

# **Climate Innovation Finance Strategy 2020**

**October 9, 2020**

**Industrial Science and Technology Policy  
and Environment Bureau**

# Climate Measures as Growth Strategy ~ a positive cycle of environmental protection and economic growth

- Climate change measures are positioned as a growth strategy in Japan under a concept of a **positive cycle of environmental protection and economic growth**. **Three major pillars** have been defined in the Long-term Strategy under the Paris Agreement enacted by the cabinet on June 2019.
- Globally, the financial and industrial sectors are responding to climate change more aggressively. Decarbonization initiatives have become a critical strategy to survive for existing industry, and the primary field of competition for new industry.
- **The application of policies may have a significant impact on the competitiveness of Japanese industries.**

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## Promotion of Innovation

Promote innovation in the energy and environmental sectors to achieve a adoptable cost level to society.

- **Environment Innovation Strategy** compiled in January 2020.
- **Global Zero Emission Research Center (GZR)** established with G20 international research initiations.

## Realization of

**a “positive cycle of environmental protection and economic growth”**

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## Promotion of Green Finance

Invite growing global ESG investment to innovation

- Promotion of disclosure through **TCFD Guidance** and fair evaluation by financial institutions through **Green Investment Guidance**
- Hosting **TCFD Summit** to further encourage disclosure globally

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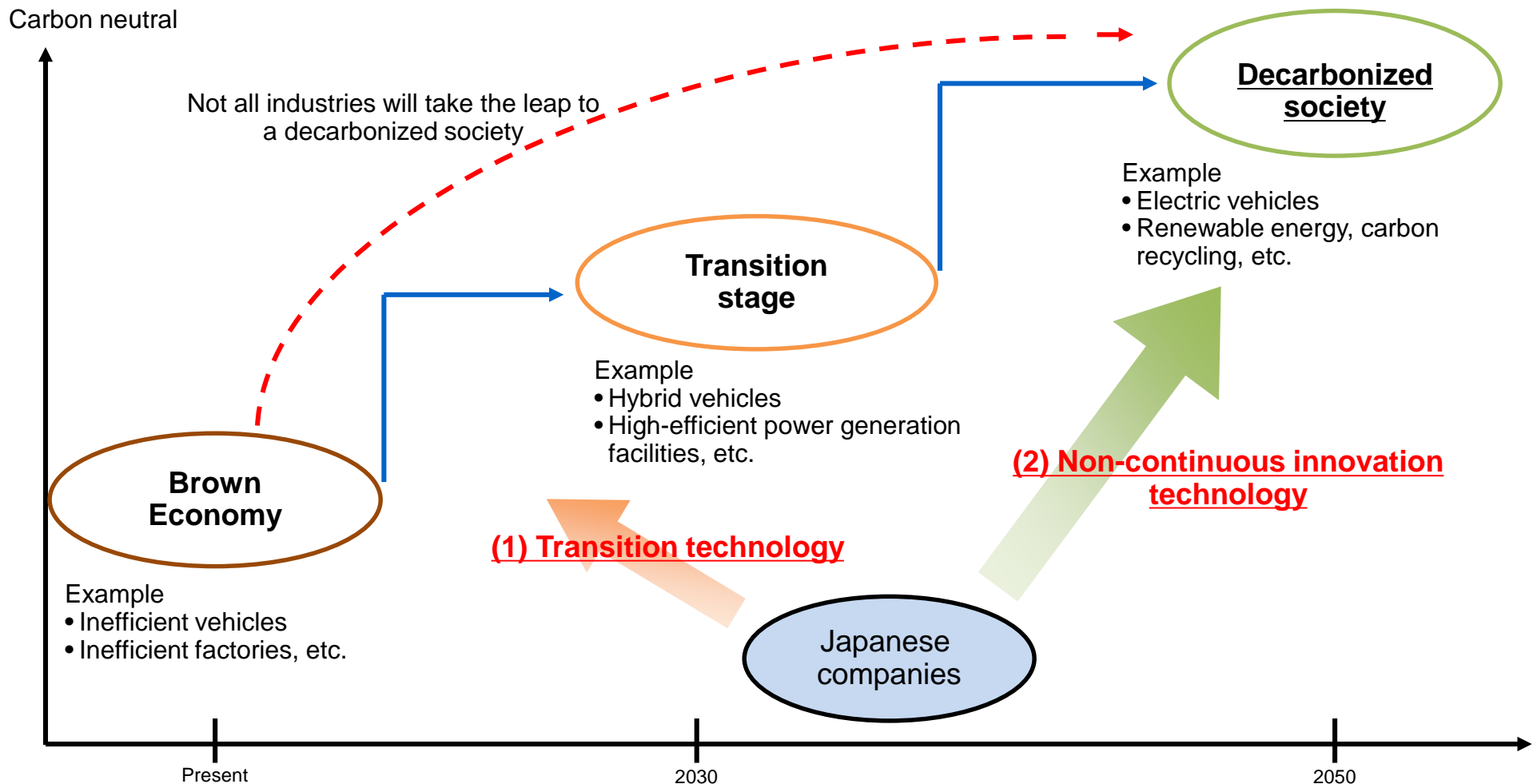
## Business-led Promotion of International Application and Cooperation

Share benefits of innovation globally by assisting in improving business environments of counterpart countries

- Hosting public-private workshop to spread low carbon technology primarily in Asia (**CEFIA: Cleaner Energy Future Initiative for ASEAN**)

# The Importance of Climate Innovation

- **The decarbonized society as a future vision must be achieved on a global scale.** Considering the situation of industries throughout the world, including emerging countries, not all industries will be able to take a leap towards a decarbonized society.
- Japan is able to contribute to global reduction of CO2 through **climate Innovation**, by transition such as energy conservation, and innovation technologies such as artificial photosynthesis and CCUS.



# Climate Innovation Finance Strategy 2020

Interim Report of the Study Group on Environmental Innovation Finance (September 2020)

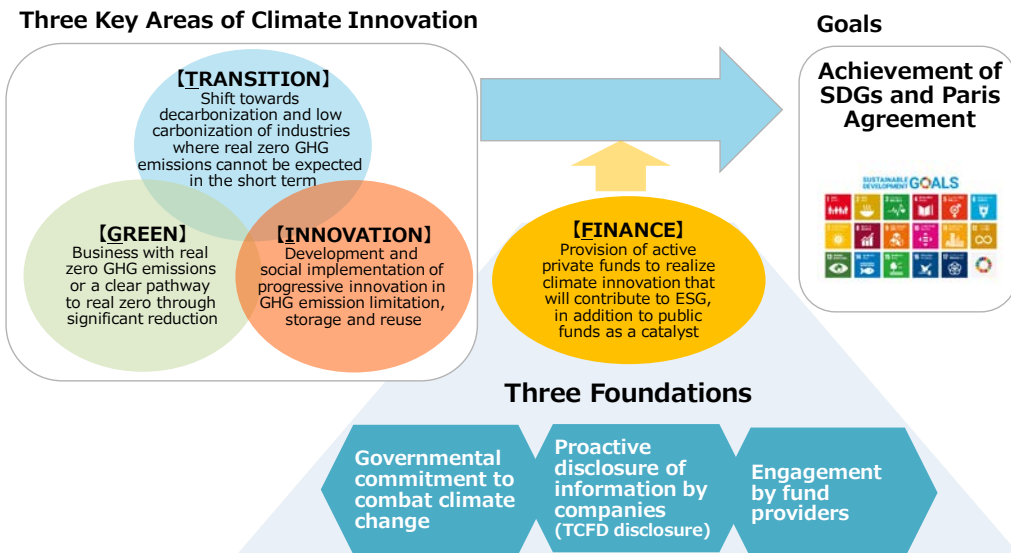
## (1) Background of the Study

- The Paris Agreement came into effect in 2020. Globally, a huge amount of investment is needed for low carbonization, particularly in emerging countries in Asia. Finance has an increasingly important role in promoting green investment as well as companies that are steadily transitioning to address climate change and innovating to drastically reduce greenhouse gases (GHG).
- With regard to sustainable finance, Japan has transition technologies which are already at the implementation stage, but is also in a position to supply long-term innovation technology to combat global warming.
- METI formulated a basic concept and future direction for the supply of public and private capital to these sectors titled "Climate Innovation Finance Plan 2020", and published it for investors and operational companies in Japan and abroad. Japan will contribute internationally through business innovation by Japanese companies to Asia and other regions where GHG emissions are increasing.

## (2) Basic Approach – Simultaneous Promotion of TGIFs for Climate Innovation

- To achieve SDGs and the Paris Agreement, it is important to simultaneously promote transition (T), green (G) and innovation (I), and to finance (F) these projects, rather than taking a binary approach to "green" or "nongreen".
- To this end, we will establish the three foundations: government commitment to address climate change, companies' proactive disclosure of information, and engagement by suppliers of funds.

### [Achieving goals by simultaneous promotion of TGIF (Illustration)]



## (3) Current Status and Future Direction of Key Areas and Foundations

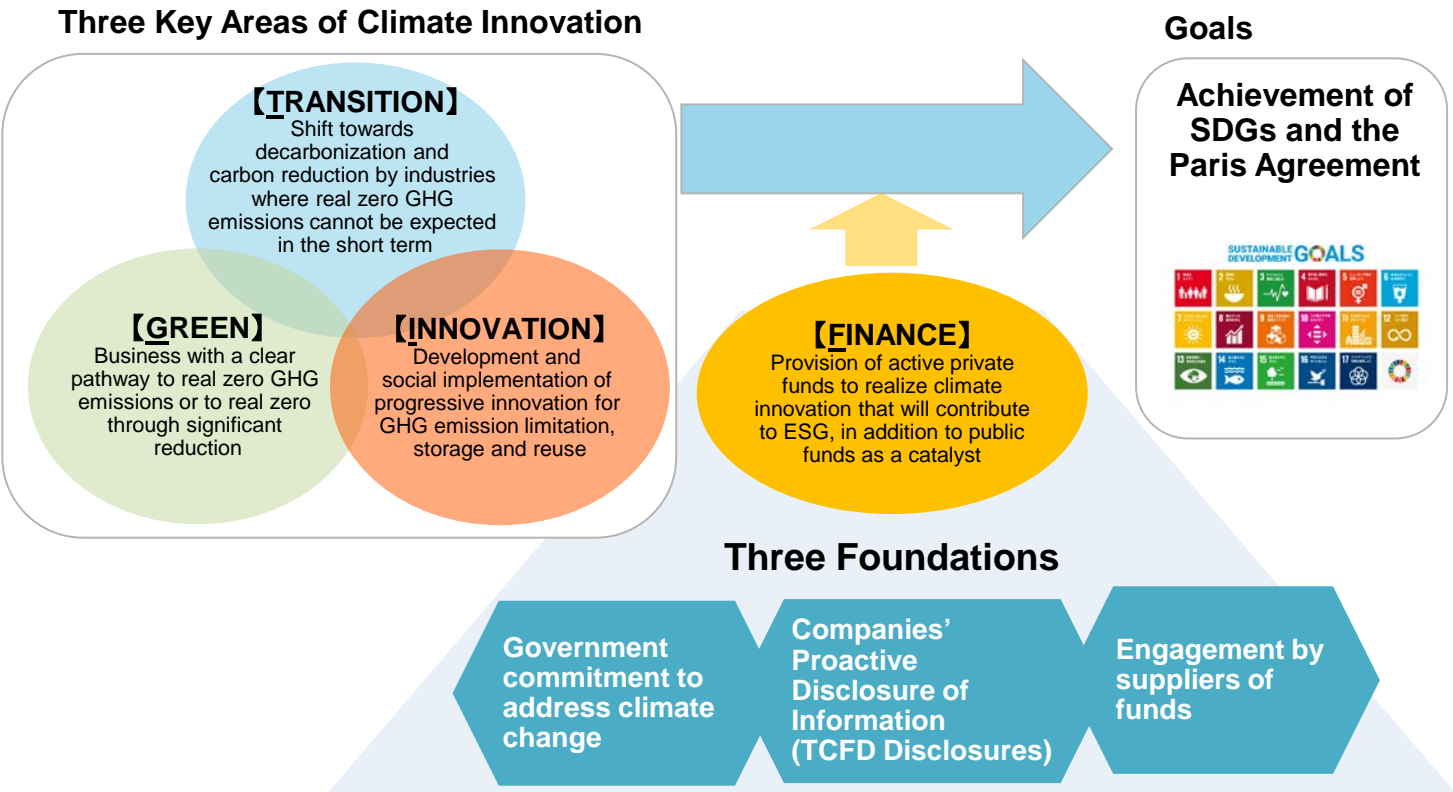
Key Area (1) Transition	Key Area (2) Green	Key Area (3) Innovation
<b>Current Status</b> <ul style="list-style-type: none"> <li>➢ Companies' steady efforts for low-carbonization may not be evaluated by dualistic criteria including taxonomies.</li> <li>➢ On the other hand, there are concerns about greenwashing.</li> </ul> <b>Future Direction</b> <ul style="list-style-type: none"> <li>➢ Clarification of transition concepts by creating good cases</li> <li>➢ Developing the domestic environment through the formulation of industry-specific roadmaps</li> </ul>	<b>Current Status</b> <ul style="list-style-type: none"> <li>➢ It is necessary to further cut the cost of renewable energy and overcome system constraints in order to make renewable energy the main power source.</li> <li>➢ Issuance of green bonds have been increasing. Nevertheless they account for only 3% of bonds issued worldwide.</li> </ul> <b>Future Direction</b> <ul style="list-style-type: none"> <li>➢ Nurturing competitive renewable energy industry and developing industrial and social infrastructure, etc.</li> <li>➢ Supporting further growth of green bonds</li> </ul>	<b>Current Status</b> <ul style="list-style-type: none"> <li>➢ It is difficult to continue investing in innovative technologies because of very long investment period and difficulties in perspective for profitability. Communication between companies and financial institutions is lacking in this area</li> </ul> <b>Future Direction</b> <ul style="list-style-type: none"> <li>➢ Visualization of companies for investors (Zero Emission Challenge) and creation of dialogue opportunities</li> <li>➢ Examination of evaluation methods and encouragement of product development such as indices</li> </ul>
Foundation (1) Government commitment to address climate change	Foundation (2) Companies' Proactive Disclosure of Information (TCFD Disclosures)	Foundation (3) Engagement by suppliers of funds
<b>Current Status</b> <ul style="list-style-type: none"> <li>➢ Government commitment is important, as companies formulate their strategies etc. based on the mid-term and long-term government plans.</li> </ul> <b>Future Direction</b> <ul style="list-style-type: none"> <li>➢ Deepening discussions on environmental and energy policies toward COP26 in 2021 (Review of global warming countermeasure plans, etc.)</li> </ul>	<b>Current Status</b> <ul style="list-style-type: none"> <li>➢ Usefulness as a common foundation to encourage financing transition and innovation.</li> <li>➢ Movement for mandatory disclosure and standardization.</li> </ul> <b>Future Direction</b> <ul style="list-style-type: none"> <li>➢ Further promotion of disclosure in industries with high GHG emissions</li> <li>➢ Clarification of disclosure of companies for which climate change is material</li> </ul>	<b>Current Status</b> <ul style="list-style-type: none"> <li>➢ Suppliers of funds for long-term investments are lacked</li> </ul> <b>Future Direction</b> <ul style="list-style-type: none"> <li>➢ Appealing to asset owners such as corporate pensions and life insurers in addition to public pensions</li> <li>➢ Considering ESG consumer financial products (NISA, etc.)</li> </ul>

\* We convey this strategy internationally so that it can contribute to the achievement of the objectives of the Paris Agreement globally, together with Asia, emerging economies and others, toward the realization of a "positive cycle of environment protection and economic growth".

# Basic approach to Climate Innovation Finance - TGIF

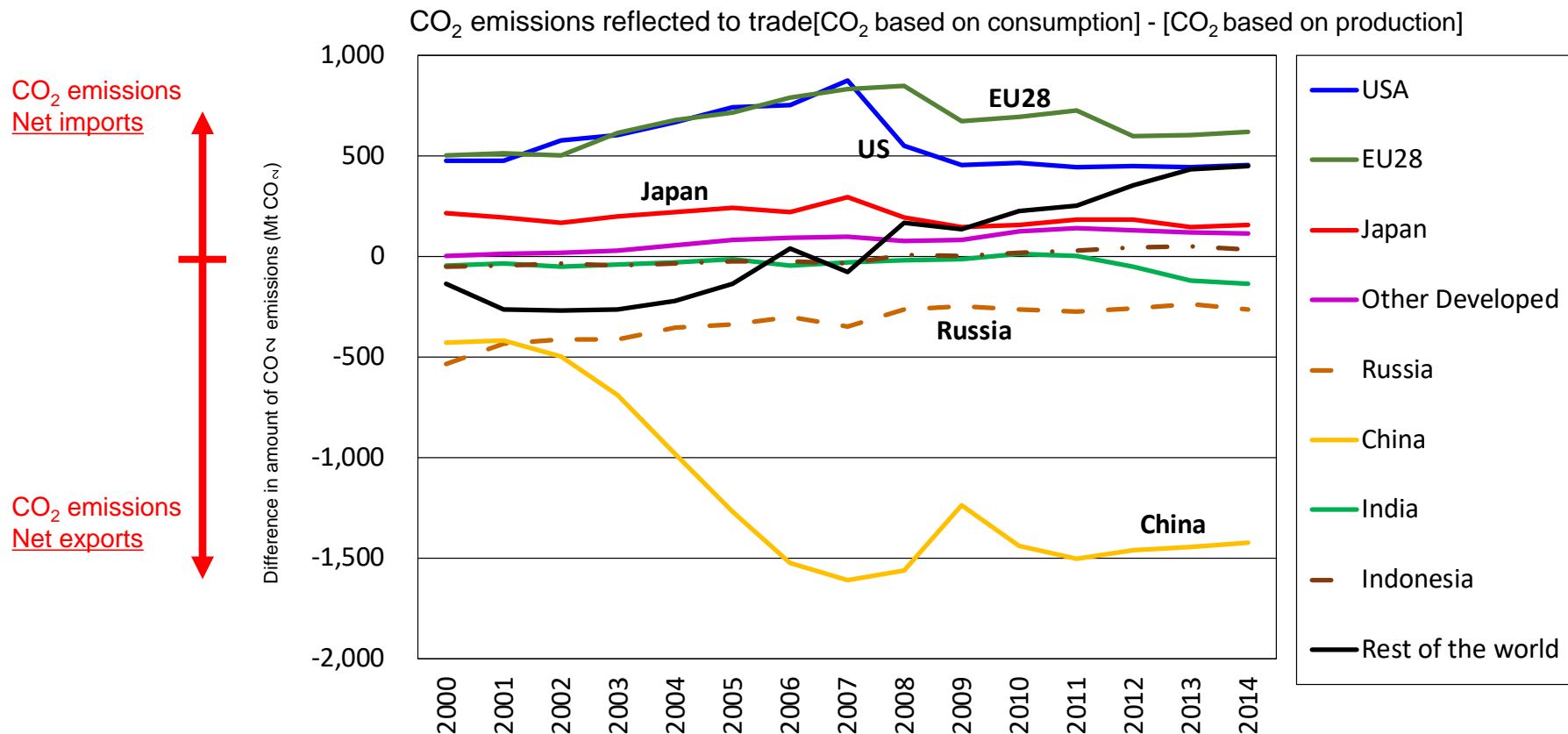
- Measures against global warming must be moved forward by promoting the financing of (1) **transition** initiatives to steadily proceed carbon reduction, such as energy conservation of manufacturing industry, (2) **green** initiatives that already meet decarbonization standards, such as renewable energy, and (3) **innovation** initiatives where technologies are in the stage of R&D and social implementation for decarbonization, such as artificial photosynthesis.
- To this end, we will establish three foundations: government commitment to address climate change, proactive disclosure of information by companies, and engagement by suppliers of funds.

## [Achieving goals by simultaneous promotion of TGIF (concept design)]



# The need for transition - CO<sub>2</sub> emissions import/export by country

- Most developed nations produce less CO<sub>2</sub> within their borders, while they produce a high level of emissions based on a consumption basis. It is thus not enough to focus on green initiatives within their borders only. In addition to domestic decarbonization, carbon emissions need to be steadily reduced throughout the world.
- A research shows that developed nations' increasing dependency on foreign imports by the shift of industrial structure has been a major factor behind their decarbonization. **It is important for each nation to proceed with transition according to its situation** as the situation in geography, energy, and industrial structure differs in each nation.



# Current status, challenges, and future directions for transition finance

- As there are fewer case examples of transition finance, a common understanding has not yet been developed compared to green bonds. Therefore, transition should be recognized as an essential part of sustainable finance and reliability of transition to its concept definition need to be established.
- Japan will make the external boundaries of transition finance clear in terms of both environmental and industrial policy to promote transition investment.

## Current status and challenges

- Because case examples are still limited, a common understanding on the concept definition of “transition finance” does not exist among financial institutions and issuers.
- Some express concern that transition finance is “secondary to green finance” or “green-washing”.
- Transition finance need to be recognized as essential to achieving the Paris Agreement alongside green finance.

## Direction of measures

### **(1) Develop guidelines for issuing transition bonds in line with international principles**

- ✓ Japan will formulate basic guidelines within the fiscal year for issuance of transition bonds in line with ICMA principles.

### **(2) Create a roadmap for high CO<sub>2</sub> emitting industry and promote investment**

- ✓ Create roadmaps in line with industrial policy for each industry with high CO<sub>2</sub> emissions
- ✓ Government supports for case examples of transition investment




# The need for innovation - Environment Innovation Strategy

- A major reduction in CO<sub>2</sub> emissions is necessary for achieving a carbon neutral world.
- Financial supply to beyond zero technologies, such as CCUS, hydrogen and artificial photosynthesis, is essential.

## Key points of the Environment Innovation Strategy

- Achieving a cost level where technologies can be implemented through non-continuous innovation is decisively important for global GHG emissions reduction.
- Japan aims for a **carbon neutral world** as well as establishment of non-continuous technologies by 2050 that enables **past stock based CO<sub>2</sub> reduction (beyond zero)** and strive to the implementation of technologies to achieve the long term growth strategy targets of the Paris Agreement.

Innovation action plans	Acceleration plans	Tokyo Beyond Zero Week
<p><b>Action plans for establishment of innovative technology by 2050</b> (16 challenges in 5 fields)            (1) Target cost, global reduction amount, (2) specifics of development, (3) systems for development, (4) the process from basic research to demonstration.</p>  <p><b>I. Energy transformation</b> @30B tons -</p> <ul style="list-style-type: none"> <li>◆ Set renewables (solar, geothermal, wind) as main power source</li> <li>◆ Build low-cost hydrogen supply chain</li> <li>◆ Promote extreme energy conservation through high efficiency/low cost power electronics</li> </ul> <p><b>II. Transportation</b> @11B tons -</p> <ul style="list-style-type: none"> <li>◆ Green mobility, vehicles with high performance storage batteries with (EV, FCEV) etc.</li> <li>◆ Biofuel aircraft</li> </ul> <p><b>III. Industry</b> @14B tons -</p> <ul style="list-style-type: none"> <li>◆ Zero-carbon steel making with CO<sub>2</sub>-free hydrogen</li> <li>◆ Production of plastics by artificial photosynthesis technologies</li> <li>◆ Cement made from CO<sub>2</sub> and concrete absorbing CO<sub>2</sub></li> </ul> <p><b>IV. Business, household and other cross sectoral fields</b> @15B tons -</p> <ul style="list-style-type: none"> <li>◆ Low global warming potential and non-fluorocarbon refrigerants</li> <li>◆ Energy saving by sharing economy and telework, work style reform and behavior behavioral change</li> </ul> <p><b>V. Agriculture, forestry and fisheries, and carbon sinks</b> @15B tons -</p> <ul style="list-style-type: none"> <li>◆ Blue carbon (carbon sequestration in the marine ecosystems)</li> <li>◆ Smart agriculture, forestry and fisheries and use of renewables</li> <li>◆ Pursuit of DAC (Direct Air Capture) technology</li> </ul>	<p><b>Three approaches for accelerating the Innovation Action Plan</b></p> <p><b>(1) Systematic implementation with a chain of command</b>  <b>Green Innovation Strategy Steering Meeting</b>            Driving plans on an inter-agency and long-term basis from basic research to adoption.            Thorough reviews on ongoing projects and revision of the Innovation Action Plans with the latest knowledge.</p> <p><b>(2) Gathering the wisdom of the world</b>  <b>Joint zero-emission research bases</b>            Establishment of the Global Zero Emission Research Center (GZR) to connect 120,000 researchers in G20 member countries, the Research Center for Basic Energy Sciences with industry-academia collaboration and the Carbon Recycling R&amp;D and Demonstration Base.            The launch of the Tokyo Bay Zero-emission Innovation Area to strengthen industry-academia-government collaboration.</p> <p><b>Zero Emissions Creators 500</b>            Intensive support to young promising researchers</p> <p><b>Strengthen support to promising technologies</b>            Utilization of Feasibility Study Program, and Moonshot Research and Development Program, and creation of the Circulating and Ecological Economy.</p> <p><b>(3) Promotion of private investment</b>  <b>Promote green finance</b>            Promotion of disclosure of corporate climate-related information in line with the TCFD recommendations and dialogue between the industry and the financial community.</p> <div style="border: 1px solid red; padding: 5px; margin: 10px 0;"> <p><b>Zero-Emission Challenge</b>              Enhancing investors' access to corporate information with an award system and information disclosure of excellent projects</p> </div> <p><b>Zero-Emission Startup Support</b>            Promotion of VC investment for R&amp;D startups</p>	<p><b>Outreach for global engagement through international conferences</b></p> <p><b>RD20</b>            International gathering lead by research institutions that gathers R&amp;D leaders in the green energy technologies from G20 members.</p> <p><b>TCFD Summit</b>            International gathering to promote dialogue among global business and finance leaders to achieve positive cycle of environmental protection and economic growth.</p> <p><b>ICEF</b>            International gathering to discuss measures for climate change based on tech innovation.</p> <p><b>Hydrogen Energy Ministerial Meeting</b>            Discuss policy directions for global utilization of hydrogen.</p> <p><b>International Conference on Carbon Recycling</b>            Review innovative initiatives, latest knowledge, and potential for international collaboration to achieve carbon recycling and enhance global network for industry, academia, and public sector.</p> <p><b>LNG Producer-Consumer Conference</b>            Lead the world in promoting LNG decarbonization initiatives to shift to a low-carbon society.</p>



# Current status, challenges, and future directions for innovation finance

- While Japan has a technology advantage for innovation, in order to implement technology, foundation of business environment need to be established. Business strategy and finance are another important factor.
- Investment in the energy and environment is still limited because dialogue on innovation between companies and investors is not well developed. It is therefore important to make company data visible to investors and create opportunities for communication.

## Current status and challenges

- To implement innovation technologies, public and private sectors share a future vision, and technology, business, finance, and policy must interact organically.
- Business entities typically prioritize technological advantage, while they are often weak in making a cost competitive business strategy.
- Meanwhile, investors are good at analyzing formalized/publicly available data, but unfamiliar with handling atypical and forward looking data to the future, such as innovation.
- No established approach or framework exists for financing innovation.

## Direction of measures

### **(1) Visibility of Companies Taking on the Zero-Emission Challenge for investors**

- ✓ A list of companies taking on efforts for environmental innovation under the Zero Emissions Challenge project (see next page).
- ✓ Expectation for making financial products utilizing the list

### **(2) Dialogue between companies and investors**

- ✓ Create opportunities for dialogue on topics of high interest to investors, such as hydrogen, CCUS, and renewables. Consider evaluation framework and KPI for financing.

# Reference: About the Zero Emissions Challenge

- METI prepared a list of companies taking on environmental innovation under the Zero Emissions Challenge, which is organized by the content of technologies and development phase. The list was made in cooperation with Keidanren and NEDO.
- A list of approx.300 companies published on October 9 including both listed and unlisted companies.
- Moving forward, METI will hold dialogues between companies taking on the Zero Emissions Challenge, investors, and policy makers. Development of funds and indexes utilizing the list is also expected in private finance sector.

## <Criteria of companies taking on the Zero-Emission Challenge>

**Companies taking on the Zero-Emission Challenge**

Agreement to the purpose of Zero Emissions Challenge and to be included in the list

\*Also TCFD disclosure, participation in Keidanren's Challenge Zero are considered

Companies related to Environment Innovation Strategy

Involvement in a national project associated with the 39 themes of the Environment Innovation Strategy.

\*The first list is about industries related to METI. Later the list will also include other industries.

Companies tackling energy/ environmental innovation

Meeting requirements for companies receiving consignment or subsidy from national government or incorporated administrative agency.

## <Future actions>

- (1) Created logo for use in annual consolidated reports  
Development of funds and indexes are expected

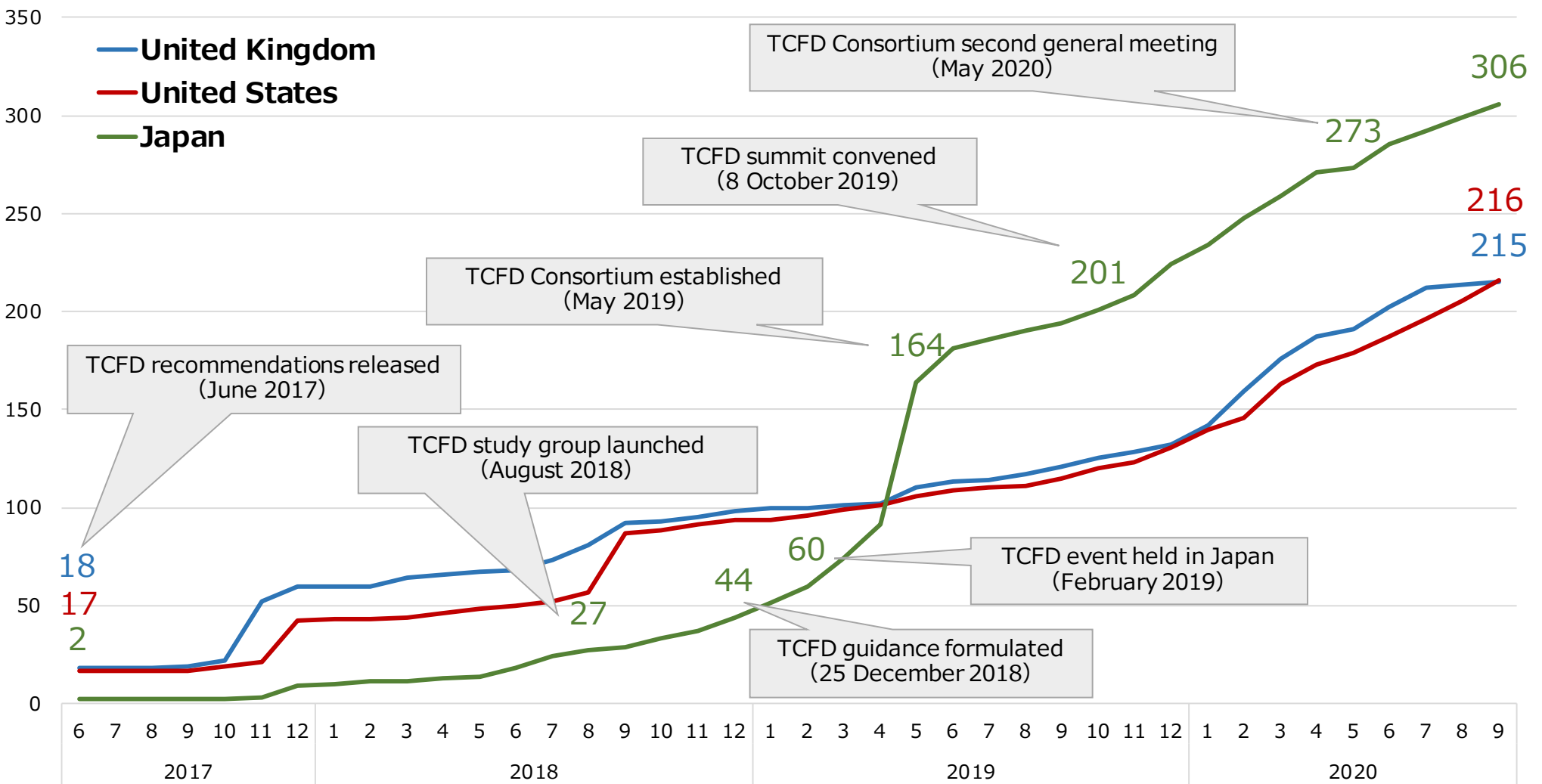


- (2) Update the list annually tied to PDCA cycle of the Green Innovation Strategy Steering Meeting
- (3) Hold dialogues between companies, investors, policy makers on topics of high interest, such as hydrogen, CCUS, and renewables.

**Promote understanding of trends in innovation and attract further private funding**

# Current Status of TCFD Supporters

With the establishment of the TCFD Consortium, Japan has the largest number of organizations supporting TCFD. This is backed by efforts, such as the TCFD Summit and publication of guidance on green investment.



# Promoting TCFD - importance of disclosing “opportunities”

- Information on opportunities has just begun to be included in TCFD disclosure. METI will work with the TCFD consortium to promote reporting of transition and innovation related information of interest to investors.
- With the most supporting companies, Japan will also work to increase the quality and quantity of disclosure and share the experience to contribute to the encourage TCFD disclosure globally.

## Current status and challenges

- Consensus was made at last year's TCFD Summit on the concept of **evaluating opportunities alongside risks**
- Meanwhile, companies have just begun disclosing information on opportunities and the ways of disclosure are not organized.
- Development is required on how to describe initiatives for transition and innovation opportunities of interest to investors.
- There is also increasing global interest in making TCFD disclosure mandatory. Japan, with the largest number of supporting organizations, is expected to take the lead.

## Direction of measures

### (1) More disclosure of information on opportunity

- ✓ See transition and innovation as opportunities and consider how they should be stated from an investor's standpoint. Work with TCFD Consortium to update green investment guidance.

### (2) Further encouragement of TCFD disclosure

- ✓ Make additional per-industry guidance to promote disclosure in high GHG emission industries, in particular industries lagging behind.
- ✓ Also, while Japan has regulatory foundation of TCFD disclosure, such foundation should be continually updated as necessary including through soft laws.

# Climate Innovation Finance Strategy 2020

## The Road to Glasgow (Provisional Schedule)

