

Cooperation on Climate Change

— Towards a sustainable and zero-carbon society —



Office for Climate Change, Global Environment Department
Japan International Cooperation Agency
Nibancho Center Building, 5-25 Niban-cho, Chiyoda-ku, Tokyo 102-8012 Japan

November 2022





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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

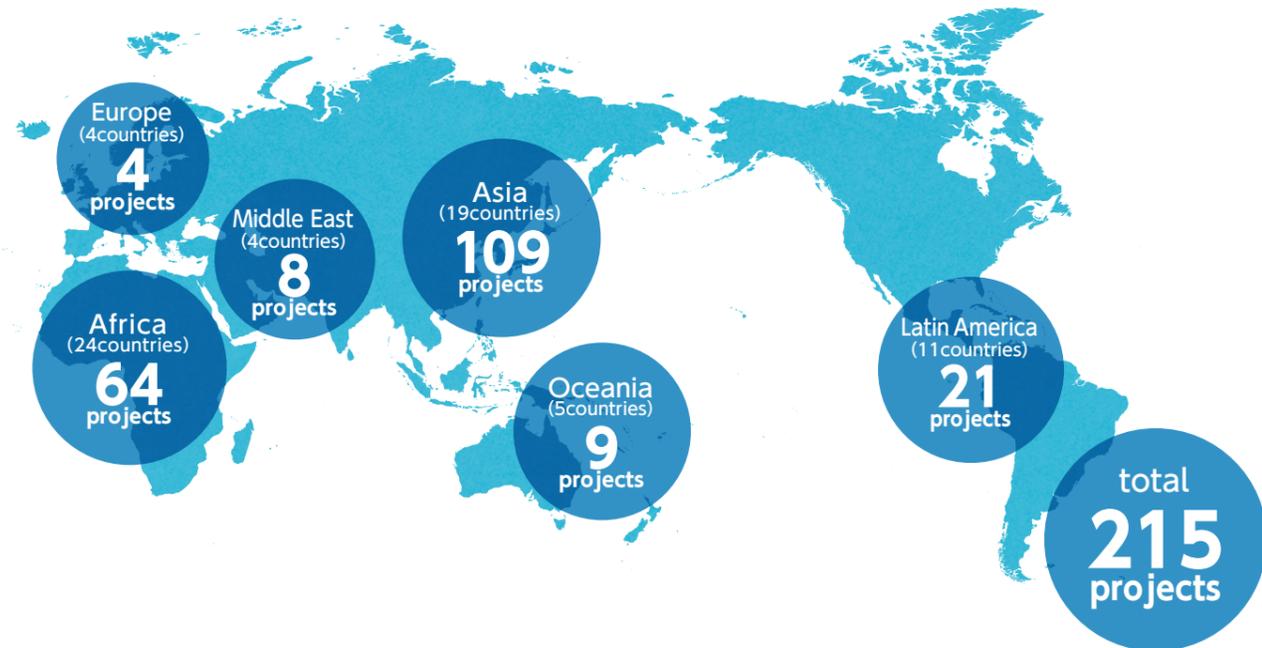
JICA integrates climate actions in various regions and sectors.

Number of projects (2021)

▼By sector



▼By region*1



Knowledge Co-Creation Programs in Japan (2021)

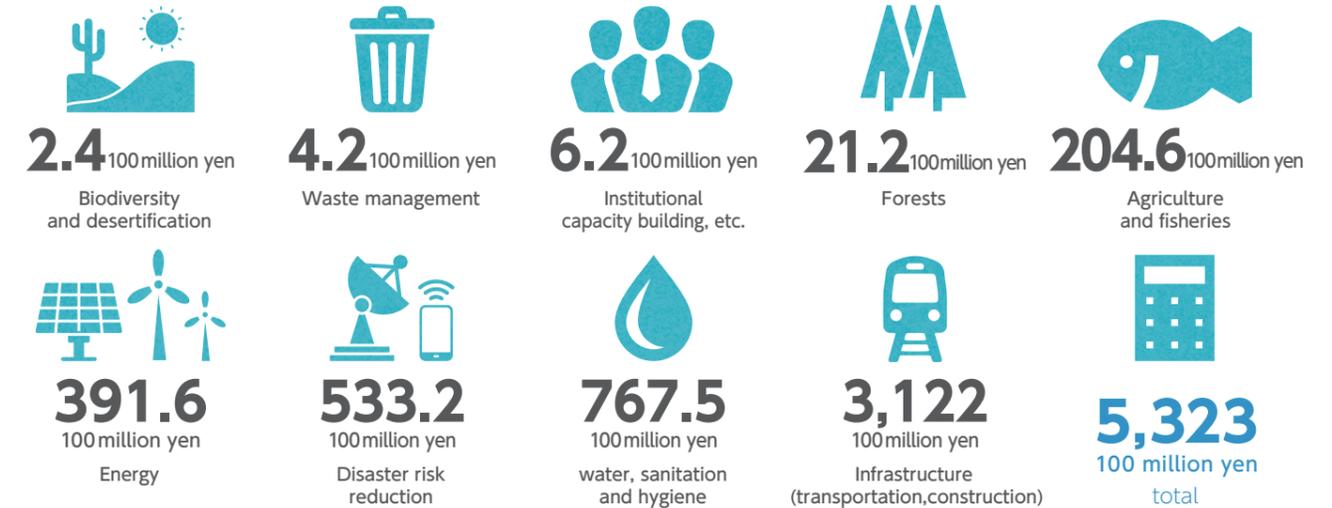
Number of projects **160 projects**

*1 The data does not include training programs in Japan that accept participants such as administrative officials and technical officers from developing countries to acquire technical skills and knowledge.

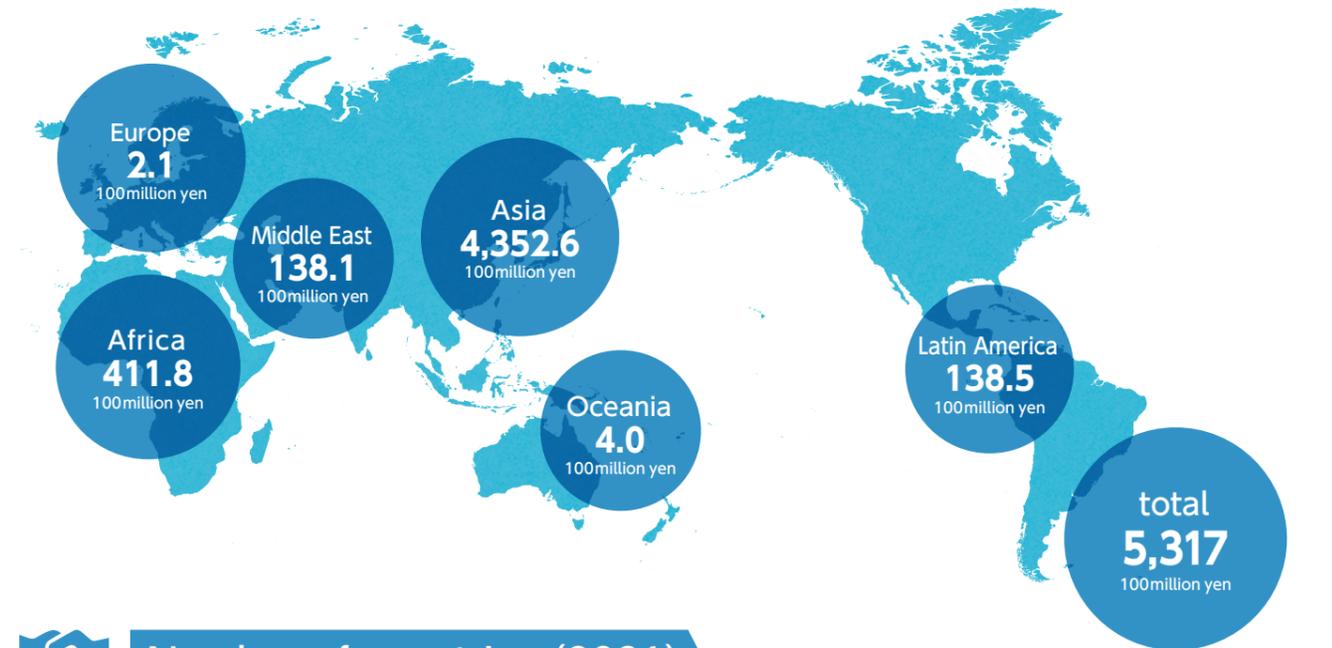
*2 Some number of Finance and Investment Cooperation is included only in the total amount.

Total aid amount (2021)

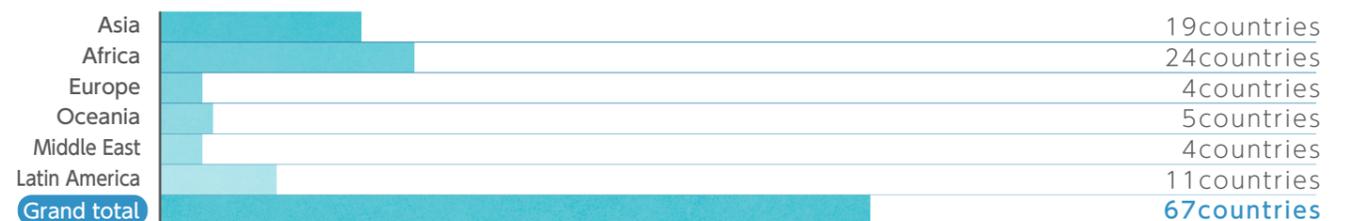
▼By amount sector*2



▼By amount region*1*2



Number of countries (2021)



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.

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.

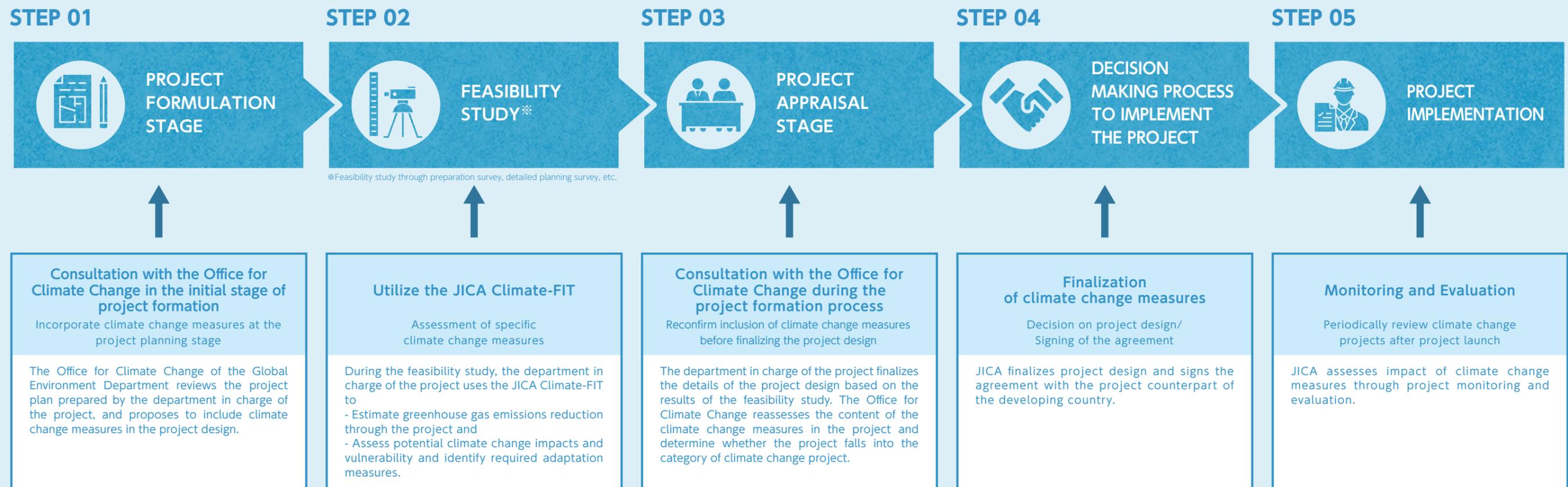
Scan the QR code below for more information on JICA Climate-FIT



Mitigation

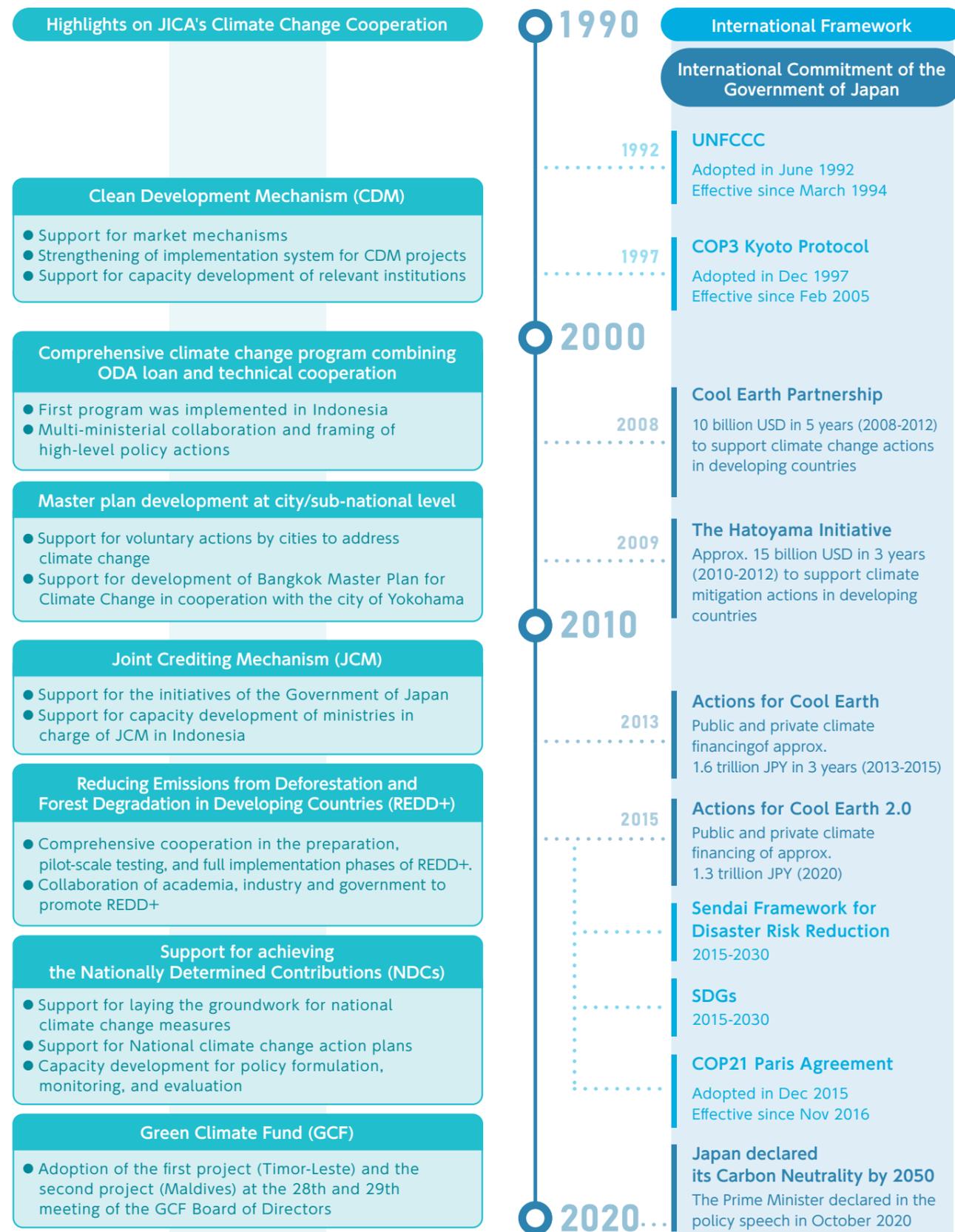


Adaptation



International Climate Change Framework and JICA's Work

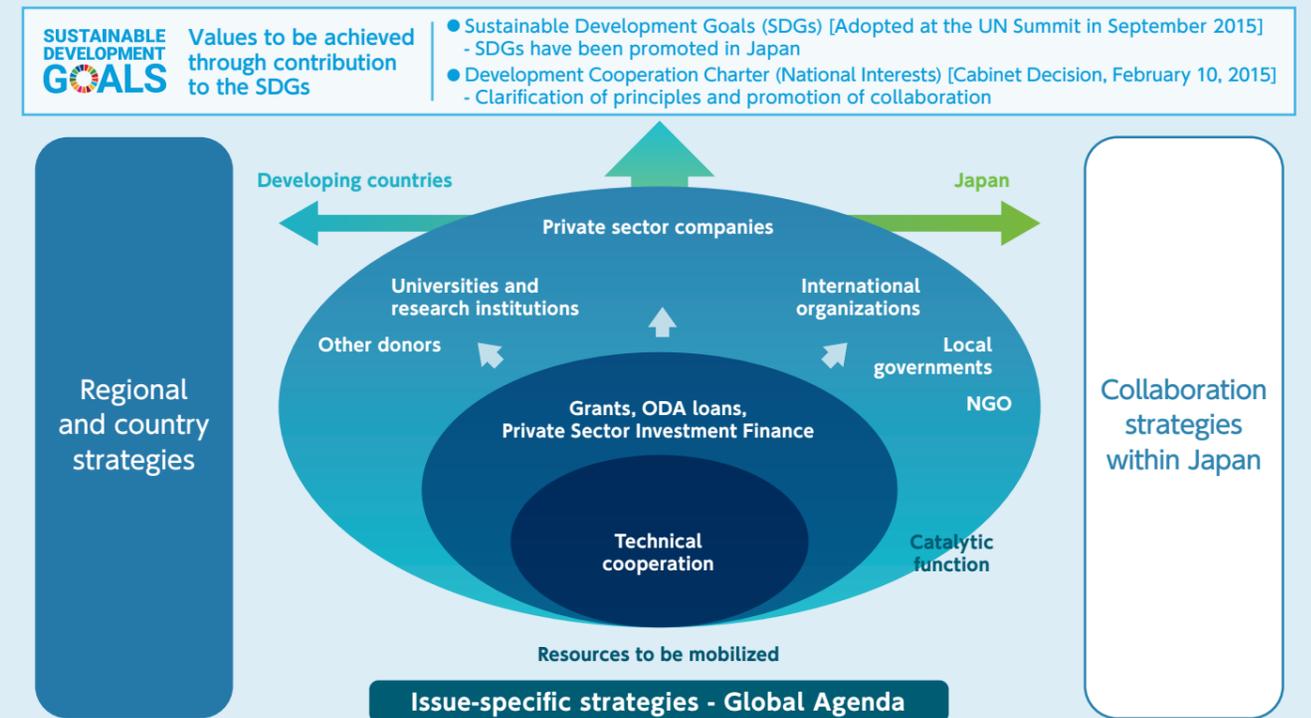
The needs in developing countries have changed in accordance with the shift in trends for domestic and international climate change policies and frameworks. JICA adopts regional and country specific approaches by responding to the various needs and circumstances of each country.



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	Co-benefit climate change measures
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.	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.
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).	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.

PRIORITY 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.



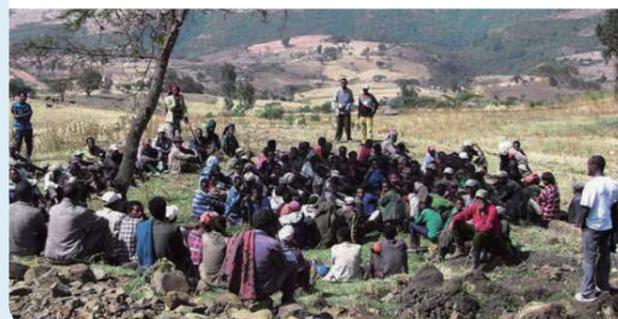
Supporting climate policy and institutional development

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.

TECHNICAL COOPERATION	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.
FINANCE AND INVESTMENT COOPERATION	<div style="display: flex; align-items: flex-start;"> <div style="background-color: #0070C0; color: white; padding: 5px; margin-right: 10px;">ODA loan</div> <div>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.</div> </div> <div style="display: flex; align-items: flex-start; margin-top: 10px;"> <div style="background-color: #0070C0; color: white; padding: 5px; margin-right: 10px;">Private Sector Investment Finance</div> <div>JICA supports the private sector to accelerate developing countries' economic/social growth through investments and loans for development projects proposed by private companies.</div> </div>
GRANTS	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.

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.



Lumut Balai Geothermal Power Plant Project

FINANCE AND INVESTMENT COOPERATION

Loan agreement (L/A) signed on March 2011 for 26.97 billion JPY



Objective

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



Construction of Jakarta Mass Rapid Transit Project

Construction of Jakarta Mass Rapid Transit Project (E/S)
Construction of Jakarta Mass Rapid Transit Project (I)
Construction of Jakarta Mass Rapid Transit Project (II)
Construction of Jakarta Mass Rapid Transit Project (Phase 2) (I)

FINANCE AND INVESTMENT COOPERATION




Construction of Jakarta Mass Rapid Transit Project (E/S)	Loan agreement (L/A) signed on	November 2006 for 1.87 billion JPY
Construction of Jakarta Mass Rapid Transit Project (I)	Loan agreement (L/A) signed on	March 2009 for 48.15 billion JPY
Construction of Jakarta Mass Rapid Transit Project (II)	Loan agreement (L/A) signed on	December 2015 for 75.22 billion JPY
Construction of Jakarta Mass Rapid Transit Project (Phase 2) (I)	Loan agreement (L/A) signed on	October 2018 for 70.02 billion JPY

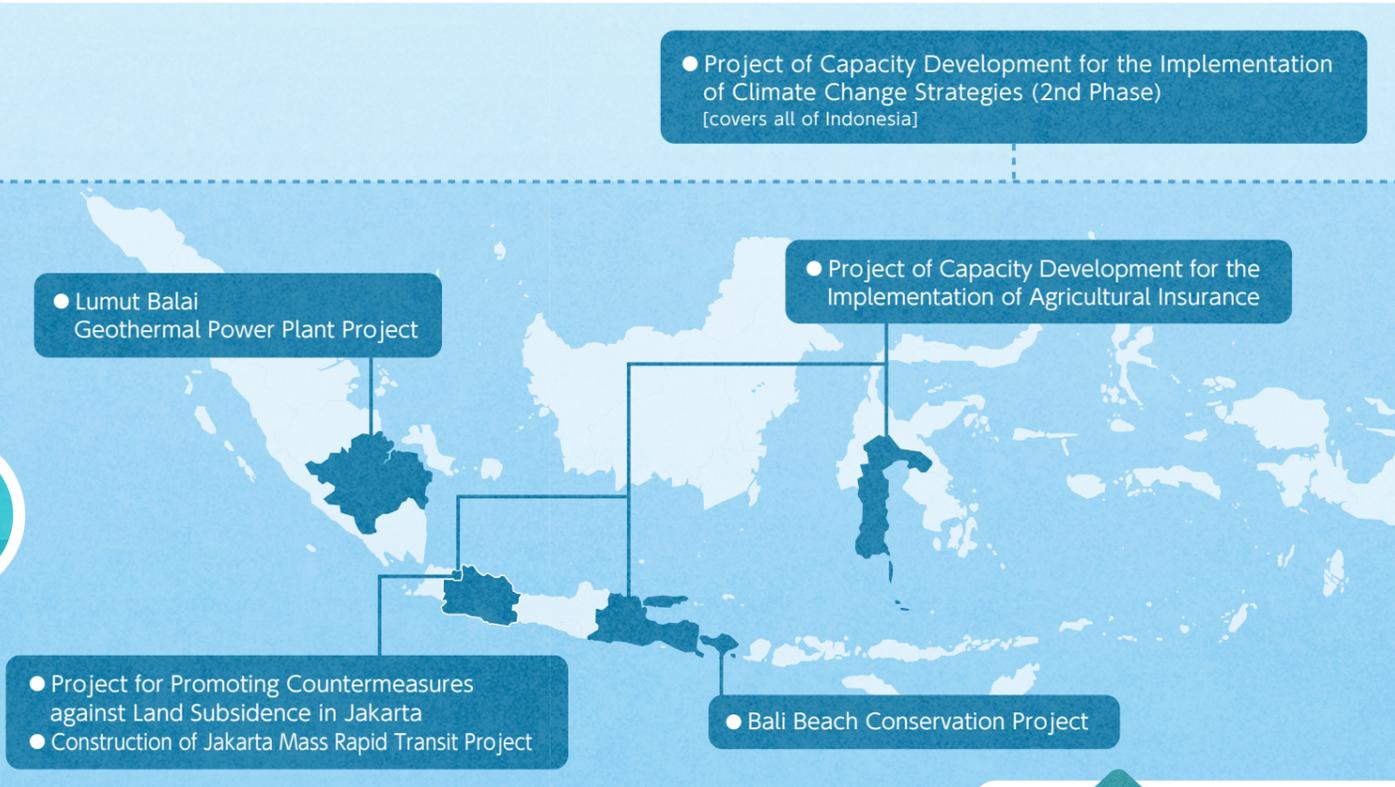
This project changed not only the social system but also people's mindset and behaviors. Overcoming many challenges, the MRT North-South Line Project contributes Jakarta economically, socially and environmentally. Now we are moving to the phase 2, which will expand the MRT network and integrate other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



PRESIDENT DIRECTOR OF PT. MRT JAKARTA (served since October 2016)
Dr. WILLIAM SABANDAR

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 for Promoting Countermeasures against Land Subsidence in Jakarta

Technical Cooperation for Development Planning



Project period
May 2018 to May 2022

Objective

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



Bali Beach Conservation Project

FINANCE AND INVESTMENT COOPERATION



Phase 1
(Support for construction of shore reclamation facilities, jetties, submerged breakwaters, and detached breakwaters in southern Bali)
Loan agreement (L/A) signed on December 1996 for 9.51 billion JPY

Phase 2
(Support for coastal conservation in eastern Bali and capacity building of organizations in charge of coastal maintenance management)
Loan agreement (L/A) signed on March 2017 for 9.86 billion JPY

Objective

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



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

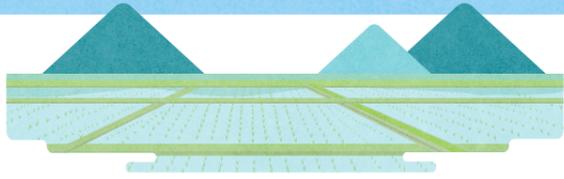
TECHNICAL COOPERATION



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

TECHNICAL COOPERATION

Project period
October 2017 to September 2022



To protect farmers from the diverse risks of crop failure, it is essential to strengthen the current agricultural insurance scheme in Indonesia. Under this project, we have conducted studies on existing indemnity-based agricultural insurance and provided trainings to raise awareness of farmers. We have started a pilot activity and are exploring the possibilities to introduce index-based agricultural insurance as well. We will strive to build climate resilience through agricultural insurance.



Director for Food and Agriculture, Ministry of National Development Planning/ National Development Planning Agency (BAPPENAS)
Mr. Anang Noegroho

Objective

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

JICA's support for climate action in Egypt

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

Egypt-Japan University of Science and Technology (E-JUST)

GRANTS and TECHNICAL COOPERATION

Project period
Phase 1 Oct 2008 to Jan 2014/Phase 2 Feb 2014 to Jan 2019
Phase 3 Feb 2019 to Jan 2025/GA Feb 2010

While technical cooperation has been provided for strengthening research and educational cooperation, the grant projects contribute to climate change mitigation through establishment of solar power generation system on campus and installation of research equipment. The E-JUST conducts research and provides study programs that tackle mitigation and adaptation of climate change.

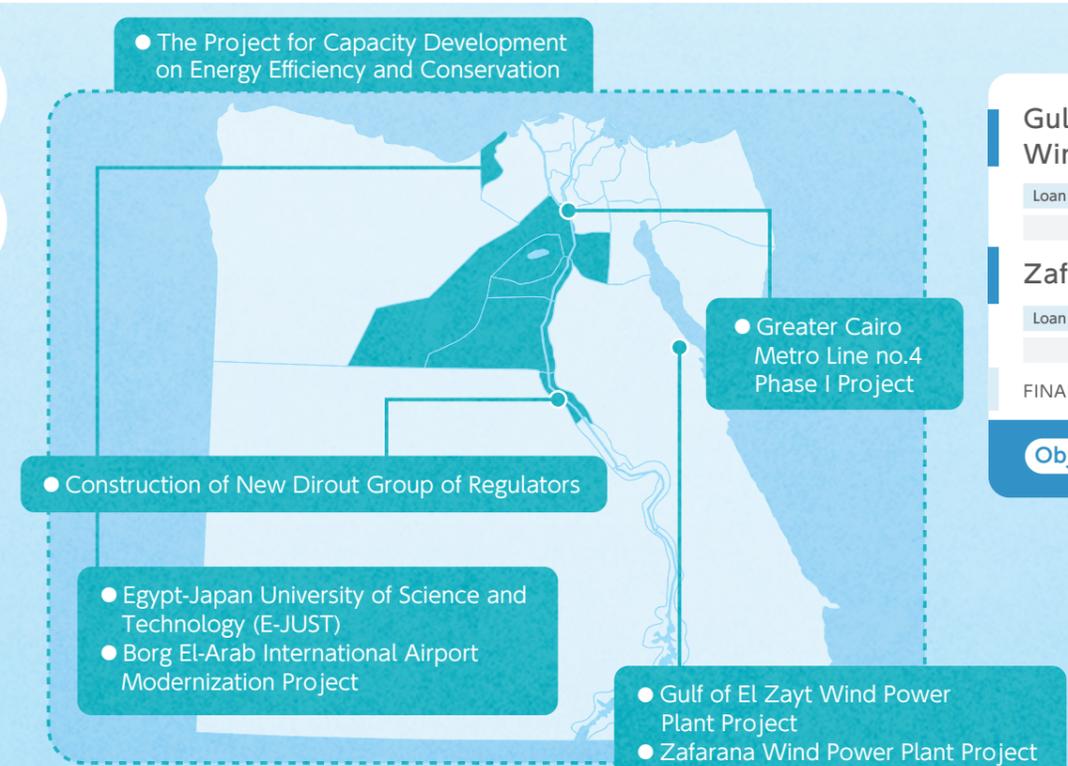
Example of grants

- The Project for Procurement of Education and Research Equipment for Egypt-Japan University of Science and Technology (E-JUST)
- The Project for Procurement of Education and Research Equipment for Egypt-Japan University of Science and Technology (E-JUST) (Phase 2)
- The Project for Introduction of Clean Energy by Solar Electricity Generation System

Objective

- Contribution to a sustainable society through research and education
- Reduction of GHG emissions



Gulf of El Zayt Wind Power Plant Project

Loan Agreement signed on March 2010 for 38.864 billion JPY
220MW / Reduction of 490,837 ton CO2/year

Zafarana Wind Power Plant Project

Loan Agreement signed on December 2003 for 13.497 billion JPY
120MW / Reduction of 190,000 ton CO2/year

FINANCE AND INVESTMENT COOPERATION

Objective

- Increase the power supply
- Reduce the use of fossil fuel
- Reduction of air pollution and CO2 emission




Borg El-Arab International Airport Extension Project

FINANCE AND INVESTMENT COOPERATION

Loan Agreement signed on Feb 2016 for 18.2 billion JPY

The project is expected to be in operation by 2024 and expected to serve 3.5 million passengers annually. The Airport is designed based on the concept of Eco Airport. Accordingly, related facility and equipment such as solar power generation, high efficiency air conditioning, Light Emitting Diode (LED) and photo catalysis on the basis of the concept of Eco Airport would be introduced in the Project.

Objective

- Introduction of technology for environmental measures
- Improvement of the convenience and safety of air transportation
- Increase in passenger transport capacity
- Promotion of the Nile Delta region
- Reduction of GHG emission




Greater Cairo Metro Line no.4 Phase I Project

FINANCE AND INVESTMENT COOPERATION

Loan Agreement signed on Mar 2012 for 32.717 billion JPY

The Project (18.8 km length) will facilitate connection from the West to the East Greater Cairo. The metro is one of the most eco-friendly transport facilities with no CO2 or other GHG emissions. The Project will connect with the existing metro network which will result in facilitating transportation in the very congested areas, enhancing the mobility of passengers, and increasing the capacity and effectiveness of the metro networks in Greater Cairo and enhance the sustainability of living conditions.

Objective

- Enhance the sustainability of living conditions
- Contribute to the reduction of greenhouse gas emissions in the region




The Project for Capacity Development on Energy Efficiency and Conservation

TECHNICAL COOPERATION

Project Period January 2020 to June 2023

The project aims to strengthen the Egyptian government's institutional capacity for energy conservation through supporting energy data management, capacity development of concerned counterparts, proposing policy measures and reforms among others. This project will consequently promote energy conservation throughout Egypt and contribute to the reduction of greenhouse gas emissions in the region.

Objective

- Promote energy conservation throughout Egypt
- Contribute to the reduction of greenhouse gas emissions in the region




Construction of New Dirout Group of Regulators (NDGRs)

FINANCE AND INVESTMENT COOPERATION

Loan Agreement signed on March 2015 for 5.854 billion JPY

The construction of New DGRs started from April 2022 until March 2026 under the Yen loan program with the amount of 5.8 billion Japanese Yen. New DGRs will substitute the existing DGRs, and further enable national authorities to manage limited water resources in more sophisticated and equitable manners based on scientific data lively measured at monitoring stations installed under this project. Hence this can help with food security amid climate change threats, prompt resource efficiency and conservation in Egypt's economy. Existing DGRs are preserved due to their historical and civil engineering values.

Objective

- Improvement of water management (effective for food security and climate change threats)
- Prompt resource efficiency and conservation in Egypt's economy






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

Phase1 (Development of metro corridors (mass rapid transport system) in central Delhi)

Loan Agreement signed on Feb 1997 for 162.75 billion JPY

Phase2 (Development of metro corridors connecting central Delhi and the neighboring areas)

Loan Agreement signed on Mar 2006 for 211.98 billion JPY

Phase3 (Development of inner and outer metro corridors in Delhi)

Loan Agreement signed on Mar 2012 for 330.48 billion JPY

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 stimulated the economy and improved the environment.



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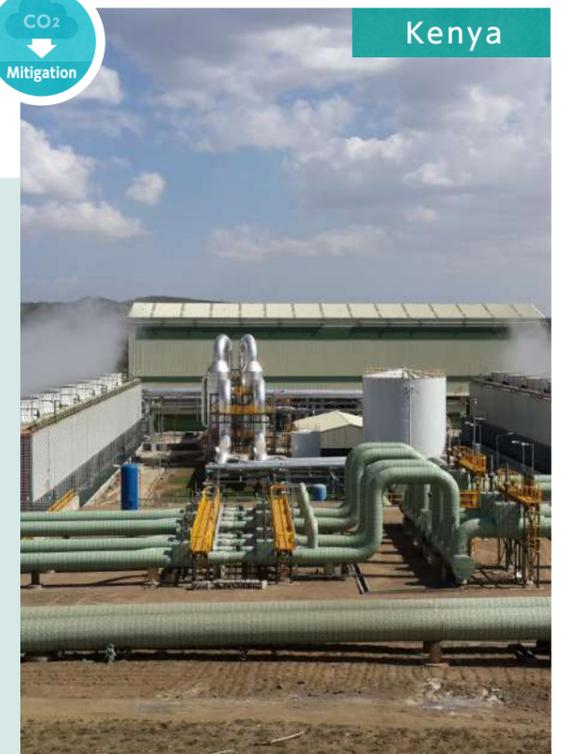
Olkaria V Geothermal Power Plant

FINANCE AND INVESTMENT COOPERATION

Loan agreement signed on Mar 2016 for 45.690 billion JPY

Electricity demand in Kenya has been increasing in step with the country's steady economic growth. Hydroelectric plants generate about 30% of Kenya's total electricity, but the frequent droughts in recent years make hydroelectricity unstable. Thermal power generation is another main source of electricity, but the fuel imports to sustain it widen Kenya's account deficit.

In addition to addressing the country's electricity shortage, the project will use geothermal power, a renewable energy source, to reduce air pollution and CO2 emissions to levels lower than what would be emitted by a thermal power plant of the same size. And with the further increases in the stability of the power system achieved, the project will contribute to economic development by improving livelihoods and the investment environment.



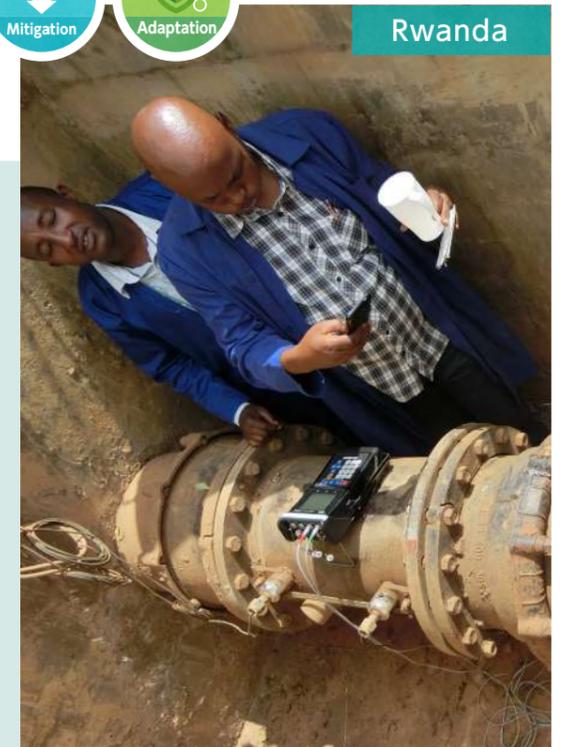
Kenya

The Project for Strengthening Non-Revenue Water Control in Kigali City Water Network

TECHNICAL COOPERATION

Project period Aug 2016 to Sep 2022

Water distribution services in Kigali, Rwanda have not caught up with the city's rapid population growth, which is expected to reach 4-5% per year by 2025. The city is also forced to constantly restrict or suspend water supply due to water source shortages and leaks. Non-revenue water (NRW) is estimated to be about 40%, leading to an estimated economic loss of 790 million yen (at the start of this project in 2016). This project seeks to strengthen NRW management in Kigali and contribute to climate change prevention by improving the city's capacity to develop measures against NRW and supporting the acquisition of knowledge, techniques, and skills by staff. The project also helps to mitigate the impacts of climate change, as NRW reduction offsets the declines in water availability caused by changes in precipitation patterns. The energy conserved by reducing NRW caused by leaks, etc. can also be expected to reduce the emission of greenhouse gases.



Rwanda



Priority area② Supporting climate policy and institutional development

Samoa



Adaptation

The Project for Construction of the PacificClimate Change Center

GRANTS (Grant agreement (G/A))

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

The Project for Capacity Building on Climate Resilience in the Pacific

TECHNICAL COOPERATION

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.



Priority area③ Implementing adequate measures based on climate risk assessments

Index-based Crop Insurance Promotion Project for Rural Resilience Enhancement

TECHNICAL COOPERATION

Project period Mar 2019 to Mar 2024

Agriculture is an important sector in Ethiopia, accounting for about 70% of the country's working population and 40% of the GDP. While crop yields and productivity have been improving, low rainfall and climate change heighten the risk of food crisis and make small-scale farmers vulnerable to droughts and other natural disasters. JICA began supporting agriculture activities through the development and implementation of the Weather Index Insurance in 2012, which provides payouts if certain values such as rainfall fall below or above the weather index. To enhance the resilience of farmers against climate change and natural disasters, this project contributes to the sustainable management of index-based crop insurance in Ethiopia by supporting the development of guidelines for the dissemination of index-based agricultural insurance in the Oromia Region.



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Priority area④ Enhancing conservation and management of forests and other ecosystems

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

TECHNICAL COOPERATION

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.

