

Overview and the Purpose of this workshop

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

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NIES (National Institute for Environmental Studies), Japan

Low-carbon society model capacity building workshop

19th November 2010, Bangkok, Thailand



CTC2010 on 19th Aug 2010

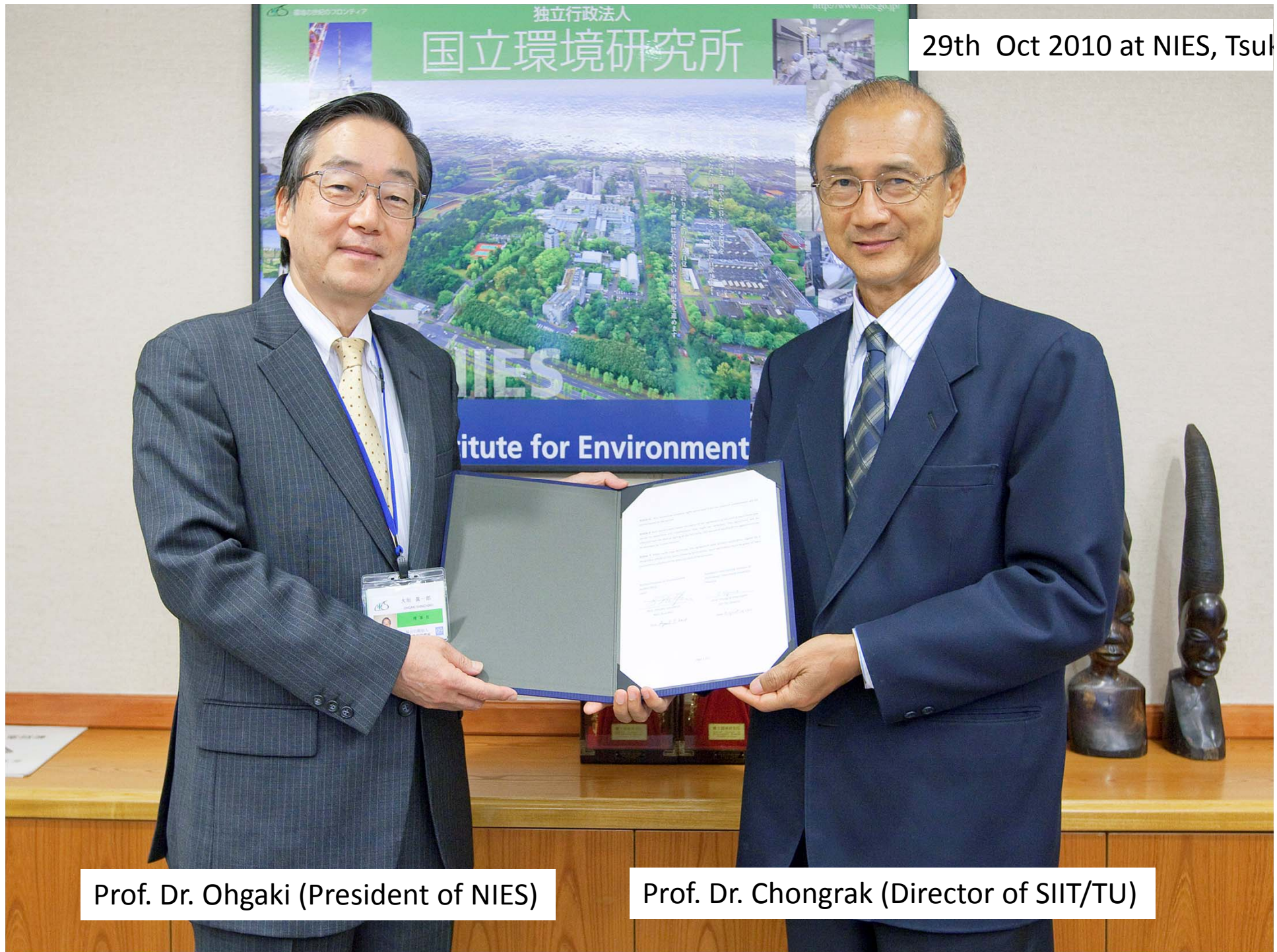


MoU between SIIT-TU and NIES on 20 Aug 2010

29th Oct 2010 at NIES, Tsu

Prof. Dr. Ohgaki (President of NIES)


Prof. Dr. Chongrak (Director of SIIT/TU)



NIES special lecture by Prof. Chongrak
on 29th Oct 2010 at NIES, Tsukuba



Japan LCS research project

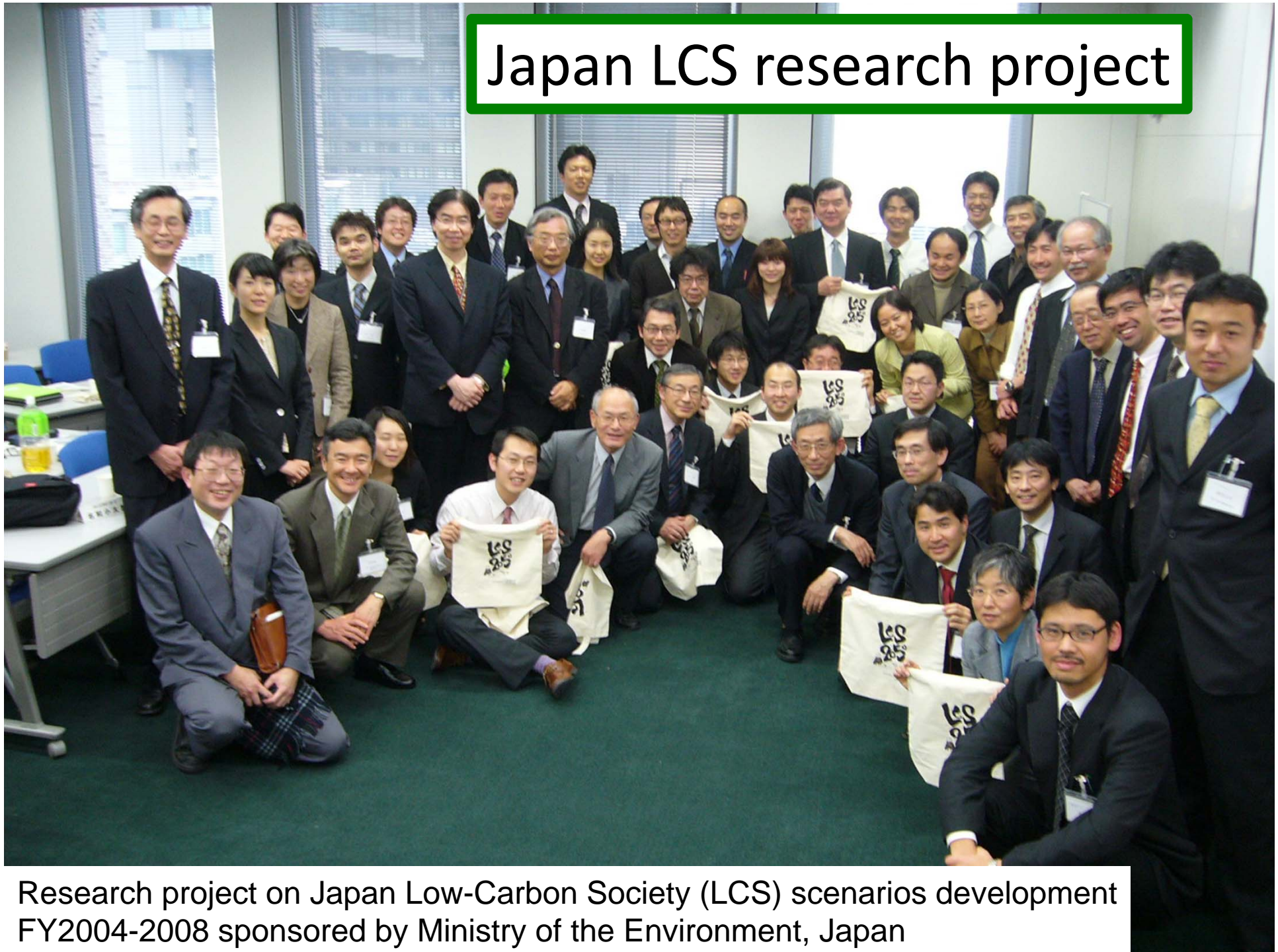


Japanese target: 25% cut by 2020
and 80% cut by 2050

Local LCS roadmap development
for Shiga, Kyoto and Tsukuba



International LCS research network
Japan-UK -> LCS-RNet

Japan LCS research project



Research project on Japan Low-Carbon Society (LCS) scenarios development
FY2004-2008 sponsored by Ministry of the Environment, Japan

As for LCS visions, we prepared two different but likely future societies

Vision A "Doraemon"	Vision B "Satsuki and Mei"
Vivid, Technology-driven	Slow, Natural-oriented
Urban/Personal	Decentralized/Community
Technology breakthrough Centralized production /recycle	Self-sufficient Produce locally, consume locally
Comfortable and Convenient	Social and Cultural Values
2%/yr GDP per capita growth	1%/yr GDP per capita growth
	



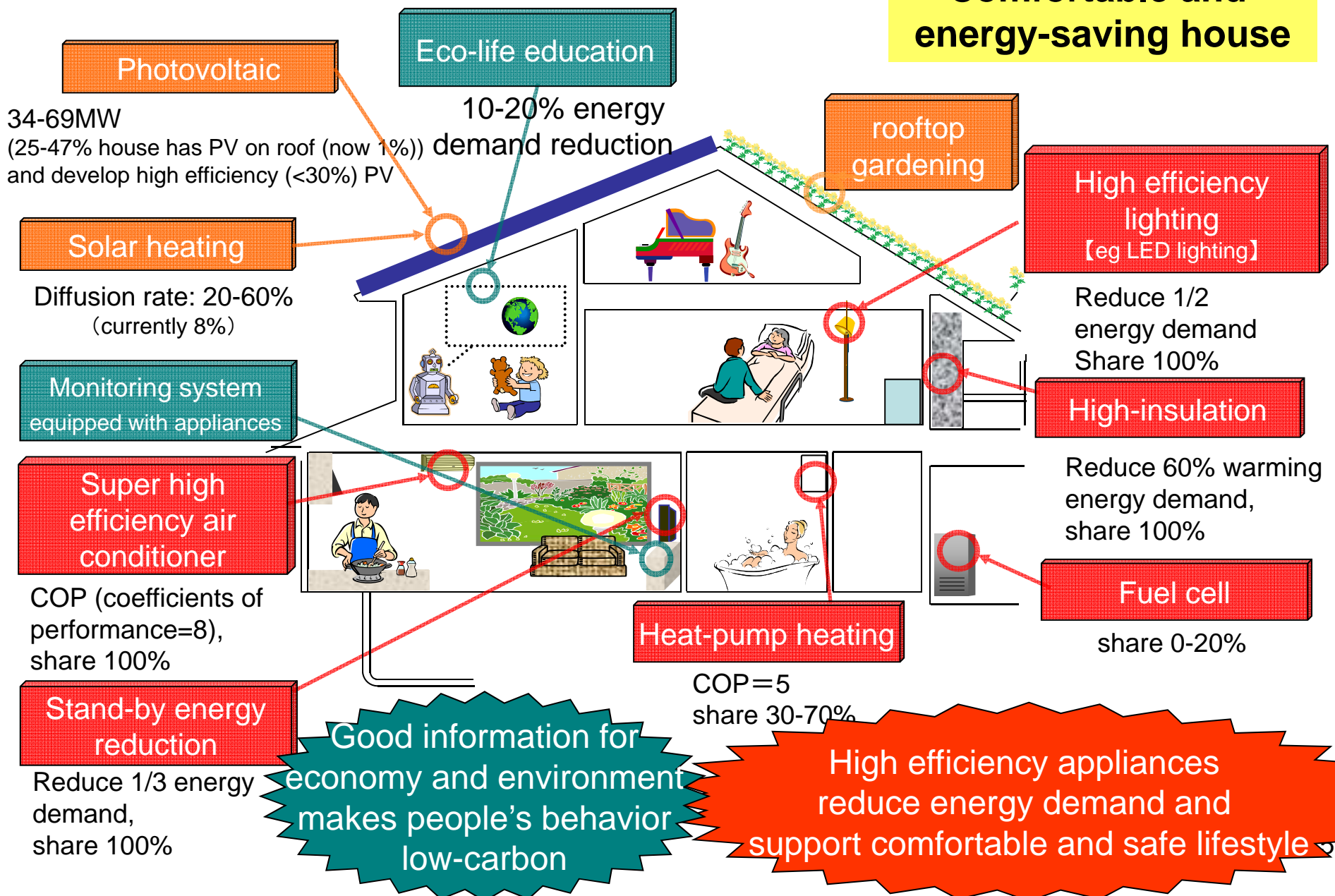
Doraemon is a Japanese comic series created by Fujiko F. Fujio. The series is about a robotic cat named Doraemon, who travels back in time from the 22nd century. He has a pocket, which connects to the fourth dimension and acts like a wormhole.



Satsuki and Mei's House reproduced in the 2005 World Expo. Satsuki and Mei are daughters in the film "My Neighbor Totoro". They lived an old house in rural Japan, near which many curious and magical creatures inhabited.

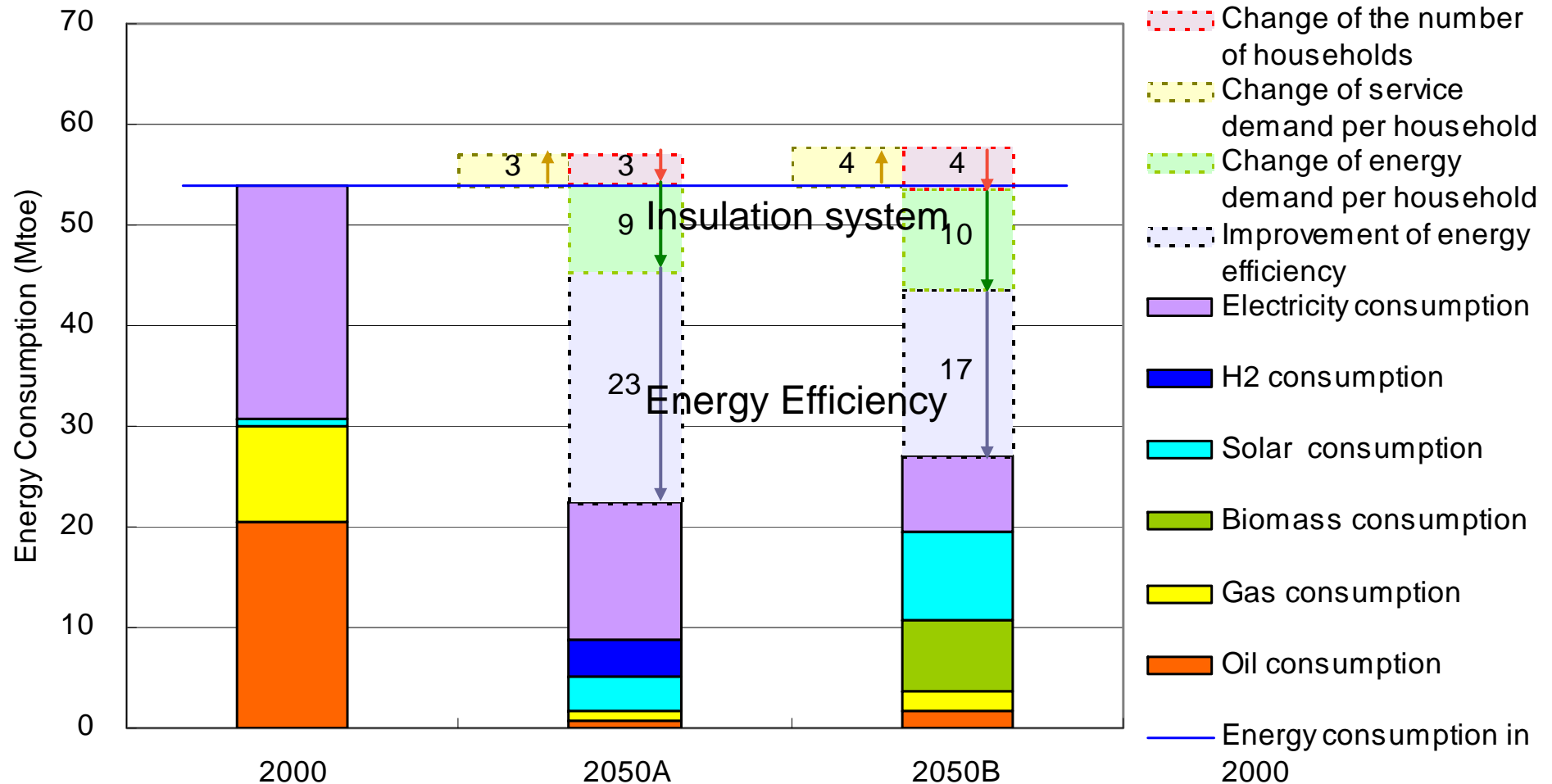
Utilizing solar power

LCS house in 2050 Comfortable and energy-saving house



Residential sector

Energy demand reduction potential: 50%



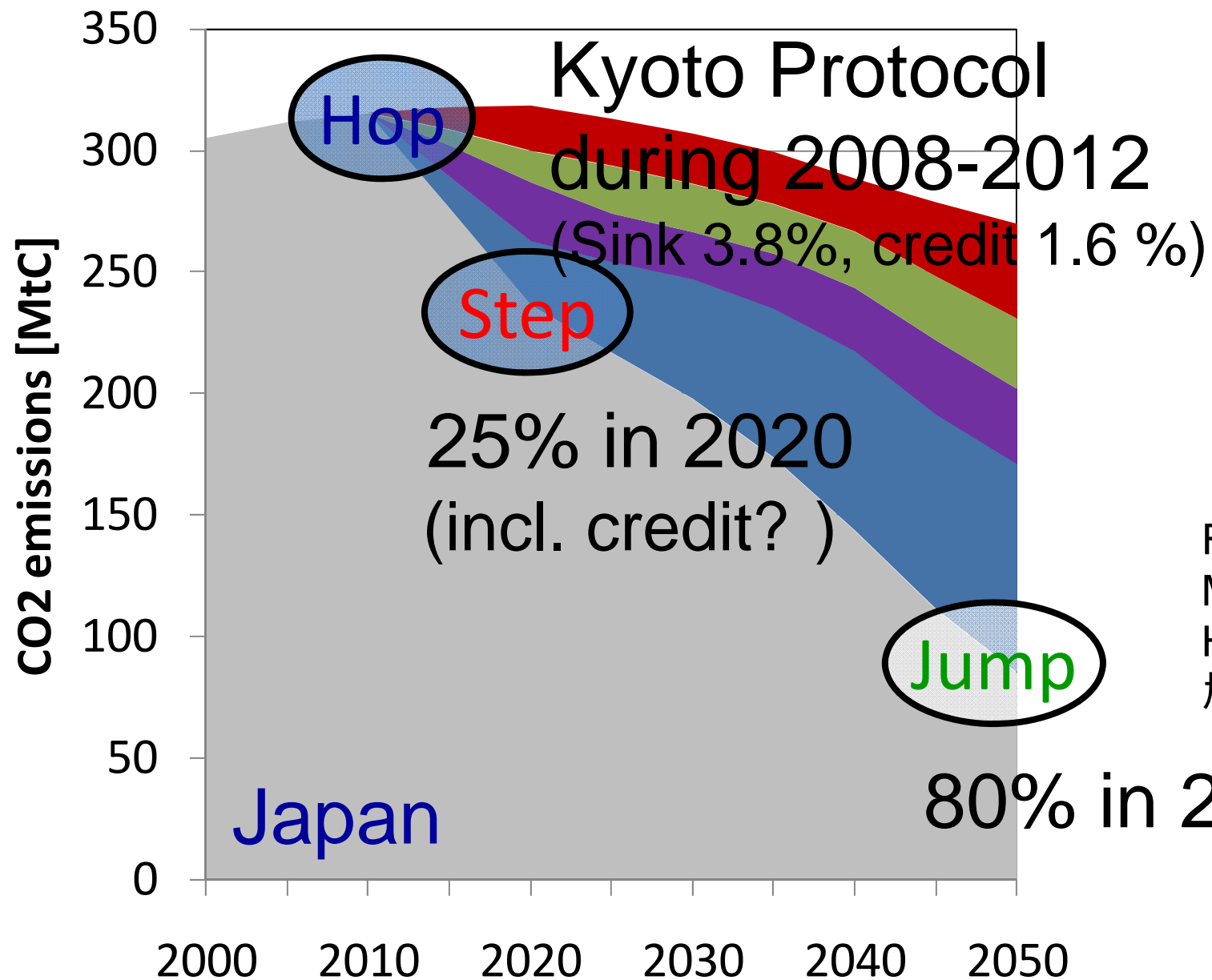
Change of the number of households: the number of households decrease both in scenario A and B

Change of service demand per household: convenient lifestyle increases service demand per household

Change of energy demand per household: high insulated dwellings, Home Energy Management System (HEMS)

Improvement of energy efficiency: air conditioner, water heater, cooking stove, lighting and standby power

Japanese Targets towards 2050

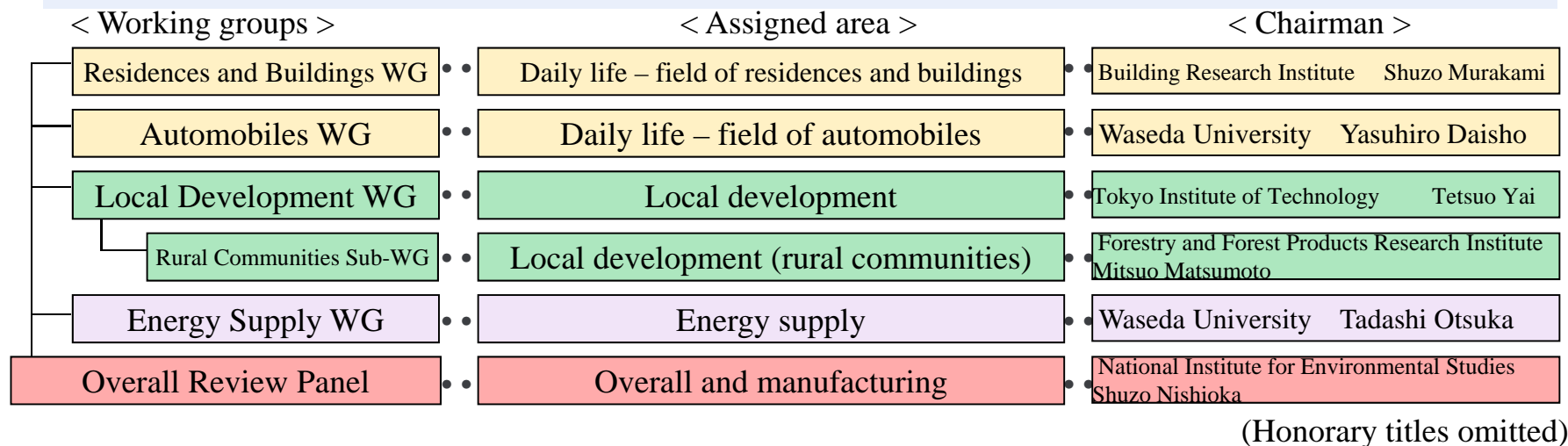


Former Prime Minister
Hatoyama
鳩山由紀夫

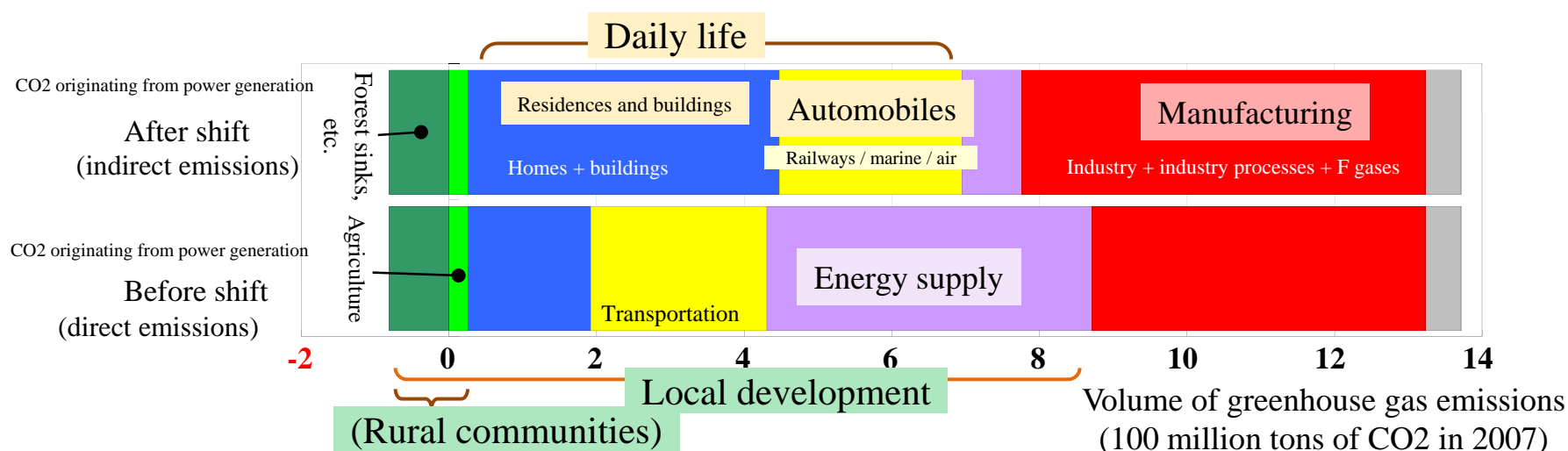
Japan

Structure of Mid- and Long-Term Roadmap Review Panel since Dec 2009

- The review panel is implemented as an operation commissioned by the Ministry of the Environment. A total of 29 review panel meetings have been held bringing together 52 experts from various fields.



◆ Relationship between assigned areas of working groups and emission sectors



KEY CONCEPT FOR RESIDENTIAL AND COMMERCIAL SECTOR

- Diffusion of ZEB and ZEH
- Collaboration among central and local governments
- Labeling to encourage smart and rational choice

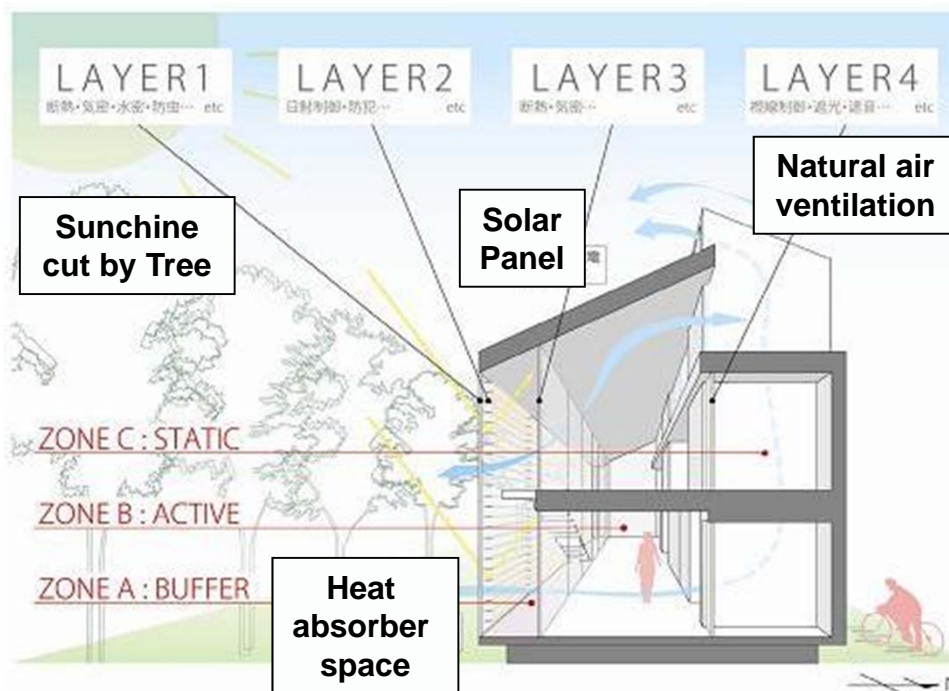
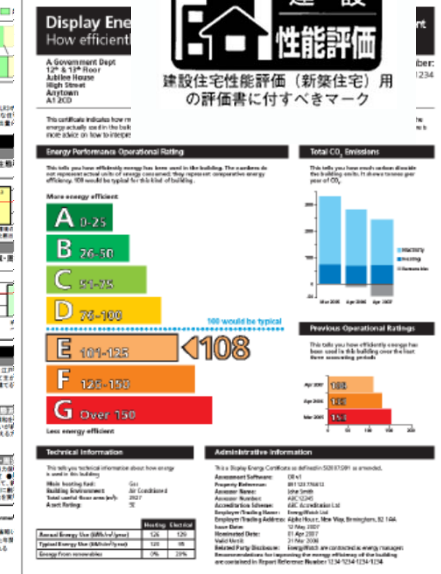
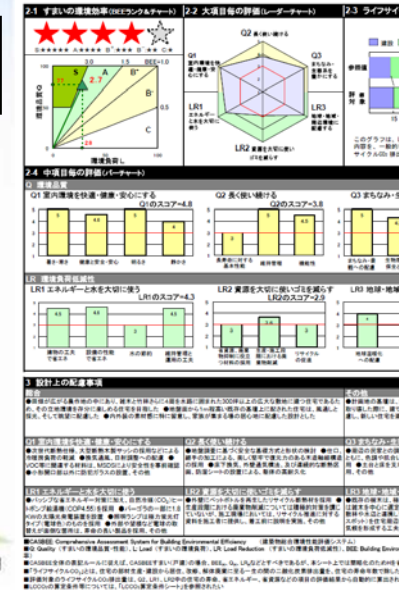


Image of Zero Emission House
(「LCCO2配慮建築物小委員会」資料、国交省)



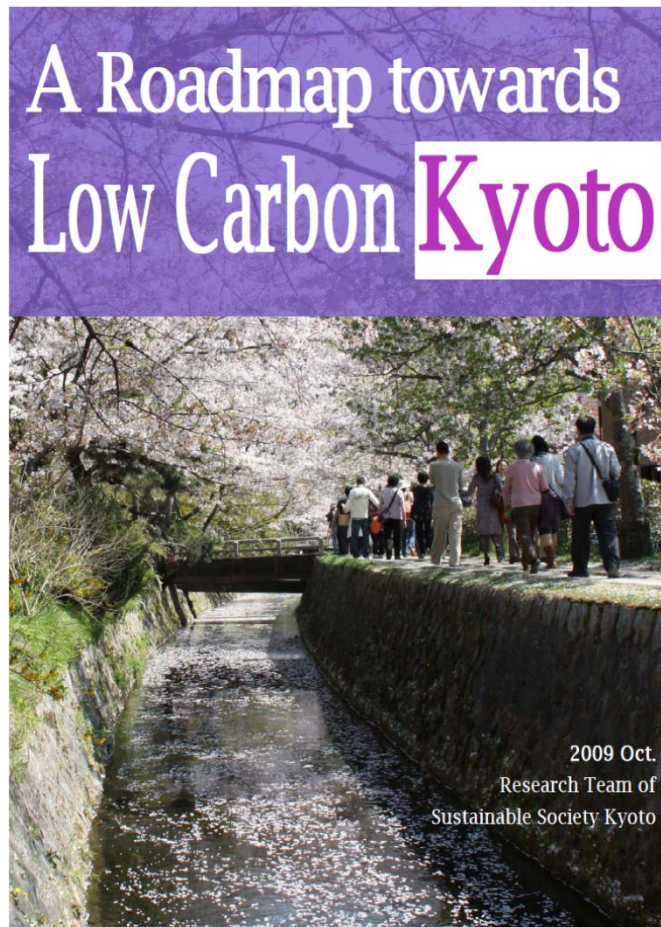
“CASBEE”
building labeling system in Japan

Roadmap for residential and commercial sector

- 性能基準⇒性能表示⇒規制導入の流れで、住宅の環境基本性能の向上を図る仕組みを構築。

		2010		2020		2030		2040		2050		
項目	住宅・機器性能の向上	目標	次世代基準以上 新築100%			ゼロエミ住宅 新築100%	ゼロエミ住宅 普及100%					
	総合的環境性能基準の設定	環境基本性能の基準の向上										
行程表		次世代基準 (H11)	改次世代基準 (総合化)	ゼロエミ基準 (創エネルギー必須化)	断熱性能から総合的環境性能の基準へ移行							
	性能表示	住宅ラベリング制度										
		新築住宅 表示義務付	既存賃貸住宅 流通時表示義務付	既存住宅 売買時表示義務付	性能表示を資産価値向上に反映させる仕組み							
	規制導入	住宅トップランナー制度	拡大・強化									
		省エネ基準の新築時義務化	次世代基準又は改次世代基準の新築時義務化		省エネ基準の達成の義務化							
	トップランナー制度	トップランナー機器制度（基準の継続的見直し）										
		CAFÉ（企業平均効率）導入			原単位方式見直し（機器別総量基準など）							

Local initiatives in Japan

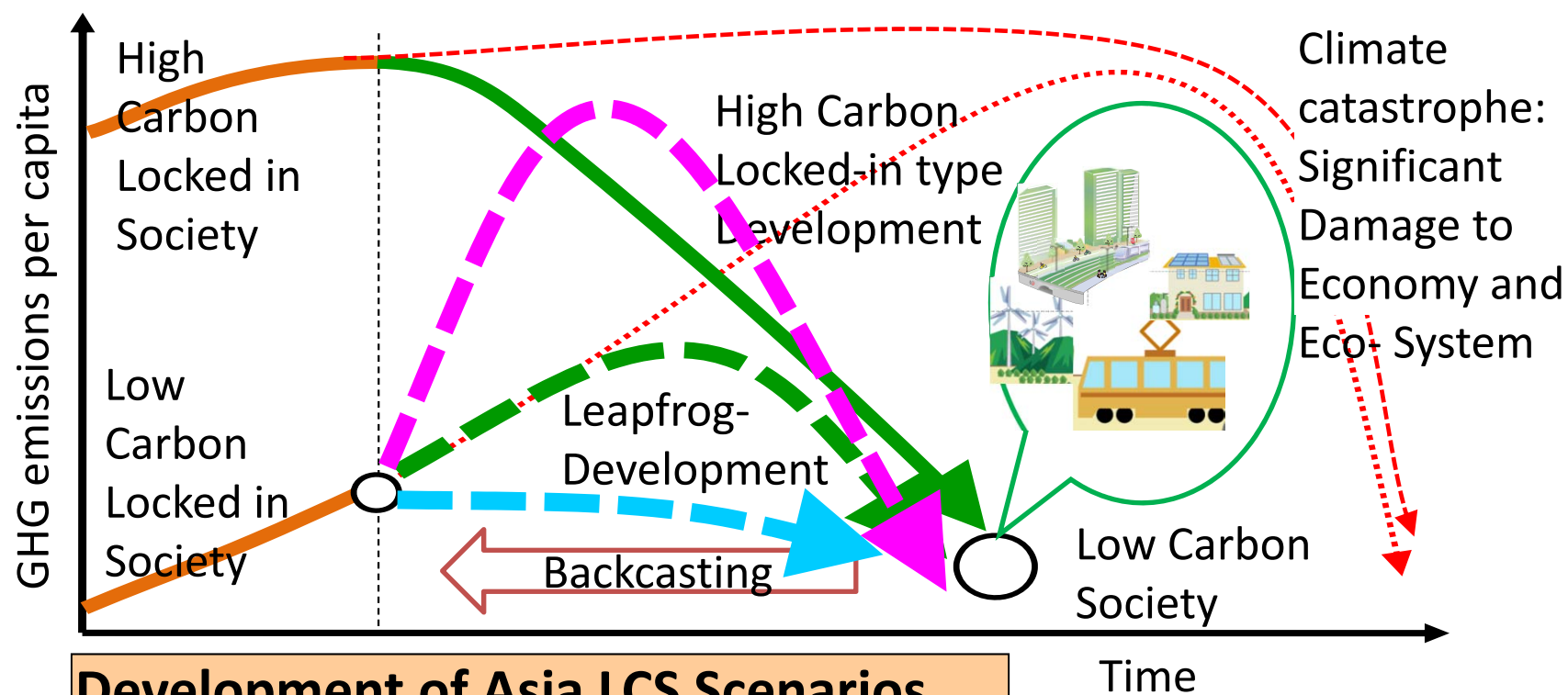


GHG reduction ordinance (25% cut by 2020 and 40% by 2030) is proposed on 7th July 2010 and adopted on 30th Sep 2010



Mitigation roadmap is discussed at local congress and stakeholders dialogue

How to reach to Low Carbon Society in Asia ?



Development of Asia LCS Scenarios

- (1) Depicting narrative scenarios for LCS
- (2) Quantifying future LCS visions
- (3) Developing robust roadmaps by backcasting



Policy Packages for Asia LCS

Funded by Ministry of Environment, Japan
(GERF, S-6) and NIES

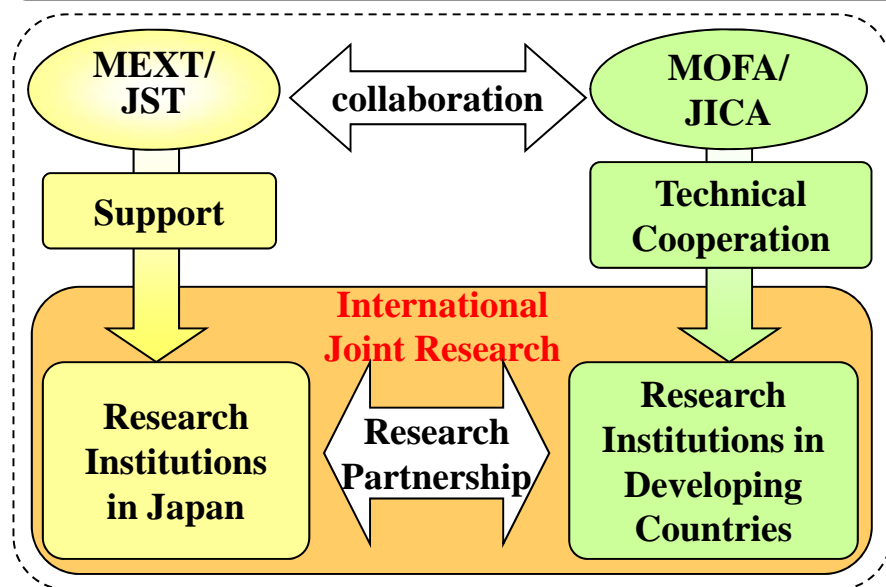
Low-Carbon Scenarios for countries and sub-countries in Asian



Science and Technology Research Partnership for Sustainable Development (SATREPS)



- JST supports international joint research cooperation between Japan and developing countries for resolving global issues such as: environment/energy, natural disaster prevention and infectious diseases control.
- Such research cooperation is conducted in collaboration with JICA, an organization that implements ODA technical cooperation.
- Objectives of the program are to strengthen the international science and technology (S&T) cooperation between Japan and developing countries to advance scientific knowledge and technology for resolving the global issues we face, and to build capacities of counterpart researchers and research institutes.



MEXT: Ministry of Education, Culture, Sports, Science and Technology
 MOFA: Ministry of Foreign Affairs
 JST: Japan Science and Technology Agency JICA: Japan International Cooperation Agency

<No. of projects adopted in FY2008 ~ FY2010>

Research Areas	Region			FY		
	Asia	Africa	Others	2008	2009	2010
Research contributing to adaptation to or <u>mitigation of climate change</u>	25	13	11	4	4	0
Research contributing to <u>energy systems for low carbon society</u>				—	—	4
Research contributing to <u>the resolution of global-scale environmental issues</u>				3	2	4
Research contributing to <u>sustainable utilization of bio-resources</u>				—	6	5
Research on <u>natural disaster prevention measures</u> attuned to the needs of developing countries				3	4	2
Research on <u>measures to address infectious diseases control</u> attuned to the needs of developing countries				2	4	2
Total				12	20	17
				49		

Outline of the proposal

Title: Development of Low Carbon Society Scenarios for Asian Regions

Target country: Malaysia

Institutes expected to be involved:

Universiti Teknologi Malaysia (UTM)

Federal Department of Town and Country Planning Malaysia (JPBD)

Iskandar Regional Development Authority (IRDA)

Pusat Tenaga Malaysia (PTM)

Kyoto University (KU)

National Institute for Environment Studies (NIES)

Okayama University (OU)

Project period: 2010-2014

**Expected Total budget: 190 Million JPY to Japan's group
and less than 300 Million JPY as ODA "technical cooperation"**

Low-carbon society model capacity building workshop

- Bridge simulation scenarios and sustainable LCS policy implementation using AIM (Asia-Pacific Integrated Model) -

Organized by TGO, SIIT-TU, JGSEE, NIES

November 19 (Friday) 2010 at Pullman King Power Hotel, Bangkok

(Simultaneous translation is available)

Objectives:

- 1) Introduce LCS scenario making process to stakeholders for better understanding how to use simulation studies for policy formulation and implementation
- 2) Learn to operate LCS simulation model (simple version) and assess the CO₂ reduction possibilities effected by change of driving forces (population, GDP etc.) and countermeasures (energy savings in buildings and industries, modal shift in transportation etc.)
- 3) Communicate between policymakers, business, researchers to discuss how to develop feasible LCS scenarios and policy options

Opening session

Chair: Junichi Fujino (NIES)

9:00-9:05 Welcome Address

Mr. Sirithan Pairoj-Boriboon, Executive Director (TGO)

9:05-9:15 Research collaboration between Thailand and Japan on LCS study

Dr Supachart Chungpaibulpatana(SIIT-TU)

9:15-9:20 Photo Session

Introduction to Asian LCS Research Study

Chair: Dr Supachart Chungpaibulpatana (TGO)

9:20-9:30 Overview and the Purpose of this workshop

Dr. Junichi Fujino (NIES)

9:30-10:00 Sustainable Low-Carbon Society Modeling and Scenario Making Process

Prof. Yuzuru Matsuoka (Kyoto Univ.)

10:00-10:30 Thailand LCS scenarios development and co-benefits

Prof. Ram Shrestha (AIT) and Prof. Bundit Lim (SIIT-TU)

10:30-11:00 Break

Example of bridging LCS scenarios and policy-making process

Chair: Dr. Savitri Garivait (JGSEE)

11:00-11:30 Malaysia and Iskandar LCS scenarios development

Prof. Ho Chin Siong (Universiti Teknologi Malaysia (UTM))

11:30-12:00 How to implement academic LCS scenarios into policy-making process

Mr. Boyd Dionysius Joeman (Iskandar Regional Development Authority (IRDA))

12:00-13:00 Lunch

Capacity building for LCS model simulation run

Chair: Mikiko Kainuma (NIES)

13:00-13:30 How to operate AIM/ExSS

to develop national/sub-national LCS scenarios

Dr. Kei Gomi

13:30-15:00 AIM/ExSS Exercise by participants

15:00-15:20 Break

National and sub-national LCS scenario development in Asia

Chair: Prof. Bundit Lim (SIIT-TU)

15:20-15:35 Ratchaburi LCS scenarios development and its implementation

Dr. Savitri Garivait and Dr. Penwadee Cheewapongphan (JGSEE-KMUTT)

15:35-15:50 India and Bhopal LCS scenarios development

Prof. Aashish Deshpande (Maulana Azad National Institute of Technology, Bhopal)

15:50-16:00 How to link AIM LCS scenario development activities to LCS-RNet

Dr. Shuzo Nishioka (IGES)

16:00-16:25 Open discussion on modeling, scenarios, and its policy implementation

“How to bridge simulation scenarios and sustainable LCS policy implementation”

Coordinated by Prof. Bundit Lim (SIIT-TU)

16:25-16:30 Closing Remarks

Dr. Mikiko Kainuma (NIES)

Requirements:

Every participant needs to bring her/his personal computer with Microsoft Excel (ver 2003 or higher).

Please charge battery fully for two hours exercise.

Presentation materials:

The presentations can be downloaded from the following website:

<http://2050.nies.go.jp/sympo/101119/>

LCS research materials including Thailand LCS 2030 scenarios can be downloaded from the following website:

<http://2050.nies.go.jp/LCS>

Contact:

Ms. Maiko Suda (NIES)

NIES Assistant Fellow

E-mail: suda.maiko@nies.go.jp

LCS is not only to avoid dangerous climate change, but also to...

- Avoid energy resource battles by using resources in efficient ways
- Develop many innovations to support global sustainable development
- Build safe and sound society considering appropriate land-use and city planning
- And our happy life!

**We need good systems to pledge
people's activity for LCS**

**What do you want to do now
for our future?**



Christmas Concert of Yoko Fujino's
Piano Class on Dec 23, 2005



CTC2010 on 21st Aug 2010

Concept comes true
by planning and actions.
Let's realize happy LCS
by imagination,
creativity,
and our actions.

Junichi Fujino
fuji@nies.go.jp



LCS study by AIM team

- 1990 start AIM (Asia-Pacific Integrated Model) project
- 2000 provide IPCC/SREN A1B maker scenario
- 2003 UK released “Low-Carbon Economy” Paper
- 2004.4-2009.3 “Japan LCS research project” coordinated by AIM/NIES funded by MOEJ and provide 70% CO2 cut scenario by 2050
- 2006.2-2008.3 “Japan-UK joint LCS research project” submitted “call for action” to G8 Japan summit
- 2009.4-2014.3 “Low-Carbon Asia research project” coordinated by AIM/NIES funded by MOEJ
- 2010.4-2015.3 SATREPS “Development of Low Carbon Society Scenarios for Asian Region” especially focused on Iskandar and Malaysia funded by JST/JICA