Financing Programme for JCM Model Projects and JCM Global Match

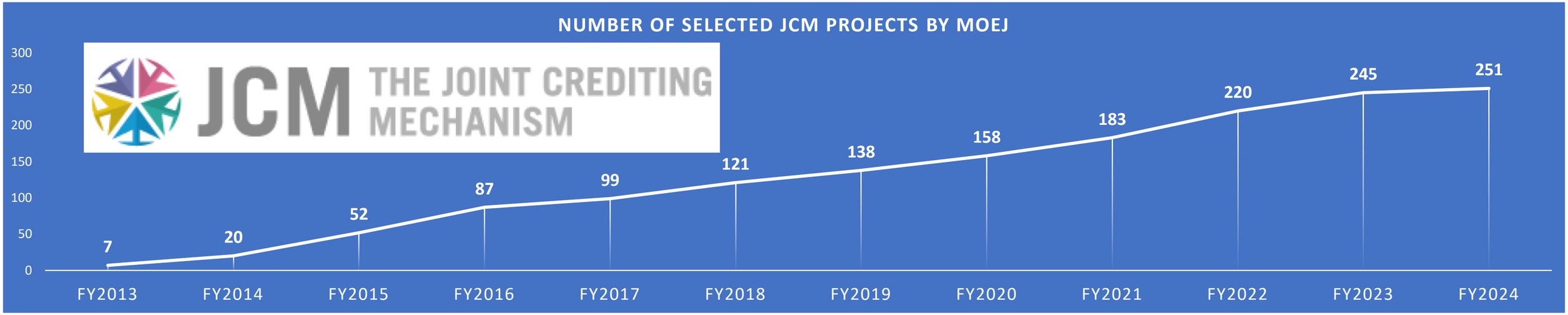
19 December 2024

Global Environment Centre Foundation (GEC)

Agenda

1. JCM Model Projects Overview
2. Project Trend
3. JCM Global Match
4. Conclusion

JCM Partnership



2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024


Mongolia
Jan. 8, 2013 (Ulaanbaatar)


Bangladesh
Mar. 19, 2013 (Dhaka)


Ethiopia
May. 27, 2013 (Addis Ababa)

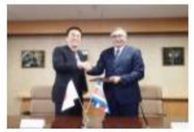

Kenya
Jun. 12, 2013 (Nairobi)


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

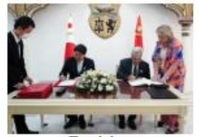

Chile
May. 26, 2015 (Santiago)


Myanmar
Sep. 16, 2015 (Nay Pyi Taw)


Thailand
Nov. 19, 2015 (Tokyo)


Philippines
Jan. 12, 2017 (Manila)


Senegal
Aug. 25, 2022 (Dakar)


Tunisia
Aug. 26, 2022 (Tunis)


Azerbaijan
Sept. 5, 2022 (Baku)


Moldova
Sept. 6, 2022 (Chisinau)


Georgia
Sept. 13, 2022 (Tbilisi)


Sri Lanka
Oct. 10, 2022 (Colombo)


Uzbekistan
Oct. 25, 2022 (Tashkent)


Papua New Guinea
Nov. 18, 2022 (Sharm-el-Sheikh)

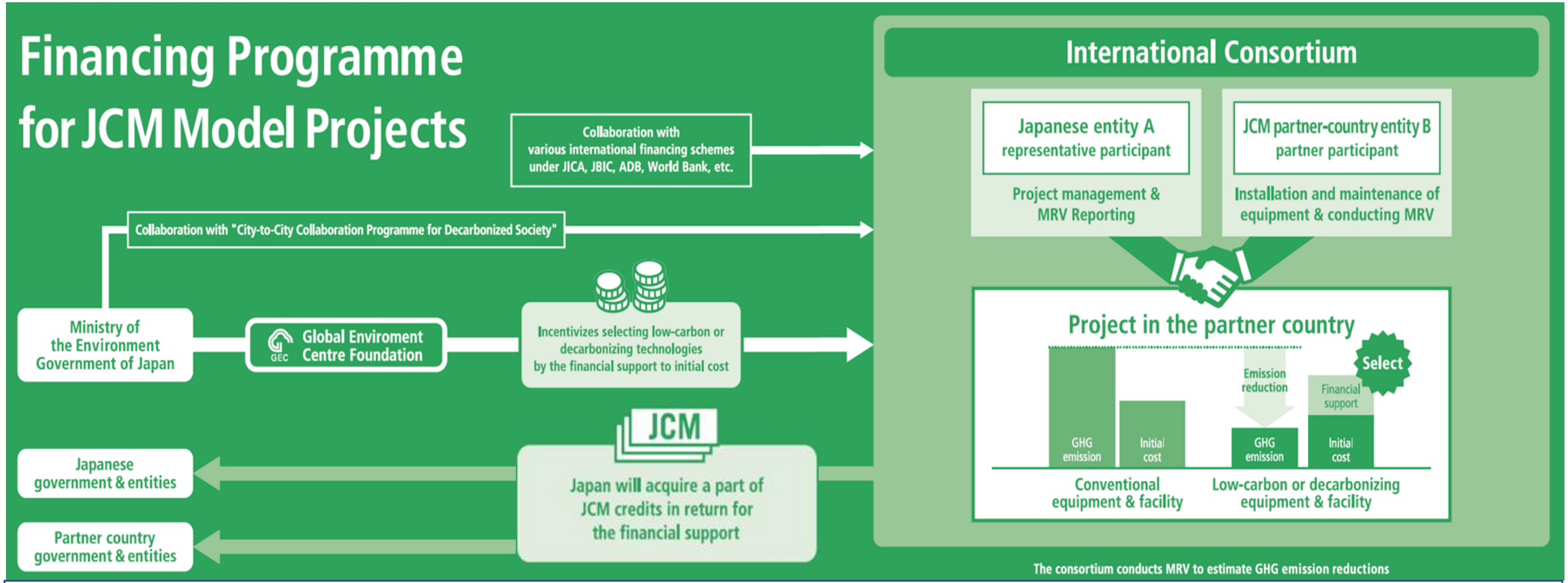

United Arab Emirates
April. 16, 2023 (Sapporo)


Kyrgyz Republic
July. 6, 2023 (Bishkek)


Kazakhstan
Oct. 30, 2023 (Astana)


Ukraine
Feb. 19, 2024 (Tokyo)

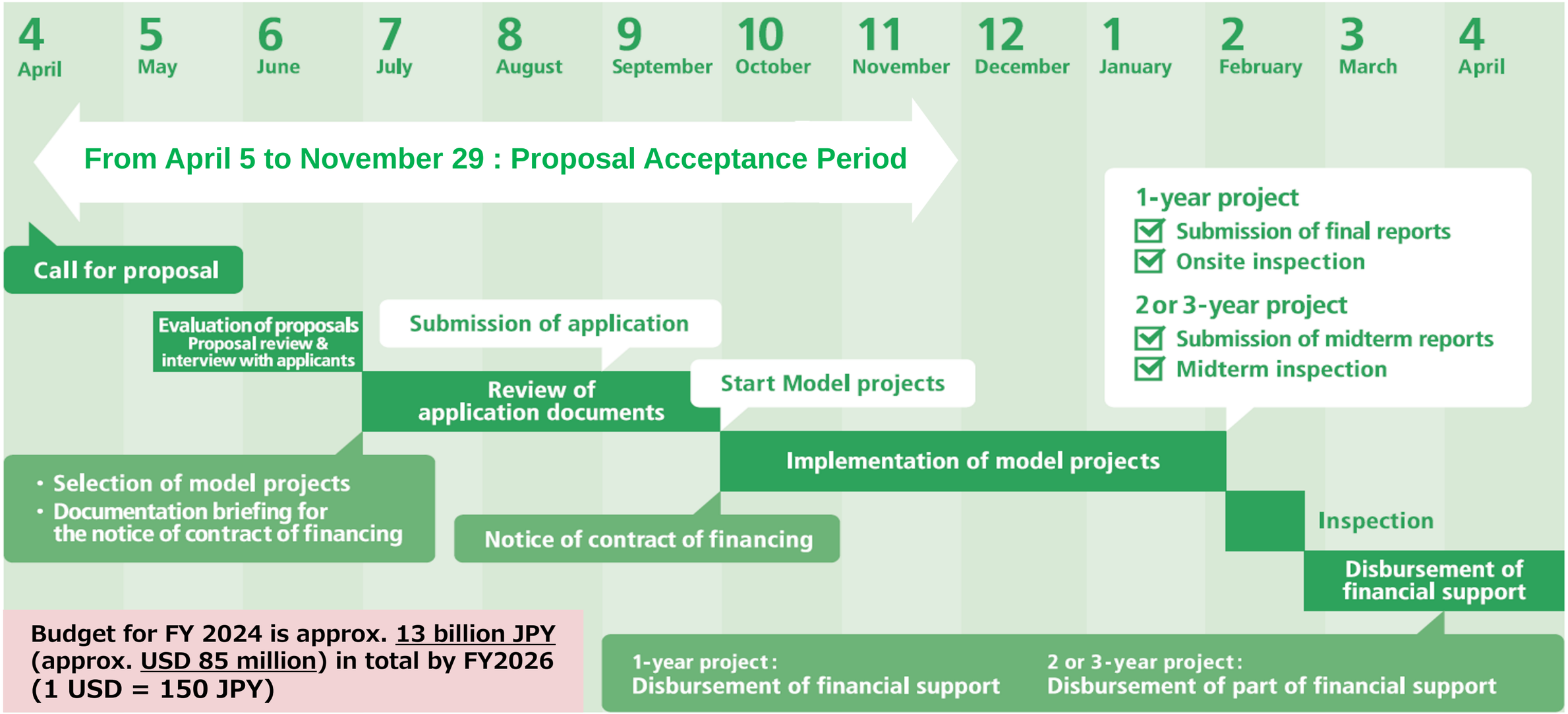
Financing Programme for JCM Model Projects



Basic Concept of the JCM

- Facilitating diffusion of advanced decarbonizing technologies, products, systems, services and infrastructure as well as implementing mitigation actions, and contributing to the sustainable development of developing countries.
- Appropriately evaluating contributions from Japan to GHG emission reductions and removals in a quantitative manner and using them to achieve Japan and partner country's NDC emission reduction targets.
- Contributing to the ultimate objective of the UNFCCC by facilitating global actions for GHG emission reductions and removals.

JCM Model Projects Schedule in FY2024



Development of JCM Model Projects

Development Step

Matching with a Japanese Partner

↓

Development of proposal and submission to GEC

↓

Share PIN with Partner country and approve the project

※PIN: Project Idea Note

↓

Announcement of preliminary selection result

↓

Development of application documents for contract of finance and submission to GEC

↓

Conclusion of the contract of finance

↓

Starting the JCM Model Project

Scope of Financing and Eligible Projects

What kind of projects are supported by Financing Programme?

⇒Excerpt form Guidelines for Submitting Proposals

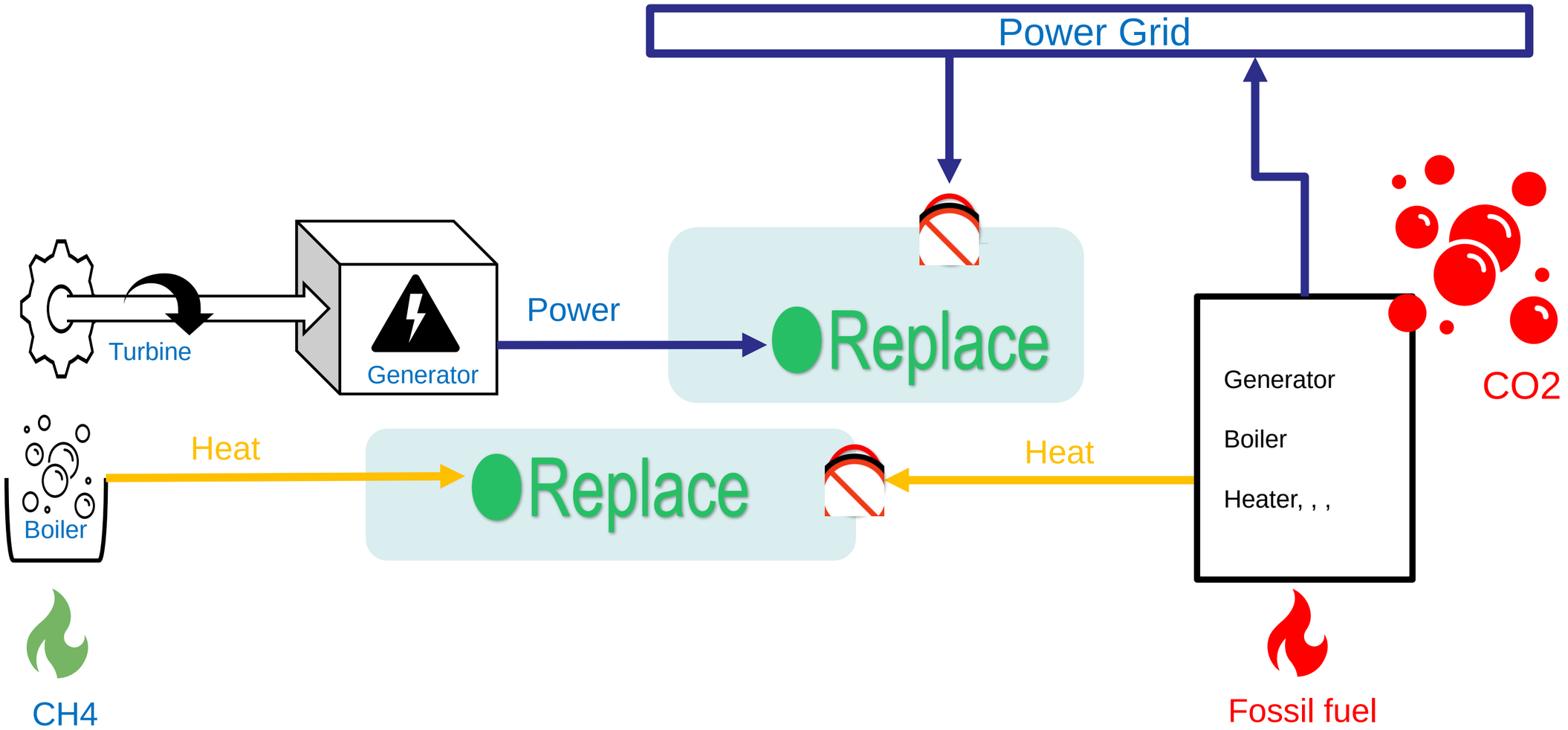
(tentative)2024_Guidelines_for_Submitting_Proposals.pdf (gec.jp)

(a) Projects that reduce energy-related CO2 emissions with leading decarbonizing technologies in the partner countries or developing countries, with which Japan has signed, and that are expected to contribute to achieving Japan's NDC through the JCM;

(b) Projects contribute to realization of SDGs (Sustainable Development Goals). The installation and operation of the facilities/equipment shall comply with the relevant laws and regulations of the partner country and international practices and guidelines regarding the environmental and human rights protection.

(c) Reduction of GHG emissions achieved by the projects can be quantitatively calculated and verified.

Reduce energy-related CO2 emissions



Cost-effectiveness of emission reductions

What is the criteria of cost-effectiveness?

JPY4,000/tCO2equivalent

$$= \frac{\text{Amount of financial support[JPY]}}{\text{Emission reductions of GHG [tCO2equivalent/y]} \times \text{legal durable years[y]}}$$

※ Legal durable years of the facilities is stipulated by the Japanese law, and are dependent on the industry classification.

JPY3,000/tCO2equivalent

In case the number of similar technological Projects in each country is 5 to 9.

JPY2,500/tCO2equivalent

Solar power project

JPY500/tCO2equivalent

Hydropower project

JCM for SDGs

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 Legends>

- 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**

Consider gender equal access to various benefits from the project such as compensation of land acquisition.

- ・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)

Reducing consumption of electricity derived from fossil fuel, improve the sustainability of the installed facility such as factory, hotel and hospital.

- ・Reduce air pollution(11.6)
- ・Increase resource-use efficiency and greater adoption of clean and environmentally sound technologies (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)

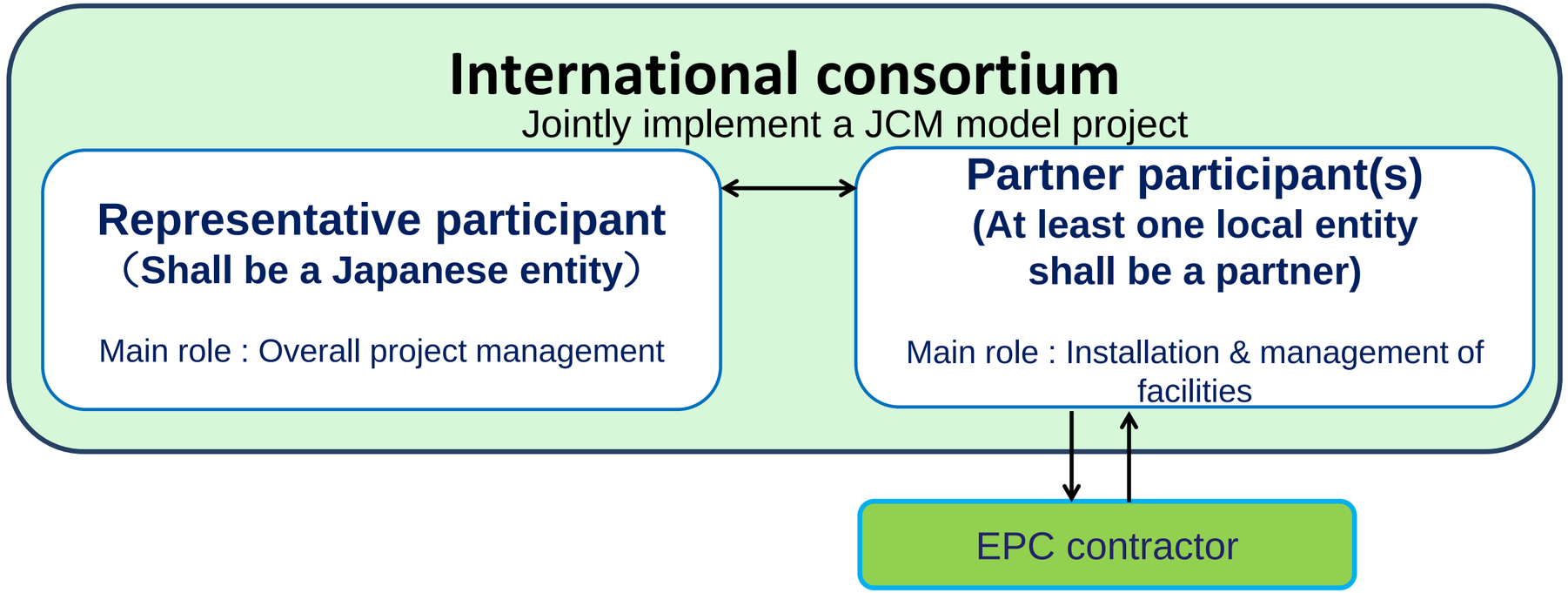
Reduce air and water pollution, noise and vibration by implementing proper disposal and recycling.

- ・Sustainable management of all types of forests (15.2)

Prevent adverse effects on forestation and biodiversity conducting proper environment assessment according to the laws and regulations in the partner country.

- ・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)
- ・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)

International Consortium



- Consortium must include both an owner and user of facility installed by the model project.

Categorization by applied technology type and Support

Global Environment Centre Foundation

Maximum Percentage of Financial Support

Number of selected project(s) using a similar technology in each country	Percentage of financial support
0	Up to 50%
1 to 3	Up to 40%
4 to 7	Up to 30%
8 to 9	Up to 20%
More than 10	Not applicable

Please refer to URL below at Page 28 for detail:

(tentative)2024_Guidelines_for_Submitting_Proposals_rev1

Sector	Technology	Mongolia MN	Bangladesh BD	Kenya KE	Maldives MV	Viet Nam VN	Lao PDR LA	Indonesia ID	Costa Rica CR	Palau PW	Cambodia KH	Mexico MX	Saudi Arabia SA	Chile CL	Myanmar MM	Thailand TH	Philippine PH	Tunisia TN	Sri Lanka LK	
1. Energy Efficiency	Air Conditioning System					4		2								1				7
	Chiller		2			5		5	1		1					5				19
	Refrigerator							1							2	4				7
	Absorption Chiller Using Waste							2								2				4
	Swirling Induction Type Air-															1				1
	Fridge and Freezer Showcase							1								1				2
	Boiler	2				2		4				1			2	3				14
	Heat Medium Boiler							1												1
	Double Bundle-type Heat Pump					1		1								1				3
	Water Heater Using Waste								1											1
	Waste Heat Recovery System														2	1				3
	Heat Exchanger															1				1
	Transformer					4	2													6
	LED Lighting							2								1				3
	LED Lighting with Dimming					2		1			1									4
	Pump					1														1
	Air Compressor					1										1				2
	Aeration System							1												1
	Regenerative Burners							1												1
	Gas Fired Baking Furnace					1														1
	Induction Furnace															1				1
	Gas Fired Melting Furnace							1												1
	Air Conditioning Control					1										1				2
	Freaquency Inverter for Pump					1					1									2
	Loom		1					2								1				4
	Old Corrugated Cartons							1												1
	Battery Case Forming Device					1														1
	Electrolyzer in Chlorine												1			1				2
	Wire Stranding Machines					1														1
	Autoclave							2												2
	Multi-effect Distillation System											1								1
	Injection Modling Machine							1												1
2. Renewable Energy	Solar Power Plant	5	1	4	1	17	3	9	1	5	3	2	2	12	1	24	11	2	1	104
	Solar Power Plant with Battery							1						1						2
	Small Hydropower Plant					1		10									2			13
	Wind Power Plant					1														1
	Geothermal Power (Binary)																3			3
	Geothermal Power (Flush)																1			1
	Biomass Power Plant					3		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							1							1	2	1			5
	Gas Co-generation							2								4				6
	Battery													1						1
4. Waste Handling and Disposal	Waste-to-Energy Plant					1									1					2
	Power Generation by Methane											1								1
5. Transportation	Digital Tachograph System					1														1
	CNG-Diesel Hybrid Bus							1												1
	Reefer Container					1														1
Total	Number of technology： 51	7	4	4	1	53	5	54	3	5	6	5	3	15	11	58	20	2	1	257

MRV Process for the JCM（MRV：Measurement, Reporting and Verification ）

JCM Project Registration and Credit Issuance

Main Actors at each Process	Process	
Project Participant / Each Government Joint Committee	Submission of Proposed Methodology	Methodology Development
Joint Committee	Approval of Proposed Methodology	
Project Participant	Development of PDD※	Project Registration
Third Party Entities	Validation	
Joint Committee	Registration	
Project Participant	Monitoring	Credit Issuance
Third Party Entities	Verification	
Joint Committee decides the amount Each Government issues the credit	Issuance of JCM credits	

※PDD: Project Design Document

MRV Process for the JCM

Measurement, Reporting and Verification of amount of GHG emission reductions for JCM Project

Measurement

Reporting

Verification

JCM Credit

Representative Participant of JCM Projects shall conduct measurement, reporting and verification (MRV) of the GHG emission reductions realized after installation and commissioning of the facilities/equipment for the issuance of JCM credits.

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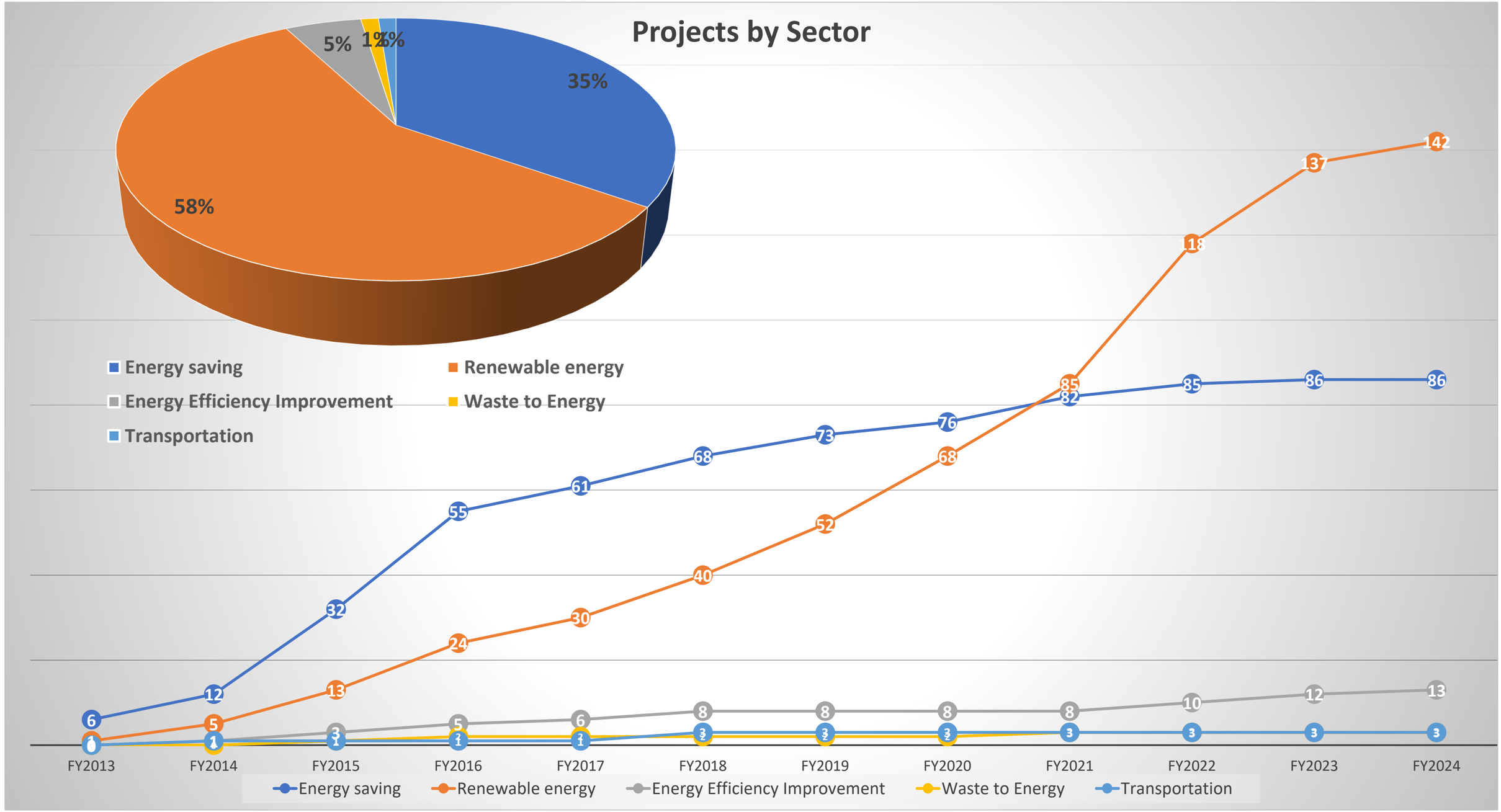
JCM Model Projects Selected in 2024

Partner Country	Type	Representative Participant	Project Name	Sector	Estimated GHG Reduction（tCO2/year）
Chile	JCM Model Project	Farmland Co., Ltd.	12MW Solar Power and 41MWh Storage Battery Project in Rancagua City	Renewable Energy	9,682
Thailand	JCM Model Project	NIPPON STEEL ENGINEERING CO., LTD.	Introduction of Biomass Co-generation System to Chemical Factory	Renewable Energy	48,429
Thailand	JCM Model Project	DAIKI ALUMINIUM INDUSTRY CO., LTD.	Productivity Improvement of Aluminium Ingots Using High Efficiency Furnace System	Energy Efficiency Improvement	4,009
Mongolia	JCM Model Project	Asian Gateway Corporation	15MW Solar Power and 80MWh Storage Battery Project in Erdene, Dornogovi Province	Renewable Energy	16,396
Indonesia	JCM Model Project	The Kansai Electric Power Company, Incorporated	Introduction of 0.8MW Rooftop Solar Power System to Automotive Parts Factory	Renewable Energy	681
Palau	JCM Model Project	SeED Okinawa LLC	Introduction of 0.6MW Solar Power and 0.3MWh Storage Battery to Resort Hotel	Renewable Energy	506

More projects will be selected soon!

Projects by Sector

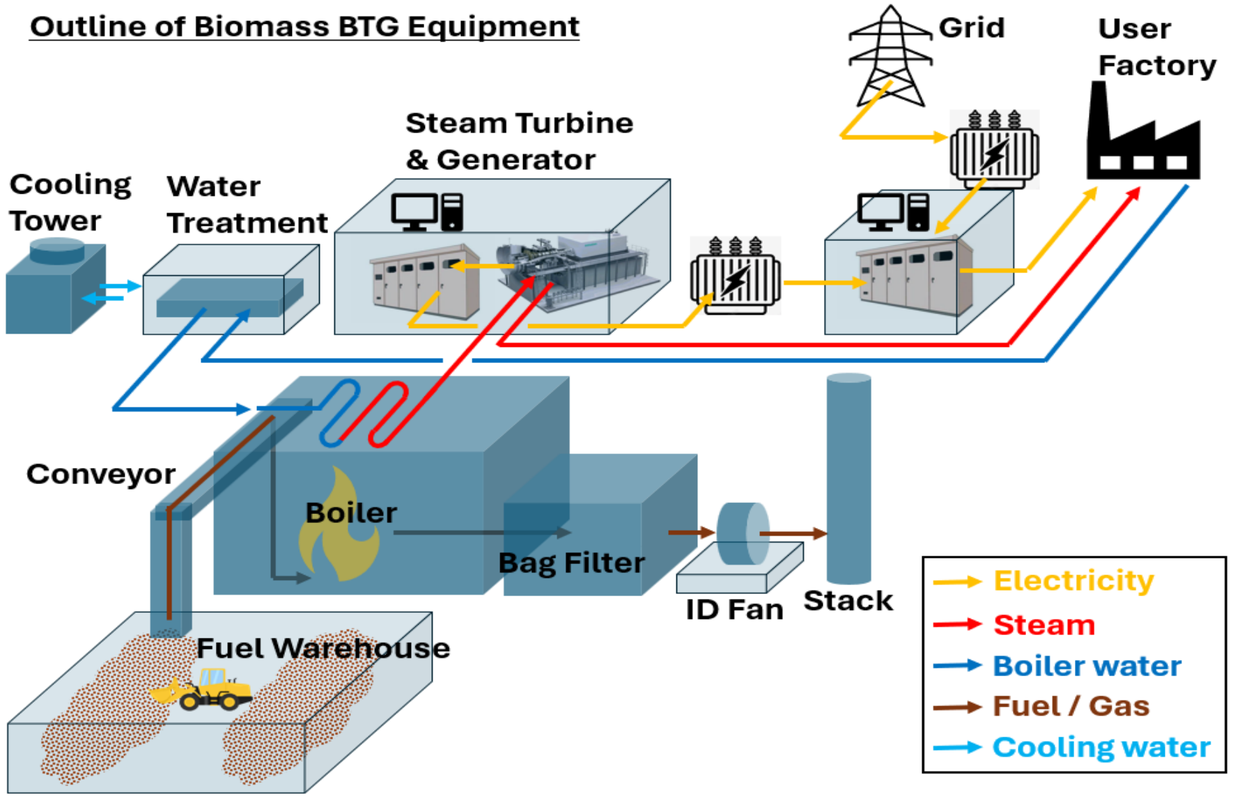


Introduction of Biomass Co-generation System to Chemical Factory
PP (Japan): NIPPON STEEL ENGINEERING CO., LTD.
PP (Thailand): NS-OG ENERGY SOLUTIONS (THAILAND) LTD.
THAI NIPPON STEEL ENGINEERING & CONSTRUCTION CORPORATION, LTD

Outline of GHG Mitigation Activity

This project introduces biomass co-generation system to a chemical factory in Rayong. The generated electricity and steam are supplied to a chemical factory and another in adjacency.

This project reduces greenhouse gas (GHG) emissions by replacing part of the electricity from the fossil fuel-derived grid power and part of the steam from the fossil fuel burning boiler with power and steam from renewable sources.



Productivity Improvement of Aluminium Ingots Using High Efficiency Furnace System
PP (Japan):DAIKI ALUMINIUM INDUSTRY CO., LTD.
PP (Thailand): DELTA DAIKI METAL(THAILAND) CO., LTD.

Outline of GHG Mitigation Activity

This project introduces a high efficiency furnace system to a new aluminum ingots factory in Rayong province.
The system saves energy consumption and reduces greenhouse gas (GHG) emissions by improving both thermal efficiency and productivity.
It adopts closed type furnaces with distributed combustion regeneration burners and enhances thermal efficiency by reusing waste heat. Additionally, permanent magnet stirring enhances the melting speed.
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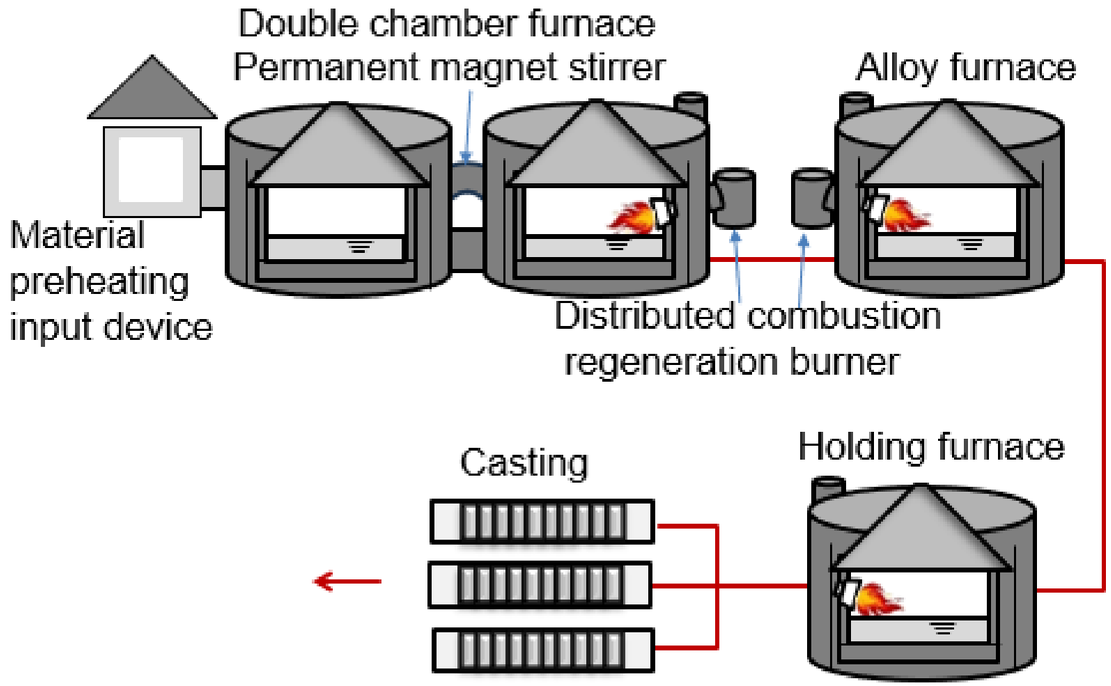
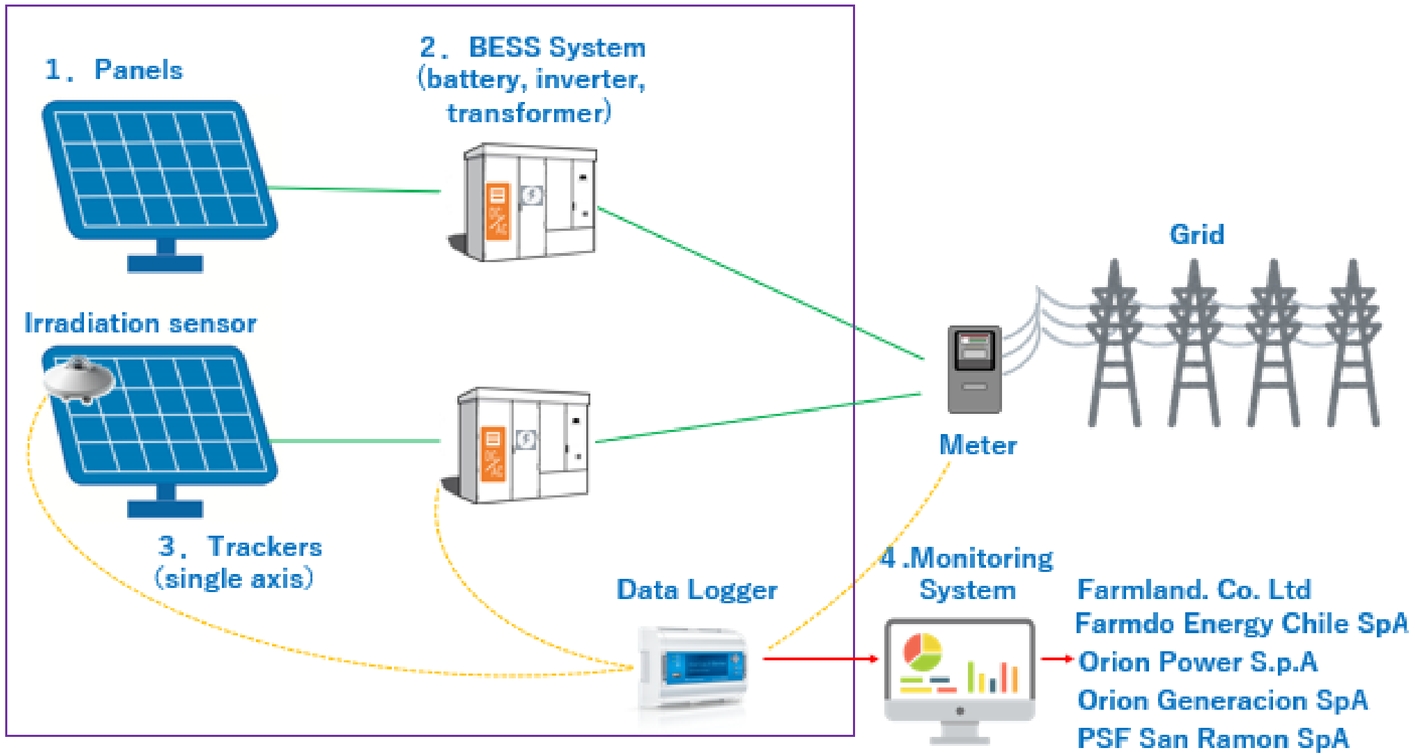


12MW Solar Power and 41MWh Storage Battery Project in Rancagua City
PP (Japan): Farmland Co., Ltd.
PP (Chile):Farmdo Energy Chile SpA, Orion Power S.p.A, Orion Generacion SpA, PSF San Ramon SpA

Outline of GHG Mitigation Activity

This project introduces a 12MW solar power and a 41MWh battery system in Rancagua City, Libertador Bernardo O'Higgins Region and supplies the electricity through a Chilean power distribution company.

This project supplies renewable energy and charges the excess in the battery system during the daytime, and supplies the excess during the nighttime to reduce greenhouse gas (GHG) emissions.



Introduction of 14.5MW Mini Hydro Power Plant Project in Siguil River in Mindanao

PP (Japan): Toyota Tsusho Corporation

PP (Philippines): Alsons Consolidated Resources, Inc.,
Alsons Renewable Energy Corporation
Siguil Hydro Power Corporation

Outline of GHG Mitigation Activity

This project aims to reduce CO2 emissions by constructing a run-of-river mini hydroelectric power plant 14.5MW (14.5 X 1unit) utilizing water resources in the Municipality of Maasim, in the southern part of Mindanao Island. This project contributes to the reduction of greenhouse gas (GHG) emissions by replacing grid electricity with renewable energy and also contribute to the realization of a sustainable society by addressing the growing demand for electricity necessitated by economy growth.

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

A waste-to-energy plant is introduced in Bac Ninh province. This plant incinerates and generates electricity from 230tons/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 150tons/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.

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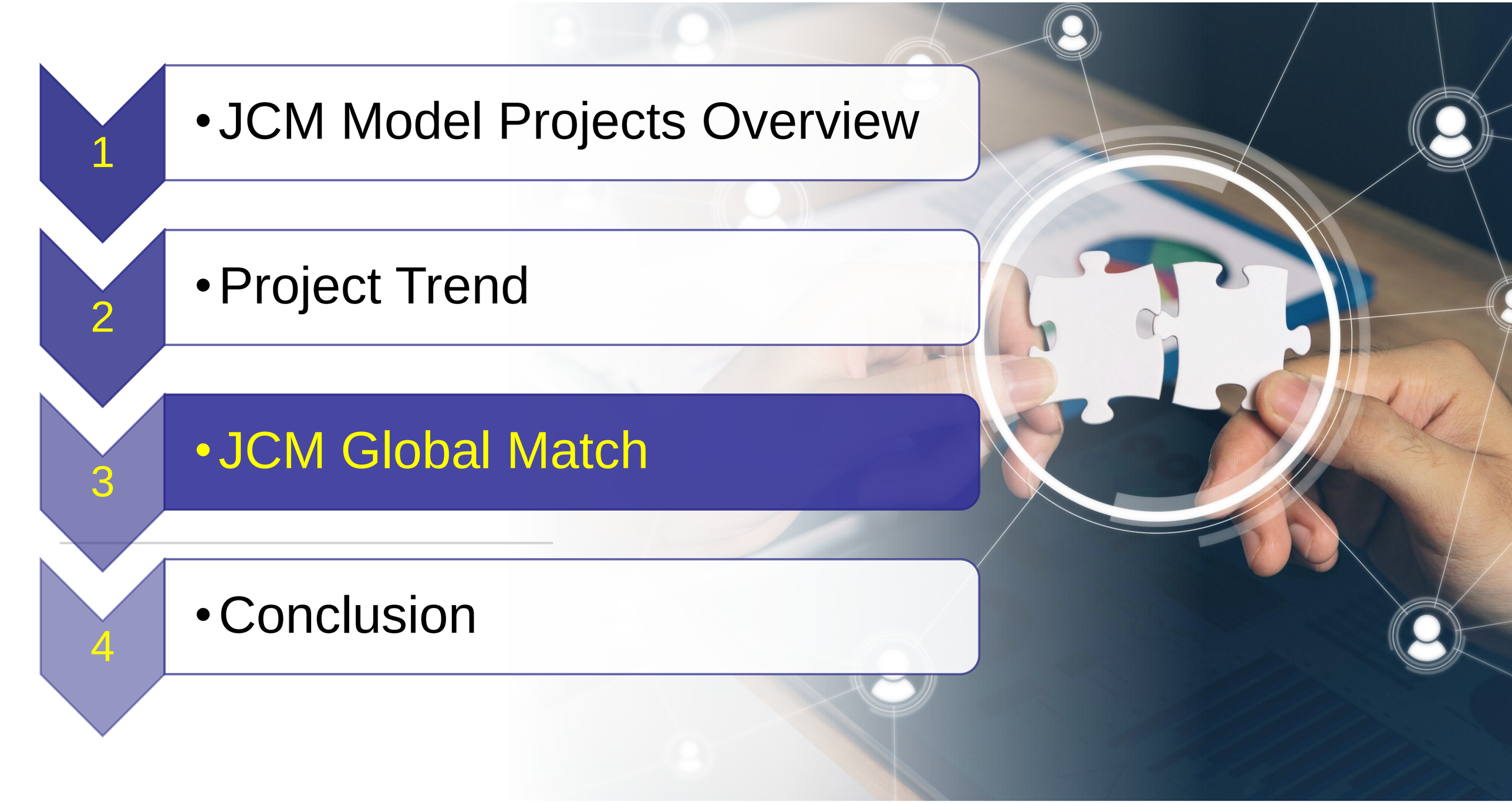


JCM Global Match enhances the efficiency of your project development specializing in the JCM financing programme.

1

FIND

Potential partner

2

ADVERTISE

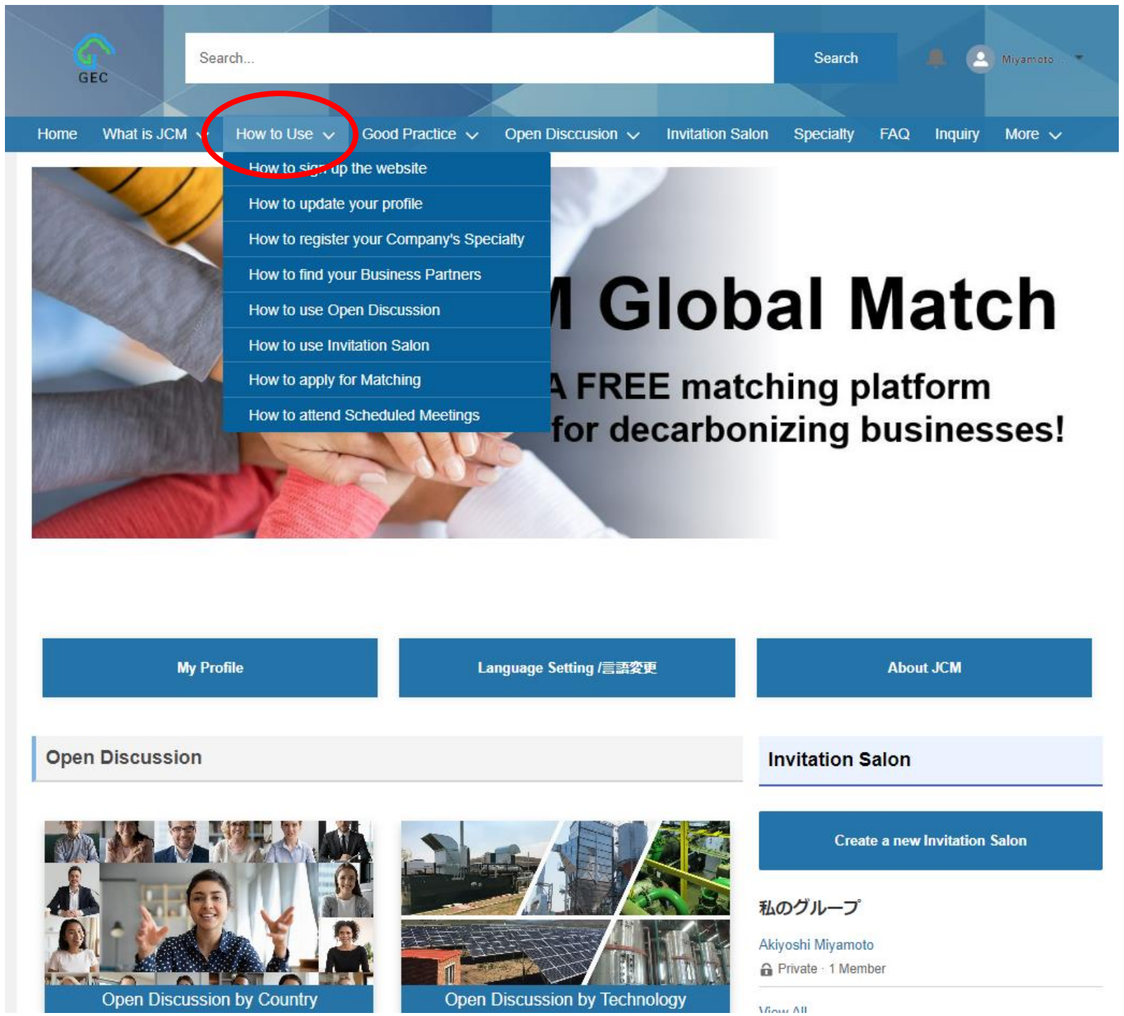
Your company to other users

3

DISCUSS

Your business plan

JCM Global Match
For Further Information



Link to JCM Global Match site

https://gec.force.com/JCMGlobalMatch

< JCM Global Match QR code>

Consultation with GEC

Global Environment Centre Foundation

Please let any enterprize who may plan a JCM Model project in your country know about this information.

Consult GEC anytime during the year (except for evaluation period.)

Please fill out the Consultation Form which URL is shown here "consultation form" as much as possible and send it to jcm-info@gec.jp for free of charge consultation online or offline. Your email title should be "Consultation on application for JCM Model Project (Your company name)."

GEC will support you by answering to your questions and offer practical advices on points like below:

➢Sample points of consultation

- ✓ **Definition of Eligible Project and advanced technologies**
- ✓ **International Consortium**
- ✓ **MRV methodologies to calculate reduction in GHG emission**
- ✓ **Legal durable years, maximum percentage of financial support, and cost effectiveness**
- ✓ **Plan to obtain necessary financing, concession, licenses, etc.**
- ✓ **Reasons financial soppurts are needed, Profitability**

Consultation Form (part)

Global Environment Centre Foundation (GEC)
Consultation Form for JCM Project and Demonstration project for application of new decarbonizing technology [FY2024]
*Please fill out the white space as much as possible.
*Reference material - Guidelines for Submitting Proposals (Tentative translation) for JCM Project
https://gec.jp/jcm/jp/kobo/r06/mp/(tentative)2024_Guidelines_for_Submitting_Proposals.pdf

Information of Consultation	
Select for which project would you like to apply.	☐ JCM Model Project ☐ Demonstration project for application of new decarbonizing technology ☐ Undecided
Entry date	Click here to select a date
Method of meeting	☐ In-person (Location:) ☐ Online
Meeting attendee(s)	*Please list the name(s) and organization(s).*
Past consultation date for the same project	☐ First time ☐ ( ) times : Previous Consultation Date : Click here to select a date
ID No. / Meeting date	*For internal use* / Select a meeting date for internal use
GEC respondents	*For internal use*
Project Information Provided by	
Company name	
Department/division	
Your name	
E-mail address	
Phone No.	*Country code + local number*
JCM Global Match registration	☐ Registered ☐ Not registered yet *Please consider registration with JCM Global Match: https://jcm-gm.my.site.com/JCMGlobalMatch/s/?language=en_US
Project Information	
Would you like explanation of JCM and/or New Technology Introduction Project during the meeting?	JCM Model Project: ☐ Yes ☐ No Demonstration project for application of new decarbonizing technology: ☐ Yes ☐ No
Application target	☐ FY2024 ☐ FY2025 ☐ TBD If other than above, please specify:
Partner country	

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JCM Model Projects by Technology

Energy Efficiency

Boiler & Chiller & Solar Power (Thailand)
The Kansai Electric Power Co., Inc.

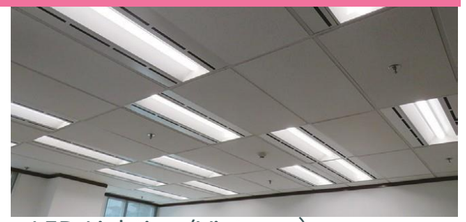
Thermal Oil Heater System
(Indonesia） Fumakilla Limited

Chiller & LED Lighting (Vietnam)
Tokyu Corporation

Once-through Boiler
(Indonesia) DIC Corporation

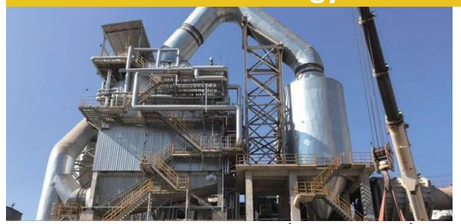
Energy Efficiency

Chiller & Air Conditioner & Solar Power
(Indonesia) Yuko Keiso Co., Ltd.



LED Lighting (Vietnam）
Endo Lighting Corporation

Effective Use of Energy

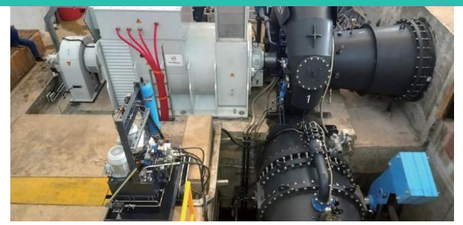


Waste Heat Recovery (Myanmar)
Global Engineering Co., Ltd.

Gas Co-generation System & Chiller (Thailand)
The Kansai Electric Power Co., Inc.

Renewable Energy

Rice Husk Power Generation (Chile)
Asian Gateway Corporation



Mini Hydro Power Plant (Indonesia)
NiX JAPAN Co., Ltd.

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

Solar Power (Thailand) Shizen Energy Inc.

Renewable Energy

Mini Hydro Power Plant (Philippines)
Toyota Tsusho Corporation

Waste Handling and Disposal

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

Waste to Energy Plant (Vietnam)
JFE Engineering Corporation

Transportation

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

Thank you for your attention!
ขอบคุณมากสำหรับความสนใจของคุณ

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E-mail :jcm-info@gec.jp
URL : http://gec.jp/

GEC