Summary of WG3: Transport

Chair: Taka Hiraishi (IGES)

Rapporteur: Kohei Sakai (NIES/CGER/GIO)

WGIA9 Transport WG

15 July 2011

Transport WG in WGIA 9

➢ Theme: *Estimation of CO2 emissions from Transport Sector*

Presentation and Discussion Points

- Current Country Status for Transport

- Estimation Method

- Statistics Development

- Issue and Challenge

- Mitigation Action

➢ *Chair: Taka Hiraishi*

➢ *Rapporteur: Kohei Sakai*

➢ *Participants:* 17 members from 7 countries and 2 organizations

Time Schedule

WGIA9 Day 2, 13:30～17:00

➢ Introductory Presentation

➢ Mr. Kohei Sakai (Japan)

　　　GHG emissions, statistics and mitigation for transport sector in Japan

➢ Dr. Agus Gunawan (Indonesia) Indonesia SNC GHGs emissions from Transportation sector (part of Energy sector)

➢ Ms. Hnin Hnin Aye (Myanmar)

　　　　Transport Emissions in Myanmar

　　　----Coffee Break----

➢Results of Questionnaire for Transport

➢*Group discussion, Make WG Report for Wrap-up Session*
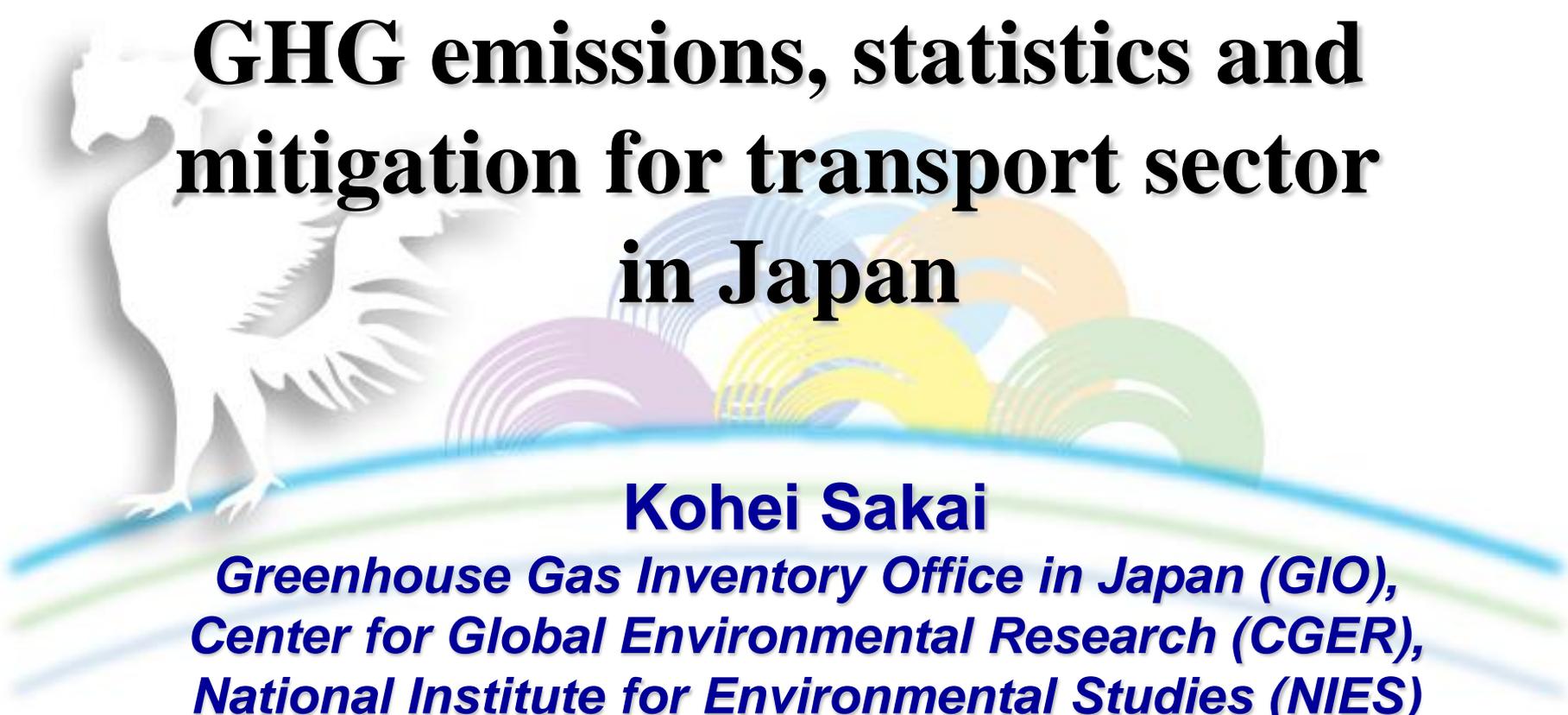
GHG emissions, statistics and mitigation for transport sector in Japan

Kohei Sakai

*Greenhouse Gas Inventory Office in Japan (GIO),
Center for Global Environmental Research (CGER),
National Institute for Environmental Studies (NIES)*

WGIA9 Transport WG
*14 July 2011*

Statistics to estimate CO2 emissions

GHG Inventory

Secondary statistics (Energy Balance)

General energy statistics (Energy Balance Table)

Inport Export production Data

By Natural Resource and Energy Agency

Primary statistics (Fuel Consumption)

Road | Aviation | Navigation | Train

Statistical Yearbook of Motor Vehicle Transport

Statistical Yearbook of Air Transport

Statistical Yearbook of Coastwise Vessel Transport

Statistical Yearbook of Railway Transport

Ministry of Land, Infrastructure, Transport and Tourism (MLIT)

Top Runner Approach
by Act on the Rational Use of Energy

> **Top Runner Approach** is enforced for motor vehicles by **the Act on the Rational Use of Energy**.

> In the '2000s, this approach improved gas mileage and decreased fuel combustion and CO_2 emissions.

Gas mileage

燃費 (km/L)

16

19km/L
18km/L
17km/L
15km/L

15km/L
14km/L
13km/L
12km/L

Average gas mileages by category are used for judgment

Base year   Target year

Top Runner Approach

(km/L)

New vehicle average

Stock average
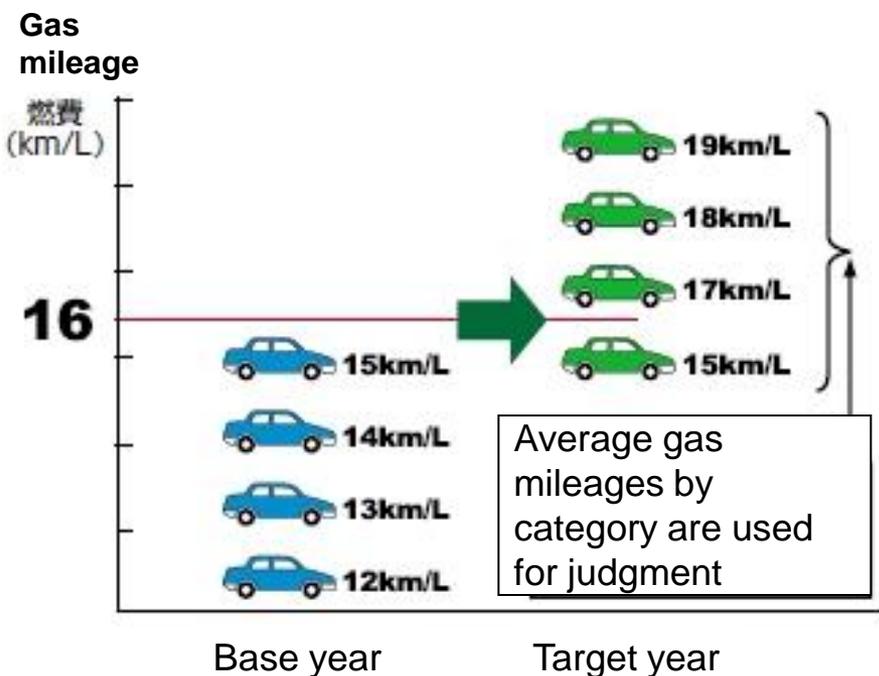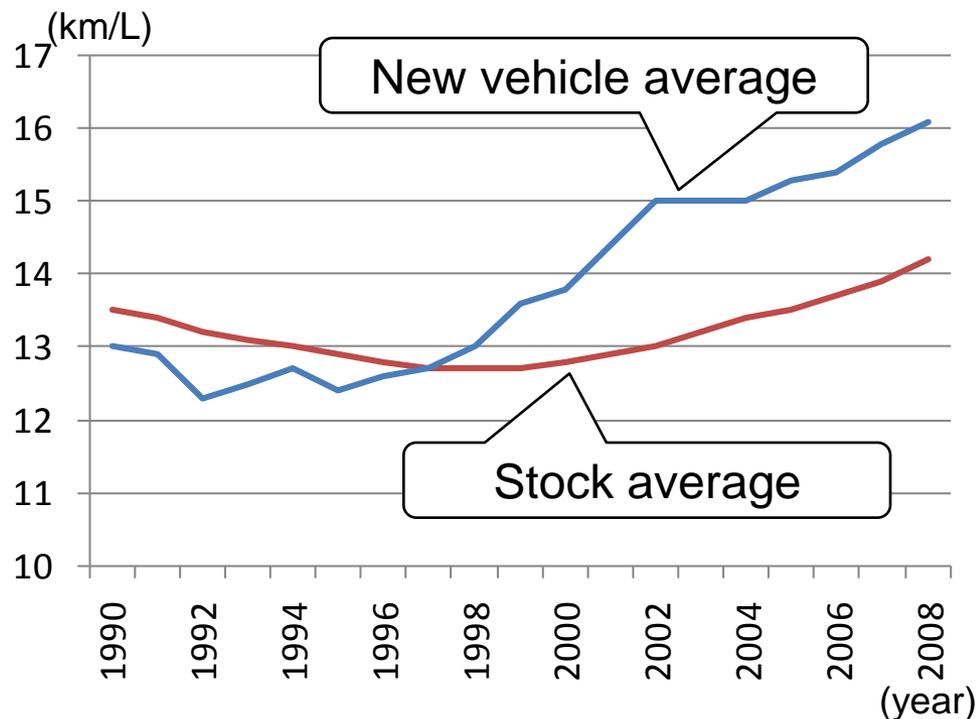
Gasoline mileage for passenger vehicle (10.15 mode)

Indonesia Second National Communication GHGs emissions from Transportation sector (part of Energy sector)

presented on
The 9th Workshop on GHG Inventories in Asia (WGIA9)
Cambodia, 13 – 15 July, 2011

LINGKUNGAN HIDUP

Agus Gunawan
Ministry of Environment, Republic of Indonesia

Final Energy Demand of Transportation
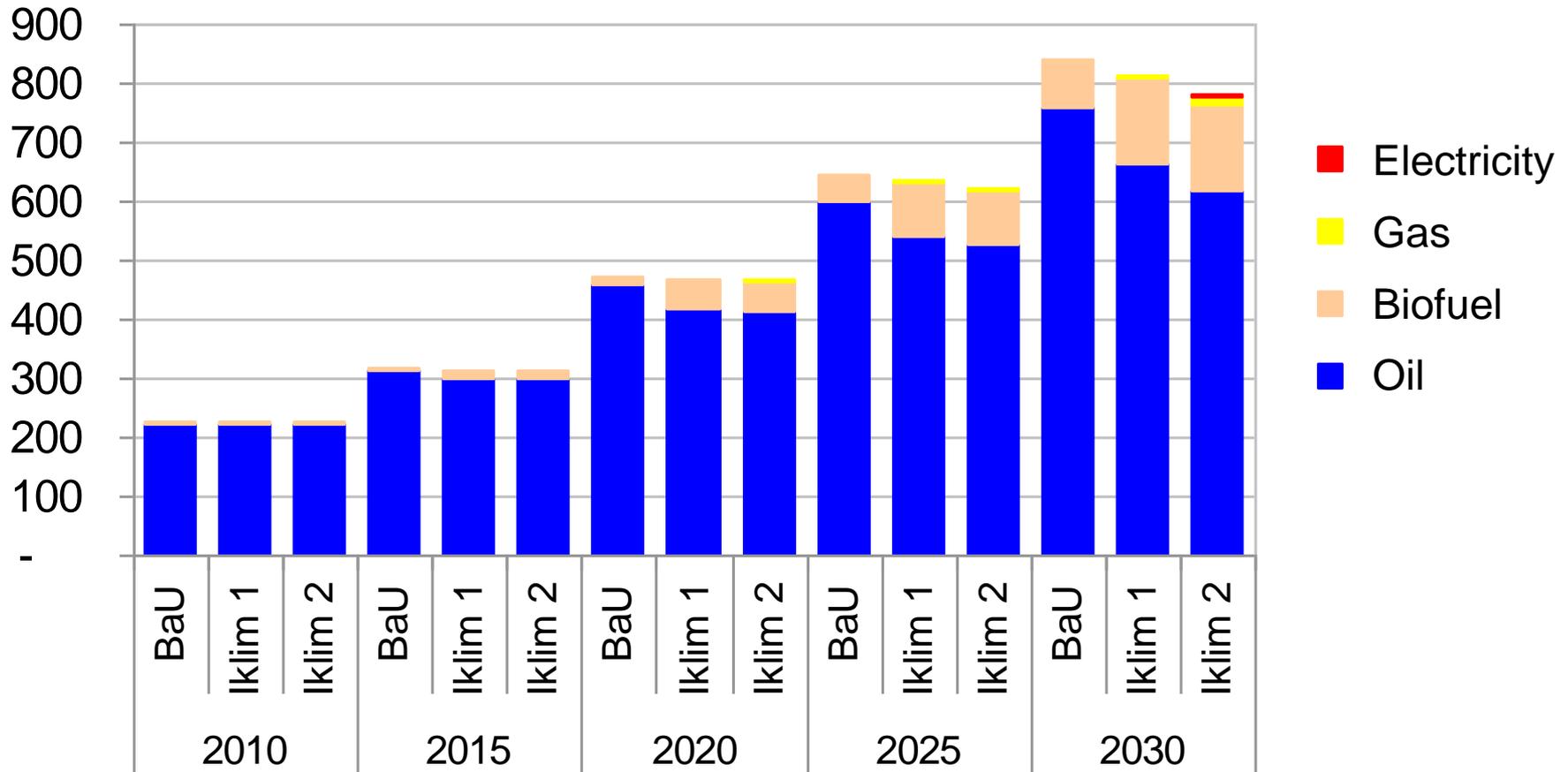
Available Technology to Reduce GHGs from the Utiization of Energy in Transportation Sector

Technologies and policies are two important components of the GHGs reduction in transport sector.

- fuel efficiency improvement on existing vehicles/technologies (vehicle size matching, operator behavior, emission control (catalitic converter, routine maintenance, etc),

- alternative fuels (NGV, CNG/LPG, biofuel, H2, fuel cell, used cooking-oil),

- shift to low emission travel modes and reduce travel: alternative transport mode (switched transport demand/ communication, MRT, BRT)

- Introduce new vehicle concepts having lower/no emissions

Transport Sector in Myanmar

By

Hnin Hnin Aye

Myanmar

Fuel Consumption by Transport Sector (TJ)

Type of Fuel	2000	2001	2002	2003	2004	2005
Gasoline	12,178.85	11,019.19	12,083.21	14,300.72	14,371.26	14,236.68
Jet Kerosene	1,293.09	1,293.09	1,293.09	1,293.09	1,293.09	1,293.09
Diesel Oil	16,277.95	15,219.07	21,208.23	19,295.85	19,148.88	17,379.87
Coal	27.86	113.52	56.24	160.99	136.74	0.06
Natural Gas	81.76	80.66	76.24	81.76	165.74	1,591.09
Total	29,859.51	27,725.53	34,717.01	35,132.41	35,115.71	34,500.79

Transport Photo in Myanmar
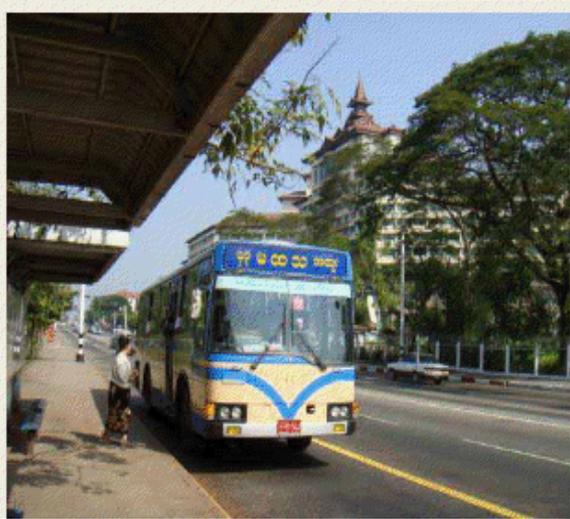
ISSUES

- Buses, Railway, circular trains and river ferries are the main public transport modes to satisfy transport need, but the growth of the motor vehicle population is the real issue

- Growing congestion and related pollution problems

- Difficulties to promote Non-Motorized Transport

- Inadequate capacity to enforce standards and regulations

Result of Questionnaire for Transport

➢ Surveyed items are the following.
- Category & Gas
- Emission Trend
- Activity Data and Statistics
- Emission Factors
- Bunker Fuel
- Issue and Challenge
(- Comment /Question)

➢ Respondent countries are the following.
Thailand, Myanmar, China, Laos, Philippine, Mongolia and Japan (7 countries)

Result of Questionnaire for Transport

Estimated categories and Used CO_2 EF for Transport

	Estimated categories				EF
	Road transport	Civil aviation	Railway	Navigation	
CHN	E	E	E	E	CS
THA	E	E	E	E	D(1996)
MMR	E	E	E	E	D(2006)
LAO	E	E	NE	NE	D(1996)
PHL	E	E	E	E	
MNG	E	E	E	NE	D(1996)
JPN	E	E	E	E	CS

E: estimated
NE: Not estimated (including 'Not Occur' and 'Not Applicable')
CS: Country Specific Emission Factor
D(1996): 1996 IPCC Guidelines   D(2006): 2006 IPCC Guidelines

Discussion and Conclusion (1)

Transport WG participants reconfirmed that

➢Availability of activity data, including accurate energy balance data, continues to be problematic.

➢For higher-tier estimation, updated emission factors need to be obtained, and regional collaboration on this might be beneficial.

➢Capacity building of inventory compilers in this field is particularly important.

Transport WG participants recognized that

➢ Transport CO_2 is an important emission source in most countries.

➢ Transport volume (ton-km and passenger-km) data are often used by transport experts, and using them will be required, especially in the consideration of mitigation.

➢ To contribute better to future mitigation work, it will become necessary to generate more precise and real-time emission inventories because number and type of vehicles, traffic patterns, etc. are rapidly changing.

Discussion and Conclusion (3)

Transport WG participants recommends that

➢ WGIA10 should review the developments in international climate actions, including the Durban outcome.

➢ In the inter-sessional period, transport inventory experts should continue exchanges and collaboration for inventory improvement, including on;
  ➢ Experiences in data acquisition and improvement,
  ➢ New emission factors (if higher tier methods are employed).