Japan's Climate Diplomacy

March 16th, 2022

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Ministry of Foreign Affairs, Japan

Japan's Climate Diplomacy

Climate Change Negotiations - the road to Paris Agreement

1990 2000 2010 2015 2020

UNFCCC Adopted in 1992. Entered into force in 1994.

- Parties : 197 countries and organizations
- Objectives : Stabilization of greenhouse gas concentrations in the atmosphere (Art. 2, UNFCCC)
- Principles : differentiated treatment of developed and developing countries, i.e. **CBDR (common but differentiated responsibilities and respective capabilities**, Art. 3)

Kyoto Protocol Adopted in 1997 at COP3 (Kyoto). Entered into force in 2005.

- Parties: 192 countries and organizations
- Reduction Commitments
  - ✓ The first commitment period (2008-2012): JPN-6%, U.S.-7%, EU-8%
  - ✓ The second commitment period (2013-2020): EU-20%, JPN did not join
- U.S. signed but announced not to ratify in 2001 (Canada withdrew in 2012)

Paris Agreement
Adopted in 2015
at COP21 (Paris)

The first ever framework through which **all countries** participate in climate efforts in GHG emission reductions

2021 - the Year of Climate Change for the World & Japan

2020

Oct. **Prime Minister's statement at the 203rd Diet session**

Net-zero declaration by 2050

2021

Feb. **Biden Administration's return to the Paris Agreement**

April: Japan-US Summit →Launch of Japan-US Climate Partnership

Climate Leaders Summit hosted by US

April Japan declared 46 % emission reduction in FY 2030 and will continue strenuous efforts in its challenge to meet the lofty goal of 50% emission reduction.

May: Japan-EU Summit →Launch of Japan-EU Green Alliance

G7 Summit (UK)

June

- Public-Private USD 60 billion equivalent climate assistance (2021-2025) with enhanced adaptation assistance;
- Committed to end new direct government support for unabated international thermal coal power generation by the end of 2021

Quad Summit Meeting（US）

Sep.

- Confirmed the collaborations among Japan-Australia-India-US towards global decarbonization
- Confirmed further promotion of cooperation on port/shipping decarbonization & hydrogen, etc.
- Announced Japan's participation in "Global Methane Pledge" (GMP)

Nov. **COP26 World Leaders Summit (UK)**

The first face-to-face summit meeting after the entry-into-force of the Paris Agreement

Glasgow COP26 (overview)

Adoption of COP26 Outcome Document (Source: UNFCCC)

Place: Glasgow, UK
Date: October 31st to November 13th, 2021

Paticipants From Japan:
Prime Minister KISHIDA Fumio (the World Leaders Summit).
Minister of the Environment YAMAGUCHI Tsuyoshi

Key outcomes:
Key agenda items such as:
- **Market Mechanisms (Article 6 of the Paris Agreement)**
- Enhanced Transparency Framework (Article 13)
- Common Time Frames (CTF)

→ Completion of the “Paris Rulebook”

Glasgow COP26 (overview)

Prime Minister KISHIDA delivering a speech at the World Leaders Summit (2 Nov. 2021)
(source: Prime Minister's Office website)

PM Kishida's Speech - Key Points:

(1) Updated nationally determined contributions (NDC) toward 2030;
(2) Provision of up to USD 10 billion additional assistance in the coming five years and doubling of adaptation finance;
(3) Support for transition to zero-emission power generation in Asia;
(4) Promotion of green innovation & participation in the Global Methane Pledge (GMP).

Japan's Action on Climate Change (Overview)

Under the Paris Agreement

◆ **Reduction Target (NDC: Nationally Determined Contributions)**

- Announced in April, 2021, by Prime Minister SUGA;
- Aim to reduce Japan's GHG emissions by 46% in FY2030 from FY2013 levels, setting an ambitious target which is aligned with the long-term goal of achieving net-zero by 2050; Continue strenuous efforts in its challenge to meet the lofty goal of cutting its emissions by 50%.
- Submitted this target as Japan's Nationally Determined Contributions to the UN in October 2021(Article 4.2 of the Paris Agreement).

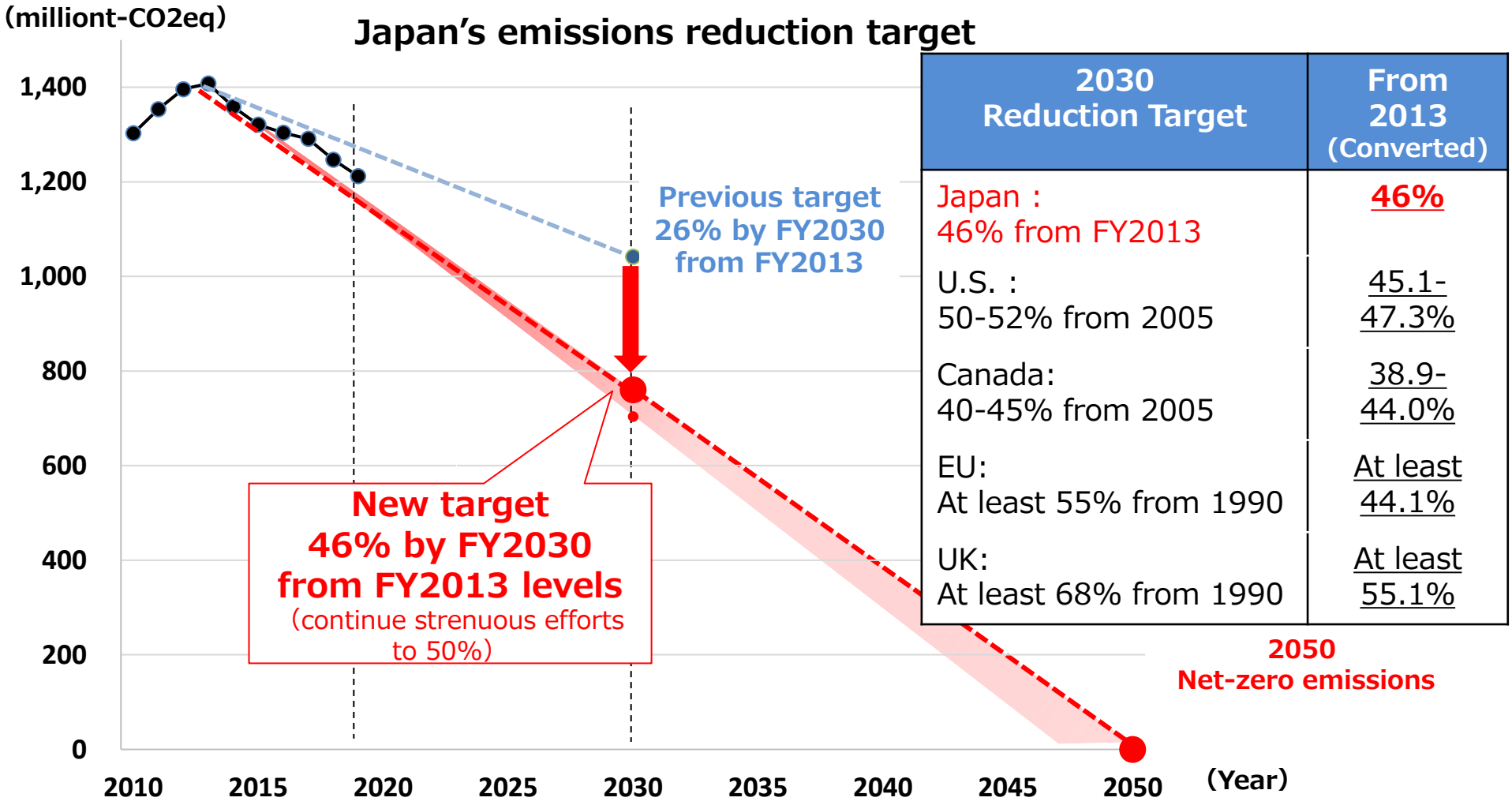
◆ **Japan's Long-term strategy under the Paris Agreement ("Long-term Strategy")**

- Submitted to UN in October 2021, to present Japan's long-term vision towards the realization of net-zero by 2050 (Article 4.19).

Japan's new 2030 emissions reduction target

Japan aims to reduce its GHG emissions by 46% in FY2030 from FY2013 levels, setting an ambitious target which is aligned with the long-term goal of achieving net-zero by 2050. Furthermore, Japan will continue strenuous efforts in its challenge to meet the lofty goal of cutting its emission by 50%.

(Announced by the Prime Minister SUGA at 45th meeting of the Global Warming Prevention Headquarters on 22 April 2021)



2030 Reduction Target	From 2013 (Converted)
Japan : 46% from FY2013	**46%**
U.S. : 50-52% from 2005	45.1-47.3%
Canada: 40-45% from 2005	38.9-44.0%
EU: At least 55% from 1990	At least 44.1%
UK: At least 68% from 1990	At least 55.1%

Japan's Financial Assistance to Developing Countries for Climate Change (Overview)

- Japan provided public and private climate finance annually, amounting to approximately JPY 1.3 trillion from 2016 to 2020.
- Japan will provide public and private climate finance, totaling approximately USD 60 billion over the next five years from 2021 to 2025, which is the same level of its previous commitment on an annual basis. Furthermore, Japan is ready to provide up to USD 10 billion additional assistance over the same five years.
- Within the framework of these commitments, Japan will double its assistance for adaptation over the five years to 2025, totaling approximately USD 14.8 billion of public and private assistance for adaptation.

➢ **Bilateral assistance: support to developing countries for climate change measures through Official Development Assistance (ODA) and others**

Through public assistance such as ODA, JBIC and NEXI, supporting policy formulation for low-carbon/decarbonized society development in developing countries, implementing infrastructural and capacity building in areas such as energy including renewables and disaster prevention.

➢ **Multilateral Assistance: Assistance through Green Climate Fund (GCF)**

GCF assists developing countries for reducing GHG emissions and addressing the impacts from climate change. Japan is the second largest donor of the fund next to the UK, with total contributions of up to USD 3.0 billion.

➢ **Cooperation through the JCM (Joint Crediting Mechanism)**

Today' Focus!

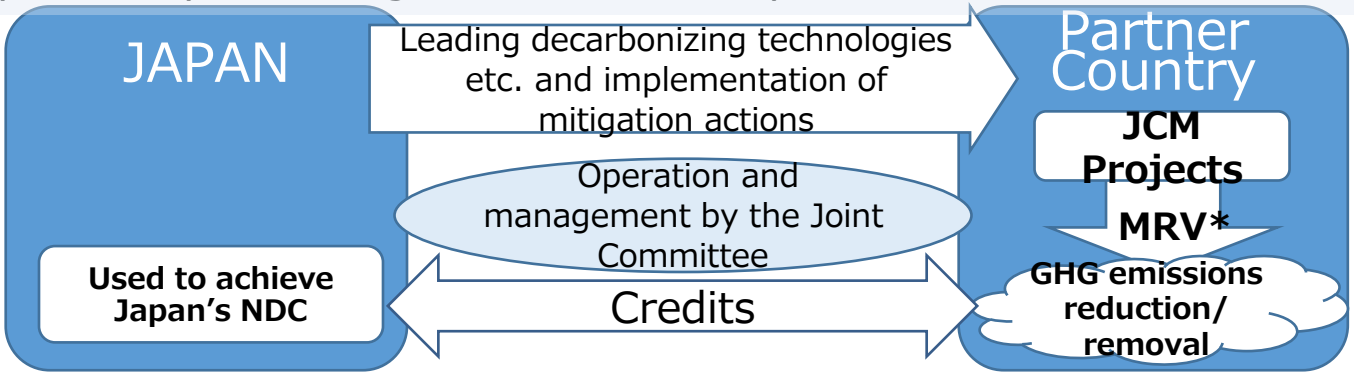
The JCM contributes to developing countries' climate change measures through the diffusion of decarbonizing technologies and others, and helps Japan to achieve its NDC.
To date, Japan has established the JCM with seventeen countries in the world.

➢ **Climate Solutions Technologies Initiative**

Aims to promote Japanese decarbonizing technologies overseas and through the project formation such as under Grant Assistance for Japanese NGO Projects intends to bring about technologies of Japanese companies to developing countries.

Joint Crediting Mechanism (JCM)

Japan is implementing the JCM with 17 partner countries since 2013



*measurement, reporting and verification

Mongolia
Jan. 8, 2013
（Ulaanbaatar）

Bangladesh
Mar. 19, 2013
(Dhaka)

Ethiopia
May 27, 2013
(Addis Ababa)

Kenya
Jun. 12,2013
(Nairobi)

Maldives
Jun. 29, 2013
(Okinawa)

Viet Nam
Jul. 2, 2013
(Hanoi)

Lao PDR
Aug. 7, 2013
(Vientiane)

Indonesia
Aug. 26, 2013
(Jakarta)

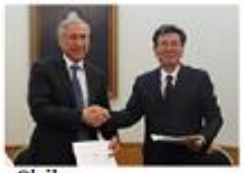
Costa Rica
Dec. 9, 2013
(Tokyo)

Palau
Jan. 13, 2014
(Ngerulmud)

Cambodia
Apr. 11, 2014
(Phnom Penh)

Mexico
Jul. 25, 2014
(Mexico City)

Saudi Arabia
May 13, 2015



Chile
May 26, 2015
(Santiago)

Myanmar
Sep. 16, 2015
(Nay Pyi Taw)

Thailand
Nov. 19, 2015
(Tokyo)

the Philippines
Jan. 12, 2017
(Manila)

Events in 2022

June 6-16	UNFCCC-SB (Subsidiary Bodies) (Bonn)
June 26-28	G7 Summit (Germany)
September	UN General Assembly (High-Level Segment)
November 7-18	COP27 (Sharm El-Sheikh)
November 15-16	G20 Summit (Indonesia)

2023: G7 (Japan), G20 (India), COP28 (UAE)

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JCM THE JOINT CREDITING MECHANISM

Recent development of the JCM (Joint Crediting Mechanism)

Webinar on “Environmental issues in Central Asia and Caucasus and the Role of Japan"

March 16, 2022

Ministry of the Environment, Japan

SUSTAINABLE DEVELOPMENT GOALS

Re-Style

COOL CHOICE

つなげよう、支えよう 森里川海

Plastics Smart

GHG emissions and target in Japan

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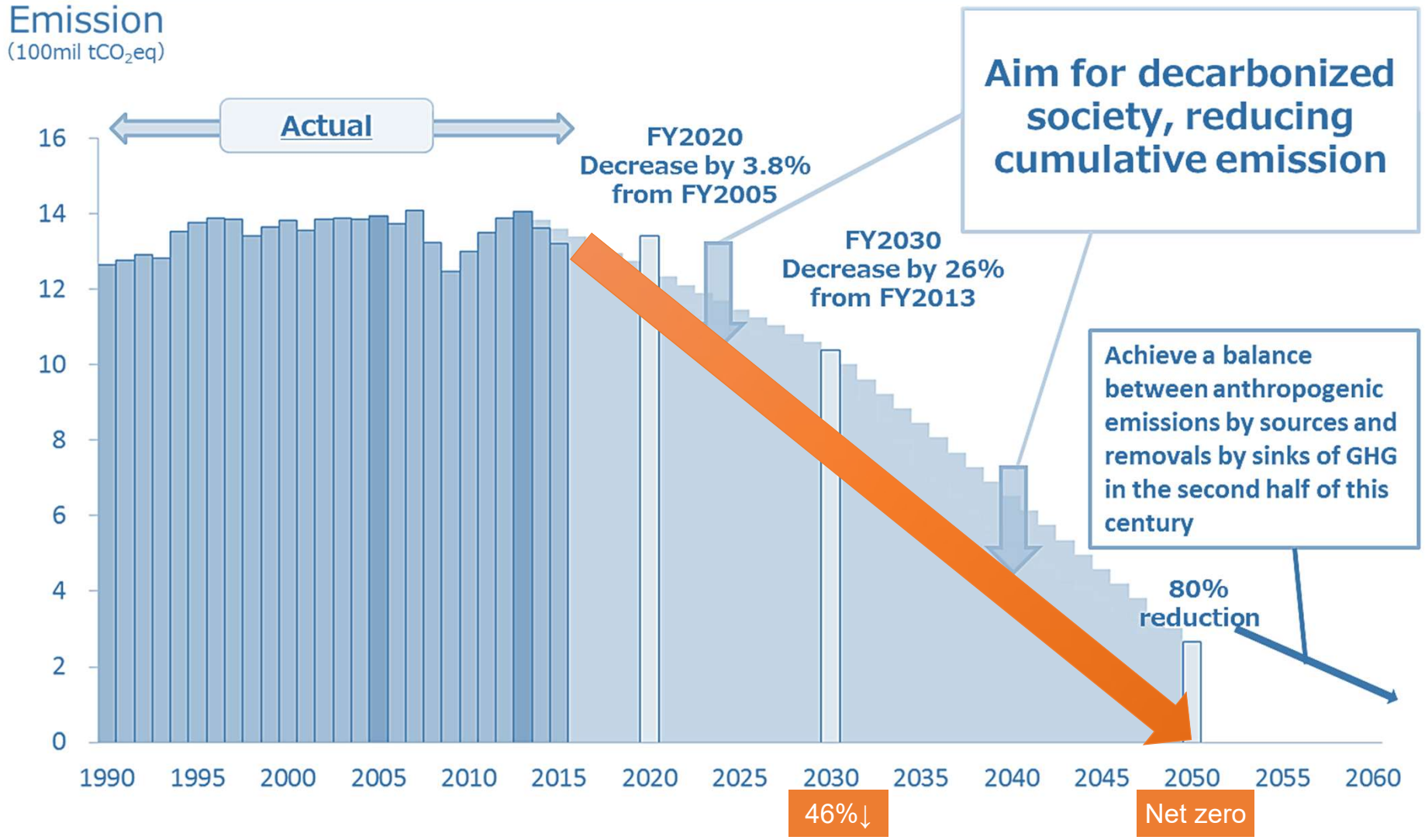
Government of Japan

- **Long-term goal**: **Net zero emissions by 2050**
- **Mid-term target**: **46% emission reduction by 2030** compared to 2013
- GHG emissions in 2020: 1,149 mil ton of CO_2 eq. (5.0% reduction to 2019, 18.4% reduction to 2013)
- **JCM target**: cumulative GHG emission reduction for **100 mil tons** of CO2 eq. by 2030



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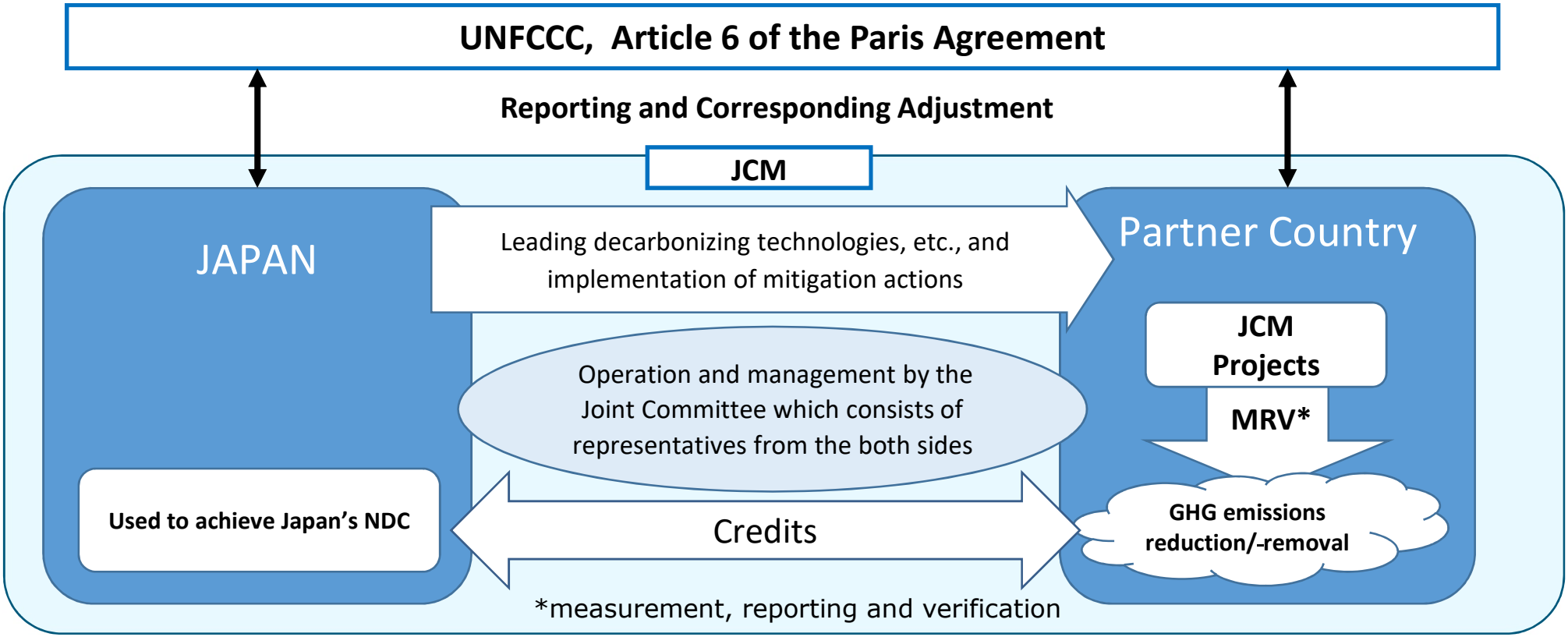
Basic concept of the JCM and contribution to carbon neutrality



Cooperation towards achieving carbon neutrality

With the successful conclusion of the Rulebook for Article 6 of the Paris Agreement at COP26, carbon markets will further expand. The JCM, as a pioneering mechanism under Article 6, will benefit not only for GHG emission reductions, but also for the sustainable development of the partner countries.

Project Cycle of the JCM and the CDM

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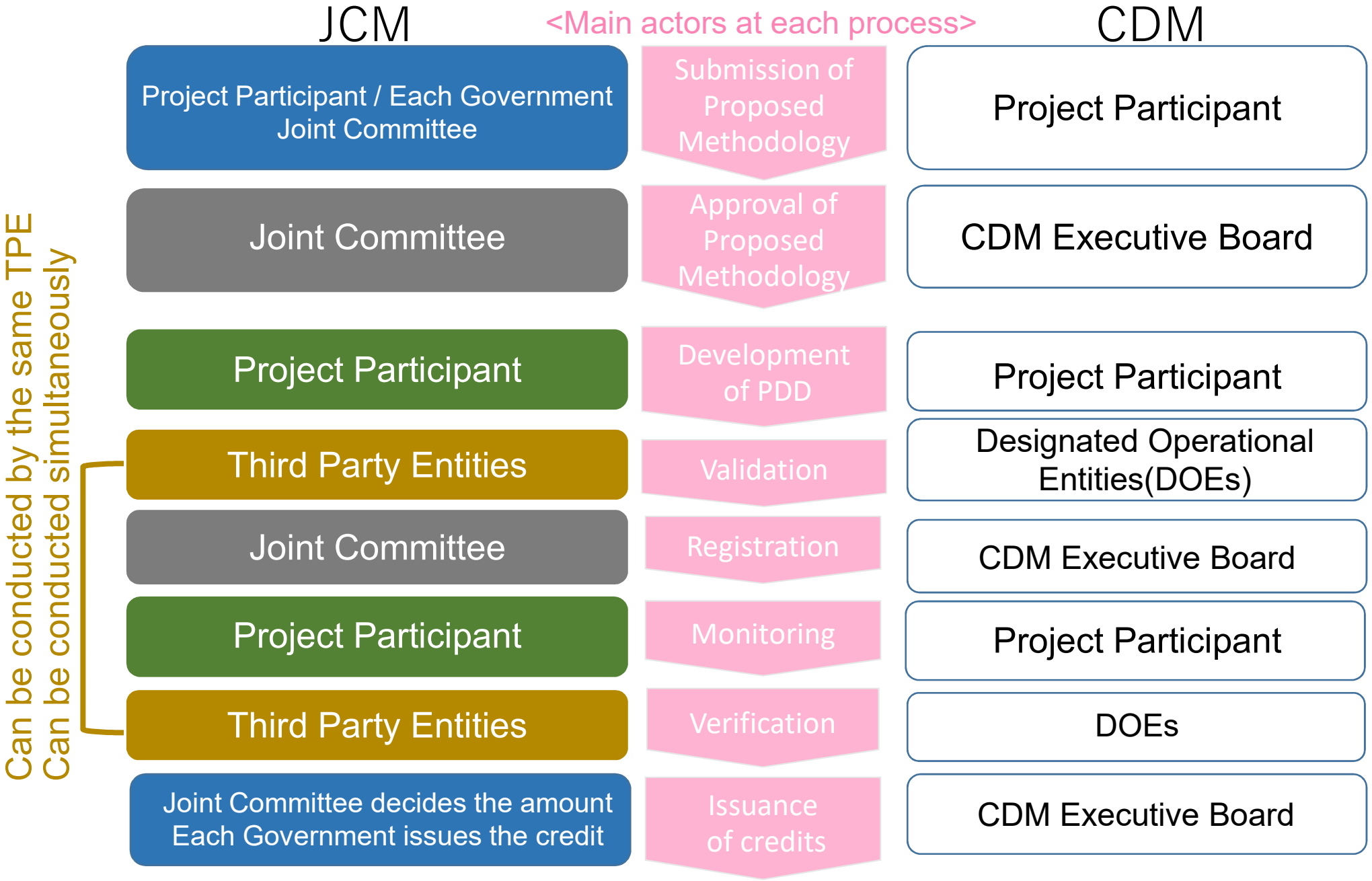

In the CDM, Japanese companies have implemented Landfill Gas Capture and Power Generation Projects in Armenia ,Georgia and Uzbekistan.

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JCM Partner Countries

- Japan has established the JCM with Mongolia, Bangladesh, Ethiopia, Kenya, Maldives, Viet Nam, Lao PDR, Indonesia, Costa Rica, Palau, Cambodia, Mexico, Saudi Arabia, Chile, Myanmar, Thailand and the Philippines.

Mongolia
Jan. 8, 2013

Bangladesh
Mar. 19, 2013
(Dhaka)

Ethiopia
May 27, 2013
(Addis Ababa)

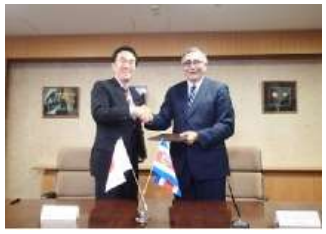
Kenya
Jun. 12, 2013
(Nairobi)

Maldives
Jun. 29, 2013
(Okinawa)

Viet Nam
Jul. 2, 2013
Oct.14, 2021 (Hanoi)

Lao PDR
Aug. 7, 2013
(Vientiane)

Indonesia
Aug. 26, 2013
(Jakarta)



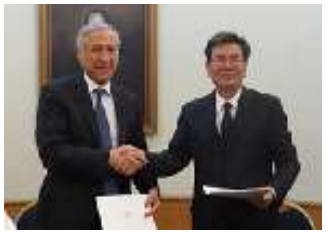
Costa Rica
Dec. 9, 2013
(Tokyo)

Palau
Jan. 13, 2014
(Ngerulmud)

Cambodia
Apr. 11, 2014
(Phnom Penh)

Mexico
Jul. 25, 2014
(Mexico City)

Saudi Arabia
May 13, 2015



Chile
May 26, 2015
(Santiago)

Myanmar
Sep. 16, 2015
(Nay Pyi Taw)

Thailand
Nov. 19, 2015
(Tokyo)

Philippines
Jan. 12, 2017
(Manila)

JCM Financing Programme by MOEJ

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	JCM Model Projects (including ECO Lease scheme)	ADB Trust Fund: Japan Fund for JCM (JFJCM)	JCM F-gas Recovery and Destruction Model Project
Overview	Support projects which reduce GHG emissions by utilizing leading decarbonizing technologies in developing countries.	Provide the financial incentives for the adoption of advanced low-carbon technologies which are superior in GHG emission reduction but expensive in ADB-financed projects	Support projects that recover and destroy of F-gas (GHG except for energy-related CO2, etc.) from used equipment instead of releasing to air, and reduce emissions
FY2022 Draft budget (USD)	approx. 171 million in total by FY2024	approx. 10 million	approx. 0.60 million
Type of support	Subsidy	Grant (Sovereign) / Interest Buy-down (Non-sovereign)	Subsidy
More info	• https://gec.jp/jcm/kobo/ • https://www.carbon-markets.go.jp/eng/jcmgp/index.html	https://www.adb.org/what-we-do/funds/japan-fund-for-joint-crediting-mechanism	Please contact us.

Need business partners? **JCM Global Match**: https://gec.jp/jcm/globalmatch/

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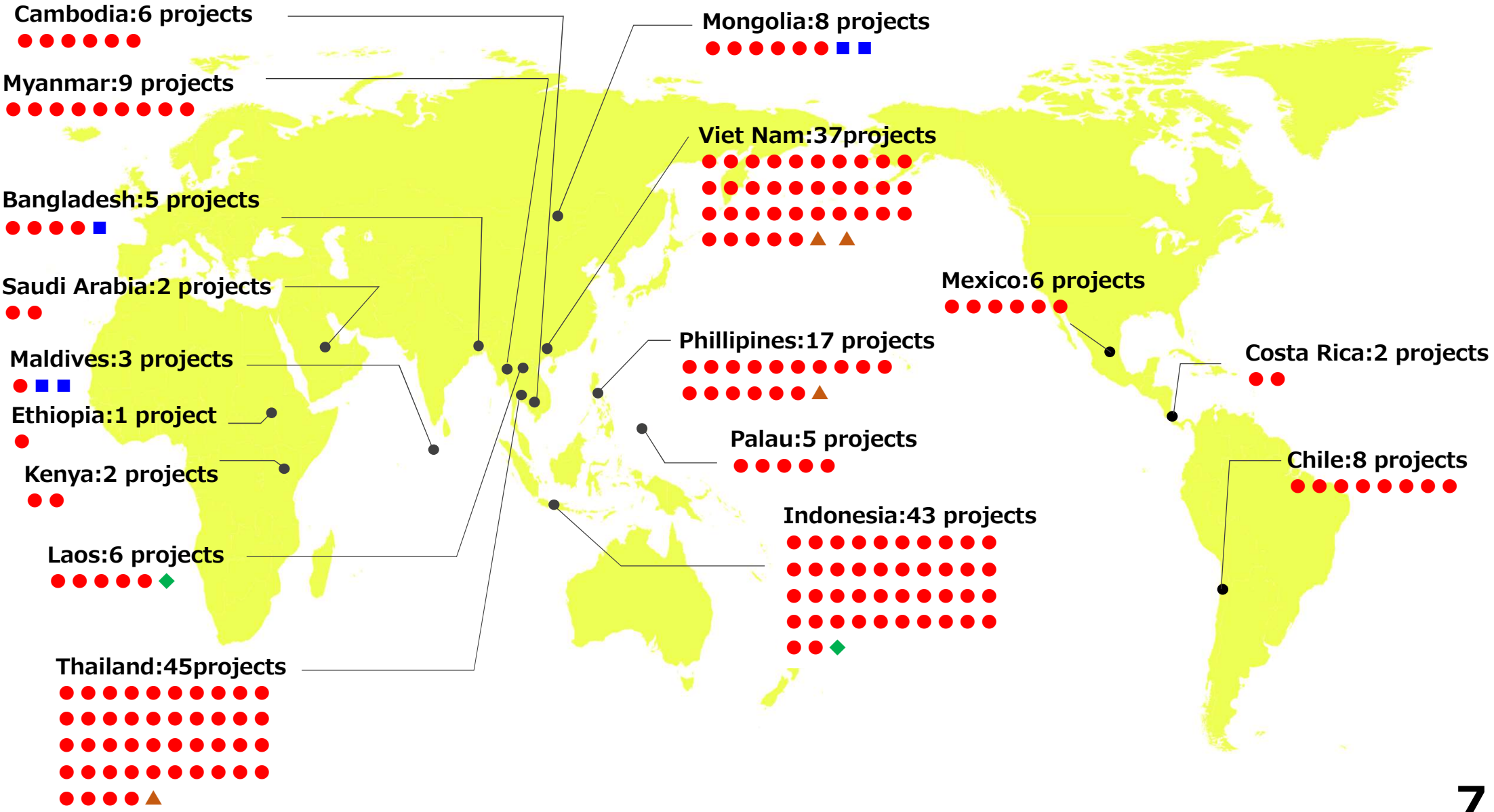
JCM Financing Programmes by MOEJ (FY2013～2021) (February, 2022)

Total 205 projects in 17 partner countries

(●Model Project: 194 projects(including Eco Lease: 3project), ■ADB: 5 projects, ◆ REDD+: 2 projects, ▲F-gas: 4 projects) Other 1 project in Malaysia

124 projects have been started operation. **62 projects** have been registered as JCM projects.



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Examples of the JCM Model Projects

Renewable Energy

Solar power, FARMLAND Co., Ltd.,Chile

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

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

Biomass Co-Generation System, Fuji-Foods Cooporation, , Thailand

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

Energy efficiency [Consumer sector]

High-efficiency refrigerator, Mayekawa MFG, Indonesia

Energy saving at convenience stores, Panasonic, Indonesia

High-efficiency air-conditioning system, Hitachi, Daikin, Vietnam

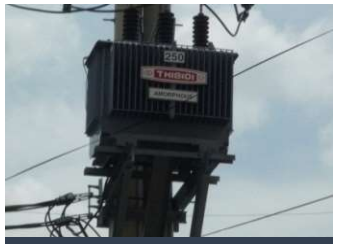
Energy efficiency [Industrial sector]

Regenerative Burners in industries, Toyotsu Machinery, Indonesia

Upgrading air-saving loom at textile factory, TORAY etc., Indonesia, Thai, Bangladesh

Energy efficiency [Urban sector]

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



Amorphous transformers in power distribution, Hitachi Materials, 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

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Technologies Transferred through the JCM (FY2013-2021)

- Total of 205 JCM Model Projects being selected by MOEJ's Finance Programme in 17 partner countries
- 50% for renewable energy, 40% for energy efficiency, 10% for Effective use of Energy, Transport, Waste to energy, F-gas Recovery and Destruction and REDD+ project

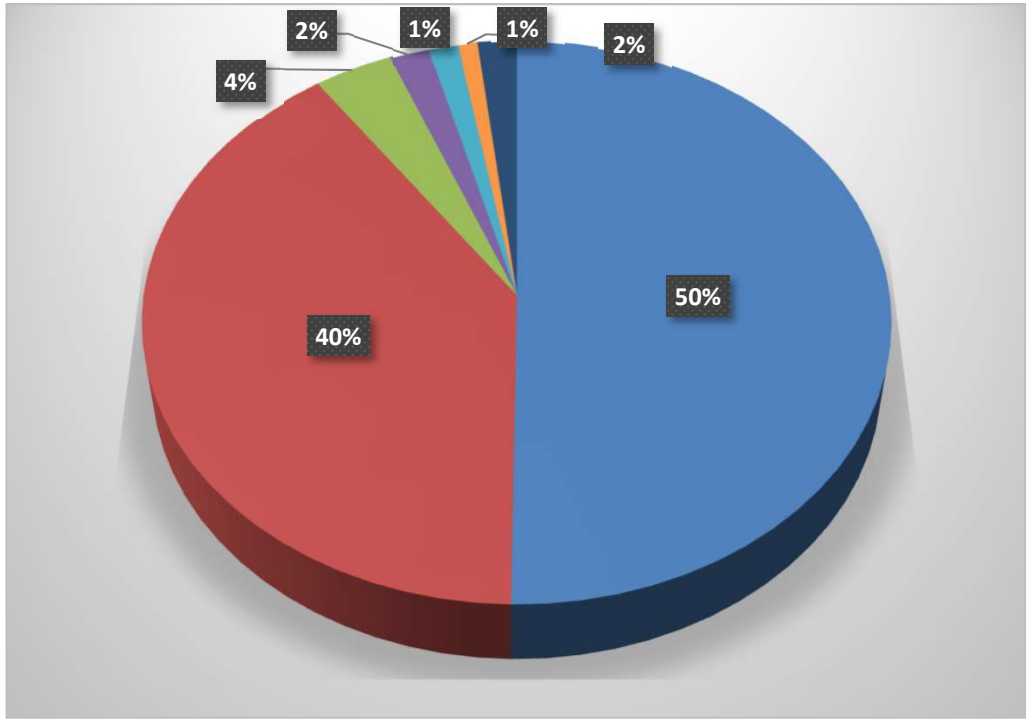
Waste (4) 2%
- Waste to Energy
- Power Generation with Methane Gas

Transport (3) 1%
- Digital Tachographs
- Modal Shift
- CNG-Diesel Hybrid

REDD+ (2) 1%
- Controlling slush and burn

Feburuary,2022

Effective Use of Energy (8) 4%
- Waste Heat Recovery
- Gas Co-generation



F-gas (4) 2%
- Recovery & Destruction

Energy efficiency (86) 40%
- Boiler
- Air Conditioning
- Refrigerating/Chiller
- Looms
- Transformer
- LED Lighting

Renewable energy (108) 50%
- Solar(&Storage battery)
- Micro hydro
- Wind
- Biomass
- Geothermal

Thank you for your kind attention

Ministry of the Environment

JCM Model Projects and Contributions to SDGs

March 16, 2022

Global Environment Centre Foundation (GEC)

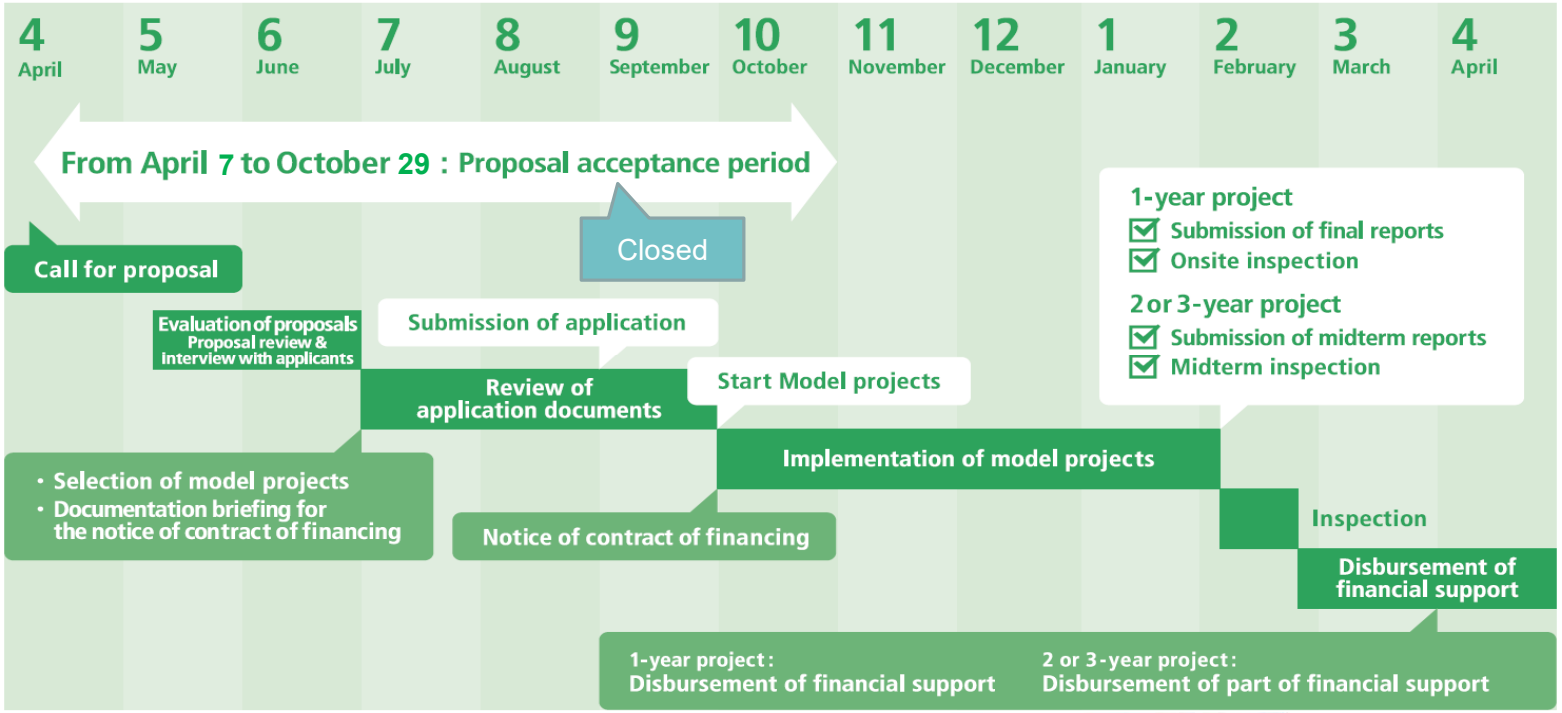
Outline of JCM Model Projects FY2021

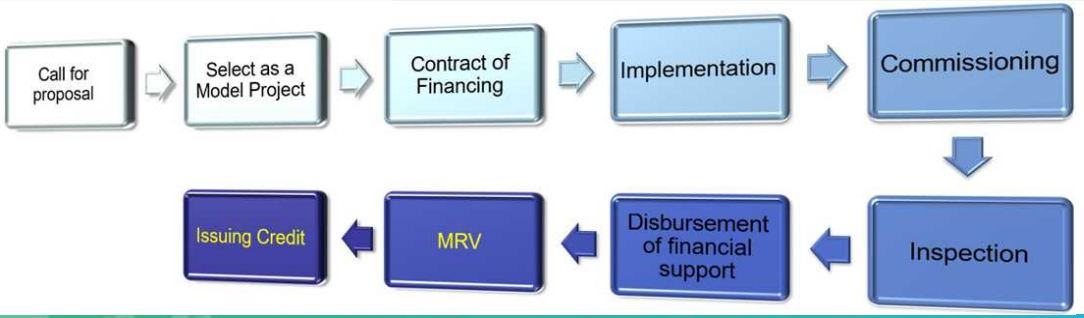
Budget	Approx. USD83million in total with Demonstrate Decarbonization Technology for Realizing Co-Innovation Program
Executing Entity	International Consortium that consists of a Japanese entity and a JCM partner-country entity(ies)
Scope of Financing	Facilities, equipment, vehicles, etc. which reduce CO2 from fossil fuel combustion as well as construction cost for installing those facilities, etc.
Eligible Projects	Start installation after the Contract of Finance is concluded and finish installation within 3 years.
Maximum percentage of Financial Support	Maximum of 50% and reduce the percentage according to the number of already selected project(s) using a similar technology in each partner country. ※ Number of already selected project(s) using a similar technology in each partner country : none (0) = up to 50%, up to 3 (1-3) = up to 40%, more than 3 (>3) = up to 30%. The percentage of financial support will be determined by GEC.
Cost-effectiveness	Cost-effectiveness of GHG emission reductions is expected to be JPY4,000/tCO2eq or better. ※ If the number of similar technological projects in a partner country is 5 or more, the cost-effectiveness is expected be JPY3,000 or lower. If it is 10 or more, JPY2,500 or lower.

Guideline for Submitting JCM model project proposal

JCM Model Projects Schedule in FY2021

Global Environment Centre Foundation





Guideline for Submitting JCM model project proposal in FY2021

Categorization by applied technology type

Global Environment Centre Foundation

Sector	Technology	Mongolia	Bangladesh	Ethiopia	Kenya	Maldives	Viet Nam	Lao PDR	Indonesia	Costa Rica	Palau	Cambodia	Mexico	Saudi Arabia	Chile	Myanmar	Thailand	Philippine	
		MN	BD	ET	KE	MV	VN	LA	ID	CR	PW	KH	MX	SA	CL	MM	TH	PH	
1. Energy Efficiency	Air Conditioning System						4		1								1		6
	Chiller		2				4		4	1		1				1	4		17
	Refrigerator								1							2	4		7
	Absorption Chiller Using Waste Heat								2								2		4
	Swirling Induction Type Air-conditioning System																1		1
	Air Conditioning System with Total Heat Excahnger															1			1
	Fridge and Freezer Showcase								1								1		2
	Boiler	2					2		3				1			2	1		11
	Double Bundle-type Heat Pump						1		1								1		3
	Water Heater Using Waste Heat									1						1			2
	Waste Heat Recovery System															2	1		3
	Heat Exchanger																1		1
	Transformer						4	1											5
	LED Lighting								2								1		3
	LED Street Lighting with Dimming System								1			1							2
	Pump						1												1
	Air Compressor						1										1		2
	Aeration System								1										1
	Regenerative Burners								1										1
	Gas Fired Furnace						1												1
	Gas Fired Melting Furnace																1		1
	Air Conditioning Control System						1										1		2
	Freaquency Inverter for Pump						1					1							2
	Ventilation Contorl System															1			1
	Loom		1						2								1		4
	Old Corrugated Cartons Process								1										1
	Battery Case Forming Device						1												1
	Electrolyzer in Chlorine Production													1			1		2
	Wire Stranding Machines						1												1
	Autoclave								1										1
	Multi-effect Distillation System												1						1
	Injection Modling Machine								1										1
2. Renewable Energy	Solar Power Plant	4	1	1	2	1	4	3	3	1	5	4	3	1	4	1	15	6	59
	Solar Power Plant with Battery								1										1
	Small Hydropower Plant								8									3	11
	Wind Power Plant																	1	1
	Geothermal Power Plant																	1	1
	Biomass Power Plant								1			1			1	1	1	1	6
	Biogas Power Plant																	1	1
	Biomas boiler						2										1		3
	Biogas boiler															1		1	2
	Biomass Co-generation						1										1		2
3.Effective Use of Energy	Power Generation by Waste Heat Recovery								1							1	1		3
	Gas Co-generation								2								3		5
4. Waste Handling and Disposal	Waste-to-Energy Plant															1			1
	Power Generation by Methane Recovery												1						1
5. Transportation	Digital Tachograph System						1												1
	CNG-Diesel Hybrid Bus								1										1
	Reefer Container						1												1
Total	Number of technology : 51	6	4	1	2	1	31	4	40	3	5	8	6	2	5	15	45	14	192

White	0 project = Up to 50%	Yellow	1-3 project(s) = Up to 40%	Orange	more than 4 projects = Up to 30%

1st Selection of Projects in FY2021

Global Environment Centre Foundation

Partner Country	Entity	Project Title	Sector	Expected GHG Emission Reductions (tCO2/y)
Vietnam	JFE Engineering Corporation	Waste to Energy project in Bac Ninh Province	Waste handling and disposal	41,805
Vietnam	Sharp Energy Solution Corporation	Introduction of 9MW Rooftop Solar Power System to Factories	Renewable Energy	3,618
Vietnam	ENDO Lighting Corporation	Introduction of High Efficiency LED Lighting with Dimming and Tunable Function to Office Building in Ho Chi Minh City	Energy Efficiency Improvement	196
Indonesia	Sumitomo Forestry Co., Ltd.	Introduction of 3.3MW Rooftop Solar Power System in Woodworking Factories	Renewable Energy	2,396
Indonesia	FUMAKILLA LIMITED	Introduction of High-Efficiency Thermal Oil Heater System in Chemical Factory	Energy Efficiency Improvement	1,942
Mexico	Sharp Energy Solution Corporation	20MW Solar Power Project in Guanajuato	Renewable Energy	20,023
Thailand	Osaka Gas Co., Ltd.	Introduction of High Efficiency Once Through Boiler to Garment Factory	Energy Efficiency Improvement	2,665
Philippines	MITSUI & CO., LTD.	60MW Solar Power Project in Cordon, Isabela	Renewable Energy	44,860
Philippines	Mizuho-Toshiba Leasing Company Ltd.	Tanawon 20MW Flash Geothermal Power Plant Project	Renewable Energy	38,312

Newly selected Representative Participant Renewable Energy

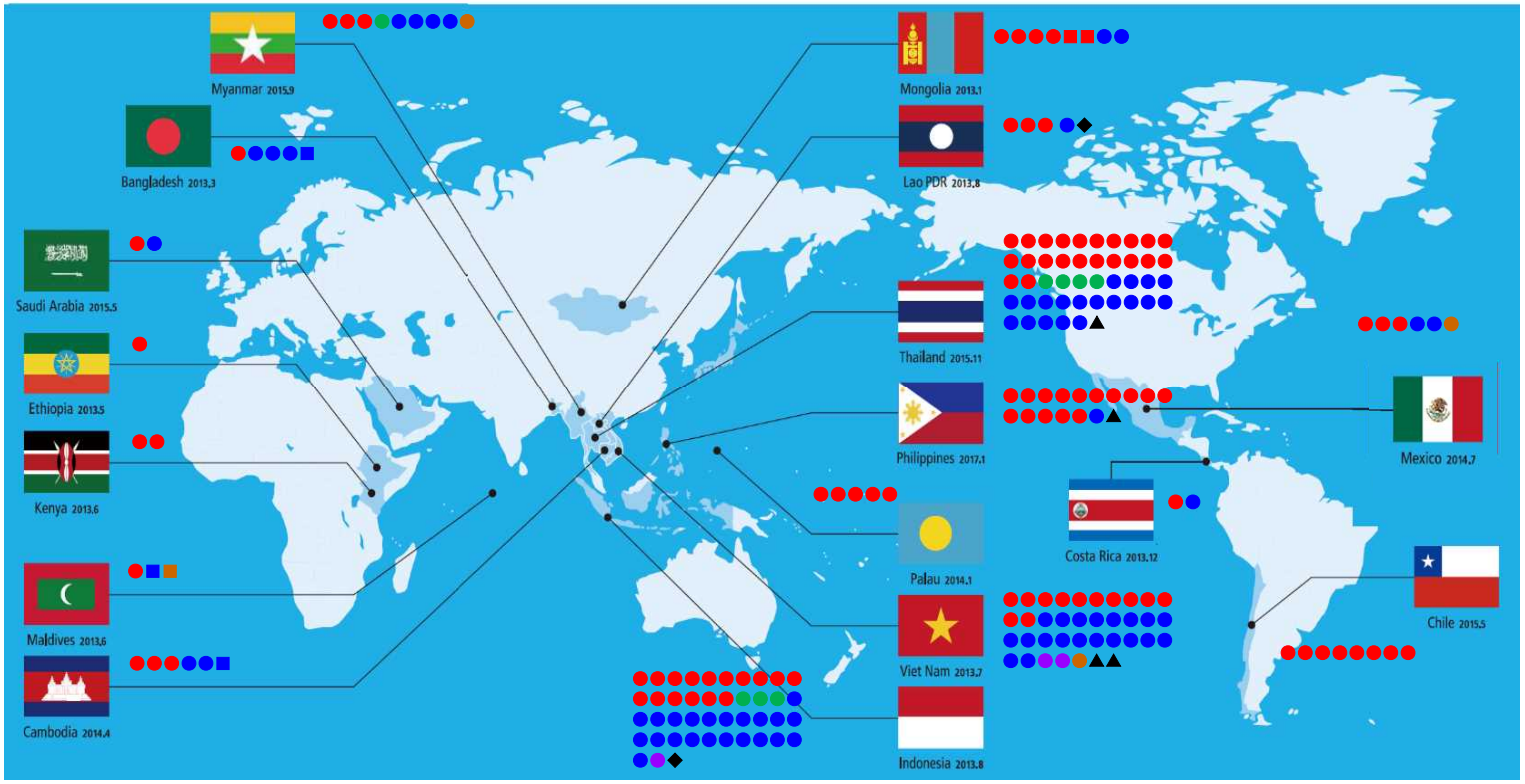
2nd Selection of Projects in FY2021

Global Environment Centre Foundation

Partner Country	Entity	Project Title	Sector	GHG Emission Reductions (tCO2/y)
Vietnam	Marubeni Corporation	Introduction of 12MW Rooftop Solar Power System to Commercial and Industrial Customers	Renewable Energy	5,815
Vietnam	Osaka Gas Co., Ltd.	Introduction of 9.8MW Rooftop Solar Power System in Industrial Park	Renewable Energy	4,254
Vietnam	Asian Gateway Corporation	Introduction of 5.8MW Rooftop Solar Power System to Beverage Factory	Renewable Energy	2,531
Vietnam	The Kansai Electric Power Company, Incorporated	Introduction of 2.5MW Rooftop Solar Power System to Food Factory and Garment Factory	Renewable Energy	982
Vietnam	Tokyu Corporation	Introduction of High Efficiency Chiller and High Efficiency LED Lighting with Dimming Function to Shopping Center	Energy Efficiency Improvement	726
Lao PDR	Liberal Solution Co., Ltd.	19MW Solar Power Project in Xiangkhouang Province	Renewable Energy	7,861
Indonesia	WWS-JAPAN Co.	6MW Mini Hydro Power Plant Project in Besay River, Lampung Province	Renewable Energy	20,307
Indonesia	WWS-JAPAN Co.	2.3 MW Mini Hydro Power Plant Project in Melesom River, Lampung Province	Renewable Energy	6,787
Indonesia	Otsuka Pharmaceutical Factory, Inc.	Energy Saving by Introducing High Efficiency Autoclave to Infusion Manufacturing Factory 2	Energy Efficiency Improvement	8,796
Chile	Eurus Energy Holdings Corporation	9MW Solar Power Project in Casablanca, Valparaiso Region	Renewable Energy	8,527
Chile	Eurus Energy Holdings Corporation	9MW Solar Power Project in Yungay, Biobio Region	Renewable Energy	8,476
Chile	FARMLAND Co., Ltd.	3MW Solar Power Project Utilizing Farmland in Maule Region	Renewable Energy	2,489
Thailand	Kanematsu KGK Corp.	35MW Solar Power and Storage Battery Project in Suphanburi Province	Renewable Energy	13,197
Thailand	Sharp Energy Solution Corporation	Introduction of 23MW Rooftop Solar Power System to Tire Factories	Renewable Energy	8,928
Thailand	The Kansai Electric Power Company, Incorporated	Introduction of High Efficiency Boiler, High Efficiency Chiller, and Solar PV System to Textile Factory and Food Factory	Energy Efficiency Improvement/ Renewable Energy	1,885
Thailand	The Kansai Electric Power Company, Incorporated	Introduction of 2MW Rooftop Solar Power System to Non-ferrous Metal Factory	Renewable Energy	945
Thailand	Tokyo Century Corporation	Introduction of 1.85MW Solar Power System to Food Factories (JCM Eco Lease Scheme)	Renewable Energy	858
Thailand	Tokyo Century Corporation	Introduction of 0.13MW Solar Power System to Auto Parts Factory (JCM Eco Lease Scheme)	Renewable Energy	52
Philippines	Oriental Consultants Co., Ltd.	Introduction of Energy Saving Air Conditioning System to Quezon City Hall Compound	Energy Efficiency Improvement	780

Project Map of JCM Financing Programme : as of September 27, 2021

Global Environment Centre Foundation



Total 205 projects / 17 countries
(● Model Project:194, ■ ADB:5, ◆ REDD+:2, ▲ F-gas:4)

- ● Renewable Energy
- ● Effective Use of Energy
- ● Energy Efficiency Improvement
- ● Transport
- ● Waste Handling and Disposal

Infrastructure through JCM

Energy Efficiency

LPG Boilers(Mongolia)/
Saisan Co.,Ltd.

Raw Water Intake Pumps(Viet Nam)/
Yokohama Water Co., Ltd.

Amorphous Transformers(Viet Nam)/
Yuko Keiso Co., Ltd.

Chiller and Heat Recovery System(Costa Rica)/
NTT Data Institute Consulting Inc.

Energy Efficiency

Energy Efficient Distillation System(Mexico)/
Suntory Spirits Ltd.

Once-through Boiler(Myanmar)/
Acecook Co., Ltd.

Effective Use of Energy

Co-generation Plant(Thailand)/
Nippon Steel Engineering Co., Ltd.

Gas Co-generation system(Indonesia)/
Toyota Tsusho Corporation

Renewable Energy

Wind Power Generation(Philippines)/
Chodai Co., Ltd.

Binary Geothermal Power Generation(Philippines)/
Mitsubishi Heavy Industries Ltd.

Solar Power(Viet Nam)/
Kanematsu KGK Corp.

Solar Power(Lao PDR)/
Sharp Energy Solutions Corporation

Renewable Energy

Biomass Boiler(Thailand)/
Fuji Foods Corporation

Waste Handling and Disposal

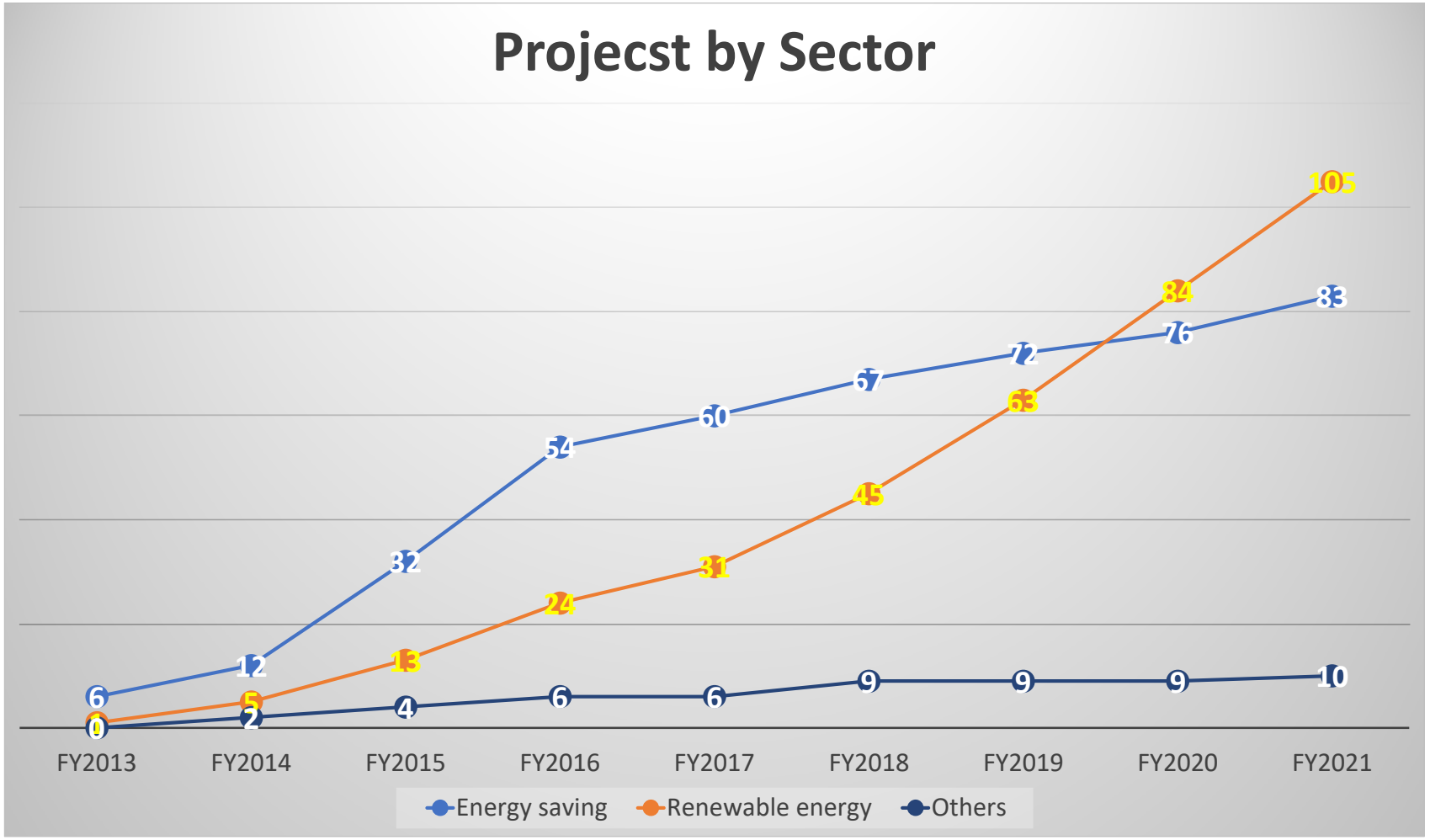
Power Generation with Methane Gas Recovery System(Mexico)/
NTT Data Institute Consulting Inc.

Waste to Energy Plant(Myanmar)/
JFE Engineering Corporation

Transportation

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

Project by Sector



Waste to Energy project in Bac Ninh Province

PP (Japan): JFE Engineering Corporation , PP (Vietnam): T&J Green Energy Company Limited

Outline of GHG Mitigation Activity

In this project, a waste-to-energy plant is introduced in Bac Ninh province. This plant incinerates and generates electricity from 230 tons/day of municipal solid waste, which has been disposed of as landfill. The plant also incinerates and generates electricity from 120 tons/day of municipal solid waste and 150 tons/day of industrial solid waste, which were previously incinerated.
This scheme enables the proper waste treatment and the supply of electricity without the use of fossil fuels. It also reduces methane emissions from landfill sites and greenhouse gas (GHG) emissions by replacing grid electricity.

Waste to Energy Incinerator (Grate)
Manufactured by Standard-Kessel Baumgarte (Germany)

Processing Volume: 500t/day

(Municipal solid waste 350t/day and industrial solid waste 150t/day)

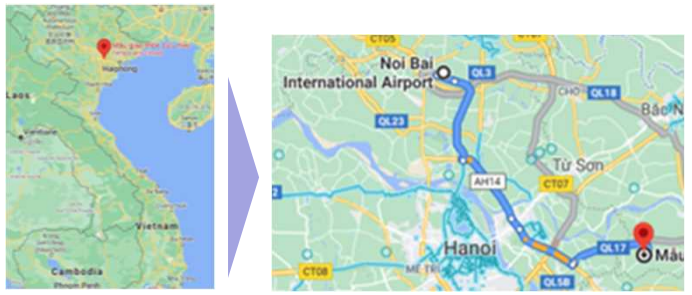
Expected GHG Emission Reductions

41,804tCO_2/year

=Reference GHG Emissions
– Project GHG Emissions

Sites of Project

Project site:
Bac Ninh Province
(Approx.-30km east of Hanoi City)
Approx. 50km southeast of Noi Bai Airport



Map Data ©2021 Google

JCM for SDGs （Waste-to-Energy Project）

Global Environment Centre Foundation

Possible Contribution of Waste-to-Energy Projects to SDGs

Reduce GHG emission by utilizing thermal energy from combustion of waste to generate electricity.

Waste-to-energy facilities

<Graph Legends>

Goals to which energy-efficiency equipment can contribute

Common goals to which JCM Projects can contribute

※The recommended examples with high potential to contribute through implementing JCM project. These goals are not limited nor mandatory to contribute.

Planning	Implementation	Operation	Decommission
		・Sustainable industrialization (9.2) ・Clean and environmentally sound (9.4)	
		・Sustainable urbanization (11.3) ・Reduced air pollution (11.6)	
	・Reduced number of deaths and illnesses from hazardous chemicals and air, water and soil pollution (3.9)		
	・Improved water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials (6.3)		
・Sustainable management of project site (15.2)			
・Access to affordable, reliable and modern energy services (7.1) ・Increased share of renewable energy (7.2) ・Promotion of investment in energy infrastructure and clean energy technology (7.a)			
・Substantially reduce waste generation through prevention, reduction, recycling and reuse (12.5)			
・Reduce inequality by procurement with fair price (10.3)		・Publish sustainability reports (12.6)	
・Education and training for relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship (4.4)			
・Increase employment of women to managerial and technical positions (5.5) and gender sensitive work environment (Guideline on Gender Equality for JCM)			
・Full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value (8.5)			
・Adopt supply chain without child labor, exploitation, conflict and corruption (5.2、8.8、16.2、16.5)			
・Environmentally sound management of all wastes throughout their life cycle (12.4)			
・Take urgent action to combat climate change and its impacts (13)			
・Promote the development, transfer, dissemination and diffusion of environmentally sound technologies (17.7) ・Enhance the global partnership for sustainable development (17.16)			

JCM Model Project（FY2021）in Thailand

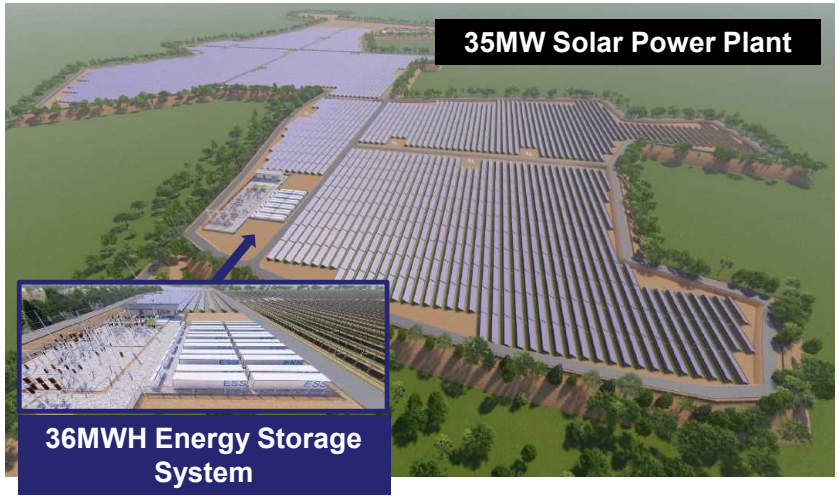
Global Environment Centre Foundation

35MW Solar Power and Storage Battery Project in Suphanburi Province

PP (Japan): Kanematsu KGK Corp.　PP (Thailand): Blue Solar Co., Ltd., Blue Solar Farm 2 Co., Ltd.

Outline of GHG Mitigation Activity

This project installs 35MW solar power system and 36MWH energy storage system in Suphanburi province. The electricity generated by solar power plant is supplied to the grid. In daytime, surplus power is charged into the energy storage system, and charged power is supplied to the grid during evening time. The project contributes to Thailand's target to reduce greenhouse gas (GHG) emissions by shifting power resource to renewable energy from fossil fuel.



Expected GHG Emission Reductions

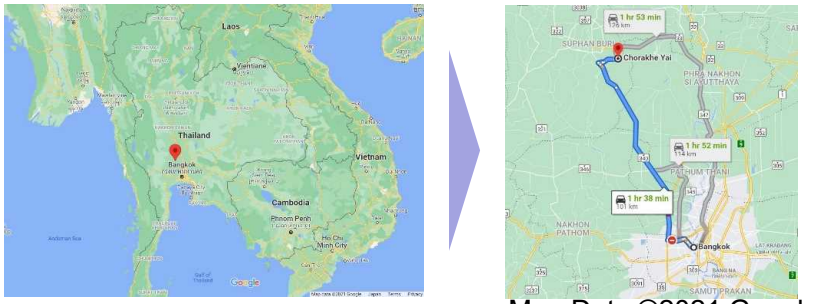
13,197tCO_2/year
= (Reference CO_2 emissions)
- (Project CO_2 emissions)

・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])

Sites of Project

Approx. 100km northwest from Bangkok city



JCM Model Project（FY2021）in Philippines

Global Environment Centre Foundation

Tanawon 20MW Flash Geothermal Power Plant Project

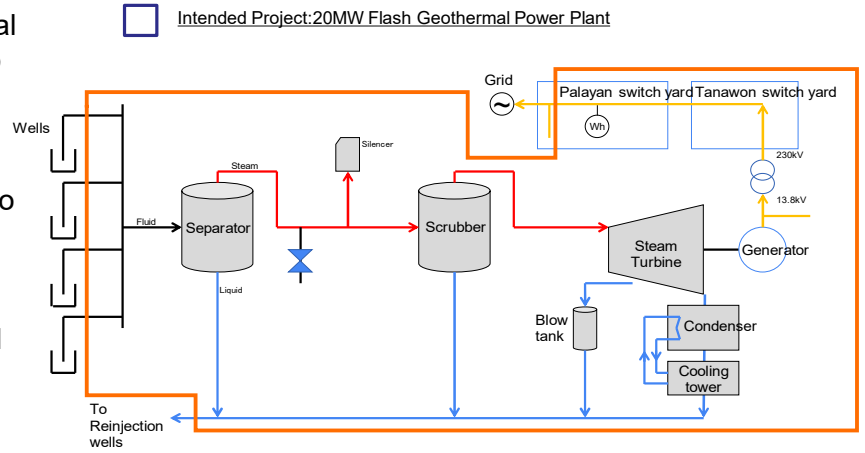
PP (Japan): Mizuho-Toshiba Leasing Company, Limited, PP (Philippines): Bac-Man Geothermal Inc.

Outline of GHG Mitigation Activity

This project introduces a new 20 MW Flash Geothermal power plant system and new facilities for connection to the grid at Tanawon area of southern part of the Luzon island.

This Flash Geothermal power plant is small and easy to install, making it suitable for relatively small-scale geothermal power generation projects.

This project replaces the grid power produced by fossil fuel with renewable energy and reduces greenhouse gas (GHG) emissions.



Expected GHG Emission Reductions

38,312tCO_2/year

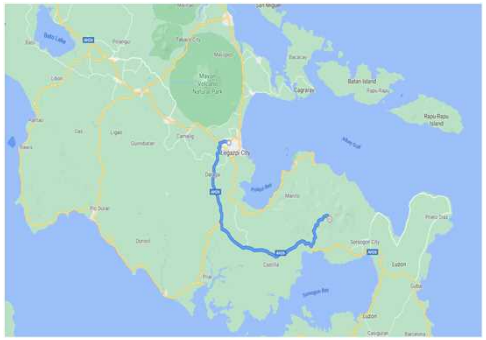
＝ (Reference CO_2 emissions)
　　－(ProjectCO_2 emissions)

・Reference CO2 emissions
　＝ Quantity of the electricity transmission by the project [MWh/year]
　　× Emission factor [tCO_2/MWh]

・ProjectCO_2 emissions
　＝ Quantity of GHG(CO_2,CH_4) in Non Condensable Gas of Steam from the well.

Sites of Project

54km Southeast of the Legazpi City Domestic Airport



Map data ©2021Google

JCM for SDGs （Renewable Energy Project）

Global Environment Centre Foundation

Possible Contribution of Renewable Energy Projects to SDGs

GHG emission reduction can be implemented though renewable energy generation by replacing electric power derived from fossil fuel combustion

- Photovoltaic Generation
- Hydraulic Power Generation
- Wind Power Generation
- Geothermal Generation
- Biomass・Biogas Generation

＜Graph Legend＞

- Goal to which Renewable Energy Project can contribute
- Common Goal to which JCM Projects can contribute

※The listed goals are no more than recommended examples with high potential to contribute through implementing JCM project. These goals are not limited nor mandatory to contribute.

Planning	Implementation	Operation	Decommission
・Ensure women's participation such as public hearing (5.5) ・Equal rights to ownership and compensation of land acquisition (5.a)		・Equal rights to basic services (1.4) ・Increase share of renewable energy (7.2)	
	・Enhance inclusive and sustainable urbanization (11.3) ・Reduce air pollution(11.6)		
・Increase resource-use efficiency and greater adoption of clean and environmentally sound technologies (9.1) ・Increase resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes (9.4)			
・ Sustainable management and efficient use of natural resources (12.2) ・Environmentally sound management of all wastes throughout their life cycle (12.4) ・ Reduce waste generation through prevention, reduction, recycling and reuse (12.5)			
・Sustainable management of all types of forests (15.2)			
・Reduce inequality by procurement with fare price (10.3)		・Publish sustainability reports (12.6)	
・Education and training for relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship (4.4)			
・Increase employment of women to managerial and technical positions (5.5) and gender sensitive work environment (Guideline on Gender Equality for JCM)			
・Full and productive employment and decent work for all women and men, including for young people and persons with disabilities, and equal pay for work of equal value. (8.5)			
・Adopt supply chain without child labor, exploitation, conflict and corruption. (5.2、8.8、16.2、16.5)			
・Environmentally sound management of all wastes throughout their life cycle (12.4)			
・Take urgent action to combat climate change and its impacts. (13)			
・Promote the development, transfer, dissemination and diffusion of environmentally sound technologies (17.7) ・Enhance the global partnership for sustainable development. (17.16)			

Introduction of High Efficiency LED Lighting Utilizing Wireless Network

- Project in Cambodia in FY2015
- Representative Participant:
  MinebeaMitsumi Inc.
- Partner Participant:
  Overseas Cambodian Investment Corporation, Siem Reap Provincial Hall, APSARA

- 5,672 units of high efficiency LED Lighting utilizing wireless network technology with centralized control and monitoring of streetlights by wireless network
- Established LED lighting equipment factory for domestic and international market
- Courtesy call with Samdech Prime Minister

Training Opportunity for All Positions

- Technical training to develop highly skilled employees
- Increasing recruitment of bachelor and associate degree
- Fastest education system by overseas training (Over 5,000 trainees)

Khmer language class

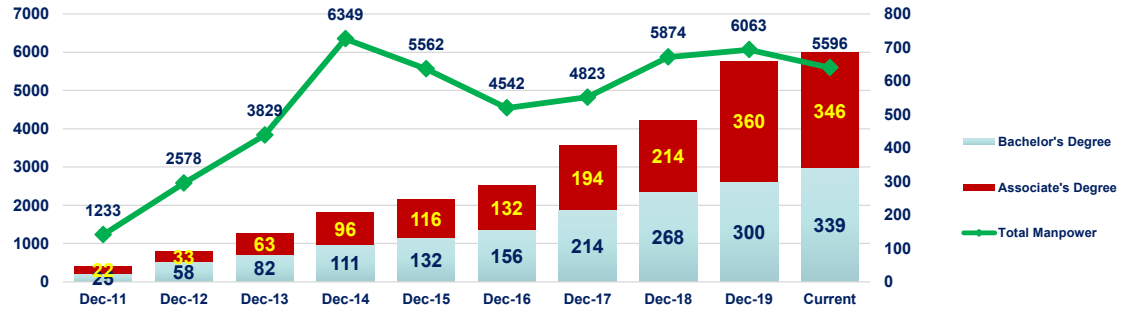
Line Leader Training

Computer Training

Technical Training

Management Training

Bachelor and associate holders



4 QUALITY EDUCATION

5 GENDER EQUALITY

Fulfill the Sustainable Development Goals (SDGs)

Environment

- Introduction of highly efficient LED streetlights centrally controlled by wireless network
- Additional energy saving by remote dimming control
- Manufacturing for sustainable development and global environment
- Expandability to different smart solutions using various sensor devices

Society

- Introduction of infrastructure with innovative technology
- Job creation by technological transfer in partner country
- Contribution to develop safe and smart city

Website/Publication

■ **GEC's Website on JCM**

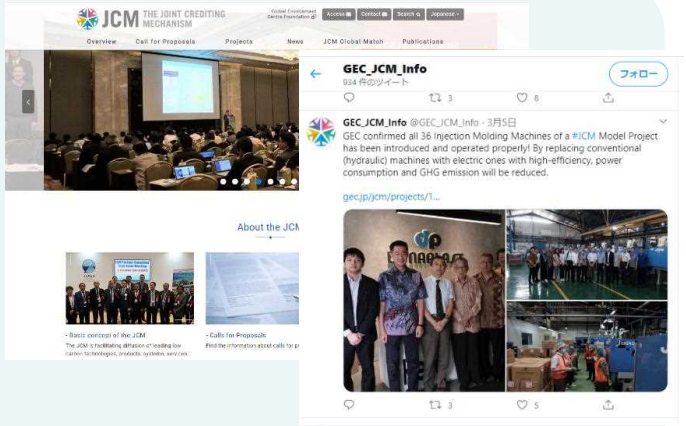
http://gec.jp/jcm/

■ **GEC's JCM Twitter**

https://twitter.com/GEC_JCM_Info

■ **JCM Booklet**

http://gec.jp/jcm/jp/publications/



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■ **Business matching site**

"JCM Global Match"

https://gec.force.com/JCMGlobalMatch/

Спасибо большое !

Thank you!

ありがとうございました。

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GEC

ENVIRONMENTAL ISSUES IN CENTRAL ASIA AND THE CAUCASUS – THE ROLE OF JAPAN

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UNFCCC

1990

KYOTO PROTOCOL

1994

1999

COP15 COPENHAGEN

2009

INDC

2015

PARIS2015 UN CLIMATE CHANGE CONFERENCE COP21·CMP11

2015

GCF COUNTRY PROGRAMMING

2017

2021

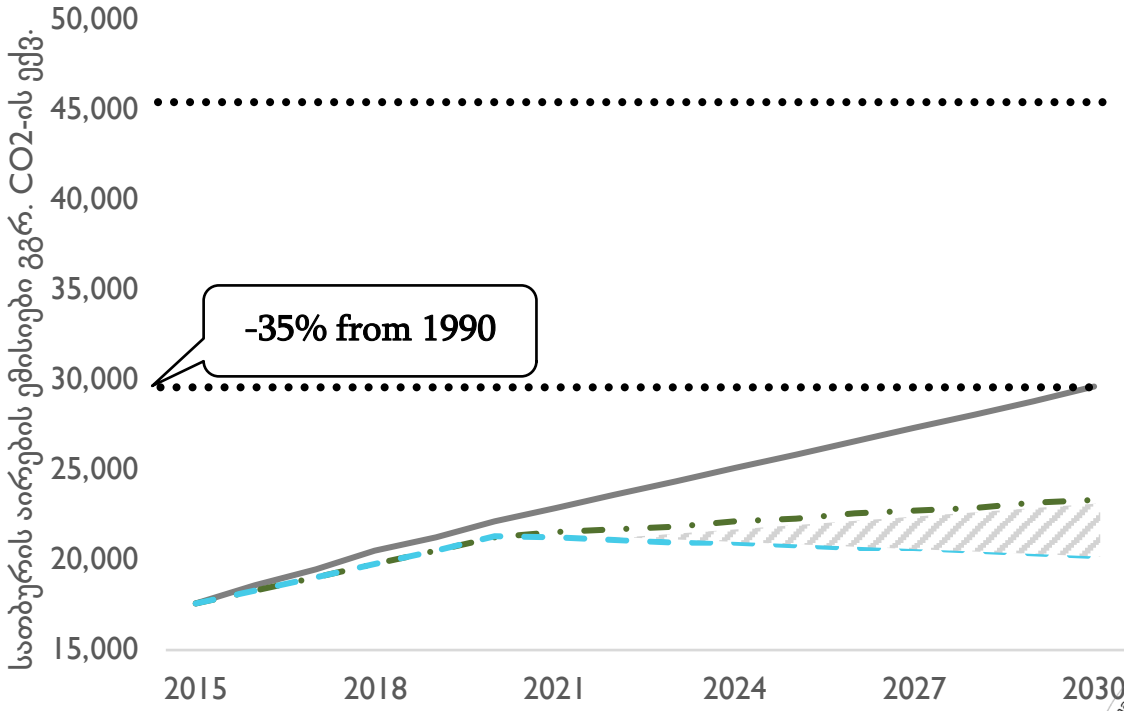
Ministry of Environmental Protection and Agriculture of Georgia

GREEN CLIMATE FUND

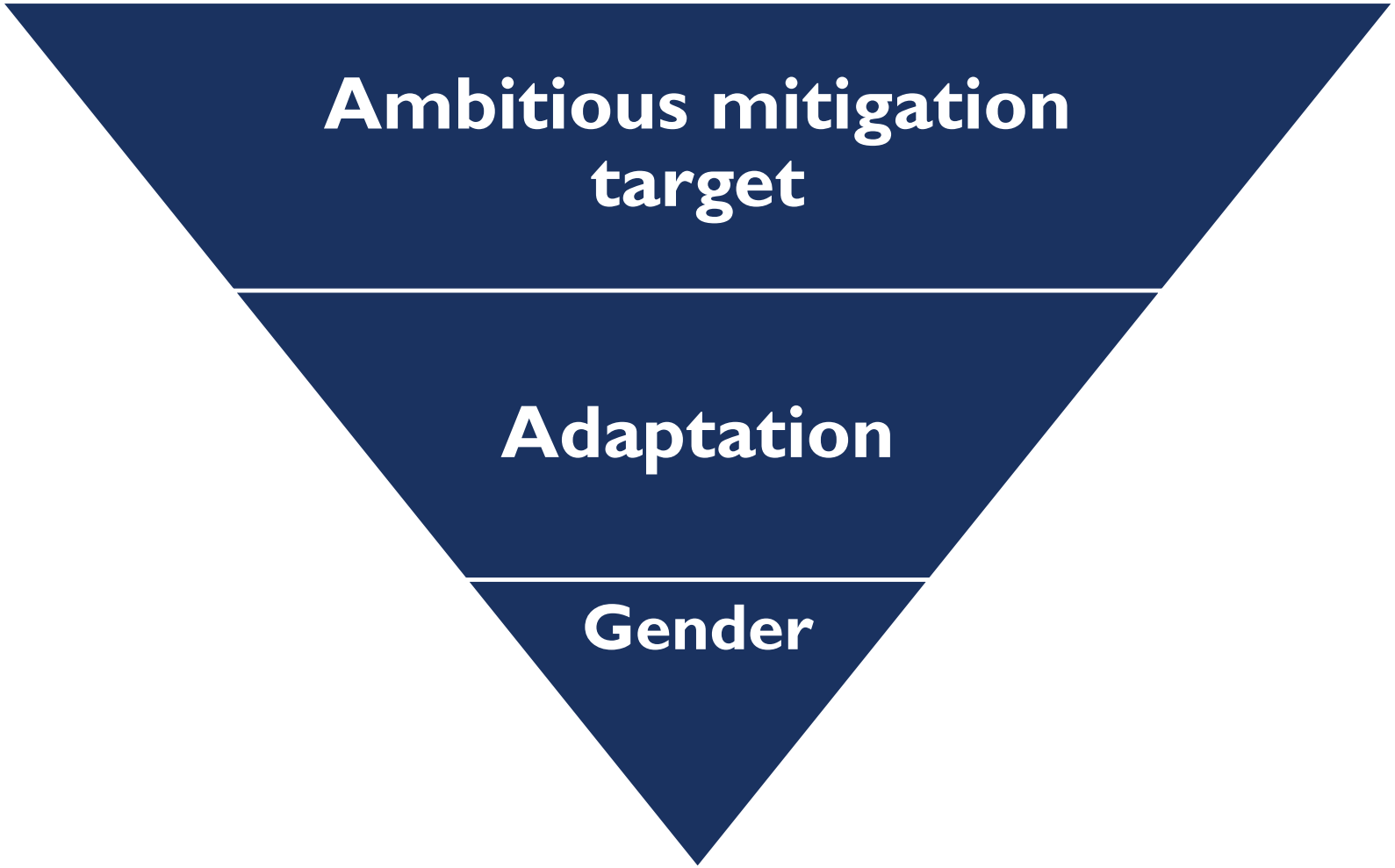
gef

GEORGIA'S NDC

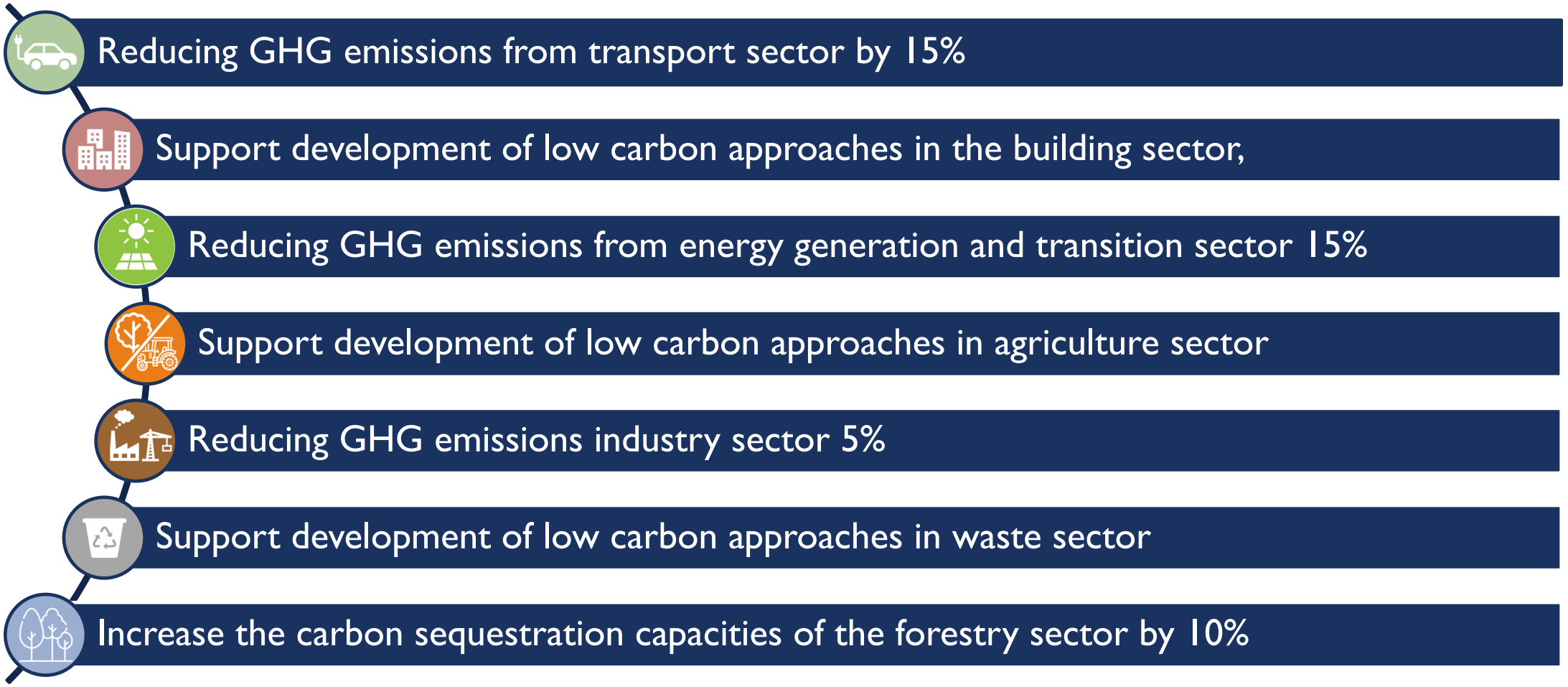
- Unconditional commitment- 1990 - 35%
- Conditional commitment - 1990 - 50%-57%
- Exploring adaptation capabilities and implementing adaptation measures
- Implementation timeline- 2021-2030
- Base year- 1990



AMBITION AND FAIRNESS



SECTORIAL MITIGATION TARGETS



ADAPTATION

Mountain ecosystems

Water resources

Forestry and Biodiversity

Extreme weather events

Tourism

Agriculture

Health

2030 CLIMATE CHANGE STRATEGY & ACTION PLAN

Ministry of Environmental Protection and Agriculture of Georgia
mepa.gov.ge

BILATERAL COOPERATION BETWEEN GEORGIA & SWITZERLAND UNDER ARTICLE 6.2 OF THE PARIS AGREEMENT

The objective of the Agreement is to establish the legal framework for the transfers of Mitigation Outcomes for use towards NDC achievement or for mitigation purposes other than achievement of NDC.

Foundation for
Climate Protection and
Carbon Offset KliK

GEORGIA'S ITMO TRANSFER READINESS GAPS AND NEEDS ASSESSMENT

- Analyze the level of readiness of Georgia to participate in cooperative approaches
  - The MAAP ITR Tool (Mitigation Action Assessment Protocol for International Transfer Readiness) was employed as part of the assessment
- Identification needs and a specific set of activities for implementation
- Development of roadmap

CARBON MARKET SCOPING STUDY OF GEORGIA

Clarify the roles of domestic and international carbon market instruments in facilitating the delivery of the country's updated NDC and also in enabling higher level of ambition in subsequent NDCs and Long-Term Strategies, as well as the role of international credits herein on the short and long term.

Defining a baseline for the MACC for Georgia

Developing a "long-list" of possible measures

Prioritise shortlist sectors/measures (buildings, energy, transport, waste)

THANK YOU!

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