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# Japan's Progress on Climate Change Measures and International Cooperation

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# Greenhouse Gas Emissions & Trends

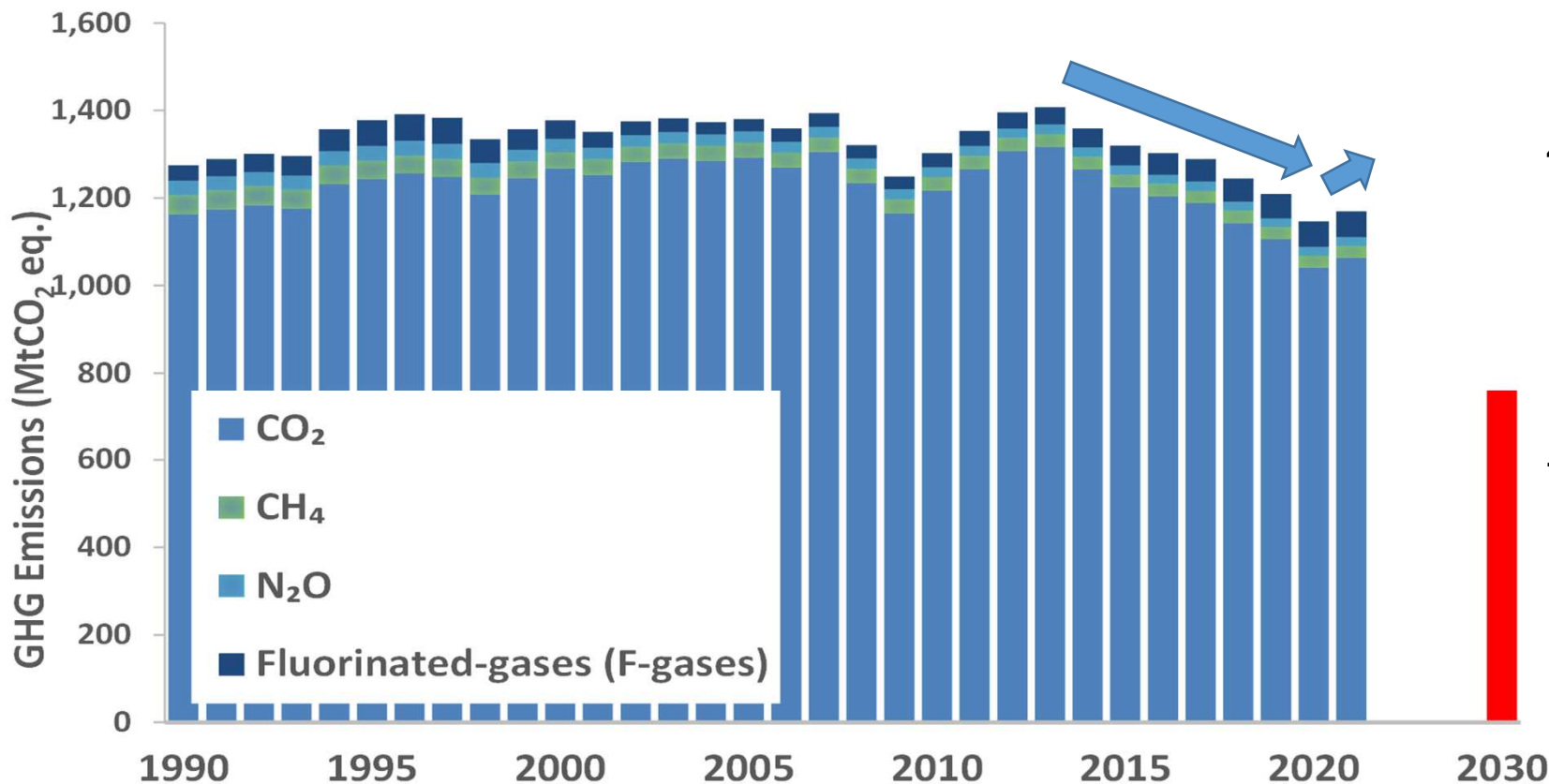




# GHG Emissions

FY2021: **1,170 million** tonnes-CO<sub>2</sub> eq.

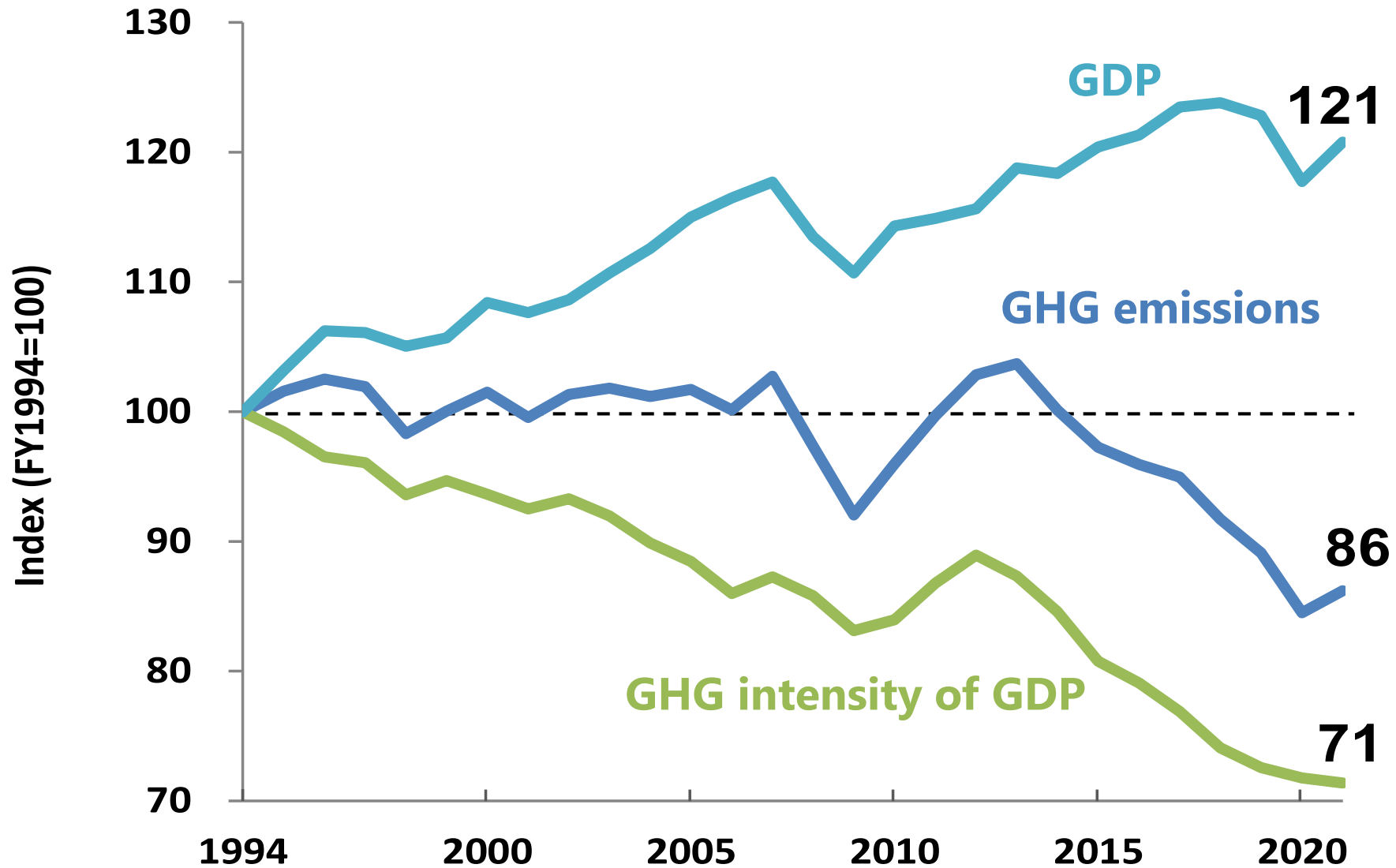
- ✓ Increase by 2.0% from FY2020 mainly due to increased energy consumption and the economic recovery from the COVID-19 pandemic
- ✓ Decrease by 16.9% from FY2013 due to the reduced energy consumption and a decrease in CO<sub>2</sub> emissions from electricity production due to the wider use of low-carbon electricity.



FY2030 target:  
46% decline  
compared to  
FY2013  
(continue  
strenuous efforts  
to 50%)

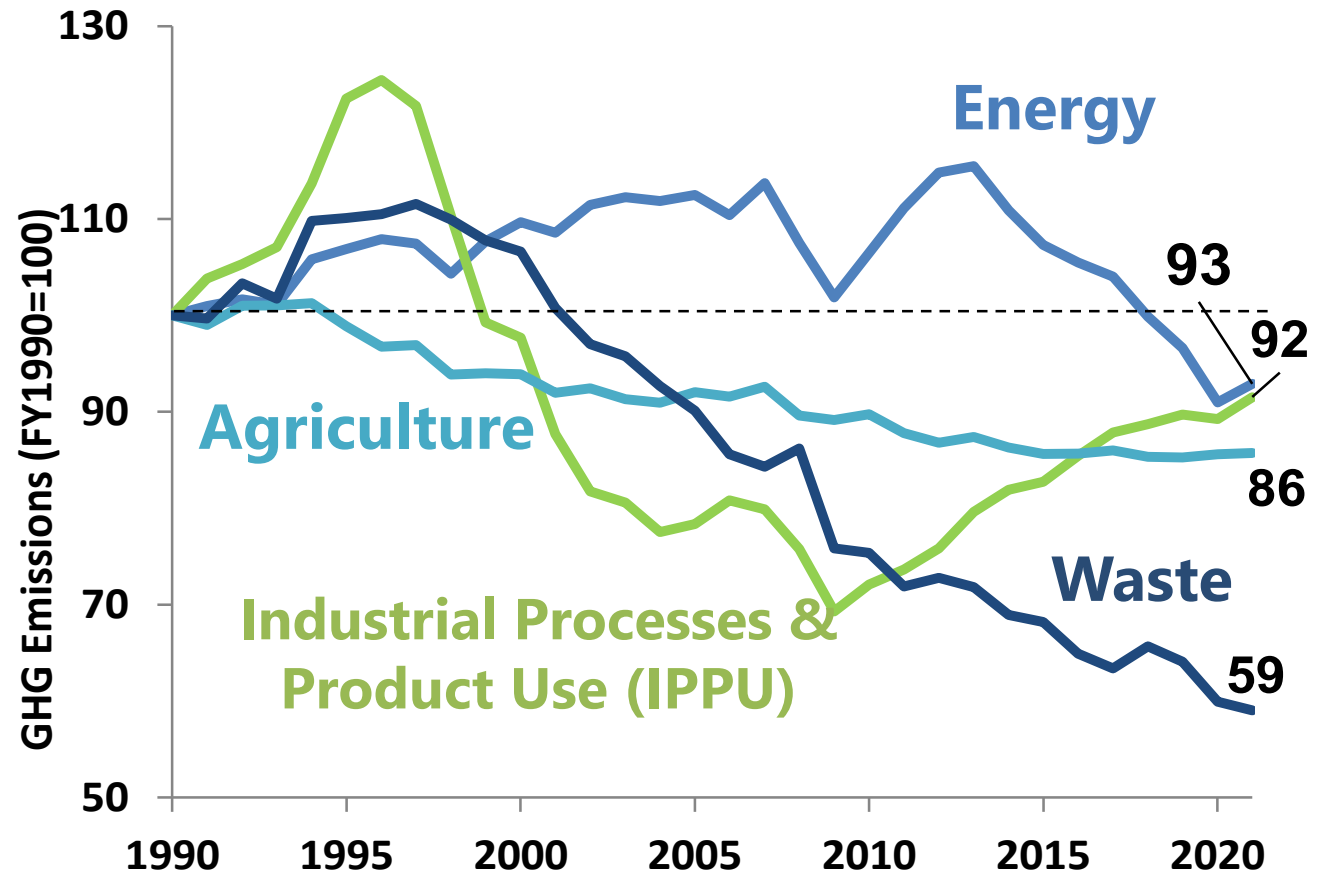
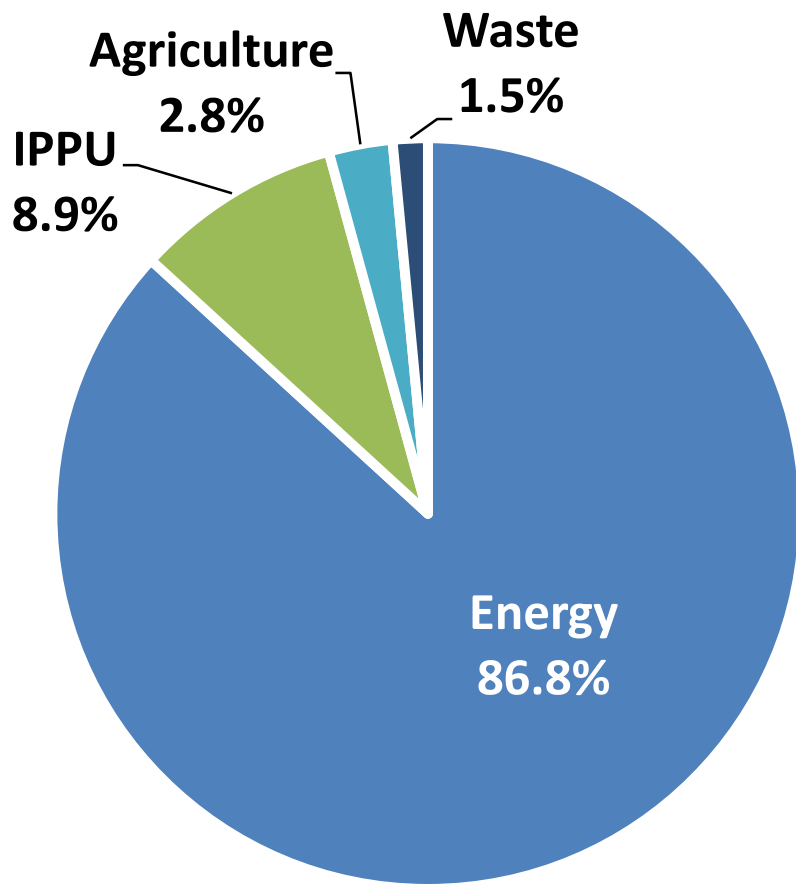
# Trends of GHG Intensity of GDP

- ✓ **GHG intensity of GDP has been decreasing** for nine consecutive years compared to FY2013.



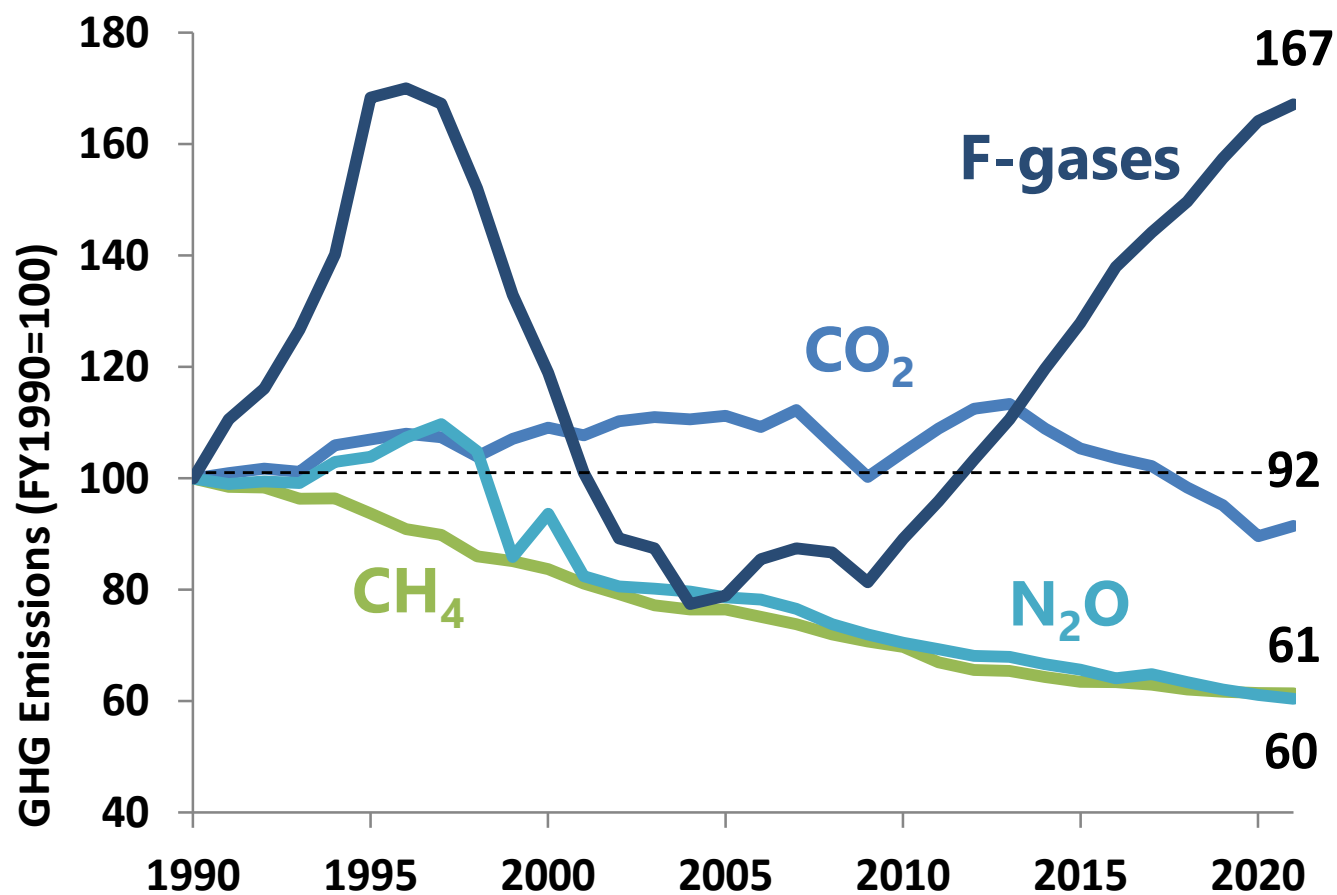
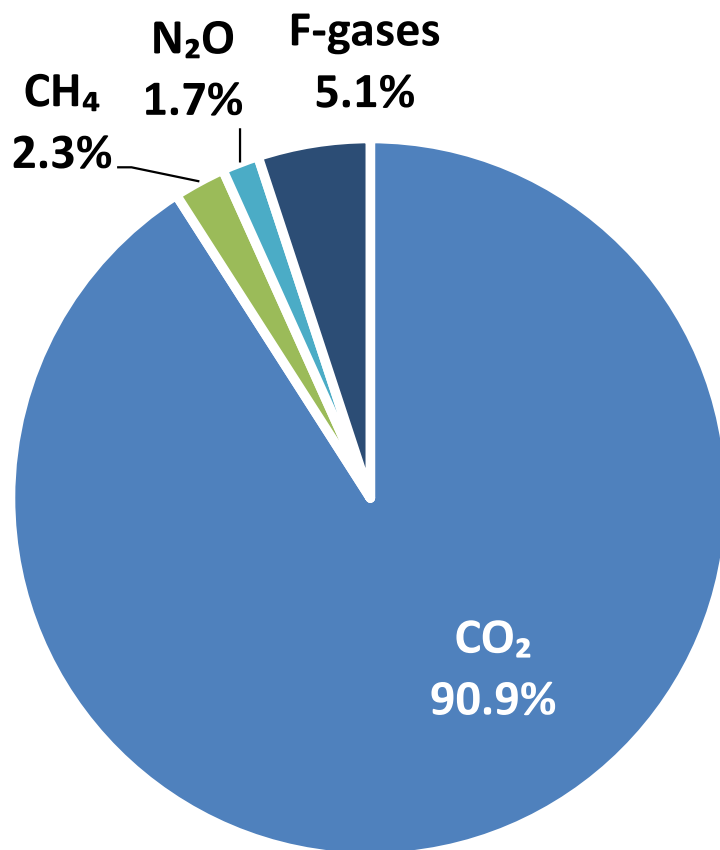
# GHG Emissions by Sector (excl. LULUCF)

- ✓ **Emissions from the energy sector**, the largest source, **decreased compared to 2013** due to the progress in energy saving activities and the decrease in thermal power generation.



# GHG Emissions by Gas (excl. LULUCF)

- ✓ **CH<sub>4</sub> and N<sub>2</sub>O emissions have been decreasing** constantly as a result of the implementation of policies and measures.
- ✓ **F-gas emissions have been increasing** since FY2009 with the replacement of equipment using ozone-depleting substances with HFCs.





# New Emission Reduction Targets

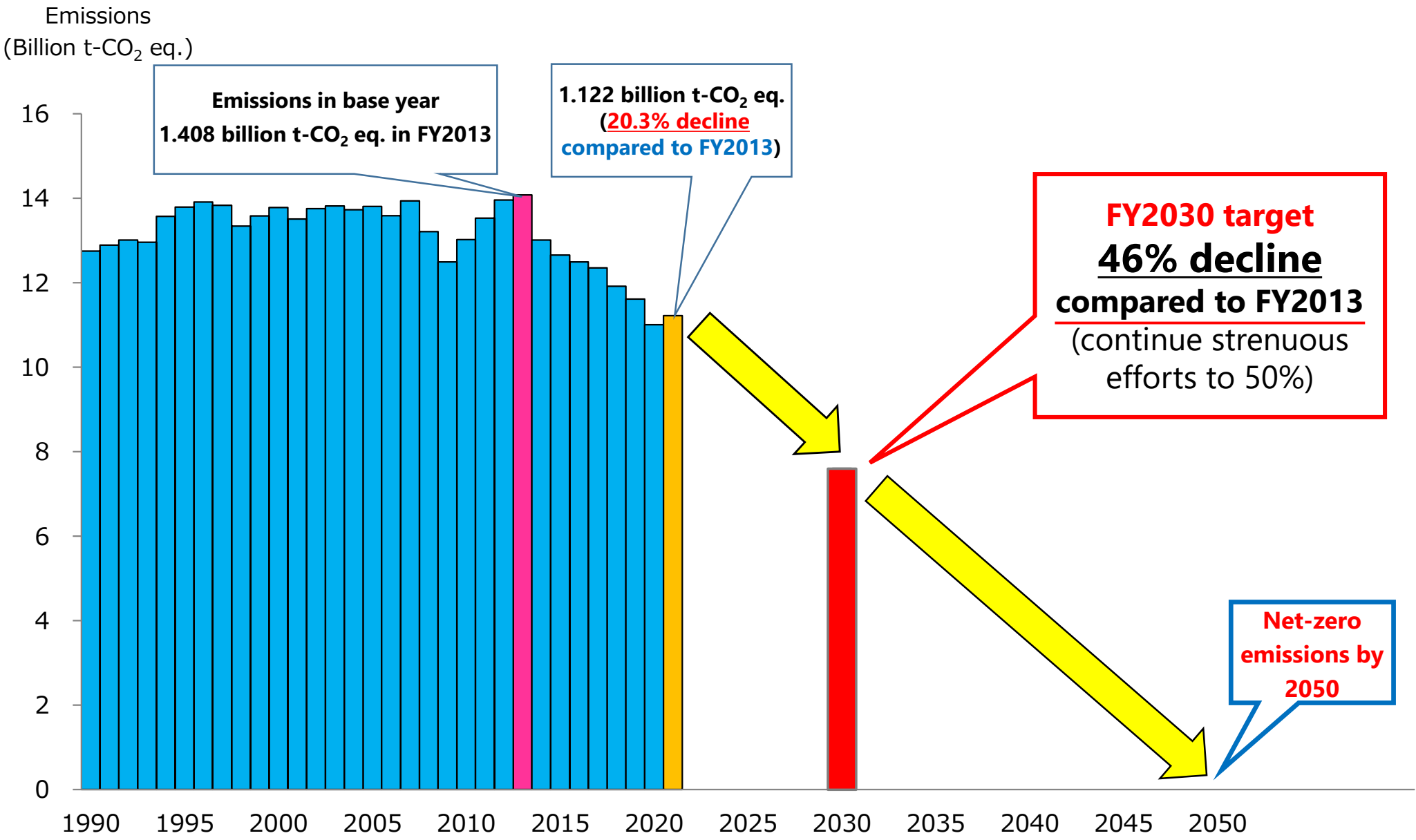


# Estimated Emissions & Removals in FY2030

(Unit: Mt-CO <sub>2</sub> eq.)	FY2013 <sup>*1</sup>	FY2021 <sup>*2</sup>	-46% (Japan's NDC)
GHG Emissions and Removals	1,408	1,122	760
Energy-related CO <sub>2</sub>	1,235	988	677
Industry	463	373	289
Commercial and others	238	190	116
Residential	208	156	70
Transport	224	185	146
Energy conversion	106	83.7	56
Non-energy-related CO <sub>2</sub>	82.3	75.8	70.0
CH <sub>4</sub>	30.0	27.4	26.7
N <sub>2</sub> O	21.4	19.5	17.8
Four gases incl. alternative CFC (HFCs, PFCs, SF <sub>6</sub> , and NF <sub>3</sub> )	39.1	59.1	21.8
Removals	-	-47.6	-47.7
Joint Crediting Mechanism (JCM)	Contributing to international emission reductions and removals at the level of a cumulative total of approximately <b>100 million tCO<sub>2</sub></b> by fiscal year 2030.		



# Japan's Medium- and Long-term Targets for GHG Reduction



Source: National Greenhouse Gas Inventory Report of Japan (April, 2023)

**Medium-term target**

**Long-term target**





# **Plan for Global Warming Countermeasures & Current Progress Status on Emission Reduction Targets**



# Examples of PaMs in the Plan for Global Warming Countermeasures

## Renewable Energies · Energy Efficiency

- Encouraging the establishment of **promotion zones**
  - Wider use of renewable energy benefitting local communities (e.g. **Solar energy**)
- Enhancing mandatory compliance with energy conservation standards in **houses and buildings**

## Industry · Transport etc.

- Innovation support toward 2050
  - Support of R&D on the priority fields such as hydrogen and storage batteries, and social implementation by a 2 trillion yen fund
- Support of R&D and demonstration toward improving energy efficiency of all new data centers by 30% or more

## Cross-sectoral Effort

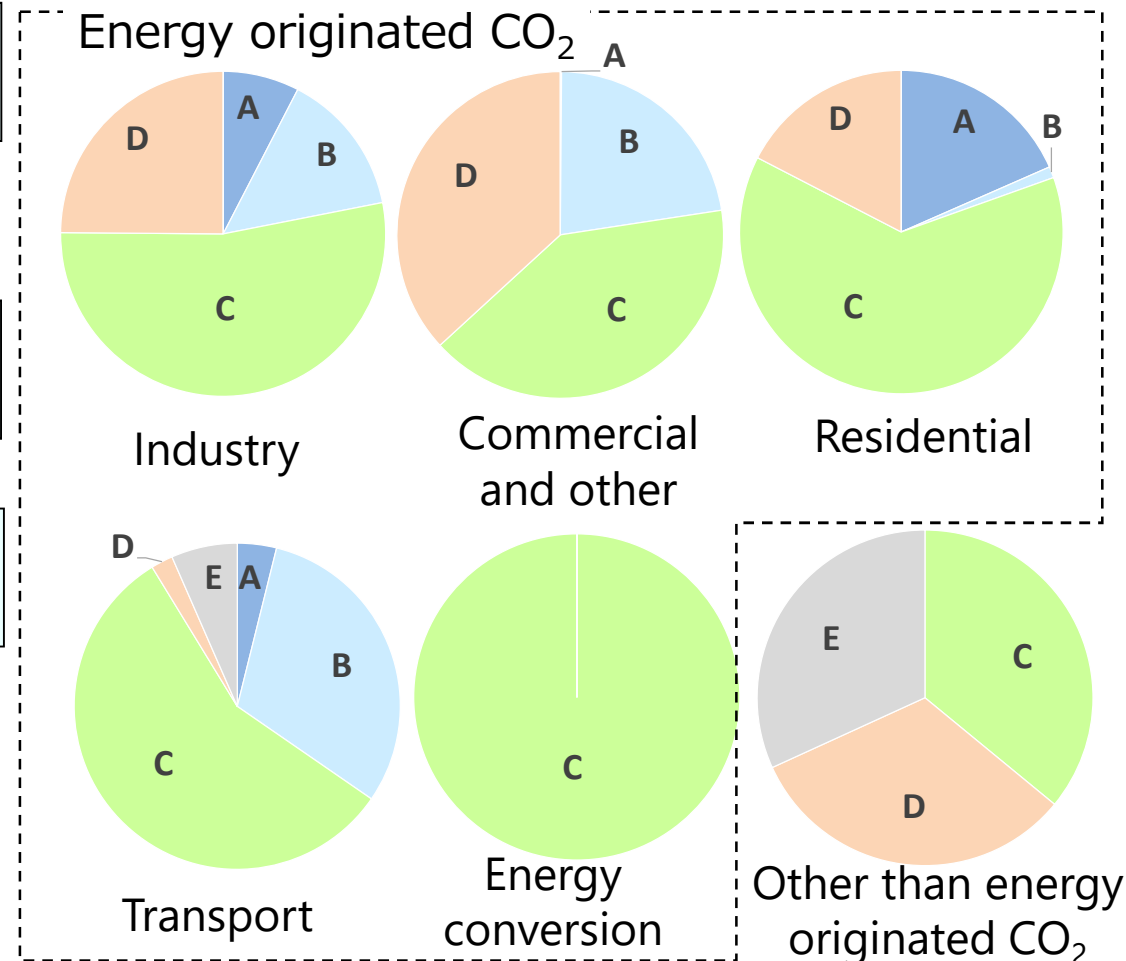
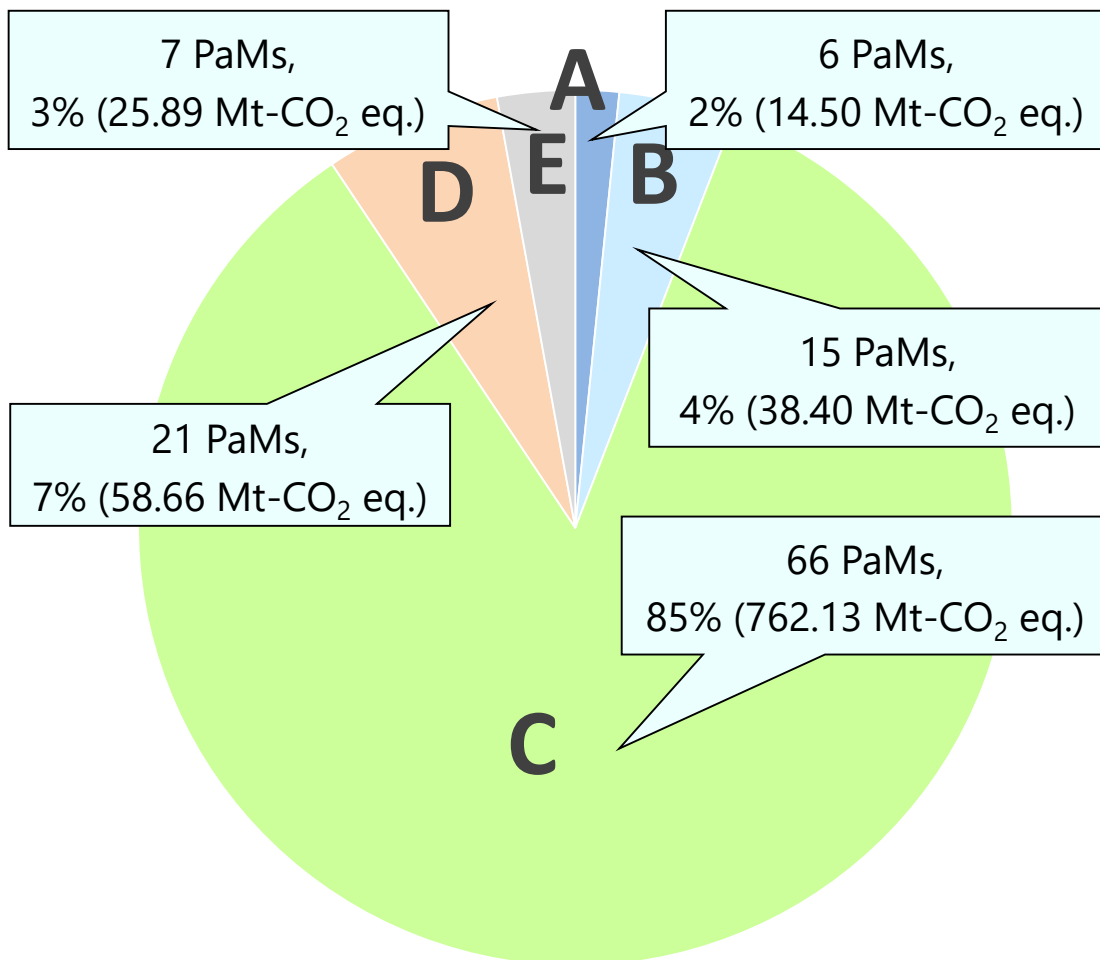
- Creation of **100 "decarbonization leading areas"** by 2030 (Regional Decarbonization Roadmap)
- Reductions of GHG emissions in developing countries by utilizing leading decarbonization technologies
  - Contributing to global GHG emission reductions by "the Joint Crediting Mechanism: JCM"



# Progress Evaluation of the Plan for Global Warming Countermeasures

Legend (if current efforts continue) , Expected to :

- A. Exceed the target levels by FY2030, or the actual performance value for FY2021 has already exceeded the target levels for FY2030.
- B. Exceed the target levels by FY2030.
- C. Reach the same levels as the target levels in FY2030.
- D. Fall below the target levels for FY2030.
- E. Other (efforts for which quantitative data cannot be obtained)



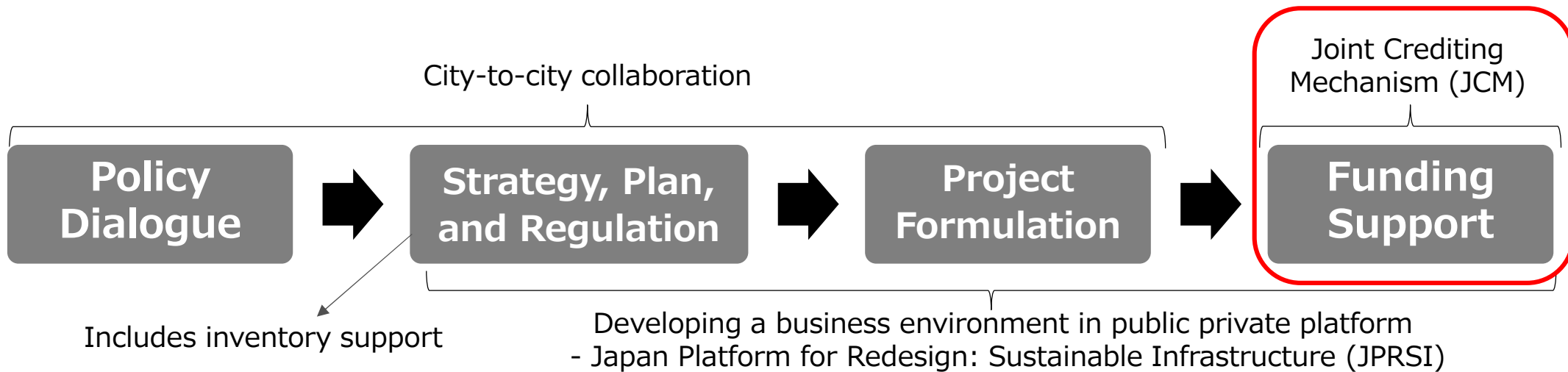
# International Cooperation



# Japan's Contributions for a Decarbonised Asia

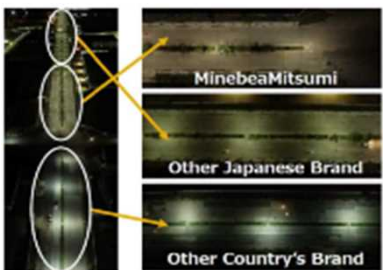


- MOE Japan supports **decarbonization in the ASEAN and Indo-Pacific region.**
- The **private sector, public sector and academia** work on various levels.



## Energy saving / renewable energy infrastructure

5600 LED streetlights were installed in Cambodia.



## Renewable hydrogen

Produce and storage renewable hydrogen in a third country, and transport to supply and use in island countries.



## Adaptation

Developed Climate Change Risk assessment methodology for Coastal Airports Operations.



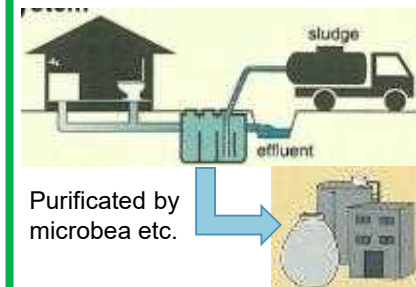
## Waste to Energy plant

Installed first WtE plant in Myanmar (2017)



## Jyokaso

Developing in China and Vietnam etc. for necessity of wastewater treatment





# Potential of Article 6 of Paris Agreement



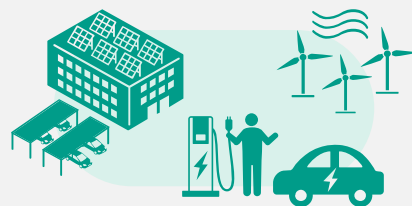
## Gaps in emissions

If fully implementing countries' conditional NDCs, Global GHG emissions can be reduced by 10 per cent compared to BAU, but in order to achieve 2.0°C and 1.5°C, **30 and 45%** of reduction is respectively needed ※<sup>1</sup>.

## Expected impacts of the Article 6 implementation

Experts have estimated that implementing Article 6 could reduce additional **4 – 12 billion tCO<sub>2</sub>**※<sup>2</sup> emission per year by 2030.

This corresponds to **10% - 40%** of global CO<sub>2</sub> emissions in 2018.



Implementing Article 6 can stimulate global carbon market as well as private investment, which simultaneously contribute to global emission reduction and countries' economic growth.

Size of carbon markets will reach US\$**300-400 billion**※<sup>3</sup> in 2030.



- ※<sup>1</sup> • UNEP. 2022. Emissions Gap Report 2022.
- ※<sup>2</sup> • J. Edmonds et al. 2021. How much could article 6 enhance nationally determined contribution ambition toward Paris Agreement goals through economic efficiency? (P.18), Climate Change Economics
  - UNEP and UNEP DTU. 2021. Emissions Gap Report 2021. (P.59)
  - TSVCM. 2021. TASKFORCE ON SCALING VOLUNTARY CARBON MARKETS Final Report (P.13)
- ※<sup>3</sup> • UNEP and UNEP DTU. 2021. Emissions Gap Report 2021 (P.60)
  - IETA (2021) The Carbon Markets Role of Article 6 Compatible Carbon Markets in Reaching Net-Zero (P.13)

# 120+ countries mention the use of Article 6 in their NDC



**165 countries that submitted new NDCs, 74% (122 countries) mentioned the use of Article 6.**

Mention Article 6.2 cooperative approach: 54% (89 countries)

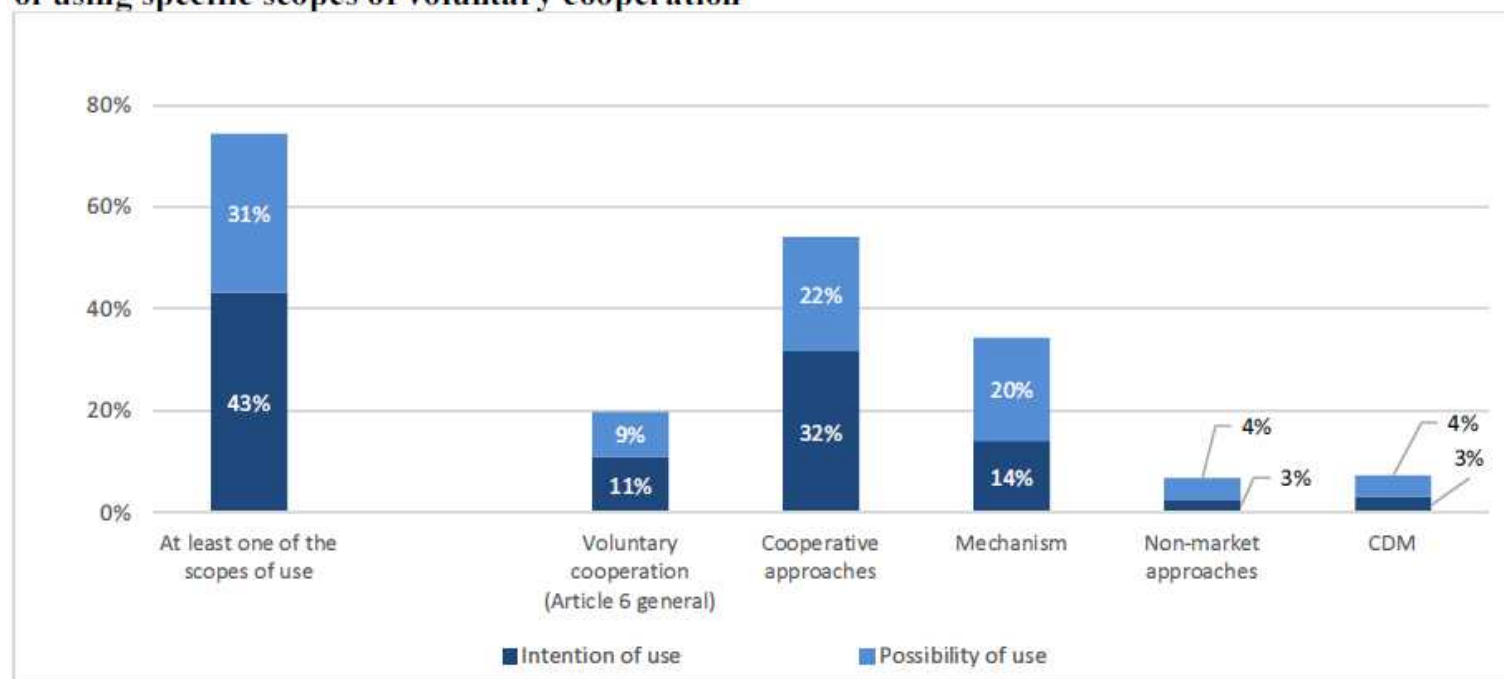
Mention Article 6.4 mechanism: 34% (56 countries)

Mention Article 6.8 non-market approaches: 7% (11 countries)

Mention Clean Development Mechanism (CDM): 7% (11 countries)

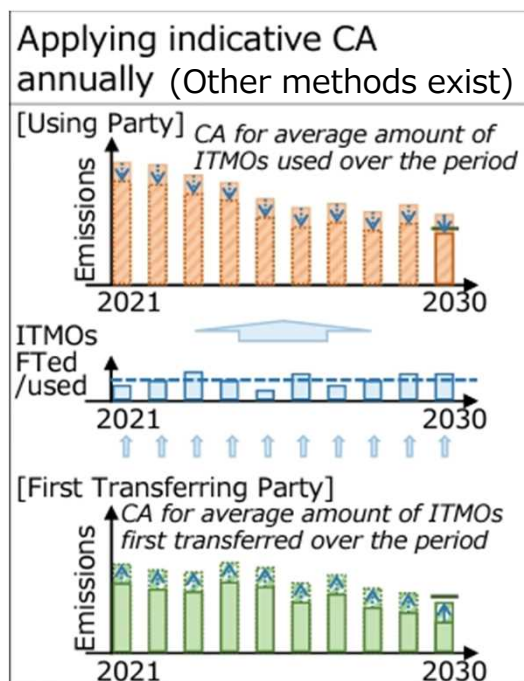
The implementation of Article 6 is now entering a stage of implementation, and **capacity building plays a significant role in its proper and early implementation.**

Share of Parties indicating in nationally determined contributions the intention to use or possibility of using specific scopes of voluntary cooperation

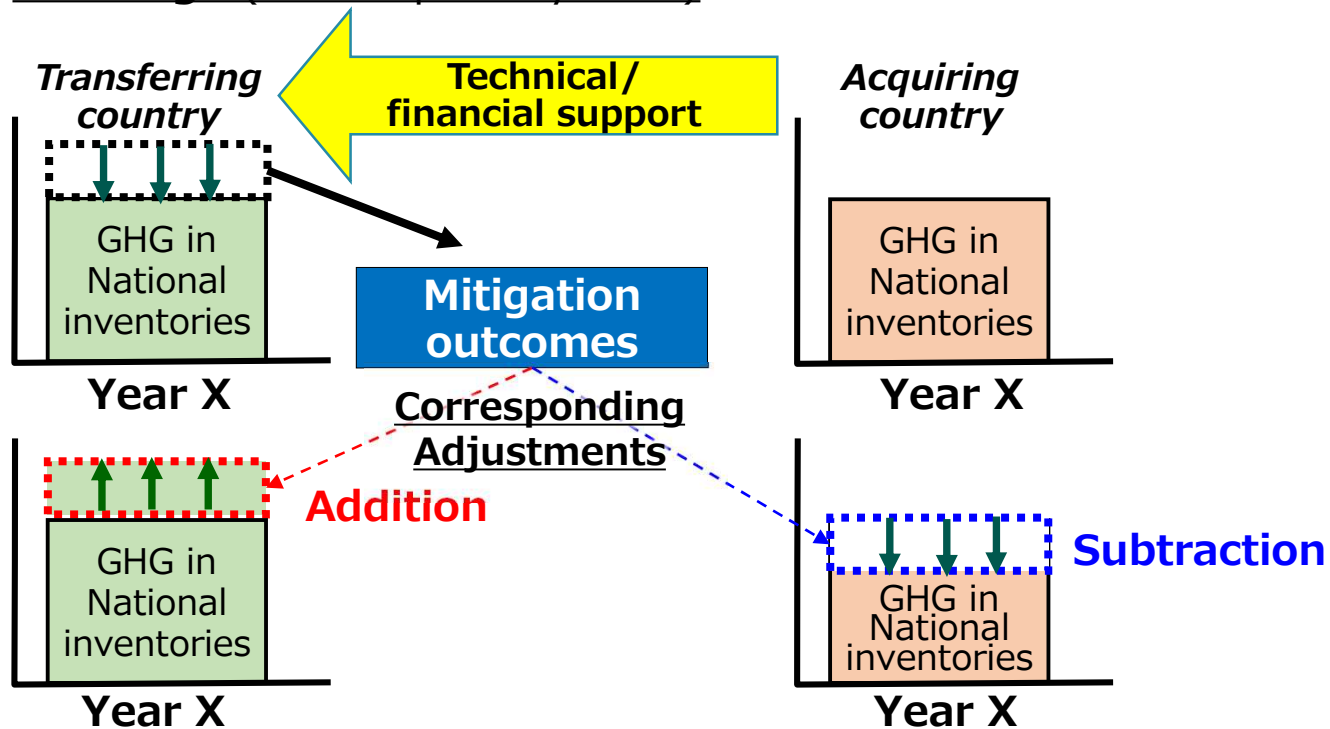


# National inventories are critical in the implementation of Article 6

- **Participation requirements** of A6 includes providing the **most recent national inventory report**.
- When Parties take the cooperative approach referred to in Article 6.2, **national inventories serve the basis of corresponding adjustments (CA)**, which prevents double counting of mitigation outcomes in the transferring and acquiring Parties' NDCs.
- Joint Crediting Mechanism (JCM) will be implemented in consistence with A6.



## CA image (zoom up into year X)





# Paris Agreement Article 6 Implementation Partnership Towards High Integrity Carbon Markets



## Overview

- Promote international collaboration for capacity building related to Article 6 of the Paris Agreement, including by sharing good practices and supporting the implementation of Article 6.

## Participants

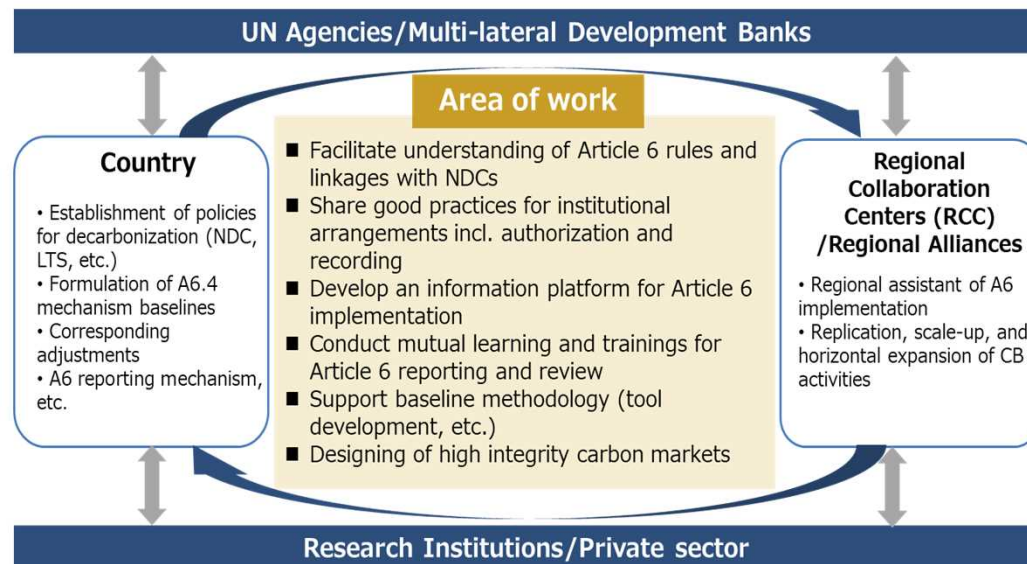
69 countries • 34 international organizations (As of June 19)

**Countries**  
 Andorra, Argentina, Armenia, Australia, Azerbaijan, Bahamas, Bangladesh, Barbados, Belize, Bhutan, Botswana, Brazil, Brunei, Burundi, Cambodia, Canada, Chile, Costa Rica, Côte d'Ivoire, Dominican Republic, Estonia, Ethiopia, Fiji, Finland, France, Georgia, Germany, Ghana, Greece, India, Italy, Jamaica, Jordan, Kenya, Lao PDR, Maldives, Mexico, Moldova, Mongolia, Morocco, Namibia, Nepal, New Zealand, Nigeria, Pakistan, Palau, Papua New Guinea, Peru, Philippines, Rwanda, Saudi Arabia, Senegal, Singapore, Sri Lanka, Sudan, Sweden, Switzerland, Thailand, Timor Leste, Tunisia, Togo, Uganda, UAE, UK, US, Ukraine, Uzbekistan, Zambia, Zimbabwe

**Organizations**  
 ADB, AfDB, Climate Focus, C2ES, Eastern African Alliance, EBRD, ERCST, GGGI, Gold Standard, ICAT, IEA, IETA, IGES, NDC Partnership, OECC, Perspectives, UNDP, UNEP, UNFCCC, UNIDO, UNU-IAS, WB, West African Alliance, WRI, etc.

## Launch event

- **Date** November 16, 2022
- **Venue** COP27 Japan Pavilion
- **Main participants (Ministerial level)** Japan, US, Germany, Italy, NZ, Singapore, Sweden, Estonia, UNFCCC secretariat, World Bank, IETA



## Collaboration

Letter of Intent signed on November 16, 2022, between Mr. Nishimura, Minister of Environment, and Mr. Stiell, Executive Secretary of the UNFCCC, on collaboration under this partnership.



On January 26, 2023, Memorandum of Cooperation was signed between the World Bank and MOEJ on collaboration for realization of international carbon markets.

## 69 Partner Countries of Article 6 Implementation Partnership (as of June 19)



- Many countries are participating from all region.
- SIDs and LDCs are also included.

Asia	Eastern Europe and Central Asia	Europe	Latin America & the Caribbean	North Africa & the Middle East	Northern America	Oceania	Sub-Saharan Africa
15	5	11	10	4	3	5	16
Bangladesh, Bhutan, Brunei, Cambodia, India, Lao PDR, Maldives, Mongolia, Nepal, Pakistan, Philippines, Singapore, Sri Lanka, Thailand, Timor-Leste	Armenia, Azerbaijan, Georgia, Ukraine, Uzbekistan	Andorra, Estonia, Finland, France, Germany, Greece, Italy, Moldova, Sweden, Switzerland, UK	Argentina, Bahamas, Barbados, Belize, Brazil, Chile, Costa Rica, Dominican Republic, Jamaica, Peru	Jordan, Morocco, Saudi Arabia, UAE	Canada, Mexico, USA	Australia, Fiji, New Zealand, Palau, Papua New Guinea	Botswana, Burundi, Côte d'Ivoire, Ethiopia, Ghana, Kenya, Namibia, Nigeria, Rwanda, Senegal, Sudan, Togo, Tunisia, Uganda, Zambia, Zimbabwe

# Planned Activities for “Article 6 Implementation Partnership” in 2023



## Outline

- Based on the decisions on the detailed rules for implementing Article 6 at COP27, **establish thematic working groups (WG) of (1) authorization, (2) reporting, and (3) tracking**, necessary for the implementation of Article 6, and **provide supports for capacity building (CB) and institutional arrangement**, mainly targeting government officials.



Partnership  
Website :  
<https://A6partnership.org>

## Activities

### Thematic WG

#### 1. Authorization

Support countries' authorization (capacity building to government officials, setting policies and guidelines, etc.)

#### 2. Reporting

Support developing initial, annual, and regular reporting

#### 3. Tracking

Support introducing national registry, utilizing international registry

### Information Platform

- Regularly share information on CB and other related events **via the mailing list**.
- Disseminate case studies and good practices through the **web-based information platform** (Improvement of the Article 6 website)

### Technical Assistance

- Practical training and mutual learning on WG themes (Training on how to use Article 6 based on experience of JCM)
- Technical assistance on development of methodology

### Private Sector

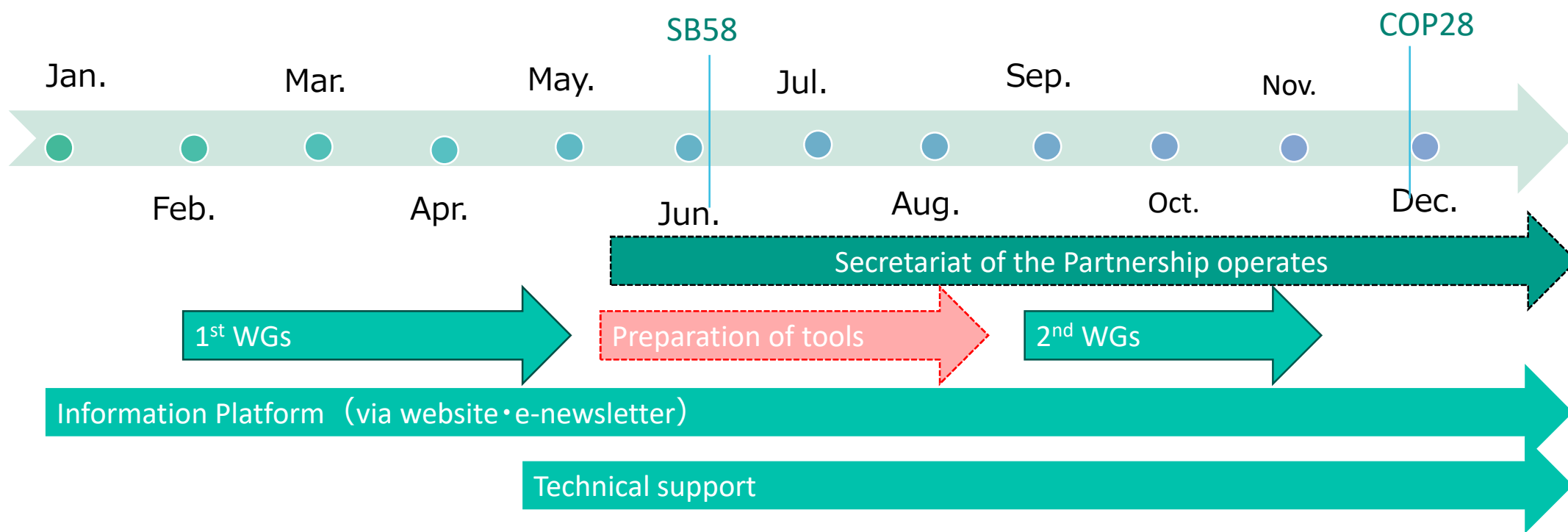
Provide capacity building activities for private sector

### Collaboration among key partners

- UNFCCC: Collaborate on CB related programs (training, technical assistance)
- World Bank: Collaborate on CB programs, e.g. PMI
- IGES: Mutual learning program
- MOEJ: Coordination, newsletter, information sharing



# Proposed Schedule in 2023



## Agenda of WGs

Theme	Agenda
Plenary Meeting Early September	Focusing on regional activities welcoming RCCs and regional alliances
Authorization WG Late September	Update on tool development for authorization
Tracking WG October or November	Sharing the characteristics of each registries

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# Strengthening support for national inventories

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Thank you for answering the WGIA20 survey.  
We may ask you for details during / after this workshop.

Thank you for your kind attention



**Ministry of the Environment**

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**A6IP Website :** <https://A6partnership.org> or QR: