



Ministry of the Environment
Government of Japan

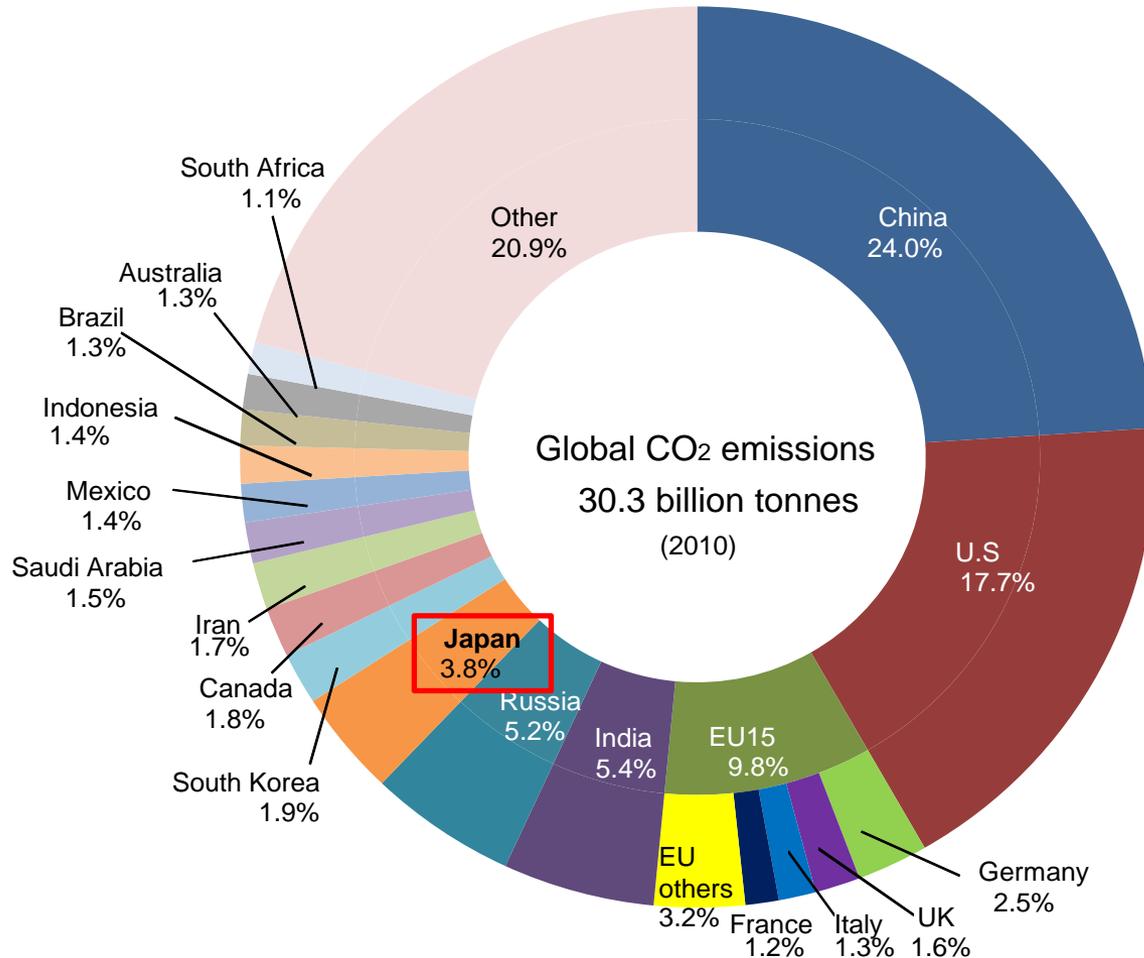
Japan's Climate Change Policies

5th July. 2013

Ministry of the Environment, Japan

Global CO₂ emissions (2010)

- ✓ Global CO₂ emissions in 2010 is approximately 30.3 billion tonnes of CO₂ eq.
- ✓ Many international organizations including UNEP and IEA estimate future drastic increase of global CO₂ emissions.



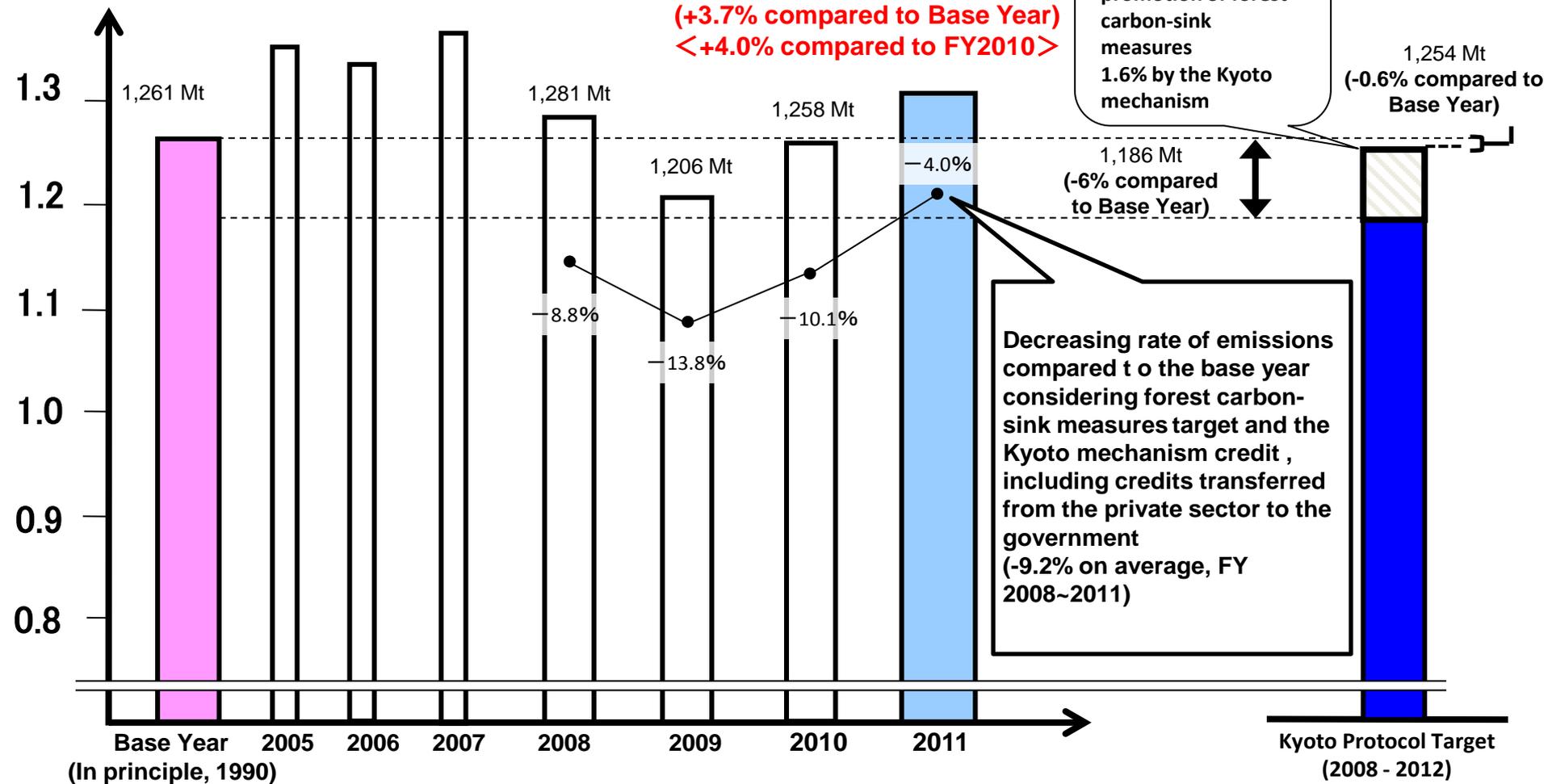
* EU15 is member countries when COP3 was held

Source : IEA "CO₂ EMISSIONS FROM FUEL COMBUSTION" 2012 EDITION

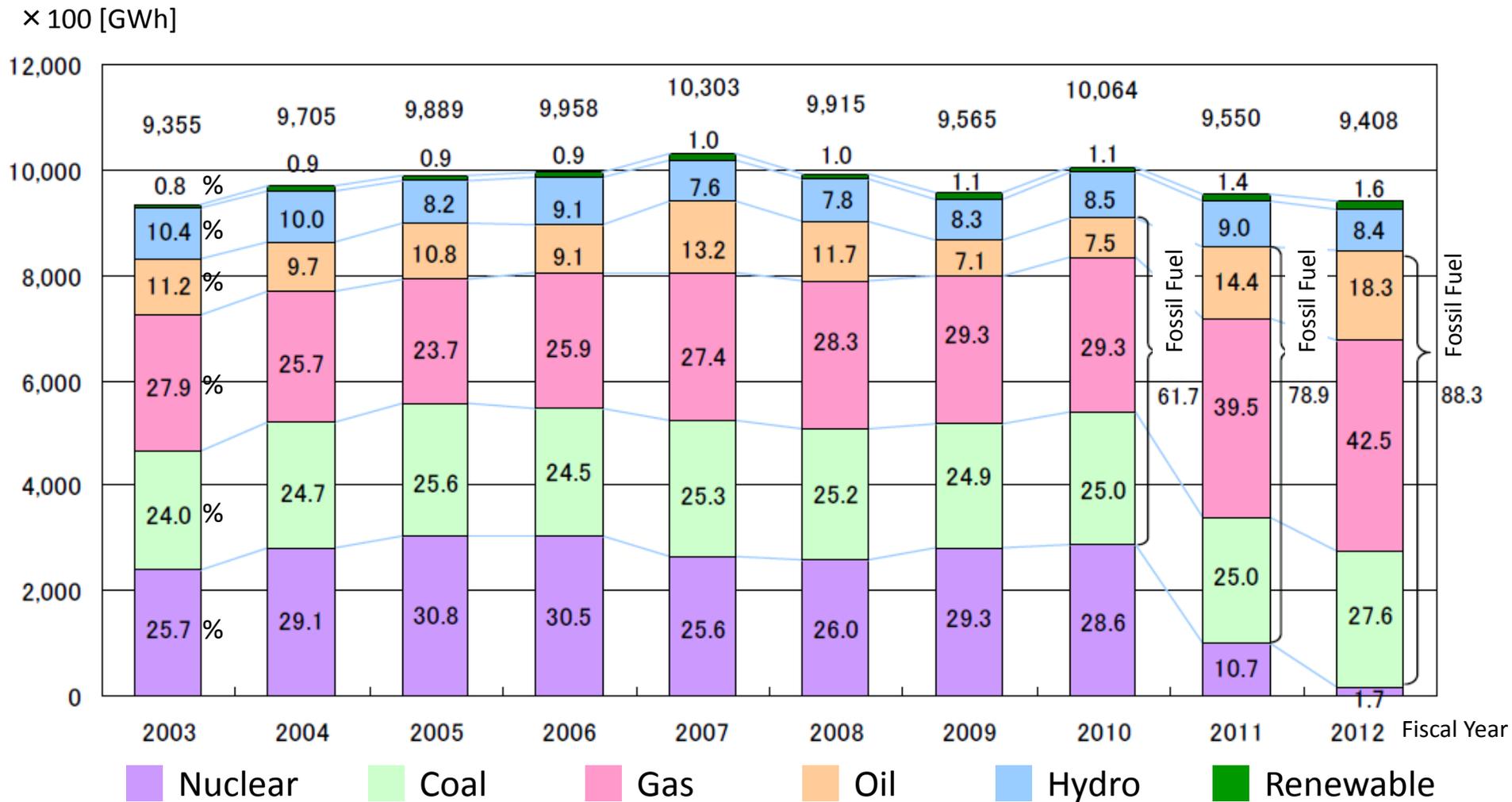
Japan's Greenhouse Gas emissions in FY 2011

Japan's greenhouse gas emissions in FY2011 increased 3.7% compared to the base year and increased 4.0% compared to the previous year.

Emissions
(Billion t-CO₂ eq.)

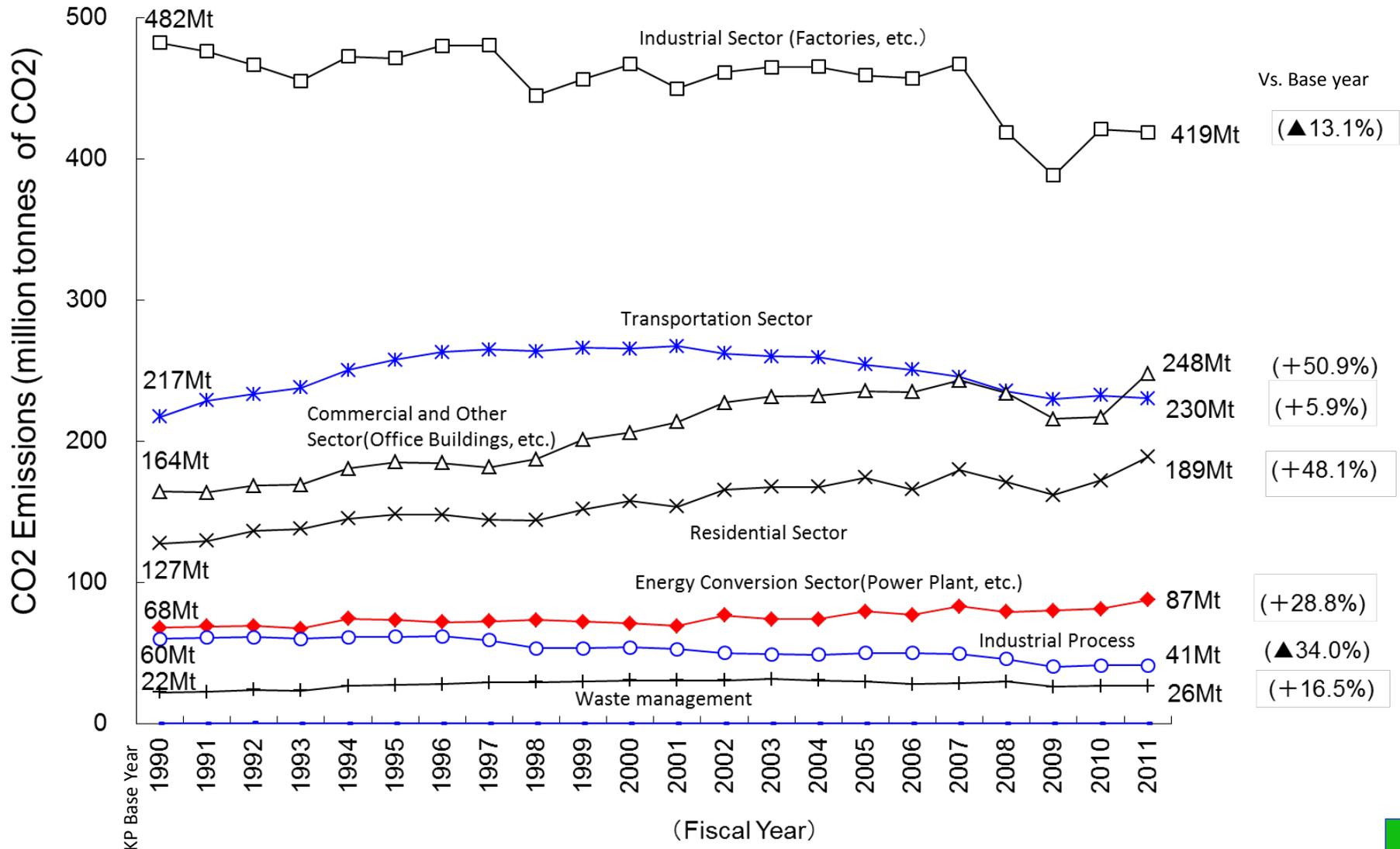


Electricity Generation in Japan

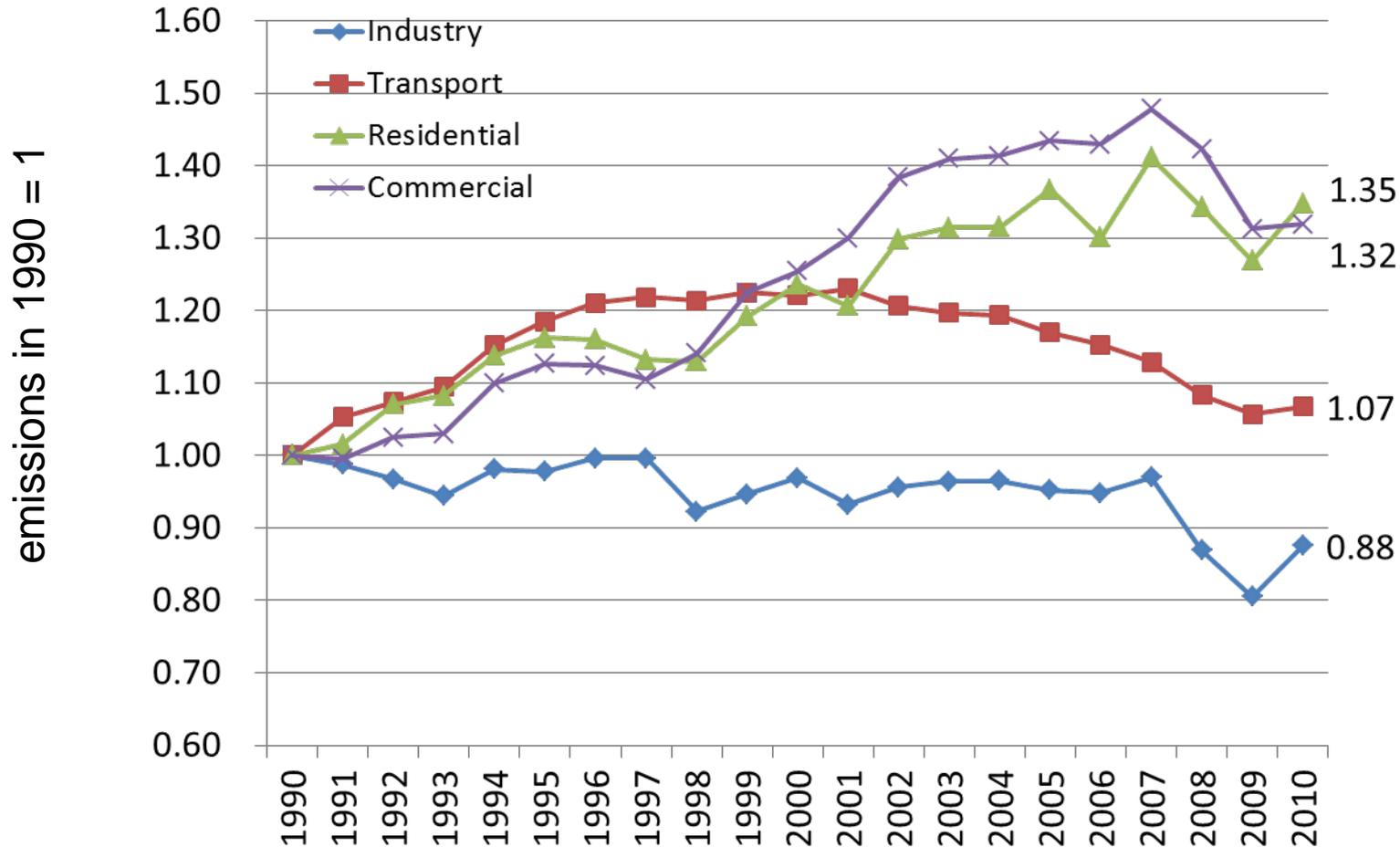


CO₂ emissions Trends by Sectors

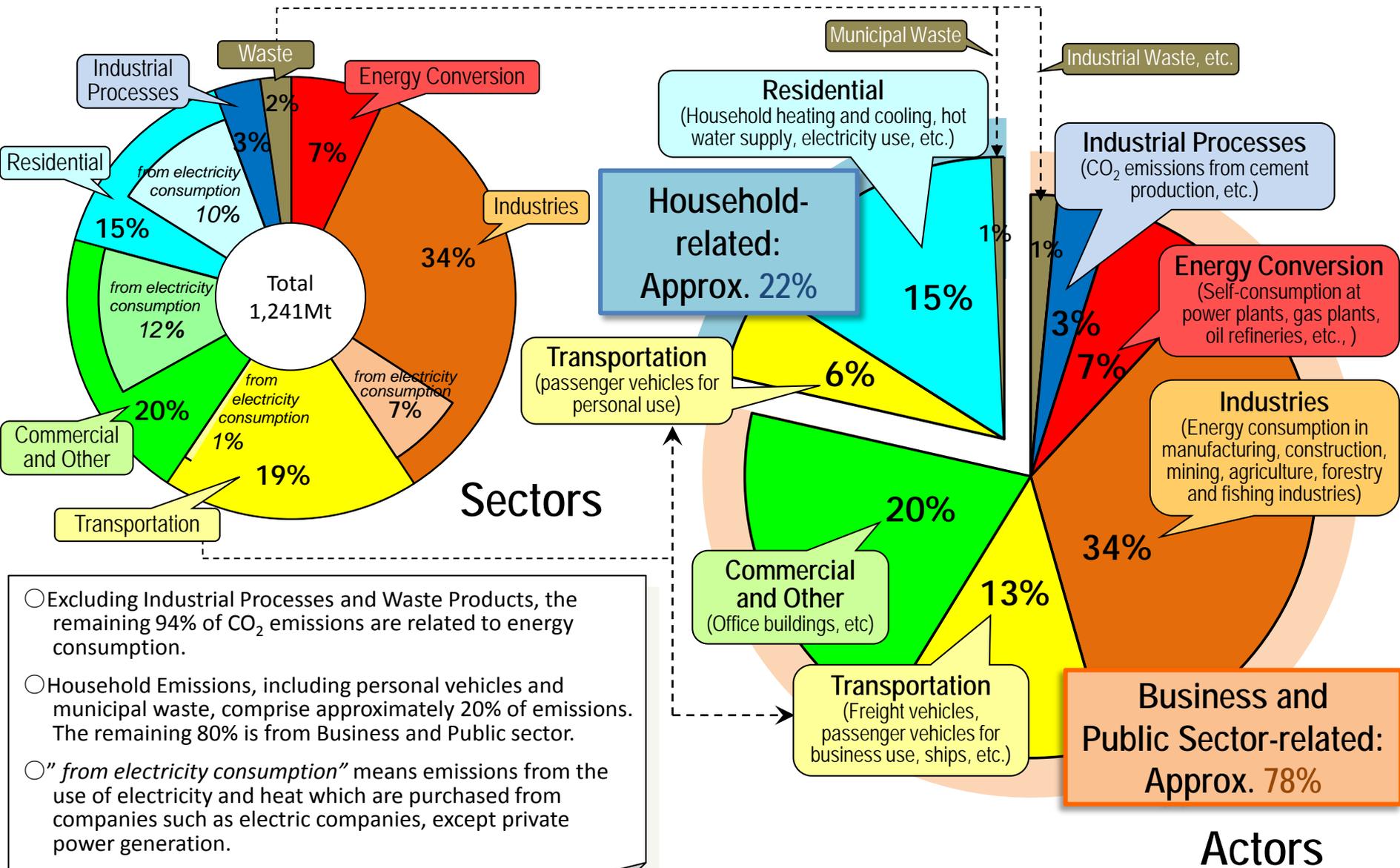
“Commercial and Other (Office Buildings, etc.)”, “Residential”, and “Energy Conversion” sectors increased CO₂ emissions compared to the previous year.



Historical GHG emissions by Sectors in Japan

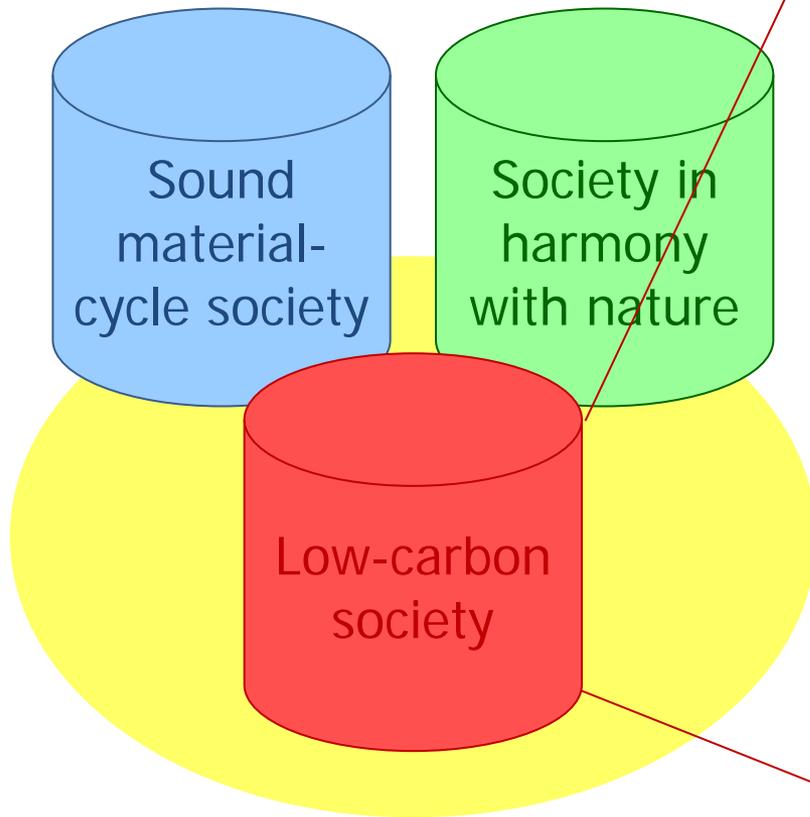


CO₂ emissions by Sectors and Actors (2011)



Basic Environment Plan

Summary of the 4th Basic Environment Plan
(Cabinet Decision on April 27, 2012)



Safe and secure society

◆ Long Term Target (2050)
-80% from 1990

The Law for Promotion of Global Warming Measures
(Adopted in 1998 and 4 times in 2002, 2005, 2006 and 2008)

KP target achievement plan

National Inventory

Accounting and Reporting

Trading in Kyoto Mechanisms

Center for Climate Change Actions, Promoters

⋮

GHG emissions reduction Guideline

Obligation of Reasonable Effort for Business entities

Matters concerning GHG emissions reduction related to business activity

Commercial Sector	<ul style="list-style-type: none"> ○ Actions for effective implementation <ul style="list-style-type: none"> • Having clear picture of own emissions, as well as facilities and its operation status • Implementation of PDCA ○ Measures for emissions reduction <ul style="list-style-type: none"> • Presenting specific measures regarding selections of devices or its usage for each heat sources or air conditioners • Upgrading heat sources to higher efficient devices, Segmentation of air-conditioning zone • Appropriate air ratio for combustion facilities/ Appropriate temperature and humidity settings
Waste Sector	<ul style="list-style-type: none"> ○ Actions for Appropriate and effective implementation <ul style="list-style-type: none"> • Having clear picture of own emissions, as well as facilities and its operation status • Implementation of PDCA • Promoting voluntary action of residents, GHG mitigation by means of treated waste reduction such as separate collections ○ Measures for emissions reduction Presenting measures regarding selections of devices or its usage for following facilities <ul style="list-style-type: none"> • Trash collector • Heat recovery facilities • Human waste treatment facilities • Facilities for waste combustion plant • Facilities for waste biomass use • Sludge Dryer • Combustion facilities • Exhaust gas treatment facilities • Facilities in the final disposal site
Industrial Sector	<ul style="list-style-type: none"> ○ Actions for Appropriate and effective implementation <ul style="list-style-type: none"> • Having clear picture of own emissions, as well as facilities and its operation status • Implementation of PDCA ○ Measures for emissions reduction Presenting measures regarding selections of devices or its usage for following facilities <ul style="list-style-type: none"> • Boiler • Drainage facilities • Heater • Refrigerator • Heat recovery facilities • Power generation facilities • Air conditioning system • Lighting • Ventilation system

Matters concerning contribution on GHG emissions reduction of daily life

- **General measures which business entities should apply**
 - Production of energy efficient products
 - Provision of information through “Visualization” such as carbon footprint
 - Applying carbon offset/Eco-action points
 - Coordination with local government etc.
- **Specific measures which business entities should apply**
Presenting measures for manufacturing products for daily life for each lighting and cooling/heating devices
 - Production of low energy consumption lighting devices
 - Production of cooling/heating devices with low stand-by power loss

Accounting, Reporting, and Disclosure Program

Program outline

- The program is based on Act on Promotion of Global Warming Measures revised in 2005 (Enforcement Apr. 2006)
- Specified emitters are obliged to calculate and report their GHG emissions. The government collects these data and publishes them.

Objectives

- Establishment of foundation for emitter's voluntary action by accounting their own emissions
- Promoting voluntary actions and fostering momentum on emissions reduction through information disclosure and visualization

① Covered entities (specified emitters) calculate their emissions and report the emission information of the preceding fiscal year by business operator until end-July every year.

② The competent ministers compile the reported information and notify the Minister of the Environment and the Minister of Economy, Trade and Industry

③ The notified information is compiled by the Minister of the Environment and the Minister of Economy, Trade and Industry, and is publicly announced/disclosed to the general public.

Specified emitters

Business operators, etc. (including public sector) who own business establishments that emit considerably large amounts of greenhouse gases are covered.



Reporting

Competent ministers

Notification

Minister of the Environment
Minister of Economy,
Trade and Industry

Public Announcement
The emissions information, etc., are compiled by operator, by industry, and by prefecture, and made public.

Reading

Disclosure
The emissions information on a specific operator is disclosed upon request.

Requests

General public,
business operator

※ Emitters may submit relevant information such as the reason of increases or declines in its emissions.

※ If a specified emitter considers that its competitive interests could be harmed by a public announcement of its emissions data, then the emitter may request the protection of its rights and interests.

※ Penalty is provided for reporting-obligation violation or false report.

As to the reporting for energy-derived carbon dioxide, the framework of the Energy Conservation Act is utilized (e.g., admitting the report using the periodic report of the Energy Conservation Act).

Recovery & Destruction of CFC, HCFC, & HFC(1)

In Japan, CFCs, HCFCs, and HFCs are controlled and they must be recovered from home appliances, cars, and commercial equipment when the equipment containing these gases is discarded.

Recovered gas must be recycled or destroyed, instead of being released into the air.

Household end-of-life refrigerators, freezers, A/C and heat-pump washer-dryers



Will be recycled under "Home Appliance Recycling Law"

Request the shop from which you bought the end-of-life product or the shop from which you buy a new product to **take back** the end-of-life product

Pay for **collection, transportation and recycling** when handing over the end-of-life product

*Price for collection and transportation differs between shops.
*Recycling fee differs between product manufacturers.

After you have paid the recycling fee, request the shop to issue a **home appliance recycling ticket**

You can monitor the status of recycling on the Internet with the ID number on the ticket.



Fluorocarbons

Recovered for reclamation or destruction

Iron, aluminum, etc.

Recycled as resources



End-of-life automobiles

Under "End-of-life Vehicle Recycling Law"

Hand over the end-of-life vehicle to collection operators registered with local governments. (Car dealers or servicing workshops)

Pay **recycling fee**

*Recycling fee differs between car manufacturers.

When and to whom to pay

* Purchase of a new car	When purchasing	To the car dealer
* For already owned cars	Before next periodical inspection	To Transport Bureau or servicing workshops
When you discard a car before next automobile inspection	When discarding	To the collection operator

*Once the payment has been made at the time of purchase or periodical inspection, no more payment is required at the time of discarding the vehicle

Fluorocarbons

Recovered for reclamation or destruction

Iron, aluminum, etc.

Recycled as resources

Service or discard of commercial refrigeration and A/C

Under "Law Concerning the Recovery and Destruction of Fluorocarbons"

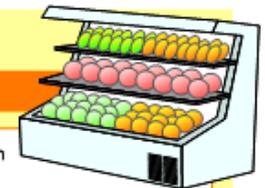
- Commercial A/C
- Cold showcase and freezers
- Commercial refrigerators and freezers
- Freezing units for transportation

Those who wish to discard any of the listed above equipment must...

Request Fluorocarbon recovery operators registered with prefectural governments to **recover fluorocarbons**

When requesting a Fluorocarbon recovery operator (i.e. car dealers or servicing workshops) registered with a prefectural or municipal government with a public health center to recover fluorocarbons,

- 1) Issue a "**Recovery request form**" or a "**Consignment confirmation form**" in accordance with the relevant law. (They are applied only at the time of a disposal.)
- 2) Pay the fee for recovery, transportation and destruction of fluorocarbons.



Recovery & Destruction of CFC, HCFC, & HFC(2)

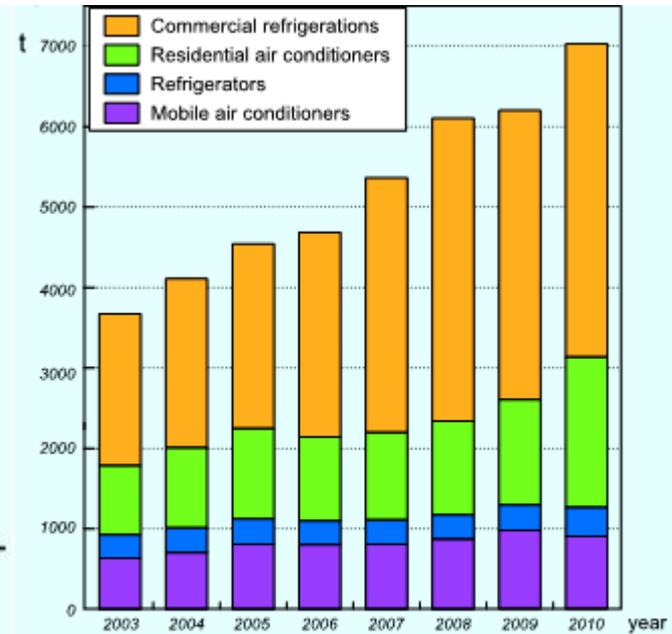
In Japan, there are 49 home-appliance recycling plants and more than 70 F-gas destruction facilities in commercial operation using various technologies such as submerged combustion, superheated steam, municipal waste incinerators, cement kiln, rotary kiln, and plasma.

More than 6,000 tons of refrigerant CFC, HCFC, and HFC was recovered from equipment in Japan in 2009 and about 4,000 tons of refrigerant was destroyed in Japan in 2010.



Recovery of refrigerant from super-market cold showcase

Source: Refrigerants Recycling Promotion and Technology Center, Japan



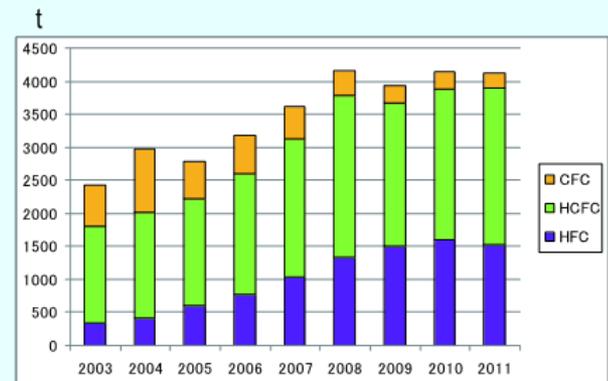
Amount of recovered refrigerant in Japan

Source: Ministry of the Environment, Japan



Type	Technology	Decomposition capacity (indicative)
Devoted system	Submerged combustion	10 kg/h – 300 kg/h
	Superheated steam	25 kg/h
	Catalyst	6 kg/h
	Large-size plasma	10 kg/h – 25 kg/h
	Small-size plasma	1 kg/h – 2 kg/h
Multipurpose system	Municipal waste incineration	10 kg/h – 120 kg/h
	Cement kiln	10 kg/h – 50 kg/h
	Lime calcination furnace	20 kg/h
	Rotary kiln	20 kg/h

Major F-gas destruction technologies in use in Japan and their capacity ranges



Amount of destroyed refrigerant in Japan

Source: Ministry of the Environment, Japan

F-gas destruction technologies in use in Japan. The Ministry of the Environment of Japan has transferred the technology to Indonesia (photo).

National campaign on solutions to global warming

- Runs “National campaign on solutions to global warming” in order that government and citizens can work together for preventing global warming and shifting towards low carbon society.
- Calls for practicing “6 challenges” proposed in the campaign to citizens and companies, and promote various projects namely, “Cool BIZ”, “Warm BIZ”, “Smart Move”, and “Morning Challenge” Fostering . In order to manage the power shortage by the Great East Japan Earthquake, power conservation actions are also in place
- Calls for members of “Individual Challenger”, and “Company/organization challengers” who agreed with the national campaign (As of June 2012, Individual: 920,000 members, Companies: 25,000 members)
- Information on latest CO2 facilities or devises is provided through various measures including SNS

6 Challenges

- Let's choose eco-friendly lifestyle
- Let's choose energy efficient products
- Let's choose renewable energy
- Let's choose eco-friendly house/building
- Let's support products & actions related to CO2 reduction
- Let's participate in local actions against global warming

7 points of power conservation in house

- 1 Take care to switch off
- 2 Reduce stand by power losses
- 3 Power conservation through air-conditioner
- 4 Power conservation through refrigerator
- 5 Power conservation through lighting
- 6 Power conservation through TV
- 7 Other power conservation

Super Cool Biz

Suggestion of comfortable lifestyle even in the room temperature settings of 28 degree Celsius



Super Cool Biz Logo

Cool Share Logo



Poster of Cool Biz

Warm Biz

Suggestion of comfortable lifestyle even in the room temperature settings of 20 degree Celsius



Smart Move – Eco transportation-

Suggestions of low CO2 emissions move to reduce CO2 emissions associated with transportation

Not only environmental friendly but also comfort, convenient and healthy lifestyle is named “smart move” and promote to company, organization and public

「移動」を「エコ」に。



Morning Challenge! (Challenge to morning lifestyle)

Suggestions of new morning lifestyle to reduce CO2 emissions



CO2 reduction effects

Shorten the use of lighting, Air-conditioner, TV for 1 hour/day (annual reduction per household)
 [Lighting] Approx. 85kg of CO2 reduction
 [Air Conditioner] Approx. 58kg of CO2 reduction
 [TV] Approx. 22kg of CO2 reduction
 (Total) Approx. 165kg of CO2 reduction



Morning Challenge! Website

Local Government Action Plan

Prefectures, Ordinance-designated cities, Core cities, Special ordinance cities

Local government's plan on GHG emissions reduction associated with their own activities

- Energy Efficient measures in local government offices
- Plan development coverage (as of 1/Oct/2012)

*Prefectures (100%),
Ordinance-designated cities (94.7%),
Core cities (100%),
Special ordinance cities (97.5%)*

Establishment of local action plan

- Promoting renewable energy
- Promoting emissions reduction activities by local business operators and residents including energy conservation
- Development and improvement of local environment including public transportation and greens.
- Establishment of Recycling-Based Society
- Plan development coverage (as of 1/Oct/2011)

*Prefectures (100%),
Ordinance-designated cities (95%),
Core cities (93%),
Special ordinance cities (63%)*

Consultation and coordination by Council on local government implementation plan

Administrative agencies, local government, officials, local centers, business operators and residents participate in the process.

Municipalities smaller than "Special ordinance cities"

Responsibility of GHG emissions reduction as a business operator

Obligation of implementation plan development to all the local government

- Plan development coverage (as of 1/Oct/2011) : 75.3%

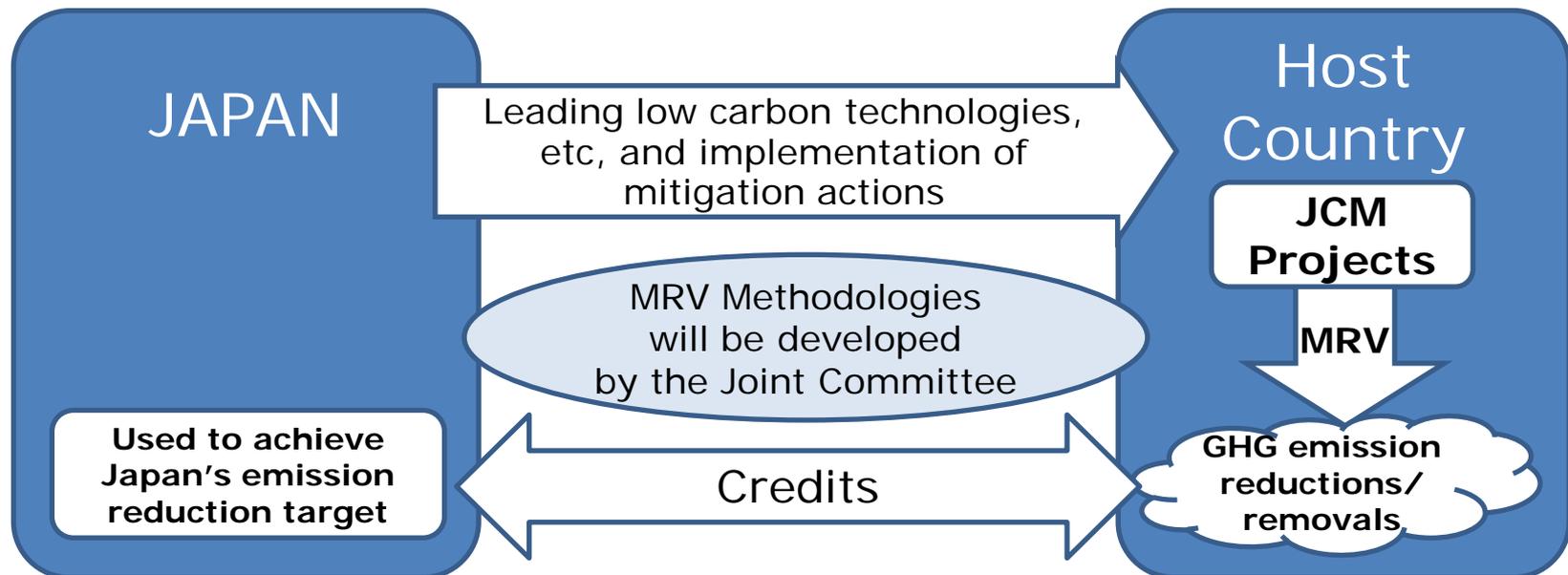
Responsibility to promote comprehensive and planned local action

Voluntary action

- Plan development rate (as of 1/Oct/2011) : 13%

Basic Concept of the Joint Crediting Mechanism

- Facilitating diffusion of leading low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions, and contributing to sustainable development of developing countries.
- Appropriately evaluating contributions to GHG emission reductions or removals from Japan in a quantitative manner, by applying measurement, reporting and verification (MRV) methodologies, and use them to achieve Japan's emission reduction target.
- Contributing to the ultimate objective of the UNFCCC by facilitating global actions for GHG emission reductions or removals, complementing the CDM.



Other Measures

- Carbon tax
 - Feed-in Tariff for renewable energy
 - Legislations for energy efficiency for vehicles, electric appliances and factories (“Top Runner System”)
 - Grant for promotion of energy-saving product “eco-point system “
 - Environmental Assessment Law including GHGs
 - Mandatory reporting and accounting of GHG emissions from large emission sources (factories etc.)
 - Forest Management (Regeneration of neglected forests, Urban Greening)
-etc