

## **ACE: Actions for Cool Earth**

### **Proactive Diplomatic Strategy for Countering Global Warming**

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Ministry of Foreign Affairs  
Ministry of Economy, Trade and Industry  
Ministry of the Environment  
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#### **1. Basic Concept**

Average global temperature has risen by 0.85°C since 1880, and average global temperature of each decade of the past 30 years was higher than that of any decade since 1850. The Intergovernmental Panel on Climate Change (IPCC) has stated that “Warming of the climate system is unequivocal.”

Six years ago, Prime Minister Abe announced the “Invitation to ‘Cool Earth 50’.” Since then, the emerging economies have continued rapid development and China has become the world’s largest emitter of greenhouse gases (GHG). These developments underline the increasing importance of implementing global warming countermeasures while achieving global economic growth and poverty reduction at the same time. As the situation related to climate change is dramatically changing, all countries must participate in effectively controlling global emission of GHG. To achieve this objective, concrete measures for reducing GHG must be immediately taken while establishing the new international rule.

Against this backdrop, Japan finds itself in a position to be able to contribute to the world with its outstanding environment and energy technologies. This presents Japan with an excellent opportunity to serve the world and dramatically heighten its international presence by taking a proactive stance and to steer international negotiations on climate change backed by viable and effective measures. Now is the time once again to set the goals of achieving at least a 50% reduction of global GHG emissions by 2050, and as part of this, the goal of developed countries’ reducing GHG emissions in aggregate by 80% or more by 2050, and to take “actions” to realize the Prime Minister Abe’s vision of “Cool Earth”.

#### **2. Actions**

To realize the vision of “Cool Earth”, we once again set the goals of achieving at least a 50% reduction of global GHG emissions by 2050, and as part of this, the goal of developed countries’ reducing GHG emissions in aggregate by 80% or more by 2050. Japan will take a leadership role as an “ACE” to achieve these goals by overcoming the aftermath of the Great East Japan Earthquake and the nuclear accident. Specifically, Japan will take proactive diplomatic initiatives for countering global warming by contributing to the world with its technologies based on a three-pillared action featuring “Innovation”, “Application”, and “Partnership”.

## (1) Innovation

Boasting its outstanding environment and energy technologies, Japan should take a lead in technological breakthrough with further “innovation” - this is indispensable for realizing the goals. Japan will promote the development of innovative technologies and ensure the continued and significant reduction of GHG emissions into the future. At the same time, by promoting the development of locally appropriate technologies that meet the needs of developing countries, Japan will closely help those countries reduce GHG emissions in a speedy and effective manner.

- On the premise of achieving primary balance surpluses in national and local government finances by Fiscal Year (FY) 2020, both private and public sectors will domestically invest combined \$110 billion for technological innovation over five years. In particular, from a long-term perspective, the government will take the initiative in developing technologies in areas where risks are high, but anticipated impact is large.
- In an effort to promote seamless development and diffusion of advanced technologies, the Low Carbon Technology Plan was revised to include a technology roadmap indicating targeted technology levels based on the latest scientific knowledge. Japan will steadily implement this plan and globally cooperate to develop and diffuse the technologies to cover approximately 80 percent of the reductions needed to halve global emissions by 2050.
  - √ Carbon dioxide capture and storage technologies (CCS): Collect carbon dioxide emissions from thermal power plants and other sources and store them underground. Japan will contribute to the world with its high-efficiency separation and collection technologies that are keys to the adoption of CCS.
  - √ Innovative structural materials: Build lighter vehicles and transport equipment for dramatic improvement in fuel efficiency. In particular, Japan will contribute to the world with carbon fiber materials. (Weight of cars can be reduced by about 60 percent.)
  - √ Artificial photosynthesis: Fix carbon dioxide by manufacturing raw materials of plastic and other materials from water and carbon dioxide. Japan will lead the world in research with the aim of commercializing the technology by the 2030s.
  - √ Optimize technology development and product technology by understanding the needs of developing countries, in order to deploy Japan’s low carbon technologies to those countries.
- In order to generate synergy between the technologies of Japan and other countries, Japan will accelerate global development of innovative technologies by promoting international cooperation with major countries with a focus on basic research.

- To tackle global warming issues through accelerated innovation, Japan will annually host “Global Energy and Environment Innovation Forum”, a kind of energy-and-environment-version of Davos Forum, with the participation of leaders of industry, government, and academia.

## (2) Application

Parallel to the above, Japan will promote the global “application” of its outstanding existing low-carbon technologies. Accelerating the diffusion of such technologies and verifying the reduction effect by technologies will lead to the strategic creation and diffusion of the next-generation technologies, and will realize the further emission reduction of greenhouse gasses and new economic growth simultaneously.

- To make the greatest possible contribution to the global reduction of emissions by the diffusion of Japan’s outstanding technologies, the following initiatives will be promoted:

- √ Accelerate consultations with interested countries with an aim to double the number of partner countries to the Joint Crediting Mechanisms (JCM) from the current number of eight over the next three years. At the same time, support the formulation of projects with the transfer of low carbon technologies, evaluate Japan’s contributions to GHG emissions reductions ore removals appropriately in a quantitative manner, and use it to achieve Japan’s emission reduction target. Specific efforts include: i) implementation of the JCM demonstration projects and the Financing Program for the JCM model projects; ii) creation of the JCM Special Financing Scheme (JSF), in cooperation with the Japan Bank for International Cooperation (JBIC) and Nippon Export and Investment Insurance (NEXI); iii) establishment of new fund to support emission reduction projects that will collaborate with JICA projects; iv) new assistance programs covering cities and islands; and v) utilization of consultative meetings of relevant ministries agencies, and organizations.

- √ Building foundations for the international diffusion of technologies

- (i) To reduce emissions throughout the world, Japan will propose procedures for assessing the energy efficiency of LED lighting, solar shading windows, manufacturing of high-performance industrial furnaces, etc., and promote the establishment of international standards. Japan will also assist developing countries in establishing systems related to energy-saving standards and calculation capabilities.
- (ii) Japanese technologies and know-how will be used in assisting developing countries formulate low-carbon plans and strengthen their adaptability.

- Japan aims to launch a new state-of-the-art GHG observing satellite (successor to GOSAT) in FY2017. Focusing on Asia, the satellite will monitor nation-by-

nation or megacity-by-megacity GHG emission levels, verify the effectiveness of countermeasures and propose emission reduction measures.

- Technological needs will be identified and the direction of technology creation and diffusion will be effectively verified based on verification of the effectiveness of the introduced low-carbon technologies and technology assessment (assessment of utility and environmental impact of technologies).

### (3) Partnership

Strengthen “partnership” with various countries and stakeholders. From this perspective, Japan makes a financial pledge to assist developing countries. Japan will also strengthen partnership with Asian countries in order to build foundations for technological innovation and diffusion. Through these initiatives, Japan will actively engage in international discussions.

- Japan makes a financial pledge for mitigation and adaptation efforts for climate change in developing countries, which contributes to sustainable development and human security.
  - √ Mobilizing ODA, other official flows, and private finance, Japan will provide total 1,600 billion yen (approx. 16 billion dollars) during the 3-year period between 2013 and 2015. (Among them, public finance amounts to 1,300 billion yen (approx. 13 billion dollars). This is estimated to account for approximately one-third of the resources, which is encouraged for developed countries as a whole to provide during this 3 year period.)
  - √ Effective assistance will be provided to small island developing states and other countries vulnerable to the negative impacts of climate change while prioritizing areas in disaster risk reduction. New schemes including stand-by loan for disaster recovery (Stand-by Energy Credit for Urgent Recovery (SECURE)) and preferential terms for concessional loan will be utilized.
  - √ To take a leadership role in assisting developing countries, Japan will utilize multilateral forums, such as cooperation with other countries for the Third UN World Conference on Disaster Reduction to be held in Japan in 2015.
  - √ To achieve the long-term goal of mobilizing jointly \$100 billion per year of both public and private finance by 2020, various public financial instruments will be utilized in encouraging the participation of private companies in the climate change field and significantly increasing the private finance.
  - √ The above-mentioned assistance programs will also contribute to the overseas diffusion of Japan’s highly competitive low-carbon technologies and infrastructure, and will build a win-win relation between Japan and the developing countries.
- Partnership with Asian countries will be strengthened in the climate change field.

- √ Raise awareness of low-carbon economic growth in the East Asian Summit, Asia-Pacific Economic Cooperation meetings, and other related meetings.
- √ Support the enhancement of adaptability in the Asia-Pacific region through the Asia Pacific Adaptation Network (APAN) and other networks for information and knowledge sharing.
- Utilizing the abovementioned initiatives, Japan will take the lead in negotiations for creating the new international framework for climate change to be finalized by COP 21 (2015) and come into effect from 2020.
- √ Japan will mobilize all of its efforts to develop a framework applicable to all Parties, and will deepen its cooperative relations with the United States and other major countries to realize a fair and effective framework that motivates and leads to more ambitious emission reduction. In the new framework, countries will submit their nationally-determined commitments. Each party will be subject to ex-ante consultation as well as ex-post international evaluation and review based on internationally agreed rules. Such a system can lead to more ambitious mitigation efforts by assessing the potential for emissions reduction and removal.