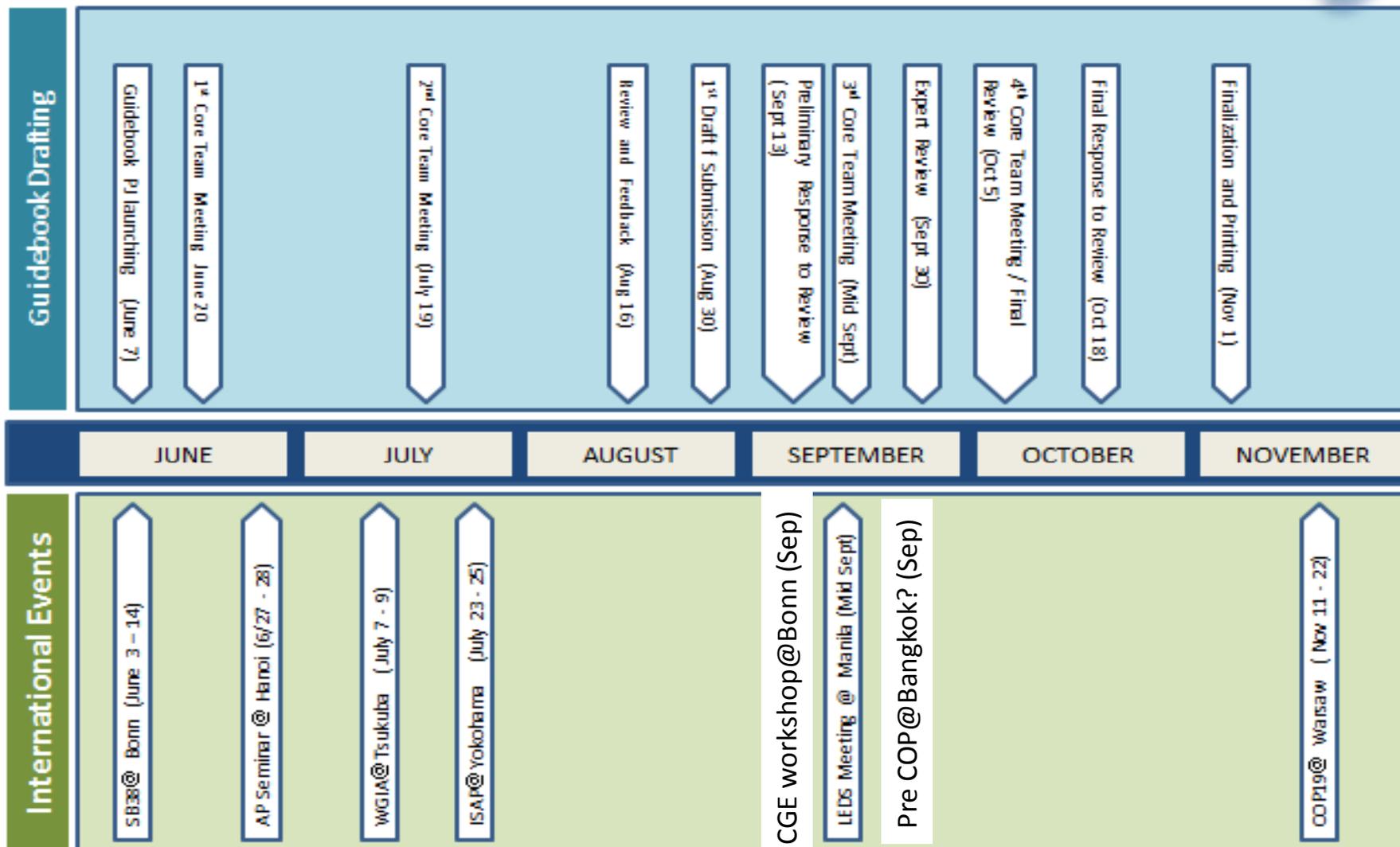
IGES Activities in Asia

Working together, thinking together, and learning together toward sustainable low-carbon development in Asia



LoCARNet:
Low Carbon Asia
Research Network

Going Along with NAMAs and MRV Capacity building, Joint Studies, and Feasibility Studies



“NAMAs and MRV Guidebooks 2013” will be released at COP19, Nov 2013

“NAMAs and MRV Guidebooks 2014” at SB, June 2014

“NAMAs and MRV Guidebooks 2014 update” at COP20, Nov/Dec 2014

Items to be discussed in the next WGIA (WGIA11[July, 2013])



In the upcoming 11th workshop, we plan to discuss how to prepare biennial update reports focusing on periodical national GHG inventory preparation.

Date	Session	Item to be discussed
Day 1 [5 th July]	Opening Session	
	Session I:	Progress of National Communication
Day 2 [6 th July]	Session II:	Introduction of Preparation of Biennial Update Reports
	Session III:	National System for Periodical National GHG Inventory Preparation
	Session IV:	Relationships between inventory and mitigation measures
Day 3 [7 th July]	Session V:	Enhancement of Network for Supporting GHG Inventory Preparation
	Wrap-up Session	



Call for Contribution!

We are looking for any technical contributions to the Guidebook series from those involved in NAMAs and MRV projects at the local or national levels. Your inputs on experiences, implementation results, and good practices will be highly appreciated. While authorship will be recognized, participation will be voluntary.

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Ministry of the Environment



Institute for
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Strategies



GEC



OECC



Greenhouse gas Inventory Office of JAPAN



ASIA-PACIFIC INTEGRATED MODEL



MUFJ

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