



Cooperation on Climate Change with Emerging Countries

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- 1. Implementation of Article 6 following COP26**
- 2. Support for Decarbonisation Transition in Indo-Pacific**

Implementation of Article 6 following COP26

Implementation of Article 6 following COP26 - Ministry of the Environment

(26th November, 2021)



- At COP26, the **Rulebook for the Article 6 (market mechanism) of the Paris Agreement was concluded**, paving the way for utilizing market mechanisms to reduce global emissions.
- Leading Article 6 negotiations and being a frontrunner with the experience of the Joint Crediting Mechanism (JCM), Japan will take the following three actions to contribute to global decarbonization.

< 3 Actions >



1. **Expand JCM partner countries** and strengthen project development and implementation in collaboration with international organizations;
2. Scale up the JCM by **mobilizing further private finance**; and
3. Contribute to the **global operationalization of market mechanisms**.

1. Expanding JCM partner countries and strengthen cooperation and implementation efforts with international organizations



- Accelerate negotiations to expand the number of JCM partner countries, mainly in the Indo-Pacific region

…To increase the number of partner countries from the current 17 countries mainly in Southeast Asia, accelerate negotiations with countries in the Indo-Pacific region, including Pacific island countries and South Asia. In FY2021, Workshop for JCM utilization by PALM9 (the Ninth Pacific Islands Leaders Meeting) Joint Action Plan was successfully held.



- Strengthen the JCM implementation in Africa, ahead of the COP27 to be held in Egypt

…In light of COP27 in Egypt scheduled to be held in Africa in 2022, the implementation of the JCM in Africa will be strengthened.



United Nations
Framework Convention on
Climate Change

- Strengthen coordinated activities and implementation efforts with the Asian Development Bank (ADB), the UN Industrial Development Organization (UNIDO), the World Bank, and other partners

…Strengthening the implementation of the JCM in the Indo-Pacific region with ADB, in the African region with UNIDO, and globally with World Bank to ensure understanding around Article 6 and its implementation. The ADB established a JCM Fund to support introduction of decarbonization technologies.

2. Expanding private finance for the JCM expansion



- Based on the growing interest of the private sector toward international carbon markets led by the JCM, engaging in discussions with METI and other related ministries on the development of **JCM projects expansion by private finance**.
- … Japan's new Plan for Global Warming Countermeasures (NDC) aims to achieve a cumulative CO2 reduction/sequestration of 100 million tons by JCM.
- … Aiming for the expansion of the JCM, further strengthen and expand the public-private partnership toward projects leading to GHG emission reductions and a sustainable development, prioritizing issues and promote the formation of JCM projects by private finance JCM, in addition to increasing current governmental financial support for JCM implementation.
- … Examining issues from a practical point of view include current JCM scheme, sharing roles between the government and the private sector, along with the increasing participation of businesses in the JCM, for compiling future guidelines. Further, it will be arranged the coordination between partner countries in the JCM Joint Committee.

3. Contribution for the global operationalization of market mechanisms



- Supporting capacity building for related officials and project operators with **UNFCCC's Regional Collaboration Centre (RCC) and the World Bank.**
- Supporting the development of the Article 6 framework, reporting of the implementation of Article 6, providing technical assistance to calculate emission reductions from implemented projects.

… Implementing the following supporting initiatives, harnessing Japan's experience and networks gained from Japan's support to the Asia-Pacific RCC

- Workshops for Article 6 project host country governments and businesses to raise understanding of Article 6 (implementation rules, corresponding adjustment etc.).
- Supporting establish a project approving system in host countries to transfer the Kyoto Protocol's Clean Development Mechanism (CDM) to Article 6.4 mechanism of the Paris Agreement.
- Supporting to operators and host governments in developing methodologies applicable to the Article 6.4 mechanism.
- Utilizing the RCC networks to share information and experiences with Latin America, Africa, and the Middle East. Etc.



IGES

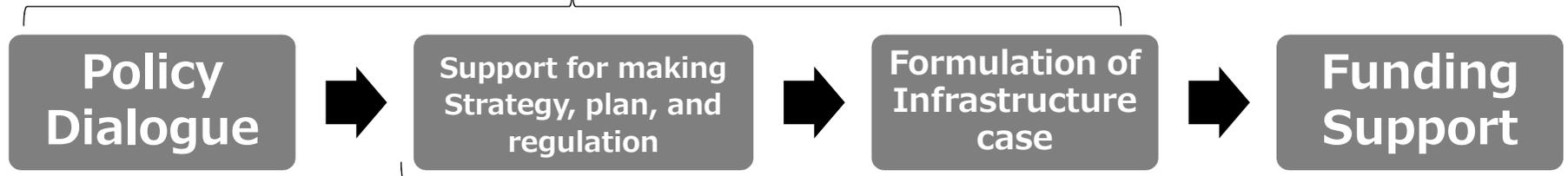
Regional Collaboration Centre – Bangkok
Promoting Action Against Climate Change

2. Support for Decarbonisation Transition in Indo-Pacific

Environmental Infrastructure Promotion Strategy by Ministry of the Environment Japan

- Contribution for Carbon Neutrality and SDGs including environment became a main topic in the Infrastructure System Overseas Promotion Strategy
- MoEJ promotes their **supports for decarbonization** transition in Indo-Pacific **by environmental infrastructure** in the public private relationship

Promoting city to city cooperation in and out of Japan,
Transferring experience and know-how to abroad



Developing a business environment in public private platform
(Japan Platform for Redesign; sustainable Infrastructure)

Energy saving / renewable energy infrastructure	Renewable hydrogen	Adaptation	Waste to Energy plant	Johkasou
<p>Installed 5600 LED street lights in Cambodia</p>	<p>Produce and storage renewable hydrogen in a third country, and transport to supply and use in island countries.</p>	<p>Developed Climate Change Risk assessment methodology for Coastal Airports Operations.</p>	<p>Installed first WtE plant in Myanmar (2017)</p>	<p>Disseminated in China, Viet Nam etc. in need to treat household wastewater.</p>

Overview of ASEAN-Japan Climate Change Action Agenda2.0



- At the Japan-ASEAN Summit Meeting in 2021, Japan put forward the “ASEAN-Japan Climate Change Action Agenda 2.0”, upgrading 1.0 in 2018 .
- Taking into account **the three pillars on transparency, mitigation, and adaptation**, the government of Japan, as a whole, has significantly expanded and strengthened its efforts towards the transition to decarbonization.

Agenda2.0(2021)

Black; Continuation menu from 1.0
Red; New cooperation menu
Blue; Menu already shown in AMS all

1. Transparency

MRV, Inventory, Satellite data(GHG, land), SOER6, workshop on CF and LCA, risk disclosure of financial institution

2. Mitigation

(1) Long term Strategy and Policy Making

Scenario formulation, Policy dialogue, Platform for Redesign 2020

(2) Decarbonization of Each Sector

Fluorocarbons, Renewable Energy, Waste-recycle, Water-Air(co-benefit), Green Logistics(ship, port, airport, transport)

(3) Dissemination of Decarbonization Technologies through the JCM and related schemes

JCM(promote and scale-up by private finance), Co-Innovation (demonstration), JPRSI (public-private platform), Grant assistance for NGO project, Innovative technology(CCUS, clean Hydrogen), green investment

(4) Expansion of Zero Carbon Cities

City-to-City Collaboration, International forum, Smart City

3. Adaptation

AP-PLAT, Disaster Prevention(Mapping exercise, dam upgrading), Meteorological satellite data

AIM (Asia-Pacific Integrated Model)

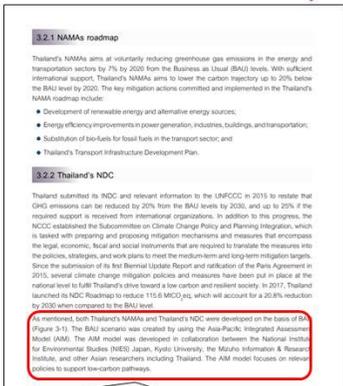


- The Asia-Pacific Integrated Model (AIM), a large-scale **computer simulation model**, supports the **identifying GHG emission scenarios** for developing plans and setting mitigation targets based on robust scientific foundations.
- The AIM model has been used in making the Japan's Long-term Strategy under the Paris Agreement, as well as LTS of several other countries with the support from MoEJ.

Thailand (CN 2065-2070)

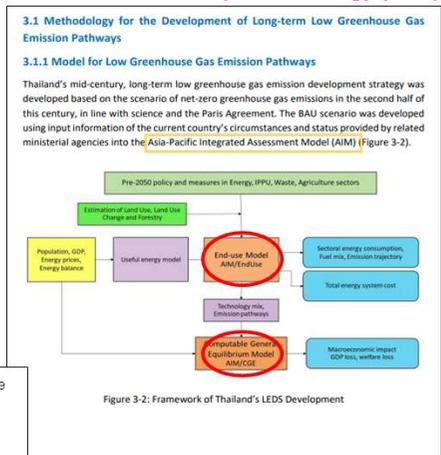
The AIM model was used in the development of the BAU scenario.

Third National Communication (2018)



As mentioned, both Thailand's NAMAs and Thailand's NDC were developed on the basis of BAU (Figure 3-1). The BAU scenario was created by using the Asia-Pacific Integrated Assessment Model (AIM). The AIM model was developed in collaboration between the National Institute for Environmental Studies (NIES), Japan, Kyoto University, the Mizuho Information & Research Institute, and other Asian researchers including Thailand. The AIM model focuses on relevant policies to support low-carbon pathways.

Mid-century, Long-term Low Greenhouse Gas Emission Development Strategy (2021)



Indonesia (CN 2060)

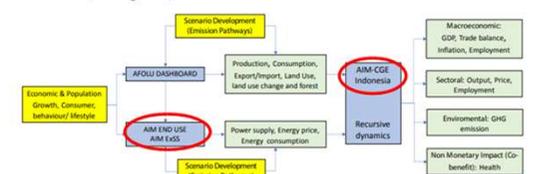
The AIM model is used in the analysis of emission pathways in the energy sector.

Long-term strategy for Low Carbon and Climate Resilience 2050 (2021)



4.1.1. Models for Mitigation Pathways

Indonesia used a set of models in developing the emission pathways with two stages of analysis. In the first stage, separate models were developed for modelling agriculture, forestry and other land uses (AFOLU), and energy. The AFOLU sector used AFOLU Dashboard (a spreadsheet model), meanwhile energy sector used AIM-EndUse and the AIM-ExSS (Extended Snapshot). In both models, economic and population growth are the key drivers for changes in food and energy demand. In the second stage, the economic and economic impact of both AFOLU and energy sector mitigation are analysed by utilizing the Asia Pacific Integrated Model/Computable General Equilibrium (AIM/CGE)-Indonesia (see Figure 3).



International Partnership to Strengthen Transparency of GHG emission from corporation



- Although the momentum for corporate information disclosure and strengthened transparency is increasing, many countries struggle to confirm amount of emission on a facility-by-facility basis.
- Leveraging Japan's experience of corporate-level reporting policy, Japan supports establishing countries to develop foundation for improving transparency.
- Japan is working on bilateral and regional cooperation in ASEAN (capacity building, structural improvement, guideline development)
- To realize global decarbonization, Japan aims to contribute to establishment and implementation of transparency framework on a basis of what we develop with ASEAN countries.

(1) Bilateral cooperation

- Based on agreement with partner countries, Japan implements initiatives of individual sectors in accordance with the circumstances and needs of each country.
- From 2018 onwards, Japan has implemented cooperation with the following three countries.

Indonesia : Building platform of emissions data

Philippines : Holding seminars on enhancing MRV of industrial process and other sectors.

Vietnam : Visualizing reduction potential of a building sector in Ho-Chi-Minh City.

(2) Cooperation in ASEAN Region

- Japan is making proposal to JAIF (Japan-ASEAN Integration Fund) and implementing projects that benefits ASEAN countries.

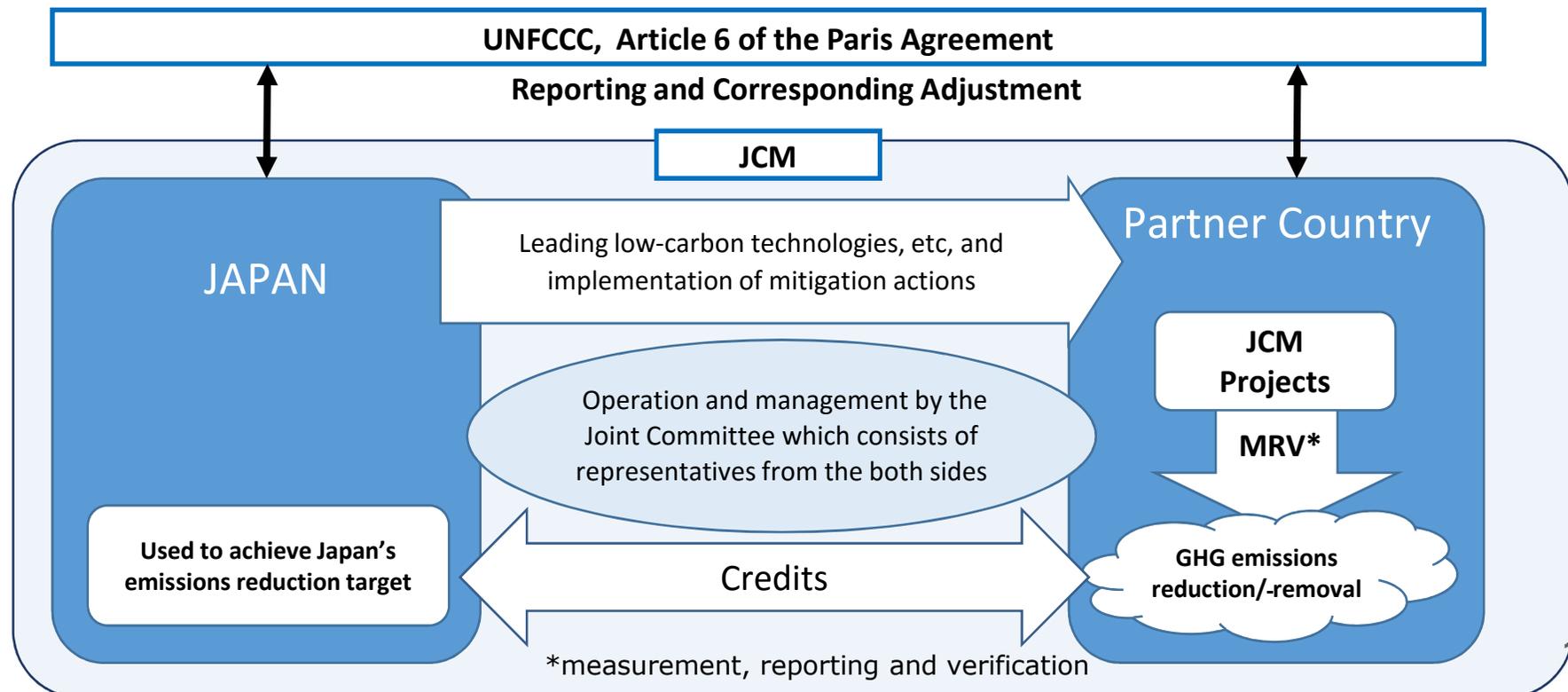
Strengthening and raising level of transparency throughout the ASEAN region, create guideline that can be used at factory and facility levels, especially in countries that are behind in this area.

Outline of the guideline is scheduled to be formulated this year.

Summary of JCM (Joint Crediting Mechanism)



- Facilitating diffusion of leading decarbonizing technologies and infrastructure as well as implementation of mitigation actions, and contributing to sustainable development of developing countries.
- Appropriately evaluating contributions from Japan to GHG emissions reduction or removal in a quantitative manner and use them to achieve Japan's emissions reduction target.
- Contributing to the ultimate objective of the UNFCCC and use of market mechanisms, including the JCM, is articulated under Article 6.
- In total 205 projects in 17 partner countries are developed by MoEJ JCM finance.



JCM Partner Countries



- Japan has held consultations for the JCM with developing countries since 2011 and 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
(Ulaanbaatar)



Bangladesh
Mar. 19, 2013
(Dhaka)



Ethiopia
May 27, 2013
(Addis Ababa)



Kenya
Jun. 12, 2013
(Nairobi)



Maldives
Jun. 29, 2013
(Okinawa)



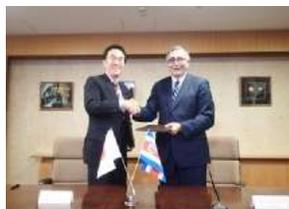
Viet Nam
Jul. 2, 2013
(Hanoi)



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



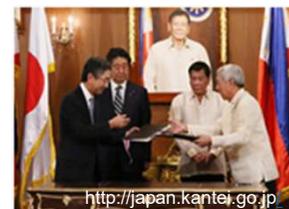
Chile
May 26, 2015
(Santiago)



Myanmar
Sep. 16, 2015
(Nay Pyi Taw)



Thailand
Nov. 19, 2015
(Tokyo)



Philippines
Jan. 12, 2017
(Manila)

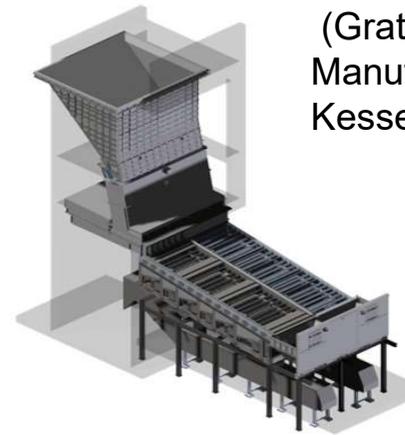
JCM Example① : Waste to Energy project in Bac Ninh Province

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)

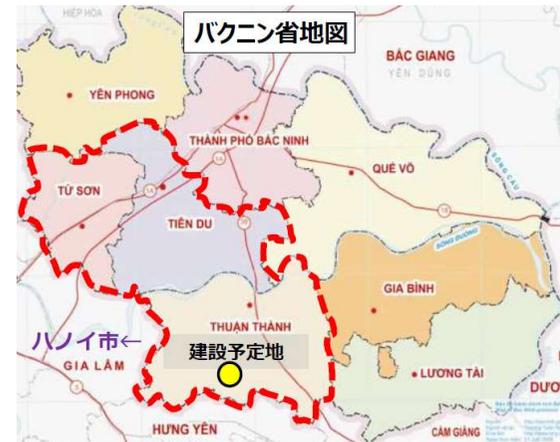
Expected GHG Emission Reductions

41,804tCO₂/year

Project Site



バクニン省
ハノイ市から約30km
人口：140万人超



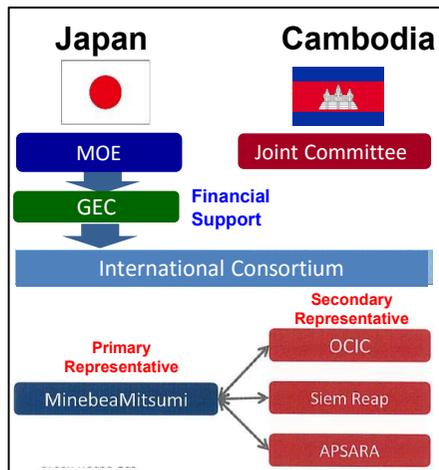
建設予定地

This covers 0.5 mil population

JCM Example② : Expansion into smart city environment from LED street light network in Cambodia



- ★70% energy saving is achieved by LED street light in emerging city and world heritage.
- ★Commenced joint study with local partners to build smart city environment by wireless network environment deployment.
- ★5,600 LED street lights installed in Cambodia in areas including Phnom Penh and Angkor Wat (total installation area is 120km²).



APSARA(Angkor Wat)



OCIC Chroy Changvar(Phnom Penh)



Consortium	No. of Introduction
APSARA	1,670
Siem Reap	1,948



Consortium	No. of Introduction
OCIC	2,054

Actual number installed in Cambodia



Siem Reap Provincial Hall (SRPH)



OCIC Diamond Island

LED street light management system



70% energy saving achieved

Deploying various IOT sensors and wireless networking environments will enable the Smart City environmental infrastructure.



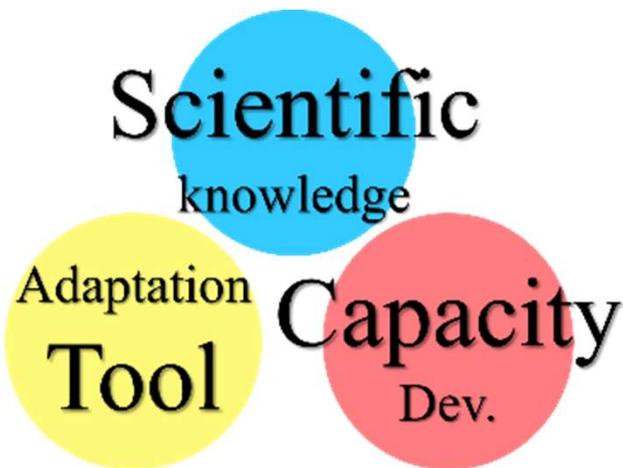
The total footprint of the LED street light is 1.5 times that of Manhattan Island (120km²)

December 2016
Received Minister of the Environment Award in Cambodia

Asia-Pacific Climate Change Adaptation Platform



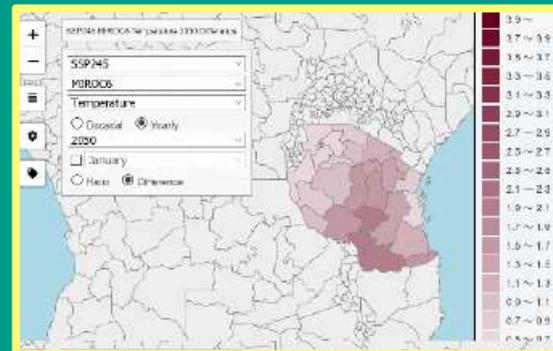
- Provide scientific knowledge and tools through the “Asia-Pacific Climate Change Adaptation Platform (AP- PLAT)” so as to foster improvement of the policy decision capacity on climate change, to thereby contribute to realization of a local community which is resilient to climate change.



Partner Organization
<https://ap-plat.nies.go.jp>

- Japan launched AP-PLAT on G20, 2019.
- AP-PLAT has 3 pillars and 2 delivery ways.
- MoEJ and National Institute of Environmental Studies (NIES) are working to improve the contents of tools and training materials.

ClimoCast Statistic Downscale Service



ISO 14090-2 E-Learning



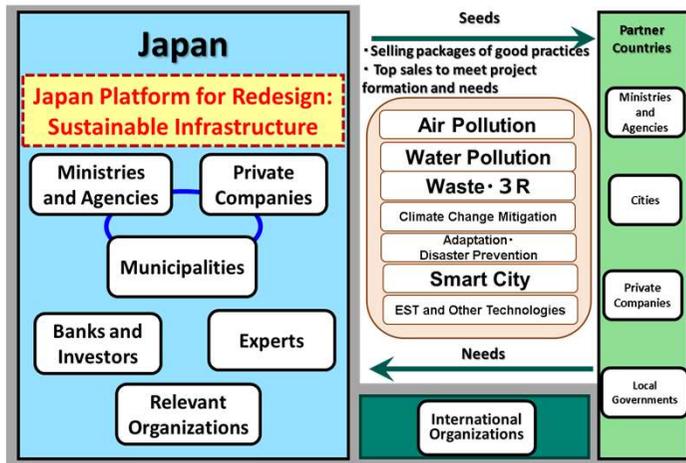
Japan Platform for Redesign: Sustainable Infrastructure(JPRSI)



■ JPRSI aims to provide a total solution to overall environmental infrastructures using a Public Private Partnership platform.

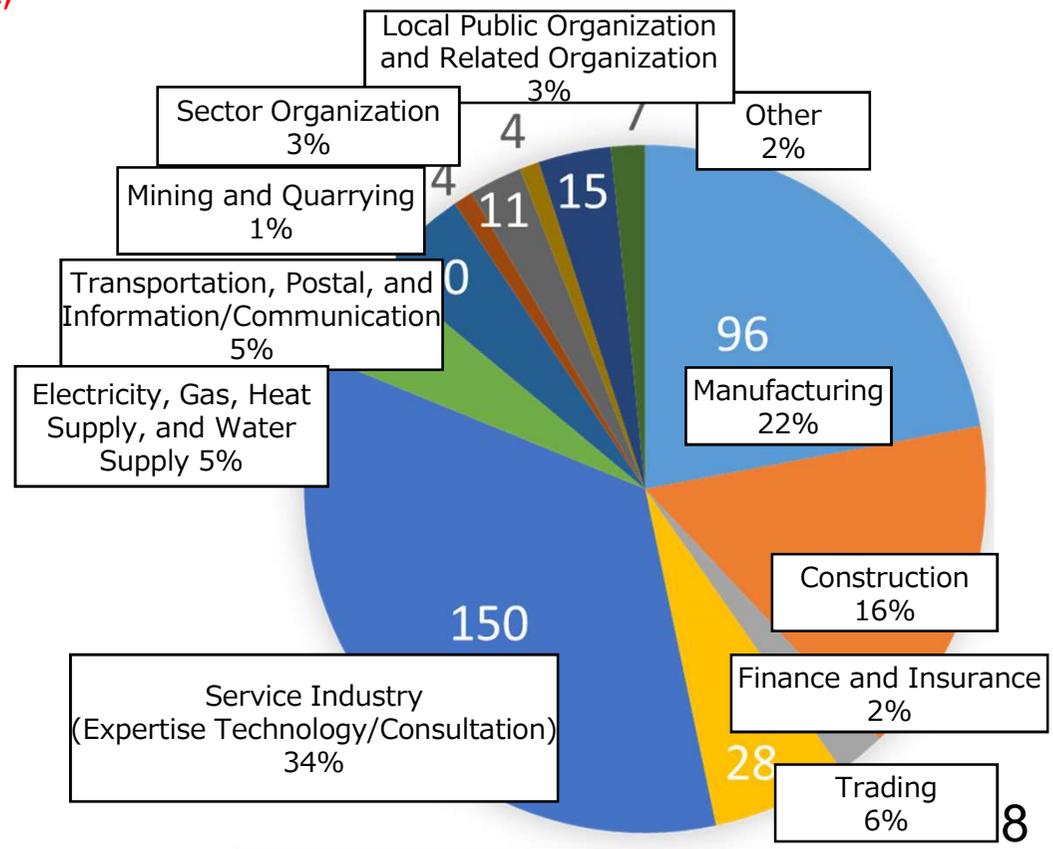
Overview

- Established : September 8, 2020
- Relevant Organizations: **JICA, JOIN, JASCA, J-CODE, JAIDA, JBIC, JETRO, and NEXI**
- Purpose: Build a network involving joined companies and organizations, and create a self-driven project, which is operated by private companies to meet with cross-sectional needs of a partner country.



Number of Entities Joined

- **435** entities have joined the platform (as of December 2021).



Environment Weeks with ASEAN Member Countries and Japan



- MoEJ co-hosts Environmental Week since 2018 with ASEAN member countries.
- “Environment Week” comprises (1) G to G Environmental **Policy Dialogue** between MoEJ and the environmental authority of host country and public programs, (2) **Seminars** and (3) **exhibitions and business match-making** on environmental solutions

2018: Myanmar-Japan Env. Week

- C/P: Ministry of Natural Resources and Environment (MONREC)
- Japan-Myanmar Env. Policy Dialogue organized
- Seminar attracted 190 participants



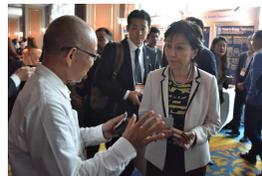
2019: 1st Vietnam-Japan Env. Week

- C/P: Ministry of Natural Resources and Environment (MONRE)
- Policy Dialogue organized with the presence of Vice-Ministers
- Seminar attracted approx. 350 participants.
- Environment technologies introduced and business matchings.



2020: Thailand-Japan Env. Week

- C/P: Ministry of Natural Resources and Environment (MONRE)
- Seminar attracted approx. 300 participants.
- 27 companies participated exhibition.
- Five Joint Seminars organized on (1) Marine Plastics, (2) Waste Management, (3) Climate Change Adaptation, (4) Circular Economy and Innovation, (5) Air Pollution.



2021: 2nd Vietnam-Japan Env. Week

- Policy Dialogue**
 - Vietnam-Japan Env. Policy Dialogue was held between Min. Tran Hong Ha (MONRE) and Min. Tsuyohi Yamaguchi (MOEJ).
 - Both signed the “Joint Cooperation Plan (JCP) on Climate Change toward Carbon Neutrality by 2050”, to achieve 2050 Carbon Neutral in Vietnam.
 - Discussed the cooperation on climate change, marine plastic litter, waste management, water, and air pollution.
- Environment Online Seminar**
 - Participated online the project launching ceremony of Waste to Energy facility in Bac Ninh by V-Min. Ooka (MOEJ) and V-Min. Nhân (MONRE).
 - Seminar focused on topics including Climate change, circular economy, JCM, water quality and fluorocarbon management, attracting approx. 600 audience.
- Exhibition and Business-match**
 - Online exhibition and business-matching attracted exhibitors and participants from various sectors, and promoting public private partnership.



2021: Indonesia-Japan Env. Week

- C/P: Ministry of Environment and Forestry, Indonesia (KLHK)
- Discussed measures on climate change mitigation, marine plastics and mercury.
- Topic-specific seminar attracted more than approx. 800 audience in 2 days.
- Online exhibition and business-matching attracted approx. 2,000 participants.

