


**ADAPTATION
BLENDED**

PROJECT NAME	Gabal Al-Asfar Waste-Water Treatment Plant Project
COUNTRY/REGION	Egypt
SECTOR	Water Sector
PROJECT/INVESTMENT AMOUNT	US\$1 Billion US\$58 million of the US\$1 Billion was invested by the African Development Bank
DEVELOPMENT PARTNER(S)/STAKEHOLDERS	Financed by Italy, France, European Investment Bank (EIB), African Development Bank (AfDB), and JICA A consortium made up of ACCIONA Agua, Passavant-Roediger and Hassan Allam Construction was awarded a contract.
COUNTERPARTY MINISTRY/ INSTITUTION	Ministry of Housing, Utilities and Urban Development; Construction Authority for Portable Water and Wastewater (CAPW)
INVESTOR(S) AND FUNDERS	Financed by Italy, France, European Investment Bank (EIB), African Development Bank (AfDB), and JICA
GUIDEBOOK TAXONOMY FINANCIAL SYSTEM ACTOR	MDBs, Bilateral, Private Sector Institutions
PROJECT OVERALL GOAL	<p>The objective of the project is to accelerate the capacity of wastewater treatment of El Gabal El Asfar Wastewater Treatment Plant in the northeast of greater Cairo, the center of the population in Egypt, thereby contributing to improving the environment of water and sanitation in greater Cairo. This project aims to improve the quality of wastewater discharged into the drainage system in Cairo East. It intends to benefit around 8 million people living within the catchment of the Gabal Al-Asfar Wastewater Treatment Plant.</p> <p>Water is a prerequisite for economic and social development in Africa; therefore, protecting this scarce resource by protecting the environment is essential for the advancement of living conditions.</p> <p>On a larger scale, the macro goal is to achieve total coverage of improved sanitation throughout the country.</p>
PROJECT OUTCOMES	<ul style="list-style-type: none"> • It improved water quality in the drainage system ending in Lake Manzala and the Mediterranean Sea, which positively affected the livelihoods of fisherman in the sea. • The treated water was used in irrigation for 150,000 feddans. • Organic fertilizers were extracted. • Electricity was generated from the Methane Gaz of the sludge during the treatment process. This electricity powers 60% of the plant's energy needs. • It saves the equivalent of 28,000 tons of carbon emissions per year. • It treated the effluent of 5 million people in Cairo.

	<ul style="list-style-type: none"> This innovative system reduces both the plant's carbon footprint and its electricity consumption.
ALIGNMENT WITH COUNTRY IDENTIFIED CLIMATE STRATEGIES, NDCs, ETC. (IF APPLICABLE)	It complies with Egypt's NDC as it aims to contribute significantly to reduce carbon emissions. Additionally, Egypt's NDC stipulates that projects and policies concerning water and irrigation are implemented with the aim of maintaining water conservation. This complies with the national priority which focuses on the need for improving water quality in secondary waterways and drains.
CONTRIBUTION OF THE PROJECT TO THE UN SDGs	<ul style="list-style-type: none"> SDG 6 - clean water and sanitation - SDG 11- sustainable cities - SDG 9 - industry, innovation, and infrastructure - SDG 3 - well-being of everyone -
SOCIOECONOMIC IMPACT	It has been established that water is a pre-requisite for any form of economic and social development in Africa. Aside from this key pillar, this project reflected advantageous socioeconomic effects on employment. While designing the project, the priority of the unskilled and semi-skilled jobs was given to members of the local communities in the vicinity of the project. This mainly concerned the farmers settled on the Gabal El-Asfar State Farm. To avoid social inconveniences such as the risk of disease transmission, workers on site were provided with proper sanitation facilities in addition to pre-employment health screening.
ENVIRONMENTAL IMPACT (ON CLIMATE MITIGATION AND/OR ADAPTATION)	This project handles a large magnitude of wastewater from a dense population of about 20 million in Greater Cairo; therefore, given the big nature and scope of it, this project is classified as environmental category 1. The design of the project utilizes anaerobic digesters with the capacity to use methane a greenhouse gas for electricity generation. The daily production of Methane from the anaerobic digestion is $50,000\text{Nm}^3$. This means that $2,600\text{Nm}^3$ of CO ₂ equivalent (1 CO ₂ (e) = 5.2% CH ₄) will be abated every day. This project will abate about 0.73% of the country's annual total emissions.
ENABLING ENVIRONMENT (SUPPORTING POLICIES)	Due to the scarcity in water within Egypt, the government is undertaking policies for its efficient use and protection from pollution within its Integrated Water Resources Management Strategy. This strategy reflects Egypt's Development Agenda for the sector, which includes environmental protection. Application of climate change resilience policies are beneficial to internalizing climate change benefits into the project, as the project will establish additional revenue streams that will strengthen its viability on the long-term.
TECHNICAL ASSISTANCE (IF PROVIDED)	The private sector is pitching in the project by supplying the project with the needed technical utilities such as electrical and ventilation services, service networks, roads, fences, and connections as well as operation and maintenance for two years. The Egyptian Construction Authority for Drinking Water and Wastewater has awarded a consortium made up of ACCIONA Agua, German Company Passavant-Roediger and Hassan Allam Construction a contract for the expansion of the

	Gabal EL Asfar wastewater plant. The contract is worth over 120 million euro.
<p>FINANCING MODEL/APPROACH (EX: BLENDED FINANCE)</p>	<p>This project touches upon the notion of sustainability as it partially solves the disposal of untreated wastewater. Egypt's water inflow mainly relies on the Nile River; inconsistently, the Nile River receives most of Egypt's pollutants. On a positive note, within the past two years the Government has spent over EGP 60 billion on water and sanitation with the help of Development Partners' financing. The OECD, ADB and a few other funders financed this project with the intention of receiving financial return. This emphasizes that this project ticked off the elements of blended finance enhancing sustainable development while providing the funders with financial return. Multiple development partners have been advocating the use of investment capital to add more advancement in the life of others and health of our planet. Thereafter, the amount of capital for impact investing excessively increased, reaching a current sum of USD715 billion. This was attained when investors understood the four characteristics of capital investing: 1. Intentionality 2. Use of evidence and impact data in designing the project 3. Manage impact performance 4. Contribute to the growth of the sector. First, impact investing focuses on the intentional desire to contribute to measurable social and environmental benefit by solving problems and addressing opportunities. In compliance, this project is categorized as category 1 environmentally and socially. Second, the positive social and economic impacts resulting from the implementation of the project proof that evidence and data were used to establish an intelligent investment design. Third, managing impact performance was fulfilled by communicating performance interpretation between development partners through publishing reports. Last, this project contributed to the growth of the water sector in Egypt and the health status of 8 million Egyptians in the area.</p>
<p>RATIONALE FOR FINANCING MODEL/APPROACH</p>	<p>This innovative approach assists in amplifying the total amount of resources accessible for developing countries. It compliments their own investments and ODA inflows to fill their SDG financing gap and support the employment of the Paris Agreement.</p>
<p>FINANCIAL INSTRUMENT(S) (LOANS (COMMERCIAL/ CONCESSIONAL), EQUITY, GUARANTEE)</p>	<p>Loans to the Government of Egypt The AfDB is a main development partner to Egypt in raising funds and offering technical support in implementing projects. The project was funded by the bank and the bank supports the budget of transferring to new and renewable energy.</p>
<p>DIAGRAM OF THE FINANCING STRUCTURE</p>	
<p>Executive Summary</p>	
<p>Analysis</p>	
<p>WHAT MADE THIS PROJECT SUCCESSFUL?</p>	<p>The success of this project resulted from two main factors: appropriate financing and proper planning. This project mainly relied on the efficient planning of the project, coupled with a strong design component. The</p>

	development of the design and construction of engineering structures included geotechnical survey, electrical, ventilation, and other administration systems
TO WHAT EXTENT IS THIS MODEL SCALABLE?	The model is scalable in the number of projects and size, depending on the quantity of sludge that requires treatment.
WHAT ARE THE NECESSARY CONDITIONS TO MAKE IT REPLICABLE IN OTHER COUNTRIES/REGIONS?	Several countries still face the challenge of managing wastewater. As a result, this project is expected to spark the interest of countries where the demand for sludge treatment is growing. What makes this plant unique is that sewage sludge is recycled into agriculture, thereby reducing environmental impact and creating economic co-benefits. The replicability of the project in other countries is conditional on geography, availability of sludge to create a favourable benefit-cost ratio, and optimal size of plant. To make it easily replicable, sufficient information on sludge resources and performance of plant, regulatory and public acceptance of large volumes of wastewater should be accessible for all countries. Furthermore, the lessons learned from the design, construction and management of this project are also essential to ease the process on other countries.
CONSTRAINTS/DRAWBACKS OF FINANCING MODEL	<ul style="list-style-type: none"> • Blended finance initiatives are complex and difficult to monitor.
LESSONS LEARNT	<ul style="list-style-type: none"> • The plant makes positive contributions to the development of economic activities. Hence, we understand that wastewater that's not appropriately treated is lost. • It is designed to protect ecosystems and water resources. • It solves water scarcity problems through treatment by using innovative solutions.



<https://www.afdb.org/fileadmin/uploads/afdb/Documents/Project-and-Operations/Egypt%20-%20Gabal%20El-Asfar%20Wastewater%20Treatment%20Plant%20-%20Stage%20II.%20Phase%20II%20Project.pdf>

<https://www.afdb.org/en/success-stories/egypts-gabal-el-asfar-wastewater-project-model-sustainable-development-35472>

<https://www.hassanallam.com/construction/group-profile/project-details/Al-Gabal-Al-Asfar-Waste-Water-Treatment-Plant>