

# The government of Japan

## Submission to the Technical Dialogue of the First Global Stocktake

Japan welcomes the opportunity to provide its input to the first Global Stocktake (GST). We look forward to the second Technical Dialogue at COP 27. This submission provides input on (1) points to focus on in the GST technical dialogue ;(2) Japan's efforts to contribute to the development of each of the three thematic areas of the GST (mitigation, adaptation, and means of implementation and support) and cross-cutting measures; and (3) good practices of Japan that contribute to global progress in mitigation, adaptation, and means of implementation and support.

### **1 . Points to focus on in the GST technical dialogue**

As noted in Decision 19/CMA.1 para. 6(b), the technical dialogue should focus on taking stock of the implementation of the Paris Agreement to assess the collective progress towards achieving its purpose and long-term goals in the three thematic areas while considering cross-cutting measures. As noted in Decision 19/CMA.1 para. 34, it is also important to identify opportunities and challenges, with possible instruments, good practices, and international cooperation, to realise activities and provide support to raise ambition and ensure progress.

#### (Mitigation)

Global mitigation activities have so far focused on reducing CO<sub>2</sub>, methane and others. However, the latest Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report (AR6) Working Group III report indicates that net anthropogenic GHG emissions have continued to increase. The report also indicates that global GHG emissions must peak before at the latest 2025 in order to limit global warming to 1.5°C or 2°C. And it also become clear that further efforts are required to achieve the purpose and long-term goals of the Paris Agreement.

Therefore, the technical dialogue should provide opportunities to exchange views to raise ambition and further scale up mitigation activities towards the 2035 Nationally Determined Contributions. In this sense, it is crucial that all Parties implement mitigation actions that cover all greenhouse gases (GHGs) and in all economic sectors, including the use of carbon sinks. To raise ambition and ensure the steady implementation of mitigation actions, it is necessary to establish a follow-up system to track Parties' progress of the actions.

In addition, the current situation of the global energy market is raising concerns about the burden of high spike of energy prices and instability of the energy market. Stability of energy market is essential, and it is important for countries to diversify their energy sources in order to ensure a stable energy supply and achieve carbon neutrality. It is useful to have a dialogue about energy transitions.

Finally, Japan expects that the GST work avoids overlapping the mitigation work programme, but rather creates synergies between them.

#### (Adaptation)

The IPCC AR6 Working Group II report clearly states that "human-induced climate change, including more frequent and intense extreme events, has caused widespread adverse impacts and related loss and damage to nature and people, beyond natural climate variability." As adaptation actions have been implemented mainly on a regional basis around the world, the technical dialogue should focus on adaptation planning and progress management at national and regional levels, and on promoting investment and business in the public and private sectors with a view to accelerating adaptation actions.

In this context, the circumstance of each country and region should be taken into consideration with regard to adaptation. And through appropriate reflection of the discussions on the Global Goal on Adaptation (GGA) to the GST, it should be noted that an effective approach could consist of promoting the worldwide inclusion of adaptation in local, national, and regional planning as an institutional instrument, while sharing good practices between governments and private sector. Moreover, in addition to publicly funded initiatives, with a view to promoting private sector investment and adaptation business by utilising advanced technologies, and holding a dialogue on identifying support needs and lacking areas of efforts, as well as required technologies in developing countries should be promoted through the adaptation communications submitted by Parties. It is particularly crucial for both developed and developing countries to address weather-related disasters as an urgent issue. Efforts in the field of disaster risk reduction(DRR) are important in this context.

Concerning loss and damage, the technical dialogue should focus on relevant existing programmes and initiatives, and discuss how to scale up efforts to avert, minimise, and address loss and damage.

In this respect, the Santiago network, which catalyses technical assistance to loss and damage, should be fully operationalised as soon as possible. Furthermore, it is important to consider existing activities in the field of DRR.

(Means of implementation and support)

Under the Paris Agreement, many initiatives are now being implemented for capacity-building in developing countries, and to raise ambition through bilateral and multilateral cooperation. In particular, there has been significant progress in the preparation and implementation of NDCs by developing countries, as well as raising ambition, and improving adaptation plans, transparency and technology transfer. In the future, the technical dialogue should also take up the activities and specific measures to be taken, focusing on capacity building, financial support, and technology transfer to further strengthen activities for mitigation and adaptation, respectively.

In doing so, it is important to carry out capacity-building efforts in a manner which emphasises on the country-drivenness of developing countries, and to expand financial support in line with Articles 2.1(c) and 9.1 of the Paris Agreement be including in the private sector.

## **2. Japan's efforts to contribute to the progress of the three thematic areas of the GST (mitigation, adaptation, means of implementation and support) and cross-cutting**

**Cross-cutting measures are marked with \*.**

### **(1) Mitigation**

#### **Efforts of Japan**

##### **➤ NDC consistent with the goals of the Paris Agreement\***

Japan has submitted its long-term strategy, committing to net-zero emissions by 2050. Aligned with net-zero emissions by 2050, Japan has also submitted an NDC setting its ambitious target to reduce its GHG emissions by 46 percent from fiscal year(FY) 2013 levels in FY 2030, and to continue making strenuous efforts in its challenge to meet the lofty goal of cutting its GHG emissions by 50%.

##### **➤ Setting targets for all GHGs and sectors**

The Plan for Global Warming Countermeasure based on the Act on Promotion of Global Warming Countermeasures sets targets for all types of GHGs, and shows the estimated emissions reductions by 2030 in the industrial, commercial, residential, transport, and energy conversion sectors.

##### **➤ Trends in GHG Emission Reductions**

Japan's total GHG emissions have been decreasing for seven consecutive years since FY 2013, the base year for the NDC. In FY 2020, the emissions

decreased to 1.15 billion tons (CO<sub>2</sub> equivalent), which is 21.5% reduction from FY 2013 (including removals).

➤ **Annual follow-up on implementation status**

Regarding the progress of the actions, with the participation of experts and stakeholders, the annual follow-up of the Plan for Global Warming Countermeasures is conducted, and at the Global Warming Prevention Headquarters, all ministers as members to it inspect the achievement of each target every year. Taking into account the annual progress reviews, the consideration on the revision of the Plan for Global Warming Countermeasures is conducted at least every three years in accordance with the Act on Promotion of Global Warming Countermeasures.

➤ **Deepening mitigation ambition through implementation of Article 6 of the Paris Agreement**

Japan has been reducing emissions in partner countries by introducing decarbonisation technologies to partner countries through the Joint Crediting Mechanism (JCM). In order to further deepen emission reductions in developing and emerging countries, early and steady implementation of a “high integrity carbon market”, and capacity-building support are necessary for countries and stakeholders implementing Article 6. Japan aims to launch international coordination and cooperation activities (Article 6 Implementation Partnerships), where international organisations, research institutions and the private sector share their efforts on Article 6 to identify issues and solutions. It is important that a wide variety of stakeholders, including many Parties, international organisations, companies and NGOs which participate to the activities. Japan will continue to promote the introduction of decarbonisation technologies through the JCM to contribute to deepening the ambition of NDCs in each country, while ensuring environmental integrity and avoiding double counting in line with the rules of Article 6 of the Paris Agreement decided at COP26.

**Utilisation and conservation of carbon sinks**

Regarding forest carbon sinks, which account for the majority of the current removals, Japan has been promoting sustainable and cyclical use of forest resources, including proper forest management and conservation and sustainable use of wood to contribute to achieving net-zero by 2050. In addition, based on the concept of Nature-based Solutions (NbS), Japan is working to conserve carbon sinks through the maintenance and restoration

for healthy ecosystems, including the establishment of ecosystem networks. As this approach not only contributes to mitigation, but also to adaptation, including DRR, Japan is taking actions such as Ecosystem-based Disaster Risk Reduction (Eco-DRR) and Ecosystem-based Adaptation (EbA). In order to establish Carbon Capture and Storage (CCS) technology and reduce its cost, Japan is conducting R&D and demonstration of separation and capture technology, and promote R&D on storage technology, elaboration and automation of monitoring technology, and cost reduction for drilling, storage, and monitoring. Concerning the development of suitable sites, which are essential for the societal implementation of CCS, Japan will continue to conduct studies such as the evaluation of storage potential, taking into account economic efficiency and societal acceptability, in order to select suitable sites for CO<sub>2</sub> storage in Japan.

➤ **Decarbonisation of the regions**

According to the IPCC AR6 Working Group III Report in 2020, cities account for about 70% of greenhouse gas emissions, excluding land use, forests and the agricultural sectors. Therefore, local decarbonisation is important in promoting the transition to a decarbonised society. Japan disseminates good practices of local decarbonisation initiatives and promotes capacity building and implementation of measures in partner countries through the Zero Carbon City International Forum and international “city-to-city collaboration”. Specifically, decarbonisation cooperation has been promoted through inter-city collaboration between 43 cities in 13 countries abroad and 19 cities in Japan, sharing knowledge and know-how. These series of actions are expected to promote urban net-zero and have the combined effects for improving the urban environment, such as air quality and waste management, creating jobs and stimulating local economies. In addition, Japan jointly organised with the US the Zero Carbon City International Forum in March 2022. We will continue to further promote international “city-to-city collaboration” towards a decarbonised society.

➤ **International Cooperation for Energy Transition**

Each country has various pathways in light of its own situation and needs to pursue diverse and realistic approaches that utilize a wide range of energy sources and technologies. Therefore, Japan is supporting transitions in Asia, including Indonesia, Thailand, and Vietnam. For example, we are supporting the development of roadmaps for energy transitions and long-

term strategies toward carbon neutrality in response to the needs of each country. In addition, Japan has been supporting the introduction of specific decarbonisation technologies. For instance, we also started a feasibility study on ammonia co-firing at thermal power plants in India, aiming for single fuel firing in the future. Regarding transition finance, financial institutions in Japan, Asia, Europe, and the U.S. are working to formulate guidelines and make recommendations to their respective governments. These institutions published an interim report this April and planning to release deliverable this September. Japan will contribute to the realisation of global carbon neutrality through these initiatives.

## (2) **Adaptation**

### **Efforts in Japan**

#### ➤ **Adaptation planning at national and regional levels\***

Japan is characterised by the fact that, prefectural and municipal governments are also taking measures based on adaptation plans tailored to local circumstances in addition to efforts at the national level based on the Climate Change Adaptation Plan revised in October 2021. Local efforts are essential for adaptation, and in Japan, local governments are formulating local adaptation plans based on the Climate Change Adaptation Law, the sole law for promoting adaptation measures, and the Government's Climate Change Adaptation Plan. As of July 2022, plans have been established in 46 out of 47 prefectural governments and 111 municipal governments. The Ministry of the Environment supports the establishment of Local Climate Change Adaptation Plans by local governments through the creation and provision of manuals and templates, dispatching specialists of the National Institute for Environmental Studies and providing online consultation to formulate the plans. The Ministry is also promoting the establishment of Local Climate Change Adaptation Centres as a base for collecting, organising, analysing, and providing information related to local adaptation. Local Climate Change Adaptation Centres have been established in 38 out of 47 prefectures and 12 municipalities. Japan believes that such systematic efforts on a regular basis will lead to the improvement of local resilience, including against external forces other than climate.

#### ➤ **Adaptation Plan Progress Management**

The Climate Change Adaptation Plan, revised in October 2021, takes into account the Assessment Report on Climate Change Impacts in Japan published in December 2020 (the content of which is updated approximately every five years, this being the first update) and enhanced the contents of adaptation measures in a wide range of areas, including disaster prevention, security, agriculture and health. The new plan sets Key Performance Indicators (KPI) for sectoral and basic measures. A PDCA method has been introduced to manage the progress of the adaptation plan. In concrete terms, the progress of short-term measures implemented by each ministry is managed by carrying a follow-up review every FY using KPI. In addition, indicator data, which contributes to the follow-up is broadly collected. Basic measures\*2, which are stipulated in the plan, are reviewed every five years as the progress of medium and long-term climate change adaptation.

***\*2 Example of basic measures for adaptation (related to heat)***

*Taking the impact of climate change on heat illness into consideration, the national government takes actions such as appropriate provision of information related to weather and Wet-Bulb Globe Temperatures (WBGT), reminders to raise awareness of prevention and remedy for heat illness, and occurrence status for each occasion of emergency services, education, healthcare, physical labour, agriculture, forestry and fisheries, sports, sightseeing, daily life, and other scenes, in cooperation with the relevant ministries and agencies under the Heat Illness Prevention Conference. In order to have people take preventive actions against heat illness, the government is operating the “Heat Stroke Alert” nationwide from April 2021, which was implemented in advance in the Kanto-Koshin region in the summer of 2020, and it continues to implement measures to prevent heat illness.*

➤ **Disaster Prevention Efforts**

As for disaster prevention efforts, Japan promotes the review of land use and flood control plans taking into account climate change impacts, the use of green infrastructure in basin flood control, weather and marine monitoring, and impact assessment through high waves and storm surge inundation forecasts. In addition, disaster recovery should not be confined to simply restoring the affected area to the way it was before the disaster struck; rather, it is necessary to respond to disasters conveying the idea of “adaptive recovery” by implementing resilient measures including the

control of land use where communities can ensure adaptation to climate change.

➤ **Promoting Adaptation in the Asia-Pacific Region**

Japan uses the Asia-Pacific Climate Change Adaptation Information Platform (AP-PLAT), which was launched to support decision-making in taking the risks of climate change into consideration and highly effective climate change adaptation in the Asia-Pacific region, in order to improve scientific knowledge related to the risks of climate change, to provide stakeholder support tools, and to strengthen capacity related to the assessment of climate change impacts and climate change adaptation, in collaboration with countries and relevant institutions in the region.

In addition, based on the Kumamoto Initiative for Water announced by Prime Minister Kishida in April 2022, Japan is contributing through the Quality Infrastructure that aims to promote both climate change adaptation and mitigation measures, for example by utilizing Japan's advanced technologies to develop dams, sewerage systems and agricultural facilities.

➤ **Loss & Damage Assistance to Vulnerable Countries**

As the host country of the third United Nations World Conference on Disaster Risk Reduction in 2015, Japan is making efforts to promote the Sendai Framework for DRR, which includes initiatives in disaster risk financing as well as supporting developing countries in building capacity and infrastructure conducive to disaster reduction. As an example, Japan provides Stand-by Emergency Credit for Urgent Recovery in order to promptly provide funds to borrowing countries in the event of a disaster. It has also been active in disaster risk financing in neighbouring countries, including playing a leading role in setting up disaster risk insurance in South-East Asia (SEADRIF) and in the Pacific (PICRAFI) region. In addition, the Japan also provides various other humanitarian assistance to developing countries affected by natural disasters, in response to damage incurred. These initiatives have also contributed to addressing the loss and damage of natural disasters caused by climate change.

( 3 ) **Means of implementation**

**Efforts in Japan**

➤ **Adaptation Finance**

Regarding the Glasgow Climate Pact, which urges developed countries to at



least double adaptation finance from 2019 levels by 2025, Japan's Prime Minister Kishida announced at COP26 that Japan would double its adaptation assistance, totaling approximately \$14.8 billion, from both public and private, over the five years to 2025. As part of this, Japan made a new contribution of approximately \$6 million to the Adaptation Fund in March 2022.

➤ **Expansion of private finance through implementation of Article 6 of the Paris Agreement**

The expansion of private finance is important to promote global emission reductions. The early and steady implementation of a “high integrity carbon market” with environmental integrity in accordance with Article 6 of the Paris Agreement will contribute to the mobilization of private finance. This requires capacity-building support for countries and stakeholders implementing Article 6. This is key to deepen further reductions in developing and emerging countries. Capacity-building support is needed for countries and actors which are involved in Article 6 activities for the implementation of such carbon markets. Japan aims to launch international coordination and cooperation activities (Article 6 implementation partnerships) as soon as possible to share efforts related to Article 6 by international organisations, research institutions and the private sector, to identify issues and solutions. Japan recognises the importance of enabling the participation of diverse stakeholders, including many Parties, international organisations, companies, and NGOs.

➤ **Capacity building with an emphasis on country-drivenness in developing countries**

Japan has made significant efforts in capacity-building with an emphasis on developing country-drivenness. For example, the development of long-term scenarios based on the Asia-Pacific Integrated Model (AIM) contributes to raising the ambition of developing countries as partners.

➤ **Cooperation on technology transfer of decarbonisation technologies at the regional level**

Technology transfer efforts at the regional level are important to promote emission reductions throughout the world. In the ASEAN region, for example, Japan is supporting the diffusion of clean energy and decarbonisation technologies, such as ZEB (net-zero energy building) and microgrids using renewable energy and energy management systems, under the Clean Energy Future Initiative for ASEAN (CEFIA) initiative. Under this

initiative, ASEAN countries will promote public-private partnerships towards the development of an enabling environment for energy-related businesses through the implementation of the flagship projects in the area of energy efficiency and renewable energy. Japan is implementing international technical cooperation in light of regional circumstances.

### **3. Good practices in Japan that contribute to progress throughout the world**

In accordance with Decision 19/CMA.1 para. 37(g), 37(h) and 37 (i), it is important that various stakeholders, including research institutions, companies, as well as governments, provide input on excellent research results and other examples that contribute to global progress in mitigation, adaptation, etc. The following are examples of good practices of Japan that contribute to the identification of opportunities, target setting and monitoring, and transparency of mitigation and adaptation actions at the national and city levels around the world.

#### **➤ Utilisation of satellite-based greenhouse gas observation data for mitigation activities at the national and city levels**

Satellite observations of GHGs provide scientific data on the global distribution, concentrations, and variations of carbon dioxide and methane, and are also used to assess socioeconomic scenarios and national inventories, providing useful information for a comprehensive GST under "equity" and "best available science".

Case study 1: The decadal global atmospheric greenhouse gas concentration trends observed by Japan's Greenhouse gases Observing SATellite (GOSAT) (Japan Aerospace Exploration Agency (JAXA), Global Environment Strategic Research Institute (IGES)) [Abstract] A decadal global JAXA/GOSAT GHG product demonstrates continued increases in global CO<sub>2</sub> and CH<sub>4</sub>, which increased by 29 ppm and 97 ppb from June 2009 to June 2021, respectively.

[https://www4.unfccc.int/sites/SubmissionsStaging/Documents/202202241010---2022GST\\_GQ3\\_GOSAT\\_LongTermTrend\\_20220220\\_fin.pdf](https://www4.unfccc.int/sites/SubmissionsStaging/Documents/202202241010---2022GST_GQ3_GOSAT_LongTermTrend_20220220_fin.pdf)

Case study 2: GOSAT and GOSAT-2 Standard Products and Related Data (National Institute for Environmental Studies NIES)

[Abstract] Standard products and related data from GOSAT satellite series are freely available from NIES websites. The quality of CO<sub>2</sub> and methane concentrations products are assured with ground-based data. Global averages derived from these products can evaluate the current GHG concentrations in respect of those from socio-economic scenarios necessary to meet 1.5°C or 2°C temperature targets. These products are also used in inventory evaluations.

[https://www4.unfccc.int/sites/SubmissionsStaging/Documents/202203231213---GOSAT\\_Standard\\_Products\\_06b.pdf](https://www4.unfccc.int/sites/SubmissionsStaging/Documents/202203231213---GOSAT_Standard_Products_06b.pdf)

➤ **Satellite-based deforestation monitoring**

Case study 3: Joint Submission to the First Global Stocktake A satellite-based deforestation monitoring system for tropical forests, "JICA-JAXA Forest Early Warning System in the Tropics (JJ-FAST)" (JAXA, IGES, Japan International Cooperation Agency, Brazilian Institute for Environment and Renewable Natural Resources)

[Abstract] JJ-FAST is a satellite-based deforestation monitoring system. It is used in Brazil and other tropical rainforest countries to detect and monitor areas of deforestation in tropical forests, and provides early warning information to strengthen climate change countermeasures.

[https://www4.unfccc.int/sites/SubmissionsStaging/Documents/202202241019---2022GST\\_GQ23\\_ALOS-2\\_JJ-FAST\\_final.pdf](https://www4.unfccc.int/sites/SubmissionsStaging/Documents/202202241019---2022GST_GQ23_ALOS-2_JJ-FAST_final.pdf)

➤ **Promote blue carbon initiatives by tracking changes in mangrove area**

Case study 4: (Joint) Submission to the first Global Stocktake Satellite-based map of global mangrove extent and changes: Global Mangrove Watch (GMW) (JAXA, IGES, Aberystwyth University, Solo Earth Observation Japan, International Wetlands Conservation Coalition, The Nature Conservancy)

[Abstract] The Global Mangrove Watch is an open access geospatial dataset and on-line tool for tracking changes in mangrove spatial extent from the 1990s to the present.

As such, the GMW can be used as a tool for countries that do not yet have their mangrove monitoring systems to design, implement and track the progress of their national climate commitments and identify opportunities to include mangroves in the next round of NDCs.

The GMW dataset is furthermore used by UNEP to support reporting on Sustainable Development Goals, Indicator 6.6.1.

[https://www4.unfccc.int/sites/SubmissionsStaging/Documents/202202241025---2022GST\\_GQ21\\_GMW\\_final.pdf](https://www4.unfccc.int/sites/SubmissionsStaging/Documents/202202241025---2022GST_GQ21_GMW_final.pdf)

#### **4. Conclusion**

Building on the momentum fostered at COP26, SB56 and the first GST technical dialogue, Japan, together with all Parties, governments, businesses, civil society, NPS and all other stakeholders, is ready to engage in all aspects of climate change issues to

support the success of the first Global Stocktake, until COP28 in 2023. We look forward to the second technical dialogue of the GST at COP27 with balanced and inclusive discussions based on the best available science, including IPCC reports, and equity in accordance with Decision 19/CMA.1.