

Energy Sector (Mitigation)

Finance and investment Cooperation

Electricity Distribution System Improvement Project – JPY 24,762 Million (LA signed in 2016)

The project aims at reducing the loss of energy and improving the reliability and efficiency of power supply through upgrading the electricity distribution system and installation of Smart Meters, contributing to reducing greenhouse gas emissions and climate change mitigation. The project takes place in three areas, Alexandria Electricity Distribution Company, North Cairo Electricity Distribution Company and North Delta Electricity Distribution Company. The project contributes to Climate Change Mitigation: Project effects for CO₂ mitigation is estimated at 142,773 t-CO₂/annum



Smart Meters Factory Acceptance Test

Electricity Sector Rehabilitation and Improvement Project – JPY 41,098 Million (LA signed in 2016)

The project aims at recovering the installed capacity of the existing thermal power plants, improving their reliability, stabilizing power supply as well as reducing greenhouse gas emissions through upgrading the equipment of the existing thermal power plants and provision of spare parts. The project takes place in Cairo North Power Station, Sidi Krir Power Station and El Atf Power station. The project contributes to Climate Change Mitigation; Total expected CO₂ emissions reduction as a result of the project is 102,246 ton/year



North Cairo Power Station

The Project for Capacity Development on Energy Efficiency and Conservation (Period 2020-2023) Technical Cooperation

The project aims at strengthening 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.



Energy Efficiency Activities

Zafarana Wind Power Plant Project – JPY 13,497 Million (Completed 2009)

The objective of the Project is to increase the power supply and reducing the use of fossil fuel by constructing the 120 MW of Wind Power Plant in Zafarana of Egypt and thereby contributing to the reduction of air pollution, amount of greenhouse gas emission equivalent to the amount when a similar size thermal power plant is operated and global warming. Approximately, 180,000 – 190,000 ton of CO₂ emissions have been avoided annually by this project. Project was approved and implemented as CDM (Clean Development Mechanism).



Zafarana Wind Power Plant

Gulf of El Zayt Wind Power Plant Project –JPY38,864 Million (Completed 2019)

The objective of the Project is to increase the electric power supply by the constructing of 220 MW wind power generation facility in the Gulf of El Zayt, which is located on the coast of the Red Sea, Egypt, thereby contributing to the fulfillment of electricity demand, climate change mitigation through the reduction of greenhouse gas (GHG) emissions, and economic and social development in Egypt. Around 490,837 ton of CO₂ emissions have been avoided annually by this projects.



Gulf of El Zayt wind Power Plant

Transportation Sector (Mitigation)



Finance and Investment Cooperation

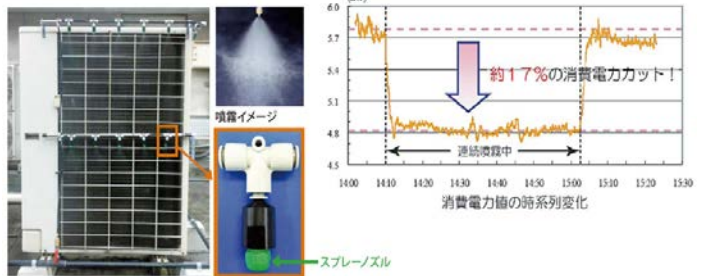
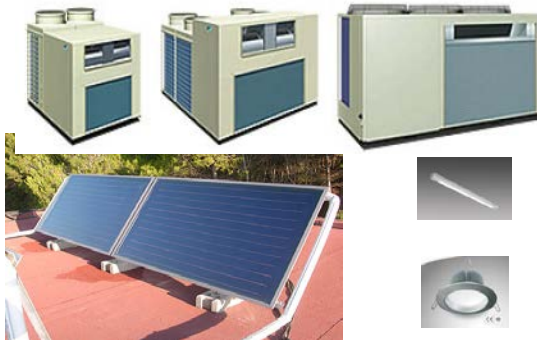
Borg El-Arab International Airport Modernization Project

Development of Eco-Friendly Airport in Africa

The project was supported by concessional loan (5.7 billion JPY) and completed the construction of new facility by the end of 2010. Due to the growth of labor market demand and development of Low Cost Carrier (LCC) services in Middle Eastern countries by growing economy in Egypt and surrounding countries, the second phase of the project is undergoing and supported by JICA's finance (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 would be introduced in the Project.



General eye bird view of the Airport



Special devices in the AC to reduce energy consumption

Greater Cairo Metro Line no. 4 Phase I Project

The Project (18 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 as well as enhance the sustainability of living conditions. Loan Agreement was signed in March 2012 for 32.717 billion JPY as a first tranche. The project is expected to be in operation in 2026



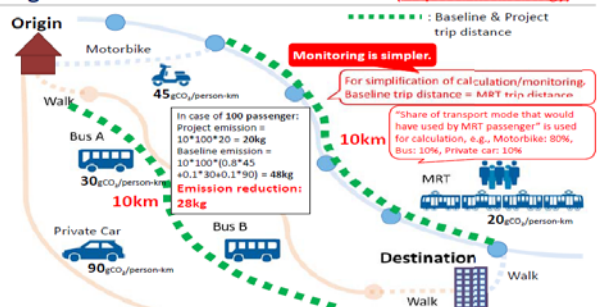
Prospective view for future Metro station

Greater Cairo Transport Master Plan Study (Technical Cooperation)

Updating the transportation database is indispensable for planning and prioritizing transportation infrastructure projects. JICA has conducted previous transport master plan studies. It is desirable to update these studies considering the fast urban expansion of the area due to various development projects and formulate future priority projects. The study – supposed to start this year – will consider the concepts that will introduce eco-friendly modes of transportation that would result in reducing GHG emissions and achieve effective mobility.

Methodology on GHG Emission Reductions

Image of Emission Reduction Calculation (Proposed methodology)



Water Sector (Adaptation)

Finance and Investment Cooperation

Construction of New Dirout Group of Regulators

Dirout Group of Regulators (DGRs), which was constructed in 1872, is the oldest active regulators in the country and cannot function well due to their age. DGRs deliver 9.6 BCM/year of irrigation water or 17% of the gross water resource of the Nile of 55.5 BCM/year taken from the Nile into the beneficiary area of 600 thousand ha.

Thus DGRs diversify Ibrahima Main Canal from the Nile into 7 main canals and distribute irrigation water to famers along these 7 canals.

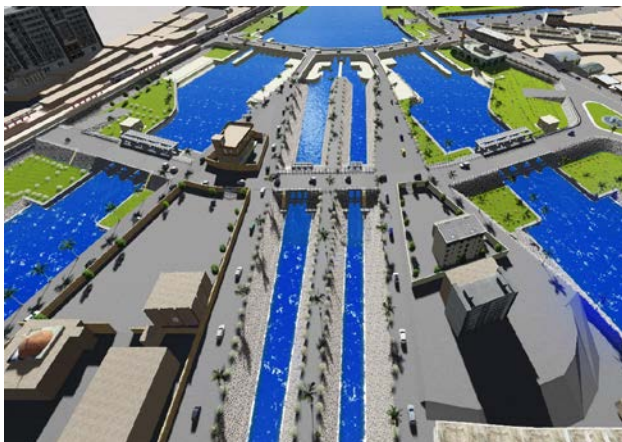


Existing Dirout Group of Regulators



Water flow from Existing Regulator

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 still maintain the same functions from 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.



Design of New Dirout Group of Regulators

Education Sector

Technical Cooperation/ Grant (Mitigation/ Adaptation)



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

E-JUST was established based on bilateral agreement between the Egyptian and Japanese governments with the vision of becoming a world class university in science and technology based on best Japanese higher education practices. It aims to produce qualified human resources to contribute to the development of the higher education sector and industry.

JICA has supported the establishment and operation of schools and departments in cooperation with 13 Japanese universities, dispatched Japanese experts and professors, provided high-quality research and educational equipment, and supported the scholarship program for African students for regional human resources development.



E-JUST eco-friendly campus

Eco-friendly Campus

E-JUST main campus was designed following LEED (Leadership in Energy and Environmental Design) index. A pre-assessment was conducted for the main campus. It had got 66 credits which gives the campus a gold certificate in LEED. E-JUST has the solar system, which generates 560 kWh of solar energy to showcase sustainable campus and provide electricity to Headquarter building and the activity hub building. JICA extends a grant of 970 million Japanese Yen to the Egyptian Government to establish the solar system at the university.



Solar PV Station

Scientific Research

E-JUST is a research oriented university that has given attention to climate change research topics such as renewable energy including hydrogen and solar systems, climate observation, and sustainable cities and buildings.

Study Programs

E-JUST provides a M.Sc. and Ph.D. programs in Climate Change through environmental engineering department. The curriculum includes studies of impact, mitigation, and adaptation of climate change. In addition, EJUST is preparing a Postgraduate Diploma Program in Climate Change.

Capacity Building & Collaborations

Believing in E-JUST social responsibility, the university organized a symposium on “Climate Change” as a part of series of awareness sessions on climate change and the person’s role in consumption control. The university has a joint agreement with the Egyptian Meteorological Authority (EMA) including the collaboration in educational and research topics related to Climate Change. E-JUST also collaborates with NGOs on climate adaptation activities including the collaboration with International Development, Environment and Culture Association (IDECA), Alexandria Business Association (ABA) and Inner wheel Alexandria East.



Space and Environment Lab