



Building Resilient Cities through Sound Material Cycle Society - Experience from Japan -

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G7 Toyama Environmental Ministers' Meeting



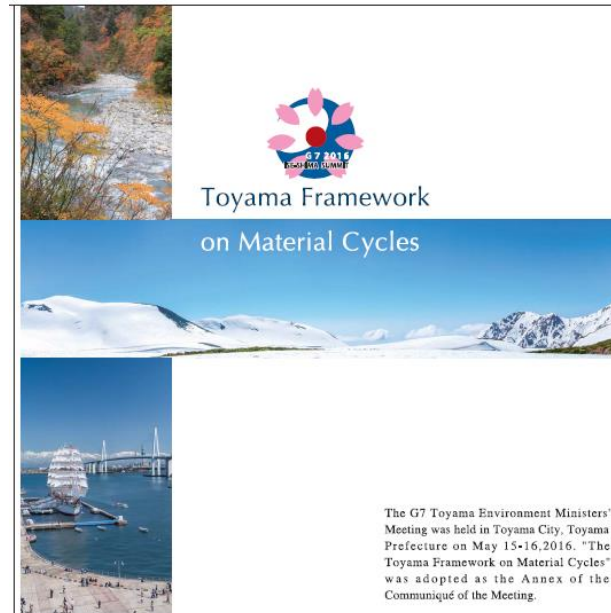
- Held in Toyama, Japan on May 15th - 16th 2016
- G7 Members: Italy, Canada, France, US, UK, Germany, EU, and Japan
- joined by GEF, ICLEI, OECD, UNEP, UN Global Compact, 100 RESILIENT CITIES, and representatives from cities.



- Shared the political will to take the initiative in addressing global challenges locally and globally such as climate change and environmental pollution
- Discussed
 - 2030 Agenda for Sustainable Development
 - **Resource Efficiency and the 3Rs**
 - Biodiversity
 - Climate Change and Related Measures
 - Chemicals Management
 - The Role of Cities
 - Marine Litter



Toyama Framework on Material Cycles



“Our common goal is to realize a society which uses resources including stock resources efficiently and sustainably across the whole life cycle, by reducing the consumption of natural resources and promoting recycled materials and renewable resources so as to remain within the boundaries of the planet, respecting relevant concepts and approaches.”

Goal 1: Leading Domestic Policies for Resource Efficiency and the 3Rs

1-1 Integration of Policies and Policy Mix

1-2 Efficient and Maximized Utilization of Resources

1-3 Initiatives in Cooperation with Diverse Local Actors (Industrial and Community Symbiosis)

1-3 Initiatives in Cooperation with Diverse Local Actors (Industrial and Community Symbiosis)

1-4 Actions to Final Demands/Consumers

Concrete Example: Ambitious Initiatives for Organic Waste Including Food Loss and Waste

Goal 2: Promote Global Resource Efficiency and the 3Rs

2-1 Cooperation with Other Countries

2-2 Cooperation across the Global Supply Chain

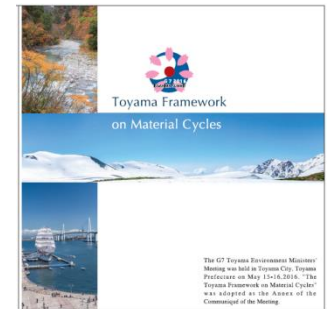
Concrete Example: Management of E-Waste

Goal 3: Steady and Transparent Follow-Up Process

3-1 G7's Domestic Efforts

3-2 Global Efforts

Toyama Framework on Material Cycles



Implementation of Toyama Framework helps us to realize a resilient society

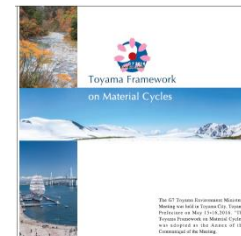
1-2 Efficient and Maximized Utilization of Resources

Facilitate environmentally-sound disaster waste management to respond to the frequent occurrence and aggravation of natural disasters, by appropriate treatment and recycling of large amounts of disaster waste, and by developing waste treatment facilities resilient to disasters, and facilitating the utilization of the facilities as energy supply hubs.

2-1 Cooperation with Other Countries

Assist, in disaster waste management countries, or regions that experience significant natural disasters, such as the global hot spot regions in Asia and the Pacific, where frequent earthquakes and other disasters whose impacts are exacerbated due to urbanization and climate change.

Toyama Framework on Material Cycles





Japan's case
**Disaster
Waste**

- Extreme events cause huge amount of mixed wastes
- Need to protect sanitation and citizen's living by smooth disposal and recycling
- Aggravation of natural disasters and urbanization increase the impacts

Support of Disaster Waste Management (D-waste)

Japan's efforts and the experience, especially recycling (80%~), after the Great East Japan Earthquake can provide lessons.

- Preparation for disaster such as estimation on the volume, cooperation agreement and guidelines
- Technical assistance for Nepal, based on Japan's experience
- G7 committed to assisting countries that experience significant natural disasters (Toyama Framework on Materials Cycles)



Communiqué
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Japan will assist the global hot spot regions in Asia and the Pacific in cooperation with UNEP and JICA etc. in D-waste management.

1-1 Integration of Policies and Policy Mix

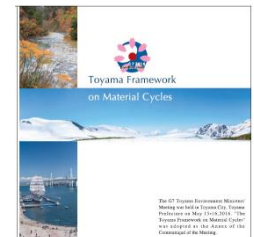
Integrate and promote measures on resource efficiency and the 3Rs, climate change and extreme weather events, hazardous substances, disaster waste, natural environmental conservation, marine litter, access to raw materials and industrial competitiveness and other challenges in a holistic manner

1-2 Efficient and Maximized Utilization of Resources

Promote Reduce and Reuse, in addition to Recycle, from the perspectives of resource efficiency and reduction of GHG emissions.

Develop and introduce technologies for energy efficient recovery that facilitate more effective utilization of waste in line with the waste management hierarchy

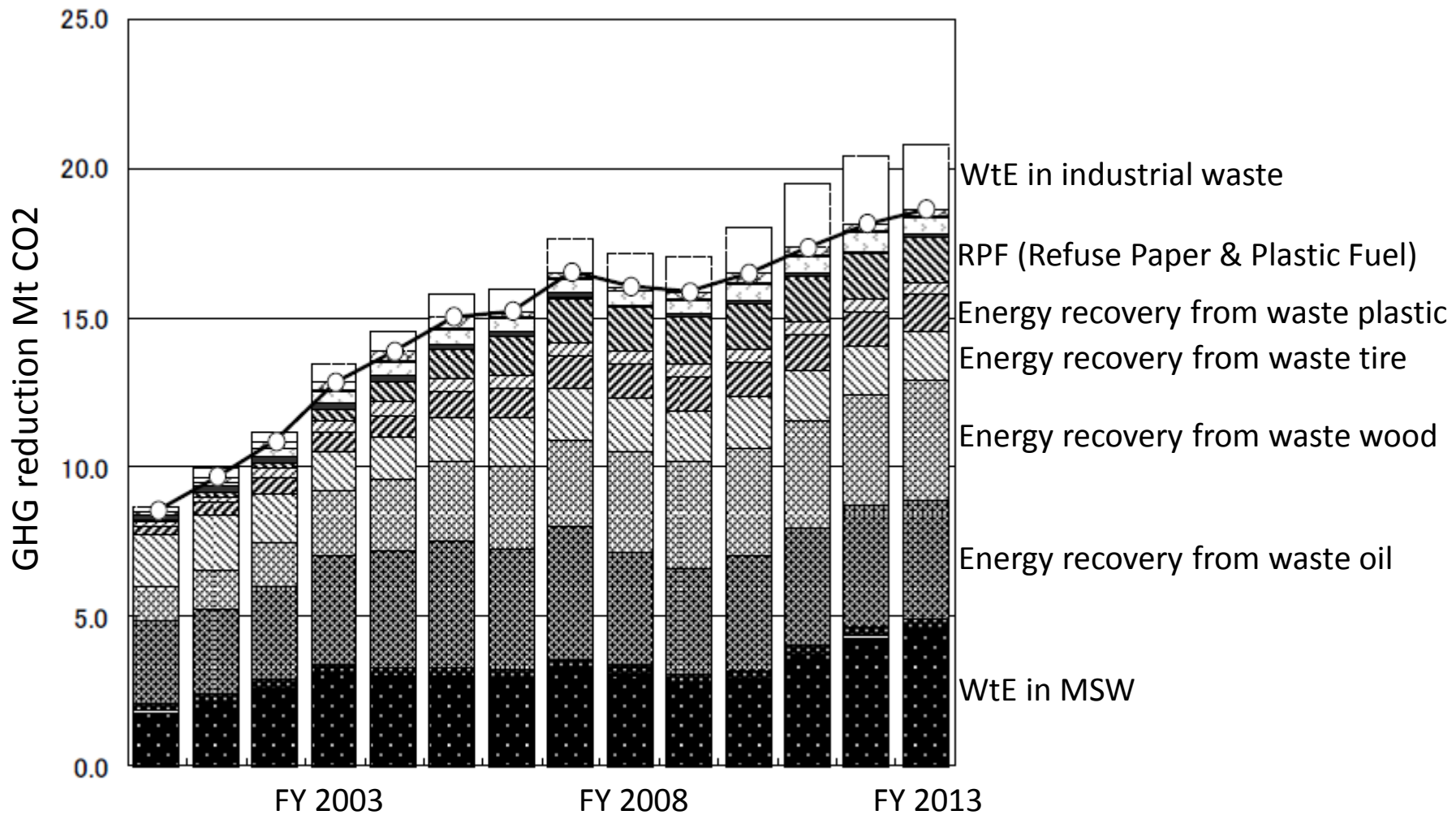
Toyama Framework on Material Cycles





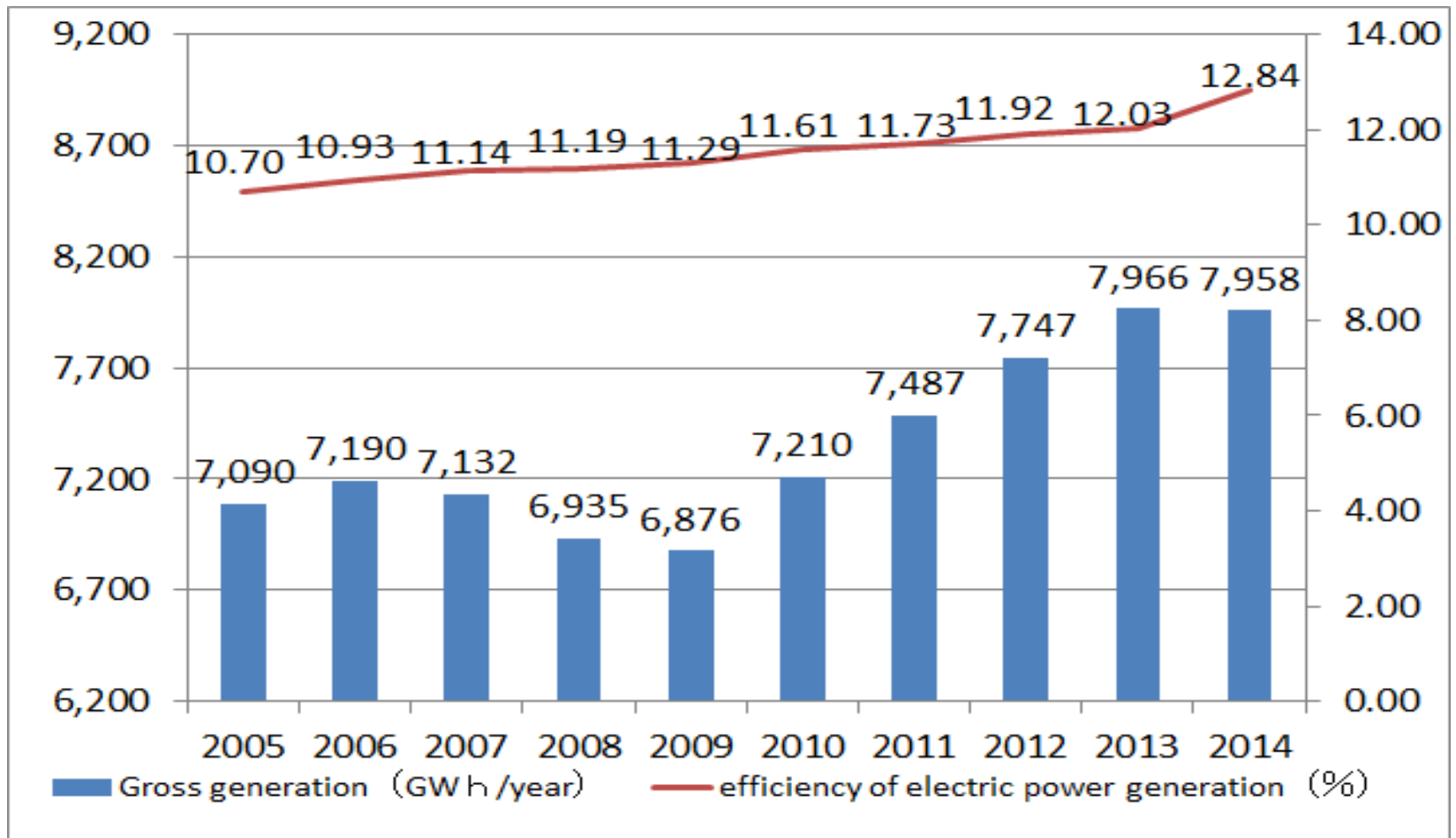
- Social transition toward a low-carbon society is necessary
- Any parts of our society needs to be de-carbonized
 - > Reduction of methane from landfilling
 - > Waste to Energy
 - > Low-carbon recycling

GHG Reduction by 3R



* Diversion of wastes from landfilling can be also included.

Waste to Energy in Japan



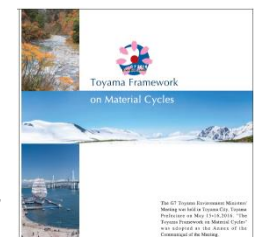
*90% of waste incineration facilities in Japan are the incineration type and 8% are the gasification type. (2013)

1-2 Efficient and Maximized Utilization of Resources

Seek minimization and environmentally-safe final disposal of waste by using the most appropriate approach which fits the local situation and type of targeted waste among various measures such as recycling or utilization as animal feed, composting, and energy recovery, in line with the waste management hierarchy.

Concrete Example: Ambitious Initiatives for Organic Waste Including Food Loss and Waste

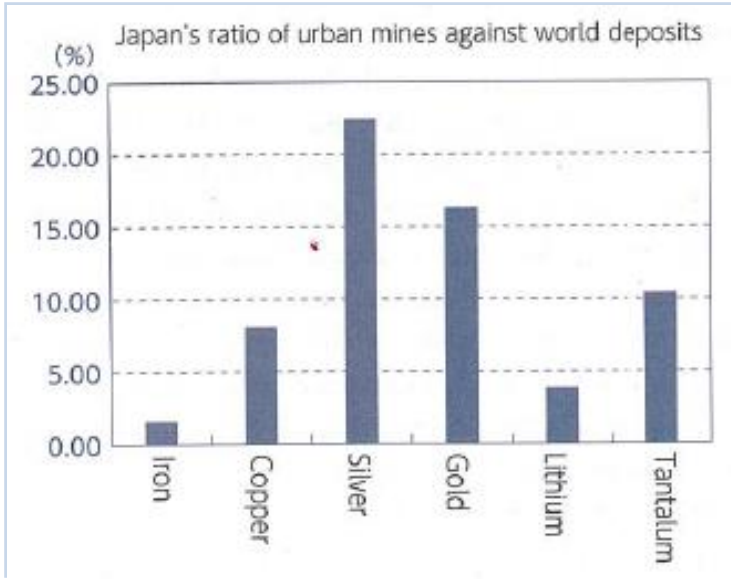
Promote reduction in organic waste, in particular, food loss and waste, effective recycling of food waste, effective utilization as an energy source, and utilization of waste biomass taking into account impacts on other functions for ecosystems.





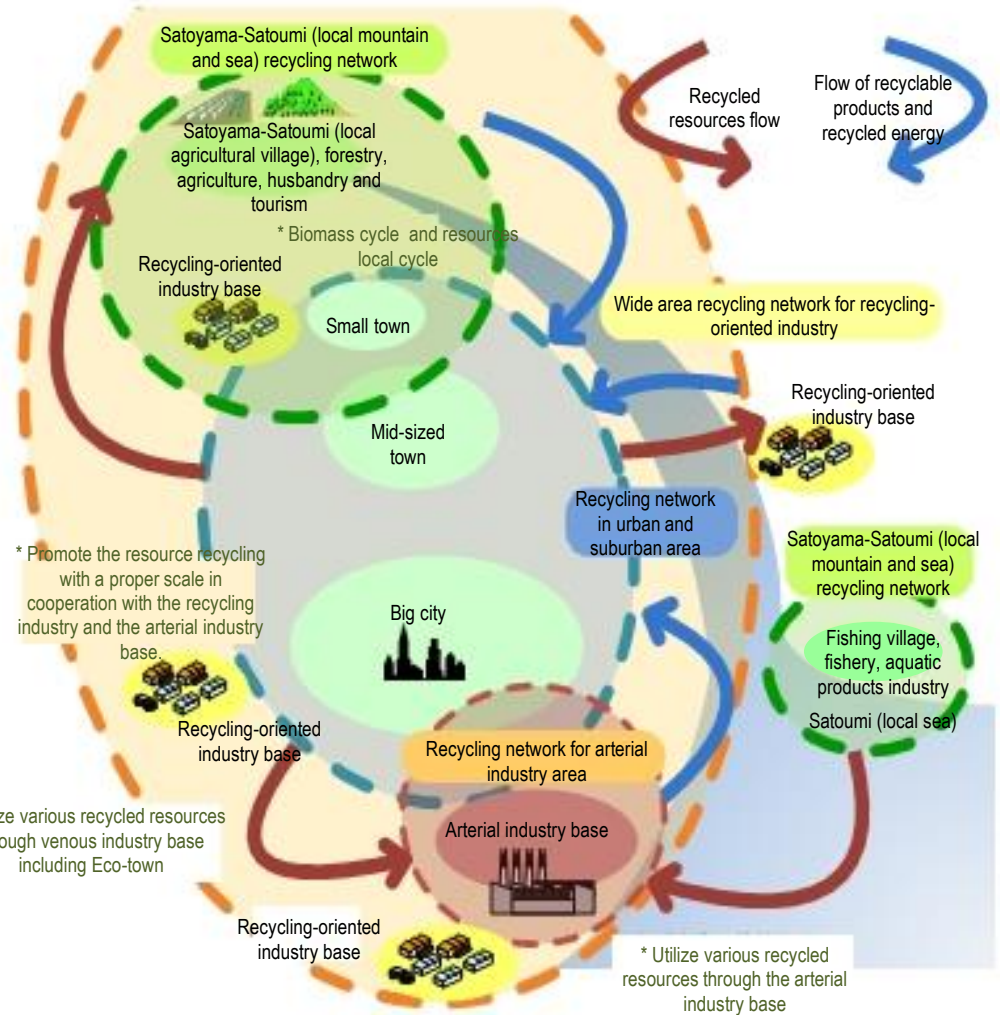
Japan's case
**Materials
Circulation**

- Unprecedented growth in demand for raw materials due to global economic expansion, especially in Asia
- Resource sufficiency and resource efficiency is key
- Urban mine has huge opportunity
- Local material circulation system



Urban mine

Sophistication of local recycling networks

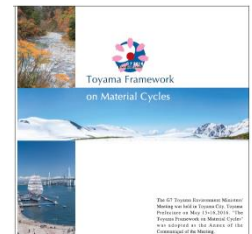


1-3 Initiatives in Cooperation with Diverse Local Actors (Industrial and Community Symbiosis)

Facilitate the development of new businesses, job creation, and local revitalization by accommodating and utilizing local resources, goods, and energy based on collaboration among diverse local actors (industrial and community symbiosis) in a region.

Promote resource circulation at the local level by focusing on local culture and other characteristics, links between residents, and the roles of small and medium-size enterprises.

Toyama Framework on Material Cycles





Japan's case Demographic Change



- Decreasing and aged population
- Localized and tailor-made waste management systems
- Local revitalization

Recycle Business Plan by a Private Company

- Odakyu Group Recycle Business Plan-

Food-Related Businesses



Odakyu department stores

Collection and
Transport
companies

Recycle Business



Japan Food Ecology Center

Agricultural, forestry, fishery business



Asagiri Yogur-ton Marketing Association, etc.

2-1 Cooperation with Other Countries

Share with other countries our best practices/Best Available Technologies (BAT), and useful lessons through appropriate opportunities of international cooperation such as the G7-Alliance on Resource Efficiency.

Assist developing countries to build the capacity needed for effective resource efficiency and resource circulation policies, including developing scientific and statistical information, in conducting projects in those countries through bilateral or multilateral partnership (e.g., Regional 3R Forum in Asia and the Pacific, Climate and Clean Air Coalition). Such efforts can also contribute to combating marine litter from land-based sources..

