



Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)

Appraisal Stage | Date Prepared/Updated: 24-Apr-2019 | Report No: PIDISDSA26155

**BASIC INFORMATION****A. Basic Project Data**

| | | | |
|--|---|--|--|
| Country Tunisia | Project ID P168273 | Project Name Energy Sector Improvement Project | Parent Project ID (if any) |
| Region MIDDLE EAST AND NORTH AFRICA | Estimated Appraisal Date 08-Apr-2019 | Estimated Board Date 13-Jun-2019 | Practice Area (Lead) Energy & Extractives |
| Financing Instrument Investment Project Financing | Borrower(s) STEG | Implementing Agency STEG | |

Proposed Development Objective(s)

The Project Development Objective (PDO) is to: (i) strengthen Tunisia's electricity transmission system; and (ii) improve STEG's commercial performance.

Components

Strengthening the electricity transmission network
Improving STEG's commercial performance

PROJECT FINANCING DATA (US\$, Millions)**SUMMARY**

| | |
|--------------------|--------|
| Total Project Cost | 151.00 |
| Total Financing | 151.00 |
| of which IBRD/IDA | 151.00 |
| Financing Gap | 0.00 |

DETAILS**World Bank Group Financing**

| | |
|--|--------|
| International Bank for Reconstruction and Development (IBRD) | 151.00 |
|--|--------|

Environmental Assessment Category

B-Partial Assessment

**Decision**

The review did authorize the team to appraise and negotiate

Other Decision (as needed)**B. Introduction and Context****Country Context**

A sustained transition to democracy and an ambitious reform agenda have marked Tunisia's path since the 2011 revolution. With a population of 11.6 million and a GDP of US\$40.3 billion (2018), Tunisia is a lower middle-income country. Often hailed as the only success case of the Arab Spring, the country made great strides towards establishing the fundamentals of democracy and reforming its economy following the 2011 revolution. The establishment of the National Dialogue Quartet in 2013, which represent workers, employers, human rights activists and lawyers and served as a mediator to advance peaceful democratic development, showcases the vibrancy of the civil society in Tunisia.¹ In 2014, a new constitution was adopted, and parliamentary and presidential elections held. The first free and fair municipal elections were held on May 6, 2018, further anchoring the democratic culture and laying the groundwork for decentralization.

However, structural challenges pose an ongoing threat to economic and social development and reforms are most needed to put Tunisia on a more inclusive and sustainable growth path. The increased instability in the aftermath of the revolution due to political unrest and terrorist attacks severely affected economic sectors that are engines of growth and sources of foreign exchange receipts and endangered investment climate in Tunisia. To counter social tensions, the Government of Tunisia (GoT) embraced expansionary fiscal policies, which, combined with transfers to cover the large contingent liabilities of state-owned enterprises (SOEs), have impaired public finances. Since 2016, growth has rebound because of the improved domestic security and a stronger performance of the agriculture, services and export-oriented manufacture sectors; however, progress in terms of poverty reduction and shared prosperity has been slow. The high unemployment (15.5 percent in 2017) impacts predominantly youth, women and people living in the inland regions. Female labor force participation is especially low (28 percent). The poverty headcount ratio stood at 15 percent in 2015, and disparities among regions and age groups have persisted or widened. A large part of the population remains just above the poverty threshold and is therefore vulnerable to exogenous shocks. While most of public resources have been so far absorbed by the impending needs of the post-revolution context, going forward Tunisia needs to focus on broad-based and sustainable growth. This entails concrete actions to consolidate the country macroeconomic and fiscal situation and boost private investment, trade and entrepreneurship. Equally important is to strengthen governance and provide equal opportunities to all. To this extent, the Five-Year Development Plan 2016-2020 (FYDP) adopted by

¹ The National Dialogue Quartet is comprised of four key organizations in Tunisian civil society: the Tunisian General Labour Union (UGTT, Union Générale Tunisienne du Travail), the Tunisian Confederation of Industry, Trade and Handicrafts (UTICA, Union Tunisienne de l'Industrie, du Commerce et de l'Artisanat), the Tunisian Human Rights League (LTDH, La Ligue Tunisienne pour la Défense des Droits de l'Homme), and the Tunisian Order of Lawyers (Ordre National des Avocats de Tunisie). It received the Nobel Peace Prize in 2015 for its decisive contribution to the building of a pluralistic democracy in Tunisia in the wake of the revolution of 2011.



the GoT delineates an ambitious program along five axes: (i) increasing resources for the economy; (ii) fiscal consolidation; (iii) human capital development; (iv) redesign of the social security system; and (v) improving business climate and increasing private investment. Tunisia's development agenda is equally focused on ensuring spatially balanced growth as well as environmental sustainability. Green growth and climate change goals are an integral part of such agenda, as also reflected in the FYDP.

Sectoral and Institutional Context

Tunisia's electricity sector faces three main challenges: high dependence on imported fuel, distortive subsidies and weak commercial and financial performance at the utility level. Despite the low economic growth, primary energy demand has increased steadily since the revolution, with gas demand quadrupling compared to 1990s' levels. Peak electricity demand also increased at a high pace (18 percent between 2016 and 2017). However, the vertically integrated public electricity and gas utility (*Société Tunisienne d'Électricité et de Gaz - STEG*) has struggled to expand its installed generation capacity, which grew by 5 percent per year between 2016 and 2017 and only 3.6 percent between 2010 and 2017. Although it has been able to guarantee reliable electricity supply, STEG commercial performance has been steadily declining in recent years. This, together with the lack of cost recovery, has weakened the utility's financial bottom line severely, making it heavily dependent on government's direct transfers. The GoT faces tremendous pressure to increase investments and raise sector management capacity, but distortive electricity and fuel subsidies severely constrain the available fiscal space. As a thriving energy sector is the building block to consolidate the social contract in Tunisia and raise firm's competitiveness, addressing these challenges is key to promote inclusion and attract private sector development and growth in Tunisia.

As electricity demand continues increasing, overreliance on imported hydrocarbons threatens Tunisia's energy security and has made the sector, and its customers, vulnerable to price and exchange rate fluctuations. Natural gas and oil respectively account for 52 and 48 percent of Tunisia's primary energy supply in 2017. In terms of electricity generation, 85 percent derives from open and combined cycles gas turbines, 13 percent from dual fuel steam units (natural gas and heavy fuel oil) and 2 percent from renewables, mostly wind. Once a net exporter of oil and gas, the country has become heavily dependent on external supply to meet its energy needs, especially for electricity generation. Almost half of natural gas, 72 percent of which is used for electricity production, is imported from Algeria and 13 percent paid as gas transit fee. As a result, overall dependency on energy imports reached 49 percent in 2017 and will likely continue to increase in the future, reducing Tunisia's energy security. Projections anticipate a shortage of primary energy, particularly natural gas, starting in 2020. Although there are opportunities for developing new gas fields domestically, reserves are limited and uncertain. With fluctuating international prices and a depreciated currency, the pressure on domestic prices can cause severe hardships to electricity customers, which the GoT has tried to alleviate through subsidies.

The high subsidization of the energy sector poses critical risks to macro-fiscal stability and diverts precious public resources away from welfare-enhancing investments. All energy products, including oil products, LPG, natural gas and electricity, are subsidized. Fuel and electricity subsidies for more than one-third of the fiscal deficit in 2017. Besides imposing a heavy burden on public finances and impairing the financial viability of the energy sector as a whole, subsidies are regressive. Fuel subsidies, with exception of LPG, disproportionately benefit wealthier customers and more than half of subsidies for natural gas and electricity accrue to industrial and commercial customers. Lifting subsidies will not only allow for resources to be directed toward those most in need, for example through social safety nets, but also encourage more efficient consumption of energy.

Power sector performance and financial viability is affected by STEG's deteriorating commercial performance. STEG is responsible for electricity service throughout the value chain, for transmission and distribution of natural gas, and, since 2015, for gas imports from Algeria. In 1996, the generation segment was opened to independent



power producers (IPPs), which can produce and sell electricity to STEG. Currently, 19 percent of electricity supply is provided by one IPP; 81 percent is generated by STEG and some small amount through industrial self-generation. Transmission and distribution remain under STEG's monopoly, which caters to almost 4 million of electricity customers (representing nearly universal access) and 850,000 natural gas customers. While the utility has sound technical competencies, its commercial capacity is below acceptable standards. STEG's non-technical losses stand at 9.8 percent, above the level of other well-performing utilities in developing countries. Electricity thefts and unpaid bills have been key issues since the Revolution in 2011. Also, customer service needs major improvement. Since indirect subsidies on oil and gas for power generation were removed in 2016, STEG has begun to buy hydrocarbons at international prices and production costs have increased well above the average tariff. Unable to recover costs and increasingly weaker on the commercial side, the utility has accumulated payment arrears, currently standing at 24 percent. In 2017, STEG was the largest loss maker among Tunisia's 20 biggest SOEs.

The development of renewable energy is instrumental to addressing all the challenges above, and marks the transformation of Tunisia's power sector, including towards significant private participation. The GoT has recently launched the Tunisian Renewable Plan (TRP), which seeks to add nearly 3.8 GW of solar and wind generation capacity in three phases, progressively increasing the share of renewables into the country's energy mix to 30 percent by 2030. This is unprecedented and transformational. Such a significant volume of renewable energy (RE) will critically help counter the erosion of the country's energy independence and reduce the carbon footprint of power production. The integration of more cost-efficient, endogenous energy sources will reduce STEG's vulnerability to international oil prices, and hence help strengthen the financial bottom line of the electricity sector as whole and ease its burden on public finances. Electricity costs will progressively stabilize, reducing the need for tariff increases that inevitably hit customers. More importantly, TRP also marks Tunisia's shift towards a more open power market, as the GoT intends to contract two-thirds of RE capacity to the private sector. Furthermore, the GoT plans to develop two new gas-fired combined cycle power plants (Skhira 1 and 2) of 450-500 MW each, the second as an IPP. These plants are essential to provide grid stability as significant RE is integrated into the power system. Tunisia's large potential for solar and wind energy also provides an important growth opportunity for the country if the added RE capacity is used for electricity export purposes once Tunisia is connected to the European energy market through the Tunisia-Italy Power Interconnector (Elmed Project).

The expansion of transmission capacity is critical to enable the integration of renewable energy and reliable energy supply over the long term. Tunisia's large RE potential is located in the south, while the main electricity demand centers lie in the north of the country. Connecting the two areas through a capable north-to-south high-voltage transmission backbone and interconnections to the new power generation sites is therefore a condition to the development of RE and to ensure that cost-efficient and cleaner electricity supply reaches centers of high demand. Thus, investments in transmission capacity expansion are most needed to allow the optimal generation and dispatch of electricity, leveraging different energy sources and enabling the development of the more cost-efficient and sustainable RE, while maintaining system reliability and grid stability. The availability of transmission infrastructure is also critical to improve investor confidence into RE, as it provides an insurance that the newly developed capacity is integrated into the system and dispatched in line with the contractual arrangements agreed with STEG. Finally, the adequacy of the national transmission system is critical to exploit the benefits of regional connectivity once the Elmed Project is completed. Power flowing from regional markets will allow to accommodate more and more intermittent RE in Tunisia's energy matrix; on the other hand, Tunisia will be able to monetize RE exceeding domestic needs through exports. None of this could happen without a capable and reliable national transmission network.



The GoT is committed to improve the viability and governance of the electricity sector, to support the energy transition and attract private participation. As part of fiscal consolidation efforts under the FYDP, the GoT has begun enforcing electricity and gas tariff increases with the ultimate objective to eliminate energy subsidies by 2022. A roadmap to gradually remove subsidies, mitigate social impacts and moderate demand through energy efficiency is defined in the Policy Note² adopted by the GoT in May 2018³. Reforming energy subsidies requires continued commitment to regular price adjustments in line with fluctuations of international oil and gas prices and exchange rates, accompanied by mitigation measures to reduce the negative impact on firms and households. The GoT also recognizes the need to strengthen the regulatory framework, currently lacking an independent regulation body, in order to move towards well-functioning, transparent and financially sustainable electricity and gas markets.

Strengthening STEG's commercial performance is also key to raise sector sustainability and attract private investment in power generation. With the goal to improve its technical, commercial and financial performance, STEG signed a performance contract with the GoT for the 2016-2020 period, with clear quantitative annual targets in terms of RE generation, network expansion, and reduction of technical and commercial losses, among the other things. While key targets have been missed so far, going forward commercial performance, financial viability and customer service need attention for STEG to be able to operate successfully in Tunisia's changing energy market and higher customer expectation. Reducing inefficiencies can critically complement efforts towards improving the utility's and sector's financial bottom line; also, as quality of service improves, STEG customers will be more willing to pay for service and eventually absorb price increases as tariffs are adjusted in line with international oil and gas prices. Finally, private participation in Tunisia's power sector very much hinges upon STEG being perceived as a credible off-taker of renewable and conventional energy produced by IPPs.

The proposed Project is part of an overall development program involving several partners supporting Tunisia's electricity sector transformation. In response to the key sector challenges, the program is geared towards supporting: (i) the energy transition; (ii) electric system stability and reliability; and (iii) improvement of STEG's commercial performance, financial viability and customer service. The program builds on coordinated assistance from the Bank, the French Development Agency (AFD) and the European Investment Bank (EIB). Specifically, upon GoT's request, the Bank, through the proposed **Energy Sector Improvement Project** (the Project or ESIP), will take the lead in supporting the energy transition by financing investments in transmission capacity that are the most critical to enable the integration of privately-produced RE generation. While ESIP also includes measures to improve STEG's commercial performance, the bulk of support in this area is being provided by the AFD under the **Smart Grid Project** (SGP; Euro 120 million), which finances the installation of 400,000 smart meters for all STEG's medium-voltage (MV) and high-voltage (HV) customers, as well as for low-voltage (LV) clients in a pilot region (Sfax). In parallel, EIB is expected to finance investments in the rehabilitation and upgrading of STEG's electricity and gas distribution network, which will help reduce losses and improve the quality of service.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

The Project Development Objective (PDO) is to: (i) strengthen Tunisia's electricity transmission system; and (ii) improve STEG's commercial performance.

² Note de Cadre de la Politique de Réforme des Subventions Energétiques 2018-2022.

³ This is aligned with the IMF's EFF and the World Bank's DPF.



Key Results

The achievement of the PDO will be measured through the following PDO level results indicators:

- Increased transmission capacity along the South-North corridor (MW)
- Increase in cash recovery index⁴ (percent)

Intermediate results indicators will include:

- Transmission lines constructed under the Project (Kilometers)
- Substations constructed and/or reinforced (Number)

D. Project Description

The proposed Project is intended to support two key dimensions of energy sector transformation in Tunisia: (i) diversifying sources of electricity away from imported hydrocarbons by helping integrate and transmit lower-cost, privately-produced renewables-based generation capacity; and (ii) improving STEG's financial health by strengthening its commercial performance. Accordingly, the Project is articulated along the following three components.

Component 1: Strengthening the electricity transmission network (US\$131 million). This component is articulated into the following three subcomponents, which altogether are intended to facilitate Tunisia's transition towards a diversified energy mix and a more open and competitive electricity market. A detailed description and technical analysis of this component is presented in annex 1.

Component 1.a: Investments in transmission infrastructure (US\$122.7 million). These entail expansion and reinforcement of Tunisia's power transmission system, with the objective to: (i) provide a robust north-to-south backbone, which would enable the energy transit between areas in the southern and eastern regions of the country where RE potential is located and the major load centers in the north; and (ii) connect the 200 MW solar photovoltaic (PV) power plant Borj Bourguiba to be commissioned in 2022 under the concession regime, which is considered as an associated infrastructure to the Project. The concession regime (to be developed and financed by the private sector), which is the main building block of the TRP, has just been launched and is expected to deliver 800 MW of RE capacity by 2022, including from four additional PV IPPs and two wind IPPs. Furthermore, STEG is expected to commission 520 MW of RE within the same timeframe. Of these, 900 MW are located in the South. In addition to integrating this first tranche of RE capacity to be developed under the TRP, investments under the Project will provide much needed wheeling capacity along the north-south corridor, which is critical to accommodate increasing and diversified electricity generation capacity over the long term as well as to enable regional connectivity. Thus, such investments are part of a long-term strategy to improve the capacity and stability of Tunisia's power transmission network. Specific investments include:

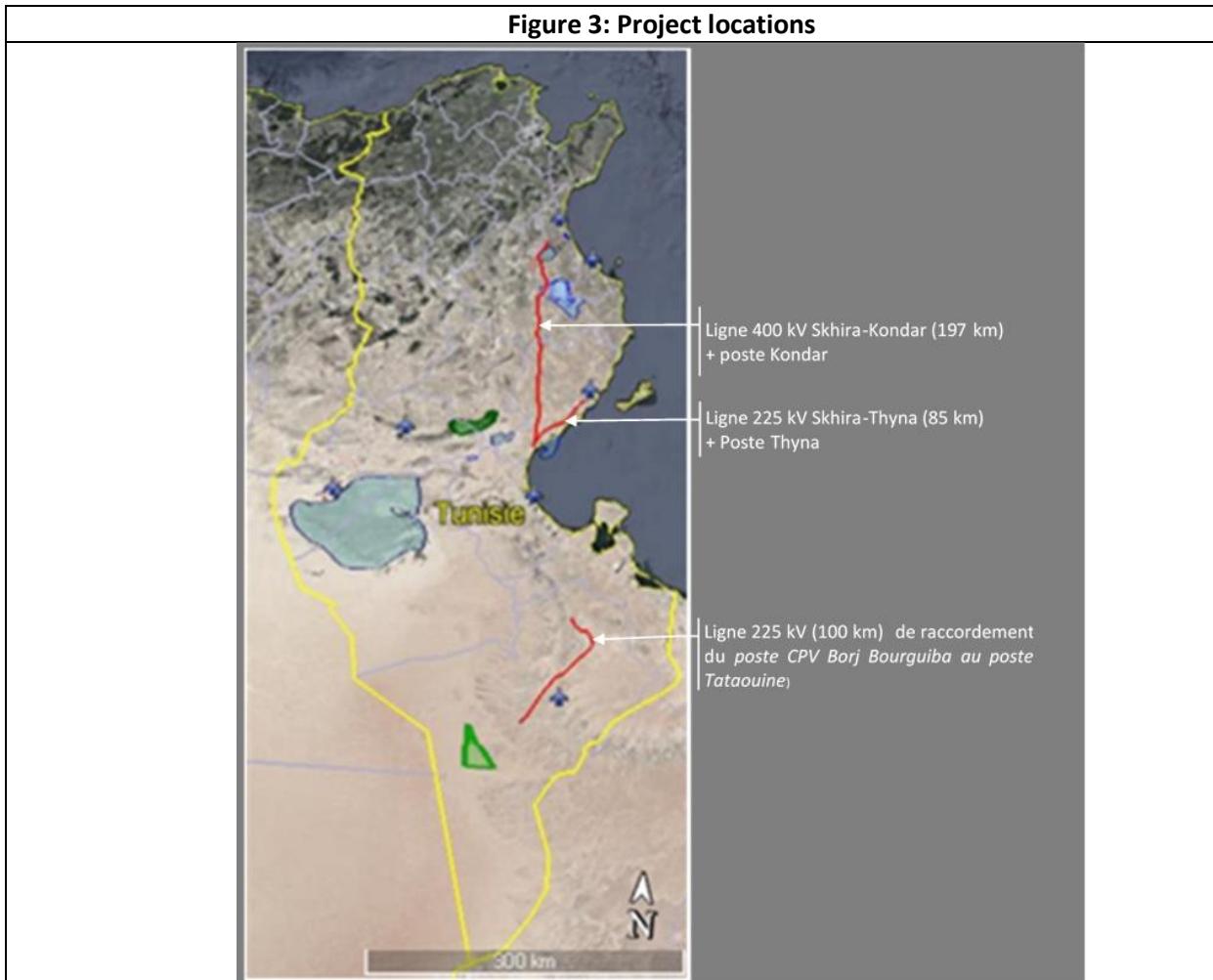
- (i) construction of 284 km of high-voltage (HV) transmission lines, including 192 km of 400kV double-circuit lines and 92 km of 225 kV single-circuit lines. These will connect the Skhira site, which is mid-way between the southern and the central regions, with the central corridor and Sfax (the second largest city in Tunisia) respectively;
- (ii) construction of 100 km of 225 kV single-circuit line to connect the Borj Bourguiba PV IPP (the latter is considered to be an associated infrastructure to the Project);

⁴ The cash recovery index is defined as the billing efficiency (ratio of energy billed over energy consumed) multiplied by the collection efficiency (ratio of consumer bills paid over total consumer bills).



- (iii) construction of a new 400/225 kV substation at Kondar to connect the new 400 kV Skhira-Kondar line with the existing 225 kV central corridor; and
- (iv) reinforcements of existing substations at Thyna (225/150 kV) near Sfax and Tataouine (225 kV) through the installation of new line bays and/or transformers.

1. Figure 3 provides a map of the project investment locations (the three lines painted in red identify transmission lines to be financed under the project). This sub-component is expected to yield climate co-benefits as part of the Multilateral Development Banks' (MDB) list of eligible mitigation activities under Category 1.3, "new, expanded and improved transmission systems (lines, substations) to facilitate integration of renewable energy into grids".⁵



Component 1.b: Integration of Renewables and Financial modelling TA (US\$1.3 million). In addition to investment support, component 1 includes technical assistance to help strengthen STEG's ability to operate in a changing power market. The significant integration of RE, of which large part will be privately produced, promises to change STEG's cost drivers and, as a result, its financial bottom line. The utility will need to invest heavily in the expansion/reinforcement of its transmission system to access more cost-efficient and diversified power supply.

⁵ MDBs, 2016. 2015 Joint Report on Multilateral Development Banks' Climate Finance



This is a trade-off that must be fully understood and managed, especially as STEG negotiates power purchase agreements with incoming private developers. Thus, TA will be deployed to: (i) assess the long-term impact on STEG's finances of the increasing penetration of variable RE; and (ii) help STEG develop a financial model suited to its changing role and obligations in Tunisia's evolving power market.

Component 1.c: Unallocated funding (US\$7 million). This is set aside to accommodate price and technical contingencies that may affect investments under sub-component 1.a, as well as the need for additional TA.

Component 2: Commercial performance improvement (US\$20 million). The objective of this component is to support results-based practices and management by STEG to improve its commercial performance. This component is designed in complementarity with AFD-financed SGP. In particular, the commitments to be undertaken by STEG, as defined below, will leverage the infrastructure and practices to be put in place under SGP, and ultimately help achieve major progress in terms of commercial performance. This will enable STEG to meet the targets of the performance contract with the GoT and provide more efficient and better service to customers. DLIs are phased along the five years of project implementation and are intended to incentivize STEG to implement actions geared towards:

- (i) **Monitoring and metering consumption of HV and MV customers in real time.** This is SGP's key objective and the DLI is intended to ensure that smart meters are installed to all high-value customers, who account for 56 percent of total electricity consumption. It should be noted that a large share of these customers produces electricity through cogeneration and solar PVs on site, which, when in exceeding consumption, falls into the grid. Thus, incorporating smart metering for these customers would help facilitate integration of behind-the-meter renewable generation, as well as enable STEG to better manage demand. This activity will yield climate co-benefits under the eligible mitigation activity of Category 1.3 "New information and communication technology, smart-grid and mini-grid to facilitate integration of renewable energy into grids".
- (ii) **Securing revenues from LV electricity customers with large consumption.** Currently all HV and MV customers are covered by a revenue protection program (RPP), which is meant to secure revenues from this high-value segment. Specifically, customers under the RPP receive special treatment in terms of customer management (direct services with dedicated staff) and more regular meter reading (monthly instead of quarterly) and billing (monthly instead of bimonthly). These actions, which are critical to reduce commercial and collection losses, will be extended to around 17,600 LV customers with a consumption above 1750 kWh per month, who account 8 percent of total consumption. Thus, the coverage of the RPP program will expand from 56 to 64 percent of total consumption.
- (iii) **Increasing the collection rate, targeting especially private customers.** The ongoing ESMAP TA is assessing STEG's commercial processes and will provide recommendations to improve metering, billing, collection, and customer service practices. STEG will adopt some of the identified measures to improve collection rates among private customers. These includes: digitalizing the billing and collection processes (e.g. sending the bills through SMS/email and encouraging customers to pay online); shortening the currently long payment deadline; accelerating the treatment of customer complaints regarding the bill; and applying disconnection policy more systematically.; and
- (iv) **Improving the measurement of consumption through the provision of hand-held devices to STEG's staff.** This is much needed to avoid (intentional or unintentional) human error that can lead to wrong billing, causing customer complaints and reducing revenues accruing to STEG.
- (v) **Launching citizen engagement campaigns to raise awareness on customer rights and responsibilities.** In accompanying its effort to streamline the billing, collection, and customer processes, STEG will carry out multiple outreach initiatives, targeting regions where non-technical and collection losses are high. The



campaign will raise awareness about the STEG's efforts to improve its customer service while motivating the customers to abide by the collective responsibility to adequately and timely pay for electricity service.

The associated Eligible Expenditure Program (EPP) will finance recurrent expenditures incurred by STEG's for the purchase of electricity from the Carthage Power Company (CPC). This is the only IPP in Tunisia's power market, owning and operating a 471 MW gas-fired power generation facility in Radès, which accounts for 19 percent of power supply in the country. The ability of STEG to honor payments for electricity purchased by IPPs is key to enable a reliable service to electricity customers. It can also increase STEG's credibility as partners of IPPs, in view attracting private investors in RE. Finally, EEP will relieve financial stress upon STEG, as the utility approaches investments in transmission capacity and the integration of significant RE. Thus, the EEP directly supports the Project's PDO. A total of US\$20 million is expected to be allocated for these EPPs during the project implementation period. The Bank assessed the capacity and independence of STEG's Inspection and Audit Office, which were found adequate. Thus, this entity will act as independent verification agent (IVA) and will ensure that DLIs are met before disbursements are authorized.

Table 4: Summary of disbursement-linked indicators

| DLI | Baseline (2018) | Annual targets | | | | | Proposed allocation USD ml. |
|---|--------------------|--------------------------------|---------------------------------|--|--|---|-----------------------------------|
| | | 2019 | 2020 | 2021 | 2022 | 2023 | |
| 1. HV and MV clients equipped with smart meters (%) | 0 | 0 | 70% | 100% | | | 2 |
| 2. Large LV customers (monthly consumption above 1750 kWh) incorporated into the Revenue Protection Program | 0 | 50% of clients >2500 kWh/month | 100% of clients >2500 kWh/month | 25% of clients <2500 kWh/month and >1750 kWh/month | 50% of clients <2500 kWh/month and >1750 kWh/month | 100% of clients <2500 kWh/month and >1750 kWh/month | 5 |
| 3. Bill collection rate to non-government entities (\$ collected/\$ billed measured over a 4-month period) | 92% | 94% | 97% | 99% | 99% | 99% | 10 |
| 4. LV meters are read using hand-held devices (%) | 0 | 50% | 90% | 100% | | | 2.5 |
| 5. Communication/outreach campaigns on customer rights and responsibilities | 0 | | 3 campaigns | 3 campaigns | | | 0.5 |

E. Implementation

Institutional and Implementation Arrangements

STEG will be the sole implementing agency of the proposed Project. Created in 1962, when the GoT decided to nationalize the generation, transmission, distribution, import and export of electricity and gas, STEG is a public institution with financial autonomy under the supervision of the Ministry of Industry. In 2017, STEG approved a new organizational structure that groups 23 departments directly reporting to the Director General, who in turn reports to the Board. These include 9 units in the Director General's Office and deal with high-level issues such as



risk management, audit and inspection, citizen relations, communication and cooperation. In addition, there are 10 major technical departments responsible for generation, transmission, distribution, procurement, planning and strategy, IT system, finance, and human resources, and 4 minor departments dealing with technology, environment and security, and legal services. The two departments that are most relevant for the Project are the Transmission and Distribution departments, and the Project will also coordinate with departments involved in project management including Procurement, Planning, Technology, and Security and Environment.

STEG will set up a dedicated internal project implementation team, composed of experienced staff including: (i) a Project Manager (PM), who will coordinate all project activities and will be the main counterpart of the Bank during project implementation; (ii) a Procurement Specialist; (iii) a Financial Management Specialist; (iv) an Accountant; (v) an Environmental Specialist; (vi) a Social Safeguards Specialist; and (vii) a Monitoring and Evaluation Specialist. The PM will rely on a number of engineers and technical specialists from the Transmission, Distribution and Environment departments to draft technical specifications, evaluate technical proposals and monitor implementation of contracts and studies. Exact implementation procedures for all fiduciary and safeguards aspects of the Project will be described in a Project Operations Manual (POM) prepared by STEG.

F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)

The project area influence associated with Component 1 include the new Kondar substation site, the existing Thyna substation and the indicative corridors associated with the proposed 3 transmission lines will be localized across 11 delegations (Kondar, Bouficha, Kairouan Nord, Kairouan Sud, Bouhajla, Thyna, Skhira, Tataouine Nord and Rmada) in 5 governorates (Sousse, Mahdia, Sfax, Kairouan and Tataouine). The project area of influence represents a population of around 480,000. Poverty rates are usually above the national average of 15%, and range between 15 and 35%. The project corridors principally cross open rural areas, where the main sources of livelihood are derived from agriculture, arboriculture, livestock farming, businesses and daily labor. There are four industrial zones in the areas of Kondar (Sousse) and Sfax. Unemployment among men varies from 8 to 22% of the active male population, compared to 16 to 54% among active females. The project area influence associated with Component 1 is characterized by an arid climate, with an average annual rainfall of 100 to 300 mm and the presence of wetlands. The predominant use of the land in the project area is agriculture (arboriculture, olive trees) and pastures. Based on available information and field visits, some sections of the preliminary routes of the projected lines are quite close to some protected wetlands but do not encroach on these areas. Some peaks of Kondar-Skhira HV line may affect the RAMSAR classified site of Sebkhas El Kelbia ecosystem in terms of likely inconvenience to the ornithological compartment. Some peaks of Skhira-Thyna HV line are adjacent to the future Kneiss Marine and Coastal Protected Area.

**G. Environmental and Social Safeguards Specialists on the Team**

Antoine V. Lema, Social Specialist

Eloise Sophie Fluet, Social Specialist

Mohamed Adnene Bezzaouia, Environmental Specialist

SAFEGUARD POLICIES THAT MIGHT APPLY

| Safeguard Policies | Triggered? | Explanation (Optional) |
|-------------------------------------|------------|---|
| Environmental Assessment OP/BP 4.01 | Yes | <p>In reference to the World Bank's OP/BP 4.01 on Environmental Assessment and given that the effects of the proposed project are expected to be limited, not irreversible, and easily controllable, the project is classified as Environmental Category B (partial assessment).</p> <p>The main risks and impacts of the project are linked to Component 1 Strengthening the electricity transmission network. This component will fund the construction of 2 new HV transmission lines (192 + 85 km) with 2 new conversion substations and new HV trunk lines (total of 142 km) to connect the future renewable IPP. The design, construction and operation phases of the transmission HV lines will generate adverse negative impacts if they are not mitigated correctly.</p> <p>Based on the above description of the project components and given that the final route of HV lines has not yet been decided precisely, an Environmental and Social Management Framework (ESMF) has been prepared by STEG. This ESMF has incorporated results from a scoping study prepared in the same time by STEG developing a description of the projected HV transmission line and the associated Borj Bourguiba PV plant. The scoping study has described the general natural, physical and socio-economic environment that may be impacted. The ESMF has also incorporated the results of a scoping study prepared by the EBRD covering the future area of the Borj Bourguiba PV plant.</p> |



The ESMF confirmed that the main potential negative risks and impacts under component 2 are related to Occupational and Community Health and Safety during construction phase; Waste generation management, soil erosion and sediment control from materials sourcing areas and site preparation activities, fugitive dust and other emissions (SF6), noise from heavy equipment, truck traffic and potential generation of hazardous materials and oil spills associated with heavy equipment operation and fueling activities. Negative environmental impacts include also terrestrial and aquatic habitat alteration especially bird life, electric and magnetic fields generation and management of hazardous materials and risks to Air Traffic during operation and maintenance phase. Positive impacts are mainly related to reducing greenhouse gas (GHG) emissions by increasing energy efficiency and using of renewable energy. Other risks and impacts are linked to the PV plant (associated facilities) that will be built and operated under concession contracts between the state and the private sector with funding from international financial institutions such as IFC and EBRD. The scoping study prepared with EBRD funding for the PV plant, classified it as environmental category B. TORs of the ESIA for the PV plant has been prepared in line with: (i) national legislation; (ii) EBRD environmental and social sustainability policies and performance requirements; (iii) IFC's Environmental and Social Sustainability Policies and Performance Standards and (iv) EHS Guidelines of the World Bank Group.

Activities to be financed by the project will follow the steps of the environmental and social screening process through the completion of an Environmental and Social Diagnostic Fact Sheet (FDES). This FDES take in account the nature of the sub-project, the zone of implantation and the importance of the negative environmental and social impacts to be likely generated. A checklist has been developed screening out all category A sub-projects and any sub projects potentially affecting significantly natural habitats or impacting the health and the quality of forest and rangelands or involving investments in



Pesticides or other related products or posing risks of damaging on the existing community cultural property. Only category B subprojects will be selected and according to the sorting results, one of the two types of instruments will be prepared; (i) Environmental and social impact assessment (ESIA) for the construction of new HV lines and/or construction of new conversion sub stations (ii) Environmental and Social Management Plan (ESMP) in case of an extension of an existing conversion substation.

The ESMF includes measures to avoid or mitigate community health and safety and labor influx risks. Specific assessments have been integrated in the TOR annexed to the ESMF, such as the requirement to conduct a site-specific assessment on labor influx, including gender-based violence and propose mitigation measures as necessary.

The site-specific ESIA/ESMPs and RAPs will be prepared by specialized firms and will be reviewed, monitored and supervised by STEG's environmental and social management unit, with the support of the Bank's Safeguards team. These documents will be elaborated in consultation with key local stakeholders and will be published and posted on the STEG website and the World Bank's external website prior to the commencement of any civil work. Mitigation measures identified in these safeguard tools will be included in the Terms and Specifications documents (Cahiers des charges) for operators and entrepreneurs.

The ESMF and scoping study have been publicly consulted during a meeting held in STEG's Headquarters on March 6th, 2019. Different administrations and local representatives from the areas concerned by the project have participated. The assessments have been updated with all relevant comments raised during consultations.

The ESMF has been reviewed, approved and disclosed in country on STEG WEB site on April 19, 2019, and on the World Bank external website on April 22, 2019.



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| Performance Standards for Private Sector Activities OP/BP 4.03 | No | The project will not involve financing the private sector. The scoping study confirmed that some sections of the preliminary routes of the projected lines are quite close to some protected wetlands and RAMSAR sites but do not encroach directly on these areas. The negative impacts arise mainly during migration flight phases. The ESMF proposed measures to include in the ESAs/ESMPs to mitigate the negative impacts of future HV lines on natural Habitat and Bird life. Since the plots are preliminary at this stage, the scoping report makes recommendations to guide STEG towards the best route to avoid as much as technically and financially possible the migrations bird areas. |
| Natural Habitats OP/BP 4.04 | Yes | The ESMF will screen out all activities encroaching directly on protected areas. |
| Forests OP/BP 4.36 | No | The ESMF will screen out all activities potentially impacting the health and quality of forest and rangelands.. |
| Pest Management OP 4.09 | No | The project will not support the use or involve investments in pesticides or other related products. |
| Physical Cultural Resources OP/BP 4.11 | No | The project is not expected to pose risks of damaging on the existing community cultural property. The scoping studies, STEG one and EBRD one confirmed that there are no archaeological areas and classified historical monuments in the projected routes of HT lines, substations sites or associated RE PPP. A chance find procedure will be prepared and annexed to the ESMF and other ESAs/ESMPs to be prepared and to be used during civil works. |
| Indigenous Peoples OP/BP 4.10 | No | The project will cover investments at the national and regional levels. No populations qualifying as Indigenous Peoples under OP 4.10 are expected to be amid project beneficiaries or project affected people. |
| Involuntary Resettlement OP/BP 4.12 | Yes | The project will lead to involuntary resettlement impacts. These impacts will mainly take the form of the loss of land, agricultural assets, income and livelihood, and restriction of access to assets. Although the project is not expected to generate physical displacement, as the indicative corridors avoid settlements, it will generate temporary |



impacts on crops and trees and economic impacts on daily agricultural labor. Temporary impacts are estimated to affect 114 ha of cultivated and pastoral land and will particularly impact crops and olive trees. Although limited, permanent impacts on private land are also expected for the tower footings and the new Kondar substation estimated at around 30 ha. The new Kondar substation is expected to be located on government land and has the potential to lead to economic impacts (loss of trees, crops and daily labor), as the land may be leased to private tenants. However, the decision on the location of the new substation was still under discussion at the time of appraisal. Restrictions of access to agricultural and pastoral activities will also be an impact.

A Resettlement Policy Framework (RPF) has been prepared by STEG. The RPF outlines the key principles, requirements, procedures and implementation mechanisms to manage the mitigation of resettlement impacts. The document clearly outlines the eligibility criteria and entitlements as prescribed in OP 4.12, and lays out the process to prepare the corridor-specific resettlement plans (RPs). The RPF describes the implementation arrangements, as well as consultation and monitoring requirements related of the RPs. The resettlement plans will be prepared and submitted to the Bank for review and clearance.

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| Safety of Dams OP/BP 4.37 | No | The project will not construct or rely on dams. |
| Projects on International Waterways OP/BP 7.50 | No | The project will not affect international waterways. |
| Projects in Disputed Areas OP/BP 7.60 | No | The project is not located in a disputed area. |

KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

The main potential environmental negative risks and impacts under component 1 are related to Occupational and Community Health and Safety during construction phase; Waste generation management, soil erosion and sediment



control from materials sourcing areas and site preparation activities, fugitive dust and other emissions (SF6), noise from heavy equipment, truck traffic and potential generation of hazardous materials and oil spills associated with heavy equipment operation and fueling activities. Negative environmental impacts include also terrestrial and aquatic habitat alteration especially bird life, electric and magnetic fields generation and management of hazardous materials and risks to Air Traffic during operation and maintenance phase. The regions crossed by the long distances (85 to 192 km) transmission HV lines contain nature reserves, wetlands and national parks. Based on available information and field visits, some sections of the preliminary routes of the projected lines are quite close to some protected wetlands but do not encroach on these areas. The ESMF proposed measures to include in the ESAs/ESMPs to mitigate the negative impacts of future HV lines on natural Habitat and Bird life.

The key social impacts relate to involuntary resettlement, deriving from loss of land, agricultural assets, income and livelihood, and restriction of access to assets. Although the project is not expected to result in physical displacement, as the indicative corridors avoid settlements, it will lead to temporary impacts on crops and trees and economic and daily agricultural labor on approximately 114 ha of cultivated land. Although limited, there will be permanent impacts on about 30 ha of land, which will be occupied by the tower footings and the Kondar substation (estimated at 30 ha). There are discussions to locate the new Kondar substation on government land but no decision had been made at the time of appraisal.

Other risks relate to community health and safety. These include the risks of electrocution of community residents, especially for farmers and daily agricultural workers working on the corridor, or workers during construction and maintenance activities. Impacts related to labor influx on local communities, including the risks of communicable diseases, gender-based violence and illicit behavior are expected to be minimal although they cannot be entirely excluded. The volume of the incoming workforce is expected to be low (estimated at 60 to 140 skilled workers) and spread across the entire project area. Most workers will get accommodation in the various towns and villages across the alignments and no labor camps are expected to be needed for the project. No influx of people outside the incoming workforce (i.e. "followers") is expected.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:
NA

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

Since the routings are preliminary at this stage, the scoping report makes recommendations to guide STEG towards the best route to avoid as much as technically and financially possible the bird migration areas.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

An ESMF has been prepared by STEG, which incorporates results from a scoping study also completed by STEG and describing the scope of the Project and the general natural, physical and socio-economic environment that may be impacted by the Project. It also builds upon a scoping study prepared with funding from the EBRD covering the areas likely to be impacted by the Borj Bourguiba IPP, which is considered as associated infrastructure to this Project. The ESMF details the processes that will be followed by STEG to identify and mitigate site-specific environmental and social impacts. These include measures to avoid or mitigate community health and safety risks, labor influx risks and health and safety risks potentially affecting local labor as well as the implementation of an information and consultation strategy, including a community health and safety awareness campaign. Specific assessments have been integrated in the TOR annexed to the ESMF, such as the requirement to conduct a site-specific assessment on labor influx, including gender-based violence and propose mitigation measures as necessary. A full Environmental and Social Impact Assessment (ESIA) and an Environmental and Social Management Plan (ESMP) will be prepared once exact



Project locations are known and ahead of any civil work; a full ESIA will also be prepared by the Ministry of Industry for the Borj Bourguiba associated plant with EBRD funding.

An RPF was also prepared. It outlines the key principles, requirements, procedures and implementation mechanisms to mitigation resettlement impacts. The document clearly defines the eligibility criteria and entitlements as prescribed by OP 4.12 and lays out the process to prepare site-specific RPs. The RPF describes the implementation arrangements, as well as consultation and monitoring requirements related of the RPs. These will be prepared and submitted to the Bank for review and clearance.

An Environmental Specialist and a Social Safeguard Specialist will be part of the internal Project Implementation Unit (PIT) to be set up by STEG. STEG's Safety and Environment Directorate will also be fully involved in the preparation, review and approval of the ESMPs and RPs, including the consultations related to these documents, and support the PIT in the management and monitoring of environmental and social aspects associated with the Project. This is the body that sets the utility's policies on safety and environmental protection; monitors their application and compliance with the relevant legal and regulatory provisions; provides advice and training on these matters and monitors the performance of operational units. The PIT will be responsible for overseeing the implementation of environmental and social safeguard under the Project, organizing public consultations related to their implementation and for reporting to the Bank.

In addition to the above, STEG will appoint focal points in the departments/units involved with the Project, including: (i) the Central Directorate of Equipment, to ensure that contracts integrate environmental and social risk mitigation measures in compliance with ESMPs; (ii) the Legal Directorate; and (iii) the Central Directorate of Electricity Transmission and Central Directorate of Electricity Generation, to ensure safeguards compliance during operation and maintenance of assets. In addition, a consultant will be recruited to support the implementation of the social safeguard, in particular the RPF and RPs, given that some of the World Bank's requirements are new to STEG. Training on ESIA/ESMP and RP review and implementation, information and public consultations, handling complaints and social conflicts and reporting will be provided to the identified focal points. An environmental specialist and a social safeguard specialist will be part of the STEG dedicated internal project implementation team. This team will coordinate all project activities and will be the main counterpart of the Bank during implementation. The implementation team will rely on a number of engineers and technical specialists from other departments. Moreover, STEG will hire external expertise to support the implementation of the resettlement plans.

STEG's Safety and Environment Directorate in charge of stating STEG's general policy on safety and Environment who will be fully involved in the environmental and social management of the project. It is a horizontal structure that ensures training and awareness of staff, ensures the application of legal and regulatory provisions for Safety and Environment, provides advice, assistance and controls the performance of operational units with annual reporting on Safety and Environment. This structure will be responsible for the follow up on the overall E&S implementation, organizing public consultation and reporting to the World Bank.

In addition to the above, STEG will appoint several dedicated E&S focal points in the main operational structures directly involved in the Environmental and Social management of electricity transmission; (i) Central Direction of Equipment to integrate environmental and social recommendations and measures (ESMP) in the DAO and contracts and for E&S implementation during the construction phases of subprojects, (ii) Central Direction of the Electricity Transmission Network and (iii) Central Electricity Production Directory for the E&S implementation during the operation and maintenance phases of electricity transmission sub-projects. All these E&S focal points will benefit from specific training sessions on ESIA/ESMP and RAP review and implementation, Information and public consultations,



handling complaints and social conflicts and reporting.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

Consultations have taken place in the preparation of the framework documents. Field visits in all delegations were conducted in January 2019, which included consultations with local residents and officials. In addition, a formal consultation workshop was held in Tunis on March 6, 2019 with 30 participants. Key concerns raised included issues related to assets eligible for compensation such as olive trees, sensitive areas such as Skira, which required a careful consultation process, concerns related to the safety impacts of electromagnetic fields and more discussions with the aviation authority. A key requirement of the ESMF is to implement an information and consultation strategy will take place throughout the finalization of the safeguard documents and construction activities. This will include (i) a community health and safety awareness campaign; (ii) information and consultations about involuntary resettlement impacts, compensation measures payment procedures and (iii) the dissemination of the contact information of the locally-based and central grievance redress mechanisms.

B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other

| Date of receipt by the Bank | Date of submission for disclosure | For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors |
|-----------------------------|-----------------------------------|--|
| 05-Apr-2019 | 22-Apr-2019 | |

"In country" Disclosure

Tunisia

19-Apr-2019

Comments

Resettlement Action Plan/Framework/Policy Process

Date of receipt by the Bank

10-Apr-2019

Date of submission for disclosure

22-Apr-2019

"In country" Disclosure

Tunisia

19-Apr-2019



Comments

C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting)

OP/BP/GP 4.01 - Environment Assessment

Does the project require a stand-alone EA (including EMP) report?

Yes

If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?

Yes

Are the cost and the accountabilities for the EMP incorporated in the credit/loan?

Yes

OP/BP 4.04 - Natural Habitats

Would the project result in any significant conversion or degradation of critical natural habitats?

No

If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank?

NA

OP/BP 4.12 - Involuntary Resettlement

Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?

Yes

If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?

Yes

The World Bank Policy on Disclosure of Information

Have relevant safeguard policies documents been sent to the World Bank for disclosure?

Yes

Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?

Yes



All Safeguard Policies

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?

Yes

Have costs related to safeguard policy measures been included in the project cost?

Yes

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?

Yes

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?

Yes

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APPROVAL

| | |
|----------------------|-------------------------------|
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Approved By

| | | |
|---------------------------|-----------------------|-------------|
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| Practice Manager/Manager: | Erik Magnus Fernstrom | 24-Apr-2019 |
| Country Director: | Tony Verheijen | 25-Apr-2019 |

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