

Japan's Assistance Initiatives to Address Climate Change 2017

1. Vision

With the early entry into force of the Paris Agreement in November last year, the world is now moving toward its implementation.

In order to achieve the 2-degree goal (1.5-degree pursued) of the Paris Agreement and to establish a decarbonised society with balancing anthropogenic emissions by sources and removals by sinks of greenhouse gases (GHG), in the second half of this century, we must diminish the GHG emission extensively worldwide. Such efforts will also reduce vulnerability deriving from climate change and contribute to establishing a resilient society. In addition, it is essential to pursue the Sustainable Development Goals (SDGs) through economic growth, increased employment, infrastructure development and improved access to water, food and energy.

In order to transform the world into such state, innovation of technology and social and economic systems are indispensable. The immediate action will enable developing countries to address their infrastructure needs and avoid lock-in effect.

Japan has been steadily applying domestic measures toward achieving the goal of reducing GHG emissions by 26% by FY2030. Japan also takes the initiative so that major GHG emitters would strive to reduce emissions in accordance with their capabilities under a fair and effective international framework in which all major emitters participate, and Japan aims to achieve the 80% reduction of GHG emissions by 2050, as a long-term target while pursuing the global warming countermeasures and economic growth at the same time, based on the Paris Agreement.

In addition, in order to accelerate climate change measures and sustainable development in developing countries, Japan will collaborate with them by utilizing its advanced technology and know-how, create "co-innovation" reflecting on their challenges and needs, and contribute to global reduction of the GHG emissions. Japan will incorporate the needs of each country and the seeds of technology and know-how acquired by Japanese private companies and local governments, and promote creation of specific projects to find solutions that leads to co-innovation among Japan and developing countries. Moreover, further opportunities of co-innovation should be enhanced by visualizing those needs and seeds. It is important to develop institutions and capacities in developing countries and promote the engagement of private companies and local governments for implementing

climate change activities. For this purpose, Japan will establish “Partnership to Strengthen Transparency for Co-Innovation (PaSTI) ”.

For achieving this vision, Japan will coordinate closely within its relevant ministries, organizations, companies, and local governments, and continue to enhance collaboration with international organizations and international initiatives such as the NDC Partnership.

The following chapters introduce our specific programs related to adaptation and mitigation and PaSTI for realizing this vision.

2. Specific programs related to adaptation

(1) Science-based development of adaptation plans and strategies

Risk evaluations based upon scientific knowledge and their reflection upon the adaptation plans are essential for implementing adequate adaptation plans. Implementing adaptation measures also requires innovation of policy processes in both developed and developing countries. Through providing latest technology and know-how obtained by its industry-government-academia partnership, Japan will support consolidation and dissemination of information on climate risk, establishment of risk evaluation methods, and development of national adaptation plans in developing countries.

More specifically, Japan will support impact assessment on climate change and development of national adaptation plans through bilateral collaboration. For example, Japan has promoted the establishment of the long-term risk evaluation methods on storm tides and waves caused by cyclones in small island developing states (SIDS) including the Republic of Fiji, the Republic of Vanuatu, and Samoa. Japan has supported to develop the system of Analysis and Mapping of Impacts under Climate Change for Adaptation and Food security (AMICAF)”. In addition, Japan will promote human resource developments in the field of climate change by supporting construction and institutional development of the Pacific Climate Change Center in cooperation with the Secretariat of the Pacific Regional Environment Programme (SPREP), and strengthening the Climate Change International Technical and Training Center (CITC) in Thailand.

Japan will cooperate with developing countries in the Asia-Pacific region and the

Asian Development Bank (ADB) to establish “Asia-Pacific Climate Change Adaptation Platform (AP-PLAT),” as the information base on climate risk and adaptation measures. Japan will also collaborate with the Global Centre of Excellence on Climate Adaptation (GCECA) to contribute to developing global bases for information on climate risk. As the foundation of these programs, Japan will also continue promoting research and development to upgrade climate models and establishment of global environment information platforms.

In order to promote international discussion on climate change and security, Japan will promote the findings of its recent report, “Analysis and Proposal of Foreign Policies Regarding the Impact of Climate Change on Fragility in the Asia-Pacific Region – With focus on natural disasters in the Region –”, published in September 2017, in various diplomatic fields.

Japan will widely share these programs and the knowledge and lessons acquired through them by using international networks, including the Asia-Pacific Adaptation Network (APAN), the Global Adaptation Network (GAN) and the Global Earth Observation System of Systems (GEOSS) Asia-Pacific Symposium, and enhance further cooperation with each country.

«Events during COP23»

- Climate Fragility Risks in the Asia-Pacific Region – identifying risks and ways to move forward (November 6 at Japan Pavilion)
- Event to establish the Global Centre of Excellence on Climate Adaptation (GCECA) (November 9 at UNFCCC official side-event)
- High-level meeting of the Global Centre of Excellence on Climate Adaptation (GCECA) (November 14 at Bula-zone)
- Building up scientific knowledge to enhance the effectiveness and efficiency of NAP and its action (November 15 at Japan Pavilion)
- The private sector and adaptation: Role of GAN (November 15 at Japan Pavilion)

(2) Implementation of adaptation projects

Through collaboration with Japanese cooperation organizations or governmental financial institutions including Japan International Cooperation Agency (JICA) and Japan Bank of International Cooperation (JBIC) and international development and financial institutions, Japan will support adaptation projects based on priorities and needs of each country, while diversifying the financial resources, including

mobilization of private finance.

In order to enhance the resilience to climate change, Japan will support the infrastructure development, including the fields of irrigation, waterworks, and disaster risk reduction. Japan will also support the development and dissemination of drought-resistant and short-duration rice varieties for sustainable and stable food supply, provide the support to agricultural insurance for smallholder farmers vulnerable to climate change. Japan's support extends to ecosystem-based adaptation for coastal protection by utilizing ecosystem such as coral reefs and mangroves. Being mindful of the situation among SIDS, which are vulnerable to climate change, Japan will carry out comprehensive support focused on disaster risk reduction by integrating the provision of necessary equipment, such as meteorological observation and disaster early warning equipment, and technical cooperation.

Japan will also assist the capacity building to improve access to funds such as Green Climate Fund (GCF), Least Developed Countries Fund (LDCF) and Special Climate Change Fund (SCCF) by providing study and training sessions.

«Events during COP23»

- Climate Fragility Risks in the Asia-Pacific Region – identifying risks and ways to move forward (November 6 at Japan Pavilion)
- Making robust investment decisions under deep uncertainty: a new approach to sustainable development planning in uncertain world (November 8 at Japan Pavilion)
- Aid for adaptation: Assessing effectiveness (November 8 at Japan Pavilion)
- Mangroves in the Tropics: Realizing their Potential for Climate Change Mitigation and Adaptation (November 13 at UNFCCC official side-event)
- High-level roundtable sponsored by FAO: Food security, nutrition, fisheries in a changing climate in small island developing states (November 14 at Bula-zone)

(3) Promotion of adaptation actions by non-state stakeholders

Private sector and local governments play important roles to respond to diverse needs of each country and implement adequate adaptation actions according to the local circumstances.

The Japanese government will enhance engagement with private sector and promote adaptation business through matching of the needs of developing countries and its

advanced technology and service by private companies in Japan, including disaster risk reduction infrastructure technology, early-warning technology and weather index insurance utilizing rainfall data estimated by satellites. Japan will promote adaptation actions of local governments in developing countries by supporting impact assessment and development of local adaptation plans, while involving local researchers, local governments, and communities.

«Events during COP23»

- Climate Change Adaptation and Agricultural Insurance (November 8 at Japan Pavilion)
- The Private Sector in Action for Adaptation (November 15 at Japan Pavilion)
- The private sector and adaptation: Role of GAN(November 15 at Japan Pavilion)

3. Specific programs related to mitigation

(1) Capacity building on development, implementation, and progress management of NDC

The Paris Agreement requires each country to prepare and submit nationally determined contribution (NDC) as well as pursue domestic mitigation measures to achieve the emission reduction target presented in NDC. Under the enhanced transparency framework to promote effective implementation, each country needs to monitor and report the status of implementation of measures. Toward implementation of the Paris Agreement, the needs have been increasing for institutional development and the capacity building in developing countries.

Japan will support institutional and capacity development to prepare GHG emission inventory as the prerequisite of mitigation measures, develop concrete plans and measures as well as review their progress, and establish policies to achieve the target. This support will encompass a system for mandatory accounting, report and disclosure of GHG emissions and the mechanism for development of emission reduction plans by private entities and evaluation of those plans by governments through utilization of ISO. Japan will provide those supports by utilizing its experience and know-how and collaborating with JICA, National Institute for Environmental Studies (NIES) and international initiatives such as NDC Partnership. Japan will promote the active engagement of companies and local governments in developing countries for mitigation measures and provide incentives for their actions through

these programs.

In this regard, Japan will carry out some workshops and trainings to support the construction of the domestic systems to prepare GHG emission inventories and the improvement of its precision. Japan will also support submission, update and implementation of each country's NDC through development of the precise emission reduction scenario and specification of the programs and the technology necessary to achieve successful reduction by utilizing evaluation models. In order to promote improvement of transparency, Japan will contribute to the Capacity Building Initiative for Transparency (CBIT), and promote the effective utilization of CBIT by collaborating with the Global Environment Facility (GEF) in order to strengthen capacity of developing countries. Moreover, through continuous global monitoring by utilizing a series of GHG Observing Satellite "IBUKI" (GOSAT) and the development and dissemination of the monitoring methods by utilizing ICT, Japan will continue its scientific endeavour for measuring the amount of emissions of each country and securing the transparency of their reduction actions.

«Events during COP23»

- Cutting-edge Satellite Monitoring and Scientific Knowledge to contribute to the Paris Agreement: Focusing on the IPCC Guidelines for National Greenhouse Gas Inventories (November 7 at Japan Pavilion)
- Southeast Asian Dialogue: Domestic Effort and Practical Lessons to Perfect NDC Readiness (November 10 at Japan Pavilion)
- Recommendations to capacity building activities on the national GHG inventory in non-Annex I parties: Preparing for the Transparency Framework under the Paris Agreement (November 11 at Japan Pavilion)
- Real-Time Ground Water Table (GWT) Monitoring at tropical peatlands: Experiences from Indonesia (November 11 at Japan Pavilion)
- "Good Peatland Governance to Strengthen Economic, Social and Ecosystem Resilience" Indonesia (November 15 at UNFCCC official side-event)

(2) Innovation of low-carbon technology and promotion of its dissemination

In order to contribute to significant global emission reduction through innovation, based upon National Energy and Environment Strategy for Technical Innovation towards 2050 adopted in April 2016, Japan will promote the development of innovative technology with great reduction potential and impact in a long-term perspective. For example, Japan will promote research and development,

demonstration, and model projects regarding manufacturing, transporting/storing and utilizing energy carriers such as hydrogen, the future power electronics using gallium nitride (GaN), Carbon Capture and Storage (CCS), and Carbon Capture and Use (CCU). Japan will also accelerate innovation through “Innovation for Cool Earth Forum (ICEF)”, the global platform to promote discussions and cooperation among worldwide academic, industrial and governmental parties concerned. Furthermore, Japan will promote demonstration projects to create innovations for drastically reconstructing advanced low-carbon technology in accordance with specific characteristics of developing countries. Japan also will create co-innovation projects by incorporating the needs of developing countries and the seeds provided by Japanese industries, taking an initiative of dispatching business missions to developing countries, and accelerate collaboration of private companies and local governments on both sides. Japan will foster further innovation by sharing information on dissemination of innovative technology and its effectiveness.

Japan will promote the dissemination of advanced low-carbon technology with public-private partnership through Joint Crediting Mechanism (JCM), in which Japan has established partnerships with 17 partner countries and supported more than 100 projects. Japan will also support both the introduction of waste power generations as one of the environmental infrastructure and waste management system as a package. Japan will support the optimization of existing infrastructure and operation and maintenance (O&M) by private companies thorough utilizing Internet of Things (IoT), which contributes to emission reduction and the visualization of reduction effects. In addition, in order to implement large-scale projects and wider dissemination of low-carbon technology, Japan will enhance collaboration with public finance of, among others, JICA and JBIC, and will enhance capacities and carry out feasibility studies for project formation to improve the access to GCF. As the chair of the Global Research Alliance on Agricultural Greenhouse Gases (GRA), Japan will promote the improvement of low-carbon irrigation technology and its dissemination in developing countries. Regarding emission reduction of fluorocarbons, Japan will provide support based upon its knowledge and promote understanding of the importance of the programs implemented in developing countries.

«Events during COP23»

- The Joint Crediting Mechanism (JCM) contributions towards achievement of the NDCs (November 9 at Japan Pavilion)
- Seminar on Improving Access to Green Climate Fund: Japan’s efforts in introducing next generation project and innovative business model through Green Climate Fund- (November 7 at Japan Pavilion)

- Finding ways to achieve sustainable food production without growing greenhouse gas emissions: Activities of the GRA (November 13 at Japan Pavilion)
- Mitigation in Indonesia: Lesson Learnt from Implementation and Relevant Cooperation on Low Carbon Development and Joint Crediting Mechanism (November 14 at Japan Pavilion)
- Addressing Climate Change Issues through Innovation: Release Event of the Roadmap Developed by Innovation for Cool Earth Forum (ICEF) (November 14 at Japan Pavilion)
- JCM partner countries' meeting (November 15 at Japan Pavilion)
- Joint Side Event by Signatory Countries to the Ministerial Declaration on Carbon Markets (November 16 at Japan Pavilion)

(3) Promotion of mitigation actions taken by non-state actors

In order to enhance actions and innovation by cities and private sectors, Japan will implement cooperation projects and nurture mutual learning among cities in developing countries and Japan, and promote the private companies' investment in low-carbon technologies in developing countries.

Japan will provide technical support to prepare GHG emission inventories at the city level, develop master plans and institutions towards low-carbon cities in developing countries by utilizing experiences and know-how of Japanese local governments and the coordination among cities both in developing countries and Japan. To assist Japanese companies working on climate change programs, Japan will support development and implementation of corporate's target consistent with Paris 2-degree target (Science-Based Target, SBT) as well as their activities to contribute to global emission reduction based on industry's action plan towards a low-carbon society, and promote emission reduction in the global value chain of Japanese companies in addition to domestic emission reduction.

Moreover, Japan will collaborate with the alliances of private sector, including the Japan Climate Leaders Partnership (Japan-CLP), which reckons climate change measures as business chances, and back up programs led by private sectors. Japan will also promote Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (REDD+) through public-private partnerships.

«Events during COP23»

- Cities Climate Actions towards Decarbonization and Sustainable

- Development: Introduction of Japan/China/Korea Joint Research Initiative Focused on Cities (November 10 at Japan Pavilion)
- Sub-national REDD+ approaches and their challenges (November 11 at Japan Pavilion)
 - Cities and Regions – the pioneers for carbon neutral and resilient future (November 13 at Japan Pavilion)
 - Make Asian Cities as Low Carbon Champions: supporting city-to city collaboration among Japanese and Asian cities (November 13 at Japan Pavilion)
 - Southeast Asian Cities on the Rise: Lessons from Enhancing City’s Technical Capacities towards Climate Planning and Implementation (November 13 at Japan Pavilion)
 - Structural changes for decarbonised societies: Role of business, local, and national governments (November 14 at Japan Pavilion)
 - Promotion of REDD-plus in collaboration with the private sector (November 16 at Japan Pavilion)
 - Actions in harmony with environment and economic growth (November 16 at Japan Pavilion)

4. Partnership to Strengthen Transparency for Co-Innovation (PaSTI)

In order to implement the Paris Agreement as an effective framework towards attaining the long-term goals, it is indispensable to keep enhancing transparency of reporting fundamental information on climate change countermeasures and their impacts through system development and institutional arrangement.

Enhanced transparency enables visualization of potentials and needs of measures for each country, and technologies and know-how of private companies and local governments of Japan. This is expected to enhance private sector engagement, investment and further cooperation toward creation of co-innovation.

Japan will establish “Partnership to Strengthen Transparency for Co-Innovation (PaSTI) (Visualization Partnership),” in cooperation with developing countries and international organizations.

Based on the discussion during the COP23 preparation workshop, one of the official events of COP23 held in Fiji on September 25-26 in 2017, this partnership will combine concrete programs presented in the previous sections and provide support

focusing on the following items to respond needs and urgent issues in developing countries. .

- Development and implementation of NDC and evaluation of its progress. (See 3 (1) for the concrete programs.)
- Establishment and operation of climate risk information to improve transparency of adaptation activities. (See 2 (1) for the concrete programs.)

Under these themes, Japan intends to start with implementation of a pilot project with a couple of partnership countries in collaboration with other donors and international organizations.

In addition, Japan will conduct analysis and research for visualization of impacts of supports including the amount of financial support regarding transparency of support in order to enhance further mobilization of finance and cooperation with a view to the development of PaSTI.

«Events during COP23»

- Events to establish the “Partnership to Strengthen Transparency for Co-Innovation (PaSTI)” (November 15 at Japan Pavilion)
- CBIT (The Capacity Building Initiative for Transparency): The capacity building in each country toward enhanced transparency (November 15 at UNFCCC official side-event)