



AIM is paving the way to Low Carbon Asia

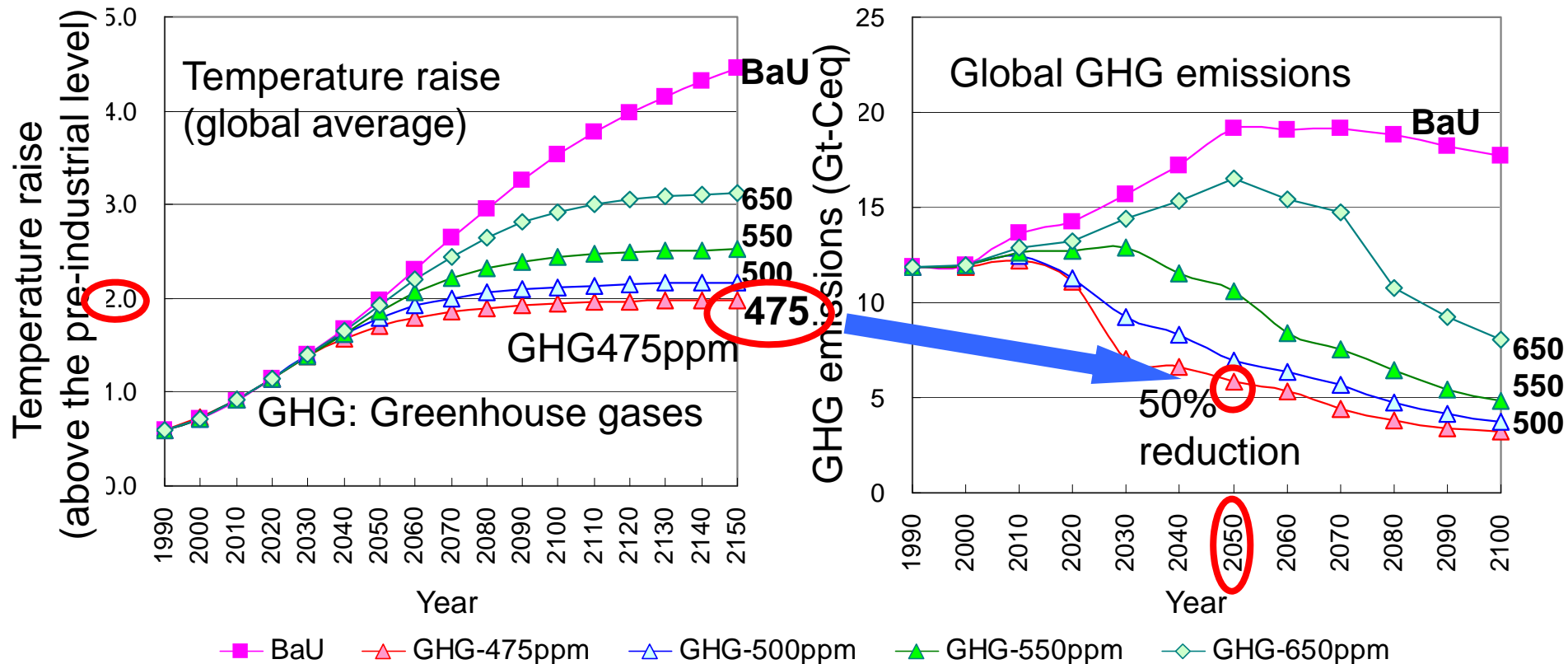
UNFCCC COP19 November 2013 Warsaw
Shuzo NISHIOKA (LoCARNet / IGES)

LCS·RNet *Formulation of LCS*
- To make real progress



AIM: Asia Integrated assessment Model
Applied to Japanese Low Carbon Policy making

- 1997 Kyoto Target setting of 6% reduction in 2010
- 2008 PM. Fukuda Target of 2050 60-80% reduction at G8
- 2009 PM. Aso Target setting for La'quila G8 summit
- 2009 PM. Hatoyama Target of 25% reduction in 2020
- 2012 Climate policy after Fukushima



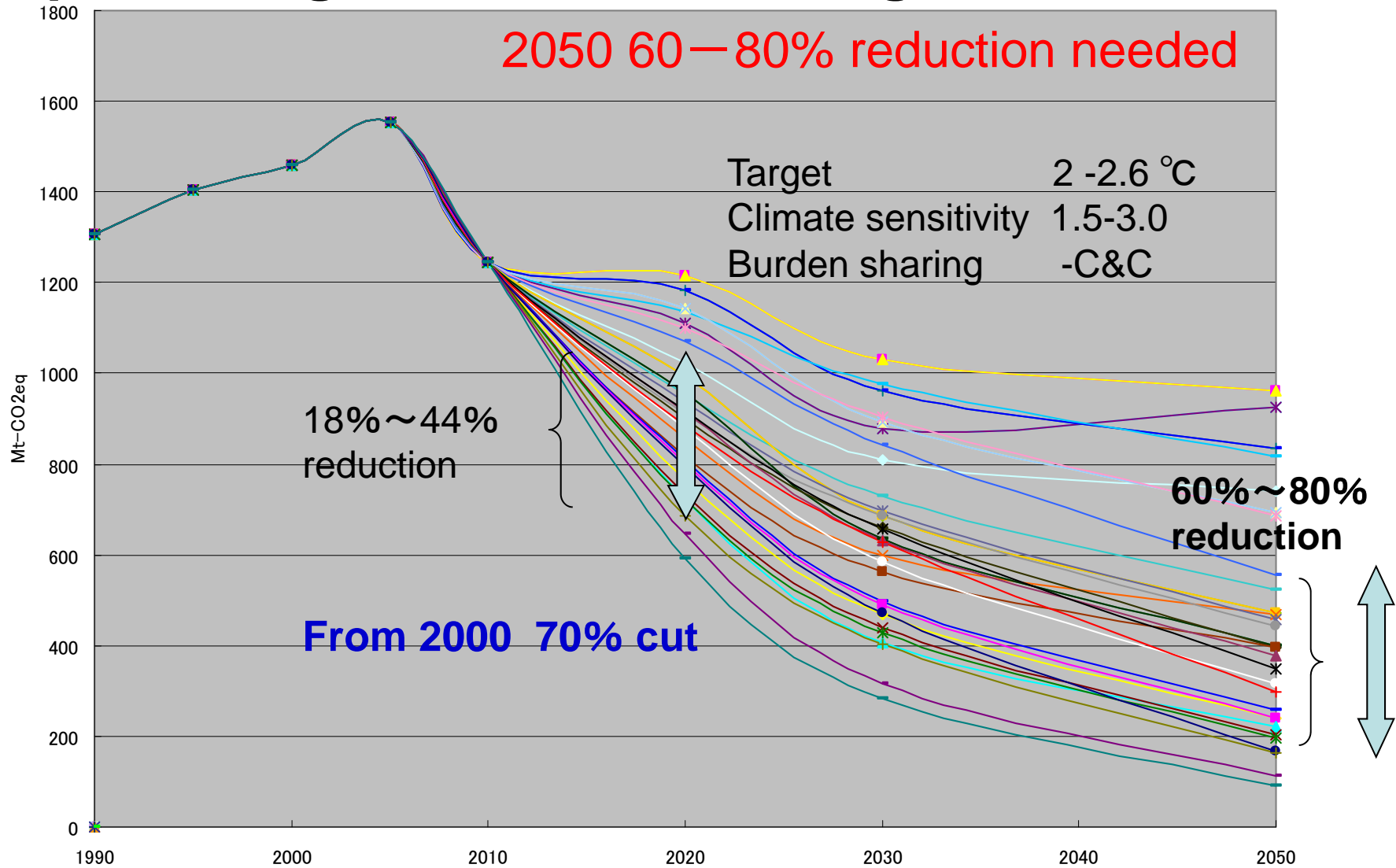
How to set world reduction target ?

- to avoid temperature rise of 2°C from pre-industrial era, 50% GHG reductions in 2050 is required

Calculated by AIM/Impact [policy] Model: NIES

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

Japan's long-term reduction target ?



Calculated by AIM End-use Model

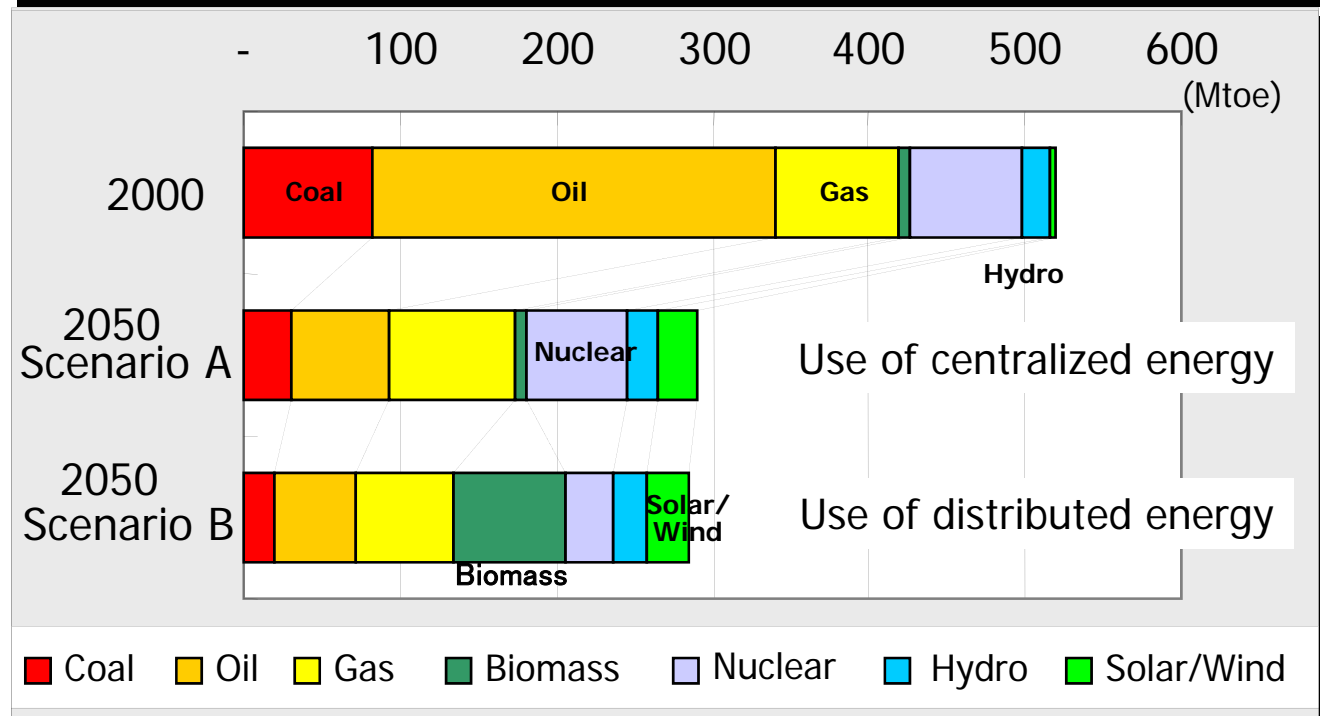
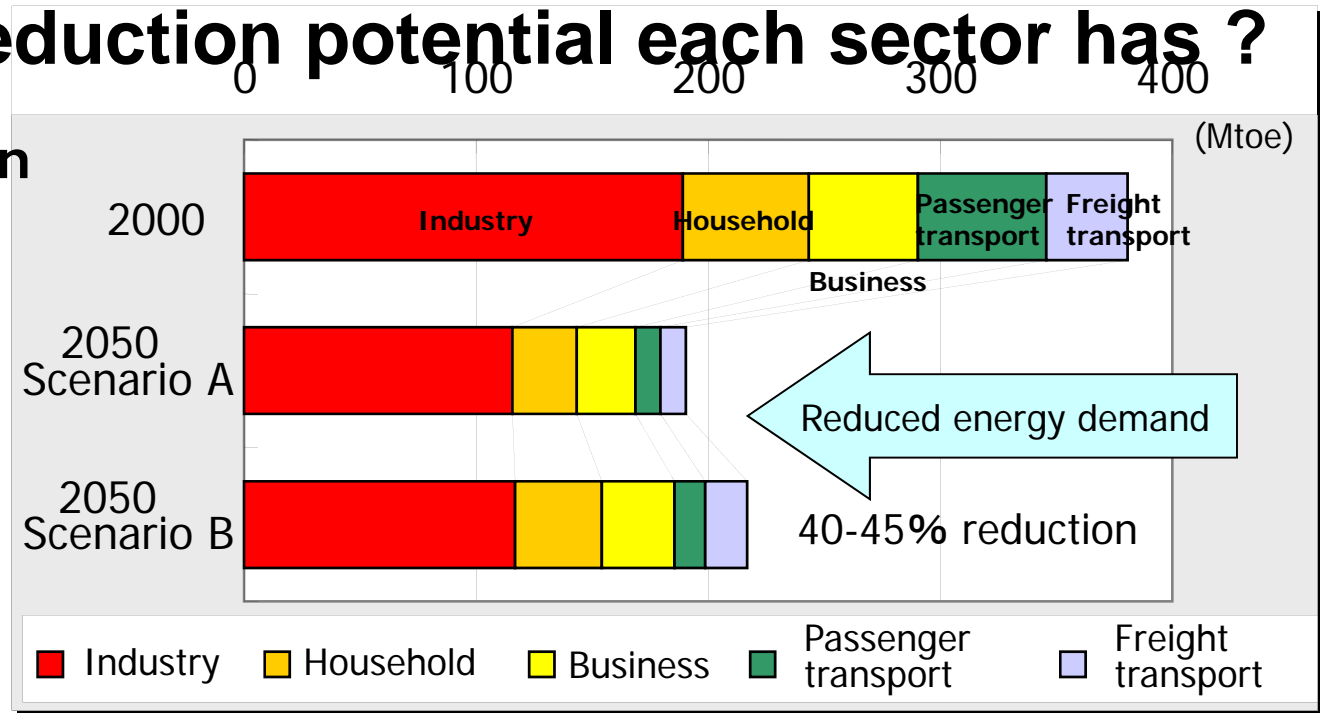
How much reduction potential each sector has ?

70% CO₂ reduction feasible

Smart consumer choices can reduce energy consumption by as much as 40-45%!

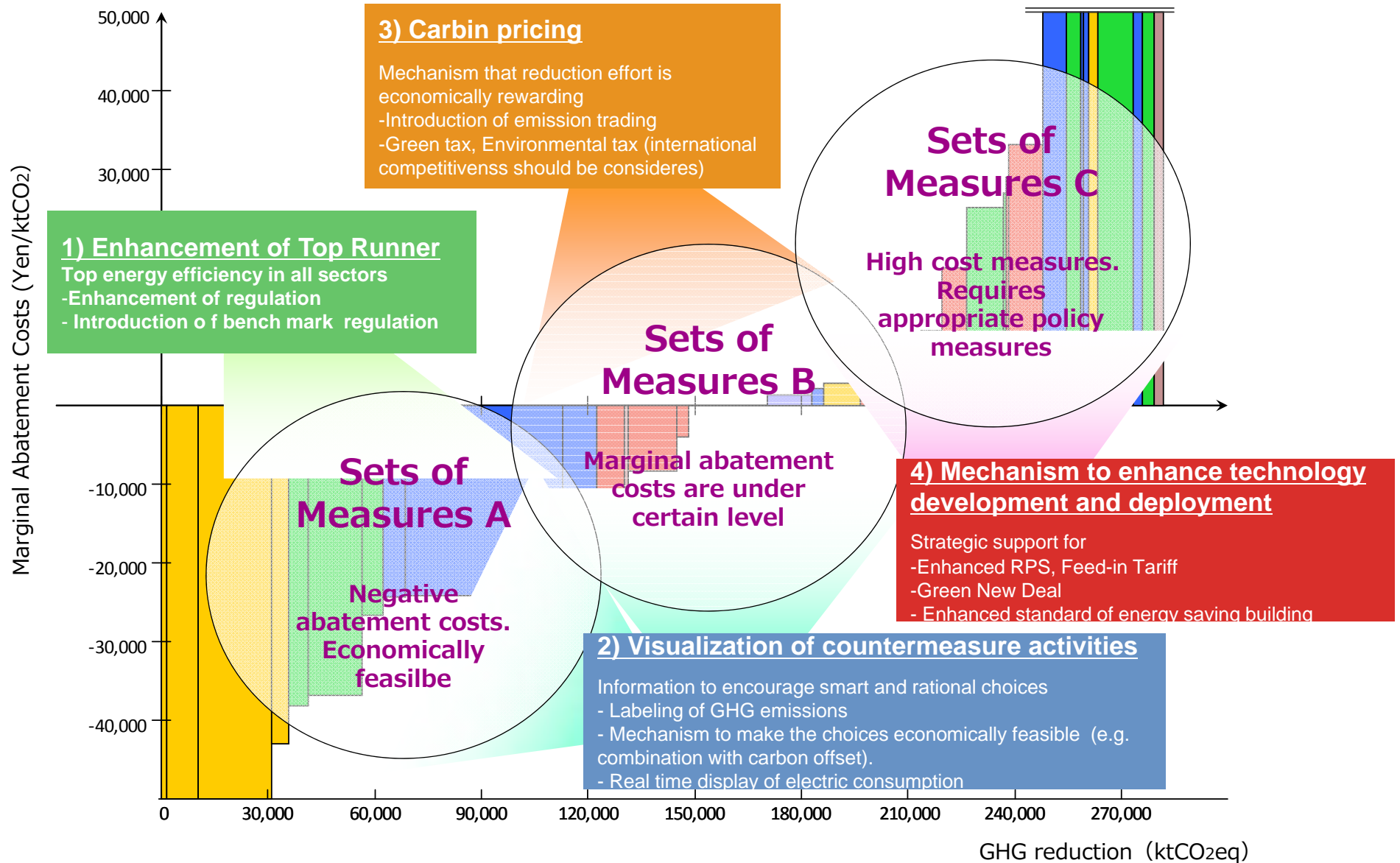
Equal effort by demand & supply side

Low carbon shift in primary energy sources via introduction of renewable energies



How much is the cost of reduction ?

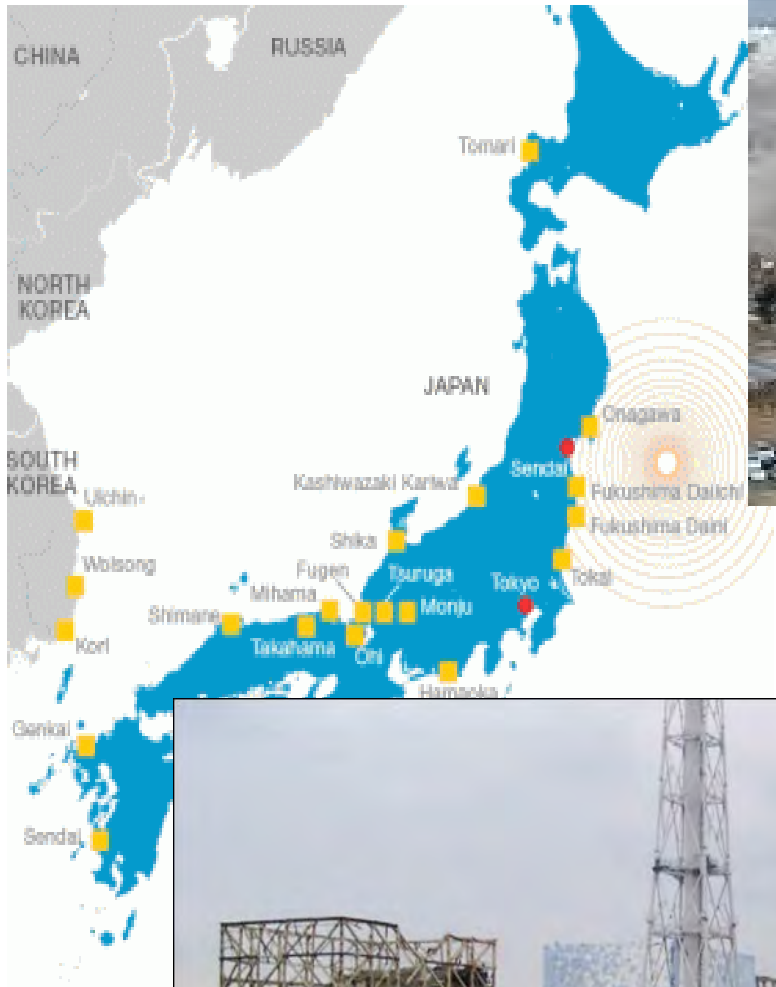
Feasible with Four sets of countermeasures to achieve the target of 2020



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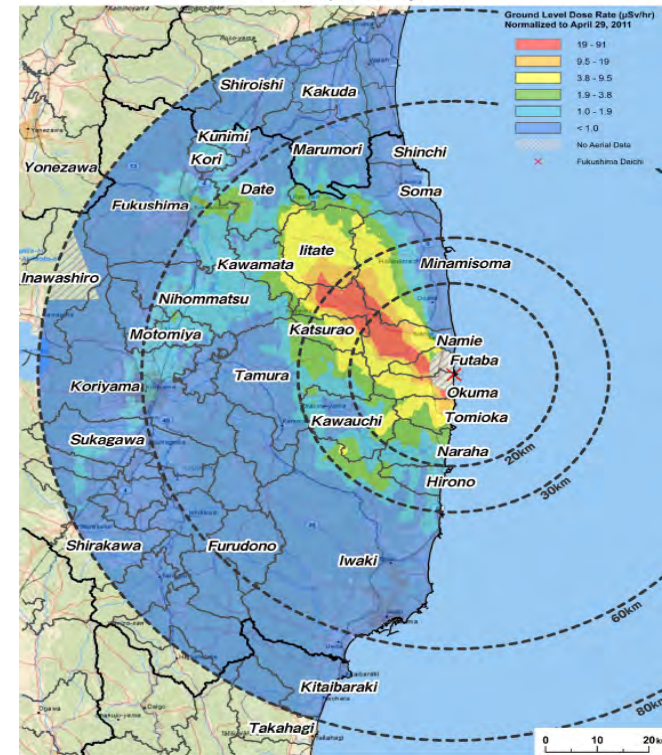
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Fukushima 3.11/2011

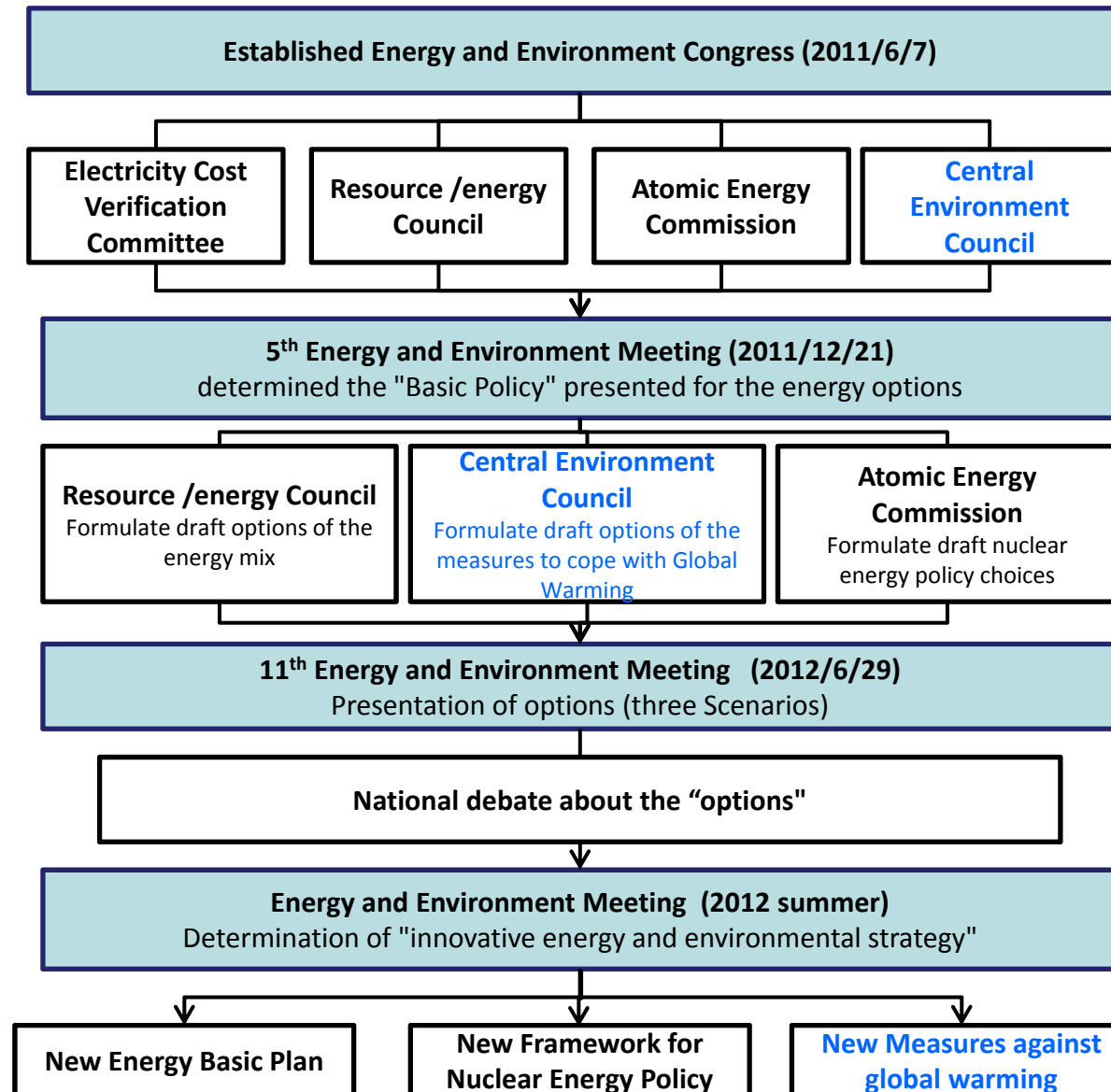


Fukushima No.1 nuclear power plant

Aerial Measuring Results
Joint US / Japan Survey Data



Innovative Energy /Environment Policy after Fukushima:
June 2012 – October 2012 (Nation-wide participatory process started)



Impact of Fukushima accident to policy on low-carbon policy

1. Decline of national interest in climate change. Nuclear energy is a single issue now
2. Option to decreasing nuclear power was addressed. Under such conditions, the potential reduction of CO2 emissions in Japan will be significantly reduced. (See table on right)
3. Energy-saving efforts under complete suspension of nuclear reactor increase the energy-related knowledge and awareness of the people. Increased participation in decision-making and radicalized energy-saving behaviour
4. Industrial expansion to renewable energy and energy systems. Activation of local initiatives
5. Now possible to strengthen energy conservation and renewable energy policy (such as FIT)
6. Planning of basic energy policy with scientific procedures to be carried out in public. [Consideration of options]

Potentials of CO2 reduction from 1990

Year	2020	2030	2050 target
Basic Law	25*	-	80
Conventional plan before Fukushima	15-25**	40**	80
Options after Fukushima	7-11**	23-25**	80 Fourth Basic Plan for Environmental

*Included absorption [about 3.5] + overseas procurement

**Only domestic reduction

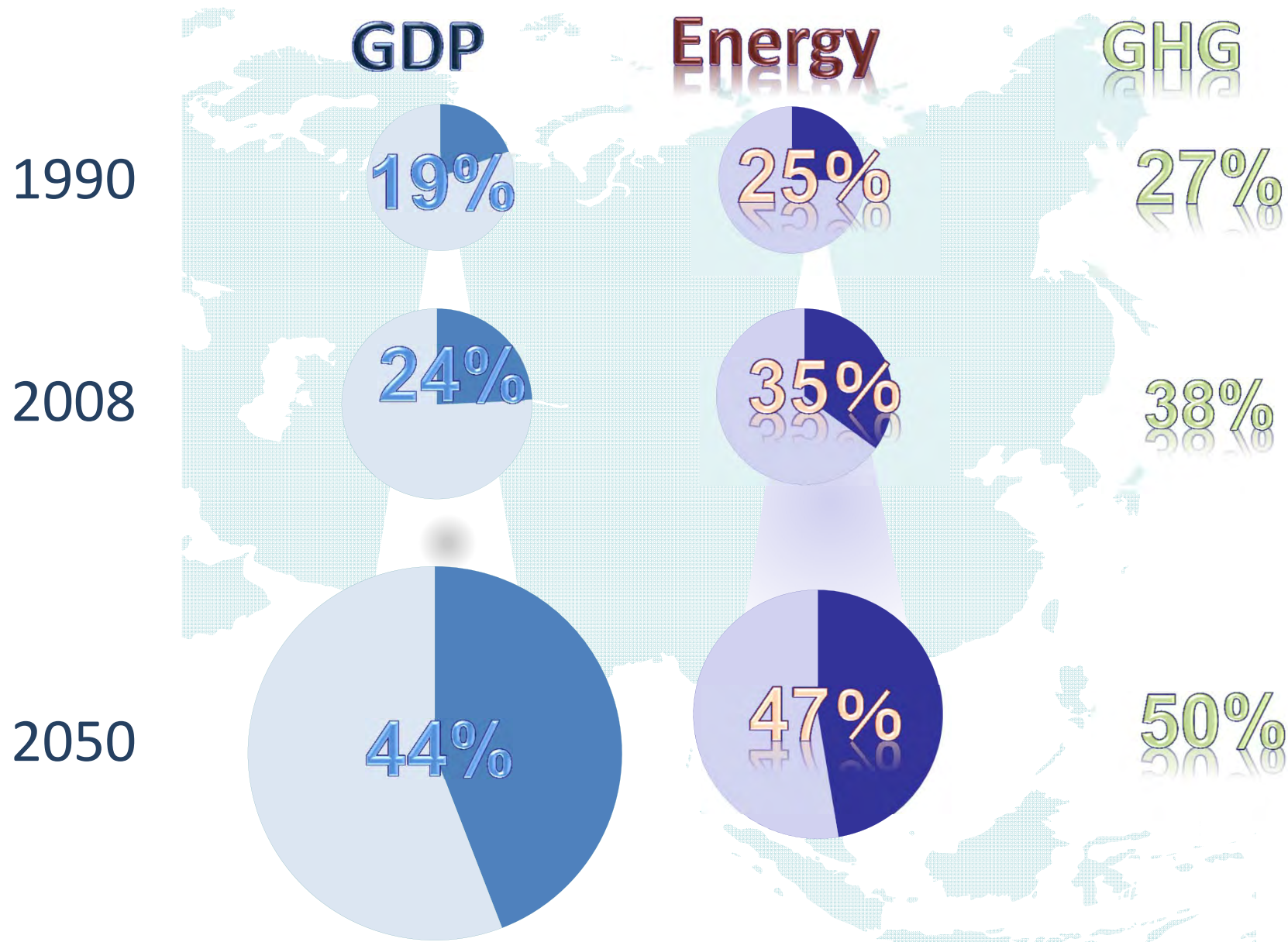
Need for policy transition:
 Review reduction targets and the plan
 Promotion of energy-saving and renewable energy and greening
 Fuel conversion [gas shift]
 Ensuring CO2 sinks
 Promotion JCM(Joint credit Mechanism)
 Promoting bilateral partnership with Asian countries

Examples of Brochures introducing Asian Low Carbon Scenarios

Communication and feedbacks of LCS study to real world

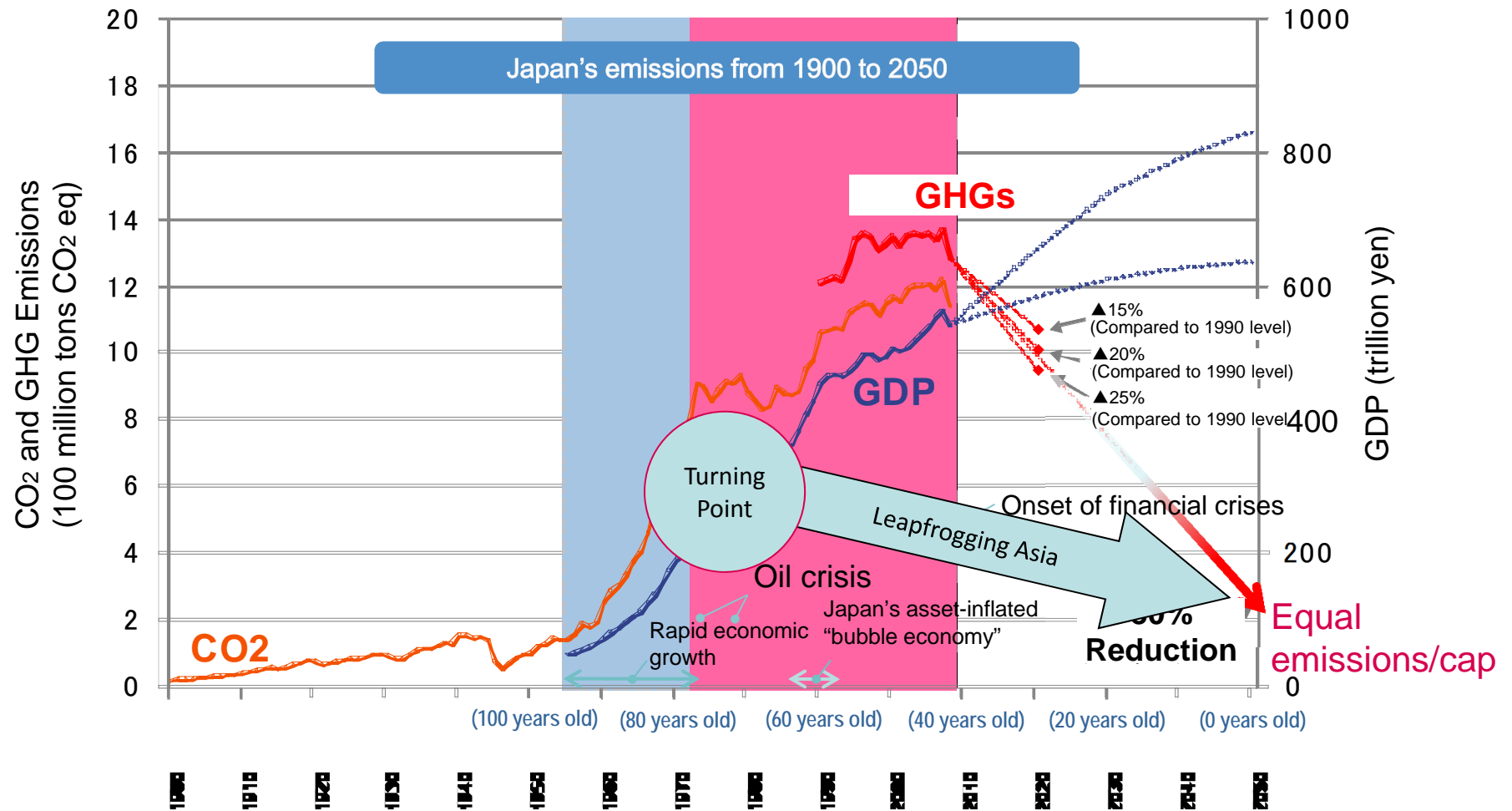


Growing importance of actions towards low-carbon development in Asia



Source: Presentation by Dr. Mikiko Kainuma (Nov. 2011)

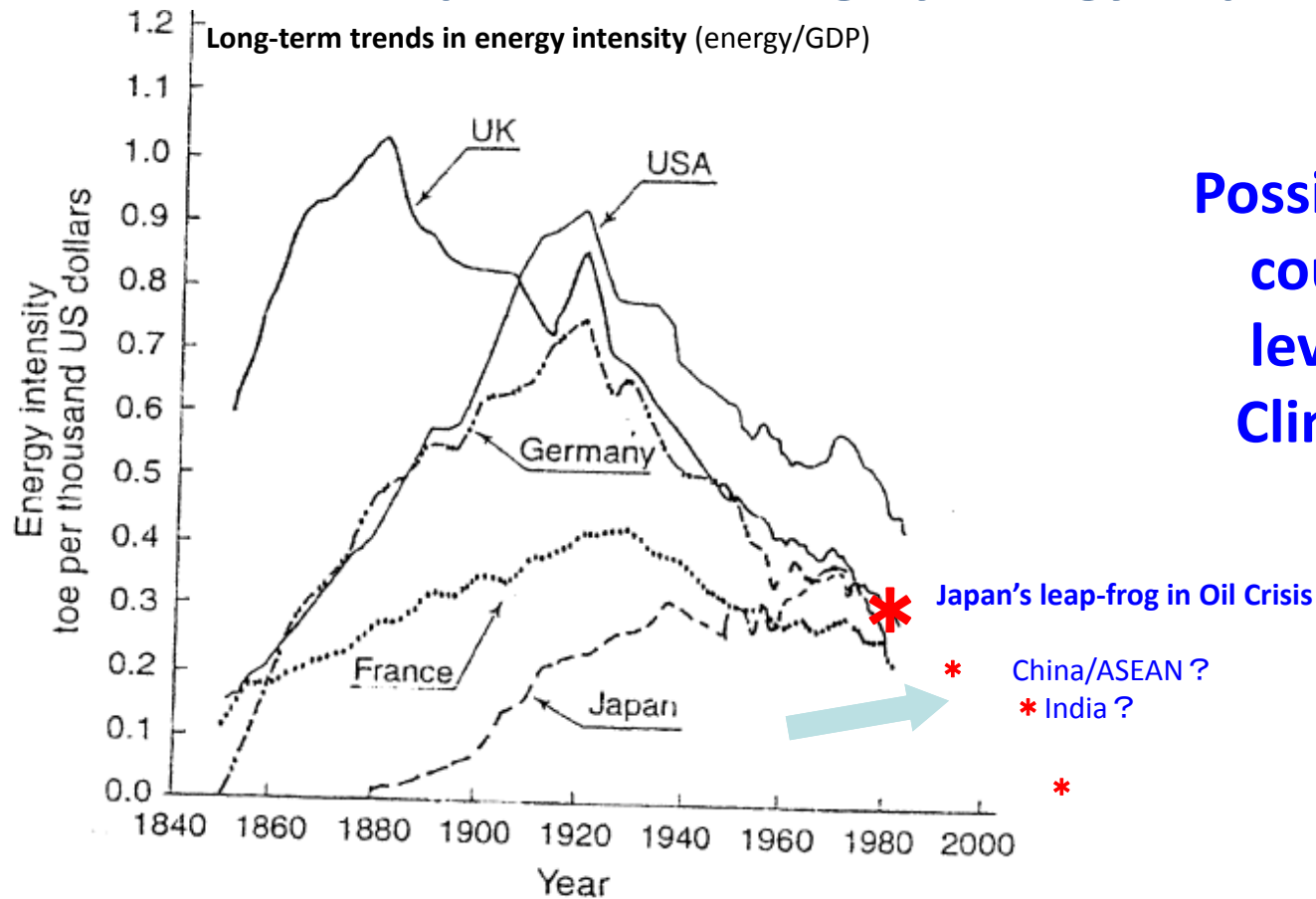
Different development path to low carbon world



Future GDP: Based on scenarios A and B from the NIES Low Carbon Society Research Project 2050¹⁴

Opportunities for Asia:

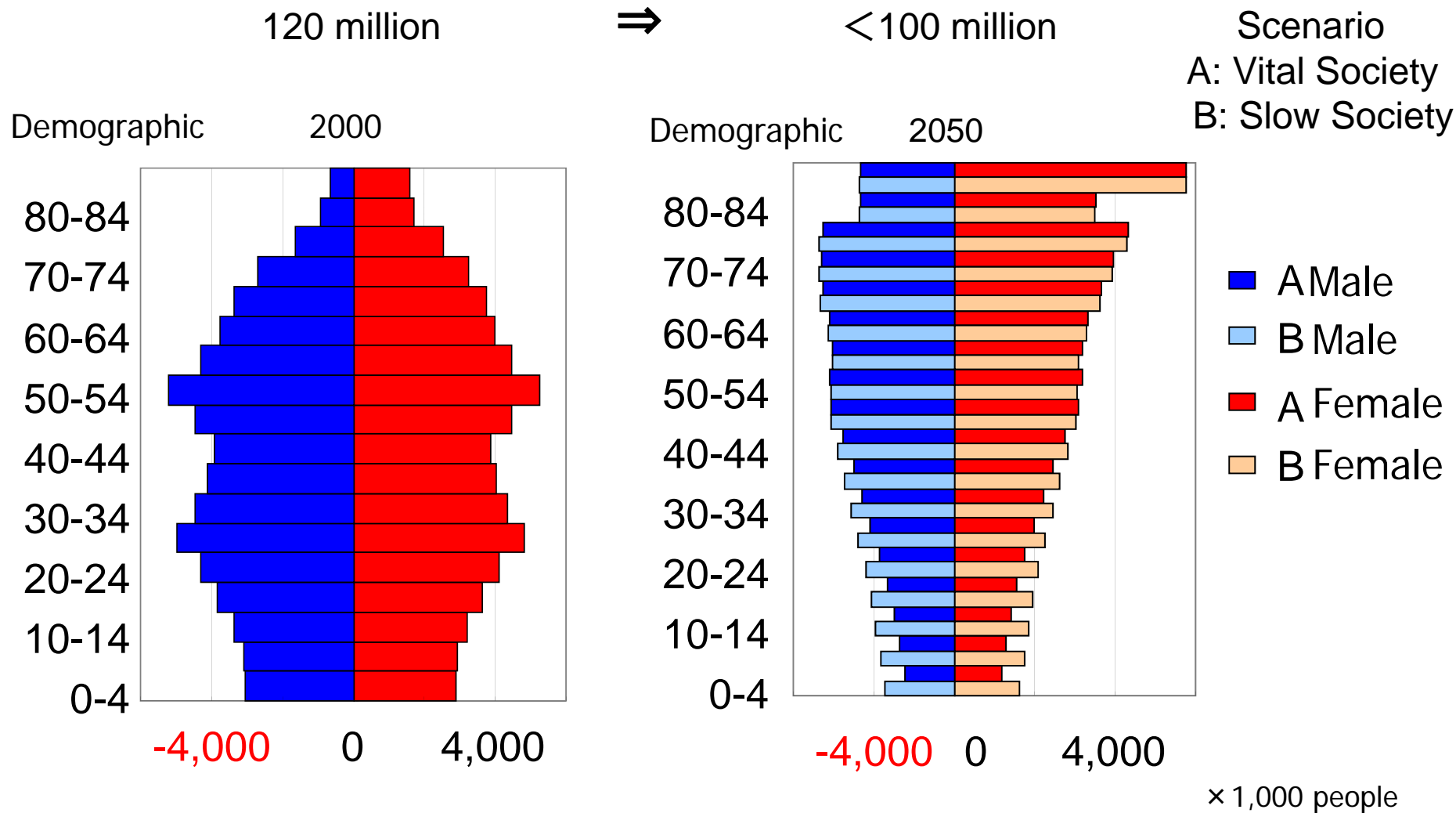
Freedom from past track of highly energy-dependent technologies



Possibility of Asian
countries' Leapfrog
leveraged by
Climate Change

- How can we facilitate technological leap-frogging to promote low carbon development?
- What kinds of mechanisms (international/national, market/non market) could facilitate leap-frogging to low carbon technologies?

Japan as the global front runner of aging societies



after 40 years : result of rapid infrastructure construction



*Now aged society
in problem*

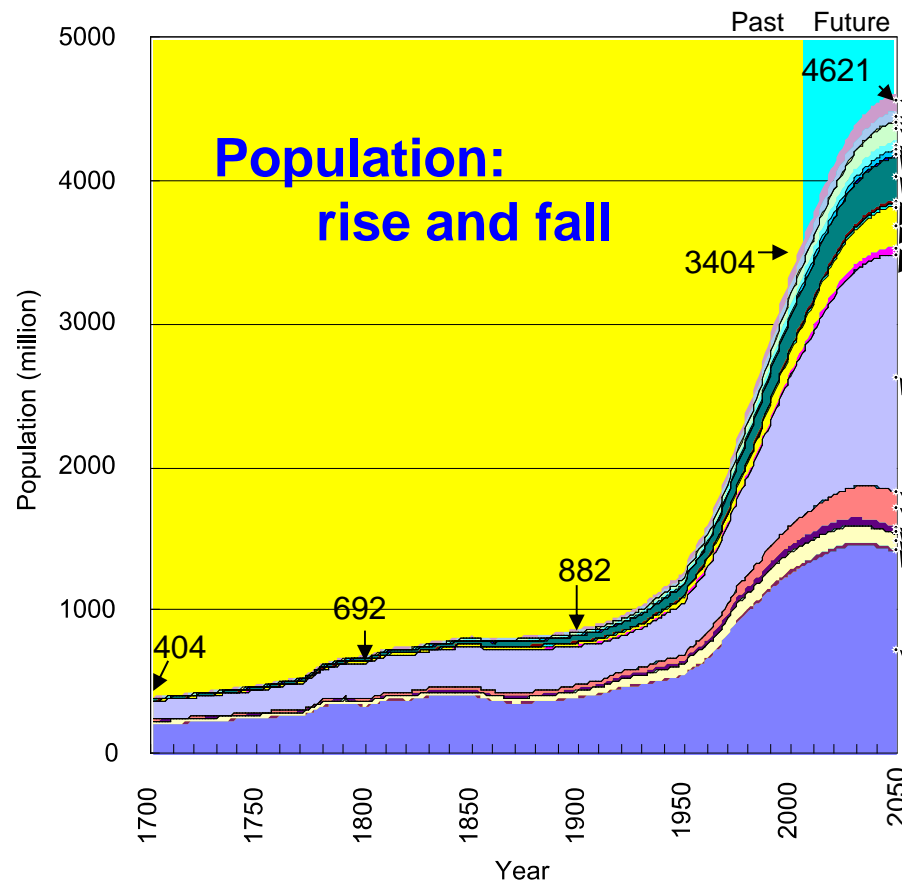
Future compact city



Source: Local Development WG team

Asia 40 years into the future

Population explosion will cease except in the South Asia region, while some countries' populations will begin to shrink



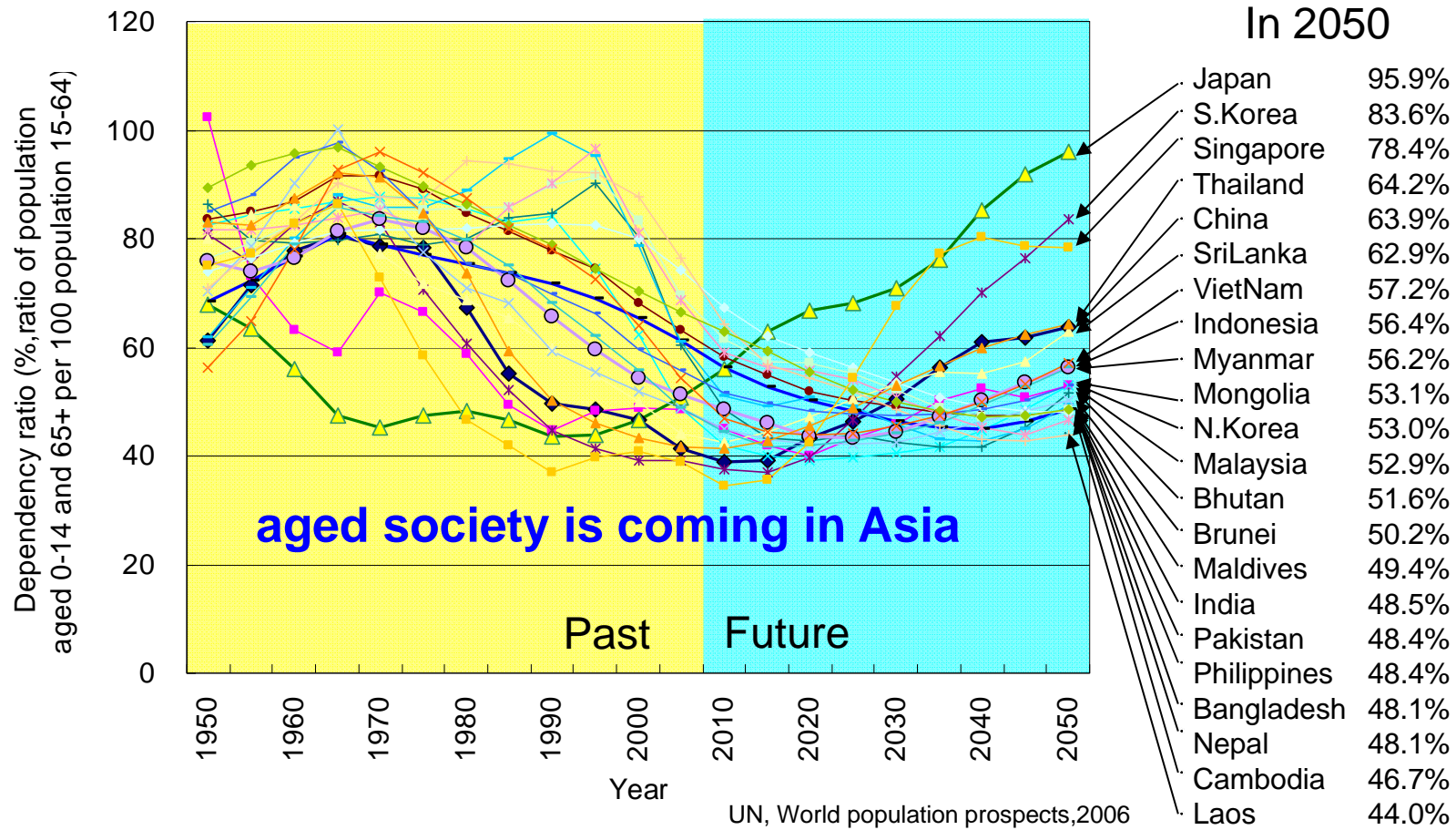
	2008	2050	ratio 2050/200	% in the region
VietNam	89,694	119,971	1.34	2.60
Thailand	64,732	67,376	1.04	1.46
Singapore	4,542	5,026	1.11	0.11
Philippines	91,332	140,466	1.54	3.04
Myanmar	49,640	58,709	1.18	1.27
Malaysia	27,476	39,631	1.44	0.86
Laos	6,068	9,290	1.53	0.20
Indonesia	237,002	296,885	1.25	6.42
Cambodia	14,957	25,114	1.68	0.54
Burunei	406	681	1.68	0.01
SriLanka	19,487	18,715	0.96	0.40
Pakistan	170,113	292,205	1.72	6.32
Nepal	29,325	51,891	1.77	1.12
Maldives	317	510	1.61	0.01
India	1,203,246	1,658,270	1.38	35.88
Bhutan	675	935	1.38	0.02
Bangladesh	163,970	254,084	1.55	5.50
S.Korea	48,538	42,327	0.87	0.92
Mongolia	2,680	3,388	1.26	0.07
Japan	127,868	102,511	0.80	2.22
N.Korea	23,941	24,666	1.03	0.53
China	1,343,933	1,408,846	1.05	30.48

(thousands)

Mitchell *International Historical Statistics* (2007)
and UN, *World population prospects* (2006)

and Asia: 40 years ahead

Dependency ratios of population will change drastically in next forty years



UN, World population prospects, 2006

Low Carbon Asia Research Network: LoCARNet

Researchers community dedicating to scientific policy making process towards Low Carbon World

Proposed at ASEAN+3 EMM in 2011
 by Government of Japan & IGES
 The 1st Meeting held in Bangkok, October 2012
 The 2nd Meeting held in Yokohama, July 2013



Rizaldi BOER
Indonesia

Bundit LIMMEECHOKC
HAI
Thailand

Jiang KEJUN
China

Ho Chin SIONG
Malaysia

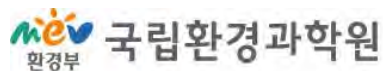
Sirintornthep TOWPRAYOO
N
Thailand

Mikiko Kainuma
Japan

Hak MAO
Cambodia

Hiroshi Tsujihara
Japan

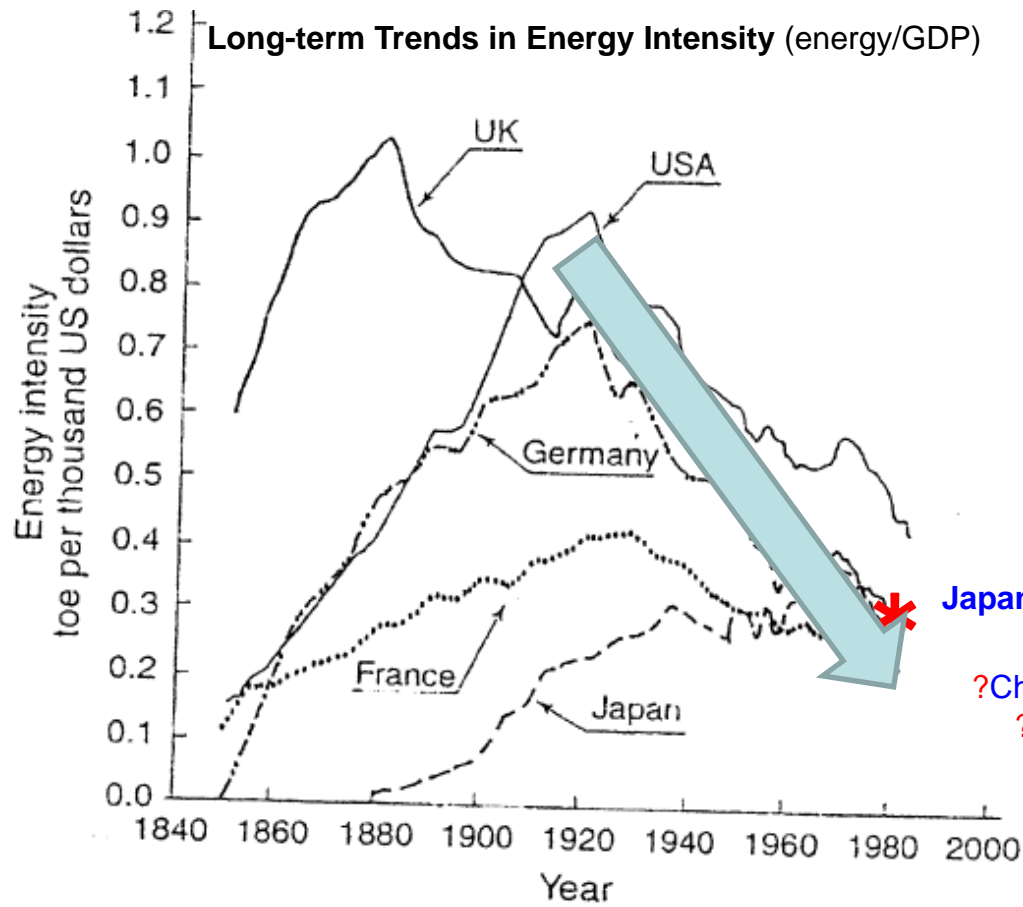
P.R. Shukla



LoCARNet - Activities and Uniqueness

- **Network of leading researchers/research organisations** who are deeply involved in low-carbon growth policy processes in this region.
- **Science-Science-Policy Dialogue**: LoCARNet promotes research for policies towards low-carbon growth by enabling a sufficient amount of dialogue among/between scientists and policy-makers.
- **Ownership of knowledge by countries**: LoCARNet encourages collaboration amongst researchers in-country whose research capacity and scientific knowledge are firmly grounded in their home countries.
- **Regional Collaboration**: LoCARNet aims to increase in research capacity in the AP region through knowledge sharing and information

Learning Curve of Human Wisdom



Japan's leap-frog

?China
?India

Possibility of Asian
countries' catch-up
in Climate crisis

Thank you very much for your attention.



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