

Ex-Ante Evaluation(for Private Sector Investment Finance)
Private Sector Investment Finance Division,
Private Sector Partnership and Finance Department, JICA

1. Name of the Project

- (1) Country: Arab Republic of Egypt
- (2) Project: Komombo Solar Power Project
- (3) Project Site / Target Area: Aswan Governorate, Komombo
- (4) Siginig Date: November 30th , 2022

2. Background and Necessity of the Project

(1) Current State and Issues of the Power Sector and the Priority of the Project in Egypt

Egypt's economy has been growing at an average annual rate of 4.6% over the five-year period from FY2016 to FY2020 (IMF Database, April 2022), with maximum electricity demand growing at an average annual rate of 1.8% (EEHC Annual Report 2020/2021). While electricity demand is growing on the back of steady economic growth, the Egyptian government has been focusing on power supply development, particularly thermal power plants, to resolve the tight supply-demand situation since experiencing a major power outage in 2014. As a result, power supply development has been progressing, with the installed capacity of 58,818 MW in FY2020/21, compared to a maximum power demand of 31,900 MW. However, looking at Egypt's power source composition (power generation capacity) in FY2020/21, thermal power, hydroelectric power, and renewable energies account for 90%, 5%, and 5%, respectively, and thermal power using fossil fuels accounts for 90%. Diversification of power sources, including expansion of renewable energy, is an urgent issue from the perspective of reducing environmental impact, lowering power generation costs, and increasing foreign currency earning opportunities by curbing fossil fuel consumption and increasing export potential.

In the "Energizing Egypt White Paper" released in March 2015, the Egyptian government announced its policy to reduce its dependence on fossil fuels and introduce renewable energy sources in order to diversify its power sources. In addition, based on the policy "Sustainable Development Strategy Vision 2030" announced by the Egyptian government in February 2016, the Ministry of Electricity and Renewable Energy published the National Energy Strategy (Integrated Sustainable Energy Strategy to 2035 (ISES2035)) in 2016. The

strategy focuses on energy stability, sustainability, governance, and competitiveness, and calls for the elimination of subsidies to reduce electricity sales prices by 2020, the promotion of energy use efficiency, private sector participation, and the diversification of power sources through the promotion of renewable energies. The specific policies of the energy policy are to diversify power sources by promoting energy use efficiency, private sector participation, and the spread of renewable energies. In particular, the target for renewable energies, which have great potential, mainly solar and wind power, is to account for 20% of the total power supply by 2020 and 42% by 2035, and solar power generation is to account for The Egyptian government (New and Renewable Energy Authority) and the private sector plan to develop 3,000 MW of solar power by 2022. Based on this policy, as of 2020/21, 1,631 MW of PV power generation has been built, 50 MW is under construction, and 770 MW is under development, in line with ISES 2035. Furthermore, based on the Paris Agreement, Egypt's Nationally Determined Contributions (NDC) sets a target for renewable energy Egypt's NDC sets the development of renewable energy as a target.

This project is in line with the Egyptian government's policy of promoting the diversification of power sources through the diffusion of renewable energy by constructing a photovoltaic power plant.

(2) Japan's and JICA's Cooperation Policy and Operations in the Power Sector

Japan's Country Assistance Policy for the Arab Republic of Egypt (September 2020) sets "promotion of sustainable economic growth" as a priority area and calls for cooperation in "economic and social infrastructure development," etc. This project is in line with the said policy. In addition, the TICAD 8 "Tunis Declaration" stated that it is important to meet Africa's enormous energy demand by utilizing renewable energy resources and other resources, while at the same time, promoting structural transformation to reduce greenhouse gas emissions. The TICAD 8 "Tunis Declaration" also states the importance of structural transformation to reduce greenhouse gas emissions while meeting Africa's enormous energy demand by utilizing renewable energy resources, etc., and the need to accelerate private investment in a fair and equitable transition to alternative energy sources against the backdrop of a significant increase in oil and gas prices. In the JICA Country Analysis Paper for the Arab Republic of Egypt (March 2016), electricity is analyzed as a priority sector to promote

sustainable economic growth, and to date, JICA has implemented the Hurghada Solar Power Project, a yen loan project in 2016, and in 2021, the Electricity Sector Reform JICA has been providing assistance to the country in the renewable energy sector, including the Hurghada Solar Power Project in 2016, and a Development Policy Loan in 2021 to support the promotion of renewable energy and energy efficiency for green growth.

(3) Other Donors' Activities

IFC and FMO are providing financial support for renewable energy in this country.

3. Project Description

(1) Project Description

① Project Objective

This project is located in Kom Ombo, Aswan Governorate in the southern part of the Arab Republic of Egypt (hereinafter referred to as "Egypt"). The project aims to increase the country's electricity supply from renewable energy through the construction and operation of a 500 MW solar power plant and related facilities in Kom Ombo, Aswan Governorate in the south of the country, thereby contributing to climate change countermeasures by reducing CO2 emissions in the country.

② Project Components

The project involves the construction and operation of a 500 MW solar power plant and related facilities in Kom Ombo, Aswan Governorate, southern Egypt.

③ Project Beneficiaries (Target Group)

Egyptian citizens

(2) Estimated Project Cost

337.2 million USD (JICA loan: 88.3 million USD)

(3) Schedule

February 2023: Commencement of the construction,

July 2024: Completion of the construction

(4) Project Implementation Structure

1) Borrower: Abydos Solar Power Company SAE

2) Guarantor: NA

3) Executing Agency: Abydos Solar Power Company SAE

4) Operation and Maintenance System : Zhejiang Thermal Power Construction Co., Ltd

(5) Collaboration and Sharing of Roles with Other Donors: NA

(6) Environmental and Social Consideration

① Category: B

② Reason for Categorization: The project does not fall under the sensitive sectors/characteristics and sensitive areas listed in the "JICA Guidelines for Environmental and Social Considerations" (promulgated in April 2010), and the undesirable effects on the environment are not considered to be significant.

③ Environmental Permit: The Environmental and Social Impact Assessment (ESIA) report for the project was approved by the Egyptian authorities (New and Renewable Energy Authority, NREA) in September 2022.

④ Anti-Pollution Measures: The impact on air quality, noise, etc. generated during construction will meet domestic and international environmental standards through periodic inspections of water spraying, vehicles, etc. Waste will be properly stored by waste type in accordance with the waste management plan, and will be properly disposed of by the waste disposal contractor.

⑤ Natural Environment: The project area does not fall in or near sensitive areas such as national parks, etc., and it is assumed that the project will have minimal undesirable effects on the natural environment.

⑥ Social Environment: The project site is owned by the Egyptian government and no land acquisition or resettlement is envisaged.

⑦ Other/Monitoring: The EPC contractor will monitor air quality, noise, waste, etc. during construction, and the O&M contractor will monitor waste, etc. during service.

(7) Cross-Sectoral Issues: NA

(8) Gender Category: [Gender project] [Not applicable] ■ GI (Gender Mainstreaming Needs Assessment and Analysis)

< Reason for classification >: Although gender mainstreaming needs were identified during the screening, no indicators were established for specific initiatives that contribute to gender equality and women's empowerment.

(9) Other Important Issues: NA

4. Targeted Outcomes

As quantitative outcomes, maximum power (MW), power generation at sending

end (MWh/year) and CO₂ Reduction (tCO₂/year) will be monitored.

As qualitative outcomes, climate change mitigation of the host country will be monitored as a result of introducing the project.

5 . External Factors and Risk Control

NA

6 . Lessons Learned from Past Projects

In the ex-post evaluation report of the Zafarana Wind Power Project (evaluation year: 2012) and other reports, it was pointed out that the project period was significantly extended due to the delay in the payment of construction costs by the implementing agency, which hindered the smooth implementation of the project. Although the Egyptian government-related institutions involved in this project are different from the aforementioned implementing institutions, delays in payments from the Egyptian government-related institutions to the borrower would affect the preservation of ETIC's claims. In our review, we confirmed with EETC that EETC has never caused any delays in the payment of electricity sales charges to IPP operators, and that in the event EETC delays payment, the Egyptian government is obligated to make the payment under the guarantee agreement with the Egyptian government, thus mitigating the above-mentioned risk. The above-mentioned risk has been mitigated by the guarantee agreement with the Egyptian government.

7 . Evaluation Results

This project is highly significant because it is consistent with the country's challenges, development policies, and cooperation policies of Japan and JICA, and because it is expected to contribute to SDG Goals 7 (Affordable and Clean Energy), 13 (Climate Action), and 17 (Partnerships for the Goal).

8 . Plan for Future Evaluation

(1) Indicators to be Used

As indicated in Sections 4.

(2) Future Evaluation Schedule

Ex-post evaluation:3 years after the project completion

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