

WGIA15

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# Latest Japanese Climate Change Policies

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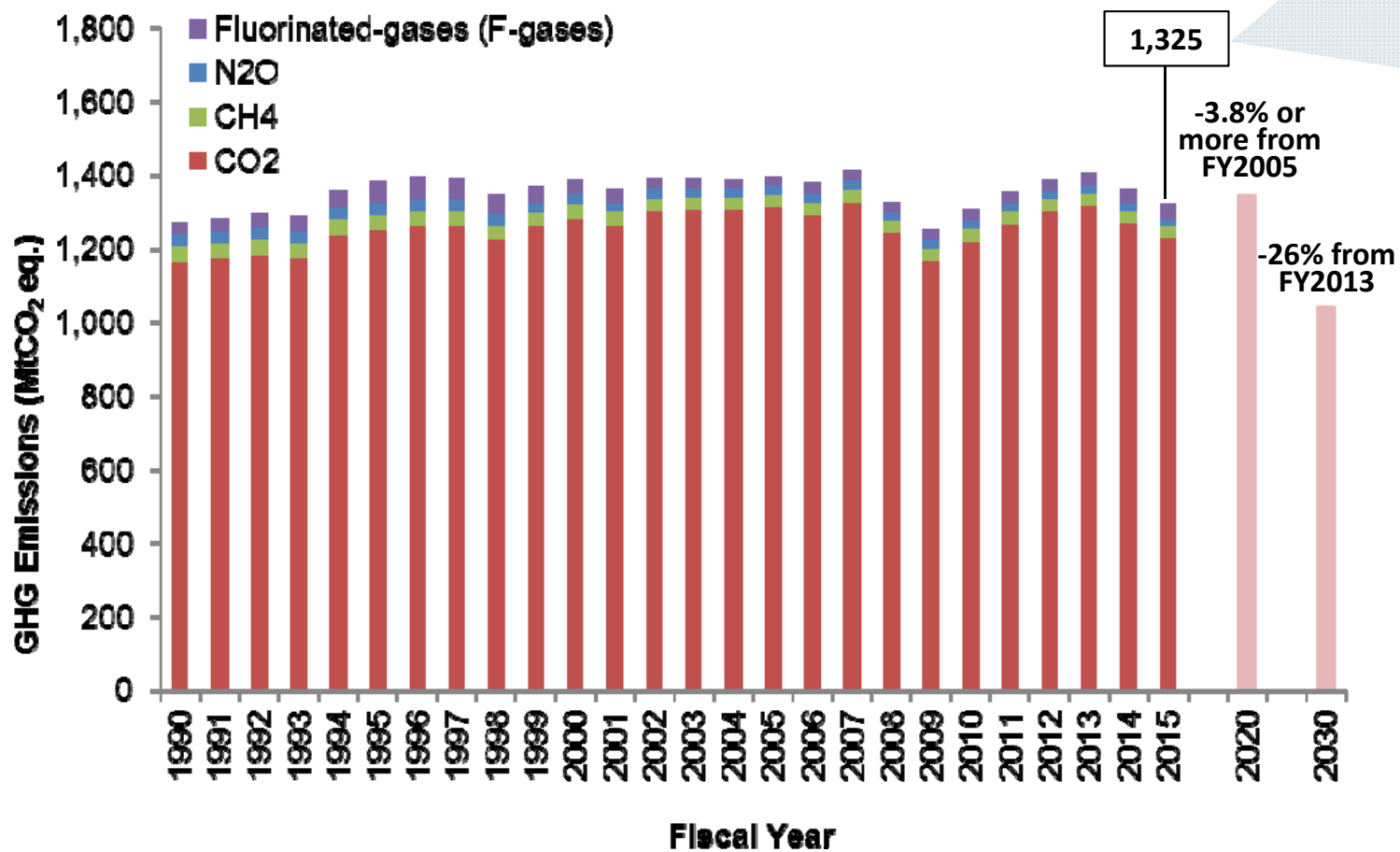
# Outline of the presentation

- GHG Emissions and Trends
- Japan's Emissions Reduction Target
- Policies and Measures
- Long-term Low-carbon Vision

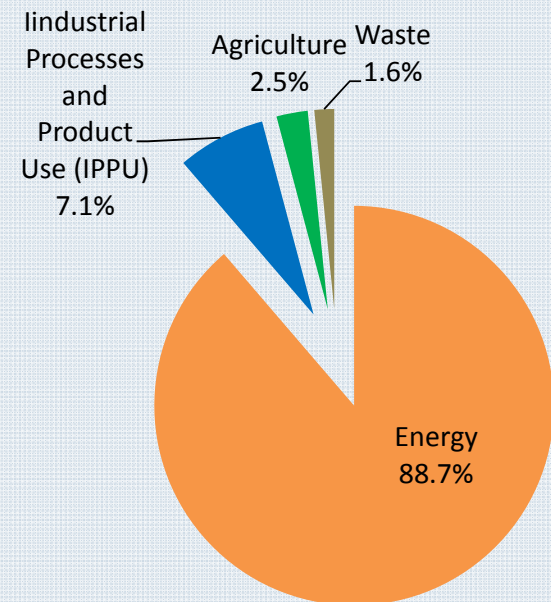


## ■ GHG Emissions and Trends

# GHG Emissions Trends (1990-2015)



## Emissions by sector in FY 2015 (excluding LULUCF)

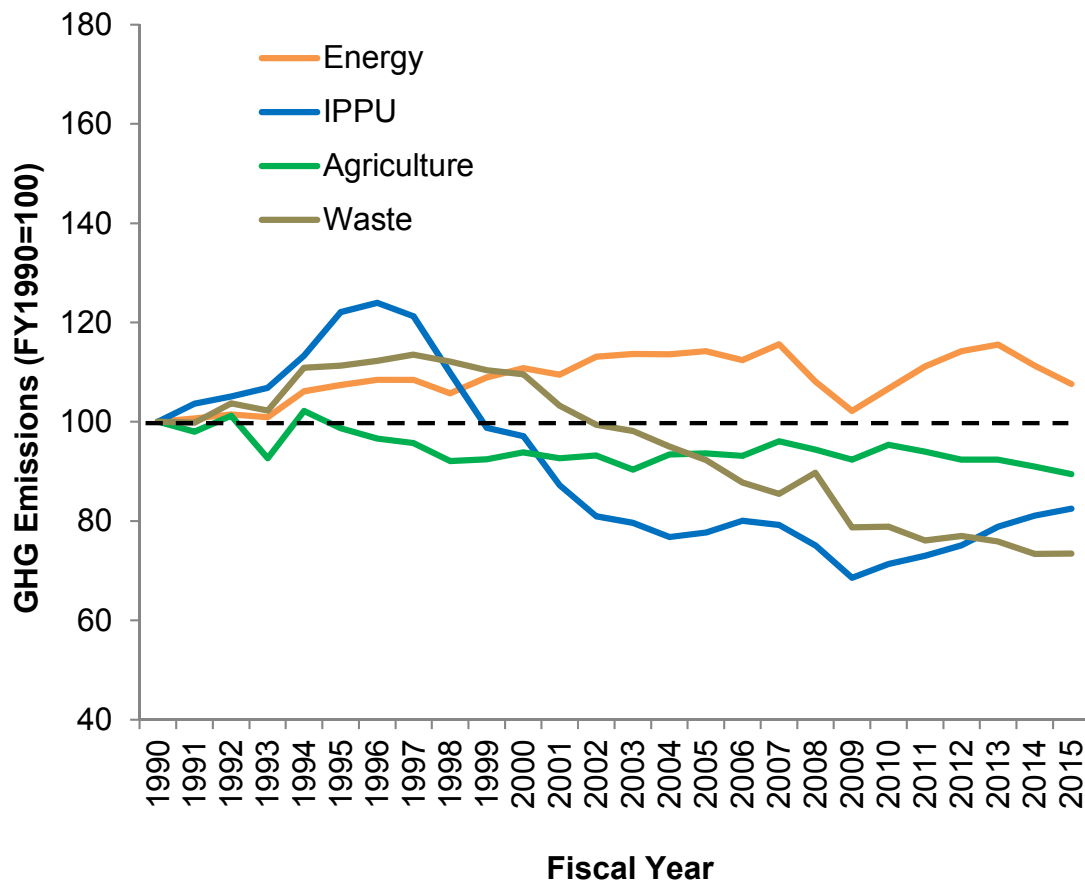


(Source) National Greenhouse Gas Inventory Report of Japan (April, 2017), Global Warming Countermeasures Plan

Note: The values of GHG emissions are based on the 2017 GHG inventory submission, which were revised from the values reported in the BR2. In the right pie chart, total is not equal 100% due to rounding.

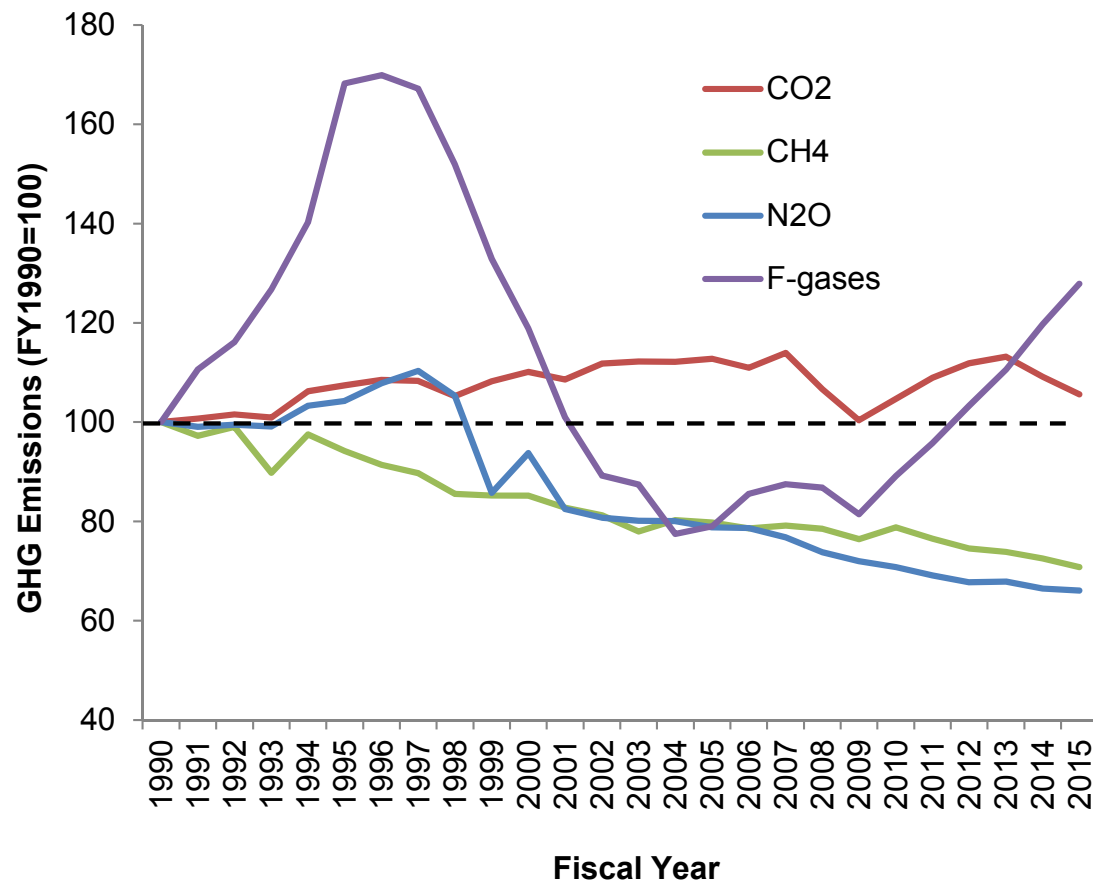
# GHG Emission by Sector / by Gas (1990-2015)

## Emissions trend by sector



(Source) National Greenhouse Gas Inventory Report of Japan (April, 2017)

## Emissions trend by gas

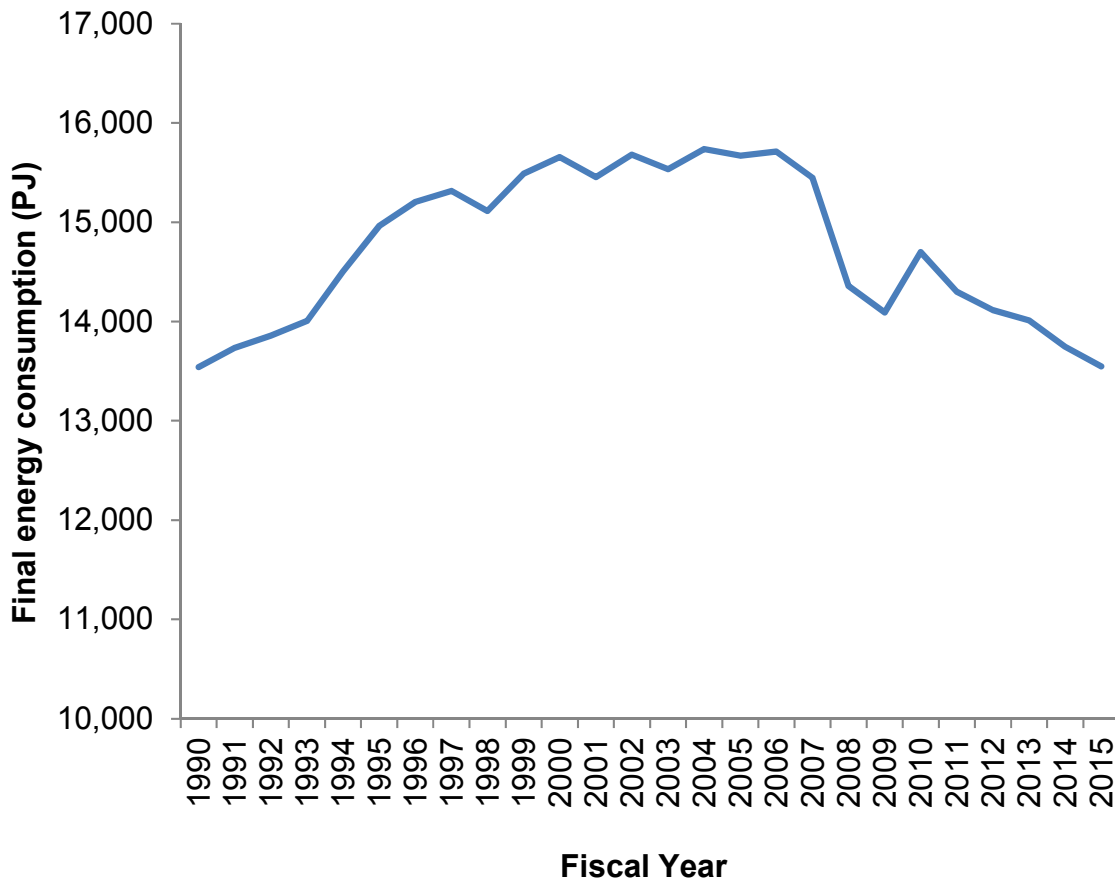


(Source) National Greenhouse Gas Inventory Report of Japan (April, 2017)

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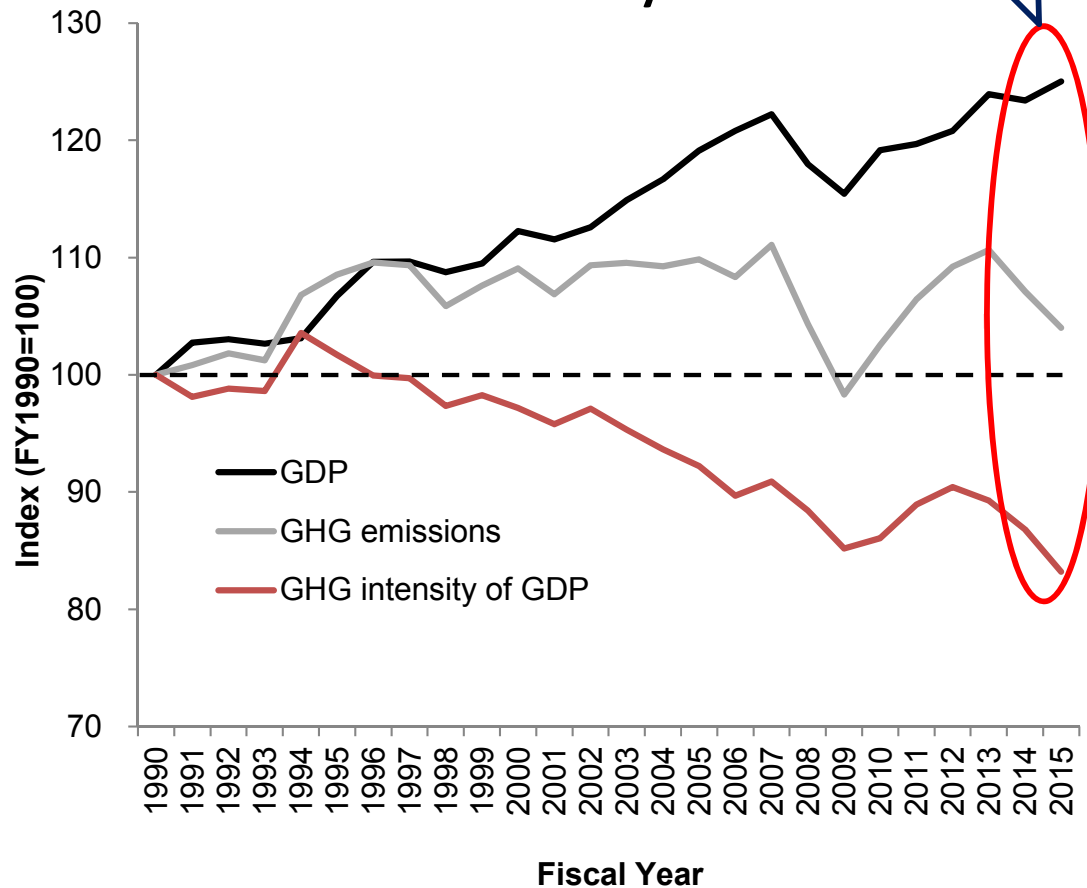
# Trends of Energy Consumption and GHG Intensity

## Final energy consumption



(Source) General Energy Statistics of Japan (April, 2017)

## GHG intensity of GDP



(Source) National Greenhouse Gas Inventory Report of Japan (April, 2017), Annual Report on National Accounts

Note: The values of GHG emissions are based on the 2017 GHG inventory submission, which were revised from the values reported in the BR2.

A scenic landscape featuring a mountain range under a blue sky with wispy clouds. The foreground and middle ground are filled with dense forests showing vibrant autumn colors in shades of red, orange, and yellow, interspersed with green evergreen trees. A small body of water is visible in the distance. A semi-transparent text box is overlaid on the lower portion of the image.

## ■ Japan's Emissions Reduction Target

# Japan's Emissions Reduction Target

- 2020 target: 3.8% or more emission reduction by 2020 compared to 2005 (Updated on May, 2016)
- 2030 target (Japan's NDC): 26.0% reduction by 2030 compared to 2013 (25.4% reduction by 2030 compared to 2005)

	2020	2030
<b>Emissions reduction target</b>	3.8% or more reduction	26.0% reduction (25.4%)
<b>Base year</b>	FY2005	FY2013 (FY2005)
<b>Target year</b>	FY2020	FY2030
<b>Covered gases</b>	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFCs, PFCs, SF <sub>6</sub> and NF <sub>3</sub>	CO <sub>2</sub> , CH <sub>4</sub> , N <sub>2</sub> O, HFCs, PFCs, SF <sub>6</sub> and NF <sub>3</sub>
<b>GWP</b>	IPCC AR4	IPCC AR4
<b>Covered sector</b>	Energy, Transport, IPPU, Agriculture, LULUCF and Waste	Energy, Transport, IPPU, Agriculture, LULUCF and Waste
<b>Removals from the LULUCF</b>	Included (Activity-based approach)	Included (Activity-based approach)



A young owl with light brown, downy feathers and bright yellow eyes is perched on a thick, grey tree branch. The owl is looking directly at the camera. The background is a dense forest of green leaves, slightly out of focus. A semi-transparent grey box with a halftone pattern is overlaid on the lower part of the image, containing the text 'Policies and Measures'.

## ■ Policies and Measures

# Plan for Global Warming Countermeasures (May 2016)

## ■ Purpose of the Plan

Promote Japan's global warming countermeasures in a comprehensive and a well-planned manner

## ■ Contents

- ✓ Basic direction regarding the promotion of global warming countermeasures pursuing actions toward:
  - National mid-term target : 26% reduction by 2030
  - National long-term goal : aim for 80% reduction by 2050
  - Global GHG reduction
- ✓ GHG reduction target
  - BY FY2030 : 26% (25.4%) reduction compared to FY2013 (FY2005)
  - BY FY2020 : 3.8% or more reduction compared to FY2005
- ✓ Progress Management of the Plan
  - Progress review : every year
  - Revision consideration : every 3 years
- ✓ Polices and measures for achieving targets

# Examples of Policies and Measures (1)

## Low-Carbonization of Electricity

- 44% of non-fossil fuel power supply in 2030 (renewable and nuclear).
- Reform and operation of FIT (feed-in-tariff) scheme for renewable energies
- Utilizing nuclear power generation whose safety is confirmed
- Improving the Efficiency of Thermal Power Generation



Wind power



Small scale hydraulic power



Solar PV



Biomass



Geothermal power

## Top Runner Program

- Mandatory program for manufacturers and importers to fulfill energy efficiency targets, encouraging competition and innovation

### Improvement in energy efficiency



**Air-conditioners 30.7%** (FY2001→FY2014)



**Passenger cars 96.7%** (FY1996→FY2014)

# Examples of Policies and Measures (2)

## Highly Energy-Efficient Vehicles

- Share of next-generation vehicles: 50 to 70% by FY2030



Electric vehicles (EV)



Plug-in Hybrid vehicles (PHV)



Fuel cell vehicles (FCV)

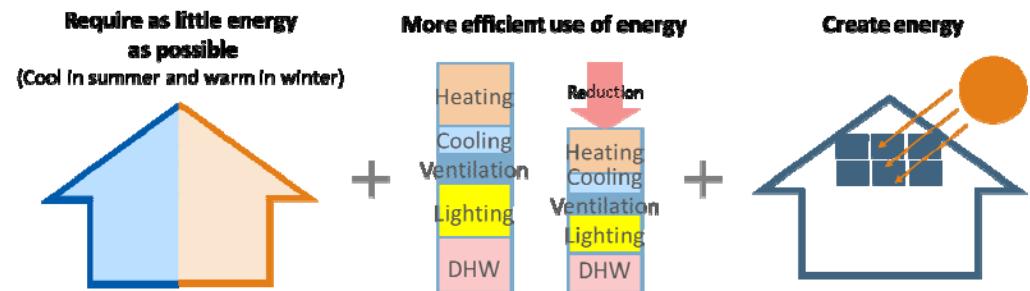


EV charger

## Low-Carbonization of Houses and Buildings

- Mandatory energy efficiency standards for newly constructed houses and buildings: gradual introduction by 2020
- Promoting ZEH (Net-zero-energy houses)/ZEB (Net-zero-energy buildings)

**ZEH/ZEB: Net annual energy consumption in the house/building is around zero or below**



## “COOL CHOICE” campaign



Choose now for our future

### Develop a sense of urgency on global warming crisis

- ✓ Help people to relate global warming issues with their personal lives
- ✓ Encourage their voluntary actions as individuals  
e.g. : Production of effective content for crisis education



### (1) Replacement to low-carbon products

e.g. : LED and energy efficient appliances

### (2) Low-carbon services

e.g. : Promote use of public transport

### (3) Low-carbon lifestyle

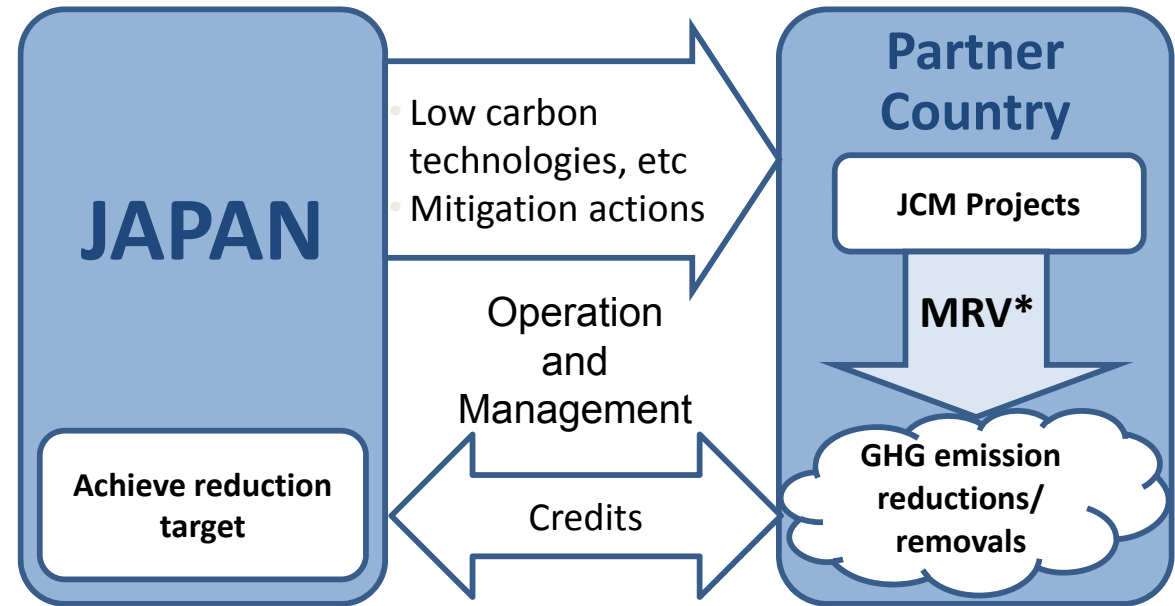
e.g. : Public relations activities on campaigns such as COOL BIZ, WARM BIZ, Eco-drive



# Joint Crediting Mechanism (JCM)

## Progress:

- 17 partner countries with 105 projects in the pipeline
- Credits already issued from 5 projects
- 35 MRV\* methodologies



MRV: measurement, reporting and verification

## (Example of pipeline projects)



【Waste heat recovery in cement industry】  
(Indonesia)  
122,000tCO<sub>2</sub>/y.



【Waste to Energy plant】  
(Myanmar)  
4,732tCO<sub>2</sub>/y.  
Start operation: Apr. 2017



【Energy-efficient data center】  
(Laos)  
1,074tCO<sub>2</sub>/y.  
Start operation Jan. 2017



【Low carbon hotel by development of BEMS】  
(Viet Nam)  
605tCO<sub>2</sub>/y.  
Start operation: Jan. 2017

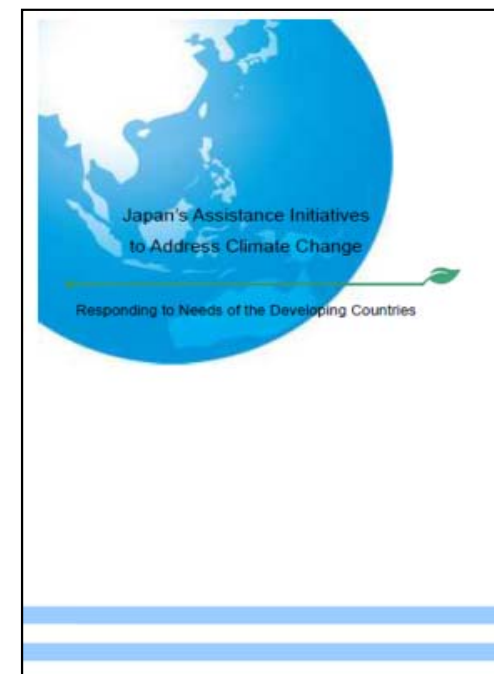
# Japan's Assistance Initiatives to address Climate Change

## Outline

- In Nov. 2016, Japan announced the initiative to support the implementation of the developing countries in accordance with their various needs, while taking advantage of Japan's strengths.

## Main Areas of Japanese Contribution

1. **Mitigation** : Diffusion of superior low-carbon-emission technology
2. **Adaptation** : Sharing of Japan's experiences and cases
3. **Transparency**: Human resource development for inventory enhancement
4. Measures against **fluorocarbons** : Comprehensive measures for controlling emission of fluorocarbons
5. **SDGs** : Support for sustainable societies



<https://www.env.go.jp/press/files/en/698.pdf>

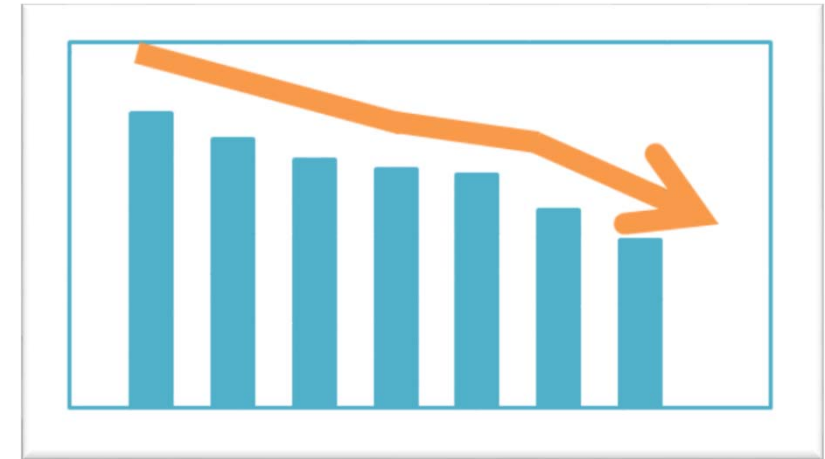


## ■ Long-term Low-carbon Vision



# Long-term low GHG emission development strategy

- Japan is committed to formulate and communicate well ahead of 2020 deadline, stated in G7 Ise-Shima Leaders' Declaration. The timing of submission to be decided.
- Relevant ministries convene to consider and discuss long-term strategy.



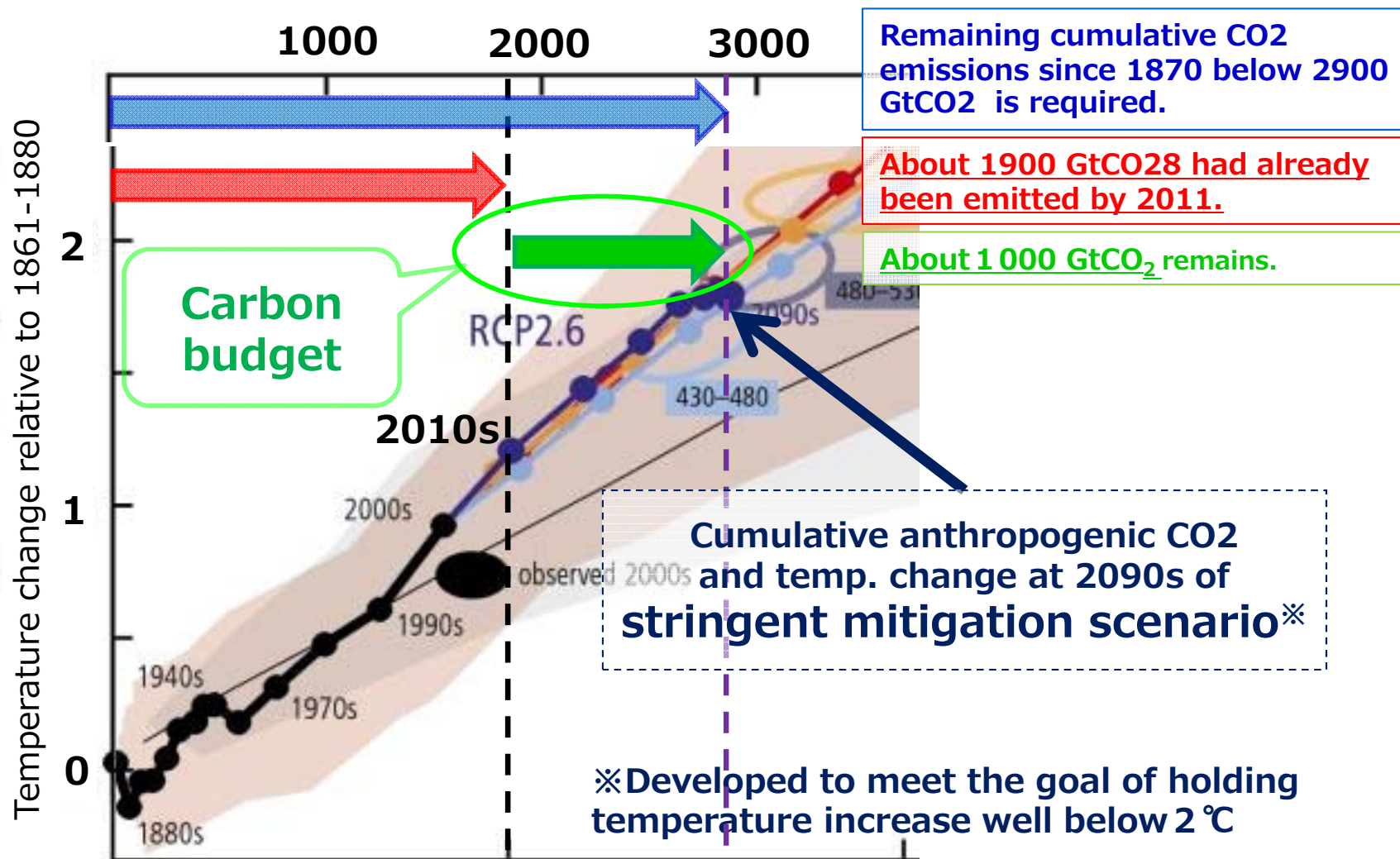
G7 Ise-Shima Summit 2016



# CO<sub>2</sub> emissions allowed to emit to achieve 2 degree target (Carbon budget)

- In order to keep the temperature increase relative to 1861-1880 by 2 degree at the probability of 66%, the cumulative total anthropogenic CO<sub>2</sub> emissions from 2011 must be kept to about 1 trillion tons (=“Carbon budget”)

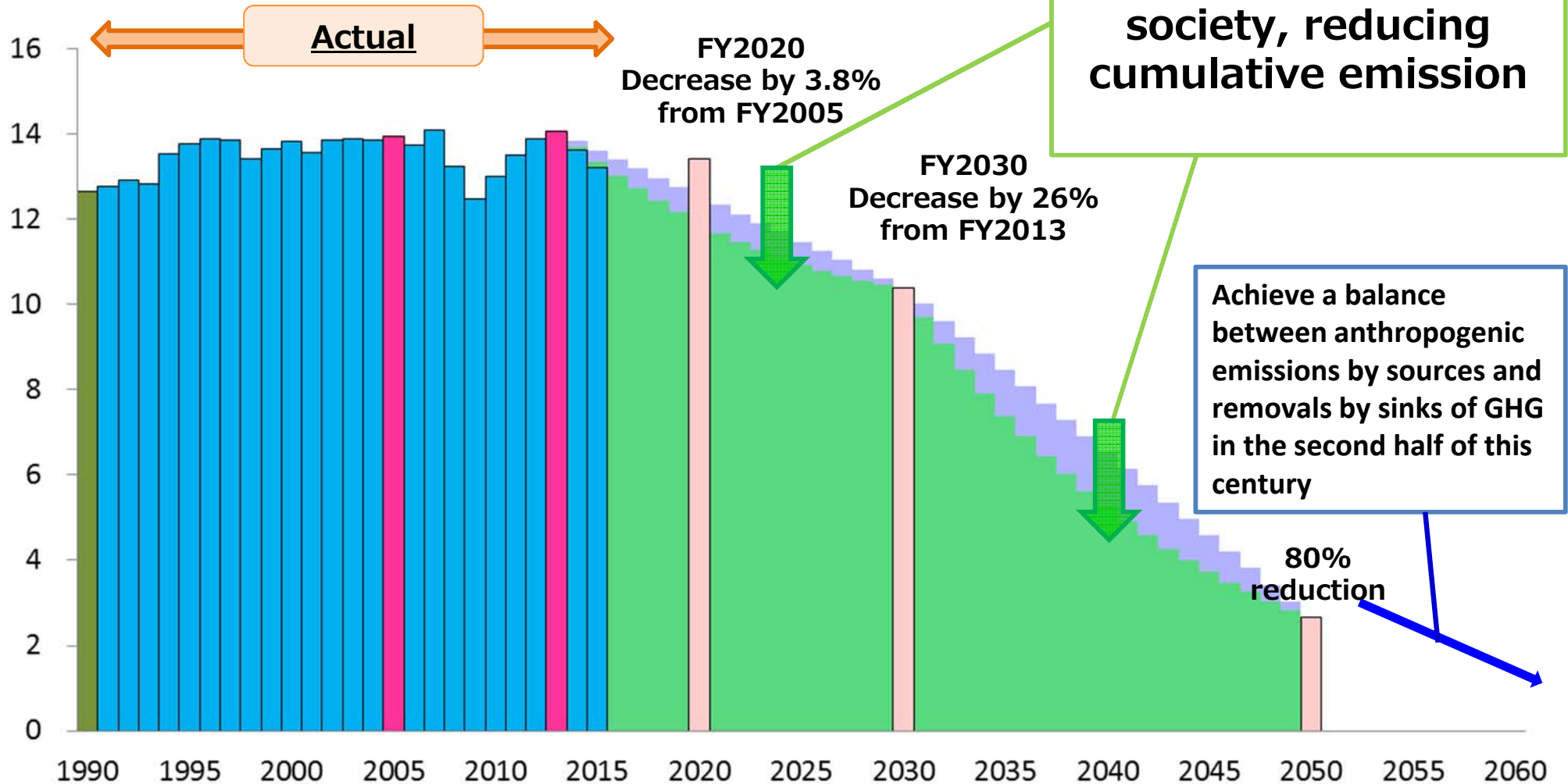
## Cumulative total anthropogenic CO<sub>2</sub> emissions from 1870 (GtCO<sub>2</sub>)



(Source) IPCC AR5 SYR Figure 2.3

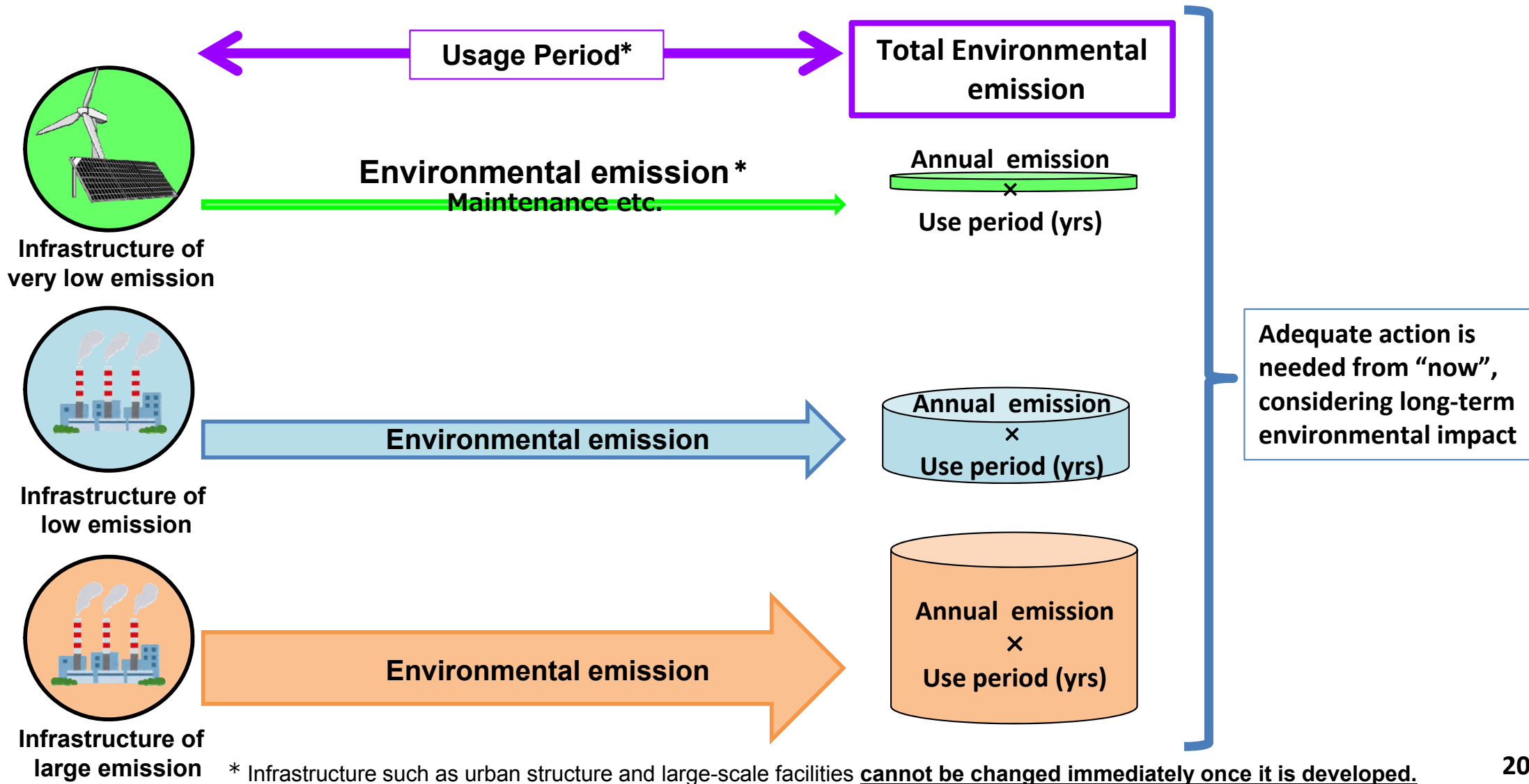
# Concept of Cumulative emissions

Emission  
(100mil tCO<sub>2</sub>eq)



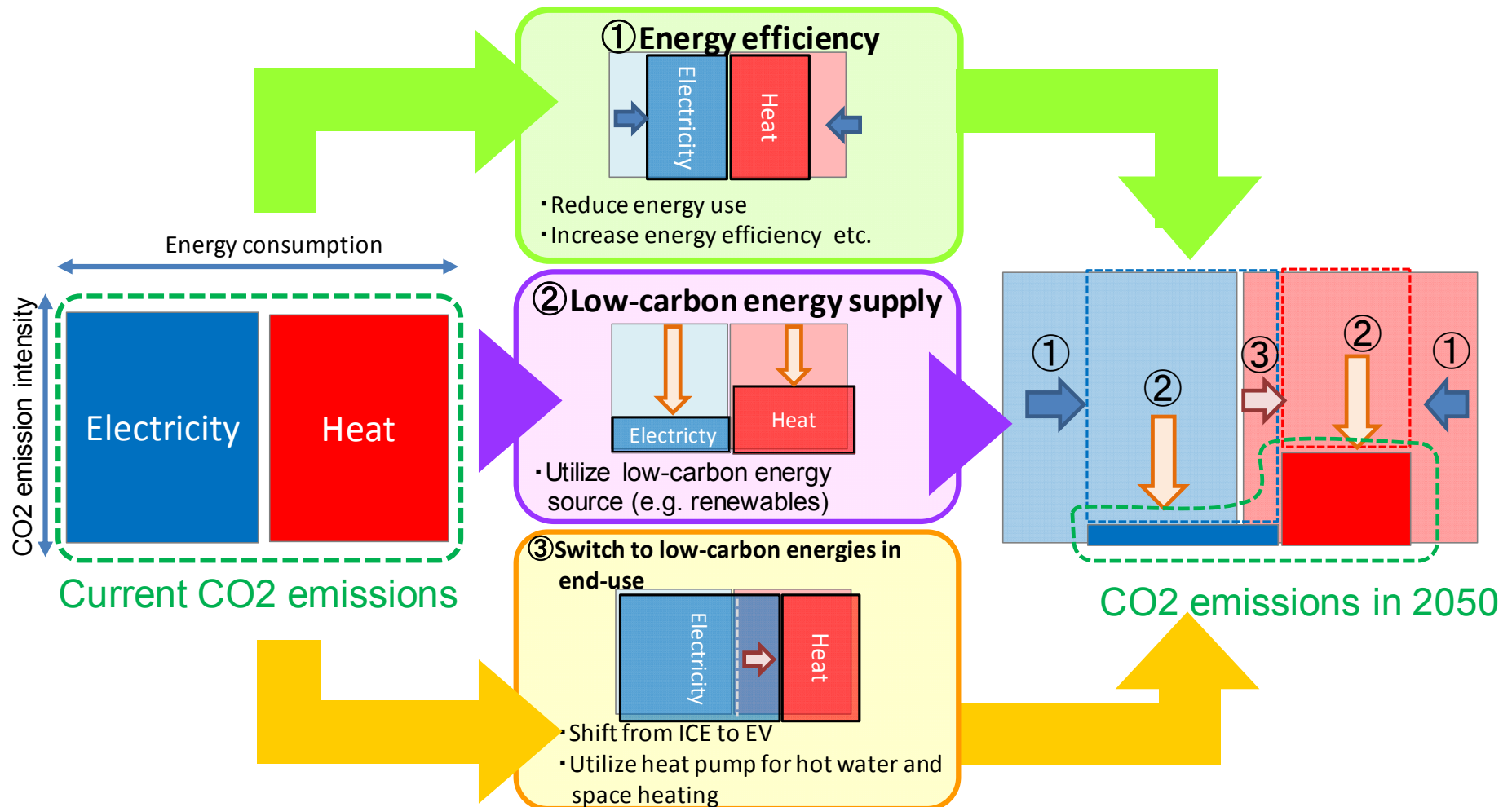
# Avoidance of “lock-in”

- Once city structure and large-scale facilities are introduced, CO2 emissions could be remained high (lock-in effect) over time.
- Need response considering long-term environmental impact.
- Need perspective of what to do “now” looking to the future.



# Basic direction of significant reduction

- Drastic social transformation is indispensable for realization of low-carbon society achieving 80%reduction by 2050.
- ①Energy efficiency, ②Low-carbon energy supply, ③Switch to low-carbon energies in end-use, should be promoted comprehensively as three pillars.



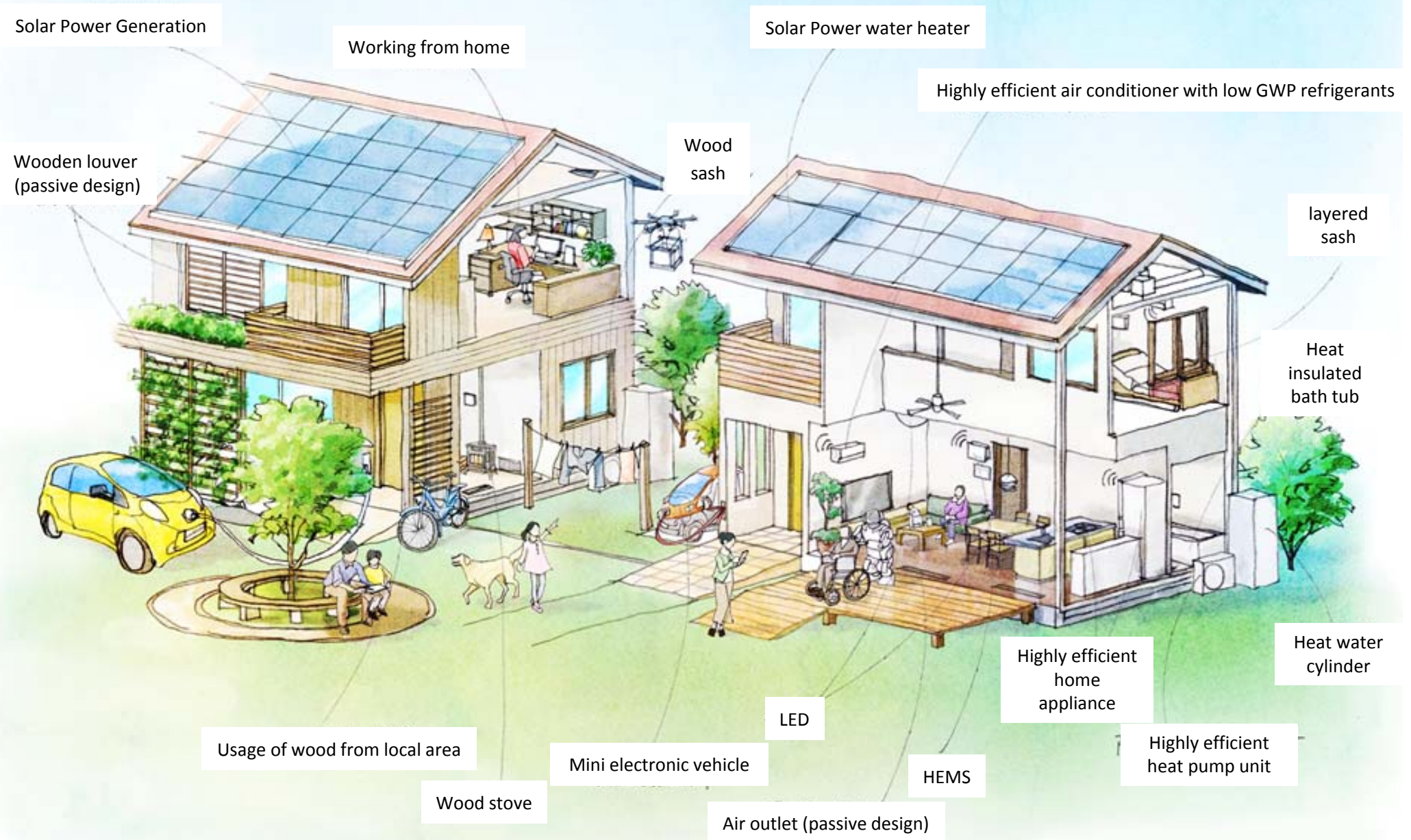


# Image of Long-term significant reduction (City)





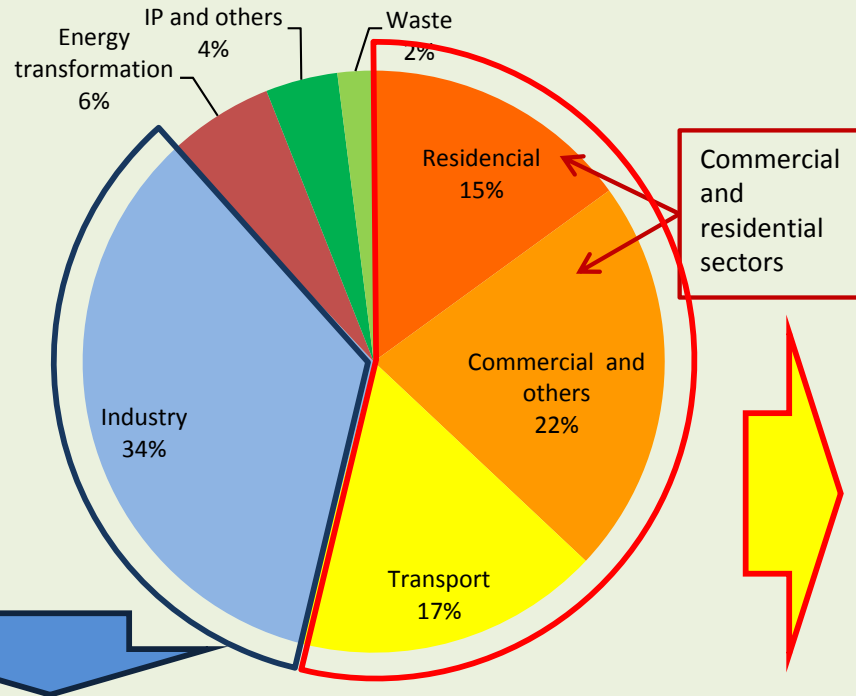
# Image of Long-term significant reduction (Residence)



# Contribution to global emission reduction in addition to domestic measures

## Domestic long-term significant reduction

Breakdown of Japan's CO<sub>2</sub> emission (FY2015)



- For domestic emissions, lot of space for long term significant reduction in **Commercial and residential sector and Transport sector.**
- Accelerate investment to low-carbon through promotion of changes to consumption behavior and replacement to low-carbon products, transformation of urban/rural structure, diffusion of renewable energy and **create huge domestic market and realize long term significant reduction.**
- Aim to address Japan's economical and social issues simultaneously.

- Long term significant reduction is a **huge challenge for all industries in the world to overcome.**
- Enhance Japan's technology competence by supporting non-stopping effort to increase **carbon efficiency of domestic industry** towards long term significant reduction.

## Contribution to global emission reduction

- **Utilize Japan's advanced technology and know-how** developed through innovations towards domestic long term significant reduction **to contribute to global emission reduction.**



## ■ Summary

# Summary

- Japan succeeded in reducing its emissions in the recent 2 years, overcoming challenges of the Great East Japan Earthquake.
- Japan is committed to achieve emission reduction targets.
  - ✓ By 2020: 3.8% or more emission reduction compared to 2005
  - ✓ By 2030: 26.0%(25.4%) reduction compared to 2013(2005) (Japan's NDC)
- Japan established “the Plan for Global Warming Countermeasures” that
  - ✓ helps to implement a variety of policies and measures,
  - ✓ requires continuous progress review, and
  - ✓ promotes government and public-private partnerships to achieve the reduction targets
- Ministry of the Environment showed images of the future Japan will head to, in the Long-term Low-carbon Vision.