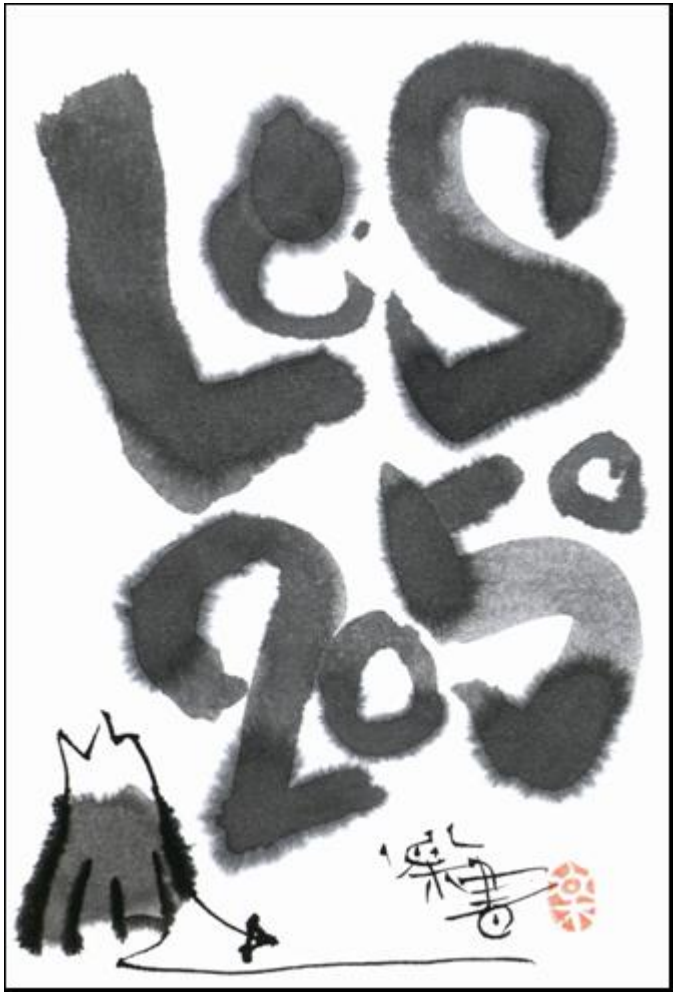
Our thought on NAMAs and MRV

- including national/sub-national NAMA type study by AIM simulations -

1. If we cannot go to LCS,…
2. LCS offers higher QOL with less energy demand and lower-carbon energy supply
3. LCS needs good design, early action, and innovations



Designed by Hajime Sakai

Junichi FUJINO (fuji@nies.go.jp)

NIES (National Institute for Environmental Studies), Japan

The 11th Workshop on GHG Inventories in Asia (WGIA11)
-Capacity building for measurability, reportability and verifiability –
5th-7th July 2013, Tsukuba Japan

Net Global Reduction for Sustainable Development

National | Sector | Regional | Program | Activity | etc.

NAMAs

MRV

Lessons from field experiences

Developing and implementing NAMAs / MRV based on Guidebooks

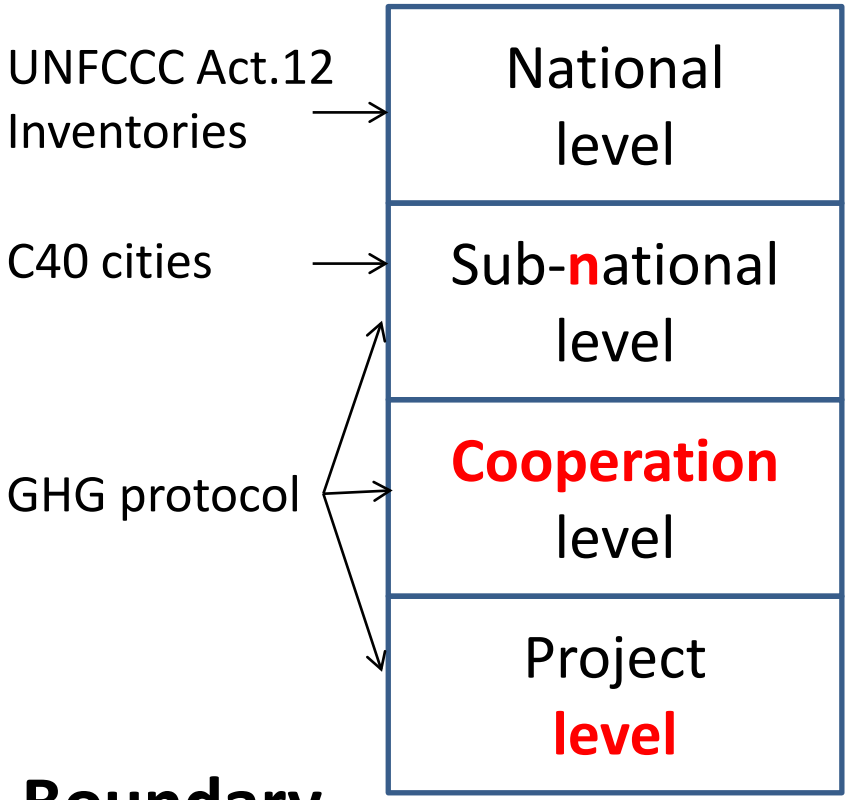
Lessons from field experiences

NAMAs and MRV Guidebooks

Originally designed
by Dr. Tamura, IGES

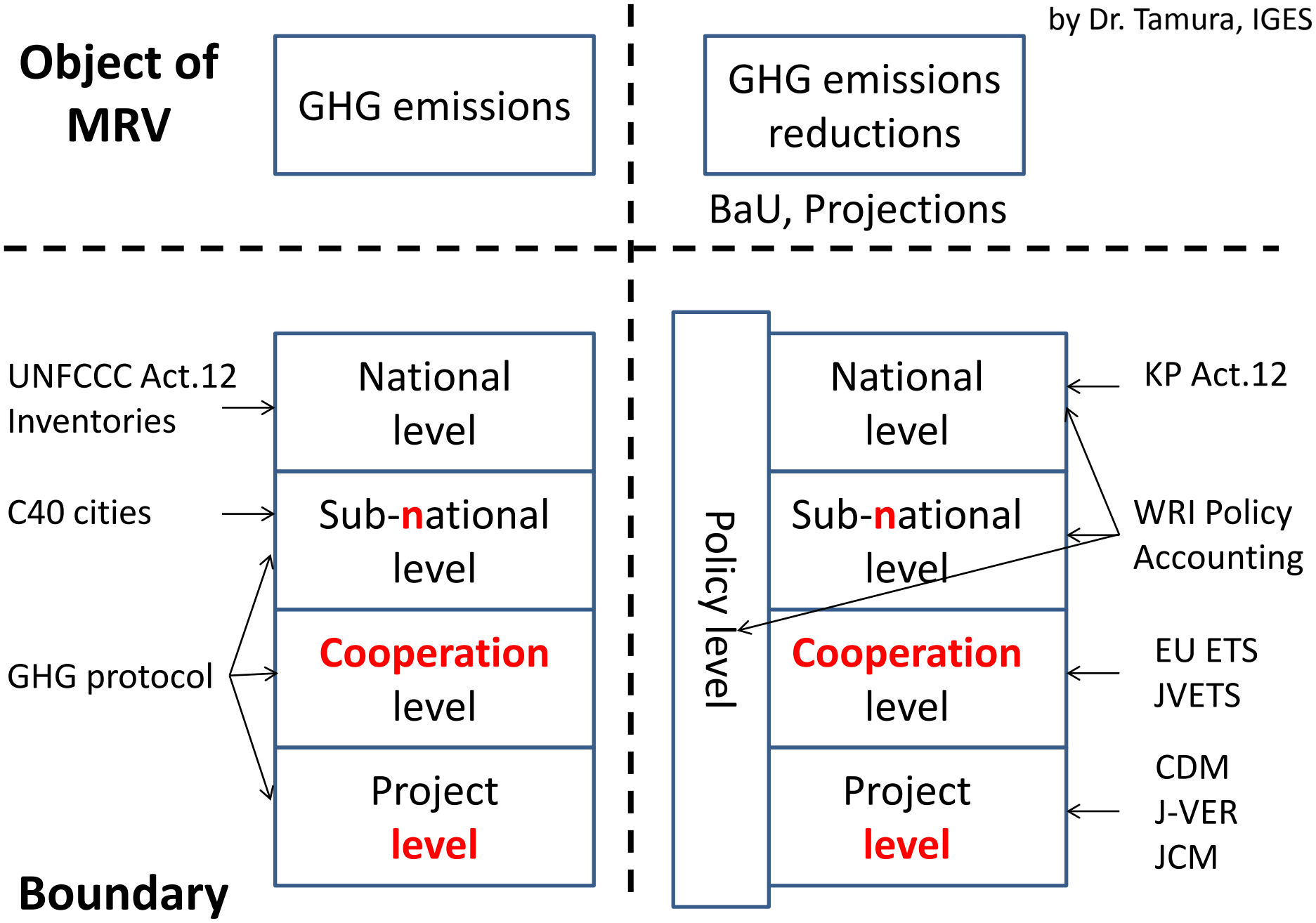
Object of MRV

GHG emissions



Boundary

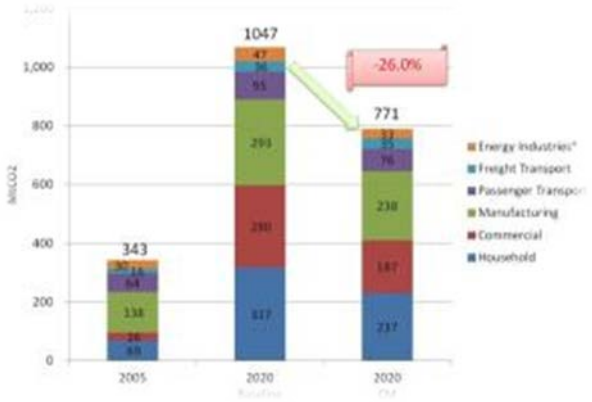
Originally designed by Dr. Tamura, IGES



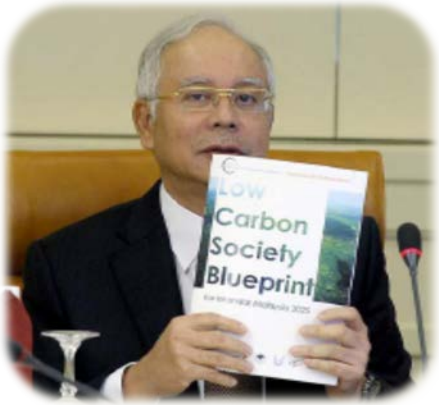
Our challenge on “NAMAs and MRV”

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 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

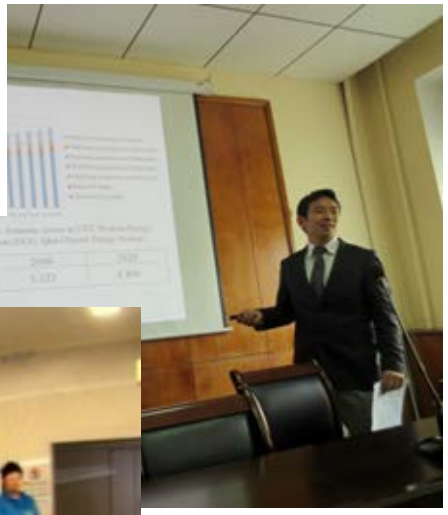


A local mitigation action plan has been reported to Prime Minister (Malaysia, Dec. 2012)

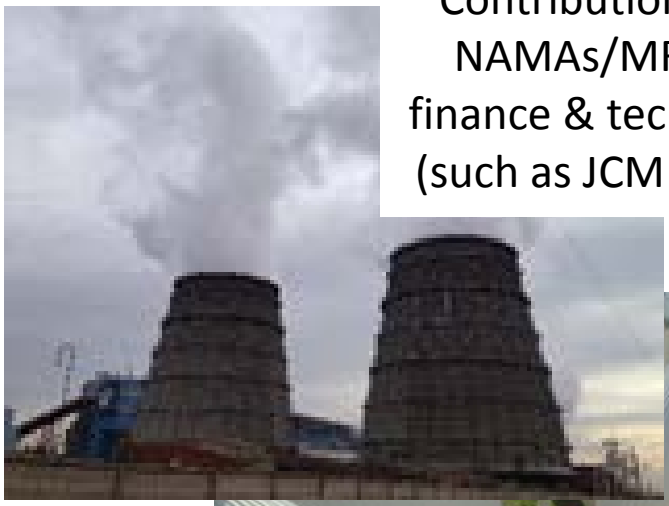
Stakeholder workshop to discuss national NAMA using AIM simulations (Vietnam, April 2013)

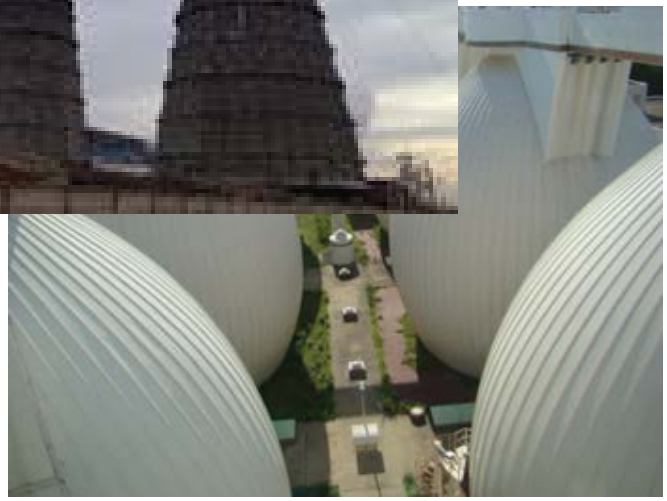
Energy diagnosis for technology transfer thru NAMA and JCM (Mongolia, January 2013)

Practical Feedback from Capacity-building activities



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





Our experience

Joint Elaboration and Discussion by Experts

National/Sub-National NAMA type study by AIM simulations

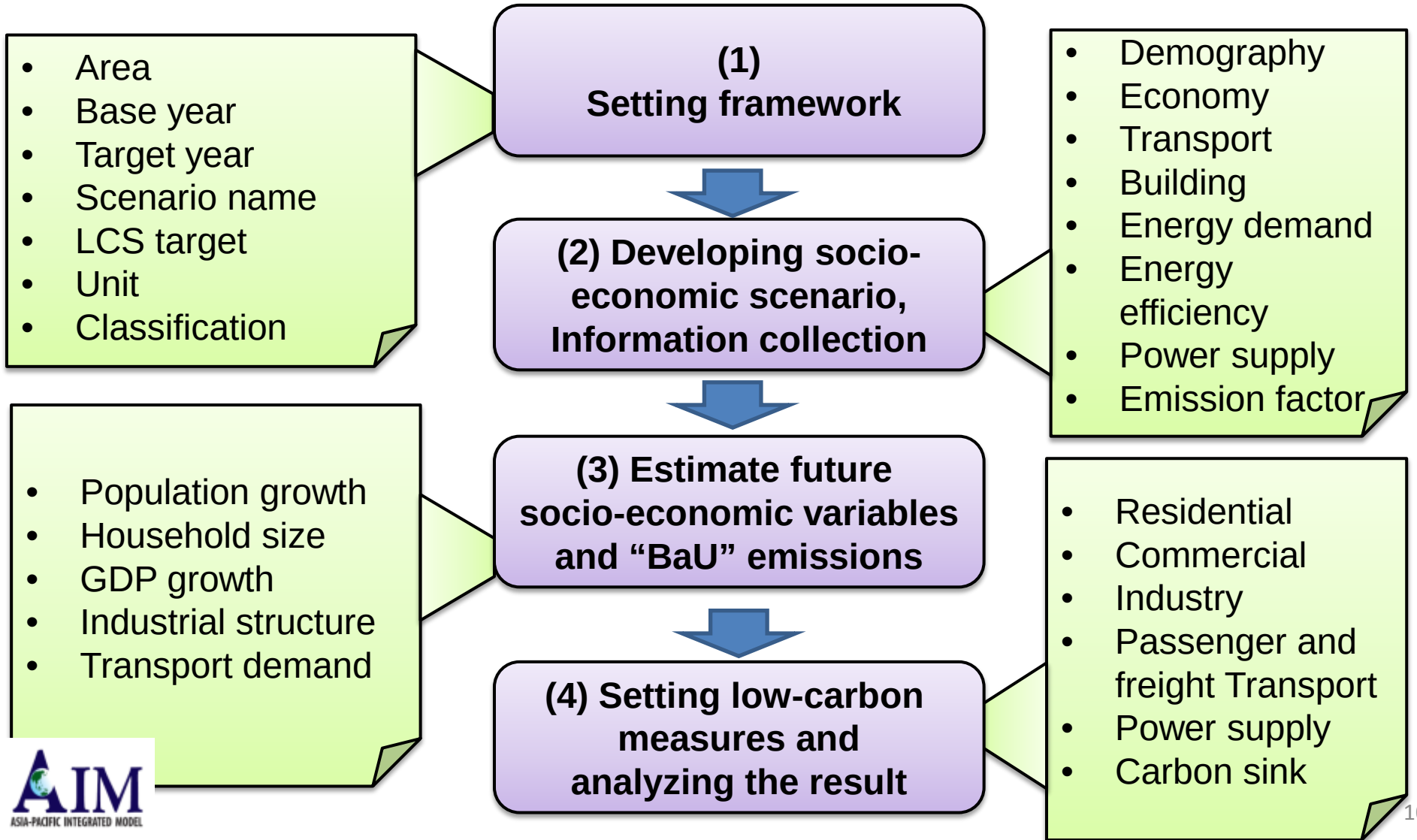
AIM is an abbreviation of “Asia-Pacific Integrated Model” to support design sustainable societies and suggest actions comprehensively and consistently in quantitative manner.

AIM developed by National Institute for Environmental Studies (NIES) in collaboration with Kyoto University and several research institutes in the Asia-Pacific region since 1990.

AIM has more than 20 simulation models such as top-down economy models, bottom-up technology models, sector-wise service demand and energy supply model, and environmental aspect models in global/national/sub-national scale.

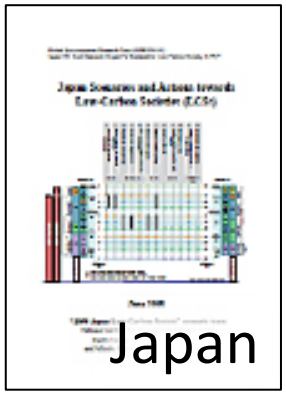
Procedure to develop Low Carbon Development Strategies

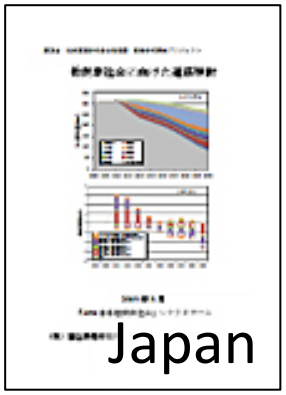
For Asia LCS studies, **ExSS (Extended Snapshot tool; accounting tool)** has been applied to many countries and cities to communicate policy makers.



AIM
ASIA-PACIFIC INTEGRATED MODEL

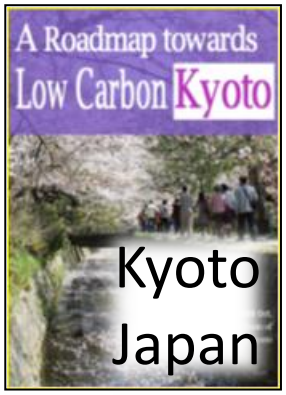
Low-Carbon Society Scenarios in Asia using AIM


Japan

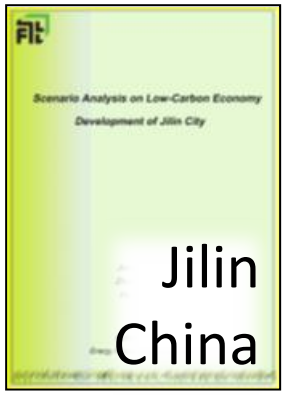

Japan

Shiga
Japan

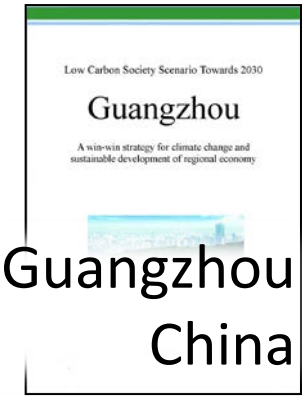
Shiga
Japan



Kyoto
Japan

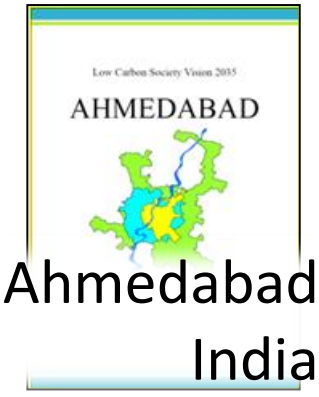


Jilin
China

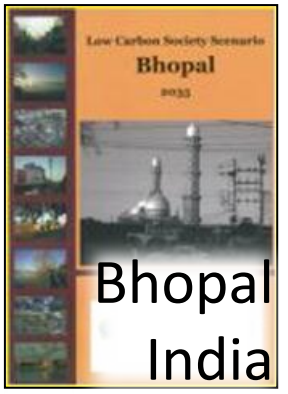


Guangzhou
China

India



Ahmedabad
India

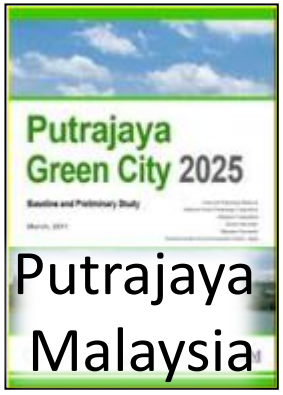


Bhopal
India

Thailand

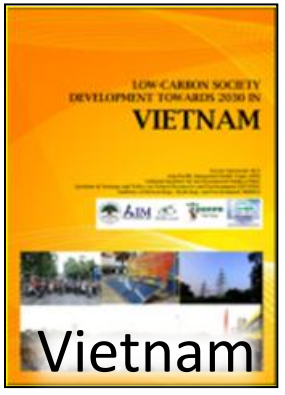
Indonesia

Iskandar
Malaysia

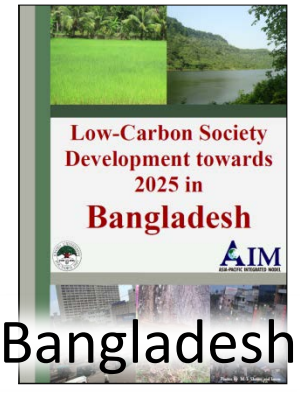


Putrajaya
Malaysia

Cyberjaya
Malaysia



Vietnam

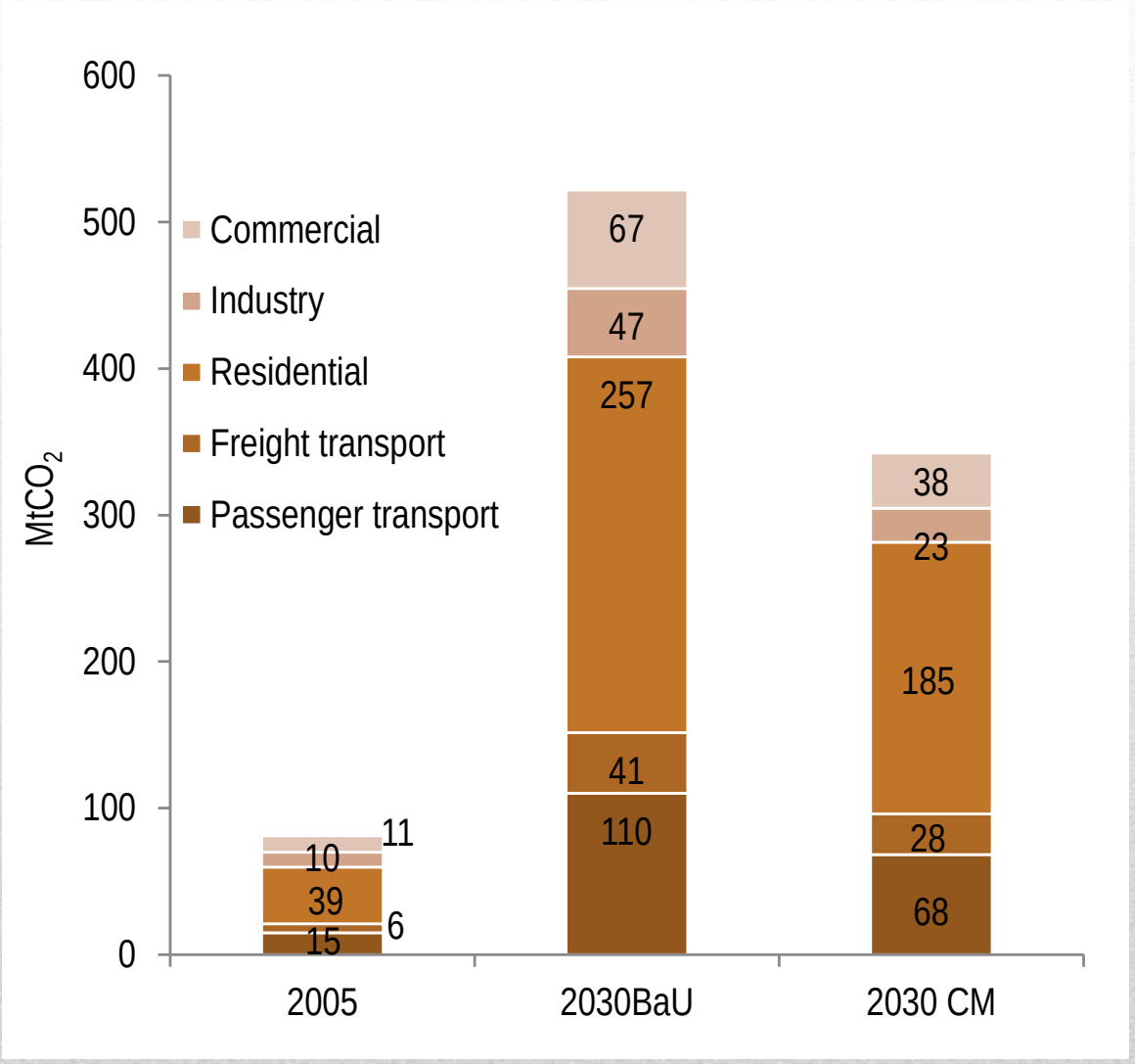


Bangladesh

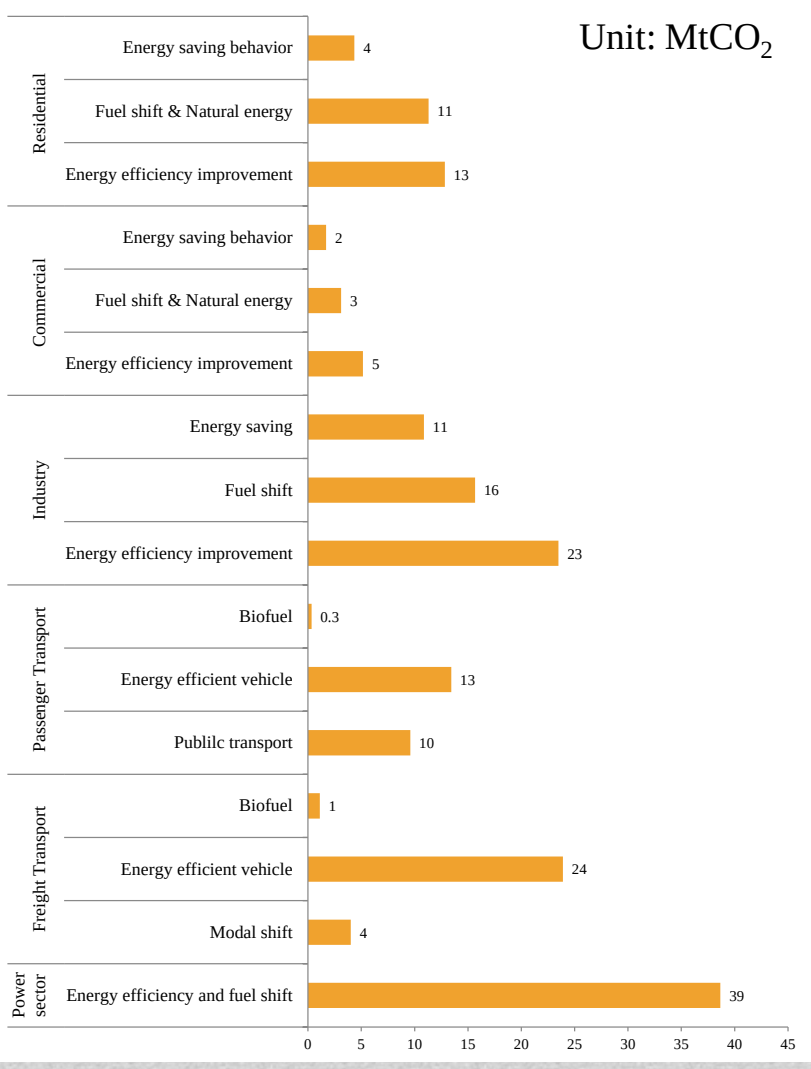
What
is
NEXT???

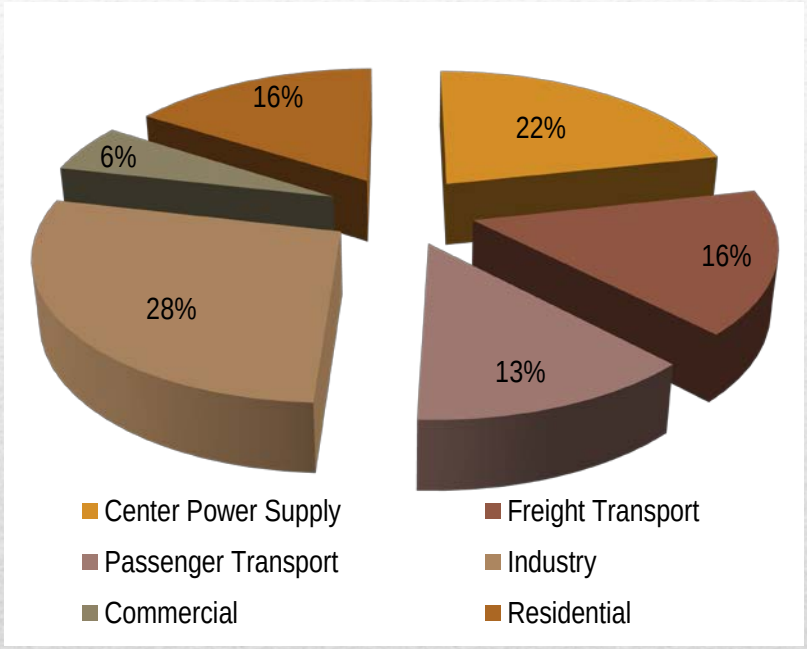
http://2050.nies.go.jp

Projected CO_2 emissions from energy sector



Contribution of low carbon countermeasures





Low Carbon Society Study Workshop
25th Apr 2013, Vinh Phuc, Viet Nam

Background

Iskandar Malaysia: Key Challenges

Size: 2,216.3 km²

Population: 1.3 mil. (2005) I 3.0 mil. (2025)

GDP: 35.7 bil. RM (2005) I 141.4 bil. RM (2025)

November 2012

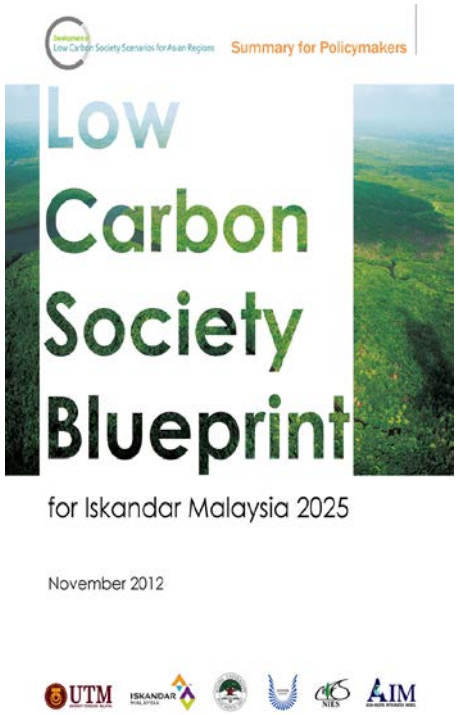
Voluntary 40% reduction of CO_2 emission intensity by 2020

Issues

Rapid urbanization and industrialization

Higher energy demand and Co2 emission

Decouple economic growth and emission on fossil fuel



Blueprint – 3 main thrusts – Green economy, community and environment.

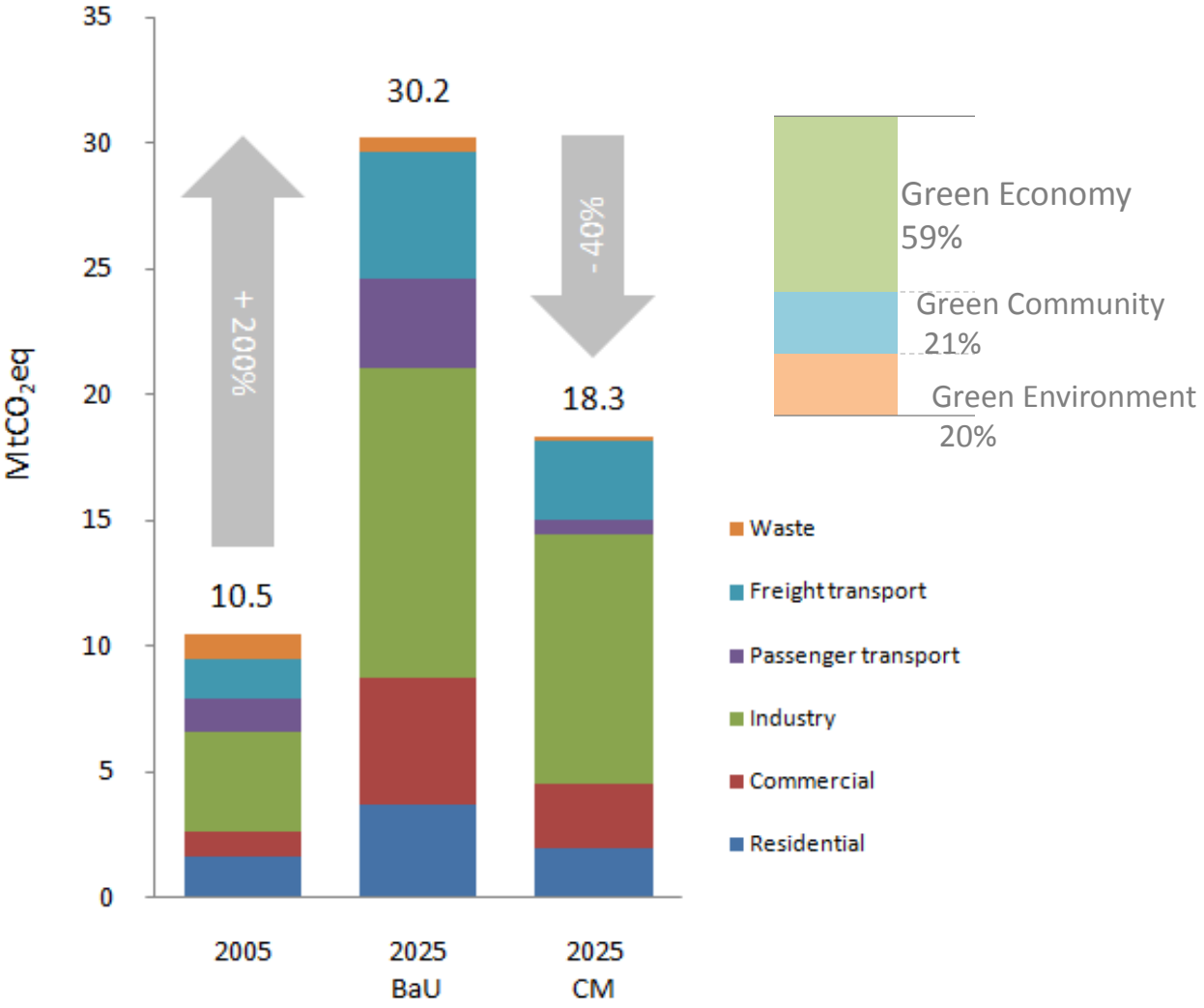
=12 actions

Joint collaboration work of UTM, KU, NIES under SATREPS program

http://2050.nies.go.jp/cop/cop18/SPM_LCS%20Blueprint_Iskandar%20Malaysia.pdf

Potential Mitigation Options for Iskandar Malaysia

Green Economy, Green Community and Green Environment



Unit	2005	2025 BaU	2025 CM	2025BaU /2005	2025CM /2005
Final Energy Demand (Mtoe)	2.5	7.6	5.2	3.11	2.14
GHG emissions (MtCO2eq)	10.5	30.2	18.3	2.88	1.74
Per Capita CO2 Emissions (tCO2eq)	7.7	10.1	6.1	1.30	0.78
GHG Intensity (kgCO2eq/RM)	0.29	0.21	0.13	0.73	0.44

LCS Actions for IM by Three Main Themes

Development of Low Carbon Society Scenarios for Asian Regions

	Action Names	Themes
1	Integrated Green Transportation	GREEN ECONOMY
2	Green Industry	
3	Low Carbon Urban Governance	
4	Green Building & Construction	
5	Green Energy System & Renewable Energy	
6	Low Carbon Lifestyle	GREEN COMMUNITY
7	Community Engagement & Consensus Building	
8	Walkable, Safe, Livable City Design	GREEN ENVIRONMENT
9	Smart Growth	
10	Green and Blue Infrastructure & Rural Resources	
11	Sustainable Waste Management	
12	Green and Clean Environment	

Towards the consensus building in implementing 12 Actions in Iskandar, Malaysia in line with the LCS Study Outcomes

LCS Focus Group Discussion

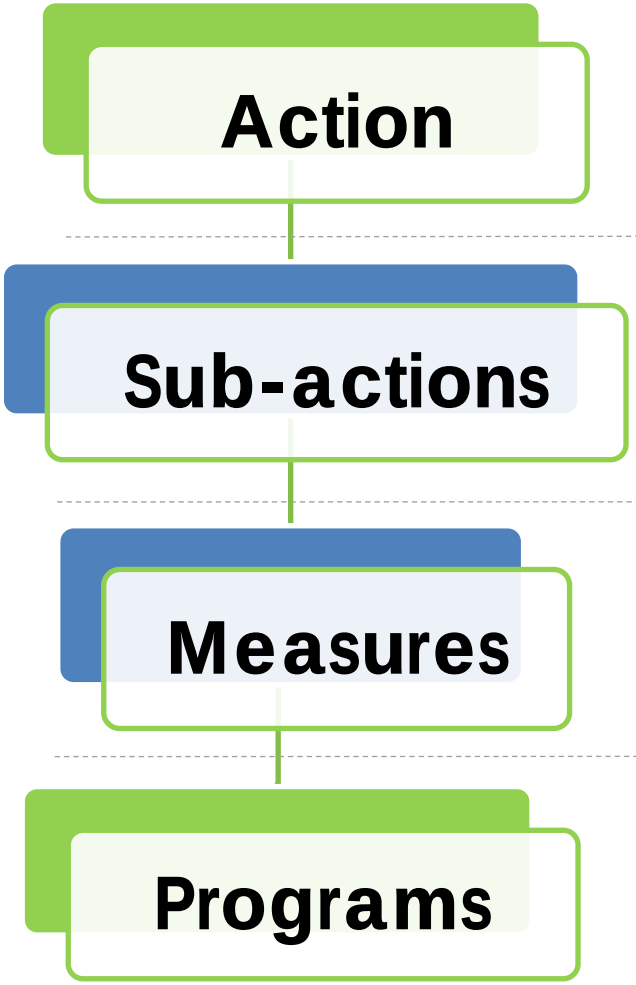





LCS Actions for IM – Work Breakdown Structure

Development of Low Carbon Society Scenarios for Asian Regions

Work Breakdown Structure of 12 LCS Actions



1.0 Key Policy **Actions** needed to achieve the final goal of the project (targeted 50% cut in carbon emission intensity by 2025 based on 2005 levels)

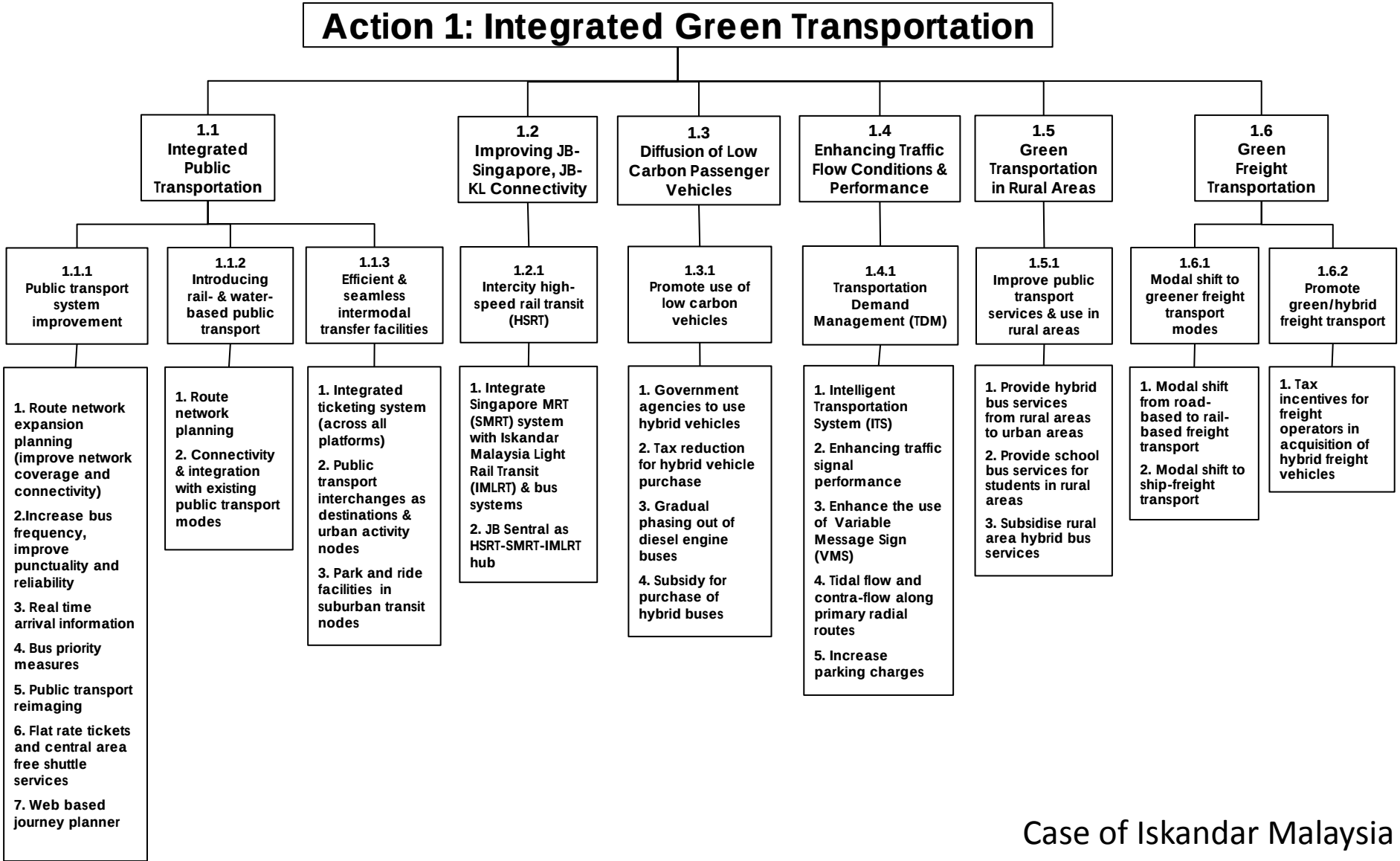
1.1 Sub-actions needed to produce policy outcomes that jointly lead to the achievement of a key Policy Action

1.1.1 Measures that are more detailed breakdown and interpretation of Sub-actions into strategies with a clearer implementation dimension

1.1.1.1 Programs – Specific activities, deliverables, from which resource requirements, budget, implementation agencies and duration may be identified/estimated

Case of Iskandar Malaysia

LCS Actions for IM – WBS Diagram by Action (WBS: Work Breakdown Structure)



Case of Iskandar Malaysia

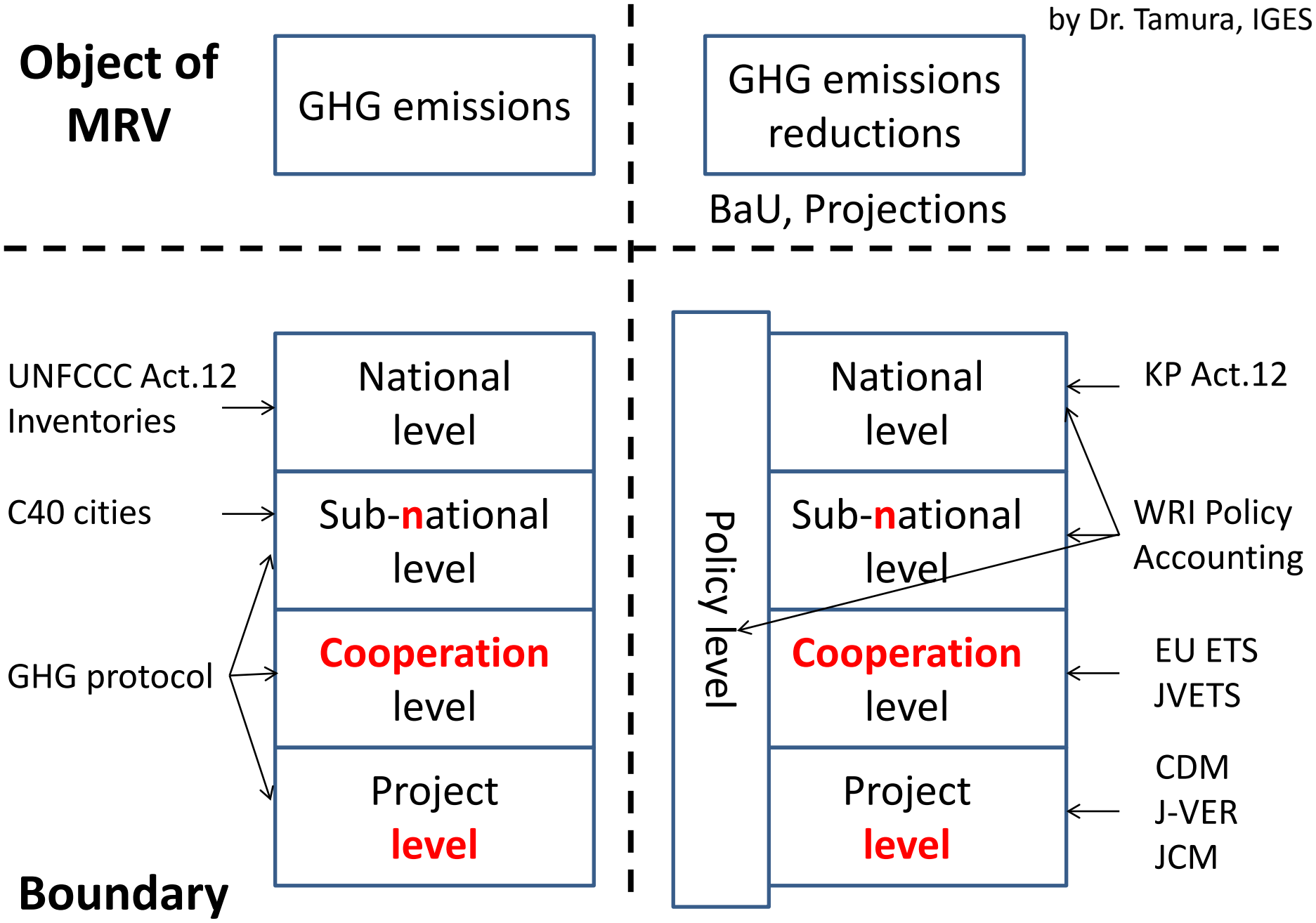
Potential Mitigation Options for Iskandar Malaysia

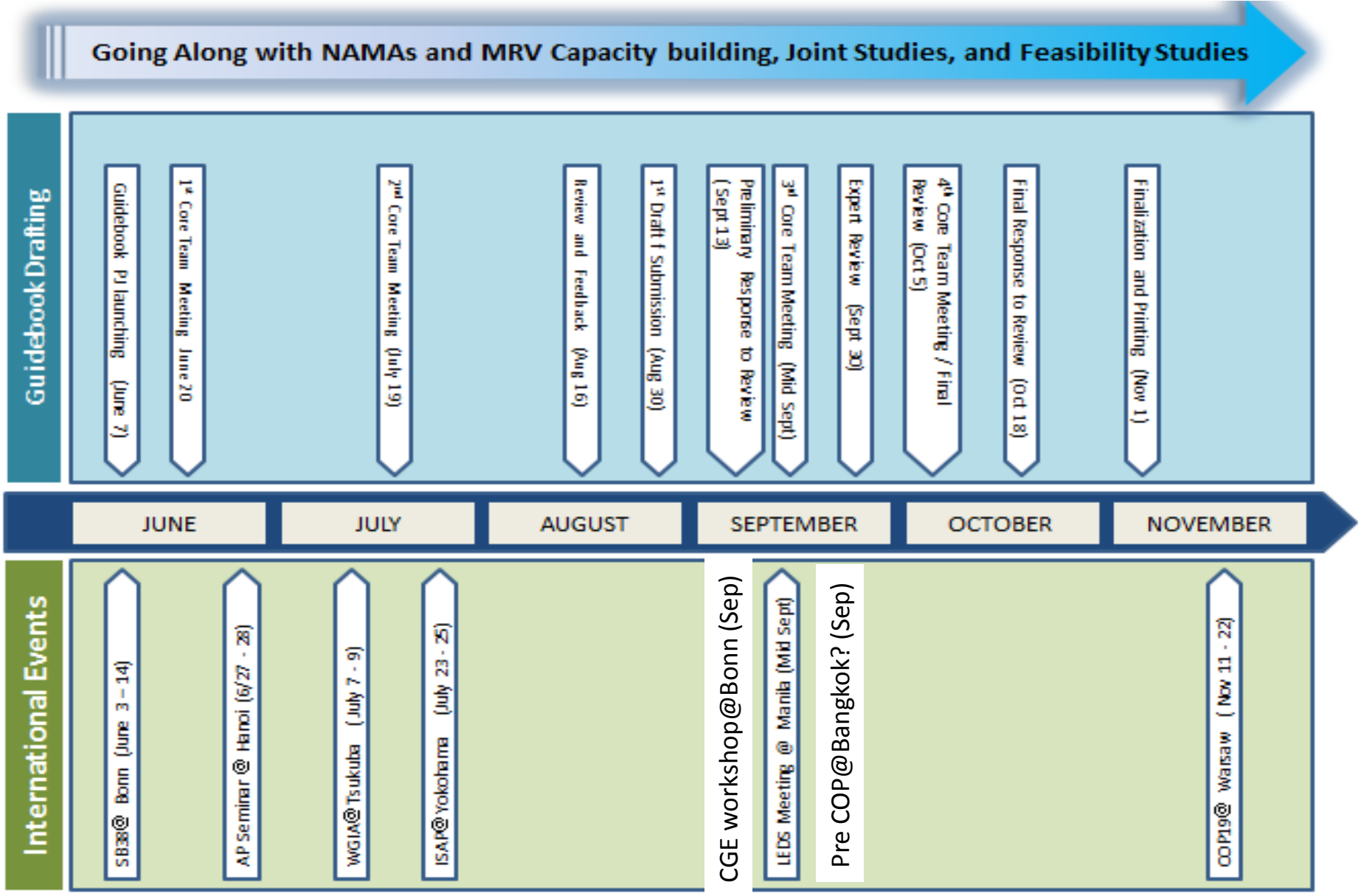
12 Actions Towards Low Carbon Future

Mitigation Options	CO2 Reduction	%
Green Economy	**7,401**	**59%**
Action 1 Integrated Green Transportation	1,916	15%
Action 2 Green Industry	1,085	9%
Action 3 Low Carbon Urban Governance**	-	-
Action 4 Green Building and Construction	1,338	11%
Action 5 Green Energy System and Renewable Energy	3,061	24%
Green Community	**2,557**	**21%**
Action 6 Low Carbon Lifestyle	2,557	21%
Action 7 Community Engagement and Consensus Building**	-	-
Green Environment	**2,510**	**20%**
Action 8 Walkable, Safe and Livable City Design	264	2%
Action 9 Smart Urban Growth	1,214	10%
Action 10 Green and Blue Infrastructure and Rural Resources	620	5%
Action 11 Sustainable Waste Management	412	3%
Action 12 Clean Air Environment**	-	-
Total	12,467**	100%

*Contribution to GHG emission reduction from 2025BaU to 2025CM ** Action 3, 7 and 12 does not have direct emission reduction, but their effect is included in other Actions. *** Since contribution of Action 10 includes carbon sink by forest conservation and urban tree planting, the total of contribution of the 12 Actions is greater than difference of the GHG emissions between 2025BaU and 2025CM in Figure 2 and Table2.

Originally designed by Dr. Tamura, IGES





"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

Call for Contribution!

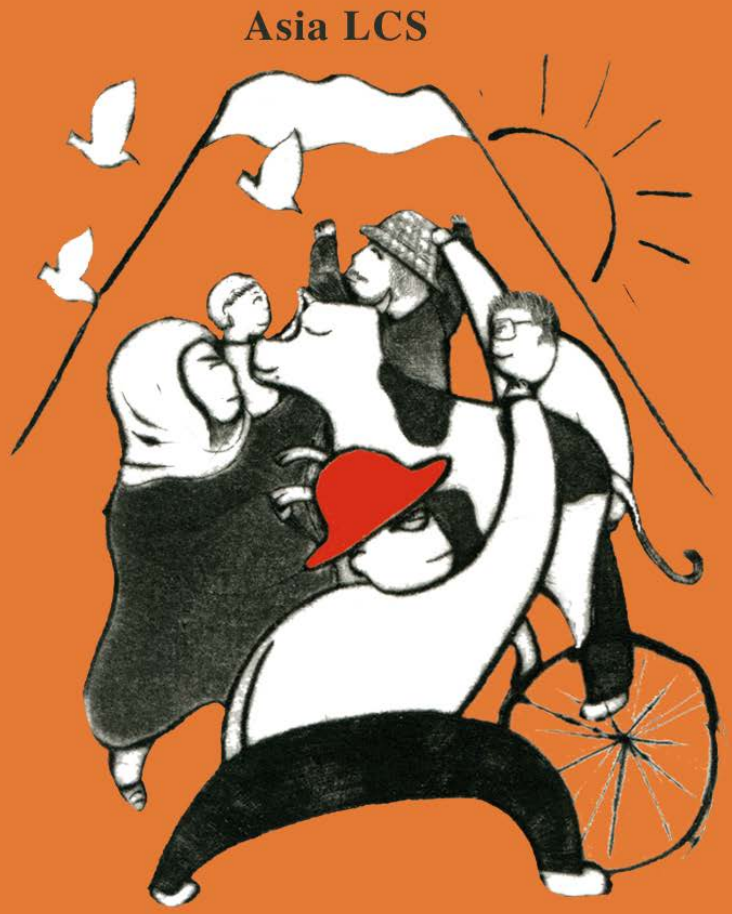
We are looking for any technical contributions to the Guidebook series from those involved in NAMAs and MRV projects at the local or national levels. Your inputs on experiences, implementation results, and good practices will be highly appreciated. While authorship will be recognized, participation will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

For NAMA Guidebook:
Mr. Jiro Miguel OGAHARA
Overseas Environmental Cooperation Center, Japan
Phone: +81-3-5472-0144
Email: ogahara@oecc.or.jp

For MRV Guidebook:
Ms. Chisa UMEMIYA, Ph.D
Institute for Global Environmental Strategies
Phone: +81-46-826-9612
Email: umemiya@iges.or.jp

Sustainable
Low-Carbon Asia
comes from
design,
imagination
and
co-working…

Let’s work together!



藤野　純一
Junichi FUJINO
fuji@nies.go.jp