



Japan's Measures on Climate Change and Ocean

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Overview of the Act on Promotion of Global Warming Countermeasures

1. Aim of the Act

It is a task shared by all humankind to stabilize the GHG concentration in the atmosphere and to prevent global warming. Japan advances global warming countermeasures through measures such as those promoting reduction of GHG emissions due to socioeconomic activities

2. Development of the base for comprehensive and systematic advancement of global warming countermeasures

- Formulate the Plan for Global Warming Countermeasures *Check the progress annually. Make a review once in every three years.
- Establish the Global Warming Prevention Headquarters (Chairman: Prime Minister, Vice Chairman: Chief Cabinet Secretary, Minister of the Environment, and Minister of Economy, Trade and Industry)

3. Individual measures for GHG emission control, etc.

National and local government's action plans

- Plans for reducing GHG emissions from the administration and undertakings of national and local governments
- Prefectures and core cities, etc. and bigger cities have the obligation to formulate plans for measures such as GHG emissions control in accordance with the social and natural conditions of their local areas including promotion of natural energy and improvement of the convenience of public transportation
- Urban planning and plans for agricultural promotion regions should be linked to the execution plans

Reporting system of calculated GHG

- Business operators that emit 3,000 tons or more of GHG are obliged to report the amount of GHG emissions to the national government and the national government totals up and announces the amount
- Reports are made by business operators and franchise chains
- Competent ministers can provide technical advice on the calculation and reduction methods

Promotion centers for climate change action, etc.

- Japan Center for Climate Change Action (designated by the Minister of the Environment)
Designate the Japan Center for Climate Change Actions
- Prefectural promotion centers for climate change action (designated by prefectural governors, etc.)
- Prefectural governors, etc. designate the Climate Change Action Officers

Guidelines for emissions control, etc.

- Control of business emissions (introduction of high-efficiency equipment, minimizing the use of air conditioning, rational use of office equipment, etc.)
- Control of daily emissions (promotion of visualization of CO2 regarding products, promotion of 3R, etc.)
- The national government announces effective implementation guidelines of such emissions control

Maintaining GHG absorption by sink

4. Other Trading scheme of the Kyoto Mechanism (quota account inventory, etc.)

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

Chapter 1: Basic Concept

Provisional
Translation

Vision: Proclaiming a “**decarbonized 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 :

Realizing “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 decarbonization**



2. Industry

Decarbonized manufacturing



3. Transport

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



4. Community and Living

Realizing **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 **decarbonized society**

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

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

1. Promotion of Innovation

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

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

2. Promotion of Green Finance

Appropriate “visualization” of innovation, and mobilization of finance for the innovation by financial institutions

- (1) Mobilizing 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 decarbonization 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 decarbonized societies on a global scale



Fuel Cell Buss



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

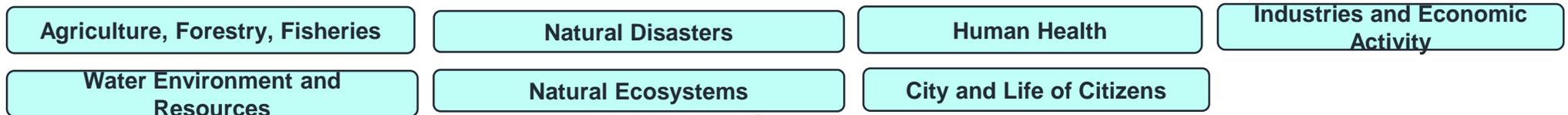
- **Review:** Flexibly considering of the long-term strategy taking circumstances into account and as necessary reviewing it, about every 6 years
- **Implementation:** Analysis that takes future change in situation into account/Partnerships/Dialogue⁴

Climate Change Adaptation Act

1. Comprehensive Adaptation Programme

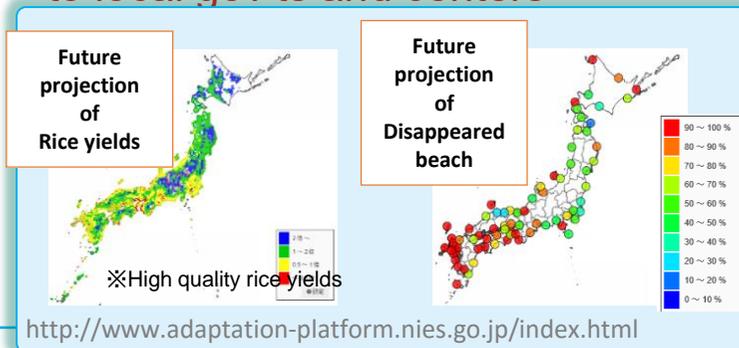
- Decide roles of national and local governments, private sectors, and citizens to promote climate change adaptation.
- National government shall formulate **National Adaptation Plan (NAP)** to promote adaptation in all sectors.
- MOE shall implement **climate change impact assessments, every 5 years**. The NAP needs to be revised accordingly.

Promote effective adaptation measures in various fields based on reliable scientific information



2. Information Platform

- The National Institute for Environmental Studies (**NIES**) operates Climate Change Adaptation Platform (**A-PLAT**) as center of excellence.
- **NIES gives technical advice and assistance to local gov'ts and centers**



3. Adaptation in Local Areas

Local gov'ts are asked to;

- Formulate **Local Adaptation Plans**.
- Designate **Local Adaptation Center** for climate change data collection and provision locally.
- Organize **Regional Councils** to promote adaptation measures in a cooperative manner with neighbor local governments.

4. International Actions and Business

- Promote International cooperation.
- Promote adaptation business.

National Adaptation Plan (Basic Direction)

Objective

Prevention/reduction of Climate-related impacts



- Stabilization of people's life
- Sound development of society & economy
- Preservation of Natural environment

Society ensuring safety, security and sustainability

Period

Planning for next 5 years considering long-term perspective until the end of 21st century

Role & Responsibility of each actor

National government

- To promote the various actors' adaptation in each subject

Local government

- To promote adaptation policies in local area

Business

- To introduce adaptation action in each business sector

Citizens

- To take adaptation action

The National Institute for Environmental Studies (NIES)

- To develop information infrastructure
- To provide technical support for local authorities

Key strategies

1 Mainstreaming adaptation into government policies

2 Promotion of the Climate Change Adaptation based on scientific findings

3 Gathering information/knowledge from researchers and institutes and developing information infrastructure

4 Promotion of adaptation considering local background

5 Deepening understand of people and promoting adaptation action in each business sector

6 Contribution for capacity enhanced in the developing countries

7 Securing close relationship and collaboration among the relevant government agencies

Progress management

Climate Change Impact Assessment

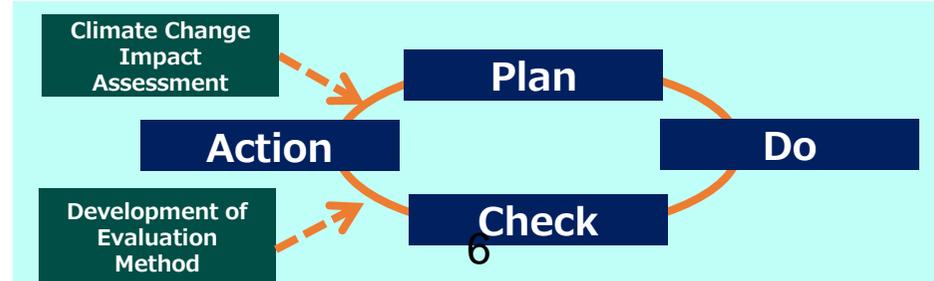
- Submission to the Central Environment Council
- Assessment by 2020

Progress Management of NAP

- Follow-up every year by PDCA cycle

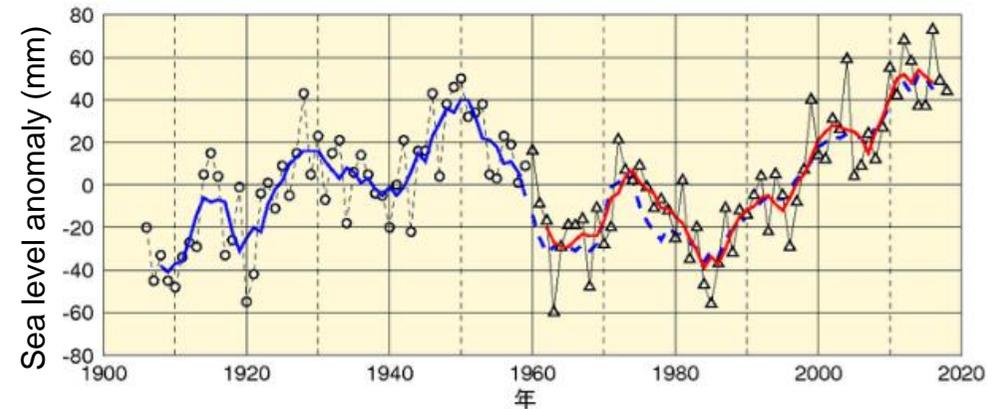
Development of Evaluation Method

- Grasp of effectiveness to bluish up the method



Impacts of sea level rise in Japan

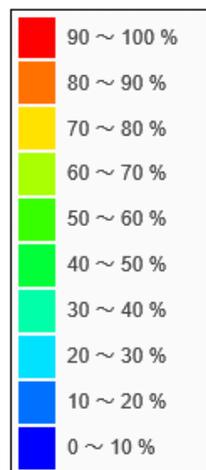
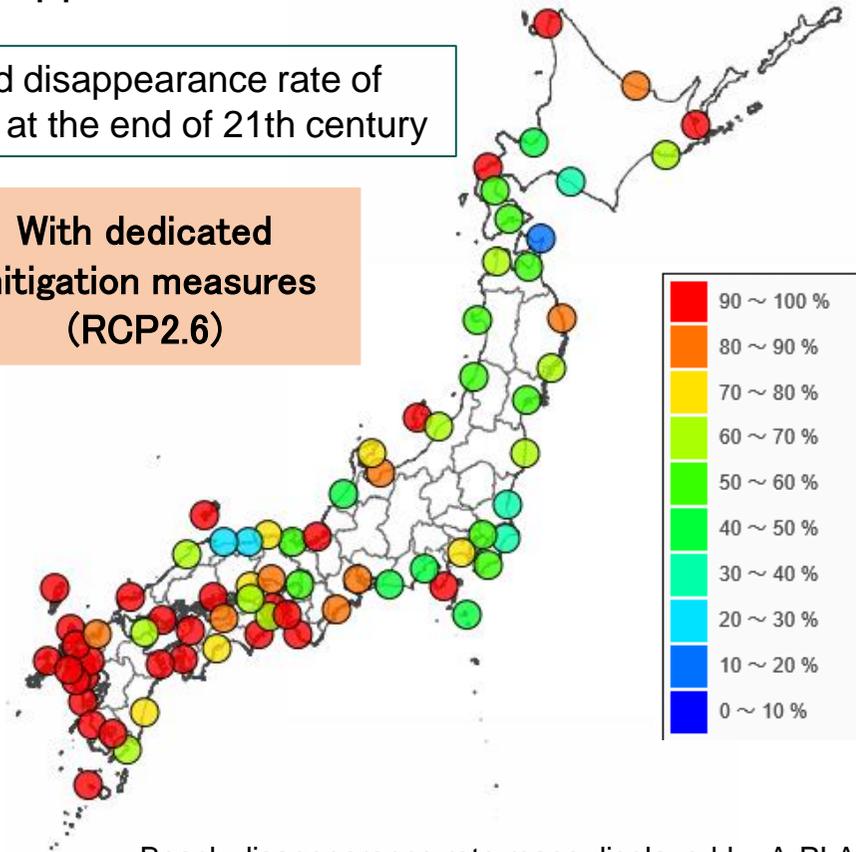
- **No clear increasing trend is observed in the sea areas around Japan** in the period 1906 - 2018.
- Quantitative attribution to global warming is difficult because the sea level depends on many factors. (excerpts from Integrated report on observation, projection and impact assessment of climate change 2018)
- The future sea level rise can **increase the risk of storm surges**.
- **Tourism business can be damaged** if beaches disappear because of the sea level rise. (excerpts from National Adaptation Plan)



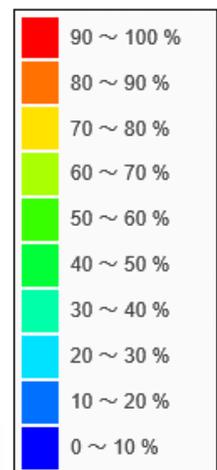
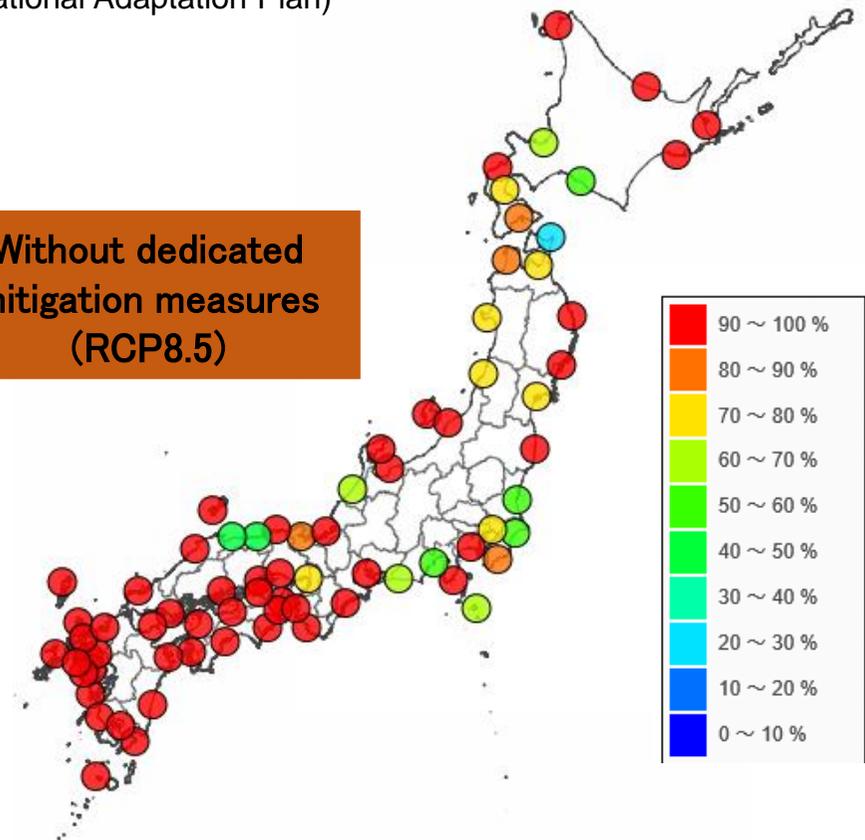
Average sea level in the sea areas around Japan (JMA)

Projected disappearance rate of beaches at the end of 21th century

With dedicated mitigation measures (RCP2.6)



Without dedicated mitigation measures (RCP8.5)

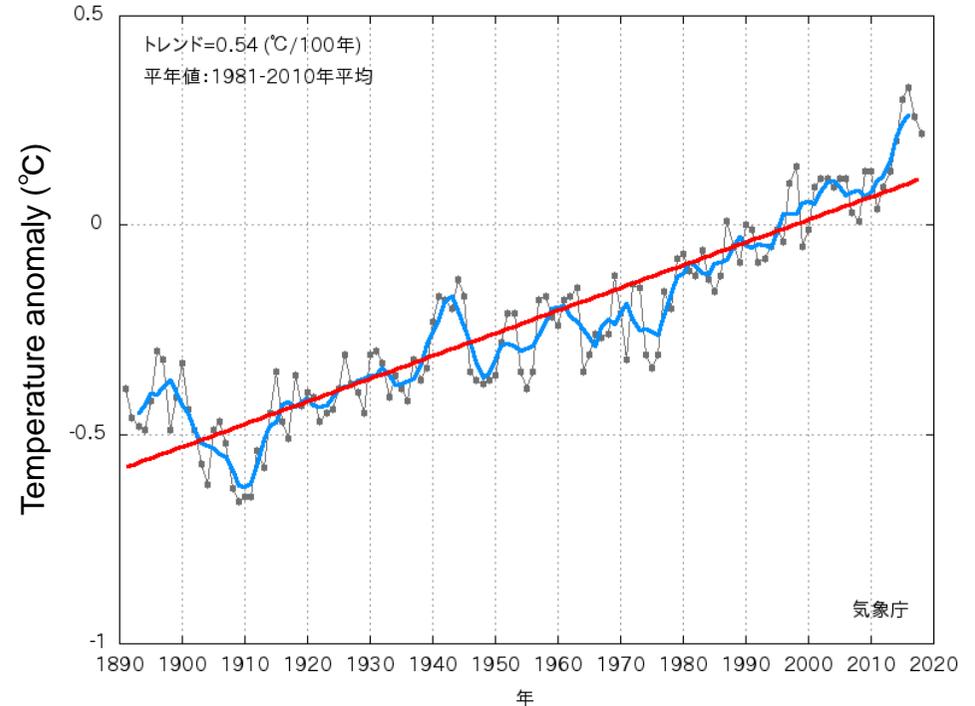


Impacts of sea water temperature increase in Japan

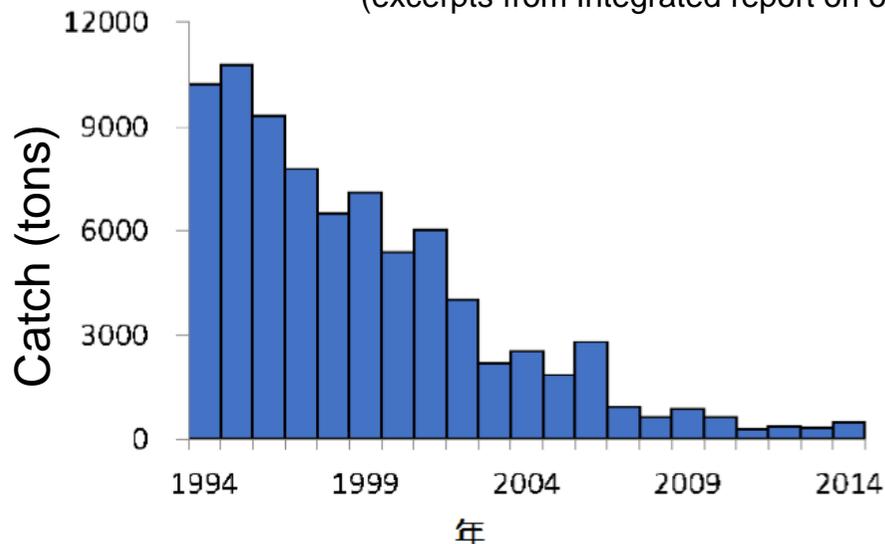
- **Global average sea surface temperature is rising** at the pace of $0.54\text{ }^{\circ}\text{C}$ per 100 years.
(Japan Meteorological Agency: Right figure)
- **Changes in distribution, migration patterns and catches of fishery products**, which is probably attributed to sea water temperature increase, are reported.
- **Impacts on cultivation** of scallops, oysters, seaweeds, etc. are reported, and adaptation measures are considered.

*Estimates of Impacts on fish catches have large uncertainties because of factors unrelated to global warming such as resource management, etc.

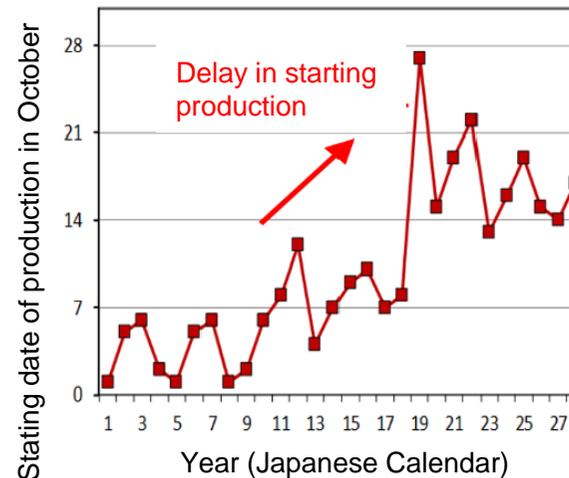
*Yields depend on various factors in addition to sea water temperature increase due to climate change.



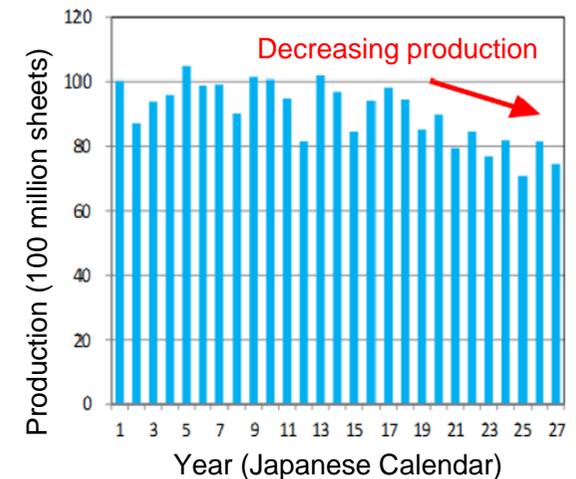
(excerpts from Integrated report on observation, projection and impact assessment of climate change 2018)



Changes in the catch of sagittated calamaries between August and November in the sea areas around Japan (MAFF, 2015)



Left: Delay in the starting of production of Nori (seaweed) due to higher sea water temperature in Autumn. Right: Decreasing production of Nori (MAFF, 2015)



Measures to Conserve Coral Reef

Coral reefs support regional economies of tropical/subtropical regions

- Fisheries, tourism resources, nurture of regional culture, natural breakwater function
- The value of coral reefs in Japan is at least 239.9 billion yen/yr.



Coral Bleaching

Coral reefs are very vulnerable ecosystems

- Worldwide coral bleaching has been under way since 2015.
- It happened in Japan in 2016. Over 90% of coral reefs has been bleached in Sekisei Lagoon.
- Considering temperature rise and increase of coral bleaching, urgent measures are needed for critical coral reef ecosystems.
- Aichi Target: minimize artificial pressures on vulnerable ecosystems such as coral reefs.



Outflow of red soil

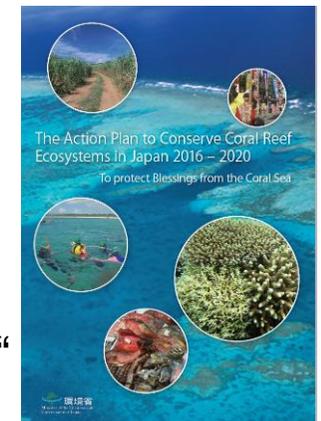


Int. measures

- Promoting the International Coral Reef Initiative (ICRI)
- Promoting information gathering on East Asia region to share with Global Coral Reef Monitoring Network (GCRMN)

Domestic measures

- Made "**Ecosystem conservation action plan 2016-2020**" in FY 2015.
- ⇒ Three focused challenges to address by FY 2020: "Countermeasures against land originated load" / "Promote sustainable tourism" / "Build relationship between people and coral reefs"
- ⇒ Implementing three on-site model projects to address the three challenges, conducting climate-change vulnerability assessments in three coral reefs etc.



Marine Protected Area (MPA)

Aichi Biodiversity Target

Conserve 10% of marine area as protected areas by 2020



Japan's Target

- **The National Biodiversity Strategy of Japan 2012-2020**

- **The 3rd Basic Plan on Ocean Policy**

Designate 10% of marine jurisdictional area as protected areas by 2020, and protect and manage adequately

Marine Biodiversity Conservation Strategy (March, 2011)

Definition of MPA of Japan (approved by National Ocean Policy Secretariat in 2011)

◆ The clearly designated area managed by law or other effective method with consideration of its use to conserve biodiversity and sustainable use of ecosystem.

The area applied as MPAs in Japan

- The total area is approx. **369K km²** (except overlapping area), **about 8.3%** of marine jurisdiction area (Territorial water and EEZ)
- ※ Break down: MPAs for nature conservation: approx. 21K km² (about 0.5%), MPAs for fishery management: approx. 364K km² (about 8.1%)

Asia-Pacific Adaptation Information Platform (AP-PLAT)

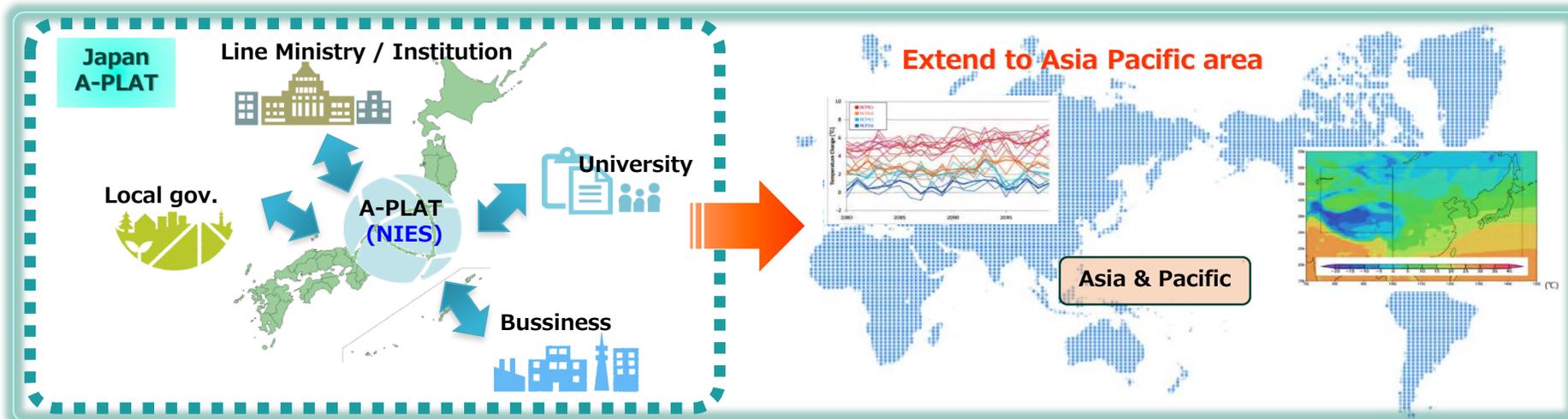
- AP-PLAT was **established on 16th June, 2019** during G20 Ministerial Meeting .
- A **web-site opened** to share the scientific knowledge including climate change impact assessment (Based on the Japan's Information Platform "A-PLAT" established in Aug. 2016)
- AP-PLAT also **explores practical partnership** aiming to enable environment for climate change risk informed decision making and practical adaptation action.
- Providing **the latest scientific climate risk information and supporting adaptation planning and project formulation** in collaboration with the partner countries and organizations



立ち上げ表明式（長野県軽井沢）

Three Core Pillars of actions in cooperation with the Partners

1. **Develop scientific knowledge/information**
2. **Showcase supportive tools for adaptation**
3. **Capacity Building on adaptation planning and project formulation**



【International Vision · Framework】

①Osaka Blue Ocean Vision (G20 Osaka Summit)

Aim to reduce additional pollution by marine plastic litter to zero by 2050

②G20 Implementation Framework for Actions on Marine Plastic Litter (Ministerial Meeting)

A new effective framework where each country—including developing/emerging countries — implements voluntary

【Japan’s Domestic Plan · Strategy】

①Resource Circulation Strategy for Plastics(May, 2019) :

Strategy to comprehensively promote resource circulation for plastics by setting a top level, ambitious “Milestone” as the course of action.

②National Action Plan for Marine Plastic Litter (May,2019) :

Effective measures to realize a world without additional pollution.

③Basic Policy on the Promotion of Measures Against Articles that Drift Ashore (May, 2019)) :

Treatment of articles that drift ashore and control of waste generation to preserve coastal landscape and environment.

Reduce/
Convert to
Substitute
Materials

Convert to Substitute Materials

- Aid for converting to substitute materials
- Green Purchasing

Reduce

- Initiatives within industrial circles

Recycle/
Resource
Circulation

Establish Domestic Resource Circulation System

- Aid for constructing recycling facilities
- Initiatives of Industrial Circles

International Resource Circulation

- Amendment to the Basel Convention

Measures
Against
Marine
Plastic Litter

Measures Against Marine Plastic Litter in Japan

- Aid for the processing of waste articles that drift ashore
- Measures Against Floating Litters, etc
- Measures against microplastics

International cooperation

- International cooperation on waste management and recycling:
- ASEAN +3 Marine Plastics Debris Cooperative Action Initiative:

National
Movements/
Awareness
Rising

Plastics Smart

- Plastics Smart
- Plastics Smart Forum

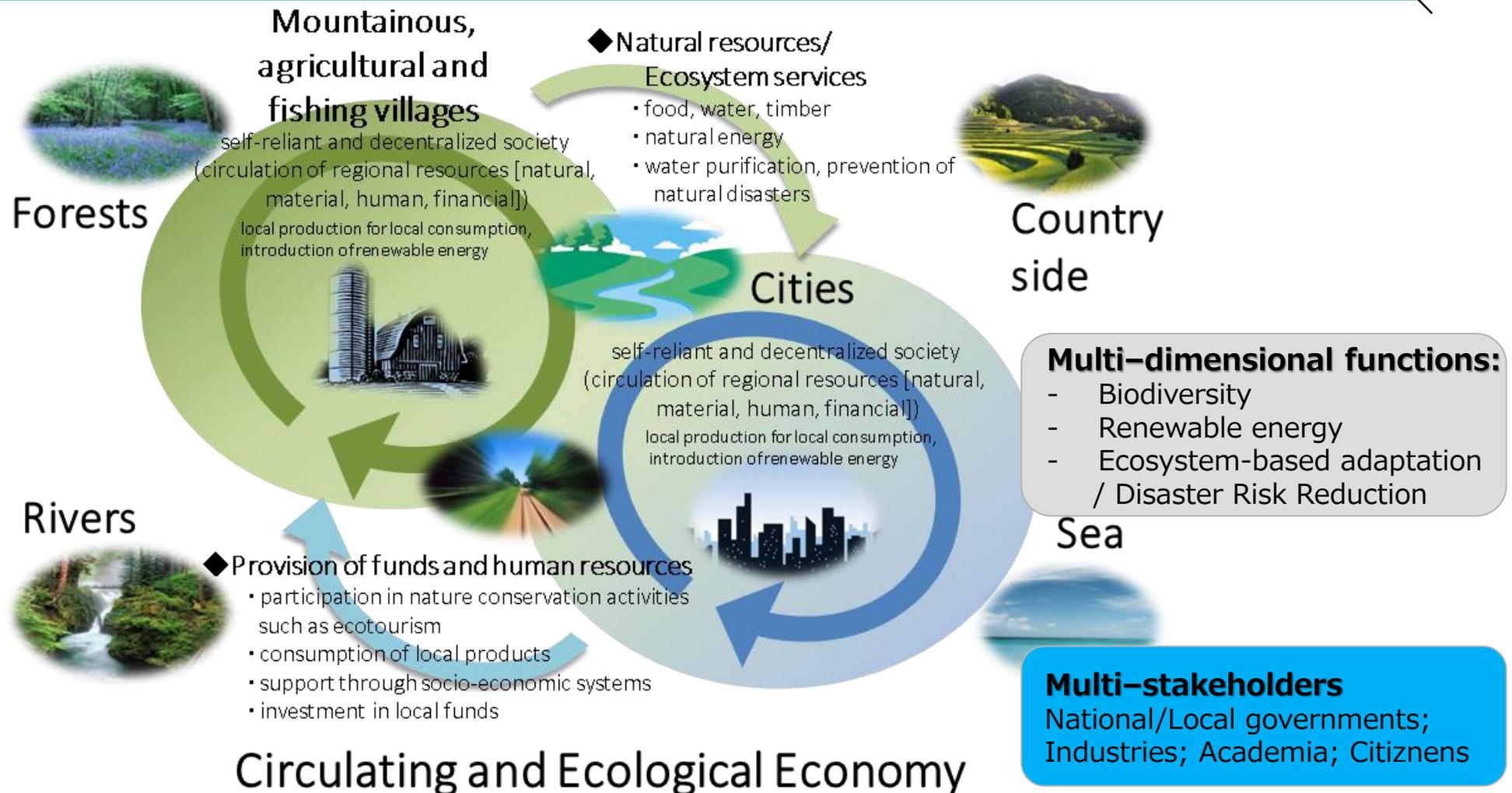
Marine Plastic Public Private Innovation Partnership

- Marine Plastic Public Private Innovation Partnership

UMIGOMI Zero Week

- UMIGOMI Zero Week
- UMIGOMI Zero Award

Circulating and Ecological Economy



Circulating and Ecological Economy

- Each region demonstrates its strengths by utilizing its unique characteristics
 - Makes use of regional resources and builds a **self-reliant and decentralized society**
 - Complements and **supports one another** according to unique characteristics of each region



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