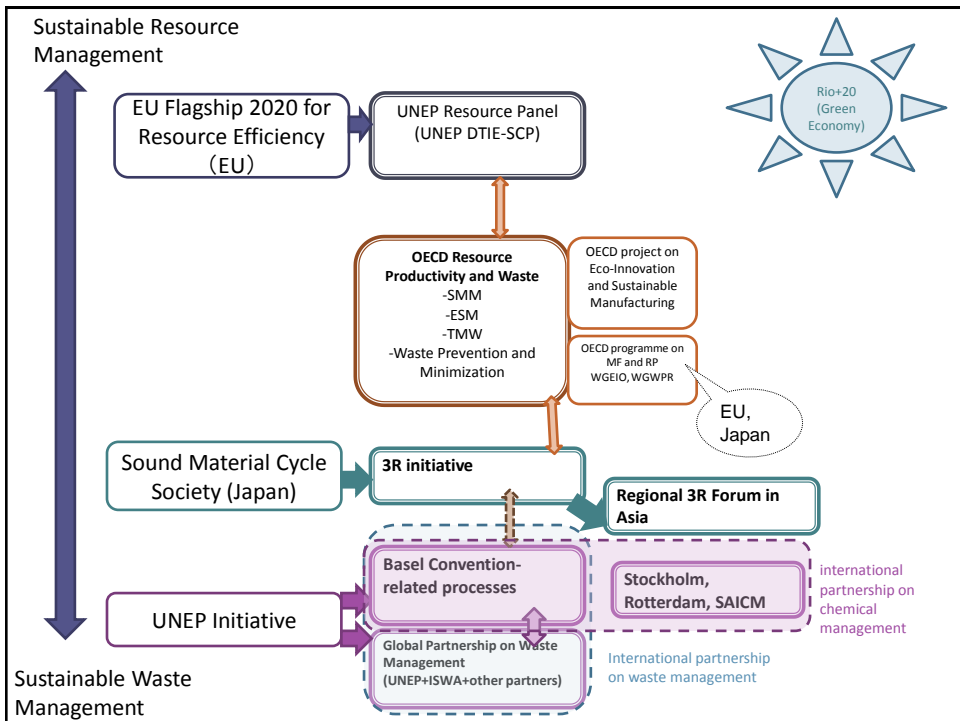




# Resource Efficiency Policies in Japan

Yasuhiko Hotta, PhD  
Sustainable Consumption and Production Group  
Institute for Global Environmental Strategies



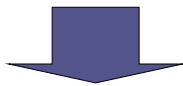
## 1 Overview

- Increasing eco-efficiency (both energy and resource efficiency) has been a key motivation of Japan's environmental and sustainable strategy.
- This is based on its successful experience in preventing pollution and achieving energy efficiency in the 1970s.
- Through the concept of *Sound Material-Cycle Society*, the idea of increasing efficiency and productivity was highlighted in Japan's waste management and recycling policies in the 1990s.
- Since 2003, Japan has introduced MFA-based indicators to monitor the progress in its national effort for establishing Sound Material-Cycle Society.

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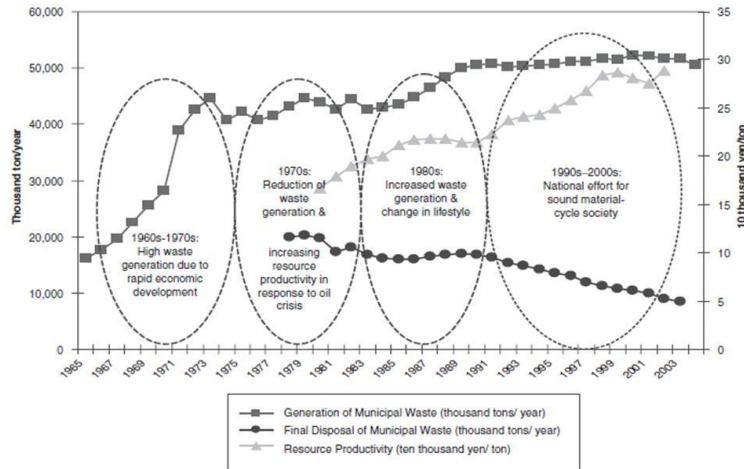
## 2 Waste issues becomes social structural problems in the 1990s

- 1980s "Bubble Economy" → Increase in consumption, throw-away products, and rapid urbanization



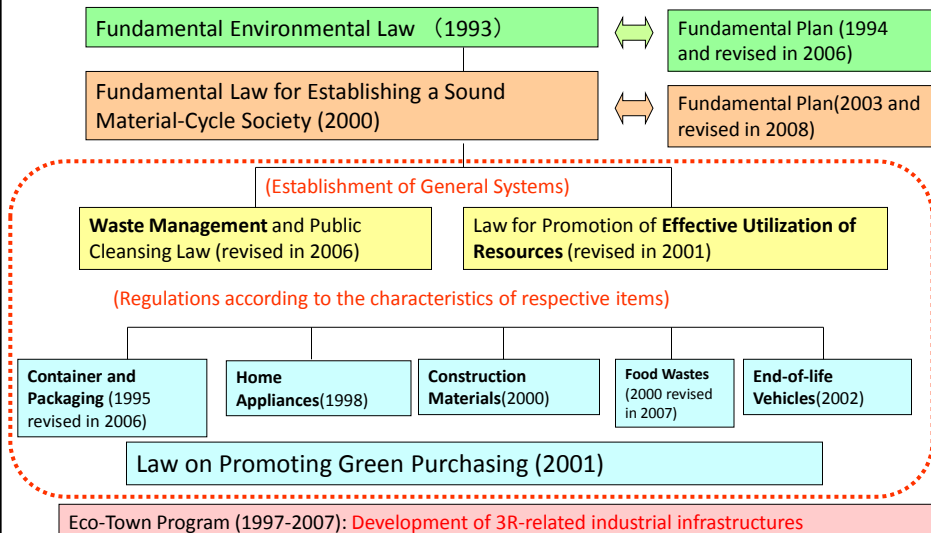
- High waste generation amount every year.
- Difficulty in building final disposal site due to increasing awareness of citizens.
- Increase in case of illegal dumping due to increasing disposal cost.
- Dioxin issues from waste incineration facilities.

### 3 Waste Disposal and Resource Productivity in Japan (1965-2004)



Source: Compiled by authors. Data on generation of municipal waste, final disposal of municipal waste, and resource productivity are based on Ministry of the Environment of Japan's Kankyō Toukei Shū (Environmental Statistics Database: <http://www.env.go.jp/doc/toukei/index.html>).  
 Source: Hotta et al. (2008), "Policy Considerations for Establishing an Environmentally Sound Regional Material Flow in East Asia". *Journal of Environment & Development*, Mar2008, Vol. 17 Issue 1. p26-50

### 4 Japan's Policy Framework for Sound Material Cycle Society

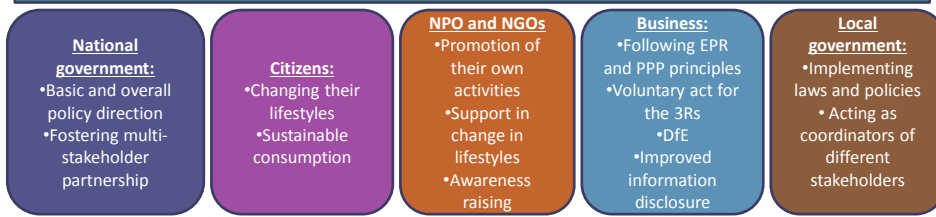


Source: Modification of Y. Moriguchi(2006), "Establishing a Sound Material Cycle Society in Asia" a presentation at Asia 3R Conference, October 30<sup>th</sup> –November 1<sup>st</sup>, 2006, Tokyo, Japan

## 5 Fundamental Plan for Establishing a Sound Material Cycle Society (1<sup>st</sup> Plan 2003-2008 and 2<sup>nd</sup> Plan 2008-2013)

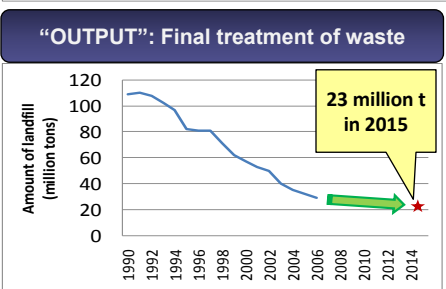
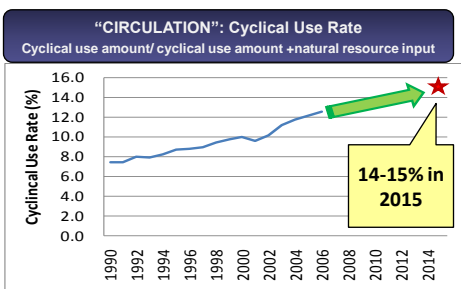
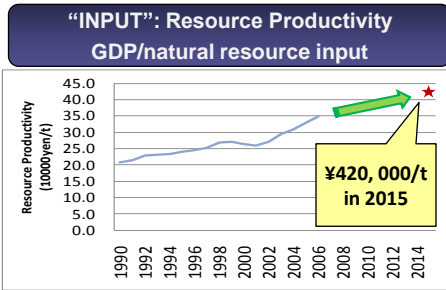
- Fundamental Plan **sets targets and indicators** to monitor the overall progress of Japan’s Policy for Sound Material Cycle Society, including those related to resource efficiency. Also, it specifies **expected roles** to be played by **different stakeholders**.
- It took **2 years** (April 2001 to March 2002) to develop the 1<sup>st</sup> Plan with **17 working group meetings** and **9 public hearings** (from business, NGOs, and local governments).
- **Review and evaluation** of the progress **every year** with public hearing processes.
- To be revised **every 5 years**. (2<sup>nd</sup> Plan was launched in 2008. The 3<sup>rd</sup> Plan will be launched in 2013.)

Basic Principle: The 3Rs and sound waste management

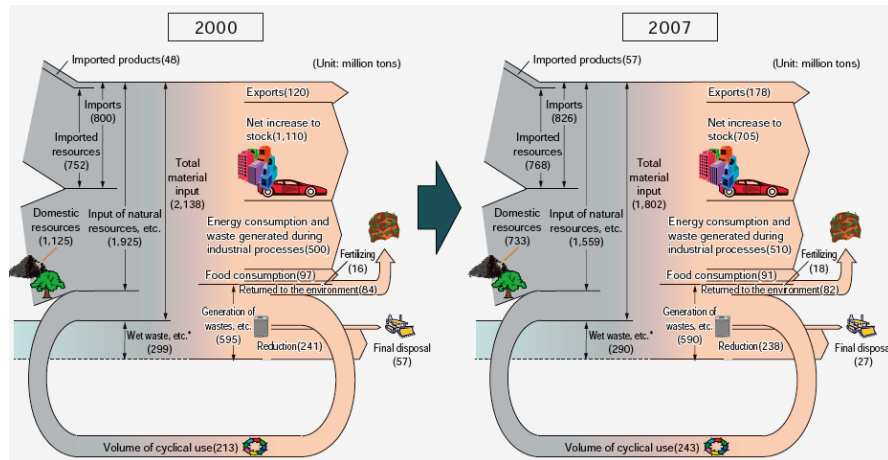


## 6 Monitoring Progress of Japan’s Resource Efficiency Policy

- Monitoring progress in policy implementation is an essential part.
- Japan introduced MFA-based indicators and policy targets for 2010 in 2003 to monitor the progress of 3R implementation at macro-level.
- Based on the progress, Japan revised its fundamental plan in 2008 and set new targets for 2015. Third revision is expected in 2013.



## 7 Material Flow of Japan (2000 and 2007)



Source: Reprint from Ministry of the Environment of Japan (2011), *2010 Establishing a sound material cycle society: Milestone toward a sound material cycle society through changes in business and life styles*, available at [http://www.env.go.jp/en/recycle/smcs/a-rep/2010gs\\_full.pdf](http://www.env.go.jp/en/recycle/smcs/a-rep/2010gs_full.pdf)

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## 8 The 2<sup>nd</sup> Fundamental Plan for Sound Material Cycle Society (2008-2013)

### Characteristics

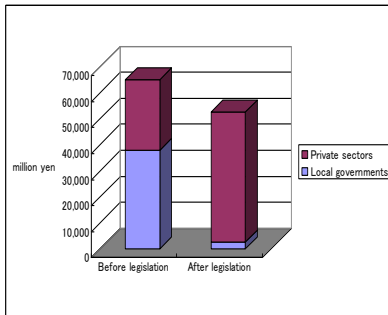
1. **“Sound Material Cycle Society” (waste and resource efficiency)**  
**Plus:** “Low Carbon Society” (climate and energy efficiency) and “Society in Harmony with Nature” (bio-diversity and country landscape)
2. **“Regional” resource circulation:** Environmentally sound resource circulation at appropriate geographic and economic scale
3. **Expansion of “Indicators”:** Quantitative targets and additional indicators
4. **International Sound Material Cycle Society:** International collaboration with East and Southeast Asia (Regional 3R Forum in Asia), Contribution to international research on resource efficiency/productivity (in collaboration with OECD, UNEP)

10

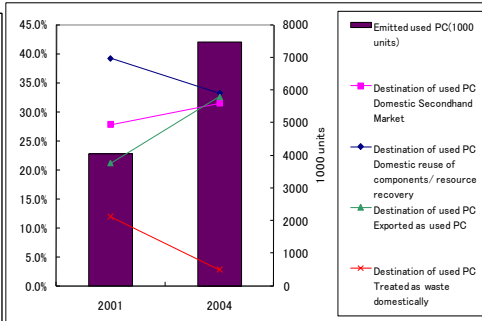
# 9 Example of Policies: EPR-based legislations

- EPR needs **many supporting mechanisms** based on proper waste management legislation as well as systems to reflect proper cost and benefits of introducing resource circulation mechanism.
- Need to **specify roles for burden sharing among different stakeholders.**
- EPR legislation could shift certain costs of recycling from public sector to private sector.
- Export of secondary materials and secondhand goods is a loophole** of EPR-based recycling policy.

Shift in cost of recycling after introduction of home appliance recycling law

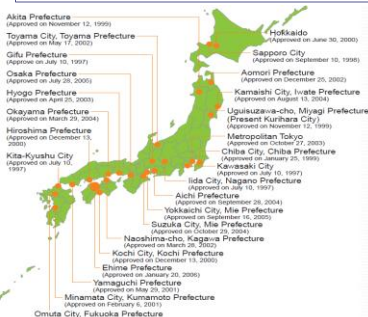


Destination of USED PC before and after introducing recycling policy



# 10 Example of Policies: Eco-town Programme

- Launched in 1997 to create **synergies between resource recovery from urban solid waste and the promotion of environmental industries.**
- Local governments developed plans to promote recycling businesses or facilities in conjunction with other stakeholders and applied for the programme. The accepted plans were **subsidised jointly by METI and MOEJ.**
- Total cost of policy **USD 1.1 billion** (total subsidies during 1997-2004 including tax reduction and policy finance between 200-2004). Generated **5.89 million tons of recycling capacity.** Contributed to **20% of the average annual increase in national recycling capacity.** **Direct economic effects such as employment was relatively limited** but could direct the **constant private investment** for environmental industries in the approved areas.



Economic and social effects of eco-town programme

	fiscal year	1997	1998	1999	2000	2001	2002	2003	2004	total
number of approved areas		4	3	2	4	2	2	3	3	23
private investment in the approved areas (billion JPY)		0.53	17.25	11.79	12.38	13.07	10.95	2.34	5.74	74.05
recycling facilities in the approved areas		1	8	8	8	5	5	2	10	47
number of business start-ups related to the approved facilities		1	6	5	4	0	3	1	2	22
employees in the approved areas		20	190	95	205	85	132	18	281	1026
amount of recycled waste (1000t/year) in the approved areas		8	209	25.9	195.7	105.6	52.3	16.4	119	731.9
visitors to an Eco-town area(case of Kitakyushu)		10,000	28,600	43,800	76,400	93,300	88,000	82,204	422,104	

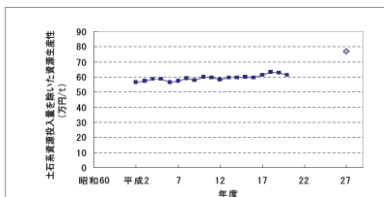
Approved Eco-town Programme in Japan (1997-2007)  
 Source: Reprint from METI (2008), "Eco-town Projects/ Environmental Industries in Progress [Environment-Conscious Type of Town-Building Case Introduction](#)"

Source: Minister of Economy, Trade and Industry (METI), Japan

# 11 Example of Policies: 3R Initiative and Regional 3R Forum in Asia

2004	G8 Sea Island Summit: 3R Initiative was agreed upon	
2005	Ministerial Meeting on the 3R Initiative (Tokyo)	National 3R Strategy Development Programme (MOEJ, UNCRD, AIT.UNEP/RRCAP): Indonesia, Philippines, Thailand, Viet Nam, Bangladesh, Cambodia) until 2009
2006	Senior Officials Meeting on the 3R Initiative (Tokyo)	Asia 3R Conference (Tokyo)
2007	2 <sup>nd</sup> Senior Officials Meeting on the 3R Initiative (Bonn, Germany)	2 <sup>nd</sup> Asia 3R Conference (Tokyo)
2008	G8 Environmental Ministers Meeting(Kobe, Japan) <b>Kobe 3R Action Plan</b>	East Asia Summit Environmental Ministers Meeting (Hanoi) : Proposal of Regional 3R Forum was acknowledged.
	G8 Toyako Summit (Japan) <b>Kobe 3R Action Plan was endorsed</b>	
2009		Asia 3R High-level Seminar(Tokyo)
2009		Inaugural meeting of the Regional 3R Forum in Asia(Tokyo): Tokyo 3R Statement was agreed upon.
2010	United Nations CSD Inter-sessional Meeting "International Experts Meeting on Extension of Waste Management Service to Developing Countries"(Tokyo)	2 <sup>nd</sup> Regional 3R Forum in Asia (KL, Malaysia)
2011	CSD (UN Commission on Sustainable Development) Inter-sessional Conference on Building Partnerships for Moving towards Zero Waste (Tokyo)	3 <sup>rd</sup> Regional 3R Forum in Asia (Singapore): "Recommendations of the Singapore Forum on the 3Rs in Achieving a Resource Efficient Society in Asia" was endorsed and submitted to RIO+20 Process as an input from Singaporean Government
2012		3 <sup>rd</sup> Regional 3R Forum in Asia (Hanoi, Viet Nam)

# 12 Possible points to be included for the next revision (2013: the 3<sup>rd</sup> Plan)



Resource Productivity without sands, stones and gravels is stabilized.  
Considering possible future resource scarcity, need to focus more on sustainable resource management.

Source: MOEJ (2010). "Results of the 3<sup>rd</sup> Review of the Progress of the 2<sup>nd</sup> Fundamental Plan of Sound Material Cycle Society"  
Available from: [http://www.ene.go.jp/press/file\\_view.php?serial=17297&hou\\_id=13653](http://www.ene.go.jp/press/file_view.php?serial=17297&hou_id=13653)

**Mid-long term goals: More shift to sustainable resource management**

- Control of natural resource consumption and reduction of environmental impact
  - Activities focusing on "quality" rather than "quantity" of resource circulation
  - Sound material cycle society contributing to local prosperity
- ↓
- **"Quality" recycling:**
    - Improved recovery system of precious metals from used products
    - "Vertical" recycling (product to product)
  - **Promotion of recycling businesses outside of Japan**
  - **Response to the "disaster" and safety issues**
  - **International collaboration: domestic recycling of hazardous wastes and import of difficult to treat recyclables from other countries**
  - **More emphasis in reuse and reduction**

Source: M. Kimura (2011). "Activities of Japanese Government for Sustainable Resource Management, presented at Global Environmental Seminar: Sustainable Resource Management -Latest Report on Metal Recycling from UNEP Resource Panel.

## 13 Observation and Conclusion

1. Increasing **Eco-efficiency** (both energy and resource) has been a **key emphasis of Japan's sustainable/environmental strategy** (including most recent ones).
2. **Sound Material Cycle Society Policy** represents such emphasis in resource efficiency approach in waste management and recycling policies at national level.
3. Good practices of Sound Material Cycle Society Policy were **inclusion of different stakeholders**, although not in an extensive manner, from its planning as well as **constant review of progress and revisions of target/policy goal setting**. Also, **infrastructure/industrial facility-development (eco-town) was linked with policy implementation.**
4. Anticipating **future resource scarcity**, Japan would move its emphasis more into **sustainable resource management**. MOEJ and METI would be key players in central government.
5. Japan emphasizes **international collaboration with developing Asia.**

15

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16