Introduction to the Joint Crediting Mechanism (JCM)

IGES
Institute for Global Environmental Strategies

Training for YCDC
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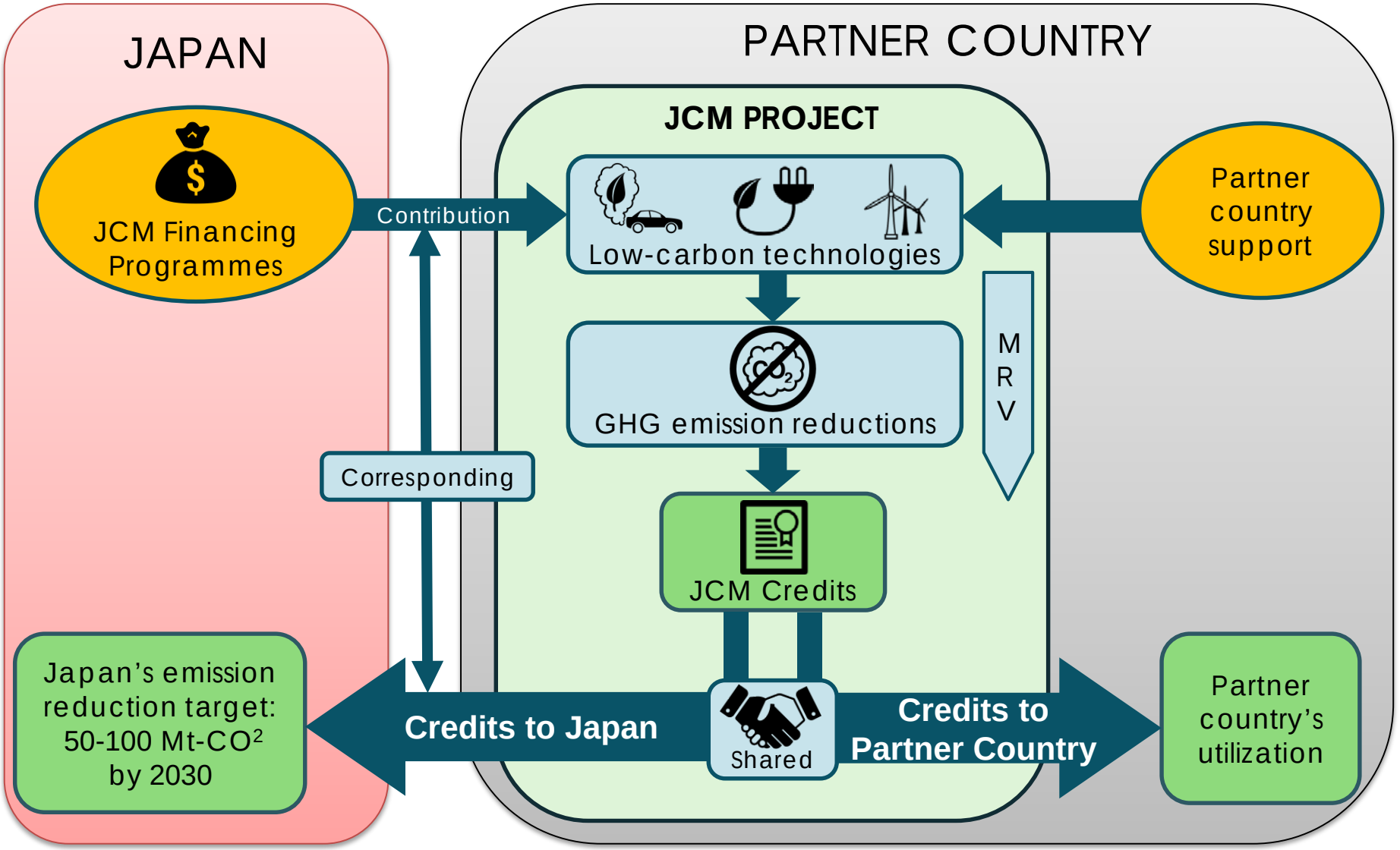
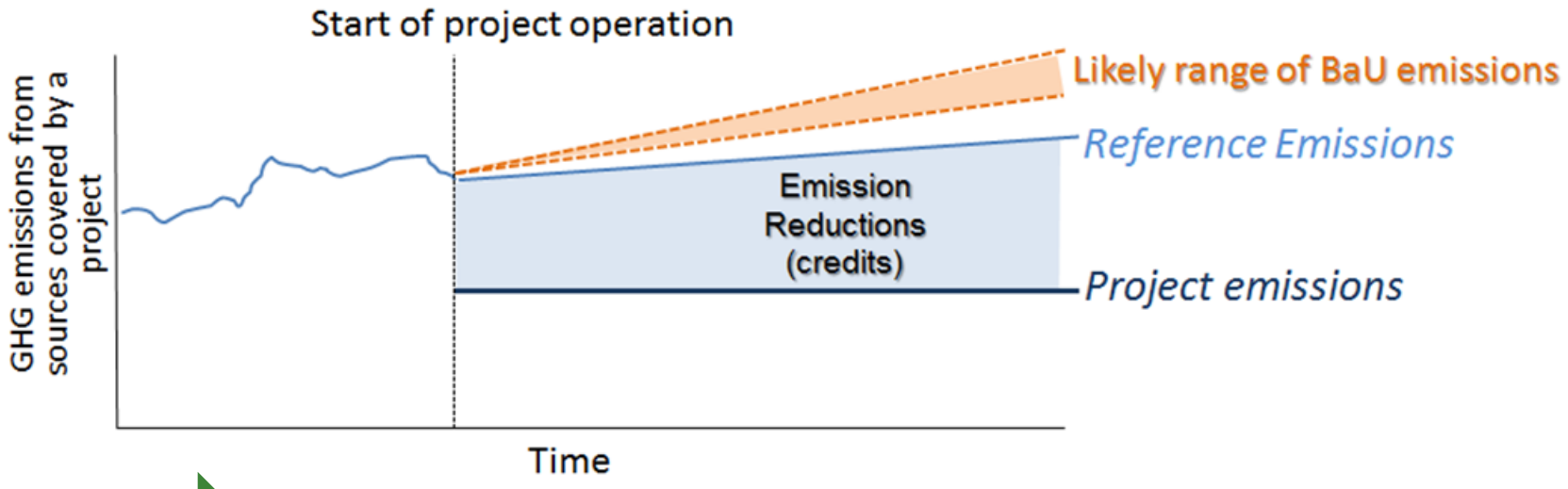
Outline

- Concept and benefits of the JCM
- JCM project development
- JCM current status and progress

What is the JCM?



Basics of JCM methodology

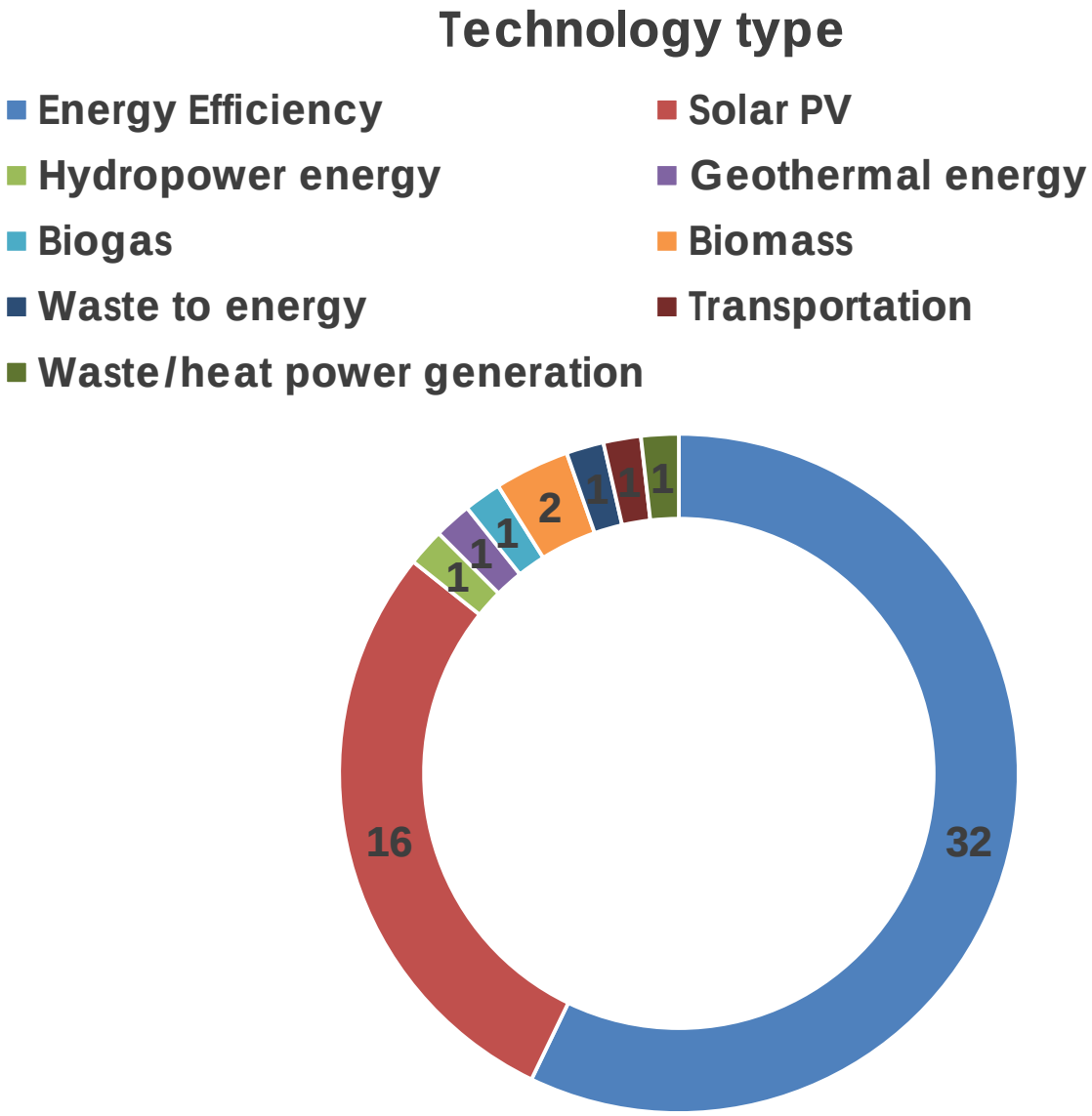


Ensures a net decrease or avoidance of GHG emissions.

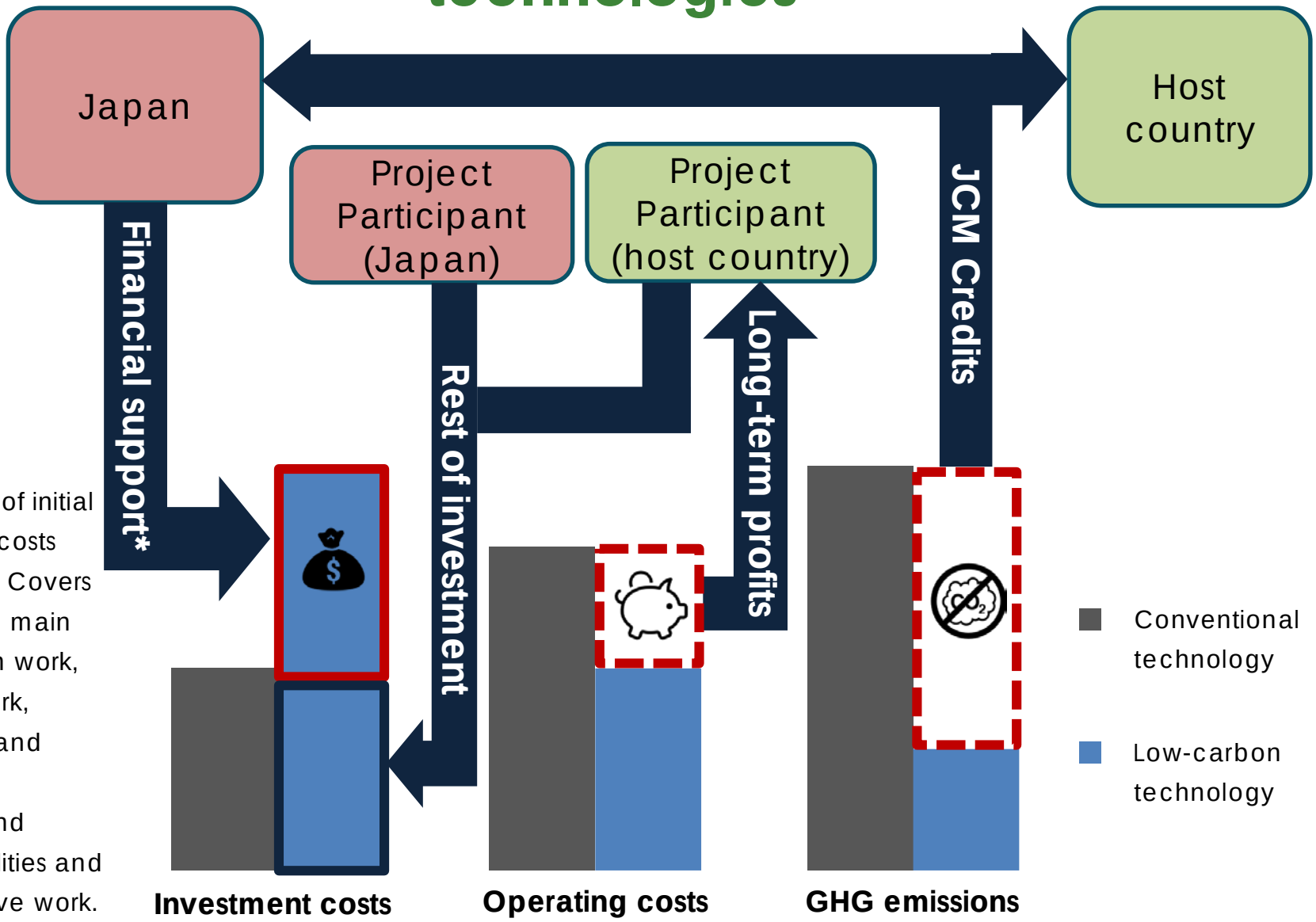
- Emission reductions = reference emissions - project emissions
- Reference emissions: calculated below business-as-usual (BaU)
- BaU emissions: emissions that would likely be emitted by constant operation of installations without the proposed JCM project.

Source: Government of Japan (2015) Recent Development of the Joint Crediting Mechanism (JCM), Sep. 2015

JCM-funded technologies



Benefits of the JCM scheme and low-carbon technologies



*Funds part of initial investment costs (up to 50%). Covers the costs of: main construction work, ancillary work, machinery and appliances, surveying and testing, facilities and administrative work.

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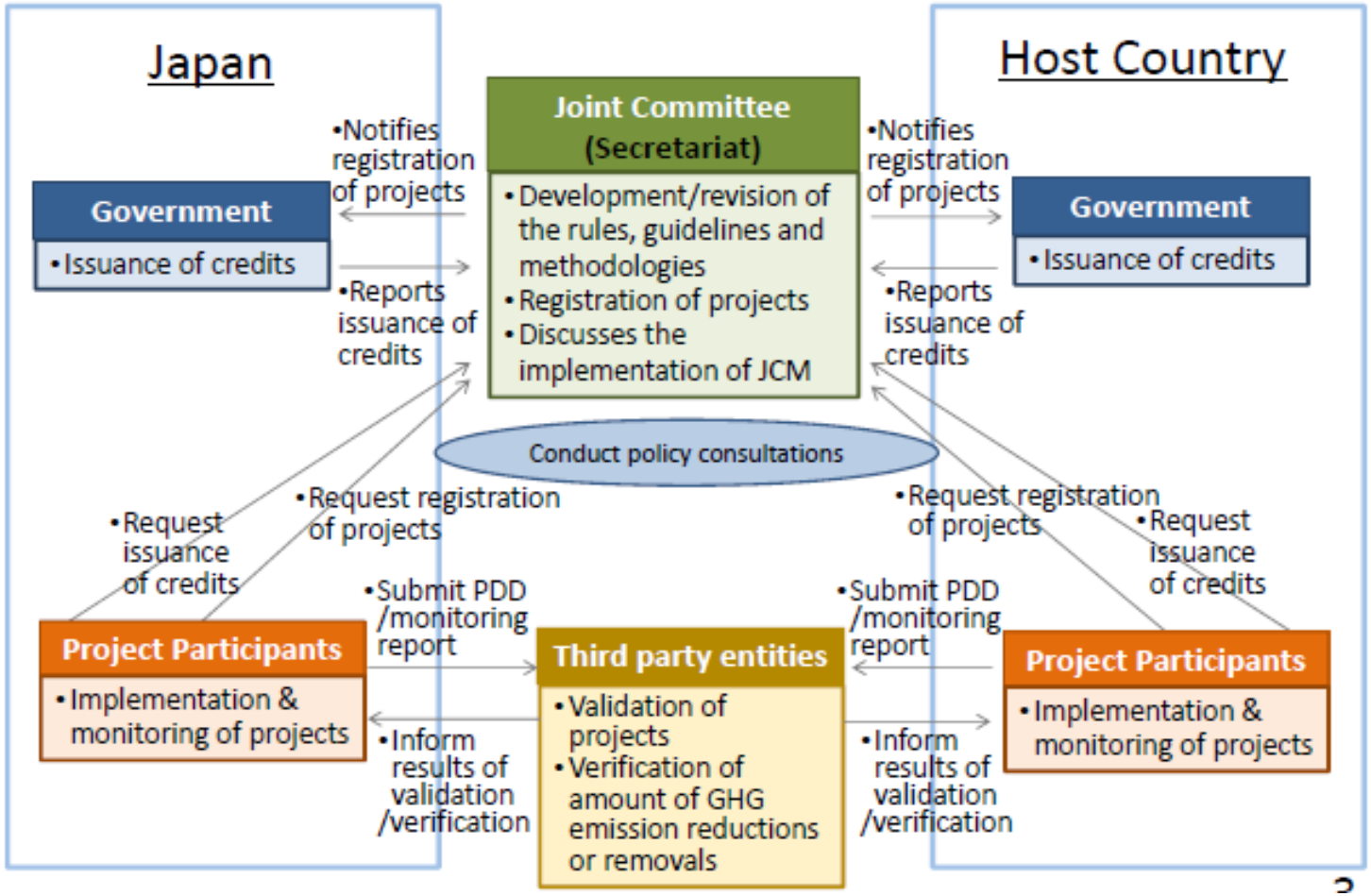
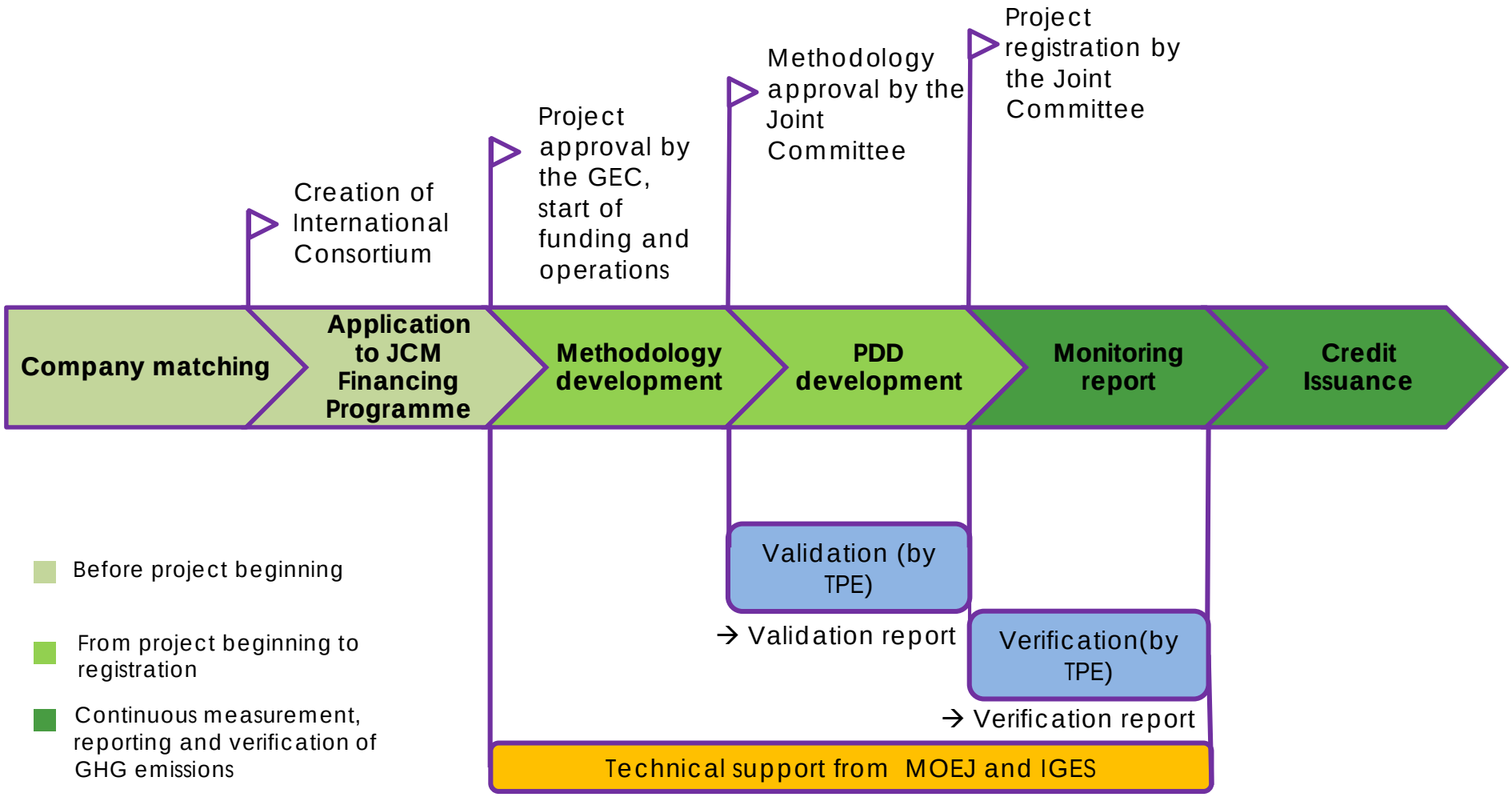
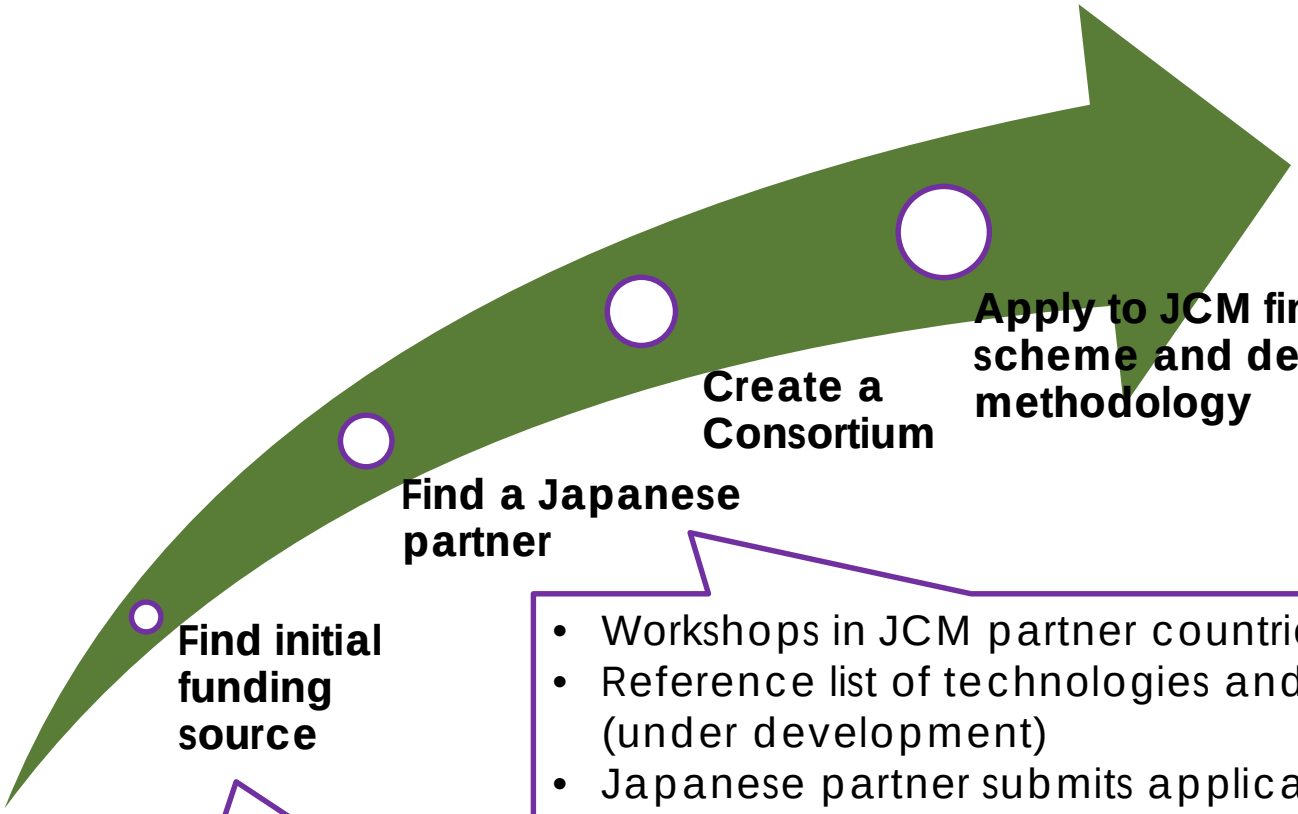
JCM Main Stakeholders



JCM Project Development Stages



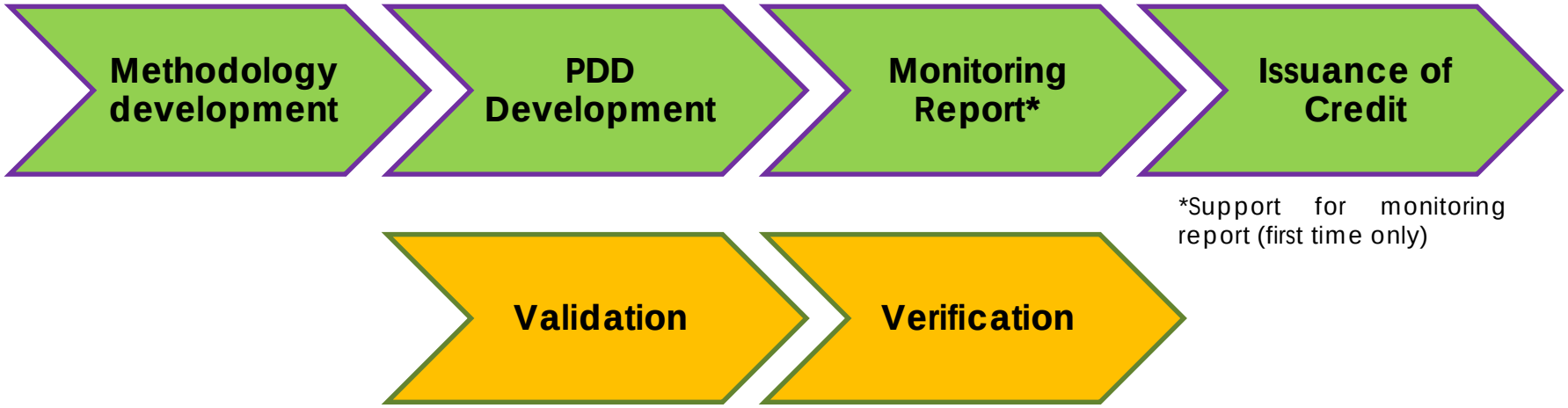
JCM Project Development Stages



- Secure finance other than JCM
- Find another financial source for the rest of initial costs

- Workshops in JCM partner countries
- Reference list of technologies and companies (under development)
- Japanese partner submits application (in Japanese) for JCM financial scheme

Technical and financial support from MOEJ



- Applicable for project participants to all JCM financing programmes (Model Projects, Collaborative Financing Programme, and ADB Trust Fund).
- IGES provides technical support for Methodology Development, PDD development and Preparation of monitoring Report

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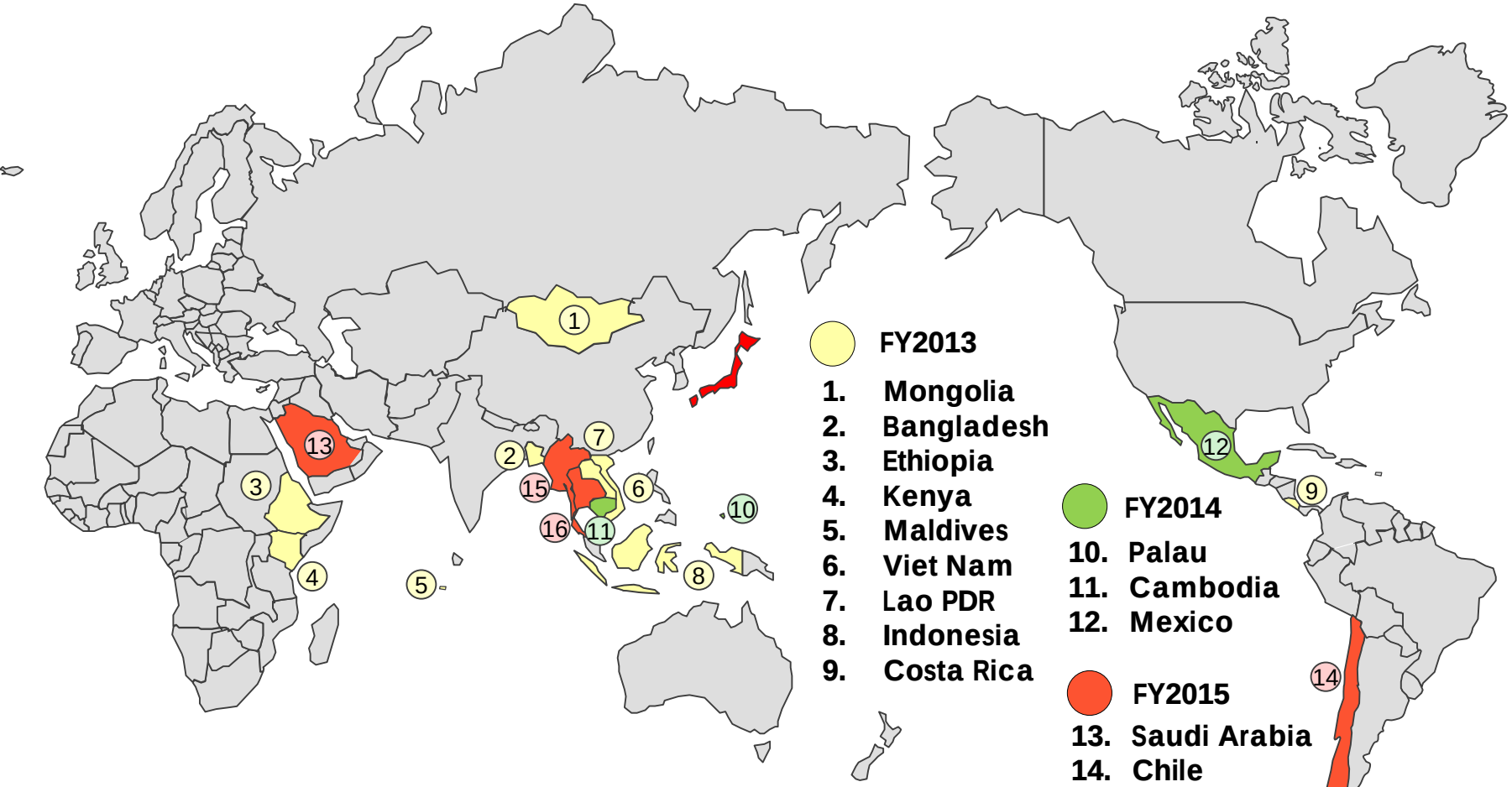
JCM Partner Countries



FY2013

1. Mongolia
2. Bangladesh
3. Ethiopia
4. Kenya
5. Maldives
6. Viet Nam
7. Lao PDR
8. Indonesia
9. Costa Rica

FY2014

10. Palau
11. Cambodia
12. Mexico

FY2015

13. Saudi Arabia
14. Chile
15. Myanmar
16. Thailand

JCM Financing Programmes

JCM Model Project

- *Budget (FY2015): 2.4 billion JPY/year (USD18 million) until FY2017*
- Objective: to finance projects (up to the half of investment costs) with high efficiency in reducing GHG emissions

Collaborative Financing Programme

- *Budget (FY2015): 1.8 billion JPY/year (USD18 million) until FY2018*
- Objective: to finance projects (up to the half of investment costs) with high efficiency in reducing GHG emissions in collaboration with projects supported by JICA and other government financial institutes.

ADB Trust Fund

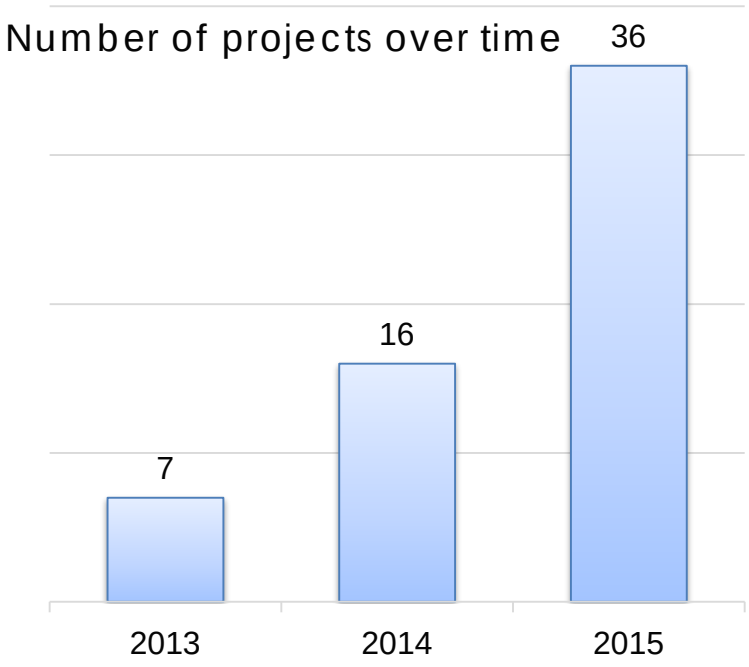
- *Budget (FY2015): 1.8 billion JPY (USD18 million)*
- Objective: to provide financial incentives for the adoption of low-carbon technologies with advanced GHG emission reduction capabilities but expensive in ADB- financed projects.

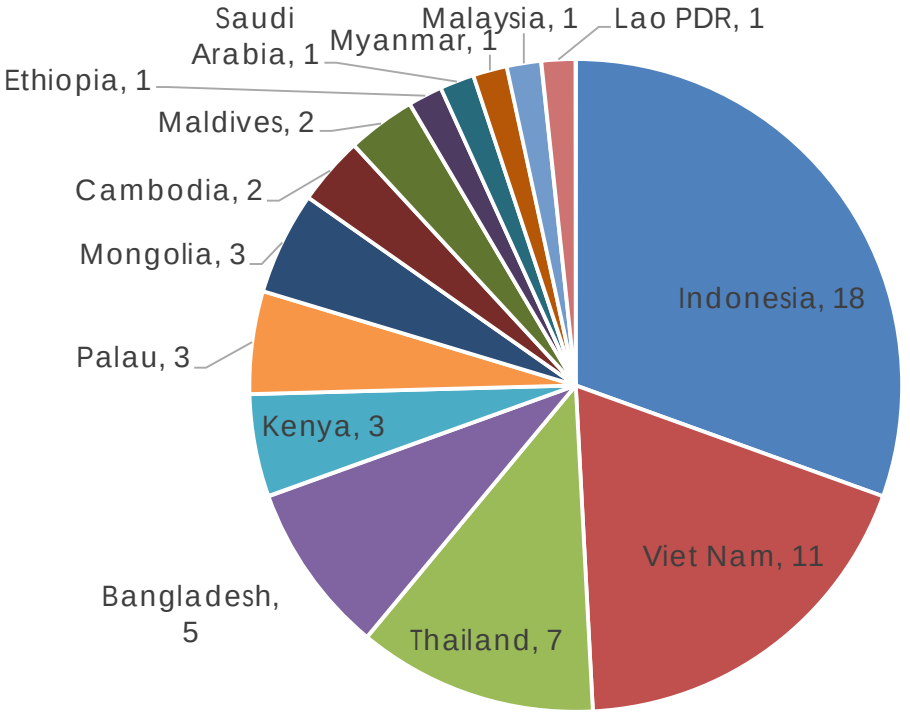
Financed Projects

Under JCM Model projects and ADB Trust Fund

Company matching → Application to JCM Financing Programme → Methodology development → PDD development → Monitoring report → Credit Issuance

59 projects in 14 countries





Source: IGES JCM Project Database (Dec. 2015)

Examples of technologies transferred through JCM Model Projects

High Efficiency LED Lighting, Cambodia

Anaerobic Digestion of Organic Waste for Biogas, Vietnam

Power Generation by Waste-heat Recovery in Cement Industry, Indonesia

High-efficiency Once-through Boiler System in Film Factory, Indonesia

Regenerative Burners to the Aluminum Holding Furnace of the Automotive Components Manufacturer, Indonesia

Energy Savings at Convenience Stores, Indonesia

Geothermal Power Generation, Mexico

Double Bundle-type Heat Pump, Indonesia

PV power generation system, Malaysia

JCM Model Project and ADB JFJCM

Country	Project Tittle
Bangladesh (5)	○ Energy Saving for Air Conditioning & Facility Cooling by High Efficiency Centrifugal Chiller (Suburbs of Dhaka) ○ Installation of High Efficiency Loom at Weaving Factory ○ Introduction of PV-diesel Hybrid System at Fastening Manufacturing Plant ○ 50MW Solar PV Power Plant Project ○ Installation of High Efficiency Centrifugal Chiller for Air Conditioning System in Clothing Tag Factory
Cambodia (2)	○ Introduction of High Efficiency LED Lighting Utilizing Wireless Network ○ Introduction of Ultra-lightweight Solar Panels for Power Generation at International School
Indonesia (18)	○ Energy Saving for Air-Conditioniong and Process Cooling at Textile Factory (in Batang city) ○ Energy Savings at Convenience Stores ○ Energy Efficient Refrigerants to Cold Chain Industry ○ Energy Saving by Double Bundle-Type Heat Pump at Beverage Plant ○ Energy Saving for Air-Conditioning and Process Cooling at Textile Factory ○ Power Generation by Waste Heat Recovery in Cement Industry ○ Solar Power Hybrid System Installation to Existing Base Transceiver Stations in Off-grid Area ○ Energy Saving through Introduction of Regenerative Burners to the Aluminum Holding Furnace of the Automotive Components Manufacturer ○ Energy Saving for Textile Factory Facility Cooling by High Efficiency Centrifugal Chiller ○ Introduction of high efficient Old Corrugated Cartons Process at Paper Factory ○ Reducing GHG emission at textile factories by upgrading to air-saving loom ○ Energy Saving for Air-Conditioning at Shopping Mall with High Efficiency Centrifugal Chiller ○ Energy Saving for Industrial Park with Smart LED Street Lighting System ○ Introduction of High Efficiency Once-through Boiler System in Film Factory ○ Installation of Gas Co-generation System for Automobile Manufacturing Plant ○ 1.6MW Solar PV Power Plant Project in Jakabaring Sport City ○ Introduction of High Efficiency Once-through Boiler in Golf Ball Factory ● REDD+ project in Boalemo District
Ethiopia (1)	○ Introduction of Biomass CHP Plant in Flooring Factory
Kenya (3)	○ Solar Diesel Abatement Projects ○ 6MW Small Hydropower Generation Project in Rupingazi ○ Introduction of Solar PV System at Salt Factory

○ Model project in FY 2013 (3 countries, 7 projects)
○ Model project in FY 2014 (7 countries, 15 projects)
■ ADB JFJCM project in FY 2014 (1 country, 1 project)
○ Model project in FY 2015 (7 countries, 18 projects)
● REDD+ Model Project in FY 2015 (2 countries, 2 projects)

Total 14 countries, 59 projects
Underlined projects have been registered as JCM projects

JCM Model Project and ADB JFJCM

Country	Project Tittle
Laos (1)	● REDD+ project in Luang Prabang Province through controlling slush-and-burn
Malaysia (1)	○ PV power generation and relevant monitoring system for the office building
Maldives (2)	○ Solar Power on Rooftop of School Building Project ■ Smart Micro-Grid System for POISED Project in Addu Atoll
Mongolia (3)	○ Upgrading and Installation of Centralized Control System of High-Efficiency Heat Only Boiler (HOB) ○ 10MW Solar Power Project in Darkhan City ○ Installation of 2.1MW Solar Power Plant for Power Supply in Ulaanbaatar Suburb
Myanmar (1)	○ Introduction of Waste to Energy Plant in Yangon City
Palau (3)	○ Small-Scale Solar Power Plant for Commercial Facilities in Island States Project ○ Small-Scale Solar Power Plants for Commercial Facilities Project II ○ Solar PV System for Schools Project
Thailand (7)	○ Energy Saving at Convenience Stores with High Efficiency Air-Conditioning and Refrigerated Showcase ○ Introduction of Solar PV System on Factory Rooftop ○ Reducing GHG Emission at Textile Factory by Upgrading to Air-saving Loom (Samutprakarn) ○ Energy Saving for Semiconductor Factory with High Efficiency Centrifugal Chiller and Compressor ○ Installation of Co-generation Plant for On-Site Energy Supply in Motorcycle Factory ○ Installation of High Efficiency Air Conditioning System and Chillers in Semiconductor Factory ○ Energy Saving for Air-Conditioning in Tire Manufacturing Factory with High Efficiency Centrifugal Chille
Vietnam (11)	○ Anaerobic Digestion of Organic Waste for Biogas Utilization at Market ○ Eco-driving with the Use of Digital Tachographs ○ Introduction of amorphous high efficiency transformers in power distribution systems ○ Introduction of High Efficiency Air-conditioning in Hotel ○ Energy Saving in Lens Factory with Energy Efficient Air-Conditioners ○ Energy Saving in Acid Lead Battery Factory with Container Formation Facility ○ Energy Saving in Factories with Air-Conditioning Control System ○ Introduction of Amorphous High Efficiency Transformers in Southern and Central Power Grids ○ Installation of High Efficiency Kiln in Sanitary Ware Manufacturing Factory ○ Introduction of High Efficiency Electric Furnace at Foundries ○ Introduction of Solar PV System at Shopping Mall in Ho Chi Minh City
Saudi Arabia (1)	○ Introduction of High Efficiency Electrolyzer in Chlorine Production Plant

○ Model project in FY 2013 (3 countries, 7 projects)
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■ ADB project in FY 2014 (1 country, 1 project)
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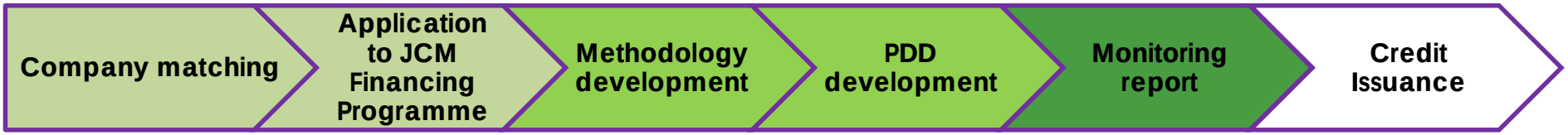
Registered projects (1)



Technology Type	Project Tittle	Emission Reductions (t-CO2/y)	Registration Date	Country
Energy Efficiency	Energy Saving for Air-Conditioning and Process Cooling by Introducing High-efficiency Centrifugal Chiller	114	31-Oct-14	Indonesia
Energy Efficiency	Project of Introducing High Efficiency Refrigerator to a Frozen Food Processing Plant in Indonesia	120	29-Mar-15	Indonesia
Energy Efficiency	Project of Introducing High Efficiency Refrigerator to a Food Industry Cold Storage in Indonesia	21	29-Mar-15	Indonesia
Energy Efficiency	Promotion of green hospitals by improving efficiency / environment in national hospitals in Vietnam	515	30-Nov-15	Vietnam
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Registered projects (2)

Registered JCM projects (1)

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Energy Efficiency	Promotion of green hospitals by improving efficiency / environment in national hospitals in Vietnam	515	30-Nov-15	Vietnam

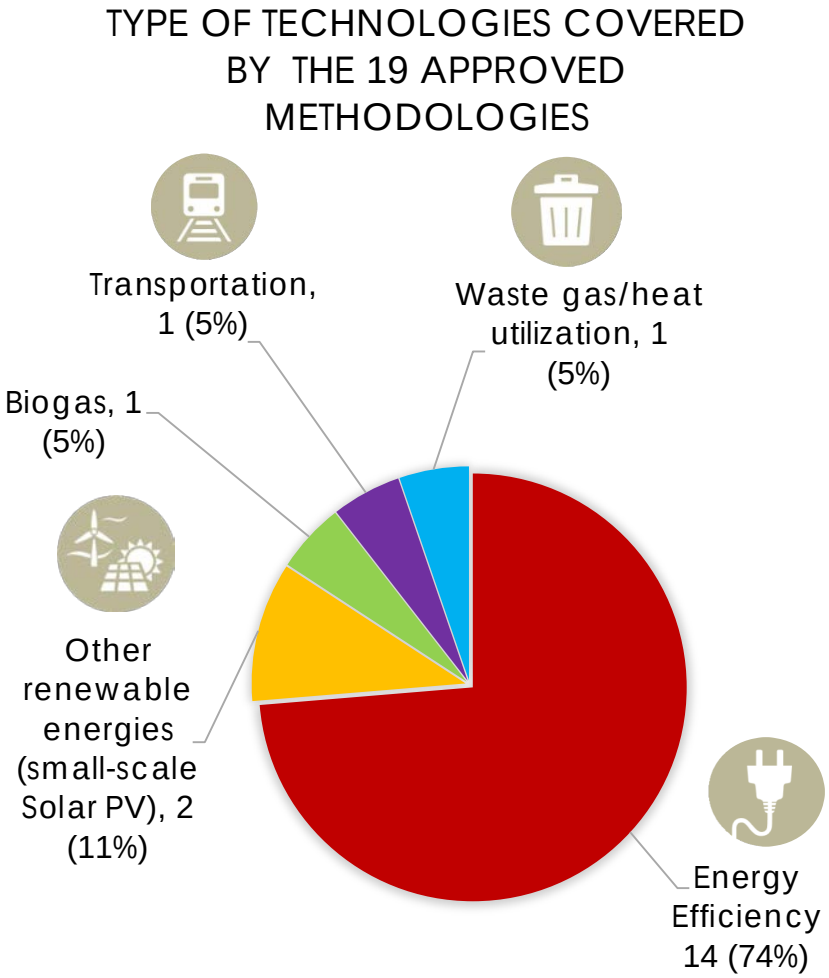
Left: High-efficiency Cetrifugal Chiler, Middle and Right : High Efficiency Refrigerator

Registered JCM projects (2)

Technology Type	Project Tittle	Emission Reductions (t-CO2/y)	Registration Date	Country
Energy Efficiency	Centralization of heat supply system by installation of high-efficiency Heat Only Boilers in Bornuur soum Project	92	30-Jun-15	Mongolia
Energy Efficiency	Installation of high-efficiency Heat Only Boilers in 118th School of Ulaanbaatar City Project	206	30-Jun-15	Mongolia
Renewable energy	Small scale solar power plants for commercial facilities in island states	227	21-Apr-15	Palau
Transport	Eco-Driving by Utilizing Digital Tachograph System	296	4-Aug-15	Vietnam

Left: High-efficiency Heat Only Boilers, Middle: Solar Power Plants and Right : Digital Tachograph System

Approved JCM Methodologies



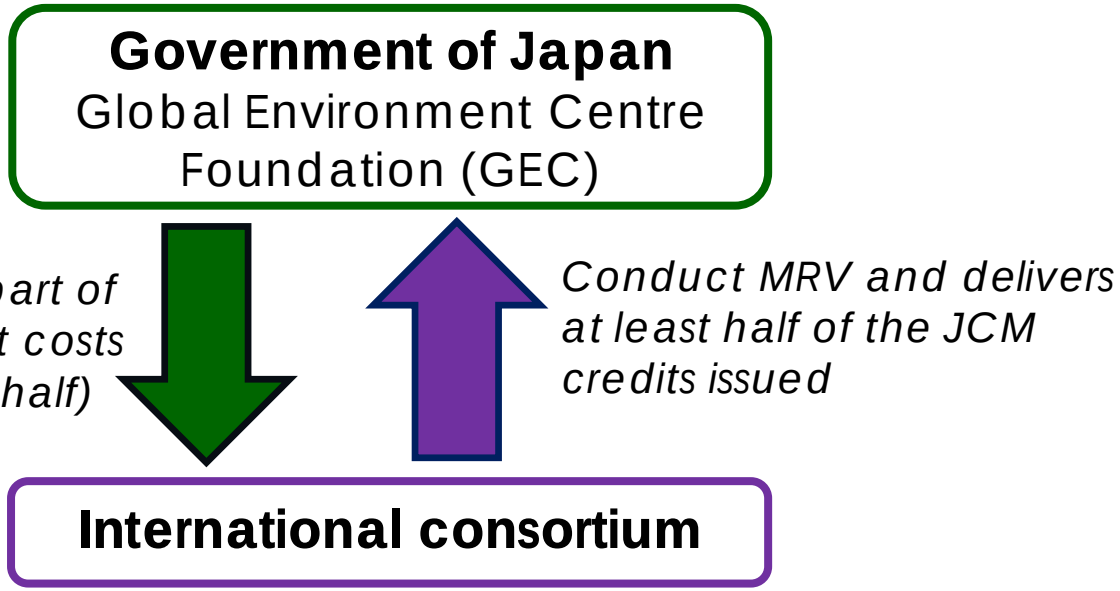
Source: IGES JCM Database

Advanced low-carbon technologies:

- Reduce GHG emissions
- Reduce operating costs compared to conventional technologies
- Have high initial investment costs.

JCM Model Projects

Budget (FY 2015):
2.4 billion JPY/year
*(**USD24 million**)*



- Applicant profile: private company, independent administrative institution, incorporated association or foundation…
- Joint application by an international consortium: a Japanese participant and a JCM partner-country participant
- Projects completion period: installations start after the adoption of the funding and must be completed within 3 years.

Source: JCM Model Projects Public Offering Guidelines tentative translation (GEC website)

JCM Project Cycle
Measurement, Reporting, Verification (MRV)

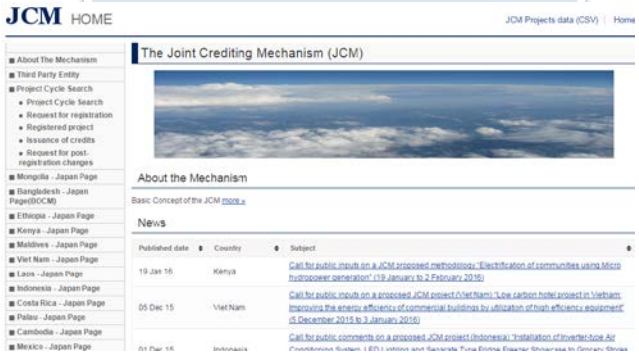
Process	Main Actor(s)	Output
Development and submission of Proposed Methodology	Methodology proponent/ Project Participants	1. Proposed methodology 2. Proposed Methodology Spreadsheet
	Joint Committee	
Approval of Proposed Methodology	Joint Committee	Approved Methodology
Development of Project Design Document (PDD)	Project Participants	1. PDD and Monitoring Spreadsheet 2. Modalities of Communication
Validation	Third-Party Entity	Validation report
Registration	Joint Committee	Project reference number
Monitoring	Project Participants	Monitoring report
Verification	Third-Party Entity	Verification report
Issuance of credits	Each side	Allocation of credits
Use of credits	Each side	Credit serial number in the registry

If eligible methodology is not available

For further information

Official JCM Webpage: rules and guidelines, JCM methodology, projects

https://www.jcm.go.jp/

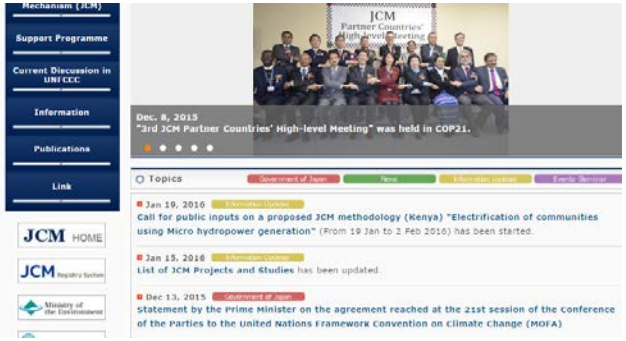


GEC website: call for proposals, financial and project development, feasibility study, JCM booklet

http://gec.jp/jcm/index.html

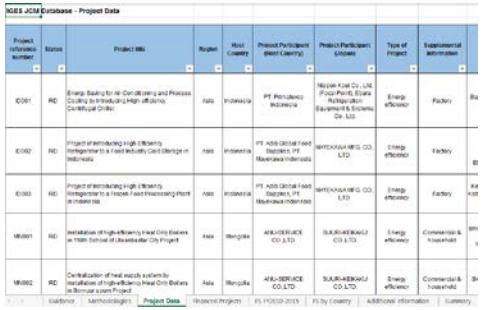
New Mechanisms Information Platform: recent development of the JCM

http://www.mmechanisms.org/e/



IGES JCM Database: details of methodologies, projects, feasibility studies

http://bit.ly/igesjcmdatabase



Thank you for your attention

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