

Recent development of the Joint Crediting Mechanism

Naoki Torii
Chief Administrator
Office of Market Mechanisms
Climate Change Policy Division
Global Environment Bureau
Ministry of the Environment, Japan

The Joint Crediting Mechanism

- ▶ Facilitating diffusion of leading low carbon technologies through contributions from Japan and evaluating realized GHG emission reductions or removals in a quantitative manner to use them for achieving Japan's emission reduction target.
- ▶ Japan will address the high initial cost barrier of introducing advanced low-carbon technologies in the Partner countries (17 countries as of Sep. 2017) through the JCM (GoJ implements several supporting schemes)



Waste heat recovery in Cement Industry, JFE engineering, Indonesia



Eco-driving with Digital Tachographs, NITTSU, Vietnam



Energy saving at convenience stores, Panasonic, Indonesia



High efficiency air-conditioning and process cooling, Ebara refrigeration equipment & systems, Indonesia



High-efficiency Heat only Boilers, Suuri-Keikaku, Mongolia



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



Installing solar PV system, PCKK, Palau Maldives



Amorphous transformers in power distribution, Hitachi Materials, Vietnam



Co-generation system at factory, Toyota, Nippon Steel & Sumikin Engineering, Indonesia, Thai



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



Solar PV System at Salt Factory, PCKK, Kenya



Waste to Energy Plant, JFE engineering, Myanmar



High efficient refrigerator, Mayekawa MFG, Indonesia



Regenerative Burners in industries, Toyotsu Machinery, Indonesia



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

Progress of the JCM in each partner country as of June 26 2017

Partner countries	Start from	No. of JC	Registered projects	Approved methodologies	Number of Credit issuance	Project Pipeline (FY2013-2017)
Mongolia	Jan 2013	4	4	3	2	6
Bangladesh	Mar 2013	3		1		6
Ethiopia	May 2013	3		3		2
Kenya	Jun 2013	3		3		3
Maldives	Jun 2013	2		1		3
Viet Nam	Jul 2013	5	4	6		20
Lao PDR	Aug 2013	3	1	1		4
Indonesia	Aug 2013	6	7	12	2	29
Costa Rica	Dec 2013	2		1		2
Palau	Apr 2014	4	3	1	1	3
Cambodia	Apr 2014	3		2		5
Mexico	Jul 2014	2				4
Saudi Arabia	May 2015	2				1
Chile	May 2015	1				2
Myanmar	Sep 2015	1				5
Thailand	Nov 2015	3	1	6		23
Philippines	Jan 2017					4
Total	17	47	20	40	5	122

JCM Credits Issued

Partner country	Project title	Issuance Date	Amount (t-CO2) (Partner Country)	Amount (t-CO2) Japan)
Indonesia	Project of Introducing High Efficiency Refrigerator	2016/5/12	3	8
Indonesia	Project of Introducing High Efficiency Refrigerator	2016/5/12	6	23
Mongolia	Installation of high-efficiency Heat Only Boilers in 118th School of Ulaanbaatar City Project	2016/9/30	10	40
Mongolia	Centralization of heat supply system by installation of high-efficiency Heat Only Boilers in Bornuur soum Project	2016/9/30	22	85
Palau	Small scale solar power plants for commercial facilities in island states	2016/12/22	74	222
			115	378

JCM Financing programme by MOEJ (FY2013~2017) as of September 11, 2017

Thailand: 23 projects

- Energy Saving at Convenience Store
- Upgrading Air-saving Loom
- Co-Generation in Motorcycle Factory
- Air Conditioning System & Chiller
- Ion Exchange Membrane Electrolyzer
- Chilled Water Supply System
- LED Lighting to Sales Stores
- 12MW Waste Heat Recovery in Cement Plant
- Co-generation System
- Refrigerator and Evaporator
- 1.5MW Solar PV and EMS in Paint Factory
- 3.4MW Solar PV
- Heat Recovery Heat Pump
- 5MW Floating Solar PV
- 27MW Solar PV
- Boiler System in Rubber Belt Plant
- Air-conditioning Control System
- Biomass Co-generation System
- Energy Saving Equipment in Port
- 1.0MW Solar PV on Factory Rooftop*
- Centrifugal Chiller & Compressor
- Centrifugal Chiller in Tire Factory
- Refrigeration System

Bangladesh: 6 projects

- Centrifugal Chiller
- Loom at Weaving Factory
- 320kW PV-diesel Hybrid System
- 50MW Solar PV Power Plant
- Centrifugal Chiller
- Air-conditioning system

Saudi Arabia: 1 projects

- Electrolyzer in Chlorine Production Plant

Ethiopia: 1 projects

- Biomass CHP Plant

Kenya: 2 projects

- 6MW Hydropower Generation
- 1MW Solar PV at Salt Factory

Myanmar: 5 projects

- 700kW Waste to Energy Plant
- Brewing Systems to Brewery Factory
- Once-through Boiler in Instant Noodle Factory
- 1.8MW Rice Husk Power Generation
- Refrigeration System in Logistics Center

Maldives: 2 projects

- 190kW Solar Power on School Rooftop
- Smart Micro-Grid System

Mongolia: 5 projects

- Heat Only Boiler (HOB)**
- 2.1MW Solar PV in Farm*
- 10MW Solar PV*
- 8.3MW Solar PV in Farm
- 15MW Solar PV

Viet Nam: 16 projects

- Digital Tachographs*
- Air-conditioning in Hotel
- Container Formation Facility
- Amorphous transformers 2
- Electricity Kiln
- High Efficiency Water Pumps
- Energy saving Equipment in Lens Factory
- Amorphous transformers 3
- Energy Saving Equipment in Wire Production Factory
- Amorphous transformers 4
- Energy Saving Equipment in Brewery Factory
- High Efficiency Chiller
- Amorphous transformers*
- Air-conditioning in Lens Factory
- 320kW Solar PV in Shopping Mall
- Air-conditioning Control System

Laos: 3 projects

- REDD+ through controlling slush-and-burn
- Amorphous transformers
- 14MW Floating Solar PV

Mexico: 4 projects

- 4.8MW Power Generation with Methane Gas Recovery System
- Once-through Boiler and Fuel Switching
- 64MW Wind Farm
- 20MW Solar PV

Cambodia: 5 projects

- LED Street Lighting
- Solar PV & Centrifugal Chiller
- Inverters for Distribution Pumps
- 200kW Solar PV at International School
- 800kW Solar PV at International School

Palau: 3 projects

- 370kW Solar PV for Commercial Facilities*
- 150kW Solar PV for School*
- 440kW Solar PV for Commercial Facilities II*

Costa Rica: 2 projects

- 5MW Solar PV
- Chiller and Heat Recovery System

Phillippines: 4 projects

- 15MW Hydro Power Plant
- 4MW Hydro Power Plant
- 1.53MW Rooftop Solar PV
- 1MW Rooftop Solar PV

Chile: 2 projects

- 1MW Rooftop Solar PV
- 4.6MW Solar PV

Indonesia: 26 projects

- Centrifugal Chiller at Textile Factory*
- Energy Saving at Convenience Store*
- Refrigerants to Cold Chain Industry**
- Double Bundle-type Heat Pump*
- Centrifugal Chiller at Textile Factory 2*
- 30MW Waste Heat Recovery in Cement Industry
- 20kW Solar Power Hybrid System
- Regenerative Burners
- Centrifugal Chiller at Textile Factory 3*
- Old Corrugated Cartons Process
- Upgrading to Air-saving Loom
- Centrifugal Chiller in Shopping Mall
- Smart LED Street Lighting System
- Once-through Boiler System in Film Factory
- Gas Co-generation System
- Once-through Boiler in Golf Ball Factory
- 1.6MW Solar PV in Jakabaring Sport City
- REDD+ through controlling slush-and burn
- 10MW Hydro Power Plant
- Looms in Weaving Mill
- LED Lighting to Sales Stores
- Industrial Wastewater Treatment System
- 0.5MW Solar PV
- Gas Co-generation system
- 1MW Solar PV
- Air-conditioning utility system in Airport

- Model Project in FY 2013 (7 projects in 3 countries)
- Model Project in FY 2014 (12 projects in 5 countries)
- ADB Project in FY 2014 (1 project in 1 country)
- Model Project in FY 2015 (33 projects in 10 countries)
- Model Project in FY 2016 (37 projects in 10 countries)
- REDD+ Model Project (2 projects in 2 countries)
- Model Project in FY 2017 (18 projects in 8 countries)

* Other 1 project in Malaysia

Total 110 projects in 17 partner countries

Underlined projects have started operation (47 projects, including 4 partially started projects)
Projects with * have been registered as JCM projects (17 projects)

JCM Financing Programme by MOEJ (FY2013-2017)

Total of 110 projects in 17 partner countries

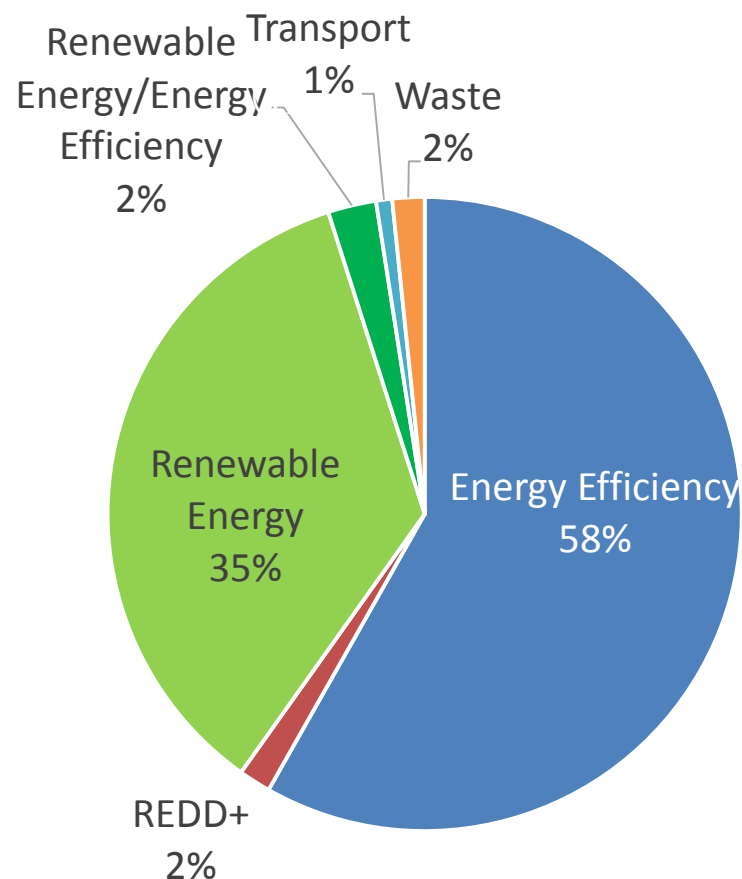
Renewable Energy
Solar
Micro hydro
Biomass
Wind

Renewable Energy/Energy Efficiency
Co-generation System
PV and Refrigerating
PV and Production line

Transport
Digital Tachographs

Waste
Waste to Energy

REDD+
Controlling Slush and burn



Energy efficiency
Looms
Equipment
Boiler
Burner
Electrolysis tank
LED
Production line
Optimization
Pump
Water heater
Air-conditioning
Refrigerating
Transmission/Transformer
LED Streetlights
Smart Grid

As of June 26, 2017

Japan's INDC (Excerpt)

Japan's INDC

- Japan's INDC towards post-2020 GHG emission reductions is at the level of a reduction of 26.0% by fiscal year (FY) 2030 compared to FY 2013 (25.4% reduction compared to FY 2005) (approximately 1.042 billion t-CO₂eq. as 2030 emissions), ensuring consistency with its energy mix, set as a feasible reduction target by bottom-up calculation with concrete policies, measures and individual technologies taking into adequate consideration, *inter alia*, technological and cost constraints, and set based on the amount of domestic emission reductions and removals assumed to be obtained. .

Information to facilitate clarity, transparency and understanding

- The JCM is not included as a basis of the bottom-up calculation of Japan's emission reduction target, but the amount of emission reductions and removals acquired by Japan under the JCM will be appropriately counted as Japan's reduction.

Reference information

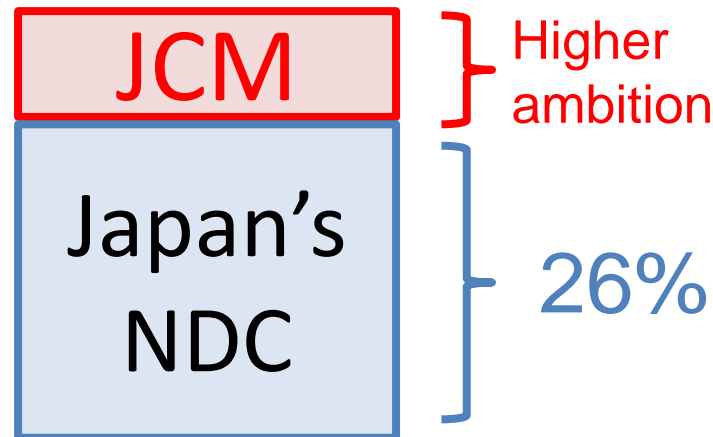
GHG emissions and removals

JCM and other international contributions

- Japan establishes and implements the JCM in order both to appropriately evaluate contributions from Japan to GHG emission reductions or removals in a quantitative manner achieved through the diffusion of low carbon technologies, products, systems, services, and infrastructure as well as implementation of mitigation actions in developing countries, and to use them to achieve Japan's emission reduction target.
- Apart from contributions achieved through private-sector based projects, accumulated emission reductions or removals by FY 2030 through governmental JCM programs to be undertaken within the government's annual budget are estimated to be ranging from 50 to 100 million t-CO₂

Japan's INDC and JCM

- As stated in Japan's INDC, the 26% reduction target is set based on the amount of domestic emission reductions and removals assumed to be obtained. It is therefore anticipated that Japan will achieve the target through domestic emission reductions and removals without using international reductions and removals (credits).
- The amount of emission reductions and removals acquired by Japan under the JCM will be appropriately counted as Japan's reduction.



JCM's Contribution to NDC

- JCM's conservative emission reduction calculation (reference emissions below BaU emissions) will ensure a net decrease and/or avoidance of GHG emissions.
- This part of emission reductions will automatically contribute to the achievement of NDC.

