

Government of Japan

Submission on the Second Global Dialogue  
to be held under the Work Programme for Urgently Scaling Up  
Mitigation Ambition and Implementation

September 2023.

Japan welcomes that the first global dialogue under Decision 4/CMA.4 was held in June 2023 and appreciates the dedication of the Mitigation Work Programme (MWP) co-chairs and the secretariat in designing and preparing the first global dialogue.

During the first global dialogue, comprehensive and technical discussions were held on barriers and challenges related to renewable energy, grid, and energy storage, CCU/CCS, energy efficiency and conservation, and their policy measures, with a view to accelerating a just energy transition. Based on the lessons learned through the organization of the first global dialogue, the process and modalities need to be improved to make the global dialogue more effective and efficient (for reference, the process and modality improvement items advocated in SB 58 are attached).

On the other hand, it was regrettable that the agenda item on the MWP was not adopted at SB 58. The lack of a mitigation agenda from a UNFCCC forum may seriously jeopardize the balance between the agendas. The best available science indicates that there is little time left to keep global temperature rise to 1.5 degrees within reach. If we do not address mitigation correctly, adaptation and loss and damage efforts will become more severe and the negative impact on vulnerable countries will increase. We should start a discussion on the CMA decision of the MWP immediately at COP28 so that we can offer a clear and concrete direction based on the discussions made in the first and second global dialogue thereby we can take concrete actions.

Japan's view on the topic of the second global dialogue is as follows:

**Accelerating Just Energy Transition in the Transport Systems**

Japan welcomes that “accelerating just energy transition in transport systems” was chosen as the topic for the second global dialogue, as the transport sector accounts for 15% of global GHG emissions<sup>1</sup>.

In Japan, the transport sector accounts for 16% of total GHG emissions as of FY2021, and various measures to

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<sup>1</sup> IPCC AR6 WG III SPM B.2.1

reduce GHG emissions are being implemented. Based on Japan's experience, the key to decarbonizing the transport system is to comprehensively promote regulatory and incentive measures, transport plans reflecting local characteristics, and infrastructure development while also pursuing all technologically available options.

**(a) Deploying and shifting to collective and non-motorized modes of transport (rail, urban public transit, cycling, etc.)**

**(a-1) Promoting the use of public transport**

Concerning passengers, a regional decarbonized transport model can be developed by reducing reliance on private cars and promoting a shift to public transport with lower CO<sub>2</sub> emissions.

For example, in Japan, the introduction of Green Slow Mobility (a service using electrically powered vehicles that can run on public roads at speeds of less than 20 km/h) and Light Rail Transit (LRT), the introduction of storage batteries and new types of rolling stock that are expected to reduce CO<sub>2</sub> emissions by 40% or more compared to conventional rail services, etc. and by actively combining it with renewable energy sources. The National Movement for New and Prosperous Lifestyles toward Decarbonization also encourages the promotion of public transport use.

**(International cooperation: Mobility as a Service in the Philippines)**

Japan supported a demonstration project in Clark area, a smart city area in the Philippines, for introducing digital technology to optimize public transport (smart mobility). Energy savings have been achieved by improving the efficiency of public transport.

**(a-2) Modal Shift**

According to IPCC, 70% of direct transport emissions came from road vehicles, while 1%, 11%, and 12% came from rail, shipping, and aviation, respectively<sup>2</sup>. In this context, GHG emissions can be reduced by shifting transport modes: from trucks and other vehicles to railway or shipping. For example, in Japan, the further promotion of modal shift is positioned as an important initiative in the Comprehensive Logistics Policy Outline. Carbon dioxide emissions per volume of cargo transportation in Japan are approximately 1/11<sup>th</sup> of truck transportation for rail transportation, and approximately 1/5<sup>th</sup> of truck transportation for ship transportation, and a modal shift is needed. By promoting modal shift, GHG emissions can be reduced. On the other hand, there are disadvantages for shippers, such as increased costs and extended lead times, and in order to realize a modal shift, the cooperation of shippers as well as the logistics companies that actually transport the goods is required.

Therefore, we are providing subsidies for the costs of formulating a plan, such as building consensus for cooperation between shippers and logistics companies, as well as for operating expenses in the first year. Furthermore, at the related ministerial meeting held in June of this year, a policy package for logistics innovation was formulated. From the perspective of achieving net zero by 2050, efforts are being made to

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<sup>2</sup> IPCC AR6 WG III Chapter 10

strengthen and utilize the transportation capacity of freight railways and domestic shipping in order to strongly promote modal shifts.

**(b) Energy and resource efficiency in the transport sector (design improvements, circular economy, and material changes, vehicle vintage, carpooling, etc. )**

**(b-1) Vehicle Recycling**

The Law for the Recycling of End-of-Life Vehicles (End-of-Life Vehicle Recycling Law) was enacted to recycle end-of-life vehicles and obliges automobile manufacturers and other related parties to play an appropriate role in this process. Specifically, the law requires car owners to pay recycling fees and hand over their automobiles to a collection operator registered with a local government, automobile manufacturers to pick up specified recyclable materials (including fluorocarbons (e.g. CFC, HCFC and HFCs)) from fluorocarbons recovery operators and pass relevant parts to fluorocarbon destruction operators . The law also stipulates that dismantling operators must recover useful parts and materials from end-of-life vehicles and recycle them, and shredding operators must recover useful metals from dismantled vehicles. This will enable the recycling of end-of-life vehicles, prevent illegal dumping and improper disposal, reuse useful parts contained in end-of-life vehicles, and recycle the resources contained therein. These mechanisms, as a whole, will lead to the realization of a circular economy as well as net zero in the automotive industry.

**(b-2) Regional Decarbonization**

In decarbonizing the transport sector, it is also useful to consider not only the efficiency of individual vehicles but also the linkage with the region.

In Japan, the Decarbonization Leading Areas(DLAs) are selected in which local authorities in various regions, including farming villages, mountain villages, fishing villages, remote islands, and urban areas, take the initiative to promote decarbonization , to achieve domino effects throughout the country.

The requirements for selection include (i) net zero CO2 emissions from electricity consumption in the consumer sector (the residential, and commercial sectors) by FY2030, (ii) reduction of GHG emissions according to regional characteristics (for example, the local authority could set a plan to reduce GHG emissions from energy consumption other than electricity in the consumer sector or a plan to reduce CO2 emissions in fields related to consumers such as automobiles and transportation), and (iii) maximum introduction of renewable energy facilities based on renewable energy potential. At present, 62 areas have been selected which is in line with the projection of selecting at least 100 DLAs by FY2025.

**(Examples of DLAs)**

- Utsunomiya City, Tochigi Prefecture: Bus routes were reorganized in line with the introduction of the LRT. 158 units of EV buses were introduced, which could also be used as a regulated power supply. In this context, the city transport system serves as an energy management system, integrating LRT

operation, and bus operations with energy supply and demand management. It will also function as a decentralized power source in case of emergencies.

- Kyoto City, Kyoto Prefecture: Converting 738 cabs to EVs as a form of mobility to visit cultural heritage sites scattered throughout the city, and planning study tours for school excursions by EV cab to realize zero-carbon school excursions.

### **(b-3) Consumer outreach**

In order to improve the efficiency of logistics, it is also necessary to approach consumers. For example, in Japan, April 2023 has been designated as "Redelivery Reduction PR Month," encouraging consumers to promote various delivery methods such as specifying time slots, picking up at stores, and using delivery lockers at stations. We introduced the actions you can take to receive your shipment in one go.

### **(Examples of international cooperation under the Joint Crediting Mechanism (JCM))**

In Binh Duong Province and Hanoi City, Vietnam, Nippon Express Vietnam Limited installed an eco-driving awareness system using a digital tachograph<sup>3</sup> on 130 trucks and supported the collection and analysis of data on refueling, distance traveled, and other driving behaviors. Drivers were incentivized to improve their driving behavior based on the data and subsequent evaluation of their performance. The system not only reduced CO2 emissions by improving fuel efficiency but also improved transport quality.

## **(c) Electrification of vehicles (infrastructure, batteries and minerals)**

In decarbonizing the transport sector, Japan recognizes that it is important not only to shift to electric vehicles, but also to pursue various options, such as promoting electrified vehicles including hybrid vehicles and carbon-neutral fuels in line with national circumstances. Considering this point, Japan views that it was great achievement that the G7 shared the importance of reducing CO2 emissions from vehicle stock and various actions for that goal this year. Thus, technological neutrality is important for decarbonizing transport system.

### **(c-1) Electrification**

It is important to reduce CO2 emissions from vehicle fleet which is more than 15 times the new vehicle sales globally, as it is also noted in this year's G7 Hiroshima summit to "collectively reduce by at least 50 percent CO2 emissions from G7 vehicle stock by 2035 or earlier" To achieve this goal, Japan will pursue various actions, such as promoting electrified vehicles, including hybrid vehicles and carbon-neutral fuels. In Japan, hybrid vehicles have made a significant contribution to CO2 emission reduction in the transport sector since 2000. Japan aims to achieve 100% electrified vehicle of new passenger car sales by 2035. As of FY2022, electrified vehicles account for more than 50% of all new passenger vehicle. Regarding commercial light-duty vehicle, Japan aims to achieve 20-30% electrified vehicles in new car sales by 2030 and 100% electrified vehicles or carbon-neutral fuel vehicles by 2040. For heavy-duty vehicles, Japan aims

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<sup>3</sup> A device that records vehicle speed, hours of operation, distance travelled, etc. Leads to management of operational records.

to introduce 5,000 vehicles in the 2020s in advance and will set a 2040 electrified vehicle diffusion target by 2030. To achieve this goal, incentives are provided for consumers by offering purchase assistance subsidies. In addition, we have set a goal of installing 150,000 charging infrastructures, including 30,000 quick chargers for public use, by 2030, and have installed approximately 30,000 units to date. Currently, we are considering deciding on guidelines to promote the development of charging infrastructure, including a revision of the target number and a policy toward higher output, with the aim of building a highly convenient and sustainable charging infrastructure society.

#### **(c-2) Batteries and mineral resources**

While batteries are one of the most important technologies for achieving the electrification of vehicles, there are challenges such as uneven distribution of battery metals and their soaring price (lithium, nickel, and cobalt), and the concentration of some manufacturing processes in certain countries. Under these circumstances, Japan formulated its Battery Industry Strategy in August 2022 and is comprehensively promoting the establishment of a battery and its component manufacturing infrastructure, securing upstream resources, developing next-generation technologies, and fostering human resources. Japan have also accepted in this year's G7 Leaders' Communiqué to support market-based trade in critical minerals and oppose market-distorting and monopolistic policies as well as the "Five-Point Plan for Critical Minerals Security" which was adopted in this year's G7 Climate, Energy and Environment Ministers' Meeting.

#### **(d) Shifting to low- or zero-carbon fuels (hydrogen, biofuels, biogas, compressed natural gas)**

To achieve net zero by 2050, it is important to pursue a wide range of technology options, including hydrogen, e-fuels, and biofuels as well as electric vehicles. Furthermore, fuel decarbonization can be an effective measure when considering emission reductions in the transport sector, as it contributes to reducing CO<sub>2</sub> emissions from vehicle fleet, which is more than 15 times the new vehicle sales globally.

##### **(d-1) Hydrogen**

Fuel Cell Vehicle (FCV) is one of the essential technologies for achieving net zero. On the other hand, in order to expand the use of FCVs, there are issues such as the high cost of vehicles and hydrogen, and the development of hydrogen refueling stations. Japan is strategically promoting the widespread use of both FCVs and hydrogen refueling stations. Currently, there are approximately 180 hydrogen refueling stations in Japan. As FCVs have the advantage of a long driving range and short filling times, demand for FCVs is expected to expand in commercial vehicles such as trucks and buses as well as passenger cars in the future. Based on the above, with a view to expanding the use of FCVs in the commercial vehicle sector, Japan expands subsidies for large-scale hydrogen refueling stations. In addition, Japan provides support for the development of technology that can safely and quickly fill large volumes of hydrogen in order to further shorten filling times to be expanded. In June 2023, the Basic Hydrogen Strategy was revised, and a demonstration of FC trucks has just begun. Japan will continue to promote the spread of FCVs in supporting demand and supply collectively, especially in the commercial vehicle sector which are in great

demand.

#### **(d-2) e-fuels**

e-fuels has high energy density and can utilize existing infrastructure and internal combustion engines. In addition, e-fuels has great potential to contribute to reducing CO2 emissions from the vehicle stock which is more than 15 times new sales vehicles globally. Although e-fuels has issues such as its high costs and amount of supply, countries around the world are developing projects to expand their production capacity. Japan also decided in May 2023 to accelerate the commercialization of e-fuels to the early 2030s and is accelerating its consideration of the practical application of e-fuels, including the support for large-scale e-fuels production technology. Japan will continue to promote technological development for the establishment of highly efficient and large-scale production processes through the Green Innovation Fund, while deepening international cooperation with other countries.

#### **(d-3) Low and decarbonized fuels for ships**

It should be noted that coastal shipping competes with land-based modes of transport and that economic rationality is important in terms of construction costs and fuel costs when promoting energy conservation, as cost bearers and beneficiaries of economic benefits are different as a feature of shipping. In Japan, efforts are being made to support advanced initiatives in coastal shipping to pursue further energy and CO2 savings (e.g. use of biofuels, improved fuel efficiency) and the use of alternative fuels (ammonia, hydrogen, etc.) on ships.

#### **(d-4) Sustainable Aviation Fuels (SAF)**

Japan has set a goal for the usage amount of SAF as of 2030. To aim to replace 10% of fuel consumption by Japanese airlines with SAF as of 2030, Japan will construct a framework for stably supplying domestically produced SAF. And the Public-Private Council for the Promotion of Sustainable Aviation Fuel was established as a forum for the public and private sectors to discuss technical and economic issues and solutions to accelerate the introduction of SAF.

### **Way Forward**

#### **MWP Annual Report.**

Decision 4/CMA.4 paragraph 15 requires the secretariat, under the guidance of the MWP Co-Chairs, to prepare a report after each global dialogue, including "a summary, key findings, and opportunities and barriers relevant to the topic", and further requests the secretariats to prepare an annual report summarizing the report of the dialogue. In this respect, Japan expects that the reports include (i) visualization of the progress made by the Parties and/or relevant initiatives ("key findings"), (ii) identifications of "opportunities and barriers", and (iii) options of actional solutions about policy, technology, and finance, based on the basic data presented at the global dialogue by the experts, for each of the sub-topics discussed at the two global dialogues (renewable energy, grid, and energy storage, CCUS/CCS, energy efficiency, conservation, and transport).

### **High-level ministerial round table on pre-2030 ambition**

Decision 4/CMA.4 paragraph 17 also stipulates that the Co-Chairs will report on the contents of the annual report at the high-level ministerial round table on pre-2030 ambition. The meeting has an important role to play in building political momentum and leadership to raise ambition and implementation in this critically important decade. In order to make the most of this opportunity, we hope that the ministerial meeting will take into account the presentation of the annual report and that the discussions will lead to action in each country.

### **Draft CMA decision**

Decision 4/CMA.4 paragraph 16 requires the SBSTA/SBI progress to consider progress, including key findings, opportunities and barriers, in implementing the work programme with a view to recommending a draft decision.”

In this context, CMA decision should include key recommendations on actionable solutions that align with the objective of the MWP which is to “urgently scale up mitigation ambition and implementation”, based on the findings from the annual report and the discussions at the ministerial meeting. When considering mitigation ambition and implementation, mitigation in a broad context under the UNFCCC framework, which Parties have already decided, should be taken into account. In particular, the elements included in IV Mitigation of the Sharm El Sheikh Implementation Plan, such as the importance of 1.5°C and the need to reduce GHGs by 43% by 2030 (paragraph 15), and the importance of reducing non-CO2 gases (paragraph 29).

Based on the decided contents of the CMA.4 and the first global dialogue, Japan proposes that the following elements be included in CMA decision

- Summary of the global dialogues in 2023.
- Summary of High-level ministerial round table on pre-2030 ambition
- Key recommendations based on the above two summaries  
(i.e. the increased urgency to reduce global GHG emissions by around 43 percent by 2030 non-CO2 reduction initiatives)
- Proposal on modality improvement of the global dialogues
- Guidance for global dialogue in 2024 and the necessity to include the MWP into the agenda of SB60 and onwards

In this year’s second Global Dialogue, discussions will be held on the energy sector and transportation systems. Japan proposes that other sectors and/or non-CO2 gases be covered next year. The global dialogue aims to contribute to scaling up mitigation ambition and implementation and Japan expects that the global dialogue addresses a wide range of sectors and gases so that mitigation is promoted across the entire economy.

## **Appendix**

### **Global Dialogue Modality Improvement Proposal**

The first global dialogue, held in June 2023, was fruitful in that intensive and practical discussions on “Accelerating Just Energy Transition” were made. On the other hand, areas of possible improvements were identified to achieve MWP’s objective which is “urgently scaling up mitigation ambition and implementation”. Specific suggestions for improvement include.

- ✓ **Early notification of topics and sub-topics:** Some participants addressed that there were time constraints for preparation and that topics and sub-topics should have been notified earlier. The time constraints also made it difficult to invite appropriate practitioners. Topics and sub-topics of the global dialogue should be notified as early as possible to maximize the global dialogues.
- ✓ **Preparation of technical papers:** In order to enable participants to have a common understanding of the topic and make practical discussions at the global dialogues, the Secretariat should prepare and share in advance a technical paper that visualizes the progress made by the Parties, which contains basic information on the current global situation, future prospects, main challenges, and possible solutions.
- ✓ **Expansion of virtual participation:** Online participation should be expanded to include more people with appropriate expertise and experience.
- ✓ **Focused sub-topics:** The sub-topics of the first global dialogue were renewable energy, grid, and energy storage, CCUS/CCS, and energy efficiency. Although all sub-topics are important in accelerating mitigation and fruitful discussions were made, each sub-topics are relatively broad and could be more focused in order to contribute to concrete outcomes, such as planning and improving policy measures or considering the next NDCs.
- ✓ **Interactive approach:** The global dialogue is not a negotiation but a technical exchange of views. In this context, smaller group discussions and/or World Café style may be appropriate in order to facilitate more interactive discussions among participants. In addition, in regard to investment-focused events, broad participation of private sectors in terms of private investment and finance should be invited.