

# *Financing Programme for JCM Model Projects and JCM Global Match*

**24<sup>th</sup> January 2024**

**Global Environment Centre Foundation (GEC)**



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- JCM Model Projects Overview

2

- Project Trend

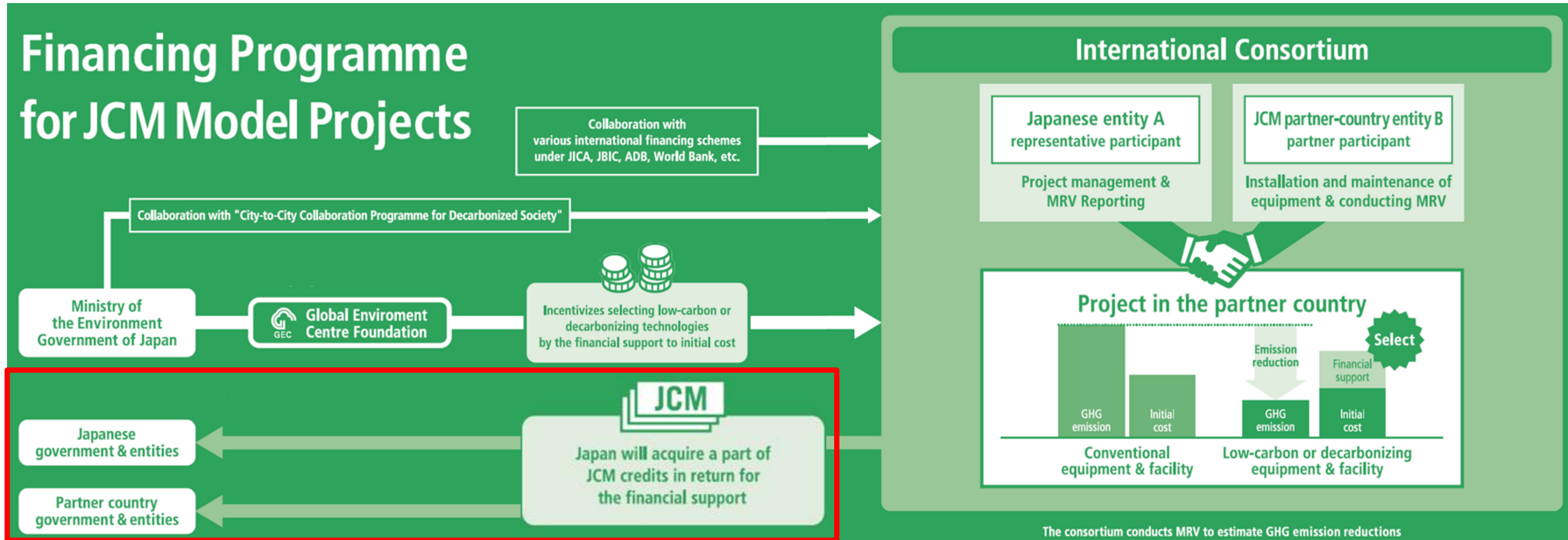
3

- JCM Global Match

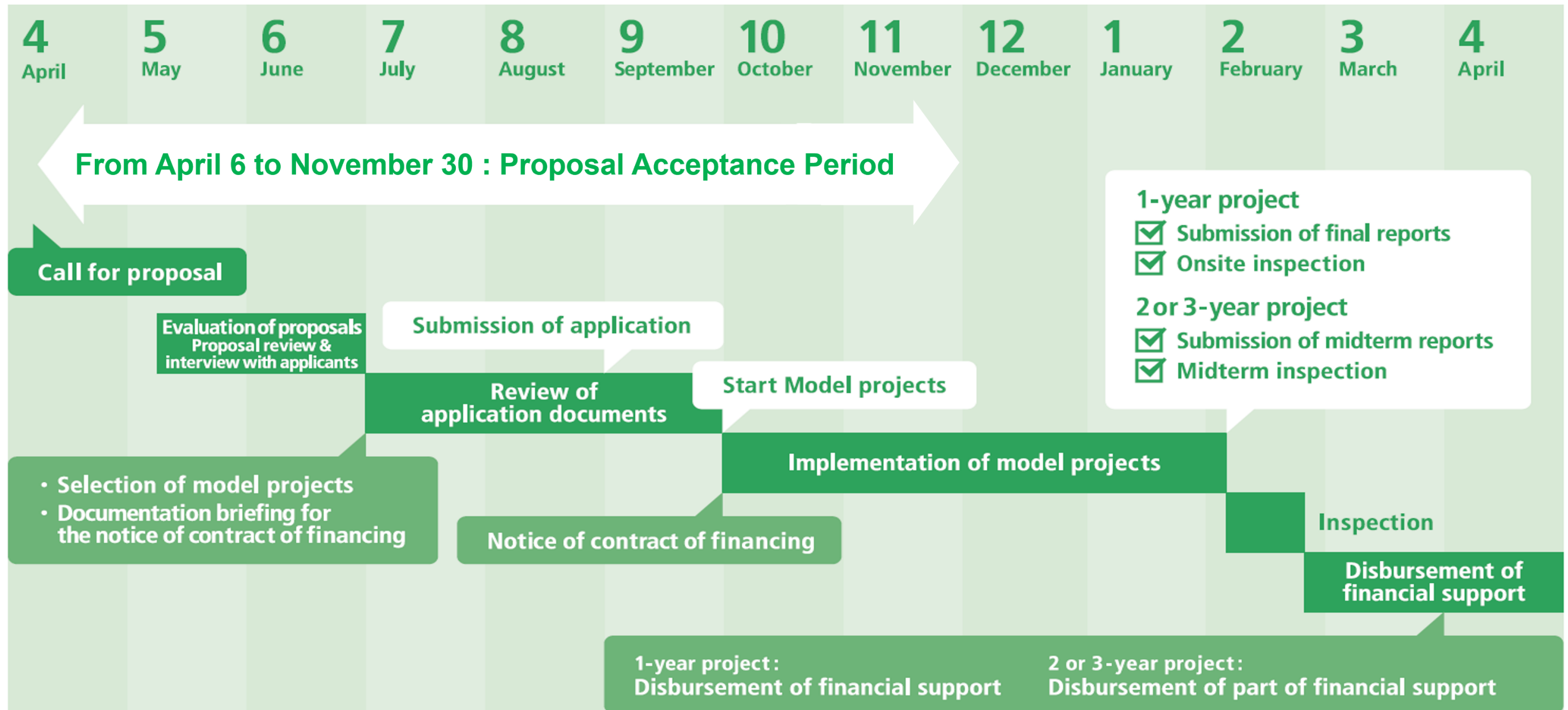
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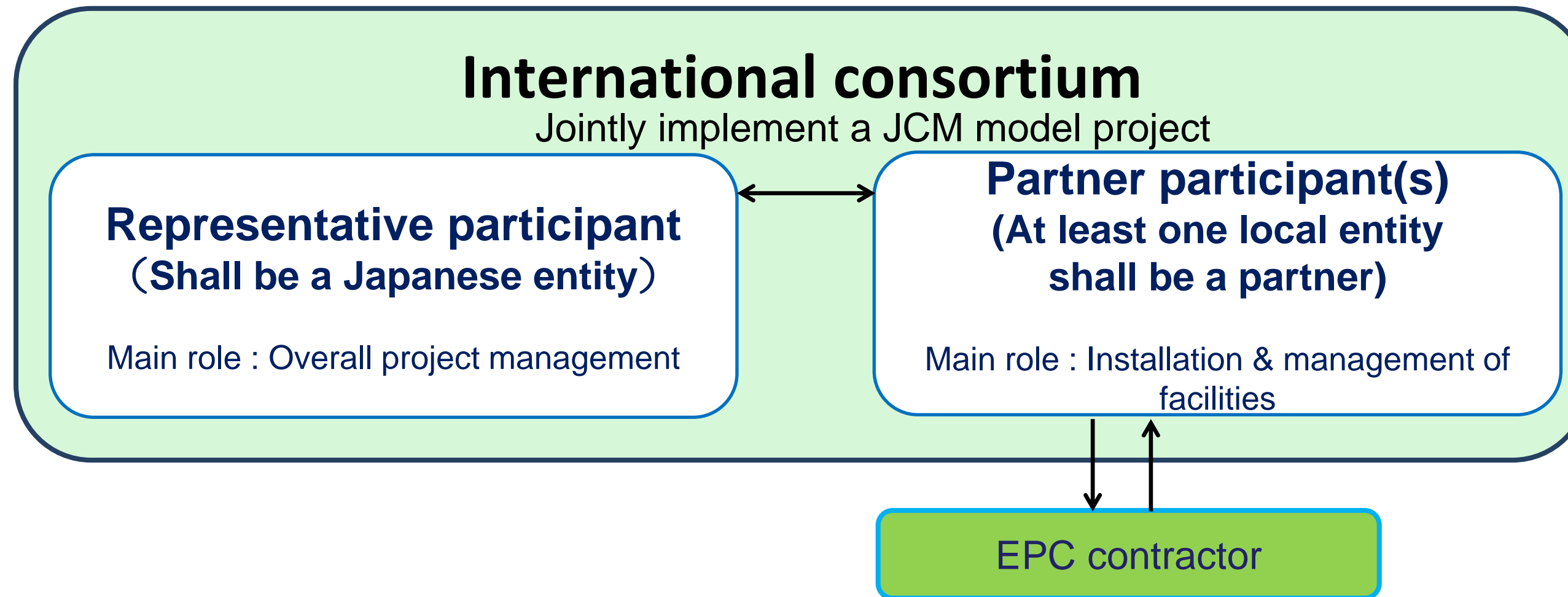
- Conclusion

# Financing Programme for JCM Model Projects



# JCM Model Projects Schedule in FY2023





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



## What kind of projects are supported by Financing Programme?

⇒ Excerpt from Guidelines for Submitting Proposals  
[\(tentative\)2023 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.

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%
More than 3	Up to 30%

Sector	Technology	Mongo lia	Bangla desh	Ethiopi a	Kenya	Maldiv es	Viet Nam	Lao PDR	Indon esia	Costa Rica	Palau	Camb odia	Mexico	Saudi Arabia	Chile	Myan mar	Thaila nd	Philipp ine	
		MN	BD	ET	KE	MV	VN	LA	ID	CR	PW	KH	MX	SA	CL	MM	TH	PH	
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 Heat								2								2		4
	Swirling Induction Type Air-Fridge and Freezer Showcase								1								1		1
	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 Heat									1									1
	Waste Heat Recovery System															2	1		3
	Heat Exchanger																1		1
	Transformer						4	2											6
	LED Lighting						2		2								1		3
	LED Lighting with Dimming System						2		1			1							4
	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
	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								2										2
	Multi-effect Distillation System												1						1
	Injection Modling Machine								1										1
2. Renewable Energy	Solar Power Plant	5	1	1	4	1	14	3	8	1	5	3	2	2	12	1	25	7	95
	Solar Power Plant with Battery								1								1		2
	Small Hydropower Plant						1		11									1	13
	Wind Power Plant						1											0	1
	Geothermal Power (Binary)																	3	3
	Geothermal Power (Flush)																1		1
	Biomass Power Plant						1		1						1	1			4
	Biogas Power Plant																	1	1
	Biomas boiler						2										2		4
	Biogas boiler															1		1	2
	Biomass Co-generation																1		1
3. Effective Use of Energy	Power Generation by Waste Heat								1							1	2		4
4. Waste Handling and	Gas Co-generation								2								4		6
	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 : 49	7	4	1	4	1	47	5	53	3	5	6	5	3	13	11	61	14	243

## What is the criteria of cost-effectiveness?

### JPY4,000/tCO<sub>2</sub>equivalent

$$= \frac{\text{Amount of financial support[JPY]}}{\text{Emission reductions of GHG [tCO}_2\text{equivalent/y]} \times \text{legal durable years[y]}}$$

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

### JPY3,000/tCO<sub>2</sub>equivalent

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

Solar power projects in Mongolia, Indonesia, Palau and Philippine  
Chiller projects in Viet Nam Indonesia, and Thailand

### JPY2,500/tCO<sub>2</sub>equivalent

In case the number of similar technological Projects in each country is 10 or more.

Solar power projects in Viet Nam and Chile  
Hydropower projects in Indonesia

### JPY2,000/tCO<sub>2</sub>equivalent

In case the number of similar technological Projects in each country is 20 or more.

NOTE: Cost effectiveness guide for a solar power project : 2,500JPY/tCo<sub>2</sub>eq  
Hydropower project : 500JPY/tCo<sub>2</sub>eq



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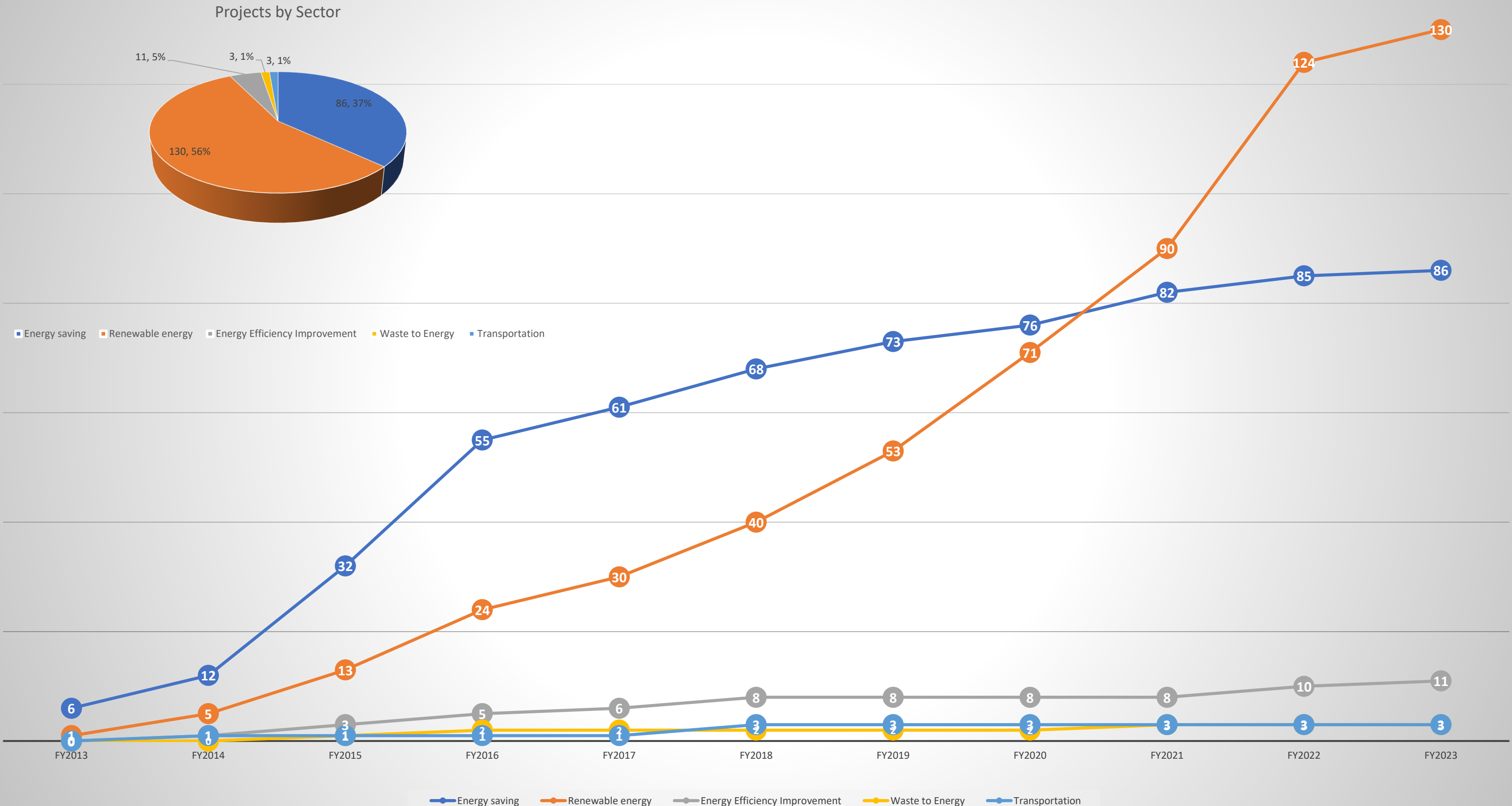
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Partner Country	Representative Participant	Project Name	Sector	Estimated GHG Reduction (tCO <sub>2</sub> /year)
Mexico	BOT Lease Co., Ltd.	Introduction of 0.5MW Rooftop Solar Power System to Automotive Parts Factory (JCM Eco Lease Scheme)	Renewable Energy	392
Philippines	Global Engineering Co., Ltd.	Introduction of 6MW Power Generation System by Waste Heat Recovery for Cement Plant	Effective Use of Energy	21,245
Philippines	Kyuden International Corporation	27MW Solar Power Project in Dagohoy, Bohol Island	Renewable Energy	20,395
Philippines	Tokyo Century Corporation	Introduction of 1.2MW Rooftop Solar Power System to Electronic Equipment Assembly Factory (JCM Eco Lease Scheme)	Renewable Energy	697
Indonesia	AURA Green Energy Co.,Ltd	12MW Biomass Power Plant Project in Aceh Province, Sumatera	Renewable Energy	33,573
Indonesia	AGC Inc.	Improvement of Combustion Method and Furnace Shapes in Flat Glass Production Melting Furnace	Energy Efficiency Improvement	5,747
Indonesia	Alamport Inc.	Introduction of 3MW Rooftop Solar Power System to Paper Factory in Java Island	Renewable Energy	2,182
Chile	Farmland Co., Ltd.	26.3MW Solar Power and 48 MWh Storage Battery Project Utilizing Farmland in the Metropolitan Area and O'Higgins Region	Renewable Energy	20,197

Please wait for the next selection result!

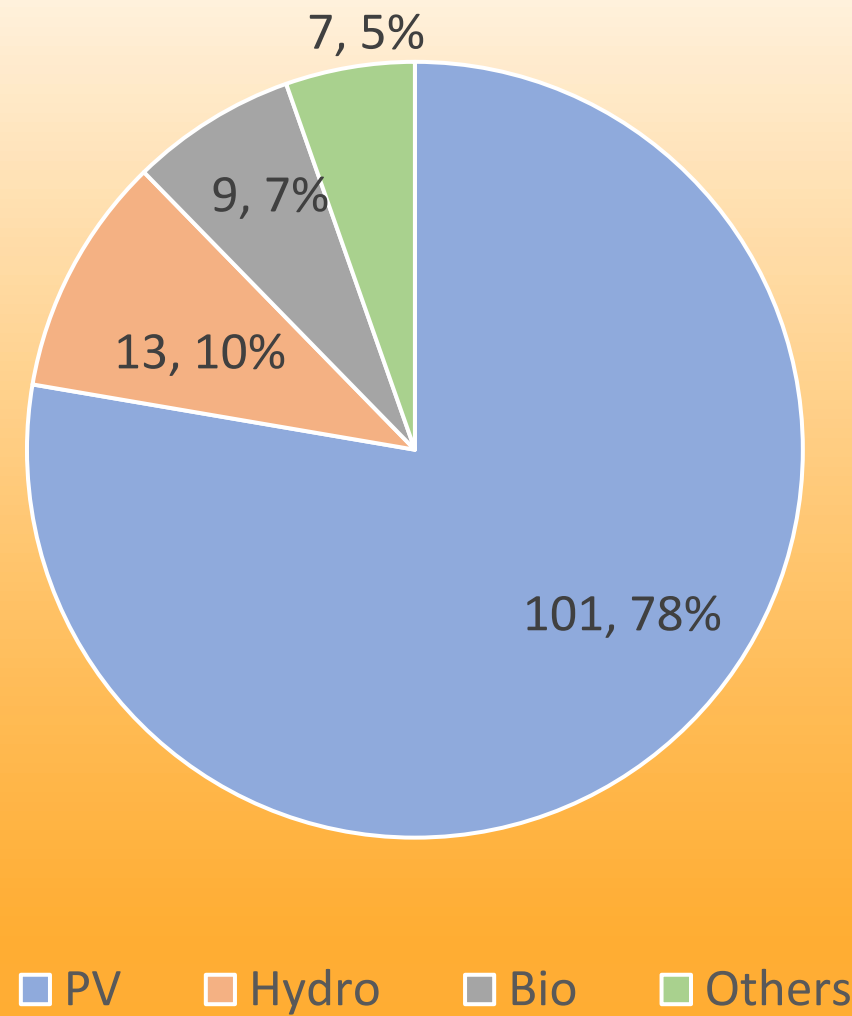
## Projects by Sector



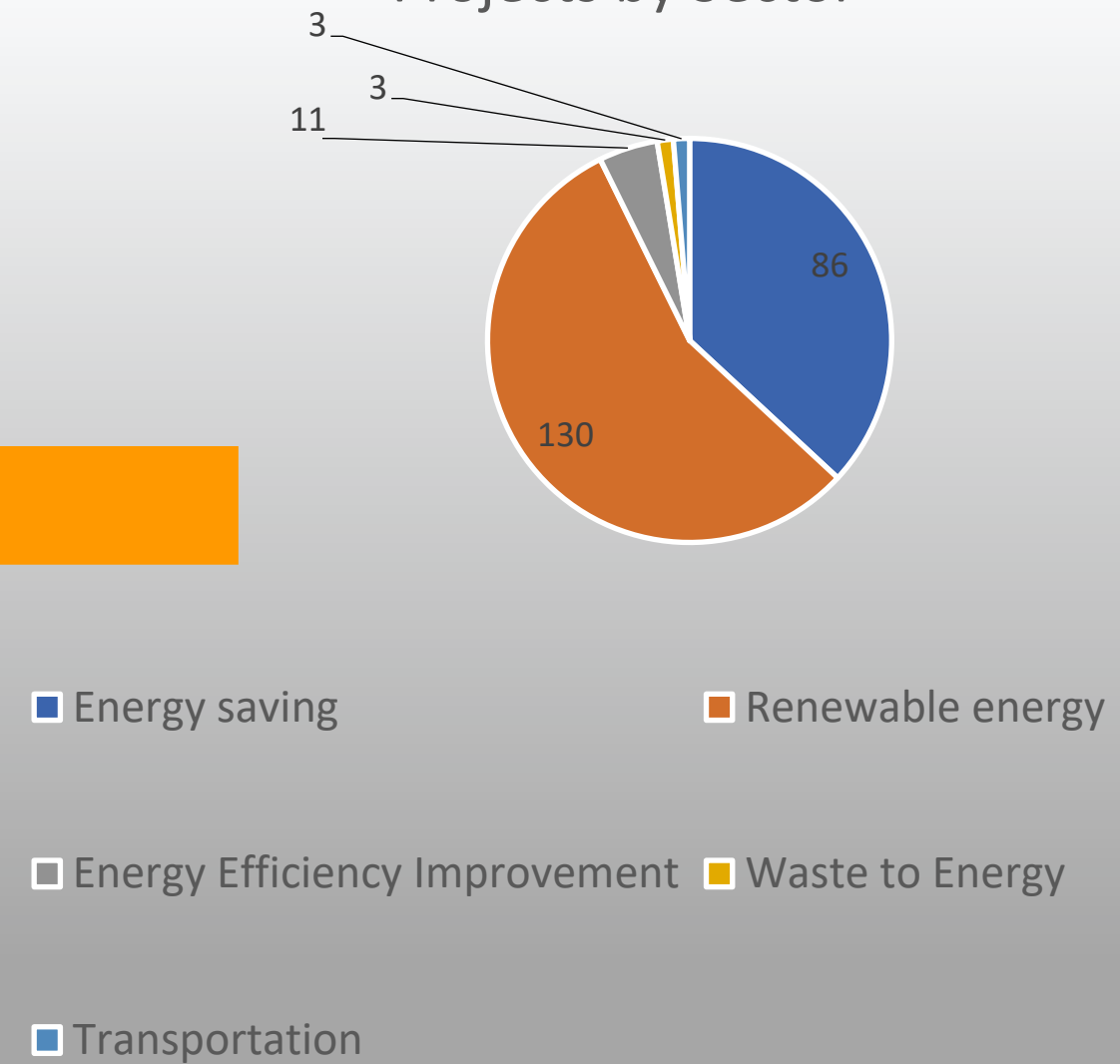




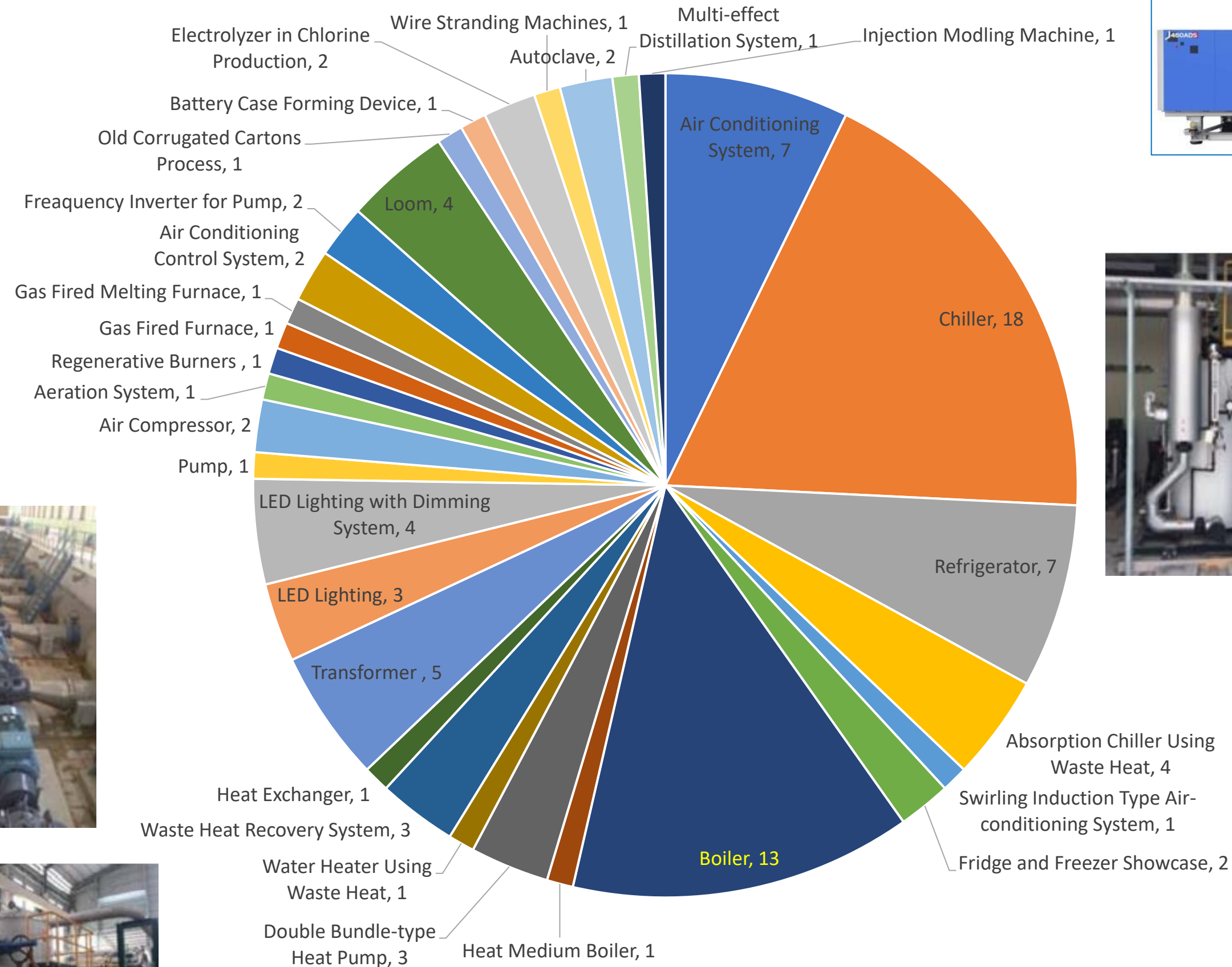
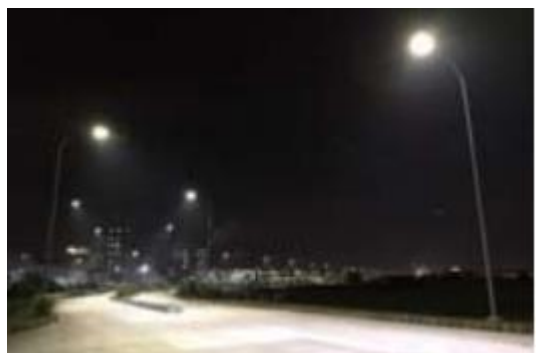
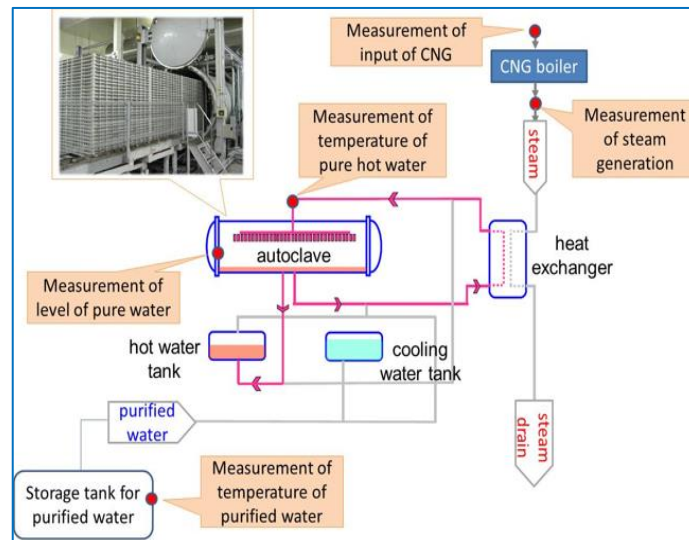
## Renewable Energy Sector



## Projects by Sector









## Improvement of Combustion Method and Furnace Shapes in Flat Glass Production Melting Furnace PP (Japan): AGC Inc. PP (Indonesia): PT ASAHIMAS FLAT GLASS Tbk

### Outline of GHG Mitigation Activity

In a flat glass production process, a large amount of fossil fuel is consumed mainly in the melting process of raw materials. Therefore, improvement in this energy efficiency greatly contributes to reduction of greenhouse gas (GHG) emissions.

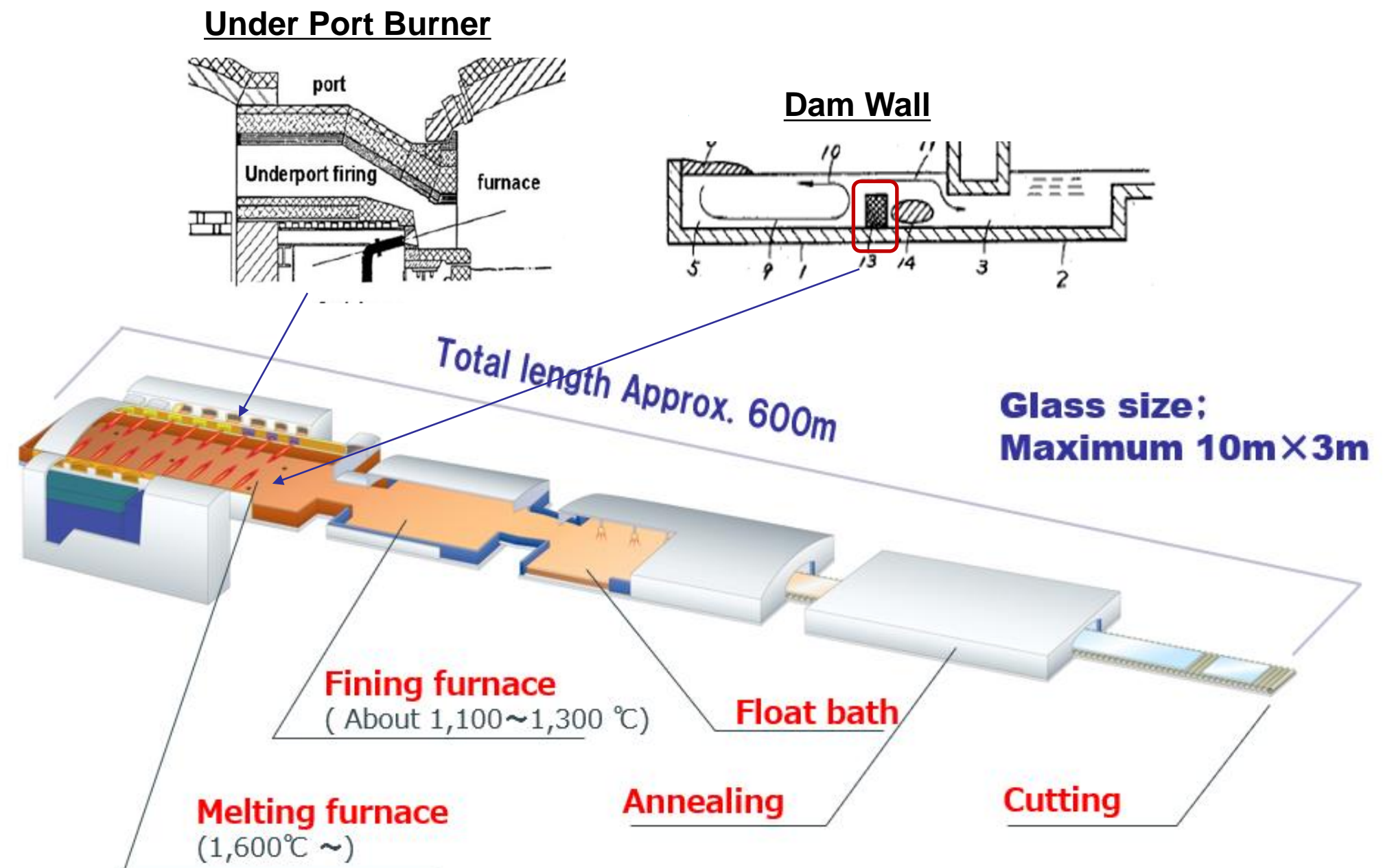
In this project, a furnace structure is improved to save energy consumption by the following two changes.

A. Change in combustion method:

Through port burner  $\Rightarrow$  Under port burner

B. Change in the melting tank floor structure:

Flat structure  $\Rightarrow$  Dam wall structure



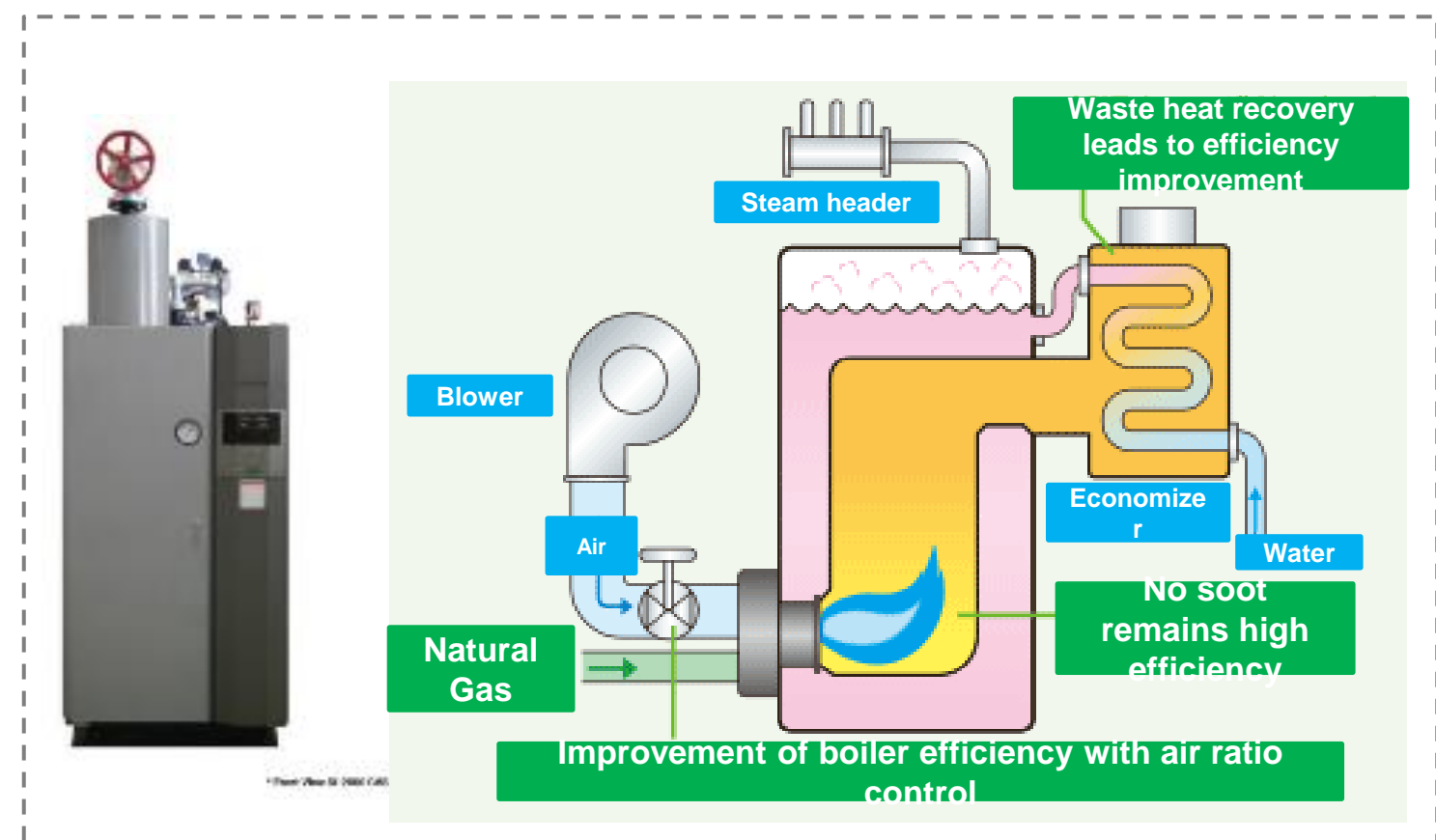
## Introduction of High-efficiency Once-through Boiler System to Chemical Factory

PP (Japan): DIC Corporation

PP (Indonesia): PT. DIC GRAPHICS

### Outline of GHG Mitigation Activity

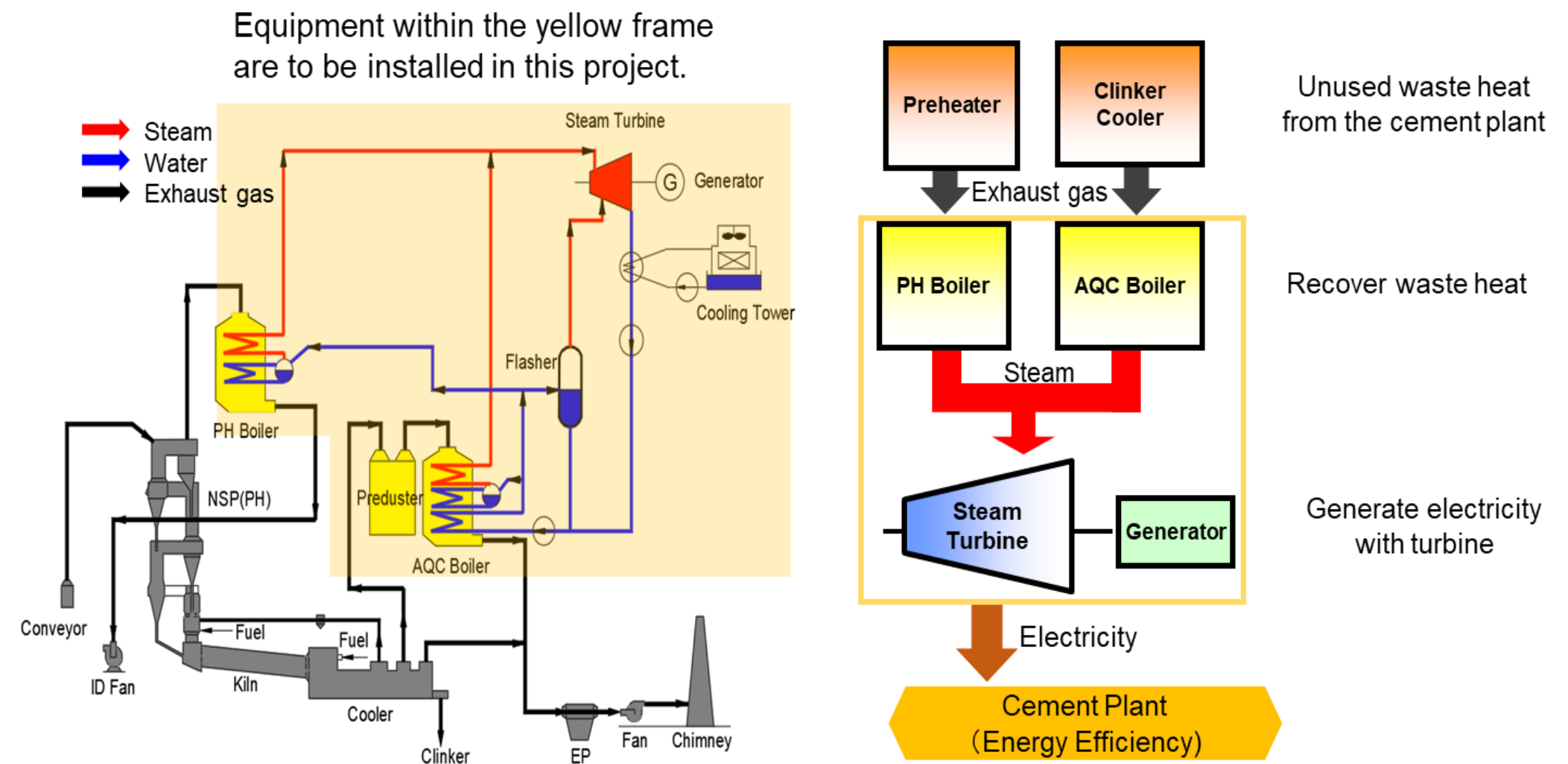
This project reduces energy consumption and greenhouse gas (GHG) emissions by installing natural gas-fired high-efficiency once-through boiler system in the factory where coal-fired boiler mainly has been used.



## 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, INC.

### Outline of GHG Mitigation Activity

This project introduces a 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. This Waste heat recovery power generation technology is selected for a JCM Model Project in the Philippines for the first time. This project also contributes to the nation's Roadmap, "The Philippine Sustainable Finance Roadmap" launched in 2021, which focuses on the transition to a low carbon economy.



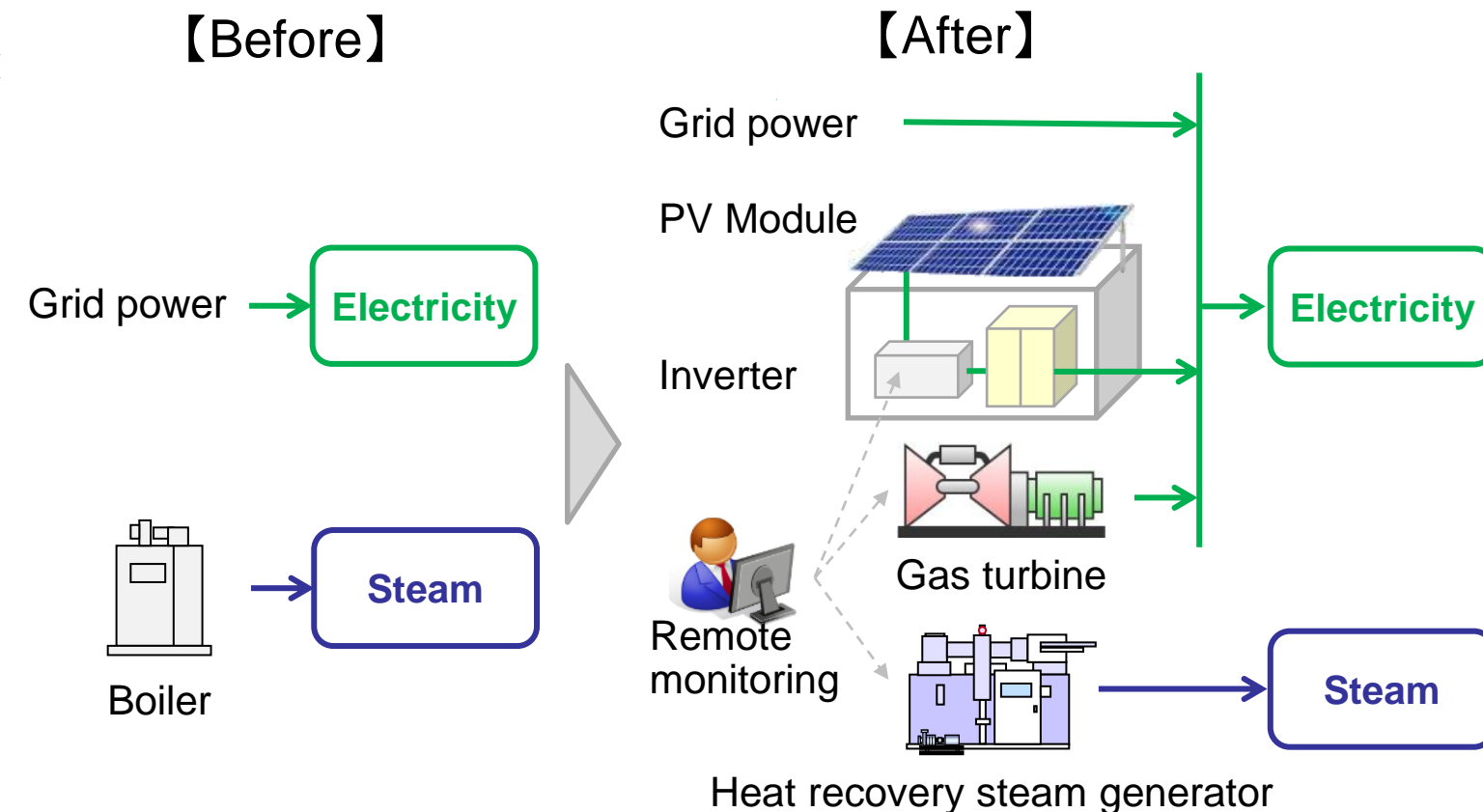


## Introduction of Gas Co-generation System and 22MW Rooftop Solar Power System to Tire Factory PP (Japan): The Kansai Electric Power Company, Incorporated PP (Thailand): Kansai Energy Solutions (Thailand) Co., Ltd.

### Outline of GHG Mitigation Activity

A Gas Co-generation System (6.6MW class × 2 units) and a Rooftop Solar Power System (total of about 22 MW) are installed to the tire factory, and all the generated power and steam are supplied to replace those consumed in the factory.

These high-efficient systems and renewable energy sources realize energy saving, stable energy supply, and reduction in green house gas (GHG) emissions.



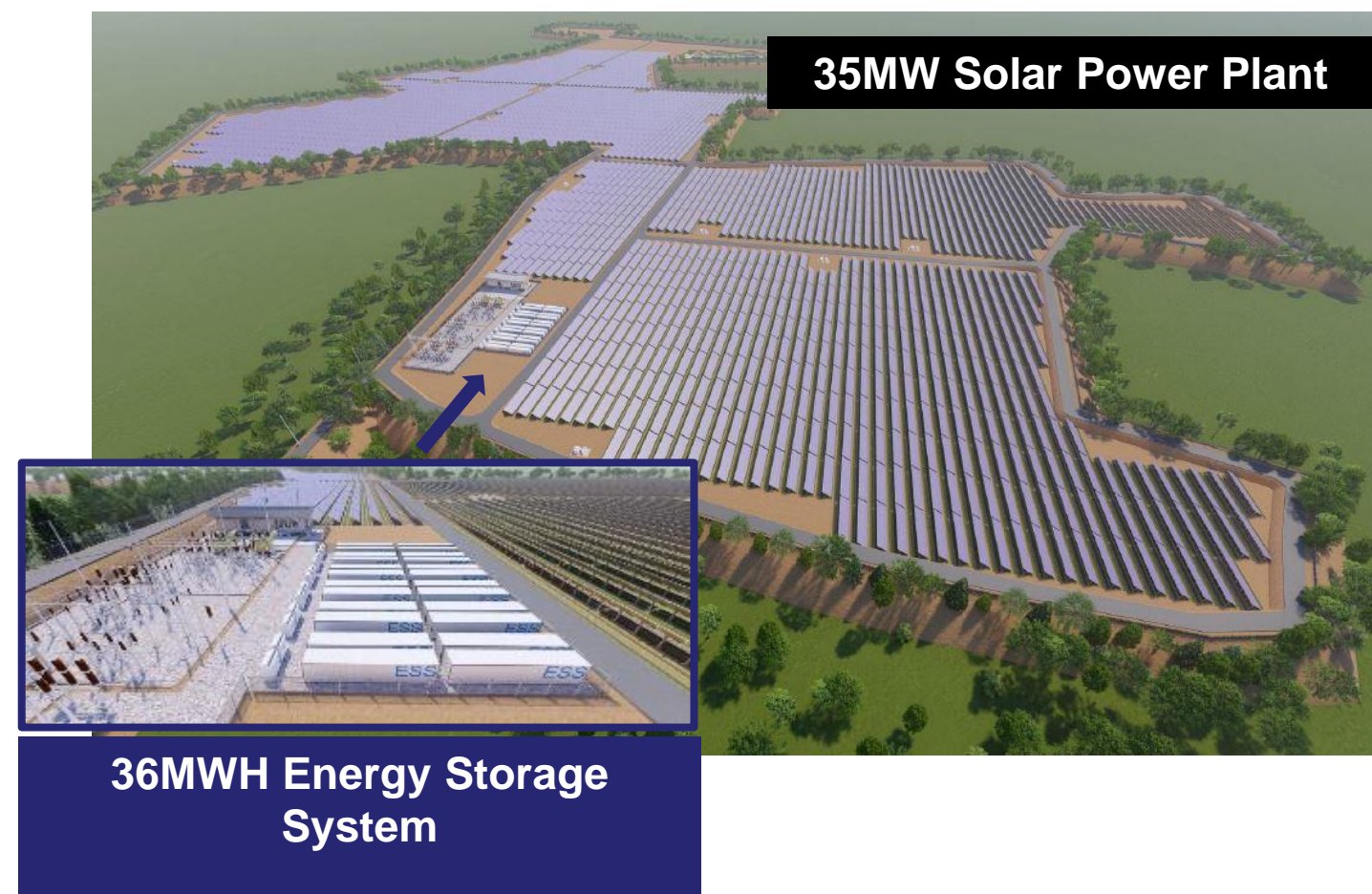
## 35MW Solar Power and Storage Battery Project in Suphanburi Province

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 utilizes storage batteries to supply electricity to the grid systematically. In daytime, the plant supplies electricity to the grid, 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.



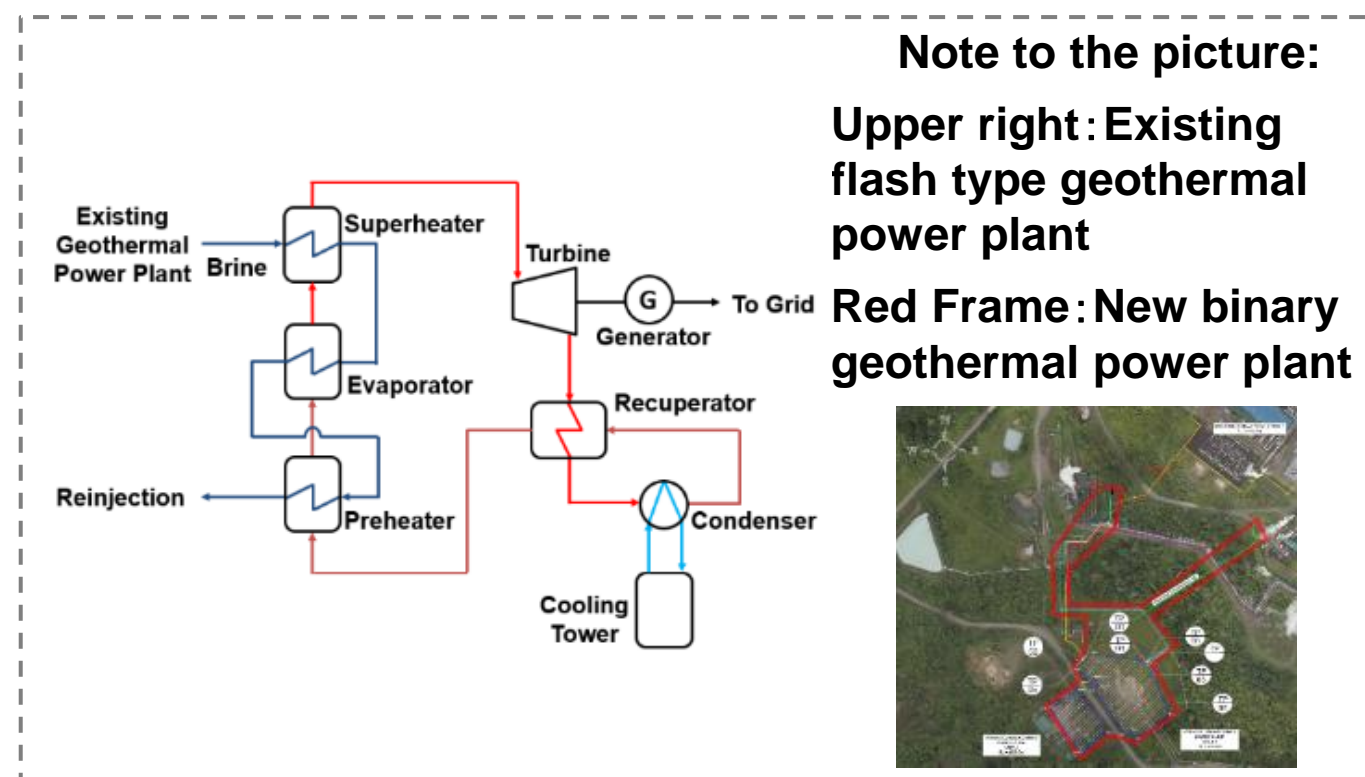


**28MW Binary Power Generation Project at Mahanagdong Geothermal Power Plant**  
**PP (Japan): JGC Corporation**  
**PP (Philippines): Energy Development Corporation**

**Outline of GHG Mitigation Activity**

The project involves the introduction of a new 28 MW binary geothermal power plant to the existing 120 MW flash geothermal power plant owned and operated by the partner participant in the Mahanagdong district of Leyte Island. As a superior decarbonization technology, Organic Rankine Cycle technology is adopted to enable geothermal power generation at relatively low temperatures, resulting in clean and stable power generation.

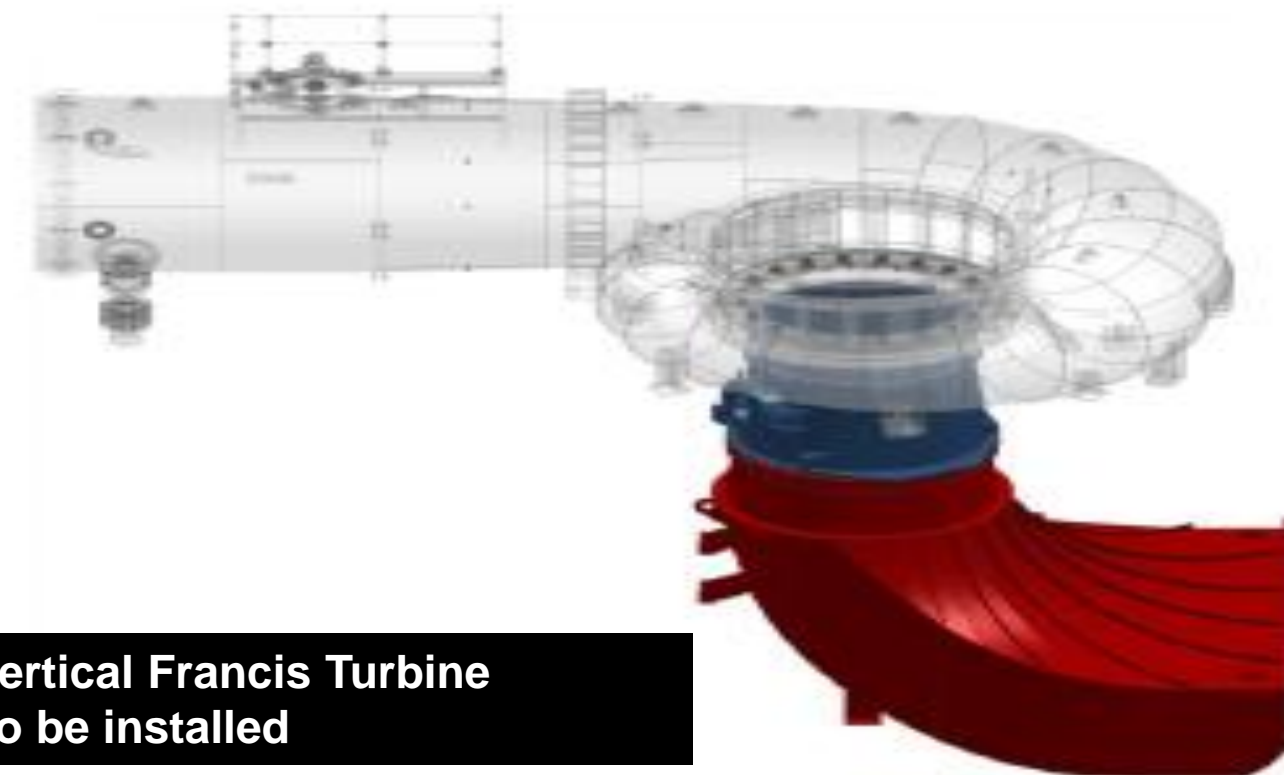
This project contributes to the achievement of Philippines' policy for a renewable energy ratio target of 35% in 2030.



**16MW Mini Hydro Power Plant Project in Binh Thuan Province**  
**PP (Japan): Kanematsu KGK Corp.**  
**PP (Vietnam): SONG LUY ENERGY JOINT STOCK COMPANY.**

### Outline of GHG Mitigation Activity

This project installs 16MW (2 of 8MW) mini hydro power plant systems with Vertical Francis Turbines in Binh Thuan Province. The electricity generated by the hydro power plant is sold to the grid. The project contributes to Vietnam's target to reduce greenhouse gas (GHG) emissions by replacing grid power for renewable energy. This project also contributes to growths in energy supply and economy in the region.



**Vertical Francis Turbine  
To be installed**



**20MW Biomass Power Plant Project in Hau Giang Province****PP (Japan): eREX Co., Ltd.****PP (Vietnam): Hau Giang Bioenergy Joint Stock Company****Outline of GHG Mitigation Activity**

In Hau Giang Province, a 20 MW biomass power plant project is to generate power by burning rice husks produced in the adjacencies. The electricity is sold to the Vietnam Electricity to replace the grid power and to reduce greenhouse gas (GHG) emissions.

This is the first biomass power plant for commercial use in Vietnam and contributes to the country to achieve its Paris Agreement goal to "reduce greenhouse gas emissions by 9% in 2030 compared to cases where no counter measures are taken."



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



# 3 things you can do at “JCM Global Match”

After registration, you can...

**1**  
**FIND**

Potential partner

**2**  
**ADVERTISE**

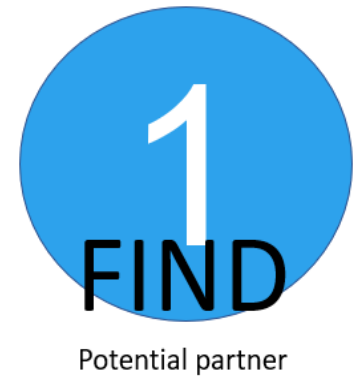
Your company to  
other users

**3**  
**DISCUSS**

Your business plan

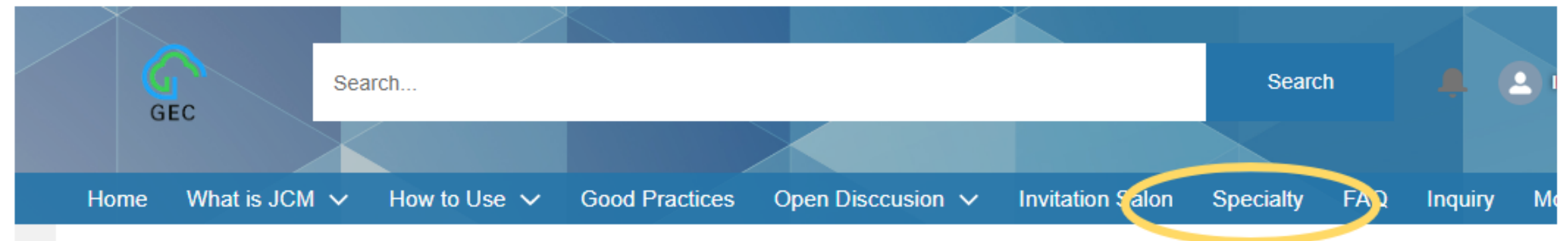


## 2. 3 things you can do at “JCM Global Match”

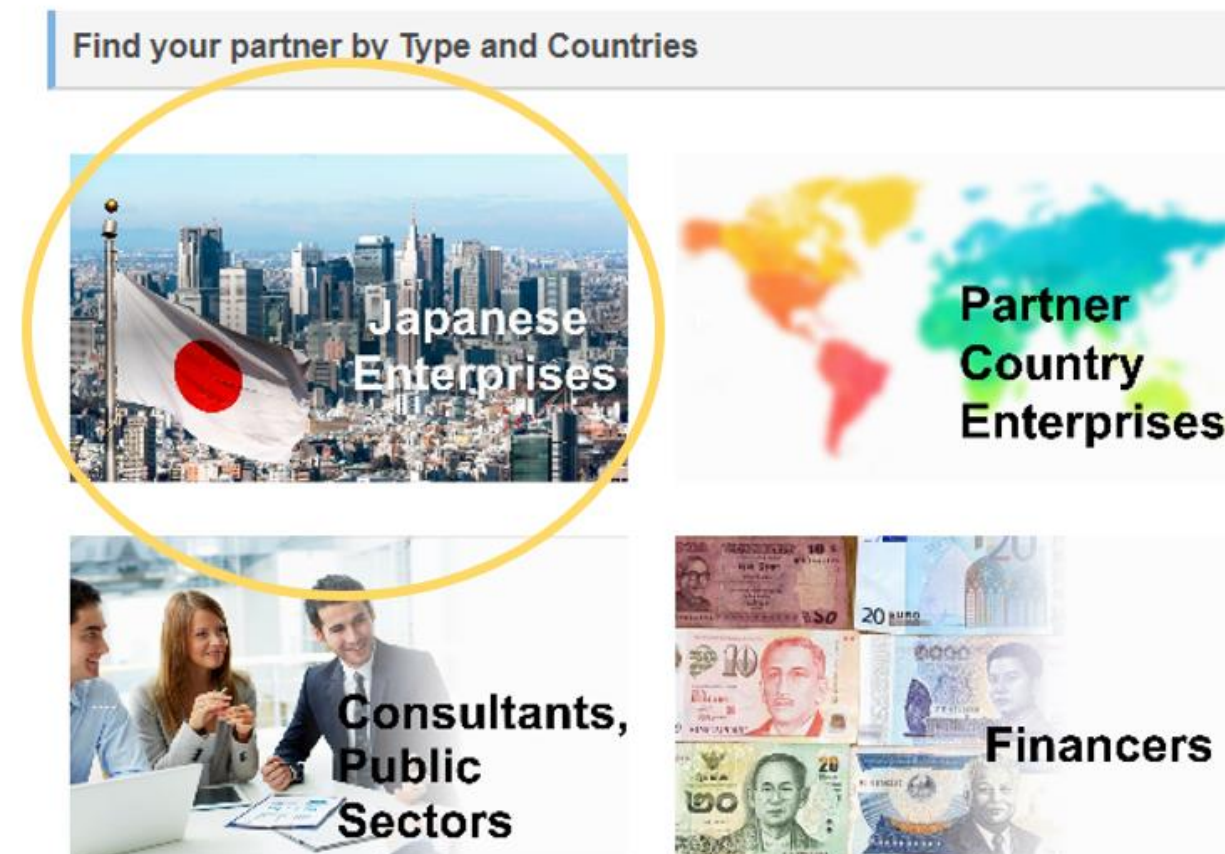


You can also obtain company lists by 2 ways.

\*Menu bar



\*Top page



## 2. 3 things you can do at “JCM Global Match”



To promote better,  
you can create

“My specialties”  
card after registration.

Find your partner by Type and Countries

Japanese Enterprises

Partner Country Enterprises

Consultants, Public Sectors

Final

Home What is JCM ▾ How to Use ▾ Good

### Create a Specilites

\*Specialties Name

I offer this Specilites...

--None--

\*Country of origin

PR (Key words)

Select

Write

Register My Specialties

Edit M

How to register/publish "My Company's Specialties" (video)

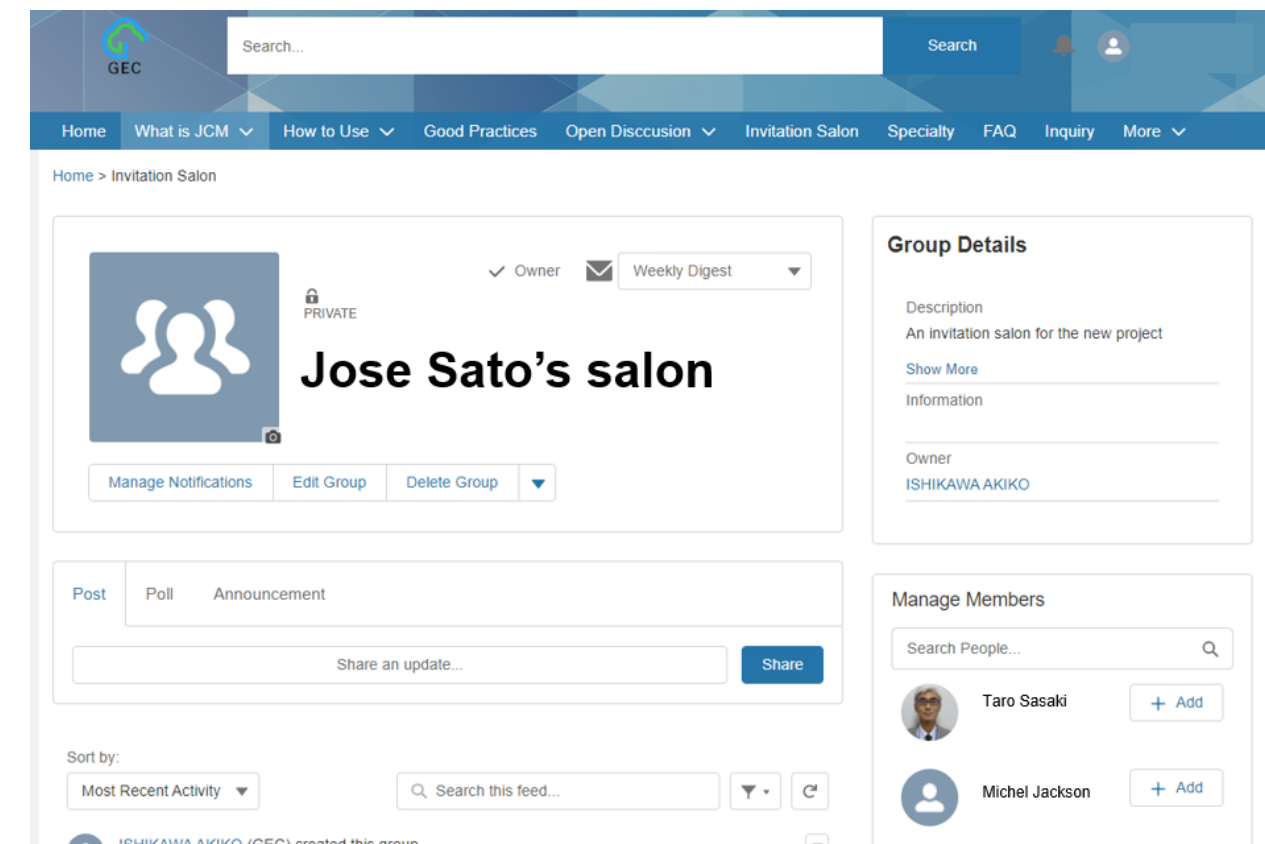


## 2. 3 things you can do at “JCM Global Match”



“Open Discussion” is also the place you can advertise your products and services **freely**.

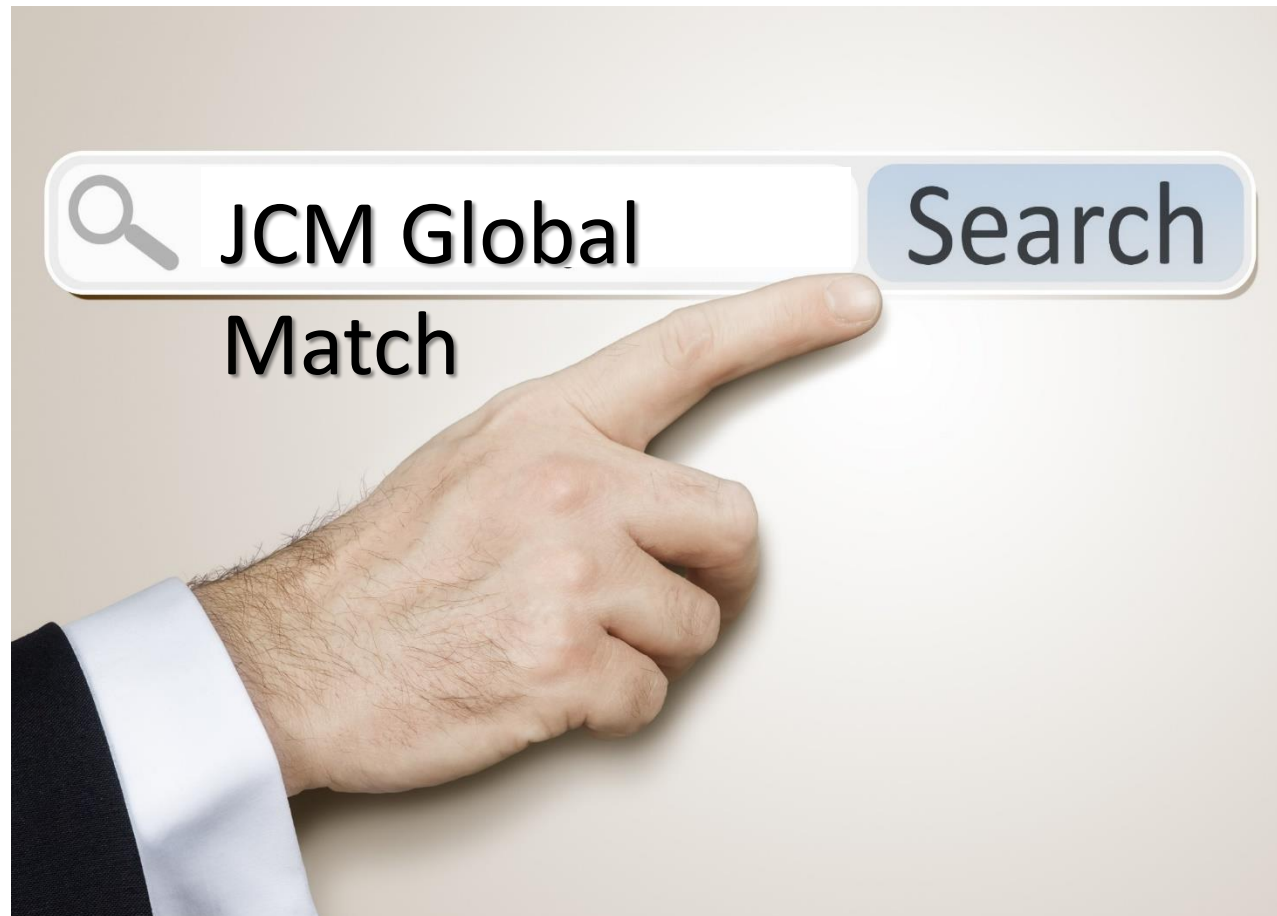
### Open Discussion





# JCM Global Match

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





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 [GEC Consultation Form 2023 en.docx](#) as much as possible and send it to [jcm-info@gec.jp](mailto: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)

Information of Consultation <sup>*)</sup>	
Select for which project would you like to apply. <sup>*)</sup>	<input type="checkbox"/> JCM Model Project <sup>*)</sup> <input type="checkbox"/> Co-innovation Project <sup>*)</sup> <input type="checkbox"/> Undecided <sup>*)</sup>
ID No. <sup>*)</sup>	<i>*For internal use<sup>*)</sup></i>
Entry Date <sup>*)</sup>	Click here to select a date <sup>*)</sup>
Submission to GEC <sup>*)</sup>	E-mailed on Click here to select a date / Meeting (at ) <sup>*)</sup>
Meeting attendee(s) <sup>*)</sup>	<sup>*)</sup> <i>*Please list the name(s) and organization(s).<sup>*)</sup></i>
Past Consultation Date for the same project <sup>*)</sup>	<input type="checkbox"/> First time <sup>*)</sup> <input type="checkbox"/> ( ) times : Previous Consultation Date : Click here to select a date <sup>*)</sup>
GEC responder <sup>*)</sup>	<i>*For internal use<sup>*)</sup></i>
Project Information Provided by <sup>*)</sup>	
Company name <sup>*)</sup>	<sup>*)</sup>
Department/division <sup>*)</sup>	<sup>*)</sup>
Your name <sup>*)</sup>	<sup>*)</sup>
E-mail address <sup>*)</sup>	<sup>*)</sup>
Phone No. <sup>*)</sup>	<i>*Country code + local number<sup>*)</sup></i>
Project Information <sup>*)</sup>	
Application target <sup>*)</sup>	<input type="checkbox"/> FY2022 <input type="checkbox"/> FY2023 <input type="checkbox"/> TBD <sup>*)</sup> If other than above, please specify: <sup>*)</sup>
Partner country <sup>*)</sup>	<sup>*)</sup> <i>*The country where the project will be implemented.<sup>*)</sup></i>
Name of representative participant <sup>*)</sup>	Name of representative participant(s) <sup>*)1</sup> : <sup>*)</sup> Website: <sup>*)</sup> <i>*1: A representative participant must be a Japanese entity registered in Japan.<sup>*)</sup>                      If you haven't decided or been looking for one, please state as such.<sup>*)</sup> </i>
Name of partner participant <sup>*)</sup>	Name of partner participant(s) <sup>*)2</sup> : <sup>*)</sup> Partner participant <sup>*)2</sup> is a subsidiary of a Japanese company: Click to select <sup>*)</sup> Website: <sup>*)</sup> <i>*1: Please include an entity that owns and uses the facility introduced by the project.<sup>*)</sup></i>

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- 1 Thailand / EAST RETAILING CO., LTD.  
High Efficiency LED Lighting
- 2 Cambodia / AEON MALL Co., Ltd.  
Solar Power System and High Efficiency Centrifugal Chiller
- 3 Bangladesh / Kibao Refrigeration Equipment & Systems Co., Ltd.  
High Efficiency Centrifugal Chiller
- 4 Mexico / Sunteco Solares Limited  
Once-through Boiler and Fuel Switching



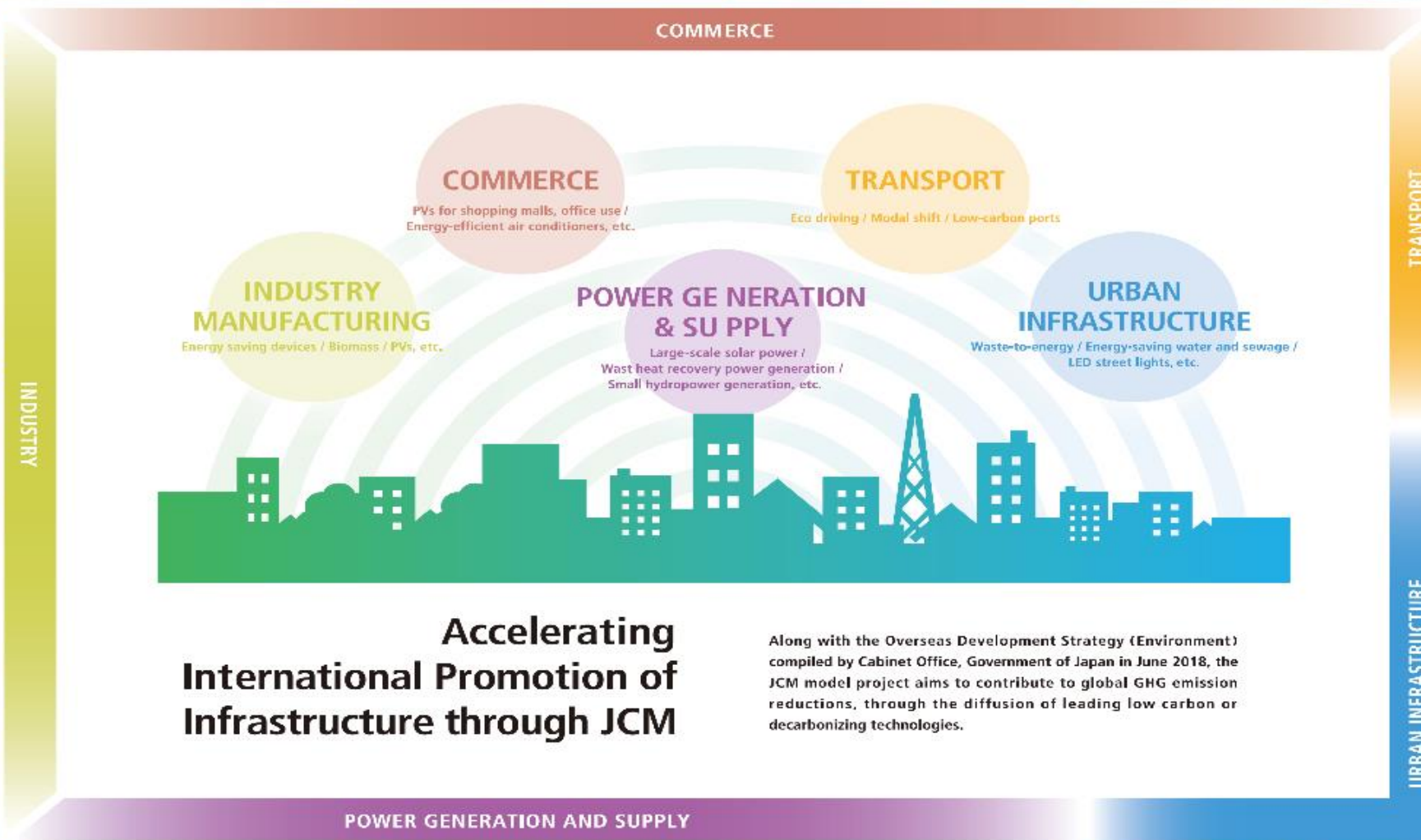
- 5 Palau / Pacific Consultants Co., Ltd.  
Solar Power Plants for Commercial Facilities
- 6 Indonesia / Toyota Tsusho Corporation  
Double-Bundle type Heat Pump
- 7 Indonesia / Hokutan Co., Ltd.  
CHG-Diesel Equipment to Public Bus
- 8 Thailand / Yokohama Port Corporation  
Energy Efficient Equipment to Bangkok Port



- 9 Indonesia / Environmental Management and Technology Center  
Energy Saving in Industrial Wastewater Treatment System
- 10 Myanmar / Kiri Holdings Company, Limited  
Energy Saving Heating Systems
- 11 Thailand / TSD Co., Ltd.  
Floating Solar Power System
- 12 Mexico / FILL DATA RESOURCES MANAGEMENT CONSULTING, INC.  
Power Generation with Methane Gas Recovery System



- 13 Viet Nam / Yuka Kasei Co., Ltd.  
Amorphous High Efficiency Transformers in power grid
- 14 Viet Nam / Yokohama Water Co., Ltd.  
High Efficiency Water Pumps
- 15 Myanmar / JTE Engineering Corporation  
Waste-to-Energy Plant in Yangon City
- 16 Myanmar / Fujita Corporation  
Rice Husk Power Generation





*Thank you for your attention!*

ありがとうございました。

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