Cooperation on Climate Change
— Towards a sustainable and zero-carbon society —
Human security
High quality growth

Climate change is a threat to the stability, prosperity, and human security of all regions and countries of the world. If the international community does not take appropriate and adequate measures to address climate change in a timely manner, there is a growing risk that the negative impacts of climate change, such as high temperatures, droughts, heavy rains, storm surges, and rising sea levels, will have devastating consequences on the world’s economies and societies. Developing countries are particularly vulnerable to these impacts. JICA, as a partner of developing countries, aims to ensure human security and sound economic growth, and will cooperate with each country to address climate change.
JICA’s climate change cooperation in numbers

JICA integrates climate actions in various regions and sectors.

### Number of projects (2019)

- **By sector**
  - 12 projects: Waste management
  - 20 projects: Infrastructure (transportation, construction)
  - 15 projects: Institutional capacity building, etc.
  - 17 projects: Biodiversity and desertification
  - 37 projects: Agriculture and fisheries
  - 31 projects: Forests
  - 37 projects: Water, sanitation and hygiene
  - 46 projects: Energy
  - 62 projects: Disaster risk reduction
  - **Total:** 277 projects

- **By region**
  - Europe (3 countries): 3 projects
  - Middle East (5 countries): 7 projects
  - Africa (14 countries): 43 projects
  - Asia (17 countries): 85 projects
  - Latin America (12 countries): 26 projects
  - Oceania (11 countries): 14 projects
  - **Total:** 178 projects

### Total aid amount (2019)

- **By amount sector**
  - 5.4 billion yen: Waste management
  - 6.6 billion yen: Biodiversity and desertification
  - 11.8 billion yen: Institutional capacity building, etc.
  - 24.5 billion yen: Forests
  - 47.7 billion yen: Agriculture and fisheries
  - 320.7 billion yen: Clean water and sanitation
  - 405.7 billion yen: Disaster prevention
  - 2,986.7 billion yen: Infrastructure (transportation, construction)
  - 3,011.7 billion yen: Energy
  - **Total:** 6,820.8 billion yen

### By amount region

- Europe: 1.285.3 billion yen
- Middle East: 6.6 billion yen
- Asia: 4,922.9 billion yen
- Africa: 533.9 billion yen
- Oceania: 8.8 billion yen
- Latin America: 43.2 billion yen
- **Total:** 6,820.8 billion yen

### Knowledge Co-Creation Programs in Japan (2019)

- **Number of projects:** 99 projects
- **Number of countries:** 111 countries

### Number of countries (2019)

- Asia: 17 countries
- Africa: 18 countries
- Europe: 3 countries
- Oceania: 5 countries
- Middle East: 4 countries
- Latin America: 12 countries
- **Grand total:** 59 countries
Mainstreaming Climate Change in JICA

Mainstreaming climate change measures
~ Incorporating climate change measures into all development projects ~

In order to ensure the human security and development of developing countries under climate change, it is necessary to pursue both solutions to address development issues and implement measures to combat climate change. Based on this concept, JICA is mainstreaming climate change mitigation and adaptation in the planning stages of all projects in various sectors such as energy, transportation, urban development, agriculture, disaster risk reduction, and forest conservation.

At the project planning stage, JICA assesses the elements that contribute to climate change mitigation and adaptation in the project design.

**STEP 01**
**PROJECT FORMULATION STAGE**
Consultation with the Office for Climate Change in the initial stage of project formation
Incorporate climate change measures at the project planning stage
The Office for Climate Change of the Global Environment Department reviews the project plan prepared by the department in charge of the project, and proposes to include climate change measures in the project design.

**STEP 02**
**FEASIBILITY STUDY**
Utilize the JICA Climate-FIT
Assessment of specific climate change measures
During the feasibility study, the department in charge of the project uses the JICA Climate-FIT to
- Estimate greenhouse gas emissions reduction through the project and
- Assess potential climate change impacts and vulnerability and identify required adaptation measures.

**STEP 03**
**PROJECT APPRAISAL STAGE**
Consultation with the Office for Climate Change during the project formation process
Reconfirm inclusion of climate change measures before finalizing the project design
The department in charge of the project finalizes the details of the project design based on the results of the feasibility study. The Office for Climate Change reassesses the content of the climate change measures in the project and determine whether the project falls into the category of climate change project.

**STEP 04**
**DECISION MAKING PROCESS TO IMPLEMENT THE PROJECT**
Finalization of climate change measures
Decision on project design/ Signing of the agreement
JICA finalizes project design and signs the agreement with the project counterpart of the developing country.

**STEP 05**
**PROJECT IMPLEMENTATION**
Monitoring and Evaluation
Periodically review climate change projects after project launch
JICA assesses impact of climate change measures through project monitoring and evaluation.

**Climate Change Finance Impact Tool (JICA Climate-FIT) for Mitigation & Adaptation**
In order to facilitate cooperation policy reviews and formation of projects to address climate change in developing countries, JICA Climate Finance Impact Tool (Climate-FIT) facilitates to estimate greenhouse gas emissions reductions, and assess climate change impacts and vulnerability, thereby mainstreaming climate change measures in the projects.

Scan the QR code below for more information on JICA Climate-FIT

Mitigation  Adaptation
International Climate Change Framework and JICA’s Work

The needs in developing countries have changed in accordance with the shift in trends for domestic and international climate change policies and frameworks. JICA adopts regional and country specific approaches by responding to the various needs and circumstances of each country.

1990
International Commitment of the Government of Japan

1992
UNFCCC
 Adopted in June 1992
 Effective since March 1994

1997
COP3 Kyoto Protocol
 Adopted in Dec 1997
 Effective since Feb 2005

2000
Cool Earth Partnership
10 billion USD in 5 years (2008-2012) to support climate change actions in developing countries

2008
The Hatoyma Initiative
Approx. 15 billion USD in 3 years (2010-2012) to support climate mitigation actions in developing countries

2010
Actions for Cool Earth
Public and private climate financing approx. 1.6 trillion JPY in 3 years (2013-2015)

2013
Actions for Cool Earth 2.0
Public and private climate financing of approx. 1.3 trillion JPY (2020)

2015
Sendai Framework for Disaster Risk Reduction 2015-2030

2020...
SDGs 2015-2030

Issue-specific strategies – The Global Agenda

What is the Global Agenda?
The Global Agenda has been developed for 20 priority development issues that JICA will focus on by 2030 in order to contribute to the achievement of the SDGs and to realize the principles of Japan’s Development Cooperation Charter. For each of the 20 issues, the Global Agenda sets JICA’s objectives and targets, policies for implementation, and approaches to address the issues.

The Global Agenda for Climate Change

The Global Agenda for Climate Change aims to support governments in developing countries in improving their capacity to respond to climate change and to address the development issues while taking climate actions. Through implementation of the Global Agenda, JICA contributes to achieving international goals including the Paris Agreement and SDGs, and to building sustainable and resilient societies. The Global Agenda for climate change has two pillars summarized in the table below.

Two pillars in the Global Agenda for Climate Change

Promoting the implementation of the Paris Agreement

Outline
JICA will strengthen the individual and institutional capacity in developing countries to implement the measures stipulated in the Paris Agreement and addressing climate change. JICA will also support these countries to transition towards zero-carbon society based on their climate change strategies and the status of their GHG emissions.

Goals
In order to transition to a zero-carbon and climate resilient society in developing countries, JICA aims to increase the number of countries supported in formulation, updating, and implementation of climate change strategies and plans (NDCs, long-term strategies, NAPs), and reports (BTRs, GHG inventories).

Co-benefit climate change measures

In order to promote climate actions in developing countries, it is important to adopt the concept of co-benefits approach, where development initiatives are implemented while actions are taken to respond to climate change at the same time. This approach aims to improve both the quality and quantity of the climate actions.

JICA aims to expand cooperation to simultaneously address development issues and take climate actions.
JICA's Cooperation Policy on Climate Change

JICA provides support for climate action centered around four priority issues, through three main cooperation schemes.

**PRIORITIES AREAS**

JICA has four priority areas to address climate change.

**Promoting low or zero carbon and climate resilient urban and infrastructure development**

JICA supports low-carbon and climate-resilient development in developing countries where the economy is growing rapidly, and construction demand of urban infrastructure is rising.

**Supporting climate policy and institutional development**

In order to address climate change, long-term commitment is required. JICA supports developing countries to enhance their capacity to plan, implement, monitor and improve climate actions.

**Implementing adequate measures based on climate risk assessments**

Climate change is now affecting every country in every aspect of people’s lives. JICA supports implementation of climate actions based on the comprehensive climate risk assessments in the sectors such as disaster risk management, food and water security.

**Enhancing conservation and management of forests and other ecosystems**

JICA promotes forest conservation and sustainable use through community-based management to protect and increase carbon sinks.

**JICA’s Main Cooperation Schemes**

JICA provides Japan’s Official Development Assistance (ODA) in three forms: bilateral technical cooperation, finance and investment cooperation, and grants.

<table>
<thead>
<tr>
<th>TECHNICAL COOPERATION</th>
<th>FINANCE AND INVESTMENT COOPERATION</th>
<th>GRANTS</th>
</tr>
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<tbody>
<tr>
<td>Technical cooperation involves dispatch of experts, provision of necessary equipment and training of personnel from developing countries in Japan and other countries. Cooperation plans are tailored to address a broad range of issues.</td>
<td>ODA loans support developing countries by providing low-interest and long-term concessional funds. ODA loans are used for large scale infrastructure and other forms of development that require a substantial amount of funds. JICA supports the private sector to accelerate developing countries’ economic/social growth through investments and loans for development projects proposed by private companies.</td>
<td>JICA offers developing countries financial resources needed for social and economic development, without repayment obligation. Grants are utilized for improving basic service infrastructure such as schools, hospitals, water supply facilities and roads, along with procuring equipment for health and medical care, training and other urgent needs.</td>
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**Climate Mitigation and Adaptation**

There are two types of measures to deal with climate change: mitigation and adaptation.

**Climate Mitigation**

Climate Mitigation refers to efforts to reduce the emission or increase the absorption of greenhouse gas emissions.

- Renewable energy, energy conservation, carbon dioxide capture and storage (CCS)
- Transportation (public transportation, electric vehicles, hydrogen vehicles, etc.)
- Waste management
- Agriculture (fertilizers), livestock farming (ruminants)
- Forest management, afforestation, etc.

**Climate Adaptation**

Climate Adaptation refers to measures to reduce the negative impacts of climate change caused by greenhouse gases already released into the atmosphere.

- Disaster risk reduction (excluding earthquakes and volcanic eruptions)
- Agriculture (irrigation, water-saving agriculture, breeding improvement, etc.)
- Ecosystem conservation
- Water resource development (water supply)
- Infectious disease control (insect vectors, water system contamination, etc.)
JICA’s support for climate action in Indonesia

JICA provides support for climate actions in various sectors, capitalizing Japan’s experience and technology. In Indonesia, for example JICA is providing support for climate action in various regions and sectors.

**Lumat Balai Geothermal Power Plant Project**

**FINANCE AND INVESTMENT COOPERATION**

- **Objective**
  - Improving the stability of electricity supply
  - Diversification of energy sources

This project changed not only the social system, but also people’s mindset and behaviors. Overcoming many challenges, the MRT North-South Line Project contributes Jakarta economically, socially and environmentally. Now we are moving to the phase 2, which will expand the MRT network and integrate other transportation system towards sustainable green city. We hope we can replicate our system and practices to other cities in the country.

- **Objective**
  - Mitigation of traffic congestion
  - Mitigation of climate change
  - Improvement of the investment environment in the Tokyo metropolitan area
  - Increase in passenger transport capacity

**Project of Capacity Development for the Implementation of Climate Change Strategies (2nd Phase)**

Project period: May 2019 to March 2023

- **Objective**
  - Mainstreaming climate change into development planning
  - Strengthening capacity for planning, implementation and monitoring of adaptation measures

**Project of Capacity Development for the Implementation of Agricultural Insurance**

Project period: October 2017 to September 2022

- **Objective**
  - Reducing the risk of income loss for farmers by promoting agricultural insurance
  - Strengthening the agricultural insurance system

**Construction of Jakarta Mass Rapid Transit Project**

- **Objective**
  - Reducing the vulnerability for inland water inundation, flood, and sea water rise
  - Countermeasures against land subsidence

This project is expected to mitigate floods and landslides in the city. It will also contribute to improving public transport and reducing traffic congestion.

**Project for Promoting Countermeasures against Land Subsidence in Jakarta**

**Technical Cooperation for Development Planning**

**FINANCE AND INVESTMENT COOPERATION**

- **Project period**
  - May 2018 to May 2022

**Bali Beach Conservation Project**

**Project period**

- **Phase 1**
  - Project for coastal conservation in western Bali and capacity building of coastal conservation management
  - Loan approved: 35th, signed on: December 1986 for 42.7 billion JPY

- **Phase 2**
  - Project for coastal conservation in north eastern Bali and capacity building of coastal conservation management
  - Loan approved: 48th, signed on: March 2017 for 9.9 billion JPY

- **Objective**
  - Achieve sustainable coastal management
  - Reduce damage from coastal erosion
  - Promote tourism industry

**Project for Promoting Countermeasures against Land Subsidence in Jakarta**

*Technical Cooperation*
Overview of JICA’s Climate Change Projects

This introduces JICA’s support for climate actions in its four priority areas.

**Priority area 1:** Promoting low or zero carbon and climate resilient urban and infrastructure development

### India

**Delhi Mass Rapid Transport System Project**

**Finance and Investment Cooperation**

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
<th>Loan Agreement signed on</th>
<th>Detailed Information</th>
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<tbody>
<tr>
<td>Phase 1</td>
<td>Development of metro corridors (mass rapid transport system) in central Delhi</td>
<td>Feb 1997 for 162.75 billion JPY</td>
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<tr>
<td>Phase 2</td>
<td>Development of metro corridors connecting central Delhi and the neighboring area</td>
<td>Mar 2006 for 211.98 billion JPY</td>
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<tr>
<td>Phase 3</td>
<td>Development of inner and outer metro corridors in Delhi</td>
<td>Mar 2012 for 330.48 billion JPY</td>
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</table>

Recently, the population of major cities in India has increased dramatically, and the increased ownership of private vehicles has resulted in serious traffic congestion and environmental problems due to the exhaust gases. This project promoted modal shift from automobiles to metros by constructing underground and elevated mass rapid transport system in Delhi. It eased traffic congestion, reduced air pollution caused by exhaust gases, and reduced greenhouse gas emissions, thereby stimulating the economy and improved the environment.

### Tsogttsetsii Wind Farm Project

**Finance and Investment Cooperation**

- Loan agreement signed on: September 2016 for 130 million USD (total project cost)

Coal-fired power generation, which accounts for about 90% of the total power generated in Mongolia, is causing an increase in air pollution and greenhouse gas emissions. In cooperation with the European Bank for Reconstruction and Development (EBRD), JICA provided loan support to develop the Tsogttsetsii Wind Farm. It was the second renewable energy project in Mongolia by a private company. The wind farm is estimated to reduce CO2 emissions by 176,575 tons per year*, which is equivalent to about 1% of Mongolia’s total yearly CO2 emissions.

*This figure is calculated from the International Energy Agency (IEA) with data (2016), assuming the annual supply target of 2018 is reduced with...

### Jordan

**The project for integration of variable renewable energy into electric power network system and enhancing supply reliability**

**Technical Cooperation**

- Project period: December 2019 to March 2022

In Jordan, solar and wind power generation has been increasing rapidly in recent years. As a result, it is required to install additional power system equipment compatible to renewable energy and to take measures to ensure flexibility of the power system operation to maintain the balance of demand and supply in response to fluctuations in the system. This project will contribute to improving the flexibility and reliability of the national power system by providing technical cooperation regarding protection relay systems and accident analysis, update of the long-term grid plan, and demand-side measures, so that the power system can utilize more renewable energy.
Supporting climate policy and institutional development

Samoa

The Project for Construction of the Pacific Climate Change Center

GRANTS (Grant agreement (G/A))

Grant agreement (G/A) signed on
February 2017 for 960 Million JPY

Project period
July 2019 to January 2023

The Pacific region is extremely vulnerable to the impacts of climate change. There are concerns that disasters caused by climate change will continue to become more severe and frequent. The region’s ability to adapt to climate change remains an issue. Through grant aid, JICA supported the construction of the Pacific Climate Change Center as a training facility under the Secretariat of the Pacific Regional Environment Programme (SPREP), a regional organization headquartered in Samoa. In addition, under the technical cooperation project “The Project for Capacity Building on Climate Resilience in the Pacific”, the Center is implementing capacity development of relevant ministries and agencies in the Pacific region through training on climate change adaptation and mitigation measures and improving access to climate finance. Through implementation of the training, the Center will strengthen its capacity to carry out training and further contribute to improving the climate resilience of the Pacific region.

Implementing adequate measures based on climate risk assessments

Philippines

Project for Master Plan and Feasibility Study on Flood Control and Drainage in Davao City

TECHNICAL COOPERAION

Project period
November 2018 to October 2020

In the Philippines, disasters caused by natural hazard have a significant impact on social and economic activities, and Davao City, the largest city on the island of Mindanao, has experienced frequent flooding in recent years. This project has contributed to the implementation of flood control measures and disaster risk reduction by developing a comprehensive flood control master plan for multiple catchment areas in Davao City. The plan takes into account the increased disaster risk of flood due to climate change. The project strengthened the capacity of counterpart organizations through the development process of the master plan.

Enhancing conservation and management of forests and other ecosystems

Kenya

Capacity Development Project for Sustainable Forest Management in the Republic of Kenya (CADEP-SFM)

TECHNICAL COOPERAION

Project period
June 2016 to June 2021

In Kenya, approximately 80% of the country is arid and semi-arid land and the forest area is about 6%. The degradation of forest resources due to the use of wood for charcoal and conversion to agricultural land is an issue. Moreover, Kenya is susceptible to climate change and increase in the frequency of droughts is concerned. As such, securing and maintaining natural resources by increasing forest area has become an important agenda for Kenya, and the constitution stipulates the goal to achieve 10% forest coverage by 2030. The project provides support for the Ministry of Environment and Forestry, Kenya Forest Service, and Kenya Forest Research Institute to formulate effective forest management policies, establish national forest monitoring systems for REDD+ and forest management, and develop breeding techniques of drought-tolerant trees. These actions will contribute to increase the forest coverage in Kenya and strengthen the resilience of the local communities to climate change.
Leading the world with trust

Many countries across the world are actively working to address the issue of climate change. Under the vision of “Leading the world with trust”, JICA will continue to support transition to climate resilient and zero-carbon societies for the sustainable development of developing countries in cooperation with various partners.