Tentative Translation

Overview of the Plan for Global Warming Countermeasures

Cabinet decision on May 13, 2016

Ministry of the Environment, Japan

The Plan for Global Warming Countermeasures

- Japan's sole general plan for global warming prevention; in order to promote global warming countermeasures comprehensively and strategically.
- Decided by the Cabinet on May 13, 2016
- Prescribes the targets of emissions reduction and removal of GHG, the basic matters on measures to be taken by businesses and the public etc., and policies to be implemented by the National Government and Local Government.

○ Backgrounds

Scientific findings

Fifth Assessment Report (AR5) on Climate Change by IPCC

- ○ Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia.
- ○ There are multiple mitigation pathways that are likely to limit warming to below 2°C relative to pre-industrial levels. Scenarios, likely to limit warming to 2°C above preindustrial levels, are characterized by 40 to 70% global anthropogenic GHG emissions reductions by 2050 compared to 2010, and emissions levels near zero or below in 2100.

Establishment of an international framework after 2020 and communication of Japan's INDC

「Japan's INDC」

- ○ Sets the target of 26.0% reduction by FY2030 compared to FY2013 (25.4% reduction compared to FY2005)

Paris Agreement

- ○ All Parties including major emitters shall communicate or update a NDC every five years.
- ○ Holds the increase in the global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

Contents of the Plan for Global Warming Countermeasures

<Introduction>

○Scientific findings on global warming
○Actions during the 1st commitment period of the Kyoto Protocol
Actions by 2020 under the Cancun Agreement
○Establishment of an international framework after 2020 and communication of Japan's INDC

<1.Basic direction regarding the promotion of global warming countermeasures >

■Direction to pursue

① Actions to achieve mid-term target (26% reduction by 2030)
② Strategic actions towards long-term goal (80% reduction by 2050)
③ Actions toward global GHG reduction

■Basic concept

① Integrated improvements of the environment, economy and society
② Steady implementation of measures listed in Japan's INDC
③ Response to Paris Agreement
④ Enhancement of R&D and contribution to global GHG emissions reduction through Japan's leading technologies.
⑤ Transformation in consciousness of all actors, evocation of action and enhancement of collaboration
⑥ Emphasis on PDCA cycle

<2. GHG reduction target >

■Japan's GHG emission reductions target

- Reduction of 26% by FY2030 (25.4% compared to FY2005)
- More than 3.8% reduction by FY2020 compared to FY2005

■planning period

- From date of cabinet decision (May 13, 2016) to FY2030

<4. Progress Management of the Plan>

- Yearly progress review, consideration of the plan's revision every 3 years

<3. Polices and measures for achieving targets >

■Basic role of national government, local governments, businesses and citizens

■Measures and Policies for Greenhouse Gas Emissions Reduction and Removal

○ Energy-originated CO2
- Measures and Policies by Sectors (industrial, commercial and other, residential, transport, energy conversion)

○ Non-energy-originated CO2, CH4, N2O
○ 4 Fluorinated gases: HFCs, PFCs, SF6 andNF3
○ Removals by Land Use, Land Use change and Forestry (LULUCF)
○ Cross-sectional strategies
○ Foundational measures

■Promotion of nationwide campaign

■Basic matters regarding measures to be taken by Local Governments

■Expected Efforts of Business Operators with Large Emissions in Particular

■Promotion of global emission reduction, international collaboration and cooperation

- Response to Paris Agreement
- Global emission reduction due to Japan's contribution
  —Joint Crediting Mechanism (JCM)
  —Actions by industries
  —Support of reduction of emissions from deforestation and degradation (REDD+)
- Cooperation with other countries and international organizations

<Appendix (Target of each measure)>

■Energy-originated CO2
■Non-energy-originated CO2
■CH4, N2O
■4 Fluorinated gases
■Removals by LULUCF
■Cross-sectional policies

Basic Direction of GW Countermeasures Promotion

○ Direction of Japan's global warming Countermeasures

Japan takes the lead in taking global warming countermeasures, based on scientific findings, in an internationally coordinated manner.

Actions to achieve mid-term target (reduction target by FY2030)

Japan takes steady steps to achieve the mid-term target of 26.0% reduction by FY2030 compared to FY2013 (25.4% compared to FY2005) through domestic emission reductions and removals assumed to be obtained.

Strategic actions towards long-term goal

Based on the Paris Agreement, under a fair and effective international framework applicable to all major Parties, Japan leads international community so that major emitters undertake emission reduction in accordance with their capacities, and, aims to reduce greenhouse gas emissions by 80% by 2050 as its long-term goal, while pursuing the global warming countermeasures and the economic growth at the same time. Such a deep cut in emissions is difficult to achieve through the extension of existing measures so far. Therefore, Japan pursues solution through innovation such as development and deployment of innovative technologies which enables drastic emission reductions, and, while promoting domestic investment, enhancing the international competitiveness, and asking citizens for their opinion, aims to achieve a deep cut in emissions through long-term, strategic actions, and contributes to global GHG emission reductions.

Actions toward global GHG reduction

A key to maintain compatibility between the global warming countermeasures and the economic growth is the development of innovative technology. The Government promotes development and demonstration of technologies based on, inter alia, "Environmental and Energy Technology Innovation Plan", and also enhances R&D of innovative technologies based on "National Energy and Environment Strategy for Technological Innovation towards 2050". Also, Japan makes full contribution to global reduction of GHG emissions utilizing its leading technologies.

○ Basic concept for global warming countermeasures

- Integrated improvements of the environment, economy and society
- Steady implementation of measures listed in Japan's INDC
- Response to Paris Agreement (consideration of long-term and strategic actions)
- Enhancement of R&D and contribution to global GHG emissions reduction through Japan's leading technologies.
- Transformation in consciousness of all actors, evocation of action and enhancement of collaboration
- Emphasis on PDCA cycle

✓ Under the Paris Agreement all Parties should strive to formulate and communicate long-term low GHG emission development strategies.

✓ Japan continues to consider its long-term and strategic actions.

Targets of Emission Reductions and Removals

- Sets at the level of a reduction of 26.0% by FY2030 compared to FY2013 (25.4% compared to FY2005),as mid-term target in accordance with Japan's INDC, based on the amount of domestic emission reductions and removals assumed to be obtained.
- Sets at the level of a reduction of more than 3.8% compared to FY2005 as a reduction target by FY 2020 .

	FY2005 (actual)	FY2013 (actual)	Estimated emission in FY2030 by sector
Energy-originated CO_2	1,219	1,235	927
Industrial sector	457	429	401
Commercial and others	239	279	168
Residential sector	180	201	122
Transport sector	240	225	163
Energy transformation	104	101	73

	FY2005 (actual)	FY2013 (actual)	Emission target for FY2030
Non-energy-originated CO_2	85.4	75.9	70.8
Methane (CH_4)	39.0	36.0	31.6
Dinitrogen monoxide (N_2O)	25.5	22.5	21.1

	CY2005 (actual)	CY2013 (actual)	Emission target for CY2030
4 Fluorinated gases	27.7	38.6	28.9
HFCs	12.7	31.8	21.6
PFCs	8.6	3.3	4.2
SF6	5.1	2.2	2.7
NF3	1.2	1.4	0.5

	FY2005 (actual)	FY2013 (actual)	Removal target for FY2030
Sink of GHG	-	-	37.0
Forest Management	-	-	27.8
Cropland management /Grazing land management Revegetation	-	-	9.1

Unit: mil tonnes CO2

Main policies & measures listed in the Plan ①

➢ Presents policies & measures by gas, and clarifies the pathway to achieve 26% reduction

(Policies and measures in industrial sector)

○ Promotion and verification of action plans towards a low carbon society
- Sets and verifies target of CO2 reduction based on max introduction of BAT*

○ Introduction of highly energy-efficient equipment/devices, and use of Factory Energy Management System (FEMS)

(Policies and measures in commercial and other sectors)

○ Improvement of energy efficiency performance of buildings
- Promotes compliance of energy saving standards for new buildings, energy saving renovation of existing buildings, and promotes Zero Energy Buildings

○Energy-efficient devices
- 100% diffusion of high efficient light such as LED by FY2030 on stock base, and improves energy efficiency of equipment by the top runner program

○Intensive energy management by using Building Energy Management System (BEMS) and energy saving diagnostics

(Policies and measures in residential sector)

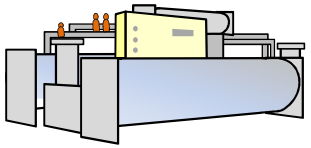
○Promotion of nationwide campaigns

○Improvement of energy efficiency performance of housing
- Promotes compliance of energy saving standards for new housings, energy saving renovation of existing housings and promotion of Zero Energy Houses

○Energy-efficient equipment
- 100% diffusion of high efficient light such as LED on stock base by FY2030, introduction of 5.3 mil house-use fuel cells by FY2030, improves energy efficiency of equipment by the top-runner program

○Intensive energy management by using Home Energy management system (HEMS), smart meters

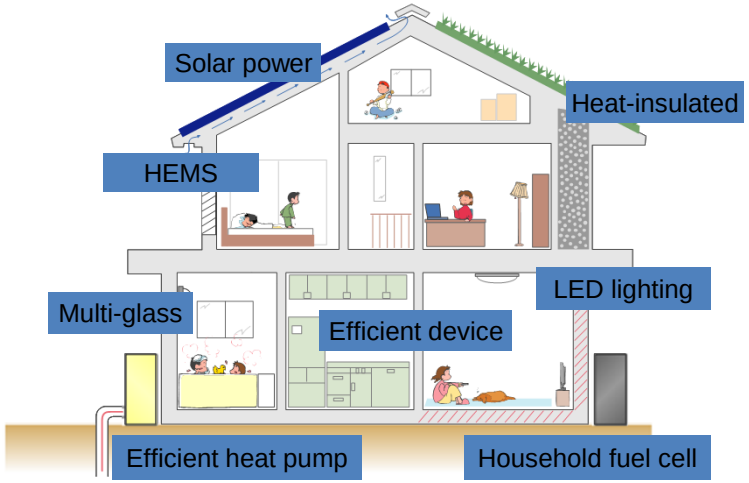
* BAT：Best Available Technology
(Best technology economically-available)



Introduction of high-efficient air conditioning

Promotion of ZEB

LED lighting



Main policies & measures listed in the Plan ②

(Policies and measures in transport sector)

○ Diffusion of next-generation automobiles, improvement of fuel efficiency
- Makes sales of EV, FCV etc. sales account for 50 to 70% of new automobile sales

○ Other measures in transport sector
- traffic flow improvement, promotion of public transport, promotion of low-carbon logistics, and modal shift

(Policies and measures in energy conversion sector)

○ Expanding renewable energy introduction to the maximum extent possible
- Appropriate use and review of feed-in tariff, grid system maintenance and consolidation of grid system operation rule

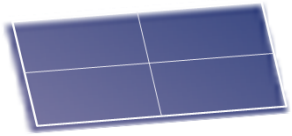
○ Pursuit of high efficiency in thermal power generation and etc.
- Ensuring effectiveness of efforts of power industry by enhancing energy saving law, adoption of BAT, and response to small-scale thermal power generation
- Utilizing nuclear power generations whose safety is confirmed

(Policies and measures for other GHG and removals by LULUCF)

○ Measures to non-energy-originated CO2, CH4, N2O, fluorinated gases, and LULUCF sector

Next-generation automobile

Promotion of nationwide campaigns



Solar power generation

(Cross-sectional strategies)

<Cross-sectional measures for achieving target>
- ○ Promotion of the J-Credit Scheme
- ○ Promotion of nationwide campaigns
- ○ Builds low-carbon city, area structure and socio-economic system

< Other related cross-sectional strategies >
- ○ Realization of hydrogen society
- ○ Efforts based on guidelines for GHG emission reductions control
- ○ Estimation, reporting and disclosure of businesses' GHG emissions
- ○ Encouraging environmental consideration in business activities
- ○ Joint Crediting Mechanism (JCM)
- ○ Greening tax system and utilization of GW Countermeasure Tax
- ○ Greening finance system
- ○ Domestic Emissions Trading Scheme

(foundational measures, international cooperation)

○ Development and societal implementation of technology, and measurement and monitoring (GaN, CNF, battery, ocean energy, Satellite 'Ibuki'; "National Energy and Environment Strategy for Technological Innovation towards 2050"

○ Efforts of public organization
- Proactive efforts of the Government and autonomies

○ Promotion of international cooperation
- Response to Paris Agreement, JCM, REDD＋
- Collaboration with countries and international bodies

○ Progress management
- Yearly progress review, consider revision of plan every 3 years, taking account of 5 year cycle of Paris Agreement

Progress Management of the Plan for Global Warming Countermeasures

○ Progress management method of the Plan

- The Global Warming Prevention Headquarters (ministerial decision-making body chaired by Prime Minister) strictly reviews every year the status of the following : attainment of targets by gas or sector; related indices; progress of individual policies & measures, taking into account the periodical review/evaluation by related ministries' Councils.

- The plan will be revised every three years as necessary, considering the status of GHG emissions and removal, and other circumstances in Japan.