

Outlines of Japan's Long-term Strategy under the Paris Agreement (Cabinet decision, June 11, 2019)

Chapter 1: Basic Concepts

- **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” * contribution towards realization of the long-term targets of the Paris Agreement, including efforts to limit the temperature increase to 1.5°C
- **Realizing “a virtuous cycle of environment and growth” towards the vision with business-led disruptive innovation, Swift implementation of actions from now, contribution to the world, Action Towards a bright Society with Hope for the Future**
[Elements: Achievement of SDGs; “Co-innovation”, Society 5.0; the “Circulating and Ecological Economy”; and leading country in solving problems]

Chapter 2: Long-term Vision of Each Sector and Direction of Policy and Measures

Section 1: Emission Reduction Policies and Measures

1. Energy: For energy transition/decarbonization, exploring all options

- Utilizing renewable energy as the major power source
- Reducing CO₂ emissions from the thermal power in line with the long-term set out in the Paris Agreement
- Promoting CCS&CCU/Carbon Recycling
- Realizing a “Hydrogen Society”/storage batteries/nuclear energy/energy efficiency

2. Industry: Decarbonized manufacturing

- Utilization of CO₂-free hydrogen (e.g. a challenge towards “zero-carbon steel”)
- Feedstock change (e.g. CCU including artificial photosynthesis, Carbon Recycling and biomass)
- Achieving drastic improvement of energy efficiency, and complete transition from fluorocarbons in longer term

3. Transport: Challenging for “Well-to-Wheel Zero Emission”

- Achieving the world’s highest level of environmental performance of Japanese cars supplied worldwide by 2050
- Road/transport systems using big data and IoT

4. Community and Living: Achieving a carbon neutral, resilient and comfortable community and living by 2050/creating the “Circulating and Ecological Economy”

- Capable communities and companies to achieve carbon neutrality even before 2050
- Shift to carbon neutral living (facilitating technological development and wider usage to bring the stock average of energy consumption in houses and offices to approximately ZEH/ZEB equivalent/ lifestyle shift)
- Carbon-neutral community building (urban city building, farming/forestry/fishing villages building, and development of distributed energy systems)

Section 2: Measures for Carbon Sinks

Chapter 4: Direction of Other Cross-Sectoral Policy Measures

- Human Resource Development
- Just transition
- Government’s Own Efforts to Lead the Society
- Enhancement of an Integrated Approach in Building a Resilient Society to Adapt to Climate Change
- Carbon Pricing (Professional and technical discussions are required)

Chapter 3: Cross-sectoral Measures for Achieving a Virtuous Cycle of Environment and Growth

Section 1: Promotion of Innovation

- Promoting innovation for practical application and wide usage of cross-sectoral decarbonizing technologies leading to drastic reduction of GHG, achieving the cost to enable adoption in the society

(1) Progressive Environment Innovation Strategy

- Setting clear targets such as costs, maximizing provision of the resources from both the public and private sectors, seeking out and creating potential technologies in Japan and abroad, setting challenges based on the needs, strengthening support for making it to the business case
- Challenging R&D, and enhancing alliances among R&D institutes with facilitation of international joint R&D activities [Research and Development 20 for clean energy technologies(RD20)]
- Target setting and visualizing of issues for commercialization
 - Realizing hydrogen cost equivalent to existing energy: e.g. lowering manufacturing cost of CO₂-free hydrogen to 1/10
 - Realizing products utilizing CCU/Carbon Recycling at the level equivalent to existing products in terms of cost, nuclear power(such as Reactor, Fusion)

(2) Innovation in Economic and Social Systems/lifestyle

Section 2: Promotion of Green Finance

- Appropriately “visualizing” corporate initiatives in innovation and mobilizing finance for innovation by financial institutions

(1) Mobilizing green finance through Disclosure including TCFD* and dialogue *Task Force on Climate-related Financial Disclosures

- Industry: Expanding on the TCFD Guidance/Scenario Analysis Guide / Financial sector: Formulating a guidance on green investment
- Creating a venue for dialogue between industries and financial sector (TCFD Consortium)
- Promoting discussion and sharing the above initiatives with the world (TCFD Summit)

(2) Promoting initiatives to expand ESG finance

- Promoting ESG finance (Support to the issuance of green bonds, encouraging local ESG finance), the development of ESG Dialogue Platform, enhancing ESG finance literacy, ESG Finance High-Level Panel

Section 3: Business-led Promotion of International Application, and International Cooperation

- Promoting international application of products and goods with high environmental performance/ promoting co-innovation benefiting participants from both countries

(1) Promoting international application of decarbonizing technologies together with policy and institutional support and rule-making

- Promoting wider application of decarbonizing technologies and reductions of GHG emissions through improving business environment by working for institutional development in partner countries and leading international rule-making (e.g. establishing public and private-sector initiatives in ASEAN, and creating appropriate international frameworks for using market-based mechanisms)

(2) Strengthening Development and Investment of infrastructure contributes to reduction of CO₂ emissions

- Promoting development and investment of energy and urban/transport infrastructure abroad in order to contribute to the global reduction of CO₂ emissions consistent with the long-term goals stipulated in the Paris Agreement (e.g. renewable energy such as offshore wind power and geothermal power, hydrogen, CCS&CCU, Carbon Recycling, smart cities)

(3) Building basis for decarbonized society on a global scale

- Supporting partner countries in the formulation of NDCs and mitigation plan, enhancing transparency in the entire supply chain

Chapter 5: Review and Implementation of Long Term Strategy

- **Review:** Revisit the policy measures referred to in this Strategy flexibility about every 6 years with reference to situations, and review this Strategy as may be required.
- **Implementation:** Analysing relevant factors taking future situational changes into account / collaborating and having dialogues with stakeholders including younger generations etc.