JCM THE JOINT CREDITING MECHANISM

Implementation Status and Potential of JCM

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September 2025

Ministry of the Environment

Signing of the JCM MoC between India and Japan

- On August 7, 2025, in New Delhi, India, the Memorandum of Cooperation (MoC) on the Joint Crediting Mechanism (JCM) was signed (H.E. Mr. ONO, Ambassador Extraordinary and Plenipotentiary of Japan to the Republic of India and Mr. Tanmay, Secretary, Ministry of Environment, Forest and Climate Change).
- On August 29, 2025, a document exchange ceremony was held under the witness of Prime Minister Modi and Prime Minister Ishiba. The signing was also welcomed during the summit meeting.

Signing of the MoC（August 7, 2025）

Document exchange ceremony with the leaders of Japan and India (August 29, 2025) ©Cabinet Public Affairs Office, Cabinet Secretariat.

【Reference】Background of Negotiations for Establishing JCM with India

Sep. 2021: Japan-India Ministerial Dialogue on Environmental Policy

Mar. 2022: Japan-India Joint Statement Issued at Japan-India Summit Meeting (Both leaders committed to continuing discussions toward establishing the JCM for the implementation of Article 6 of the Paris Agreement)

Mar. 2023: Signing of the Memorandum of Understanding Confirming Intent to Establish the JCM (Signed in New Delhi, India, between H.E. Mr. Hiroshi Suzuki, Ambassador Extraordinary and Plenipotentiary of Japan to India, and Mr. Naresh Pal Gangwal, Additional Secretary, Ministry of Environment, Forests and Climate Change, India)

Mar. 2025: Visit to India by Matsuzawa, Vice-Minister for Global Environmental Affairs, Ministry of the Environment, Japan: Discussions with India's Ministry of Environment, Forests and Climate Change, Ministry of Power, etc., regarding the JCM, and hosting of a decarbonization business matching seminar

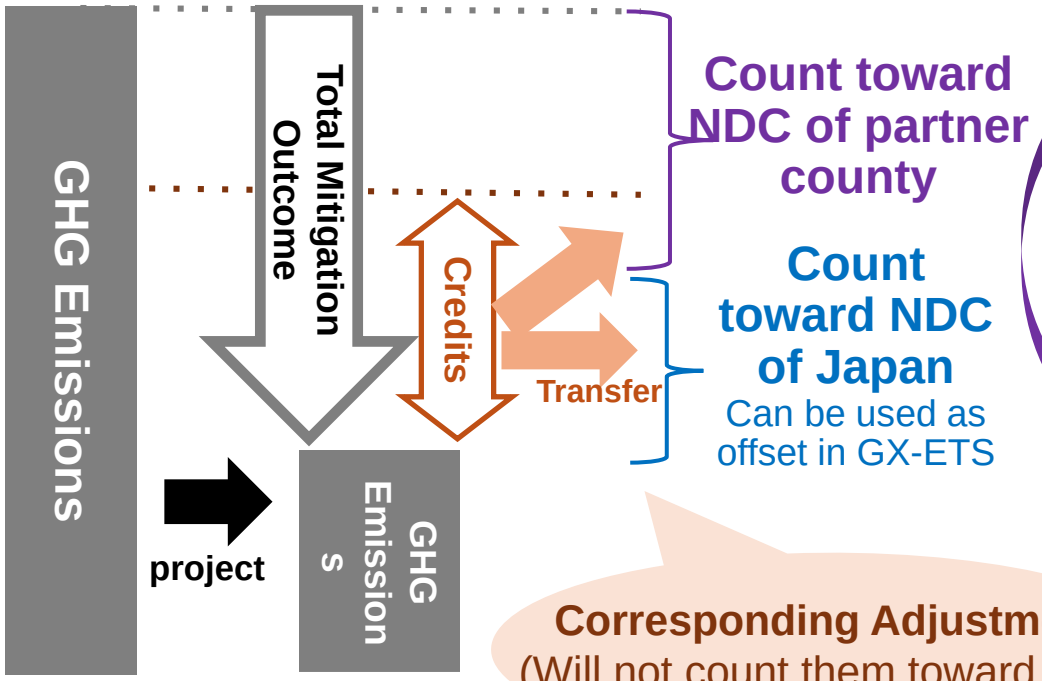
Jun. 2025 Visit to India by the Office for the JCM, Ministry of the Environment, Japan: Discussions with India's Ministry of Environment, Forests and Climate Change, Ministry of Power, etc., regarding the JCM visit to India: Policy discussions with India's Ministry of Finance and Ministry of Environment, Forest and Climate Change

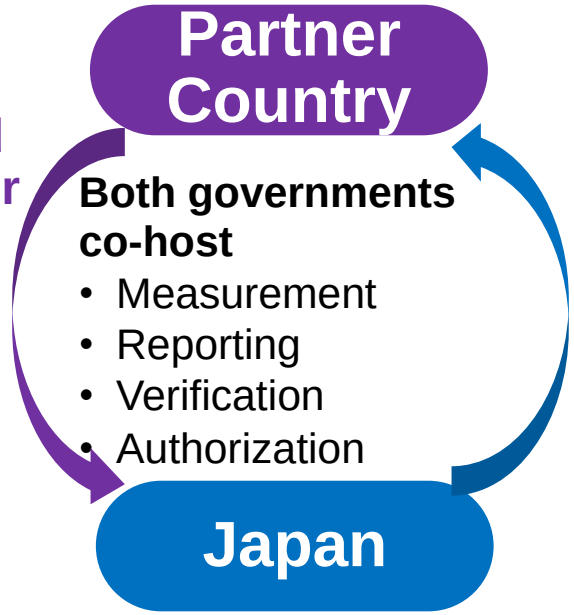
July 1, 2025 Cabinet decision within the Indian government regarding the MoC on the JCM

Overview of Joint Crediting Mechanism (JCM)

- **JCM is a carbon market tool** where **Japanese companies and government cooperate with mitigation activities in partner countries** (30 as of Today).
- Among total mitigation outcomes, both governments **conservatively calculate, authorize and share JCM credits** between the companies/countries in proportion to their contributions, in line with **Article 6 of Paris Agreement**.
- **JCM incentivizes Japan's investment** in decarbonization projects bringing various benefits including achievement of NDC and sustainable development.

Mitigation outcome and its transfer





Decarbonization projects invested by Japan


Renewable


Energy Saving


Waste


Forestry

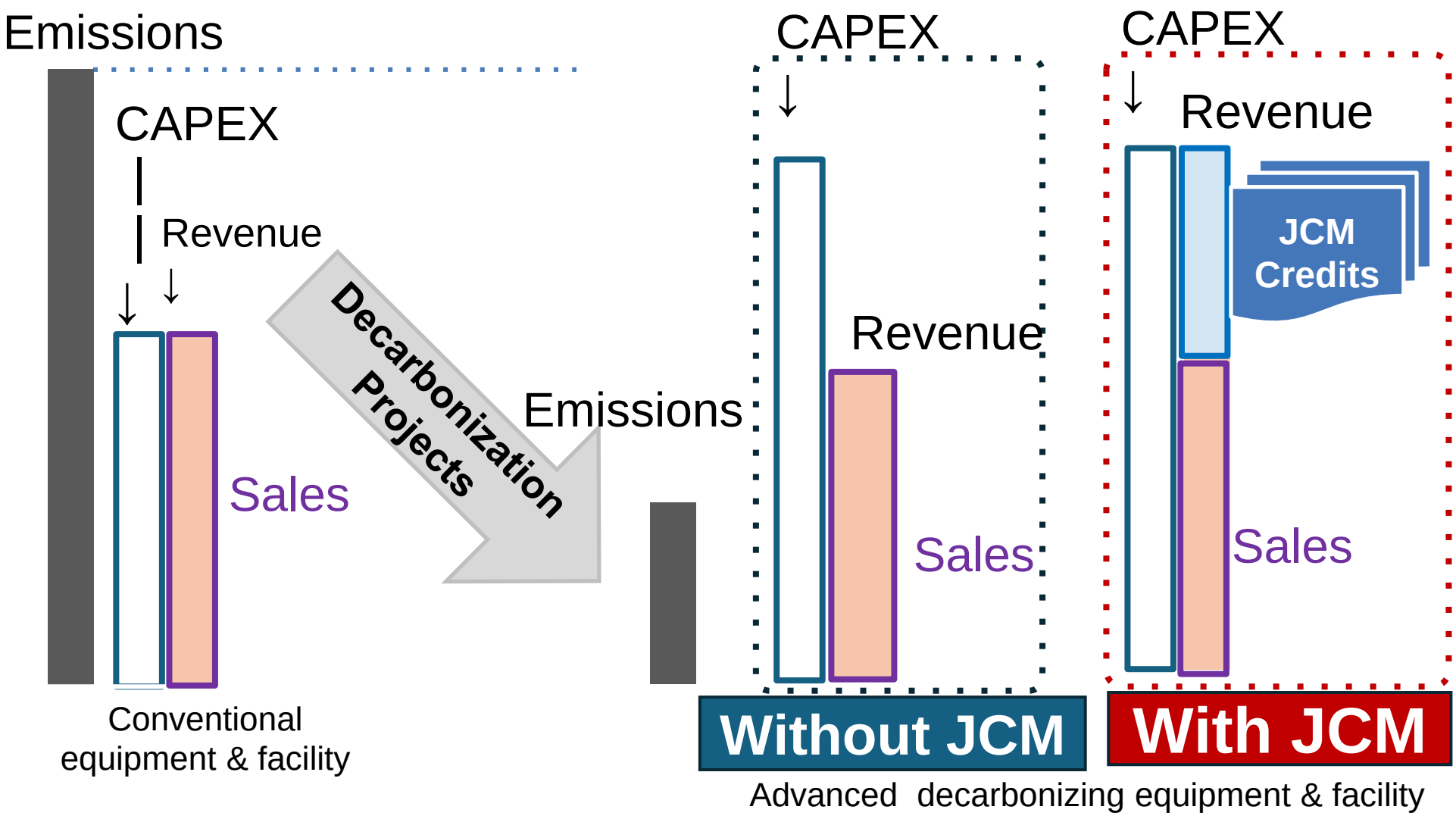

Agriculture※


CCS※

※ under development phase

JCM credits revenue can improve profitability of projects

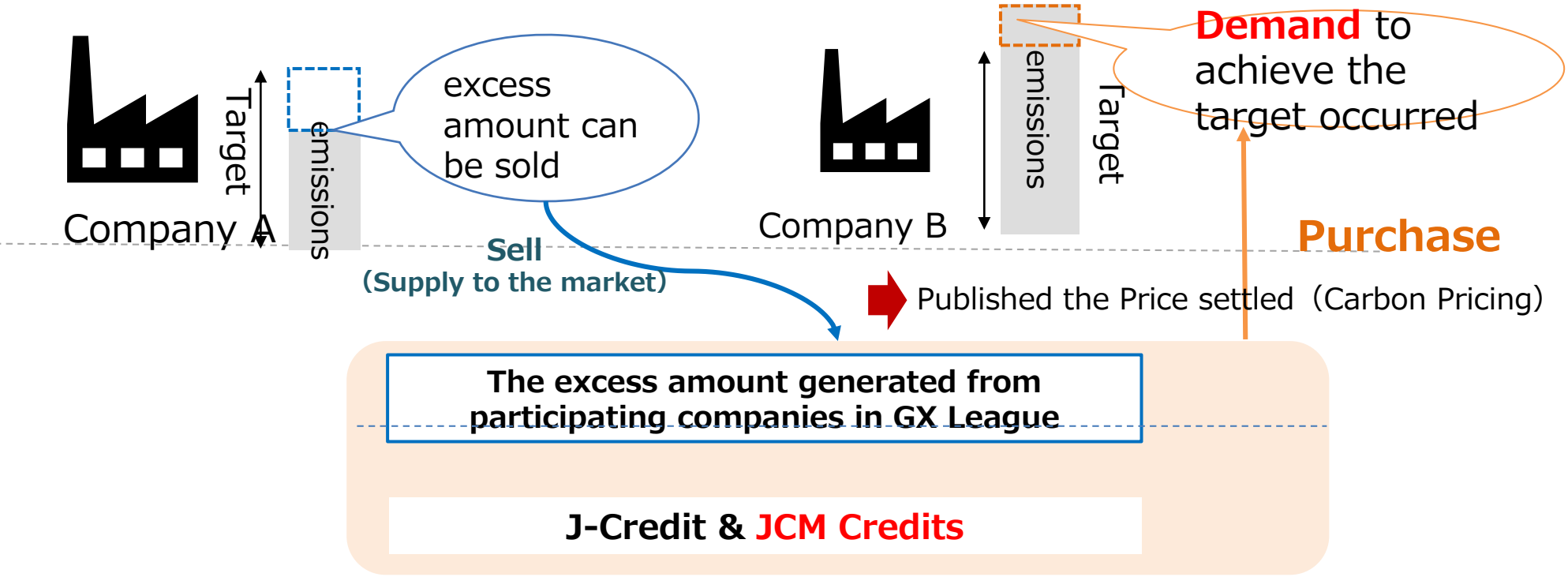
- **<u>JCM incentivizes Japan's investment</u>** in decarbonization projects as JCM credits revenue can improve profitability of projects



JCM Credits acquired by Japan is used for achievement of emission reduction target

- JCM credits acquired by Japan can be
  - counted toward achievement of NDCs.
  - used **for the achievement of companies' compliance targets under GX-ETS (will start in 2026)**

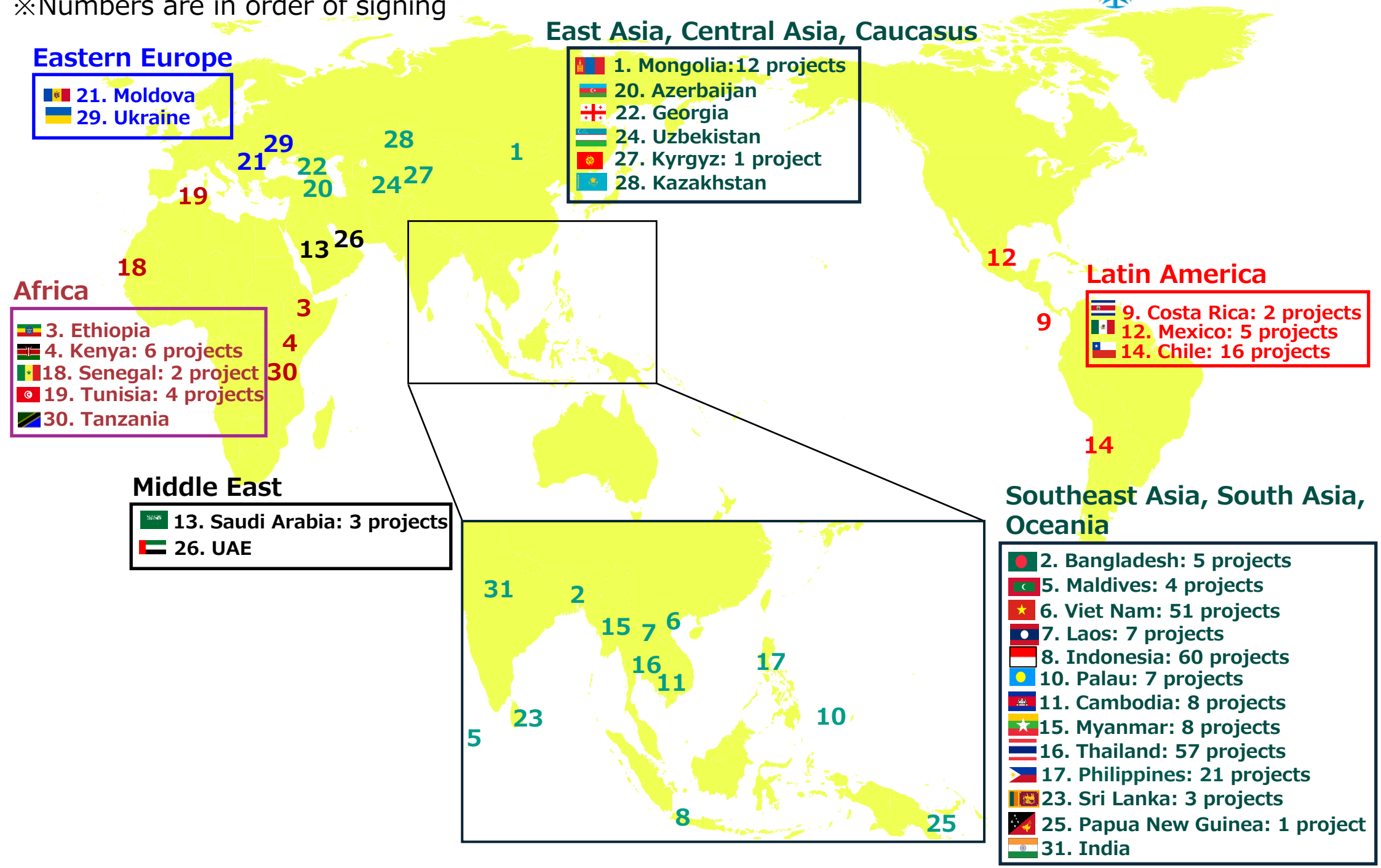
GX-ETS and Carbon Credit Market



List of JCM 31 partner countries as of August 2025

※Numbers are in order of signing

JCM THE JOINT CREDITING MECHANISM



Sectors of JCM projects

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- So far, there have been **257 technology adoptions**.
- 56% of these are related to renewable energy, followed by 34% for energy efficiency, making up the majority.

Waste 2%

- Waste to Energy
- Power Generation with Methane Gas

Transport 1%

- Digital Tachographs
- Modal Shift
- CNG-Diesel Hybrid

REDD+ 1%

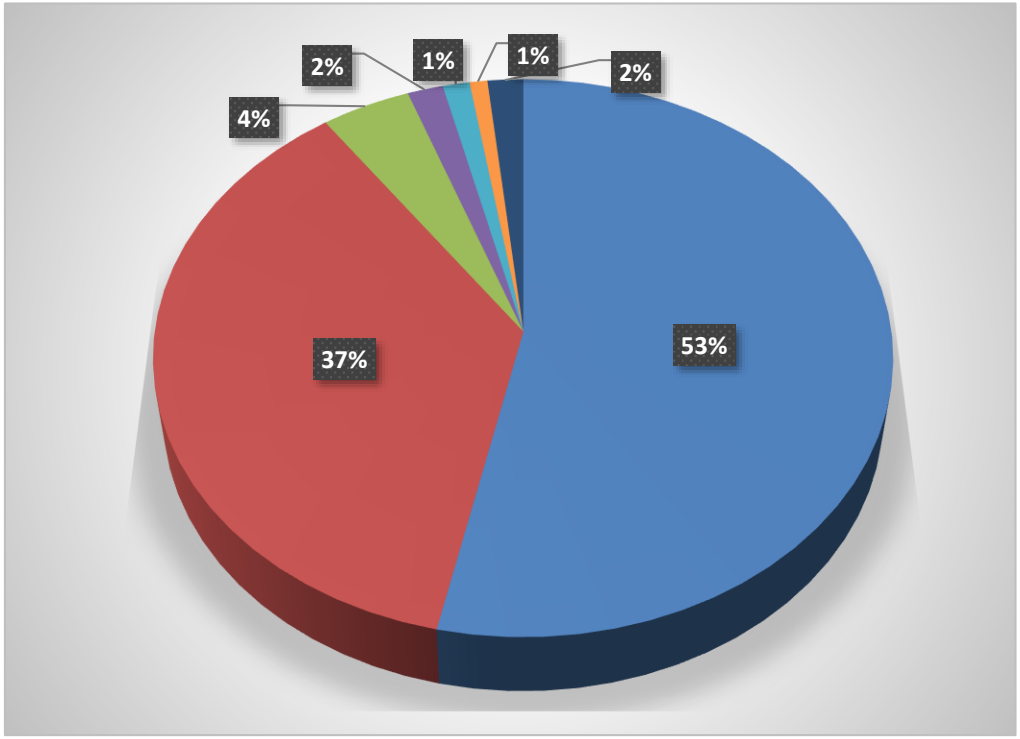
- Controlling slush and burn

Effective Use of Energy 4%

- Waste Heat Recovery
- Gas Co-generation

Energy efficiency 37%

- Boiler
- Air Conditioning
- Refrigerating/Chiller
- Looms
- Transformer
- LED Lighting



F-gas 2%

- Recovery & Destruction

Renewable energy 53%

- Solar(&Storage battery)
- Micro hydro
- Wind
- Biomass
- Geothermal

(reference) More than 270 JCM projects with over 3 billion USD of investment

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Renewable Energy

Solar power, FARMLAND Co., Ltd., Chile

Floating Solar PV,TSB Co., Ltd.,Thailand

Hydro Power Plant, Toyo Energy Farm Co., Ltd., Indonesia

Biogas Power Generation, ITOCHU Corporation, Philippines

Binary Power Generation Project at Geothermal Power Plant, MHI, Ltd., Philippines

Energy efficiency [Consumer sector]

Energy saving at convenience stores, Panasonic, Indonesia

High-efficiency refrigerator, Mayekawa MFG, Indonesia

Energy efficiency [Industrial sector]

Optimization in petroleum refining plant, Yokogawa Electric Corp. Indonesia

Energy-saving of mobile communications base transceiver stations, KDDI Corp. Indonesia

Effective Use of Energy

Gas Co-generation System and Absorption Chiller, Kansai Electric Power, Thailand

Energy efficiency [Urban sector]

LED street lighting system with wireless network control, MinebeaMitsumi, Cambodia

Amorphous transformers in power distribution, Yuko-Keiso, Vietnam

Waste

Power Generation with Methane Gas Recovery System, NTTDATA, Mexico

Waste to Energy Plant, JFE engineering, Myanmar

Transport

CNG-Diesel Hybrid Public Bus, Hokusan Co., Ltd., Indonesia

Eligible activities under Art 6.2 in India has already been defined by MOEFCC in June, 2024

As of 12 June 2025

Activities finalised to be considered for trading of carbon credits under Article 6.2 mechanism to facilitate transfer of emerging technologies and mobilise international finance in India

Ⅰ. GHG Mitigation Activities:

1. Renewable energy with storage (only stored component)
2. Solar thermal power
3. Off- shore wind
4. Green Hydrogen
5. Compressed bio-gas
6. Emerging mobility solutions like fuel cells
7. High end technology for energy efficiency
8. Sustainable Aviation Fuel
9. Best available technologies for process improvement in hard to abate sectors
10. Tidal energy, Ocean Thermal Energy, Ocean Salt Gradient Energy, Ocean Wave Energy and Ocean Current Energy
11. High Voltage Direct Current Transmission in conjunction with the renewal energy projects

Ⅱ. Alternate Materials: 12. Green Ammonia

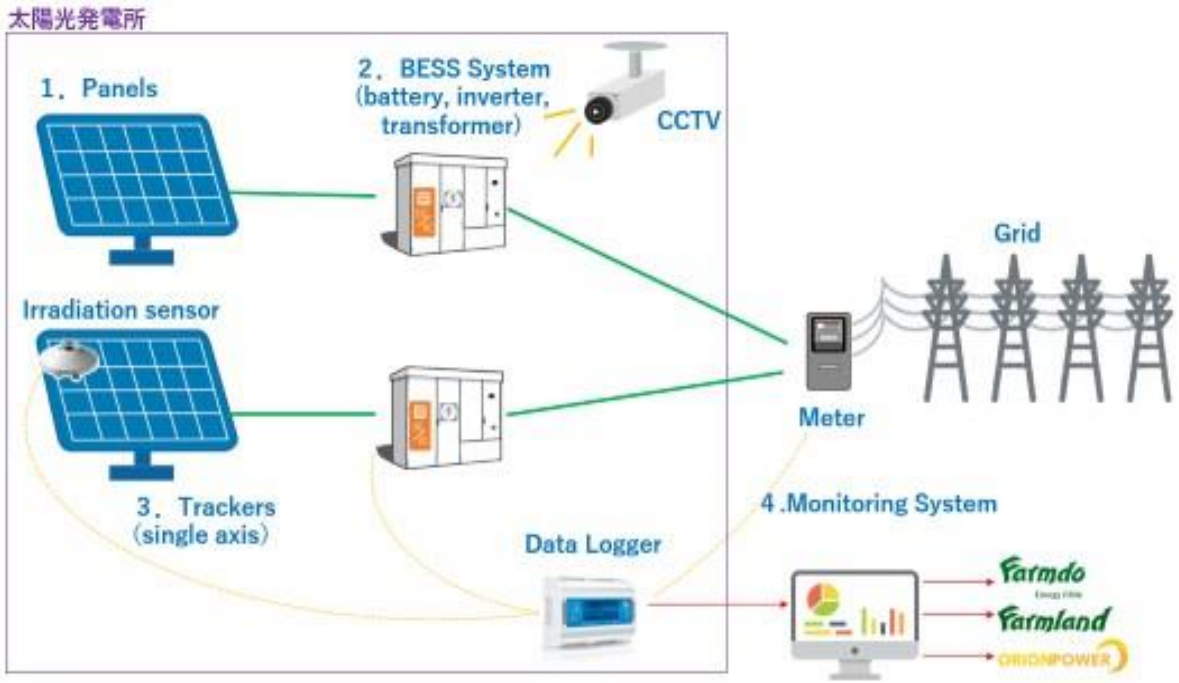
Ⅲ. Removal Activities: 13. Carbon Capture Utilization and Storage

https://moef.gov.in/uploads/pdf/revised_list_article_6.2.pdf

26.3MW Solar Power and 48MWh Storage Battery Project Utilizing Farmland in the Metropolitan Area and O'Higgins Region

PP (Japan): Farmland Co., Ltd.,
PP (Chile): Farmdo Energy Chile SpA, Orion Power S.p.A.

Chile



- 26.3MW solar power facility with single-axis trackers and a 48MWh battery on leased 3 farmlands in the metropolitan area and in the O'Higgins Region.
- By participating in the Pequenos Medios de Generacion Distribuida (PMGD) established by the Chilean government and selling electricity to power distribution companies, the project aims to reduce greenhouse gas (GHG) emissions and supply sustainable clean electricity.

Expected Reductions

20,197 tCO_2 /year

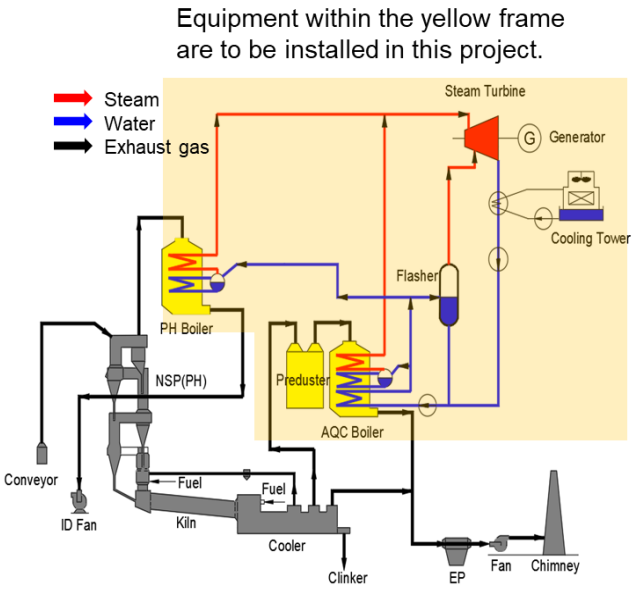
・Reference CO_2 emissions
= (Quantity of the electricity generated by the project) [MWh/year] × Emission factor [tCO_2/MWh]

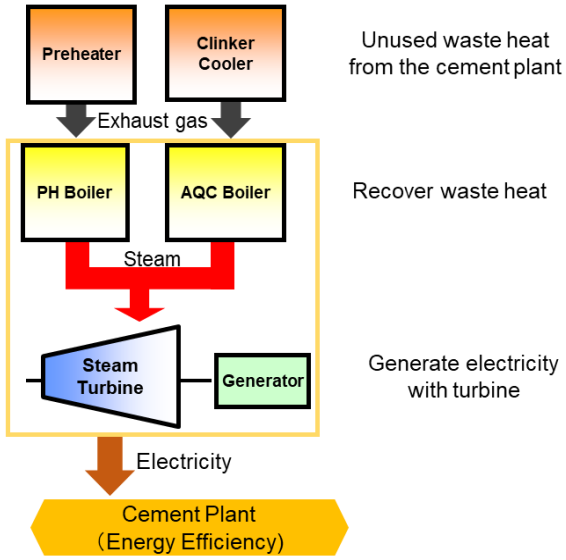
・Project CO_2 emissions = 0 [tCO_2/year]

Introduction of 6MW Power Generation System by Waste Heat Recovery for Cement Plant

PP (Japan): GLOBAL ENGINEERING Co., Ltd.
PP (Philippines): REPUBLIC CEMENT & BUILDING MATERIALS

Philippines





- 6MW waste heat recovery power generation system in the existing cement manufacturing plant in Bulacan in the Central Luzon region.
- The system makes use of the unused waste heat, which is released during the calcining process of cement production, to generate electricity and effectively reduces electricity from fossil fuel, resulting in the reduction of greenhouse gas (GHG) emissions.

Expected Reductions

21,244 tCO_2/year

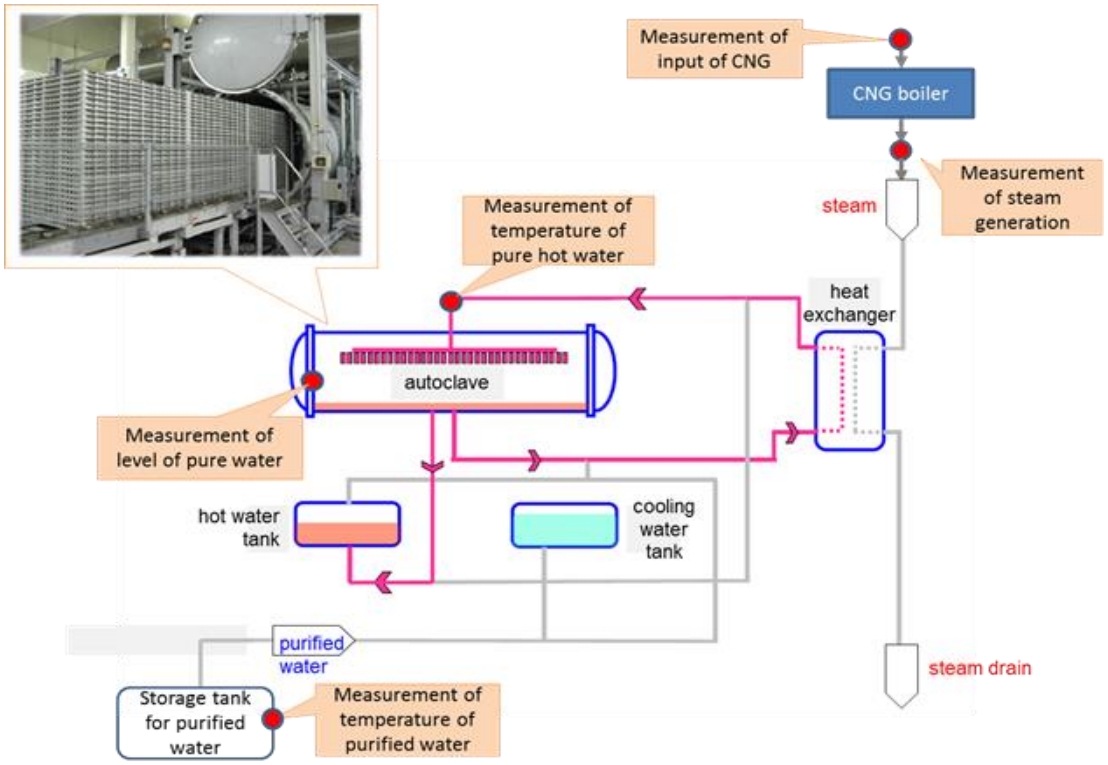
Reference CO_2 emissions
= (Quantity of the electricity generated by the project) [MWh/year]
× Emission factor [tCO_2/MWh]

・Project CO_2 emissions
= 0 [tCO_2/year])

Energy Saving by Introducing High Efficiency Autoclave to Infusion Manufacturing Factory 2

PP (Japan): Otsuka Pharmaceutical Factory, Inc.
PP (Indonesia): PT. Otsuka Indonesia

Indonesia



- At a new infusion manufacturing factory, a new type of high efficiency autoclave, which fulfills the Good Manufacturing Practice (GMP) and realizes energy and resource saving, is introduced.
- Since the hot water to be injected into the autoclave is maintained at a high temperature, both the amount of steam charged in a batch unit and consumption of natural gas (CNG) required for steam generation are reduced. In addition, pure water used in the sterilization process is reused.

Expected Reductions

8,806 tCO_2 /year

Expected Reductions
=(Reference CNG consumption volume
– project CNG consumption volume) X Emission factor of CNG.

JCM in Japan's Updated NDC

JCM THE JOINT CREDITING MECHANISM

- Japan aims to achieve a cumulative reduction and removal of greenhouse gas emissions amounting to **100 million tons by fiscal year 2030, and 200 million tons by fiscal year 2040,** through the utilization of the Joint Crediting Mechanism (JCM).

Japan's Nationally Determined Contribution (NDC) 18th February 2025
(g) The intention to use voluntary cooperation under Article 6 of the Paris Agreement

Japan will establish and implement the Joint Crediting Mechanism (JCM) in order to quantitatively evaluate the contributions of Japan to greenhouse gas emission reductions and removals which are achieved through the diffusion of, among others, decarbonizing technologies, products, systems, services, and infrastructures as well as through the implementation of measures in global south countries and others, and to use such contributions to achieve Japan's NDC. With these efforts, through public-private collaborations, Japan aims to secure accumulated emission reductions and removals at the level of approximately 100 million t-CO2 by FY 2030 and approximately 200 million t-CO2 by FY 2040. Japan will appropriately count the acquired credits to achieve its NDC.

JCMA designated by GoJ covers all the process

- Japan has legalized the JCM for steady implementation and launched **“JCMA”new agency covering ALL the operation of JCM** in April 2025

  - One stop focal point for the JCM on behalf of Japanese government
  - Implementation and facilitation of the JCM, including promoting JCM projects
  - In charge for ensuring environmental integrity and transparency of the JCM

Project Information Sheet

Until the finalization of the Rule of Implementation (RoI), MOEJ(Ministry of Environment, Japan) and MOEFCC(Ministry of Environment, Forestry and Climate Change, India) will start information sharing between project participants and both governments using a **Project Information Sheet.**

You can find
Project Information Sheet
Format here
https://www.env.go.jp/en/press/press_00448.html

Thank you for listening!!!

IINO Satoru (Mr.)
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Memorandum of Cooperation on the Joint Crediting Mechanism between the Government of Japan and the Government of the Republic of India

Memorandum of Cooperation

Memorandum of Cooperation on the Joint Crediting Mechanism between the Government of Japan and the Government of the Republic of India

1. The Government of Japan and the Government of the Republic of India (hereinafter referred to individually as a "government" and collectively as "both governments"), in pursuit of the objectives of the Paris Agreement including holding 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 as stipulated in its Article 2, paragraph 1, sub-paragraph (a), and in order to enhance bilateral cooperation in addressing climate change, establish a Joint Crediting Mechanism (hereinafter referred to as "the JCM").

2. **The JCM aims to facilitate diffusion of, among others, leading low-carbon technologies, equipment, machinery, products, systems, and infrastructure as well as implementation of mitigation actions, thereby contributing to greenhouse gas emissions reductions or removals and sustainable development in the Republic of India, and the achievement of nationally determined contributions of Japan and the Republic of India.**

3. Both governments implement the JCM in accordance with the relevant domestic laws and regulations in force in their respective countries.

4. Both governments establish the Joint Committee consisting of representatives from each government to implement the JCM.

5. The Joint Committee develops rules and guidelines necessary for the implementation of the JCM, relating to project cycle procedures, methodologies, project design documents, monitoring, designation of third-party entities, validation and verification and other related matters of the JCM.

6. **Decisions by the Joint Committee on the registration of a project, crediting period, sharing of credits, issuance of credits and other related matters on the JCM** are made with prior confirmation of the Government of Japan and the Government of India, unless otherwise specified.

Memorandum of Cooperation

7. Both governments mutually recognize that part of JCM credits issued from emission reductions and removals may be used towards the achievement of Japan's nationally determined contribution and the rest of the said JCM credits may contribute to the achievement of the Republic of India's nationally determined contribution, while ensuring that double counting is avoided on the basis of corresponding adjustments, consistent with the guidance on cooperative approaches, referred to in Article 6, paragraph 2 of the Paris Agreement (hereinafter referred to as "the guidance").

8. **Each government authorizes the JCM credits issued in the JCM registry of Japan for use towards the achievement of Japan's nationally determined contribution as internationally transferred mitigation outcomes,** consistent with the guidance.

9. Each government recognizes that the JCM credits issued in the JCM registry of India contribute towards the achievement of the Republic of India's nationally determined contribution.

10. Each government may authorize part of JCM credits for use for other international mitigation purposes, as appropriate, consistent with the guidance.

11. The Government of Japan and the Government of India confirm registration of a JCM project prior to a decision by the Joint Committee.

12. The Government of Japan and the Government of India confirm the percentage of JCM credit allocation prior to a decision by the Joint Committee.

13. The Government of Japan and the Government of India confirm the issuance of JCM credits prior to a decision by the Joint Committee.

14. Both governments ensure **the transparency and environmental integrity of the JCM and maintain it simple and practical, to promote concrete actions for global greenhouse gas emission reductions and removals**.

Memorandum of Cooperation

15. Both governments work in close cooperation for the implementation of the JCM. The Government of Japan will facilitate the transfer of technologies, finance and capacity building in respect of new technologies for the JCM as well as setting up of operational infrastructure for making the JCM functional, on the basis of mutual understanding, for the administration of the JCM by the Government of the Republic of India.

16. Both governments aim for contributions to assist adaptation efforts of India.

17. Either government may terminate this Memorandum of Cooperation (hereinafter referred to as “this MoC”) by giving at least six (6) months’ prior notice to the other government through the diplomatic channel. Such termination will not affect existing projects or activities under this MoC.

18. Any content of this MoC may be modified and supplemented by mutual written consent between both governments.

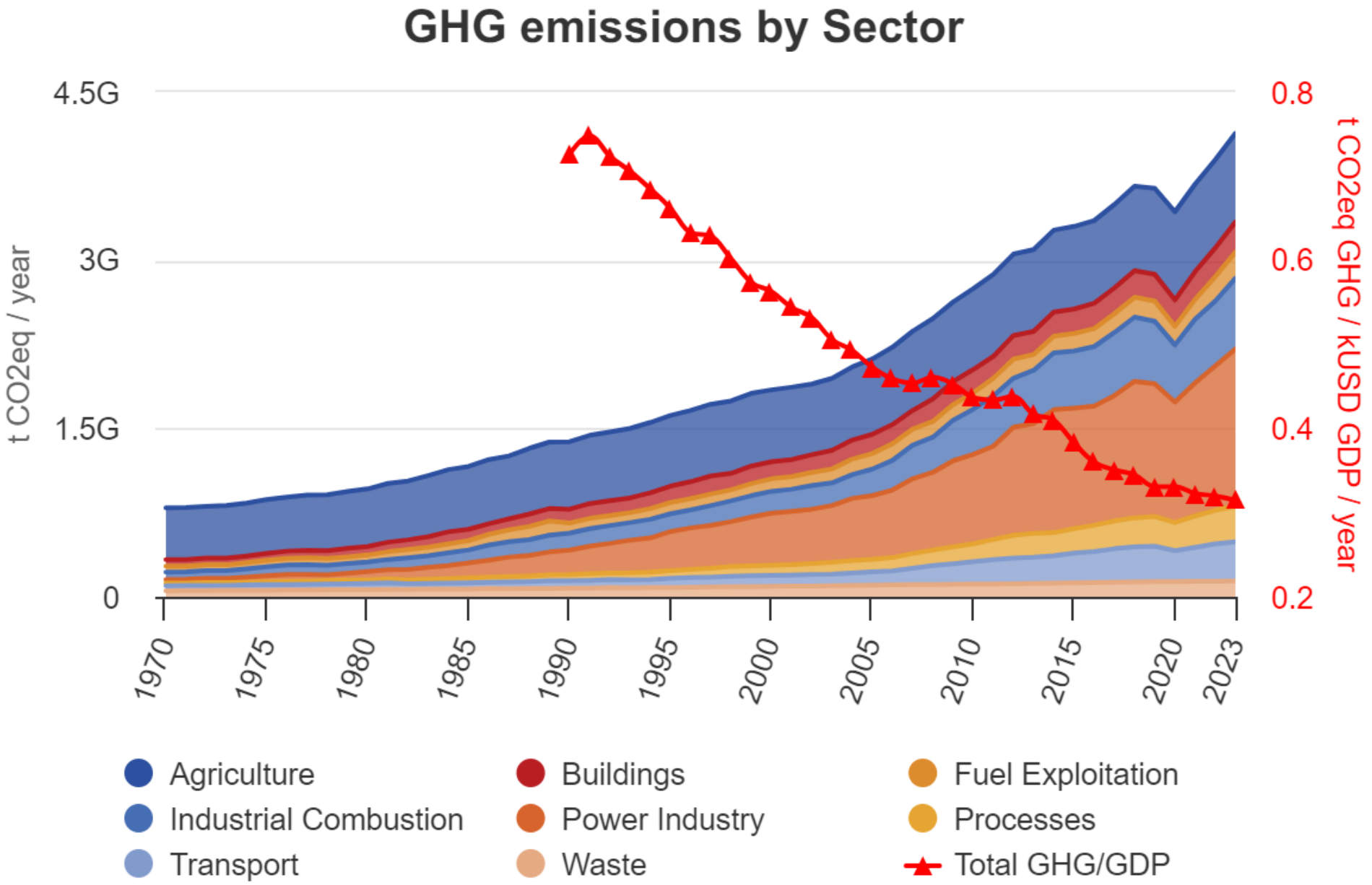
19. Any differences arising out of the interpretation, application and implementation of this MoC are resolved amicably through consultations between both governments.

20. Both governments recognize that this MoC is not legally binding and does not create any legal rights or obligations. Contents of this MoC will not affect any of rights and obligations of both governments arising from other applicable international agreements.

Signed in Delhi on 7th August 2025, in two originals in the English language.
ONO Keiichi, Ambassador Extraordinary and Plenipotentiary of Japan to the Republic of India
Tanmay Kumar, Secretary, Ministry of Environment, Forest and Climate Change

Carbon Market Progress and JCM Feasibility Study in India

Trends in India's greenhouse gas emissions
(excluding LULUCF)



（出所）European Commission, Joint Research Centre, Crippa, M., Guizzardi, D., Pagani, F., Banja, M., Muntean, M., Schaaf, E., Monforti-Ferrario, F., Becker, W.E., Quadrelli, R., Risquez Martin, A., Taghavi-Moharamli, P., Köykkä, J., Grassi, G., Rossi, S., Melo, J., Oom, D., Branco, A., San-Miguel, J., Manca, G., Pisoni, E., Vignati, E. and Pekar, F., GHG emissions of all world countries, Publications Office of the European Union, Luxembourg, 2024, doi:10.2760/4002897, JRC138862
（https://edgar.jrc.ec.europa.eu/country_profile/IND, 2025年6月5日アクセス）

Overview of India's Climate Change Mitigation Measures

Nationally Determined Contribution(NDC)

target year	Baseline	sectors	Goal
2030	Compared to **2005**	per **GDP**	**45% less emissions**

（出所）"India's Updated First Nationally Determined Contribution Under Paris Agreement" (26/8/2022)

Emission Reduction Potential (based on NDC baseline emissions)

473 tCO_2e/USD

(Greenhouse gas emissions per unit of GDP in 2005)

（出所）European Commission, Joint Research Centre, Crippa, M., Guizzardi, D., Pagani, F., Banja, M., Muntean, M., Schaaf, E., Monforti-Ferrario, F., Becker, W.E., Quadrelli, R., Risquez Martin, A., Taghavi-Moharamli, P., Köykkä, J., Grassi, G., Rossi, S., Melo, J., Oom, D., Branco, A., San-Miguel, J., Manca, G., Pisoni, E., Vignati, E. and Pekar, F., GHG emissions of all world countries, Publications Office of the European Union, Luxembourg, 2024, doi:10.2760/4002897, JRC138862 (https://edgar.jrc.ec.europa.eu/country_profile/IND, access on 5/6/2025)

Sector-wise greenhouse gas emission reductions, policies, and measures

Sector	Goal	policies, and measures
electric power	50% non-fossil fuel sources	the goal should be raised to approximately 50% of installed electric power generated by non-fossil fuel sources
Carbon Sink Creation	2.5–3 billion tonnes of CO_2 equivalent	to plant and maintain in forests and other vegetated areas

（出所）"India's Updated First Nationally Determined Contribution Under Paris Agreement" (26/8/2022)

■ NDC 2023 Update - to include greater targets

- The development of **climate-resilient infrastructure** is emphasized as a means of mitigating and adapting to the effects of climate change.
- **Sustainable Lifestyles**: The Lifestyle for Environment (LiFE) initiative aims to promote sustainable patterns of production and consumption.
- **India's 2070 goal**, as outlined in its climate policy and NDCs, refers to its long-term commitment to achieving carbon neutrality by the year 2070. This goal is part of India's broader climate strategy and was notably highlighted in the country's commitments during the UN Climate Change Conference (COP26) held in Glasgow in November 2021.

（出所）"India's Updated First Nationally Determined Contribution Under Paris Agreement" (26/8/2022)

Carbon Credit Trading Scheme: CCTS in India

- Following the amendment of the Energy Conservation Act in 2022, India's Ministry of Power launched the Carbon Credit Trading Scheme (CCTS 2023) on June 28, 2023.
- Following the December amendment, an Offset Mechanism was introduced alongside the existing Compliance Mechanism for obligated entities. Under this enhanced framework, Carbon Credit Certificates (CCC) are now traded within the Indian Carbon Market (ICM).
- The initiative will initially target sectors covered under the PAT scheme, with plans to gradually expand its scope. By integrating the existing PAT framework with Renewable Energy Certificates (REC), the goal is to build a comprehensive carbon pricing system that promotes cost-effective emissions reductions.

（出所）Bureau of Energy Efficiency, Carbon Market（https://beeindia.gov.in/en/programmes/carbon-market, access ou 4/6/2025）

Carbon Credit Trading Scheme: CCTS in India

Compliance Mechanism

- the Ministry of Environment, Forest and Climate Change (MOEFCC) will notify designated entities of their GHG emission intensity targets. **Entities receiving such notifications are required to comply annually with the assigned emission intensity targets.**
- Entities that achieve emissions below their target levels, based on the assigned intensity benchmarks, **may issue and obtain Carbon Credit Certificates (CCC) for the difference between actual and target emissions.**
- Entities that fail to meet their targets must purchase CCCs equivalent to the shortfall.
- **CCCs will be tradable through an exchange platform.**
- **The scheme is scheduled to launch within 2025.**

Offset Mechanism

- A mechanism has been established under which **entities without compliance obligations can implement projects to reduce or remove greenhouse gas (GHG) emissions and issue Carbon Credit Certificates (CCC).**
- In accordance with the procedures outlined in the “Detailed Procedure for Offset Mechanism under CCTS,” issued in March 2025, **CCCs are granted to projects that meet the eligibility criteria**.
- On September 20, 2024, the central government approved the sectors eligible under the offset mechanism, which were publicly announced on October 15. Additionally, **eight methodologies were approved in March 2025**.
- Projects initiated on or after January 1, 2025, are eligible under this mechanism.

（出所）Bureau of Energy Efficiency, Carbon Market（https://beeindia.gov.in/en/programmes/carbon-market, access on 2025/6/4）

Overview of Compliance Mechanism

- High-emitting entities such as those in the power generation, steel, and cement sectors are required to set reduction targets for greenhouse gas emissions per unit of production (emission intensity), and to conduct monitoring, reporting, and verification (MRV) of their emissions to ensure compliance.
- Any surplus reductions beyond the target can be traded as credits, while entities that fall short of their targets may use these credits to meet their obligations.

■ Applicable Sectors

Power generation, steel, cement, aluminum, chemical, oil refining, pulp and paper, textile, and other high-emission industries

※These sectors have traditionally been covered under the PAT scheme (Perform, Achieve and Trade) and are now gradually transitioning from that framework.

■ Compliance Obligations

1. Compliance with Emission Intensity (Emission Factor) Targets
2. Monitoring, Reporting, and Verification of Emissions(MRV)
3. Acquisition and Submission of Credits
4. Fulfillment of Compliance Obligations