

PROJECT INFORMATION DOCUMENT (PID) APPRAISAL STAGE

Report No.: PIDA412

Project Name	EG - Helwan South Power Project (P117407)
Region	MIDDLE EAST AND NORTH AFRICA
Country	Egypt, Arab Republic of
Sector(s)	General energy sector (100%)
Theme(s)	Infrastructure services for private sector development (100%)
Lending Instrument	Specific Investment Loan
Project ID	P117407
Borrower(s)	Arab Republic of Egypt
Implementing Agency	Egyptian Electricity Holding Company, Egyptian Natural Gas Company (GASCO)
Environmental Category	A-Full Assessment
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Date PID Approved/Disclosed	26-Apr-2013
Estimated Date of Appraisal Completion	20-Sep-2012
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Decision	

I. Project Context

Country Context

1. Egypt is undergoing a major political, economic, and social transition, which started in January 2011. Socially inclusive economic development, job creation, poverty reduction, transparency, citizen participation, and governance have come to the forefront of the political and social debate. Experience in other countries suggests that such a transformation, fraught with significant risks and uncertainties, may unfold over a relatively long period and that external assistance during the transition can yield significant social and economic returns.

2. The economic context of Egypt's transition is proving to be a major challenge. Egypt is confronting historically low rates of economic growth – about 2 percent per annum in 2012, down from a high of 7 percent in 2008; high unemployment rates – 13 percent nationally and youth unemployment increased to a record high of 41.4 percent for those between 20 and 24, and 25.3 percent for those between 25 and 29; and falling public and private investment overall and in the power sector in particular. In addition, with growing demand for electricity, load shedding and interruption in electricity supply are emerging as a critical service delivery issues for households, small and medium sized enterprises (SMEs), and industry overall – potentially feeding into citizen dissatisfaction on the one hand and further affecting economic growth on the other.

3. During this important political transition, the Bank has a critical role to help support economic growth, employment generation, and service delivery in the short to medium term. The Bank's investments in Egypt during this transition period include programs like the Emergency Labor Intensive Project and sector-based capital investments such as the proposed Helwan South Power project. In combination, these programs enhance public investment during an economic down turn and have economic and service delivery impact in the short to medium term. As Egypt undertakes important policy and pricing reforms in the electricity sector, parallel investment in electricity supply and service delivery can help ensure the sustainability of the reform process, especially during a political transition to greater citizen accountability of the state. For the last three years, the country has experienced frequent electricity supply interruptions. More recently these occurred up to 14 times in a month, and some small and medium enterprises (SMEs) are reporting losses on average of 3.2 percent of annual sales. The Helwan South power project will add much needed generation capacity and will represent 10% of the new generation to be added by 2018. But, starting the investment process immediately is an important policy signaling that has political and economic impact today.

4. A special focus of the Bank's approach in the energy sector is to ensure improved governance for greater accountability, efficiency, and social inclusion. People in the streets are demanding a higher level of public scrutiny, transparency, and governance. The new post-revolution context in Egypt requires an even stronger focus on governance to strengthen regulatory certainty. The Helwan South power project is designed with complementary TA and advisory services activities, in large part financed by the Transition Fund, funded by the Deauville Partnership, to cover these priority policy areas. Other areas covered by these complementary activities include advancing energy pricing and subsidies reform, attracting private investment, and advancing energy efficiency and RE. The government also recently launched a program to reform the electricity tariffs and fuel subsidies, to achieve cost recovery and to replace untargeted subsidies with targeted social safety nets programs, which were off limits in the past.

5. Egypt's economy is suffering from a severe downturn; and the government faces numerous challenges as to how to restore growth and market and investor confidence. Prior to the 2011 revolution, Egypt had achieved steady growth of its gross domestic product (GDP), which peaked at over 7.0 percent per year in 2008. This trend was sharply reversed by the global financial crisis in 2008–09, which reduced GDP growth rate to 4.7 percent in 2009. GDP growth recovered slightly (5.1 percent) in FY10 and further to 5.6 percent in the first 6 months of FY11. With the onset of the political crisis in the second half of FY11, growth dropped to 1.8 percent for the whole fiscal year. Growth improved only marginally to 2.2 percent in FY12, but from July–December 2012, investments declined to 13 percent of GDP. The economic slowdown contributed to a rise in unemployment, which stood at 13 percent at end-December 2012 leading to 3.5 million people out of work compared to 8 percent in 2007–08. In the second quarter of 2012, female unemployment rates are close to three times that of males; 23 percent for women versus 8.7 percent for men; female youth unemployment rates are more than double the average male rate.

6. To stabilize the economy and unlock the potential of funds in aid and investments that are needed to improve the business climate, the Government of Egypt (GoE), has been pursuing different measures to address the fiscal and foreign exchange pressure that substantially increased in FY12. The Government of Egypt is in active dialogue with the International Monetary Fund (IMF) regarding a Stand-By Agreement. The government has funded its financing needs in the

domestic market. The GoE recently received pledges from several bilateral partners for financial support that could help to address immediate liquidity needs.

7. The Bank is actively engaged in a policy dialogue with the new Government of Egypt in its efforts to progressively adjust electricity tariffs and help the Egyptian Electricity Holding Company (EEHC) progress toward more solid financial ground. Egypt has embarked on a program of targeted energy pricing and fuel subsidies reforms, which is a significant first step toward achieving fiscal sustainability. It should be noted that this program is being launched during the post-revolutionary period, which is marked by greater political and economic instability, when reforms typically are difficult to implement. An overall 15 percent electricity tariff increase for households and commercial consumers was implemented in November 2012 and January 2013, together with a tariff increase of up to 50 percent for energy-intensive users, which was implemented in January and July 2012. These reforms in tariffs (mainly those for commercial and energy-intensive) are expected to increase economic efficiency for the targeted sectors, improve the financial sustainability of EEHC, and send a price signal to save energy.

8. These increases in electricity tariffs have helped move them closer to cost recovery at 70 percent–75 percent, setting tariffs above cost recovery for energy intensive users, commercial users, and public lighting; and have provided much needed budgetary savings. However, the impact on the poor and most vulnerable was mitigated by keeping the lifeline tariff price unchanged, and securing a significant proportion of the budgetary savings from the subsidies reforms to strengthen the social safety nets. The reforms also introduced a new mechanism to compensate EEHC for the increased price of fuels (natural gas and heavy fuel oil) used as inputs to generate electricity that is not passed through the end users' electricity tariffs. The current move to remove a major source of quasi-fiscal deficit in the electricity sector is not only a crucial reform of transparency and public management but also will improve the financial sustainability of EEHC once the mechanism is operationalized.

Sectoral and institutional Context

9. The power sector's institutional structure includes a number of institutions and agencies. The Ministry of Electricity and Energy (MoEE) is the principal policy agency in the sector. The Supreme Council for Energy (SCE), established in 2006 as a Committee of the Prime Minister's Cabinet and reporting to the President, deals with strategic issues in the sector, including major policy initiatives, investment programs, and energy pricing (advising the Cabinet). The Egyptian Electric Utility and Consumer Protection Regulatory Agency (EEUCPRA) (also referred to as Egypt Electricity Regulatory Agency, or EERA) issues licenses, establishes performance standards, and monitors performance of the licensees. However, EEUCPRA has no tariff-setting authority, which is the prerogative of the Cabinet of Ministers. EEHC is the country's principal power utility. It is organized as a holding structure and reports to MoEE.

10. Key sector utilities. EEHC includes 16 subsidiaries: 6 electricity production companies, 9 regional distribution companies, and 1 transmission-and-dispatch company (Egypt Electricity Transmission Company, or EETC). EETC also acts as a single buyer of electricity and operates the wholesale electricity market. The New and Renewable Energy Agency (NREA), also reporting to the MoEE, is in charge of renewable energy (RE) projects, excluding hydropower, which is the responsibility of the Hydropower Projects Authority. There are 3 major privately owned independent power producers (IPPs) with a combined capacity of 2,048 MW. The IPPs have been operating in Egypt since 2002/2003 under a build-own-operate-transfer (BOOT) arrangement with

20-year power purchase agreements (PPAs) supported by Central Bank guarantees and prices denominated in US\$.

11. Power sector reform has been evolving, and a new era of power market governance is emerging. Starting in the early 1990s and continuing to the present, the government embarked on economic reforms to improve the efficiency of state-owned enterprises (SOEs) as part of overall economic reforms, and started the process of commercializing power supply. However, this process is incomplete, and additional reforms are still needed to address issues related to improving power sector and EEHC governance, introducing competition to the power market, strengthening regulations and the authority of the power sector regulatory agency, re-engaging the private sector, and trading arrangements. These reforms are envisaged to be advanced through a new Electricity Law, which was approved by the government. This law is expected to reorganize the power market to deliver modern energy services efficiently and economically. Initiatives to improve governance therefore must address both corporate governance and market governance. However, the new law is not yet effective yet because it must be presented for final approval when the new parliament is elected.

12. The global financial crisis of 2008-09 and the revolution of 2011 slowed progress on sector reforms, specifically, the adoption of the new Electricity Law, improvement in the financial position of the sector, and reforming electricity tariffs and fuel subsidies. The revolution in Egypt presents both an additional level of complexity and a wide spectrum of opportunities in an evolving democracy. With the completion of parliamentary and presidential elections and emergence of a new democratic government, the sector governance reforms are getting more traction and are being pursued with a renewed vigor. These reforms will affect the legal, institutional, and regulatory frameworks, transparency, and social accountability. Such reforms are consistent with the general public's demand for improved governance, transparency, and accountability. The reforms also are a fundamental component of strengthening the investment environment in the sector—for both public and private investments—which is a critical element of a sustainable, more efficient, and more reliable electricity sector.

13. The government regulates all energy prices and has used energy pricing as part of the social safety net for households and to incentivize industrial and agricultural development. However, cost recovery has been low, especially in the liquid fossil fuel subsector, discouraging private investments in the sector. In addition, most of the subsidies have benefitted disproportionately higher income households, while the fiscal burden of these pricing policies is considerable. Improving both the electricity supply and demand sides requires comprehensive price and non-price measures, including improving the investment environment and transparency of the energy industry, and redesigning energy subsidies to improve targeting while gradually aligning prices with economic costs.

14. Significant investments are needed in the power sector to ensure a reliable electricity supply services. Egypt is a fully electrified country. More than 99 percent of households are connected to the electricity grid. The significance is that the power sector has a direct impact on practically every household, business, school, or hospital in the country; and that sector performance and the capacity to supply reliable power are important to everyone. The power sector plays a vital role in underpinning Egypt's economic and social development; and for creating conditions for growth, job creation, provision of social services, and public safety. The brisk electricity demand growth is expected to continue for the foreseeable future. Significant investments in the supply side of the

power sector also will have to expand significantly to meet the demand, replace old and inefficient generation units, and create a sufficient reserve margin for higher system reliability and security.

15. Fast-growing peak demand. Rapidly growing demand is a key feature of the power sector in Egypt. This demand is driven by population growth, development of energy-intensive industries, and increasing use of electrical appliances, especially air-conditioners by residential sectors. The residential and industrial sectors are by far the largest consumers, and together account for 70 percent–75 percent of total electricity consumption. Peak electricity demand increased from 15,678 MW in 2005 to 21,330 MW in 2009, and higher to 24,400 MW in 2011, a 14 percent increase in just 2 years. The growth in demand has outstripped growth in the supply capacity, leading to some disconnections during the peak summer seasons in recent years and raising public concerns about energy security. Although the annual demand growth slowed to approximately 5 percent during the political crisis, EEHC forecasts demand growth to rebound to previous levels (6.4 percent) for the foreseeable future.

16. Government recognizes the importance of energy efficiency and pricing in curbing demand growth. The government has been supporting non-price measures to improve supply side and end-use energy efficiency. On the demand side, EEHC continues to implement a program of replacing incandescent light bulbs with compact fluorescent light (CFL) bulbs, improving efficiency of street and commercial lighting, and improving power factor compensation to reduce losses in transmission and distribution. EE standards for some domestic appliances have been developed and implemented. EE codes for new buildings also have been prepared, although they remain voluntary for the residential sector. The Supreme Council of Energy has set up an interagency Energy Efficiency Coordination Council, including a small Secretariat Unit (Energy Efficiency Unit, or EEU), with the objective of streamlining energy efficiency activities nationally. These efforts, however, need to be intensified and scaled up. The World Bank recently completed an energy efficiency study to help develop policy recommendations for scaling up EE through institutional and regulatory reform, and identifying financing and implementation mechanisms and priority areas for investments. The Ministry of Finance (MoF) expressed its readiness to support EE programs as well, provided they have the potential to reduce the cost of energy.

17. A large amount of new power generation capacity (conventional and renewables) is needed in the coming years. The government's strategy for electricity supply and demand includes measures on both sides. EEHC has increased investments in new power generation. The total nominal generation capacity of the system reached 28,860 MW at the end of 2011. By FY2015, the generation mix will continue to be dominated by gas-fired steam and combined cycle generation, but will show an important increase in wind generation (from 2 percent to 7 percent). EEHC's annual generation investment plan to 2020 consists of a 11,150 MW steam generation plant using natural gas, 11,500MW of Combined-Cycle Gas Turbines (CCGTs) capacity using Egyptian natural gas, 2,500 MW of Open-Cycle Gas Turbines (OCGTs) capacity, 6,475 MW of wind power capacity, 270 MW of solar power capacity, and 32 MW of small hydropower capacity.

18. Government support to the supply-side energy efficiency has improved, although there is scope to do more. As part of the government's efforts to increase the use of natural gas as a more energy efficient fuel, EEHC increased the share of CCGT technology from 19 percent in FY02 to 42 percent in FY11, with significant improvements in fuel conversion and reductions in greenhouse gas (GHG) emissions. A number of other supply-side measures have been implemented: rehabilitation of some old power plants and their conversion from petroleum fuel to gas firing; rehabilitation

transmission and distribution networks and installation of capacitor units at substations; and the use of supercritical technology for new steam power plants such as Helwan South. Transmission and distribution losses were reduced from 11.7 percent in FY05 to 10 percent in FY10, while self-consumption of power plants during the same period decreased from 4.5 percent to 3.6 percent.

19. The magnitude of the investment requirements for new generation capacity has prompted the government to turn to the private sector to help fund the investment program. Over the next 10 years, EEHC needs approximately 3,000 MW annually in power generation to meet its demand forecast, increasingly using private financing. The 2012–2017 investment plan calls for approximately 5,000 MW of thermal independent power plants built by the private sector through Build-Own-and-Operate (BOO) arrangements, to complement 6,900 MW to be constructed by EEHC. In early 2010, EEHC invited private investors to construct a 2,250-MW Dairut IPP with combined cycle gas turbine technology. The activities in pursuing this project slowed in 2011 due to the political events. However, the project has now been revived, because, in December 2012, the government showed commitment toward attracting the private sector to power generation projects by endorsing two guarantees with certain requirements. These guarantees will be issued by the Central Bank of Egypt (CBE) with a value of US\$2.5 billion for the Dairut IPP and US\$660 million for the first wind BOO project. The World Bank and International Finance Corporation (IFC) have been supporting the development of these two projects.

20. An ambitious renewable energy program by the public and private sectors. Based on the current plans of the electricity sector, the share of renewable energy, consisting mostly of wind and hydro, but with the important introduction of solar, is envisaged to reach 20 percent by 2020. Wind power will dominate RE development. The former is expected to increase from approximately 550 MW by end-2011 to over 3,000 MW of installed wind power capacity by 2020, and to over 7,000 MW by 2027. EEHC's 2012–2017 expansion plan includes the development of approximately 2,750 MW in RE of which more than half to be developed by the private sector. Achieving this goal will depend on the stabilization of the political situation and enhanced private sector confidence in investing in Egypt. The World Bank and the Clean Technology Fund (CTF) are supporting a program through the Wind Power Development Project that is financing construction of a high voltage transmission line to link the wind farms in the Red Sea region to the national grid. A 250-MW privately funded wind power IPP is to be developed as part of the program, followed by additional private wind power plants. Furthermore, a 140-MW integrated CCGT-solar power plant at Kureimat (with a 20-MW concentrated solar thermal field), supported by a US\$50 million Global Environment Facility (GEF) grant administered by the World Bank, was completed recently and is in operation. Egypt is participating in the CTF-sponsored regional investment plan for MNA region to scale up concentrated solar power (CSP) technology with a 100 MW Kom Ombo CSP plant (near the town of Aswan), for which the government requested IBRD financing as well.

21. Launching a broad reform program to address low electricity tariffs and high fuel subsidies. The government has been tackling the problem of low electricity and fuel prices since 2004. However, the process was paused in 2009, due first to the global financial crisis and then to the political crisis in 2011. However, spurred by urgent fiscal pressures, the government launched a program aimed at further reforming electricity tariffs and fuel subsidies. This program will be implemented in two phases. The first phase has been fully implemented, with the exception of LPG rationing schemes. It is estimated that, after the two phases are fully operational, they will yield 0.7 percent of GDP in FY13 and 2.7 percent in FY14 (net after deducting compensating budgetary transfers to the electricity company).

22. Resumption in electricity tariff increases. Adjustment of electricity tariffs resumed in January 2012 with a substantial increase for a group of energy intensive industries covering approximately 15 percent of electricity sales. Tariffs increased by up to 25 percent for the fertilizer, cement, petrochemical, and metal industries; and up to 50 percent for the glass, ceramic, and porcelain industries. The overall cost recovery for electricity is much higher than for the input fuel at 70 percent–75 percent for electricity, with tariffs above cost recovery for energy intensive users, commercial users and public lighting. The proposed electricity tariff reforms for households have been fully implemented. In November 2012, a weighted average increase of just below 8 percent for the household and commercial tariff was implemented. The first tariff block (up to 50 kWh) remained unchanged, while the price for the second block (50 kWh/mo–200 kWh/mo) increased by 5 percent. The highest block (over 1000 kWh) had a price increase of 19 percent. Another increase was implemented in January 2013 that entailed an identical increase (just below 8 percent) for the household and commercial tariff, still keeping the first block unchanged. In total, tariffs for households and commercial users increased by a weighted average of 15 percent, an amount expected to bring them closer to cost recovery (from approximately 40 percent to approximately 50 percent). In the case of electricity, the direct effect of the simulated price changes already implemented is either neutral or slightly progressive, implying that the richest income quintiles will pay a higher burden than the lowest income quintiles.

23. Increase of natural gas price for electricity and a mechanism to compensate EEHC. Natural gas used for electricity generation witnessed a price increase of 76 percent from 25 piasters/cubic meter to 44 piasters/cubic meter. Heavy fuel oil (HFO) prices increased by 130 percent from LE 1,000/ton to LE 2,300/ton. The new system also introduced a new mechanism to compensate EEHC for the increased price of fuels (including natural gas and heavy fuel oil), which is not passed through to the final end user electricity tariff. Such a reform makes the electricity subsidy explicit, transparent, and accounted for in the budget rather than leaving it as contingent liability. The current action to remove a major source of quasi-fiscal deficit in the electricity sector not only is a crucial reform in transparency and public management but also will improve the financial sustainability of EEHC.

24. There is a need to operationalize the mechanism of compensating EEHC for the increase in fuel prices. Although EEHC benefits from low fuel prices, the holding company is in a tight financial position since its costs are higher than the tariffs (even after the recent increase in electricity tariffs) for most consumer categories. The exceptions are commercial consumers, energy intensive industries, public lighting, and higher consuming households. Thus, the implementation of the mechanism to compensate EEHC for the increase in prices of fuels will be critical to mitigate a substantial increase in its operating costs. The cost rise is due primarily to the need to finance a large investment program, which EEHC does mainly through borrowing. Since EEHC also inherited significant debt from its predecessor organization (Egyptian Electricity Authority, or EEA), its balance sheet has become highly leveraged. The government is helping by facilitating and guaranteeing EEHC investment loans from international financing institutions. The government also is looking into options to restructure EEHC debts, especially the old debt inherited from EEA and owed to the state banks, to de-leverage EEHC's balance sheet, and to restore its creditworthiness.

25. Generally, fuel prices in particular remain significantly below the cost of supply. The level of average cost recovery is low, ranging from approximately 20 percent for diesel and liquefied petroleum gas (LPG) to a percentage close to 60 percent for natural gas. The difference has been

financed by the government through budget transfers to the energy companies. The largest share of subsidies (on average in excess of 40 percent) is for light diesel fuel, which is consumed predominantly by the transport sector (approximately two-thirds), followed by energy intensive industries. LPG will take approximately 20 percent of the subsidies, with the remaining subsidies shared by other fuels (gasoline, natural gas, HFO, and kerosene). Households account for the bulk of LPG subsidies. The electricity sector is the largest beneficiary of subsidies for natural gas, while the energy intensive industries are the main beneficiaries of subsidies for HFO. Gasoline is used mainly by the transport sector (86 percent) and households (14 percent). Overall, the largest beneficiaries of fuel subsidies are the household, transport, and electricity sectors, each accounting for 20 percent–21 percent of the fuel subsidies. The industrial and tourism sectors consume another 20 percent of the subsidies, with the remaining 20 percent benefiting other sectors.

26. Reforming fuel subsidies. A broad range of reforms for fuel prices implemented in November 2012 included: (a) piloting a new distribution system for LPG cylinders, (b) an increase in the price of HFO from LE 1,000/ton to LE 2,300/ton, (c) an increase in the price of natural gas for households, keeping the first block (up to 30 cubic meters/month) unchanged and increasing the price of the second block by approximately 50 percent, and (iv) the elimination of the subsidy for Octane 95 gasoline, by raising its price from LE 2.75/liter to LE 5.85/liter. The implementation of new gasoline and diesel prices will take place in a second phase of reforms through rationing schemes. The main impact of tariff reforms will come from the LPG reform. However, in reality, the impact on the poor likely will be limited since households already are paying prices considerably higher than the subsidized level due to shortages, the black market, and ineffective distribution systems.

27. The government intends to set aside a share of savings from structural reforms for social purposes. Once established and operational, the new cash transfer program would absorb a part of these savings. In total, the poor would receive benefits of approximately 22 percent, a share that is in line with cash transfer and food subsidies benefits in other countries, such as Brazil, Colombia, Indonesia, and Mexico.

28. Since the mid-2000s, the World Bank has developed an active program in the power and gas sectors in Egypt. During the last six years, the Bank provided assistance both for project financing and for policy analysis. The Bank made a significant contribution to the knowledge of the security and reliability of electricity supply, energy pricing, development of renewable energy, energy planning, regional integration, and attracting private investment to the sector. Since 2006, the Bank has approved financing for 6 energy investment projects: in renewable and conventional power generation, electricity transmission to support the development of wind power, and gas transmission and distribution.

29. In the short term, support is needed for public investments in the sector, accompanied by adequate regulatory and energy pricing reforms, to stimulate private capital. It is clear that, for the foreseeable future, EEHC will have to finance by itself a substantial part of its investment program (including through borrowing). Given the current financial position of the sector and the country, and the regulatory, and policy risks, it will take a few years before the power sector is in a position to finance its large investment requirements for new power generation predominantly through private capital. Since the appraisal of this project in September 2012, the Bank had waited for credible first steps by the government to reform electricity tariffs and fuel subsidies. The Bank's continued involvement, especially during the political transition, will be important to maintain the

sector's ability to provide reliable service to its customers and to avoid being a major barrier to economic recovery and job creation and a source of social discontent should the power supply deteriorates. Bank support also is important for the continuation of the energy sector reforms and to maintain its reputation as a reliable partner in times of crisis.

30. The Helwan South power project is part of a diversified Bank program to support the government's efforts to develop electricity sector infrastructure, community projects, and advance policy reforms. With respect to supporting communities, the Bank is funding an Emergency Labor Intensive Investment Project (\$200 million), the first new project to be requested since the revolution to support the government in tackling the issue of short-term unemployment. This community project is expected to generate 200,000 direct and 65,000 indirect job opportunities, with a particular focus on youth and women.

31. Helwan South Power project will add a reliable and efficient new generation capacity. This project will displace some older and less efficient generation and thereby enable EEHC to use this displaced capacity to increase the system reserve capacity and thus boost the system reserve margin by approximately 2.5 percent. Helwan South's large base generation units also will increase the system's inertial response (thus providing higher system security), which is required if EEHC is to keep the power system stable as more intermittent wind generation capacity is added. In addition, the design of the Helwan South Power project will play a major role in boosting the use of cleaner fuel (natural gas) and in promoting efficient generation (cutting fuel consumption and reducing emissions) in the Upper Egypt Electricity Production Company (UEEPC) system. UEEPC uses HFO for approximately 45 percent of its total fuel consumption.

32. The Helwan South power project represents 10 percent of the new generation required to be added by 2018. This new capacity underpins the project's significant contribution to improving the security of the electricity supply service delivery—one of the key factors for sustainable economic growth and country stability. Because, in recent years, the available generation capacity did not keep pace with growing demand, the system reserve margin has not been stable. In fact, it entered negative territory in 2009, then reached approximately 0 percent in 2010. In response, the utility companies reverted to widespread load shedding to maintain reliability of supply. As a result, consumers experienced more frequent interruptions and lower quality of electricity supply services. Firms in Egypt must wait an average of 77.2 days to secure access to electricity supply (approximately 4 times the time required in Latin America and East Asia and the Pacific). Viewed from an economic perspective, this long delay has become a significant barrier to doing business and to establishing enterprises in the country.

33. Furthermore, once businesses secure access, they need reliable supply to operate efficiently. According to World Bank Enterprise Survey data, firms in the Middle East and North Africa (MNA) Region experienced electricity supply interruptions an average of 14 times in a typical month, more than twice the rate in Eastern Europe and Central Asia. Managers in Egypt estimated losses due to electricity outages at an average 3.2 percent of annual sales, more than 5 times higher than in high income OECD countries. More important, such outages are tilted against small and medium enterprises (SMEs), which are the engine of economic growth. For household consumers, frequent drops in voltage levels damage appliances and could shorten their lifetime.

34. Contribution of Helwan South to job creation and neighboring communities. The Helwan South power project is expected to strike the right balance between short-term opportunities and

long-term development needs. The plant will improve the quality and reliability of electricity services and contribute to more sustainable sources of economic growth in the country. This project will generate new employment directly through the use of skilled and unskilled labor on the site during construction and operation (including local employment for both), and maintenance of the plant during its lifetime. Indirectly, the project will use labor employed by contractors, suppliers, and service providers, as well as the economic activities enabled by the electricity generated by the plant during its lifetime. The project-related jobs created by private and public entities for Helwan South are estimated at 4000, of which 75 percent will occur during construction. From a broader perspective, Investment and Climate Assessment (ICA) panel manufacturing data from 2004, 2006, and 2008 explored the characteristics of fast-growing manufacturing SMEs in Egypt, as defined by job growth. In this work, the “gazelle” firms were important for job creation. As a group, they registered 20 percent employment growth. Firms reporting fewer than 25 electricity supply interruptions per year were over 3 times more likely to be a gazelle than a firm reporting 25 or more interruptions. The contribution of Helwan South to system reliability will play a major role in enhancing the continuity of electricity supply required to develop business. Furthermore, according to UEEPC, community development activities will be associated with this project to ensure that it benefits different social groups in neighboring communities.

35. Introducing new means to strengthen consumer feedback and accountability in service delivery. One of Helwan South’s key complementary advisory activities is the transparency and social accountability activity, implemented jointly by the Bank and EERA. This activity aims to help EERA and EEHC strengthen customer-utility interface and transparency and public information systems; to establish performance benchmarking; and to improve consumer feedback (“citizen report cards”). One of the components, the technical assistance (complementary to this project) on transparency and social accountability, is aimed at developing and designing consumer surveys (“citizen report cards”). These surveys would disaggregate the data by gender and regions to enable better targeting of coverage, quality gaps, and assessment. The CRCs would be conducted annually to inform the electricity regulator in Egypt of service delivery gaps, which information also would be disclosed publicly. Regarding enhancing the communication with several stakeholders as part of this project, it should be noted that the project will keep in place the availability of judicial recourse and traditional dispute resolution (where they exist). The project also will ensure the establishment of a grievance redress mechanism (GRM) that is transparent, accessible, affordable, unbiased, inclusive, and accountable.

36. The Bank financing of Helwan South project leverages co-financing from other sources and enhances confidence in the sector. In partnership with the Bank, the largest co-financier of this project, regional and international agencies are additional co-financiers. Furthermore, Helwan South as public sector project is timely because it will offset the expected slowdown in private sector investments in the power sector, resulting from the political crisis and the global financial crisis. Hence, given the lead time needed for construction of such a complex project, the Bank has initiated the procurement in “advance arrangement basis” to help in meeting the construction with no further delays. In addition to the World Bank, a number of multilateral and bilateral financing institutions and aid agencies are involved in the power sector. They include the African Development Bank (AfDB), a number of Arab funds, the European Investment Bank (EIB), the European Union (EU), the Global Environmental Facility (GEF), the Islamic Development Bank (IDB), the Japanese International Cooperation Agency (JICA), and several other bilateral aid agencies. Most of the funding provided by these agencies is allocated to investment projects, mainly for conventional and

renewable electricity generation and high voltage transmission. Moreover, the agencies also finance technical assistance (TA) activities. The EU is particularly active in this area.

II. Project Development Objectives

The project development objective is to increase power generation capacity in an efficient manner within the Borrower's territory.

III. Project Description

Component Name

Helwan South Power Plant: 3x650-MW supercritical steam power plant, fueled by natural gas as the primary and heavy fuel oil as the secondary fuel;

Gas Pipelines (i) A 93-km gas pipeline connecting the power plant at Atfeeh to gas transmission network at Dahshour;(ii) A 65-km pipeline enabling gas transfer from production fields to the plant

IV. Financing (*in USD Million*)

For Loans/Credits/Others	Amount
Borrower	921.80
International Bank for Reconstruction and Development	585.40
Arab Fund for Economic and Social Development	193.50
Islamic Development Bank	449.90
KUWAIT Kuwait Fund for Arab Economic Developmen	213.80
OPEC FUND	40.00
Total	2404.40

V. Implementation

37. The project will be implemented between [June 18, 2013 and December 31, 2018].

38. The Power Plant Component of the project will be implemented by EEHC and UEEPC, the EEHC generation subsidiary operating in Upper Egypt, which will own and operate the plant. UEEPC has contracted an experienced engineering company, PGESCO, to assist with engineering, procurement, construction, and project management. PGESCO has carried out similar assignments in a number of other large power generation projects in Egypt with a very successful performance track record. UEEPC has established a Project Management Unit (PMU) for the Helwan South energy project, and has appointed key staff appointed (project manager, project engineers, procurement coordinator, and environmental and social safeguards coordinator). The PMU will be expanded as project implementation gets under way.

39. The Gas Pipeline Component will be implemented by GASCO, a subsidiary of EGAS, in charge of implementing investment projects in the gas transmission network and operating and maintaining the gas transmission networks. Although EGAS is the owner of the gas transmission network assets, according to an agreement between EGAS and GASCO that defines their respective roles and responsibilities in such undertakings, GASCO can borrow funds to finance the construction of gas pipelines and to service such loans. GASCO has a very strong technical capacity and follows design and construction and maintenance standards similar to those used by British Gas of the United Kingdom. During preparation, GASCO prepared the technical design and feasibility study report. A deputy general manager at GASCO has been appointed to manage and coordinate

the implementation of the Gas Pipeline Component. Dedicated staff in different departments have been assigned responsibility for procurement, financial management, and technical and safeguard aspects. Each person in charge is supported by a group of staff in the various departments of GASCO with expertise in the respective areas.

40. In terms of lending arrangement and flow of funds, there will be a Loan Agreement between the Bank and the Arab Republic of Egypt, a Project Agreement between the Bank and EEHC for the Power Plant Component, and a Project Agreement between the Bank and GASCO for the Gas Pipelines Component. By virtue of a Subsidiary Loan Agreement between the GoE and EEHC and a Subsidiary Loan Agreement between the GoE and GASCO, the corresponding parts of the Bank loan will be on lent to the implementing agencies for their respective parts of the project. Similar to the other power projects financed by the Bank, Helwan South will have a Contractual Agreement between EEHC and UEEPC regarding project implementation. Co-financing with other financing partners will be on a “parallel financing” basis in terms of procurement. In other words, procurement packages will not be co-financed by different financing organizations (other than UEEPC co-financing all procurement packages). In such cases, the lack of co-financing will minimize interdependencies. The experience with other Bank-financed projects implemented by EEHC, all of which are “procurement parallel-financed” by other donors, has been good in this regard.

41. An assessment of the procurement capacity of both implementing agencies—UEEPC and GASCO—was carried out by the Bank. The assessment reviewed the organizational structure for implementing the project, staffing, procurement systems, and past experience. Since all procurement actions for Power Plant Component will be carried out by PGESCO, the procurement capacity assessment covered both PGESCO and UEEPC. PGESCO is familiar with Bank procurement procedures and is fully capable, as shown by its good performance under the other World-Bank-financed projects (El Tebbin, Ain Sokhna, and Giza North power projects). Procurement for Bank-financed packages for the power plant will be done through international competitive bidding (ICB) and subject to Bank’s prior review.

42. The capacity assessment of GASCO concluded that it has adequate experience and capacity to carry out procurement activities related to the implementation of the Gas Pipelines Component of the Helwan South project. GASCO will only carry out procurement of goods through 7 ICB packages, all subject to the Bank’s prior review. Installation of the pipeline will be financed from GASCO’s own sources and carried out by Petrojet, a subsidiary of EGAS.

43. A Financial Management Unit (FMU) has been established as part of the PMU to manage payments under the project and integrate project financial management and records with the financial departments in UEEPC. The FMU will have the overall responsibility for the project’s financial recording, budgeting, reporting requirements, and handling the loan disbursement arrangements, including supporting documentation. The FMU will comprise an FMU manager, 3 accountants, and 1 project accountant who will be located at the project site and will ensure smooth coordination between the FMU and the rest of the PMU.

44. From a financial management perspective, GASCO has its FM responsibilities and activities distributed among GASCO’s different financial departments (accounting, financial controls, and payments, assets/inventory/costing, and commercial affairs) and various subsections within these departments. It was agreed to assign a special Financial Management Team from each department to

act as the focal point for the Bank-financed project. The team was assigned on April 14, 2011 by an official internal memo from the vice-chairperson of the company and in charge of GASCO's financial and commercial affairs. From an FM perspective, management of the Bank loan will follow GASCO's existing accounting and reporting cycles (Annex 3). Acceptable Oracle-based accounting software, already in place in GASCO, will be used for the recording and reporting purposes of the project. Payments under the IBRD loan are expected to be made through reimbursement, special commitments, and direct payment methods with no identified need as yet for a designated account (DA).

45. Environmental and Social Impact Assessments (ESIA) have been completed for both investment components (the power plant and gas pipelines) of the project. The ESIA include the Environmental and Social Impact Management Plans (ESIMP) to be implemented by the respective implementing agencies. Because some compensation for temporary land use and limited land acquisition of privately owned land may be needed, the Bank's policy on Involuntary Resettlement (OP 4.12) has been triggered. To ensure compliance with the policy, the implementing agencies—UEEPC and GASCO—prepared their respective Resettlement Policy Frameworks (RPFs). The exact extent and location of the impact will be known only closer to the construction time, once the detailed routing of cooling water pipelines (for the power plant, implemented by UEEPC) and gas pipelines (implemented by GASCO) has been determined with sufficient precision. The policy framework establishes resettlement objectives and principles, organizational arrangements, and funding mechanisms for any resettlement operation that may be necessary during the implementation of the various components of the project. When the extent of resettlement/land acquisition becomes known prior/during project implementation (after detailed design and process routing), site-specific Resettlement Action Plans (RAPs) will be prepared where needed.

46. EEHC has developed strong institutional capacity with respect to Bank's safeguard policies, particularly as to how these are applied in power projects, and will provide close support to UEEPC as necessary to ensure that project activities comply with Bank safeguard policies. UEEPC will ensure the integration of environmental and social sustainability measures in the detailed design and construction of the power plant by including these requirements in bidding documents and through selecting qualified contractors.

47. GASCO has developed its corporate capacity for environmental management as part of its long-term involvement in the sector. The responsibility for environmental management falls to a senior officer designated as Assistant Chairman for Safety and Environment, who supervises a General Manager for Environmental Protection and five environmental specialists. The company also has an Environmental Policy, which focuses on continual improvement in the environmental, health, and safety aspects of all of its business activities. The company will follow its corporate policy, which requires regular environmental audits and inspections to ensure that an Environmental Management System is implemented according to set objectives and targets, as well as monthly and quarterly reporting on environmental performance. As part of the project, GASCO will be responsible for implementing and monitoring the Environmental and Social Management Plan, including the Resettlement Action Plan (as required) of the natural gas pipeline. GASCO's Environment Department is staffed by five qualified environmental specialists who are trained in environmental auditing, environmental impact assessments (EIAs) for industrial establishments, and environmental legislation. These specialists will be responsible for ensuring effective implementation, monitoring, reporting, and consultation during each step of project design, tenders evaluation, implementation phasing, and construction of the project components.

VI. Safeguard Policies (including public consultation)

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment OP/BP 4.01	x	
Natural Habitats OP/BP 4.04		x
Forests OP/BP 4.36		x
Pest Management OP 4.09		x
Physical Cultural Resources OP/BP 4.11		x
Indigenous Peoples OP/BP 4.10		x
Involuntary Resettlement OP/BP 4.12	x	
Safety of Dams OP/BP 4.37		x
Projects on International Waterways OP/BP 7.50	x	
Projects in Disputed Areas OP/BP 7.60		x

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