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JAPAN Environment Quarterly

FEATURE : Japan's Long-term Strategy under the Paris Agreement

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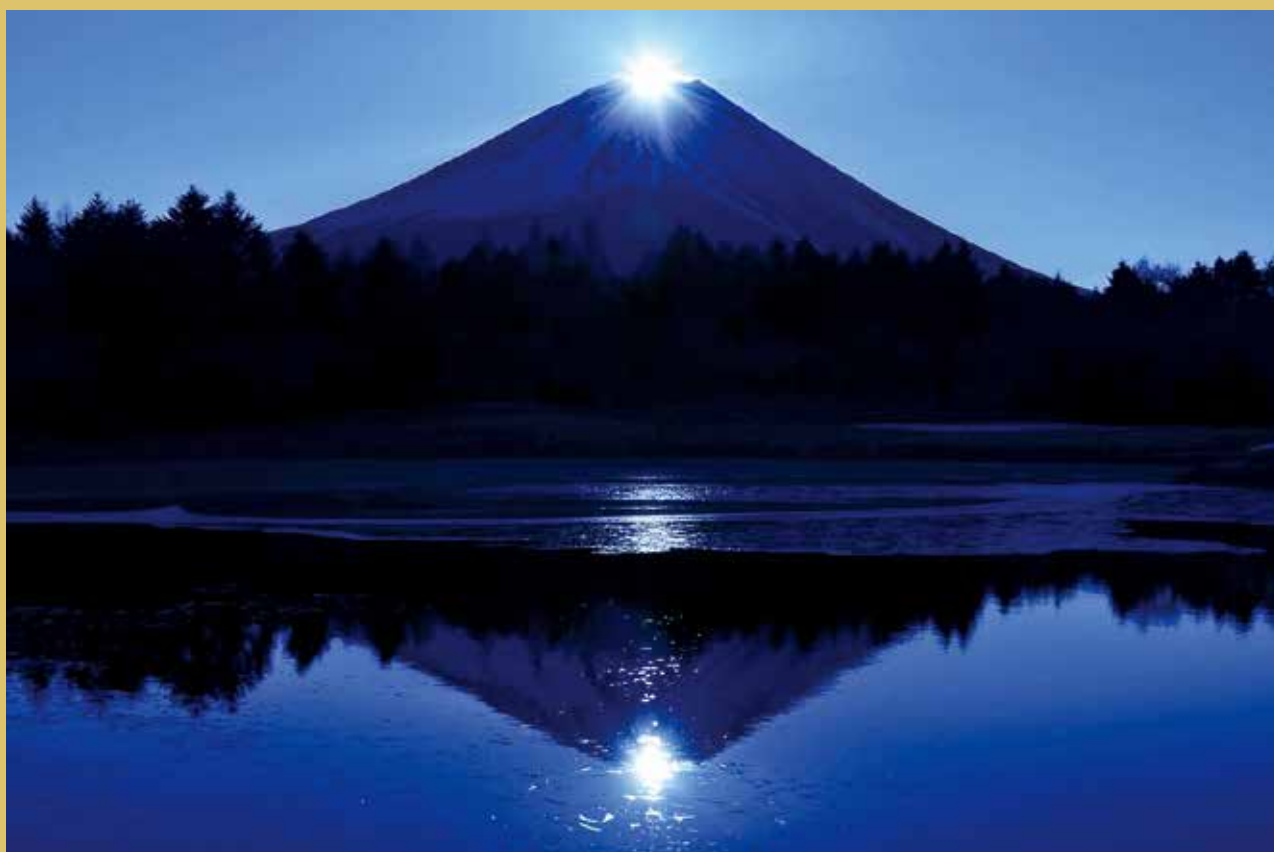
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NATIONAL PARKS of JAPAN : Setonaikai National Park



Japan's Long-term Strategy under the Paris Agreement

A foundation for the transition to a “decarbonised society”



This long-term strategy aims for a paradigm shift over the next few decades leading up to the middle of this century to economic and social systems that emit virtually no greenhouse gases. The long-term strategy is also designed to maintain and develop the economy and society within this context.

1. Background

(1) International efforts and decarbonisation requirements under the Paris Agreement

The Paris Agreement was adopted at COP21 in December 2015.

The Agreement stipulates its objective to strengthen global responses to the threat of climate change by holding the increase in the global average temperature to below 2°C above pre-industrial levels and pursuing efforts to limit the increase to 1.5°C. It also stipulates that efforts are to be made to make swift reductions in greenhouse gases to achieve a balance between anthropogenic emissions and removals by sinks of greenhouse gases (carbon neutrality throughout the world) in the second half of this century. All countries are obligated to implement domestic measures toward this purpose.

Additionally, towards achieving the 2°C target, due to the significant gap between the global reduction amount estimated to be required in the future and the reduction targets currently set by countries, the Agreement invites countries to formulate and communicate a long-term strategy for low greenhouse gas emission development (hereinafter, long-term strategy).

(2) Changes in responses to the climate change issue in finance and business sectors

Significant changes that have not been experienced before are

now taking place with regards to climate change measures. An energy transition based on lowering the cost of renewable energy and the trend for companies and financial sectors to aim at zero GHG emissions are characteristic changes. Namely, there is a growing possibility that the evaluation and assessment of a company will depend on whether or not it can promptly make the transition to decarbonisation. This is indicated in Prime Minister Abe's remarks that, "responding to climate change is no longer an additional cost for the economy, but a growth strategy for the future."

The scale of the market in the event of global initiatives under the Paris Agreement has been examined. For instance, the

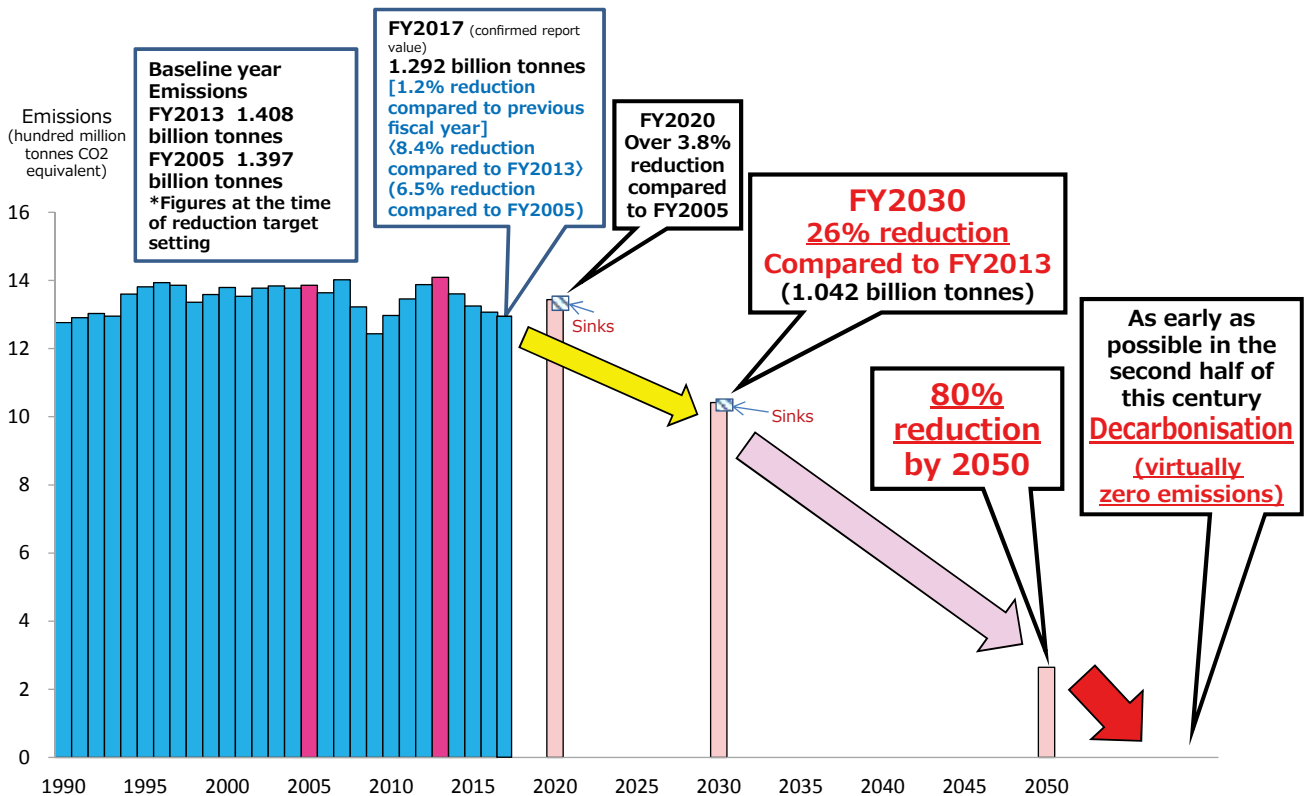
International Renewable Energy Agency (IRENA) has estimated the additional investment needed for decarbonisation of the energy industry. This figure could reach more than 29 trillion USD by 2050, as these investments drive new economic growth and increase GDP worldwide by 0.8% in 2050, revealing the magnitude of potential. Additionally, in the financial sector, there is a growing movement to regard non-financial information, such as corporate environmental efforts, as criteria for investment decisions, such as ESG investing. Global ESG investment in 2018 increased by approximately two quadrillion yen compared to 2012, and ESG investment in Japan grew more than four times from 2016 to 2018. Moreover, there is a movement

that may lead to restraints on the use of fossil fuels that emit large amounts of CO₂, including coal, such as examples of engagement and divestments.

(3) Viewpoint on addressing the issue of climate change within the Sustainable Development Goals

The "2030 Agenda for Sustainable Development" was adopted by the United Nations General Assembly in September 2015. Within the 2030 Agenda, which clearly states that "no one is left behind" on the earth, 17 goals and 169 targets were set as "Sustainable Development Goals (SDGs)". The SDGs, along with the Paris Agreement, are universal international targets for global sustainable growth. Responses to

Japan's Mid-term and Long-term Targets for GHG Reduction



Source: Prepared from "FY2017 Greenhouse Gas Emissions (confirmed report values)", "Plan for Global Warming Countermeasures" and "Long-term Strategy under the Paris Agreement".

Japan's Mid-term and Long-term Targets for GHG Reduction

Long-Term Strategy under the Paris Agreement as Growth Strategy (1/2)

Chapter 1: Basic Concept

Provisional Translation

Vision: Proclaiming a “**decarbonised society**” as the ultimate goal and aiming to accomplish it ambitiously **as early as possible in the second half of this century**, while boldly taking measures towards the reduction of GHGs emissions by 80% by 2050 * an unconventional vision of an “ideal future model”
* contributing to the achievement of the long-term goals of the Paris Agreement, including efforts to limit the temperature increase to 1.5°C

Basic Principles of Policy :

Realising “a virtuous cycle of environment and growth” towards the vision with business-led disruptive innovation, Swift implementation of actions from now, contributing to the world, **Action Towards a bright Society with Hope for the Future**

[Factors: Achievement of SDGs, Co-creation, Society5.0, the Circulating and Ecological Economy, leading country in solving problems]

Chapter 2: The Vision of Each Sector and the Direction of Measures



1. Energy

Pursuing every option for promoting **energy transitions and decarbonisation**



2. Industry

Decarbonised manufacturing



3. Transport

Contribution to the challenge of **“Well-to-Wheel Zero Emission”**



4. Community and Living

Realising **carbon neutrality**, resilient and comfortable **communities and lives** by 2050/ creating the **“Circulating and Ecological Economy”**



5. Measures for Carbon Sinks

Conserving the natural environment and creating sustainable new values in agriculture, forestry and fisheries industries to secure **sufficient carbon sink** for decarbonised society

Overview of Long-term Strategy (1/2)

climate change that involve major transitions in socioeconomic systems, could be factors that influence the achievement of other SDGs. Further, in order to achieve the SDGs, it is necessary to promote climate change measures in an integrated manner in line with elements of SDGs not related to climate change. In the context of the Paris Agreement and the SDGs in the business world, there is increasing awareness that addressing environmental issues within corporate strategies and core business, not only as corporate social responsibility (CSR), makes corporate structures more resilient and brings new growth.

2. Formulation process of the long-term strategy

In June 2018, Prime Minister

Abe instructed that meeting is established toward the formulation of the Long-Term Strategy under the Paris Agreement and relevant ministries and agencies expedite deliberations under this meeting.

In August 2018, the Meeting on a Long-term Strategy under the Paris Agreement (chaired by the President of the Japan International Cooperation Agency (JICA), Shinichi Kitaoka) was launched to engage in discussions on the basic concepts of the long-term strategy, held on five occasions. Consequently, a recommendation for the government was compiled in April 2019.

Following the recommendation, the government developed a draft of the long-term strategy. Following public comment, the “Long-Term Strategy under the Paris Agreement” was approved by the cabinet on 11

June 2019. Subsequently, it was submitted to the United Nations on 26 June.

3. Contents and direction of policies indicated in the long-term strategy

The long-term strategy is comprised of five chapters. The strategy incorporates the direction of policy countermeasures in detail, but due to the large volume, not all can be introduced here. The following points give a shortened explanation. Please refer to the original strategy for details (*1).

Chapter 1 sets forth the basic concepts of the long-term strategy. Three points concerning the characteristics of the strategy have been selected and introduced below.

(1) Decarbonised society: a shared

Long-Term Strategy under the Paris Agreement as Growth Strategy (2/2)

Chapter 3: Cross-sectoral Measures to realise “a virtuous cycle of environment and growth”

1. Promotion of Innovation

Promoting innovation for practical application and wider usage of cross-sectoral decarbonisation technologies that lead to drastic reduction of GHG, achieving cost that allows commercialisation

- (1) Progressive environment innovation strategy
- (2) Innovation in economic and social systems/Lifestyle innovation

2. Promotion of Green Finance

Appropriate “visualisation” of innovation, and mobilisation of finance for the innovation by financial institutions

- (1) Mobilising green finance through TCFD* disclosures and dialogues
* Task Force on Climate-related Financial Disclosures
- (2) Promoting initiatives to expand ESG finance

3. Business-led International Application and International Cooperation

Promoting environmental technologies and products that excel/
Promoting “Co-innovation” that benefits both sides in collaboration with partner countries

- (1) International application of decarbonisation technologies linked to policy / institution building and international rule-making
- (2) Increasing infrastructure development and investment that contributes to CO₂ emissions reduction
- (3) Building platforms for decarbonised societies on a global scale



Fuel Cell Bus



CO₂ Capture Plant



TCFD Consortium



ESG Finance High-Level Panel



JCM Partner Countries Meeting

Chapter 4: Other Measures

- Human resource development
- Just transition
- Government-led initiatives
- Integrative promotion in collaboration with development of a resilient society by adaptation to climate change
- Carbon pricing (expert-driven technical debate is necessary)

Chapter 5: Review and Implementation of Long Term Strategy

- **Review:** Flexibly considering of the long-term strategy taking circumstances into account and as necessary reviewing it, about every 6 years
- **Implementation:** Analysis that takes future change in situation into account/Partnerships/Dialogue

Overview of Long-term Strategy (2/2)

goal and long-term vision

Japan aims for a “decarbonised society”, namely a society in which there are virtually no emissions of greenhouse gases such as CO₂ (*2), to be the ultimate goal and aims to accomplish it as early as possible in the second half of this century.

This goal is “ambitious” in the international context on the following two points. First, it does not adopt a conventional approach to goal setting based on accumulation (*3), rather presents an “ideal image” of the future as a “goal”. Second, it is the first declaration of an aim to realise a “decarbonised society” as soon as possible by a developed nation in the context of contributing to achieving the long-term goals of the Paris Agreement, including pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels.

By specifically declaring the direction of long-term goals and policy, the long-term strategy enhances investment foreseeability, points out areas that require disruptive innovation, and provides a foundation to promote research and development and investment in companies that do business consistent with this direction. Additionally, by presenting this type of vision, Japan will lead international debate on the creation of future frameworks and standards in the area of climate change.

(2) A virtuous cycle of environment and growth: basic principles in policy towards achieving the vision

Toward achieving the above-mentioned long-term vision, the long-term strategy aims at realising a “virtuous cycle of environment

and growth” through disruptive innovation on a scale that has never been seen before. Likewise, it aims to significantly reduce domestic GHG emissions and make maximum contributions to global emissions reduction. As the chair country of this year's G20 meetings, Japan communicated and shared these concepts with the world.

In order to achieve these aims, it will become important to make maximum use of the power of the business sector which has significant finance and world-class technologies. In bringing together wisdom from around the world to promote innovation, it is necessary not only to reform the supply side, but also to advance the development and diffusion of technologies to create new demand consistent with the trend of decarbonisation. Meanwhile, by

building a system in which financing for decarbonisation (green finance) circulates through companies engaged in addressing climate change, and rethinking the market, infrastructure and institutions in light of the products and technologies born out of this system, exhaustive domestic diffusion can be achieved. Moreover, as it becomes more certain that responses to climate change will be increasingly required over the mid- and long-term, superior products and technologies can be expanded internationally. A framework to drive the transition to this type of decarbonisation is to be devised (see Chapter 3).

(3) A bright society with hope for the future: approaches to creating a decarbonised society

One perspective revealed in the recommendations of the Meeting on a Long-term Strategy was the need to show the way to transition to an ideal society. The long-term strategy states that, "a decarbonised society for which this strategy aims should also be a bright society with hope for the future," and asserts that, "it is important to create an environment to work voluntarily and actively by sharing the model of such a society with as many stakeholders as possible." Meanwhile, this society may differ depending on generation, position and location, and thus takes into account five factors (1. Achievement of SDGs, 2. "Co-creation" as the basis of continued innovation, 3. Working with Society 5.0, 4. A "circulating and ecological economy" that realises the SDGs locally, and 5. Becoming a "leading country in solving problems" through sharing and applying best practices from communities). The long-term strategy also stipulates that the government will "support each stakeholder in sharing awareness for a decarbonised society, forming a future vision of the society and taking proactive action". This will

involve attaching importance to the problems and needs of citizens, local communities and companies, as well as to their preferred changes, to create a vision of society in which people have a "shared understanding" on solving these problems. Thus, it can be called an approach to applying the technologies, socioeconomic systems and lifestyles linked to decarbonisation to this vision of society. From the perspective of realising a virtuous cycle of environment and growth, it is a topic that is expected to be materialised and applied in the future.

Chapter 2 presents visions in the respective sectors of "Energy", "Industries", "Transport", "Community and Living" and the direction of policies and measures.

In the area of "Energy", the vision entails that the government will continue to explore all options to promote energy transformation and decarbonisation. Specifically, the government will work steadily to make renewable energy a stable main power source and to overcome systematic constraints and ensure coordination, including cost reduction, innovative research and development, examination of institutions to facilitate self-reliance from Feed-in Tariffs (FIT), and overcoming limitations to large scale introduction.

In the area of "Community and Living", the vision entails the creation of a "Circulating and Ecological Economy" to advance local decarbonisation and achieve the SDGs with integrated improvements on the environment, economy and society, and the achievement of carbon neutrality on the part of communities and companies where it is possible, before 2050. The long-term strategy incorporates the promotion of decarbonising actions on the part of each member of society from the perspectives of technological development targeting housing and

offices, promotion of diffusion, and lifestyle shift.

Chapter 3 presents three key policies for achieving a "virtuous cycle of environment and growth".

In "Promotion of Innovation", it is deemed essential to promote "innovation for practical application and wide use" for technologies to be adopted in the society, together with innovations to create cutting-edge technologies. A "Progressive Environment Innovation Strategy" will be formulated this year based on various elements, including setting clear targets such as cost, long-term commitments including the size of investment, and setting challenges based on needs. Likewise, innovation in Economic and Social Systems and Lifestyle innovation will be promoted toward the practical application and wide use of technologies.

In "Promotion of Green Finance", a framework in which financing for decarbonisation (green finance) circulates through companies engaged in addressing climate change will be created, and initiatives will be supported and promoted, not only in the financial sector, but also in the industrial sector, focused on TCFD, an international initiative discussed at the G20. Expansion of ESG investing will also be promoted, including support for issuance of green bonds and local financial institutions.

In "Business-led Promotion of International Application and International Cooperation", policies are indicated on improving business environments, such as working to connect business to institutional and policy development in partner countries, and additionally on the public and private sectors coming together to create frameworks to compare and assess energy efficiency, and institutions for energy efficiency labeling and international standardisation.

Chapter 4 compiles policies

on human resource development; an integrated approach in building a resilient society to adapt to climate change; just transition; government's efforts to lead the society; and carbon pricing. Of these, carbon pricing is a concept that includes emissions trading schemes and carbon tax, and a variety of opinions were voiced on this point at the Meeting on a Long-term Strategy. The direction of policy presented in the long-term strategy conforms to the contents of recommendations.

Chapter 5 discusses a future way forward. Concerning review of the long-term strategy, a review cycle of about six years is presented considering the cycle of related plans. However, reviews of the content of measures and policies will be carried out periodically and flexibly based on various conditions.

Further, the long-term strategy differs from concrete action plans for which PDCA management is appropriate. The strategy presents the ideal direction of policies and promotes the active engagement of various stakeholders. Thus, it places emphasis on scientific analysis dependent on future changes in conditions, provision of this information, and cooperation and dialogue with various stakeholders including younger generations.

4. Conclusion

Amidst uncertainties about the year 2050, and later into the future, it is not possible to make accurate

predictions. However, if we continue as is without taking any actions, it is not hard to imagine the challenges that Japan will face related to our environment, economy and society, including not only climate change, but involving ways of business, ways of working, maintenance of our communities and relations between cities, as well as our ways of living. The aim of the long-term strategy is to create an environment in which we can voluntarily and actively engage from our respective standpoints to move in the certain direction of a "decarbonised society" to achieve a "bright society with hope for the future" in line with the SDGs, rather than passively await the changes that may come. While this approach itself is challenging, thankfully, we have the potential of a variety of decarbonising technologies, such as renewable energies, hydrogen and carbon recycling. Additionally, advanced digital technologies such as AI and IoT, as well as trends in consumption shifting from "things" to "services" and transformation in our sense of values, are suited to decarbonising technologies and have the potential to make disruptive changes in our societies and ways of living, making them carbon neutral, resilient to disasters and enjoyable.

We must achieve a "virtuous cycle of environment and growth" to realise a decarbonised society. We will continue to be engaged under consistent policy, focused on a vision for society linked to co-creation and shared understanding, scientific analysis, partnerships and dialogue.

Notes

*1 See the following URL for the full text and outline of the long-term strategy.

Full text: <https://www.env.go.jp/press/111913.pdf>

Outline: <https://www.env.go.jp/press/111914.pdf>

*2 Achieving a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century (carbon neutrality throughout the world).

*3 For instance, the 2030 reduction targets (NDC) set by Japan in anticipation of the mid-term future a few decades ahead, and are feasible reduction targets based on the compilation of measures, policies and technologies backed by ample consideration of technological constraints and issues of cost, etc.



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2nd General Meeting of the African Clean Cities Platform and TICAD7

Toward Clean and Healthy Cities in Africa!



The Ministry of the Environment, together with the Japan International Cooperation Agency (JICA), Yokohama City, United Nations Environment Programme (UNEP) and United Nations Human Settlements Programme (UN-Habitat), held the “2nd General Meeting of the African Clean Cities Platform (ACCP)” on 26-27 August as an official side event of the Seventh Tokyo International Conference on African Development (TICAD7) on 28-30 August, in Yokohama. Approximately 400 people participated including representatives from 38 African countries, making the meeting the largest among the numerous official side events of TICAD7.

Summary of the 2nd General Meeting of the ACCP

On the first day, State Minister of the Environment, Tsukasa Akimoto, gave the opening address, emphasizing the importance of contributing to improved waste management in African countries through the sharing of Japan’s systems and technologies. Subsequently, Japanese companies interested in developing business in Africa introduced their technologies and business activities via presentations and booth displays. Likewise, the “Guidebook for Environmental Education on Solid Waste Management in Africa”, a report prepared by JICA that highlights environmental education activities in Africa, was released. Lastly, Parliamentary Vice-Minister of the Environment, Takaaki



Katsumata, gave remarks, stressing the importance of improving citizens’ awareness on separation and reduction of waste through environmental education.

On the second day, the “Africa Solid Waste Management Data Book 2019”, prepared by JICA, was released, and the need for ongoing collection and updating of basic data was confirmed. Moreover, discussions took place on the need for fund mobilisation and raising the priority of waste management in African countries in order to achieve improvements in the field. At the High Level Session, representatives from African nations, participating cities and international organisations gave their high level statements. Minister of the Environment of Japan, Yoshiaki Harada, highlighted the following three areas in particular for strengthening measures to contribute to improved waste management in Africa.

(1) Strengthening the ACCP secretariat function: Because ACCP is a platform for African nations, it is important to enhance ownership by

African nations and to move the axis of activities to Africa. Accordingly, UN-Habitat, headquartered in Africa, taking on the core role in the ACCP Secretariat in Africa will lead to strengthening of the secretariat function.

(2) Enhancing safety at landfill sites: Most African countries are unable to respond to increasing amounts of solid waste, causing waste to pile up. Thus, landfills are faced with various problems including fires, landfill collapse and environmental pollution. Japan has developed the Fukuoka Method, a simple, low-cost technology to enhance safety and improve environments at landfills, and has a history of introducing this technology. An ACCP pilot project is to be implemented at the Hulene



Statement from Minister Harada

dump site in Mozambique in an aim to enable active application of the Fukuoka Method to address related problems in African countries. The lessons learned from this project will be compiled into a manual to be shared with African countries, aiming to disseminate the Fukuoka Method.

(3) Capacity Building: In order to engage in appropriate waste management, development of related laws and human resources to carry out operations are essential. With the aim of developing such human resources, Japan is promoting the establishment of a training center in Africa, in addition to implementing trainings in Japan for learning from Japan's experiences and technology. Likewise, Japan is partnering with local governments that have extensive experience in waste management, including Yokohama City, Tokyo Metropolitan Government, Osaka City, Fukuoka City and Kitakyushu City, to implement more effective capacity building.

Outcomes of the 2nd General Meeting of the ACCP

Lastly, as an outcome of the meeting, the "Yokohama Action Guidance for the ACCP", which stipulates the future direction of ACCP activities, was adopted. The outcomes of the meeting were input at TICAD7, moving further forward in promoting waste management in African countries.

Waste Management Project in Mozambique

The Fukuoka Method (semi-aerobic landfill) will be introduced at the Hulene dump site in Maputo City of Mozambique as an ACCP model project. This method, a technology for landfill management developed in Japan, is designed to facilitate the decomposition of waste by creating paths for air and water

Yokohama Action Guidance for the ACCP	
<p>1. Expanding the ACCP participation</p> <ul style="list-style-type: none"> encourage participation of development partners to the ACCP strengthen the cooperation with private sector 	<p>7. Improving waste collection & transportation system</p> <ul style="list-style-type: none"> strengthen the cooperation with stakeholders noting informal sector plays important roles
<p>2. Strengthening the ACCP secretariat function</p> <ul style="list-style-type: none"> request UN-Habitat to play a core role in the ACCP secretariat in Africa 	<p>8. Enhancing safety at landfill sites</p> <ul style="list-style-type: none"> disseminate "Fukuoka Method" (semi-aerobic landfill system) through developing manual
<p>3. General Meeting of the ACCP</p> <ul style="list-style-type: none"> in future, convene the General Meeting of the ACCP in conjunction with the TICAD hold a workshop on various occasions 	<p>9. Promoting 3R and proper waste treatment</p> <ul style="list-style-type: none"> enhance a public-private partnership to increase investment for waste management business
<p>4. Capacity building & co-creation of knowledge</p> <ul style="list-style-type: none"> establish a local training centre in Africa conduct study tours in Africa 	<p>10. Encouraging awareness-raising activities</p> <ul style="list-style-type: none"> utilize "Guidebook for Environmental Education on Solid Waste Management in Africa"
<p>5. Continuous collection of the basic data</p> <ul style="list-style-type: none"> utilize "Africa Solid Waste Management Data Book 2019" 	<p>11. Creating impacts on the ground</p> <ul style="list-style-type: none"> implement the ACCP pilot project at the Hulene landfill site in Mozambique facilitate training program in cooperation with local governments in Japan (Yokohama, Tokyo, Osaka, Fukuoka, Kitakyushu)
<p>6. Monitoring progress towards achieving SDGs</p> <ul style="list-style-type: none"> encourage monitoring on the SDGs indicators 	

Outline of the Yokohama Action Guidance for the ACCP

within the landfill, to stabilise the landfill to prevent collapse and fire, and to purify leachate. The project is scheduled to commence in November of this year.

Outcomes of TICAD7

The government of Japan has been leading the TICAD conference since 1993, co-hosted by the United Nations, United Nations Development Programme (UNDP), World Bank and the African Union Commission (AUC).

In his address at the opening session, Prime Minister Shinzo Abe described ACCP as, "a platform by which Japan, 36 countries in Africa, and a host of UN organisations join forces, aiming at reducing, reusing, and recycling waste in African cities. It is a kind of undertaking that takes decades, not years."

State Minister of the Environment, Minoru Kiuchi, participated in a session on climate change and disaster risk reduction on 29 August to provide information on, (1) the necessity of creating plans adjusted to the differing situations and needs of regions based on the latest scientific knowledge on climate change predictions within comprehensive measures to address adaptation and disaster prevention; and (2) support provided to establish

the Educational Partnerships for Innovation in Communities (EPIC) Africa, to enhance the resilience and sustainability of cities as a part of activities based on the G20 Action Agenda on Adaptation and Resilient Infrastructure adopted at the G20 Ministerial Meeting on Energy Transitions and Global Environment for Sustainable Growth held in Karuizawa, Nagano on June 15 and 16. State Minister Kiuchi also called attention to the initiatives of the ACCP.

The Leaders' Declaration (Yokohama Declaration 2019) adopted on 30 August incorporated intentions to "emphasise the need to address other pressing environmental issues such as reducing marine plastic litter and pollution, Illegal, unreported, and unregulated (IUU) fishing, and promoting the utilisation and sustainable use and conservation of biodiversity, clean water and sanitation, as well as waste management" in a section on "deepening sustainable and resilient society".



African Clean Cities Platform
<http://africanleancities.org/>



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G7 Environment Ministers' Meeting and the Metz Charter on Biodiversity

At the G7 Environment Ministers' Meeting, held in Metz, France, on 5-6 May, Japan's Minister Harada spoke on Japan's initiatives and contributed to the adoption of the Communiqué and Charter on Biodiversity.

G7 Environment Ministers' Meeting in Metz, France

Minister Harada advised on the following initiatives at the G7 Environment Ministers' Meeting.

- (1) Ahead of the G20 Ministerial Meeting on Energy Transitions and Global Environment for Sustainable Growth on 15-16 June, Japan, to contribute to achieving the 1.5°C target, will formulate a long-term strategy based on the Paris Agreement that aims for a “decarbonised society” as early as possible in the latter half of this century. Moreover, Japan is advancing measures ahead of other nations to control the emissions of fluorocarbons, including revision of the “Fluorocarbons Emission Restraining Law”.
- (2) Japan will aim to construct an effective framework involving emerging and developing countries to address the problem of marine plastic litter at the G20 in June.
- (3) Concerning biodiversity, Japan will actively contribute to discussions on new global targets to ensure that initiatives under the Aichi Targets are continued and further developed. Further, based on the revised Natural Environment Conservation Law approved in the Diet last month, Japan will establish offshore seafloor nature conservation areas



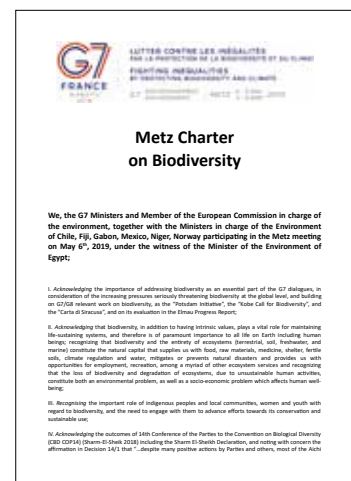
toward April next year, when the law takes effect, to contribute to achieving Aichi Targets related to protected areas.

In subsequent follow-up, concerning (1), a cabinet decision was made on 11 June on the “Long-term Strategy under the Paris Agreement”. Concerning (2), an agreement was reached on the “G20 Implementation Framework for Actions on Marine Plastic Litter” at the G20 in June. Likewise, at the subsequent G20 Osaka Summit, the “Osaka Blue Ocean Vision” that aims to reduce additional pollution by marine plastic litter to zero by 2050, was shared.

Charter on Biodiversity

Concerning (3), the “Metz Charter on Biodiversity” was adopted at the G7 Environment Ministers' Meeting. The Charter includes the decision that the G7 nations and other stakeholders make commitments on biodiversity and support the development and implementation of a post-2020 global biodiversity framework. As the host nation of the

Convention on Biological Diversity COP10 that took the lead in the adoption of the Aichi Targets, Japan will continue to actively contribute to the development of the post-2020 global biodiversity framework based on the Charter.



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Strengthening Measures on Fluorocarbons and International Expansion

Life-cycle Management of Fluorocarbons

This article will introduce Japan's domestic measures on addressing fluorocarbon emissions and initiatives in the international expansion of the life-cycle management of fluorocarbons.

Japan's measures to address fluorocarbons

Fluorocarbons are substances utilised as refrigerants in mainly air conditioners, refrigerators and other freezing equipment that are quite familiar in our everyday lives. Among these, CFCs and HCFCs cause depletion of the ozone layer. While HFCs do not deplete the ozone layer like CFCs and HCFCs, they are strong greenhouse gases (from hundreds to more than 10,000 times stronger than carbon dioxide). Thus, control of fluorocarbon emissions is extremely important from the perspectives of both ozone protection and global warming mitigation.

Japan has two laws to regulate fluorocarbons. The "Act on the Protection of the Ozone Layer Through the Control of Specified Substances and Other Measures" regulates production and consumption of fluorocarbons based on the Montreal Protocol. The "Act on Rational Use and Proper Management of Fluorocarbons" provides comprehensive approaches throughout the life-cycles of fluorocarbons. To promote transitions to low-GWP (Global warming potential) or non-fluorocarbon refrigerants, a system of Designated Products is also provided

by this law. To reduce emissions due to leaks from equipment, users of commercial refrigerators and air conditioners are obligated to carry out periodical inspections of their equipment. They are also required to report the annual total amount of leakage if it exceeds a certain amount. Efforts made and measurements taken to reduce leakage from equipment are reported to encourage other users. Also, to prevent discharge into the air upon disposal of equipment, users are required to recover and appropriately destruct or recycle fluorocarbons from all commercial equipment.

In addition to regulations based on laws, the Ministry of the Environment and the Ministry of Economy, Trade and Industry promote the development of low-GWP or non-fluorocarbon refrigerants, as well as the development and introduction of products that use these refrigerants.

Toward global countermeasures on fluorocarbons

An examination of global trends in fluorocarbon countermeasures reveals that although countries are regulating manufacture and import based on the Montreal Protocol, initiatives in recovery and disposal from equipment using fluorocarbons have not always been put in place. On top of remaining HCFCs and CFCs, the amount of global emissions of HFCs is expected to increase from about 900 million t-CO₂eq to about two billion t-CO₂eq in 2030, around

6% of the amount of energy-related CO₂ emissions of the world, even if all Parties comply with the requirements of the Kigali Amendment. For this reason, it is necessary to promote proper management of fluorocarbons throughout their life-cycles, including recovery, recycling and destruction, on a global scale.

Japan has already started implementing demonstration projects with Thailand and Vietnam since 2018 to recover and destruct fluorocarbons using the Joint Crediting Mechanism (JCM) scheme. We aim to expand initiatives to address the life-cycle management of fluorocarbons and to contribute to reducing fluorocarbon emissions worldwide.



Fluorocarbon destruction device of the same type as that to be introduced in Vietnam



Scene of fluorocarbon recovery in Vietnam



Hidekazu Kuraya

Director
Office of Fluorocarbons Control Policy
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Setonaikai National Park

Seascapes where people live in harmony with nature

Islands and islets dot the calm sea in the Setonaikai National Park, where fishing boats come and go and quiet sunsets dazzle the seascapes, with terraced mandarin orange orchards and seaside towns, where people live in harmony with nature and the splendid and colorful natural scenery.



Location of Setonaikai National Park

View of Setonaikai

The Setonaikai was one of the first areas of Japan to be designated a national park in 1934, along with Unzen and Kirishima. Located in Western Japan, the park can be reached from Tokyo by plane and rail in about 2-3 hours, and from Osaka by rail in about 1-3 hours. The calm waters of the Setonaikai are dotted with islands, both big and small, offering impressive scenic views from various angles, whether from land, boats or lookout spots. Since ancient times, this area has flourished as an important water transportation route and has had a thriving population of people. It is characterised by welcoming scenery created by people living together with the nature of the sea and islands. As such, there are people living within the national park, as well as shrines and temples, rice paddies and farms, and fruit orchards. The nature of this national park has been protected alongside the coexistence of humans and nature.



View of sea dotted with islands from Mt. Shiude (Kagawa Prefecture)

Setouchi—a world travel destination

The Setonaikai, also called “Setouchi”, was the only place in Japan selected by the New York Times as one of the “52 Places to Go in 2019”.

Visitors can experience a variety of activities at the Setonaikai National Park and surrounding areas. Water activities include cruises around the island-dotted seas,

island hopping, sea kayaking, Stand Up Paddleboard and sightseeing boats. On land, visitors can experience activities including cycling on the Shimanami Kaido, camping on uninhabited islands, trekking and cooking classes. Additionally, in recent years the islands of the Setonaikai have served as the stage for an international arts festival, with tours of islands to see the artworks. Have a look at Setonaikai National Park’s online videos and our official Facebook page.

Why not come to Setonaikai National Park and see not only our amazing natural scenery, but also experience our culture, glimpse the lives of local people, and enjoy art!



Tomonoura Taiami Sea Bream Netting Festival (Hiroshima Prefecture)



Video on Setonaikai National Park:
<https://www.youtube.com/watch?v=JfYkSv7L1fo&feature=youtu.be>



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