

Promotion of the 3Rs in Asia

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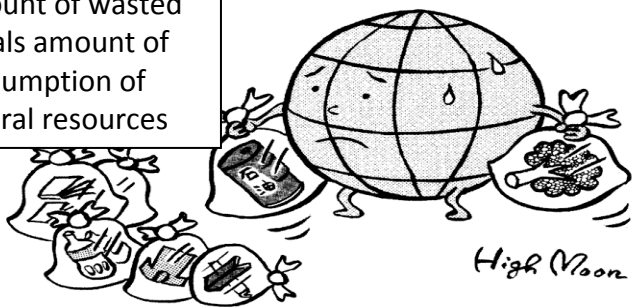
Changing Society

(20th Century)

Mass consumption society

- ◆ Mass production, Mass consumption, Mass disposal
- ◆ Parallel Growth of economic development and wastes disposal

Amount of wasted equals amount of consumption of natural resources

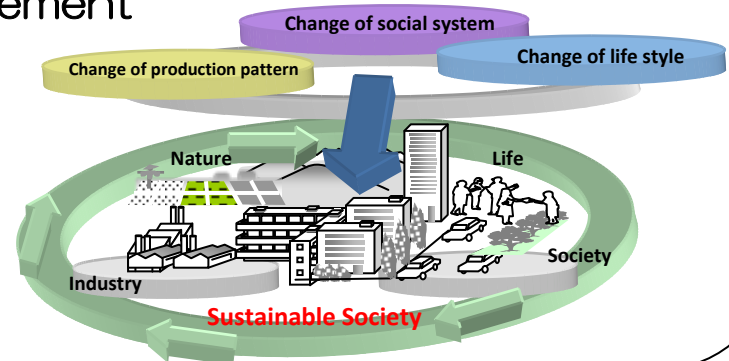


- Increase of environmental pressure
- Growing consumption of natural resources

(21st Century)

Sound Material-cycle society

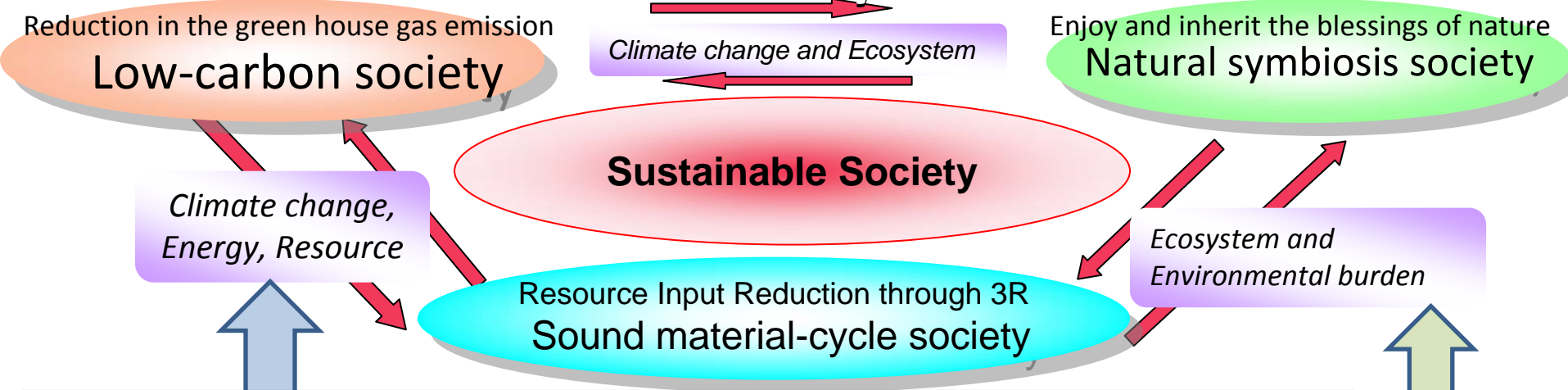
- ◆ Integration of environment, economy and society
- ◆ De-coupling economic development and wastes generation
- ◆ Promotion of 3R and sound waste management



- Reduction of environmental pressure
- Reduction of consumption of natural resources
- Green Growth/ Green New Deal

Integrated approach for establishing Sustainable

Society



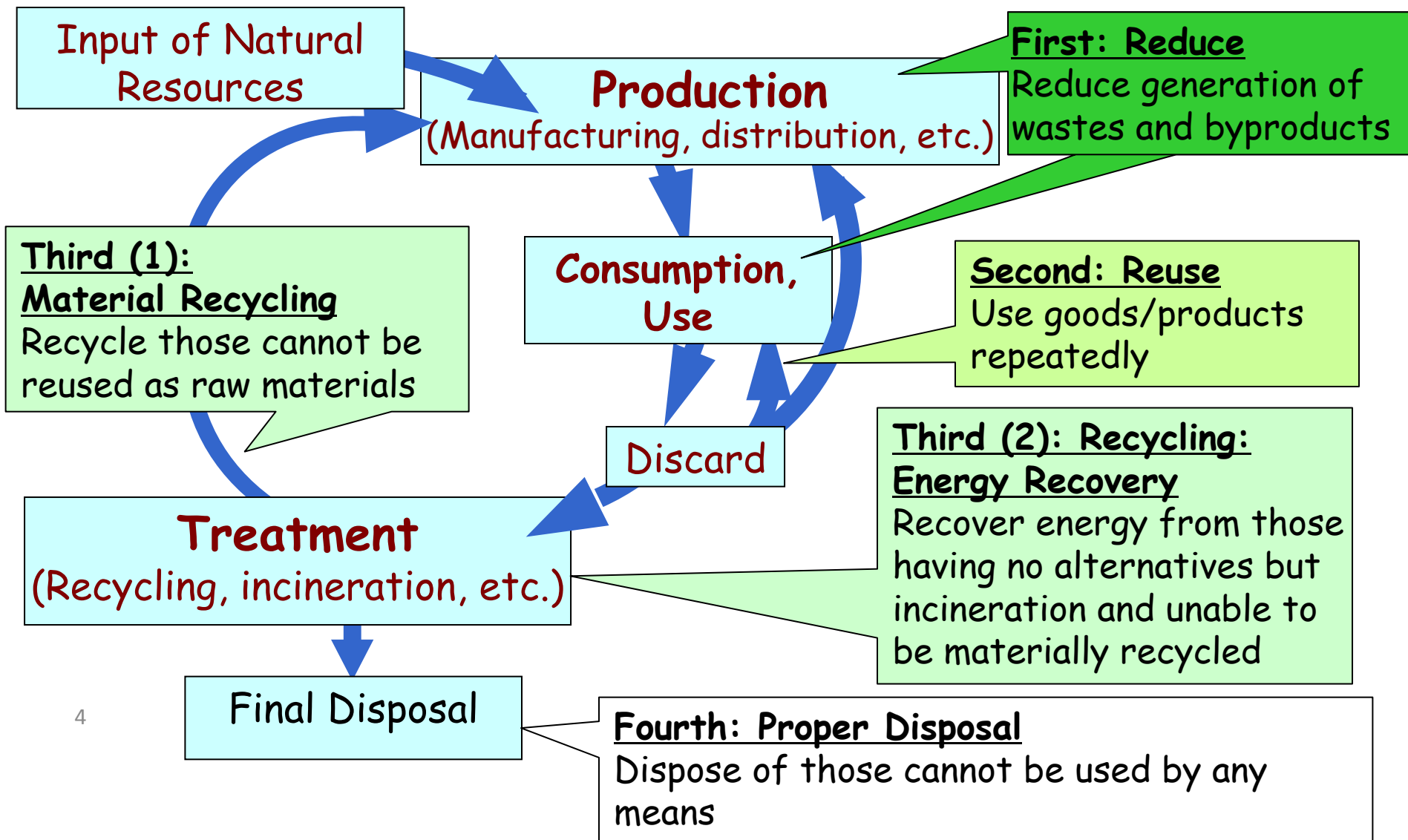
○ Integrated approach to the sound material-cycle society and low-carbon society

- ✓ Improvement of land fill site with the collection of methane
- ✓ Separate collection and composting of organic wastes
- ✓ Strengthen the thermal recovery by waste power generation etc.
- ✓ Reduction of input of natural resources by promotion of 3R

○ Integrated approach to the sound material-cycle society and natural symbiosis society

- ✓ Restrain the new natural resource extraction, by promoting the prolonged utilization of housing and infrastructure.
- ✓ Promote the sustainable use of recyclable resource, considering the conservation of biodiversity.

Concept of a Sound Material-Cycle Society in Japan



1. Policies towards establishing a Sound Material-Cycle Society in Japan

Legislative Framework to Establish a Sound Material-Cycle Society

Fundamental Environmental Law 1994. 8

**Fundamental Law for Establishing a Sound
Material-Cycle Society** 2001. 1

(Establishment of General Systems)

**Waste Management and
Public Cleansing Law**

**Law for Promotion of Effective
Utilization of Resources**

(Regulations according to the Characteristics of Respective Items)

**Container and
Packaging
Recycling Law**

2000. 4

Glass containers,
PET bottles, Paper
and plastic
containers and
wrapping and
others

**Home
Appliances
Recycling Law**

2001. 4

Air conditioner,
refrigerator and freezer,
CRT-TV, and washing
machine

※LCD-TV, Plasma display TV, and
Machine Clothes Dryer are now
under consideration to be added.

**Construction
Materials
Recycling Law**

2002. 5

Waste wood,
concrete, asphalt

**Food
Wastes
Recycling
Law**

2001. 5

[Food waste]

※Partially revised in
2007 to introduce the
concept of recycle loop.

**End-of-life
Vehicles
Recycling Law**

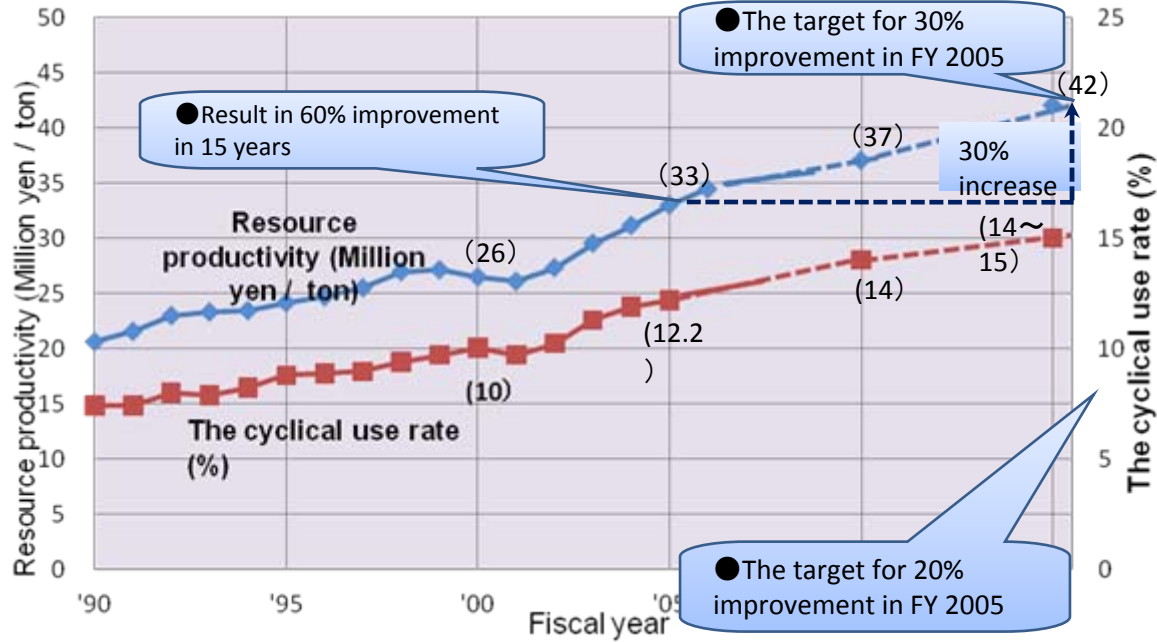
2005. 1

[Automobiles]

Law on Promoting Green Purchasing

Material flow indicators: Indices to set a target

Resource productivity & The cyclical use rate

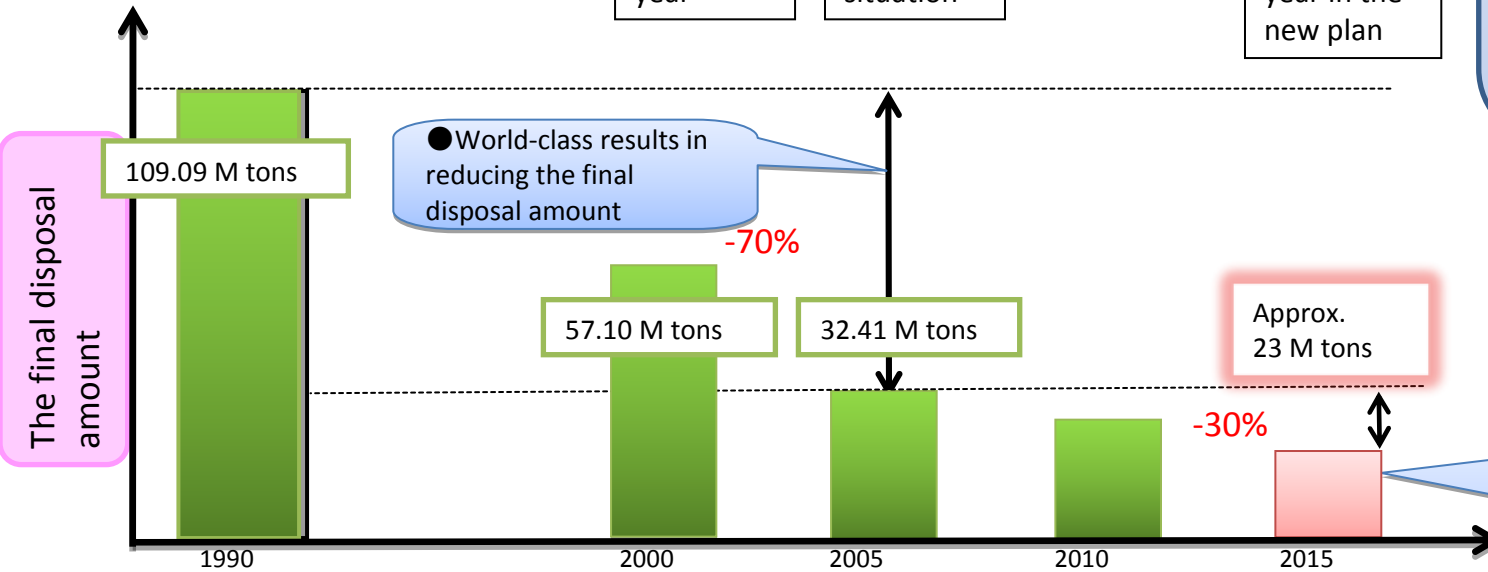


The 2nd Plan

In FY 2000 → In FY 2015

- Resource productivity 26 million yen per ton → 42 million yen per ton (about 60% improvement)
- The cyclical use rate 10% → 14~15% (about 40~50% improvement)
- The Final disposal 5.700 million ton → 2.300 million ton (60% reduction)

The base year Current situation The target year in the new plan



Market scale of 3R business in Japan

	Business examples	Market (trillion yen)		Employment (thousand people)	
		2000	2006	2000	2006
Supply of machinery, equipment and plants	<ul style="list-style-type: none"> • Intermediate treatment plants • Melting equipment • Oil manufacturing facilities from plastics • Composting equipment • Construction of final disposal sites 	0.8	0.5	2	7
Supply of services	<ul style="list-style-type: none"> • Waste treatment • Resource recovery • Recycling 	28	32	195	140
Supply of materials, consumer goods	<ul style="list-style-type: none"> • Reclaimed oil from plastics • PET-recycled fiber • Products made of timber from forest-thinning • Recycled products (e.g. scrap metals, recycled paper) • Refillable products • Repairs of machinery, furniture 	170	260	332	486
Total of 3R business		205	297	529	633
Total of all eco-business		41	69	1,060	1,300

Eco Town

Eco Town:

- an eco-investment program in major industrial estates in which recycling business are operated for implementation of sectoral recycling laws and regulations.
- Central government provides subsidies to private sectors for construction of recycling plants.

*METI: Subsidy to Eco Town by the Ministry of Energy, Trade and Industry (METI)
 METI-NEW: Subsidy to New Energy by the METI
 MoE: Subsidy to Eco Town by the Ministry of the Environment (MoE)
 MoE-WTF: Subsidy to Waste Treatment Facilities Development by the MoE
 Source: Ministry of the Environment, Ministry of Energy, Trade and Industry

26 areas as of December 2008

- Yokkaichi City, Mie Pref. [Approved on 16 Sep. 2005]
 - Advanced utilization and recycling facility for waste plastic (METI)
- Suzuka City, Mie Pref. [Approved on 29 Oct. 2004]
 - Composting facility for paining sludge (METI)
- Osaka Pref. [Approved on 28 July 2005]
 - Waste recycling facility using subcritical water reaction (MoE)
- Okayama Pref. [Approved on 29 March 2004]
 - Recycling facility for wood based waste (carbonization) (METI)
- Hiroshima Pref. [Approved on 13 Dec. 2000]
 - RDF power generation, facility for melting ash (METI-NEW, MoE-WTF)
 - Recycling facility for polyester blended fabric (METI)
- Yamaguchi Pref. [Approved on 29 May 2001]
 - Facility to convert incineration ash into cement raw material (METI)
- Kitakyushu City [Approved on 10 July 1997]
 - Recycling facility for PET bottles (METI)
 - Recycling facility for home electric appliances (METI)
 - Recycling facility for office automation equipment (METI)
 - Recycling facility for automobiles (METI)
 - Recycling facility for fluorescent tubes (METI)
 - Manufacturing facility for construction materials from waste timber and plastic (METI)
 - Manufacturing facility for foam retardants used in iron manufacture (METI)

- Akita Pref. [Approved on 12 Nov. 1999]
 - Recycling facility for home electric appliances (METI)
 - Collection facility of non-ferrous metals (METI)
 - Manufacturing facility of new construction materials from waste plastic (METI)
 - Recycling facility for coal ash and waste plastic (METI)
- Iida City, Nagano Pref. [Approved on 10 July 1997]
 - Recycling facility for PET bottles (METI)
 - Recycling facility for waste paper (METI)
- Toyama City, Toyama Pref. [Approved on 17 May, 2002]
 - Recycling facility for hybrid type waste plastic (METI)
 - Recycling facility for wood based waste (MoE)
 - Waste synthetic rubber high-value added recycling facility (METI)
 - Recycling facility for hard-to-treat fiber and mixed waste plastic (METI)

- Sapporo City [Approved on 10 Sep. 1993]
 - Recycling facility for waste PET bottles (manufacture of flakes and sheets) (METI)
 - Oil producing facility from waste plastic (METI)
- Hokkaido Pref. [Approved on 30 Jun. 2000]
 - Recycling facility for home electric appliances (METI)
 - Recycling facility for paper containers and packages (METI)

- Aomori Pref. [Approved on 25 Dec. 2002]
 - Recycling facility for incineration ash and scallop seashell (METI)
 - Recycling facility for fishery processing waste (METI)
- Kamaishi City, Iwate Pref. [Approved on 13 Aug. 2004]
 - Recycling facility for fishery processing waste (METI)
- Utsunomiya City (present Kurihara City), Miyagi Pref. [Approved on 12 Nov. 1999]
 - Recycling facility for home electric appliances (METI)

- Tokyo [Approved on 27 Oct. 2003]
 - Advanced selection recycling facility for construction mixed waste (MoE)

- Chiba City, Chiba Pref. [Approved on 25 Jan. 1999]
 - Eco-friendly cement manufacturing facility (METI)
 - Direct fusion facility (MoE-WTF)
 - Methane fermentation gasification facility (MoE)
 - Recycling facility for waste timber and waste plastic (METI)
 - Recycling facility for high purity metal and plastic (METI)
 - Seashell recycling facility (METI)
 - Vinyl chloride resin recycling facility (MoE)
 - Recycling facility for waste interior construction materials (METI)

- Gifu Pref. [Approved on 10 July 1997]
 - Recycling facility for waste tires and rubbers (METI)
 - Recycling facility for PET bottles (METI)
 - Recycling facility for waste plastic (manufacture of pellets) (METI)
 - Recycling facility for waste plastic (product manufacturing) (METI)

- Kawasaki City [Approved on 10 July 1997]
 - Waste plastic blast furnace recycling facility (METI)
 - Recycling facility for hard-to-treat waste paper (METI)
 - Manufacturing facility for concrete frame panels from waste plastic (METI)
 - Manufacturing facility for ammonia material from waste plastic (METI)
 - PET-to-PET recycling facility (METI)

- Aichi Pref. [Approved on 28 Sept 2004]
 - Nickel recycling facility (METI)
 - Manufacturing facility for low environmental load and high-value added mat (METI)
 - Recycling facility for rubber waste rubber material (unvulcanized waste rubber)

- Hyogo Pref. [Approved on 25 April 2003]
 - Recycling facility for gasifying waste tires (MoE)

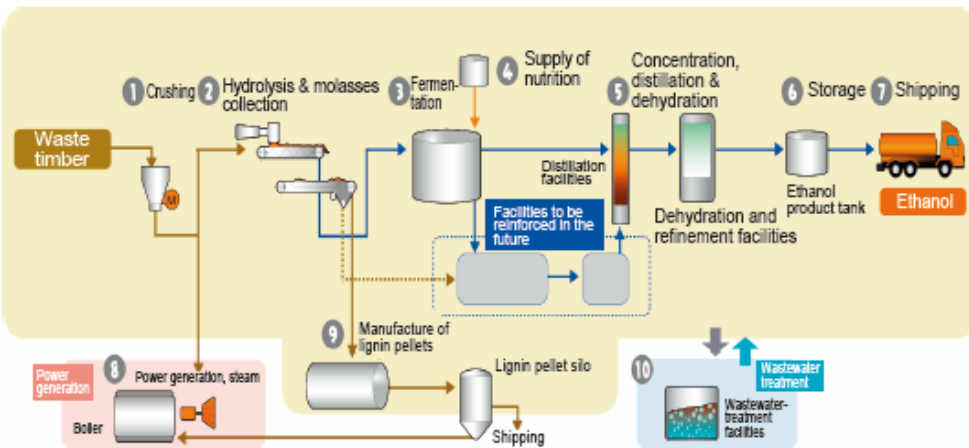
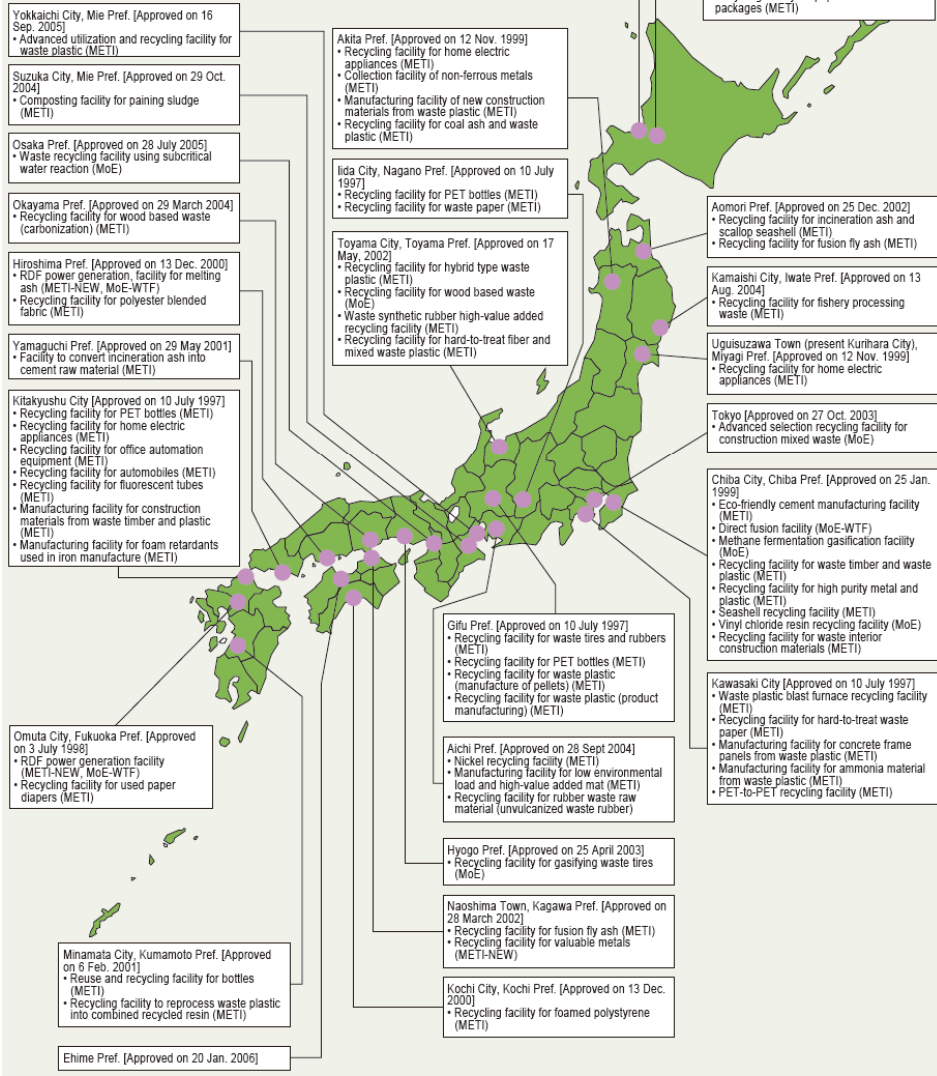
- Naoshima Town, Kagawa Pref. [Approved on 28 March 2002]
 - Recycling facility for fusion fly ash (METI)
 - Recycling facility for valuable metals (METI-NEW)

- Kochi City, Kochi Pref. [Approved on 13 Dec. 2000]
 - Recycling facility for foamed polystyrene (METI)

- Omuta City, Fukuoka Pref. [Approved on 3 July 1998]
 - RDF power generation facility (METI-NEW, MoE-WTF)
 - Recycling facility for used paper diapers (METI)

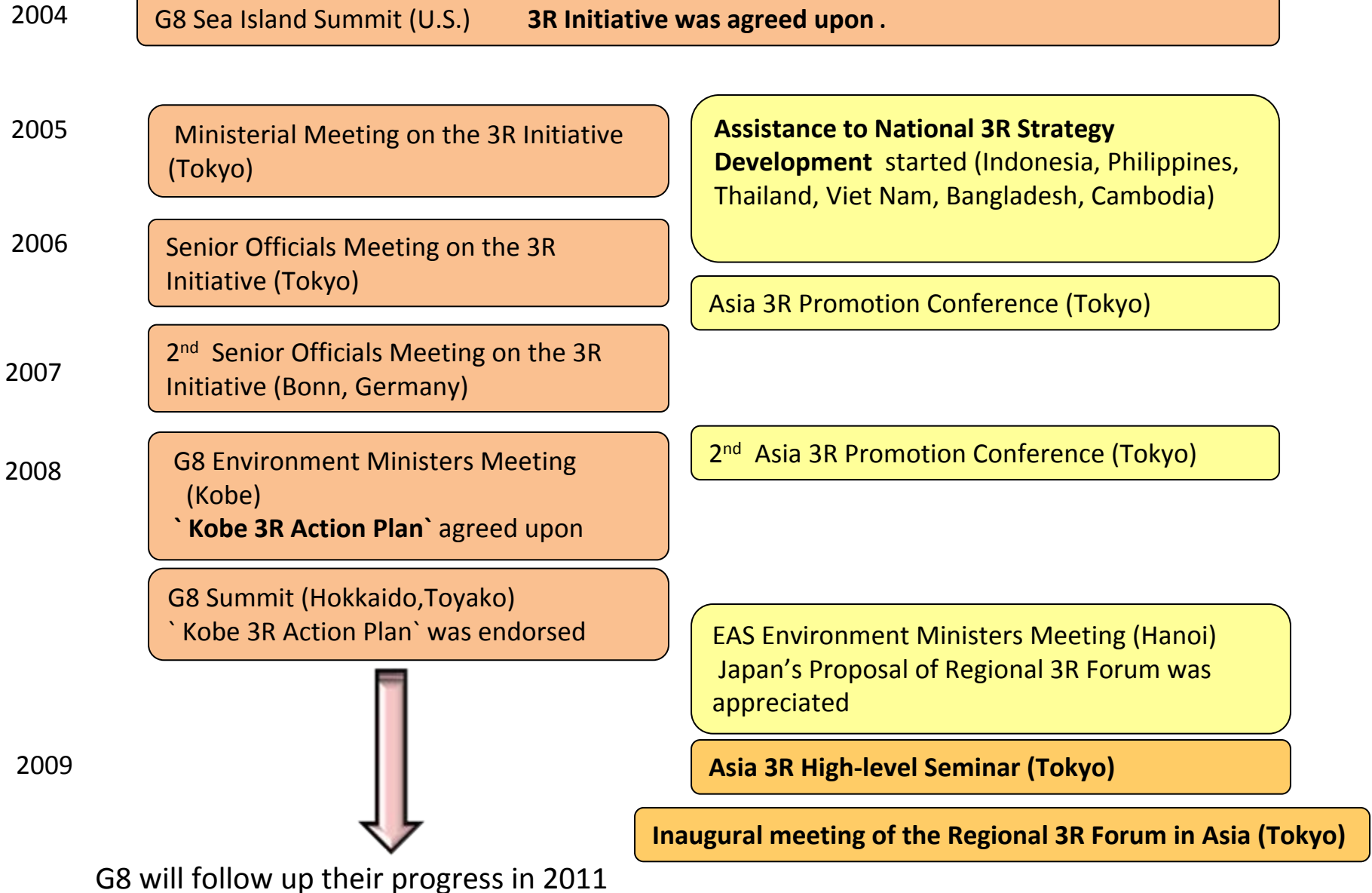
- Minamata City, Kumamoto Pref. [Approved on 8 Feb. 2001]
 - Reuse and recycling facility for bottles (METI)
 - Recycling facility to reprocess waste plastic into combined recycled resin (METI)

- Ehime Pref. [Approved on 20 Jan. 2006]



**2. Promotion of 3Rs in Asia
and
Establishment of
'Regional 3R Forum in Asia'**

Japan's Initiative for 3Rs



KOBE 3R Action Plan(Digest)

- G8 agreed to this action plan at environment minister meeting in Kobe in 2008
- G8 endorsed this action plan at Hokkaido Toyako Summit in 2008
- Each G8 country is to take concrete actions towards three GOALS.

<Goal 1> Prioritize 3Rs Policies and Improve Resource Productivity

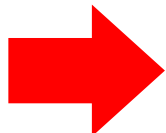
- Share the importance of the spirit of *mottainai*.
- Give high priority to waste reduction (Reducing the use of disposable plastic bags etc.), calling for other countries to follow suit.
- set targets as appropriate taking account of resource productivity.
- Seek co-benefits for preventing GHG emissions through e.g. promoting reduced land-filling of organic matter.

<Goal 2> Establishment of an International Sound Material-Cycle Society

- Place high priority on the promotion of environmentally sound management within each country (incl. developing countries), Work to prevent illegal transboundary movements of recyclables (as wastes or non-wastes) . Facilitate the 3Rs-related international trade.
- Facilitate the import of hazardous wastes from developing countries to G8 and other developed countries.

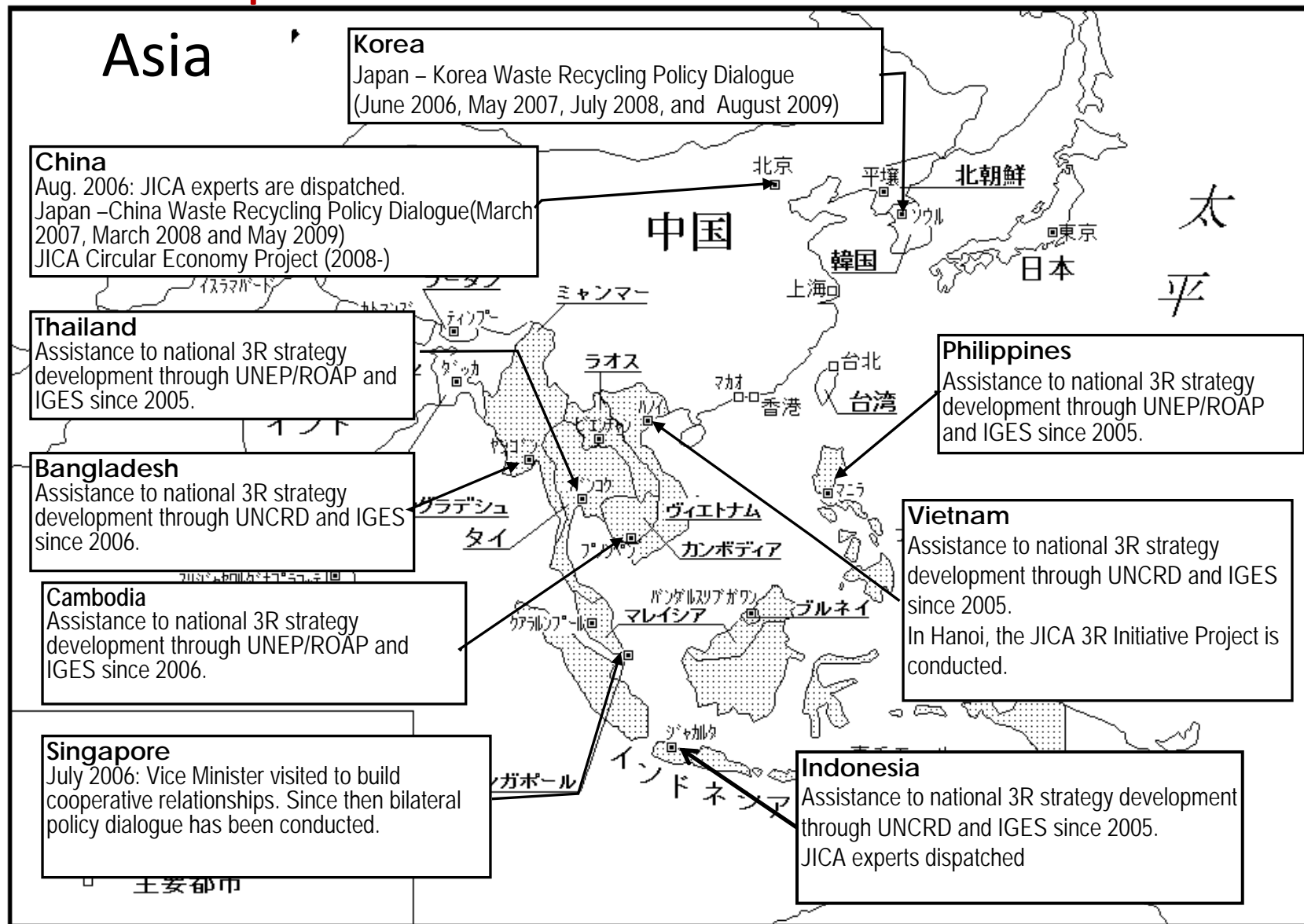
<Goal 3> Collaborate for 3Rs Capacity Development in Developing Countries

- Request that aid agencies reflect the concept of the 3Rs in development projects, support the capacity building in developing countries under the Basel Convention, seek co-benefits by utilizing CDM.
- Promote the technology transfer , enhance knowledge and research networks for the 3R Initiative
- Develop strategies to increase the involvement of the business community, including small and medium-sized enterprises.



Follow-up on G8 Activities Based on the Action Plan

Japan's Bilateral Activities for 3Rs



• Technical assistance for sound waste management are being provided for some Pacific Islands states. Also in Mexico JICA supports the development of national 3R program since 2007.

Promotion of the 3Rs in Asia

Establish a Sound Material Cycle Society in Asian region as a Win-Win solution

Policy Dialogues in Asia

Asia 3R Conference

Supporting national 3R strategies development in Asian countries

Collaborate with UNCRD and UNEP in some Asian countries

Regional Forum on Environment and Health

Thematic Working Group on Solid and Hazardous Waste

Development of Information and Knowledge Hub and Research Networks

- Support establishing 3R Knowledge Hub
- Support Society of Solid Waste Management Experts in Asia-Pacific Islands

Disseminate Japan's experience

Published a report summarizing Japan's experience in waste and recycling resources

Prevention of illegal export and import

- Asian network for the prevention of illegal export and import of hazardous wastes
- Formulating international guidelines to ensure appropriate export and import

E-waste measures

- Implemented regional action plans for e-waste appropriate management in Asia and Pacific.
- Constructing appropriate used goods recycling systems in Asia.

UNEP, ESCAP, UNCRD, Basel Convention, ADB, IGES, APN

3. The Regional 3R Forum in Asia

Significance of Regional 3R Forum in Asia

Waste problems in Asia

Increasing amount and diversity of waste

Rising prices of resources

Increasing transboundary movement of wastes and circular resources

Seeking measures on global warming

Approach

Actions in the stages of production and consumption not only waste treatment

Improvement of resource efficiency
Expansion of usage of wastes as circular resources

Collaborative international actions

Improvement of energy efficiency
Co-benefit approach

Promotion of 3R (Reduce, Reuse, Recycle) and sound waste management
⇒ Efficient use of resources and reduction of environmental impact

- Prioritizing 3R and waste management policies
- Practical actions on 3R
- Involving various stakeholders

Governments
International Organizations
Aid agencies
Private companies

Proposal of Regional 3R Forum in Asia

Japan proposed the establishment of 'Regional 3R Forum in Asia' as a new open platform for regional cooperation at the first East Asia Summit Environment Ministers Meeting, in Hanoi, Viet Nam in October 2008.

Supported by Participants

- Asia 3R High-level Seminar (Tokyo, March 2009)
- Preparatory Meeting for the Inaugural Meeting of the Regional 3R Forum in Asia(Tokyo, June 2009)

Establishment of Regional 3R Forum in Asia

Inaugural Meeting of the Regional 3R Forum in Asia

Organizer: Ministry of the Environment of Japan and United Nations Center for Regional Development (UNCRD)

Date and Place: 11–12 November 2009, Tokyo

Participants: 15 Asian countries, 16 International organizations and experts

Output: ▪ "THE TOKYO 3R STATEMENT" was agreed

- Hold high level policy dialogue regularly
- Support for 3R projects in developing countries by international organizations and aid agencies
- Share best practices on 3R and technology information
- Next meeting will be held in Malaysia next year



Goal of Regional 3R Forum in Asia

- Achieve “low carbon and sound material cycle societies in Asia” through:
- Facilitating bilateral and multilateral cooperation for:
 - increasing resource and energy efficiency through the 3Rs
 - promoting environmentally sound management of wastes in the region
 - Capacity building and institutional development in the respective country

Future activity of Regional 3R Forum in Asia

- International cooperation for better environmental governance of the region
- Facilitation of business opportunities for the 3Rs in Asia
- Awareness raising among industrial sector and citizens
- Identification of necessary actions and steps for appropriate implementation of the environmentally sound management of waste and 3R
- Capacity building of developing countries to implement 3Rs in cooperation with international organizations and aid agencies
- Dissemination of 3R-related good practices around the region through demonstration projects