## BASIC INFORMATION

### A. Basic Project Data

<table>
<thead>
<tr>
<th>Country</th>
<th>Project ID</th>
<th>Parent Project ID (if any)</th>
<th>Project Name</th>
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<tbody>
<tr>
<td>Eswatini</td>
<td>P166170</td>
<td></td>
<td>Network Reinforcement and Access Project (P166170)</td>
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<table>
<thead>
<tr>
<th>Region</th>
<th>Estimated Appraisal Date</th>
<th>Estimated Board Date</th>
<th>Practice Area (Lead)</th>
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<tbody>
<tr>
<td>AFRICA</td>
<td>Mar 07, 2019</td>
<td>Apr 18, 2019</td>
<td>Energy &amp; Extractives</td>
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<table>
<thead>
<tr>
<th>Financing Instrument</th>
<th>Borrower(s)</th>
<th>Implementing Agency</th>
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<tbody>
<tr>
<td>Investment Project Financing</td>
<td>Ministry of Finance</td>
<td>Eswatini Electricity Company</td>
</tr>
</tbody>
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### Proposed Development Objective(s)

To improve the reliability of electricity supply and increase access to electricity services in targeted areas of Eswatini.

## PROJECT FINANCING DATA (US$, Millions)

### SUMMARY

<table>
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<tr>
<th>Total Project Cost</th>
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</thead>
<tbody>
<tr>
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<tr>
<td>of which IBRD/IDA</td>
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</tr>
<tr>
<td>Financing Gap</td>
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</tr>
</tbody>
</table>

### DETAILS

#### World Bank Group Financing

| International Bank for Reconstruction and Development (IBRD) | 40.00 |

#### Non-World Bank Group Financing

| Counterpart Funding | 5.00 |
| Borrowing Agency   | 5.00 |
B. Introduction and Context

Country Context

1. The Kingdom of Eswatini\(^1\) (Eswatini) is a landlocked, small open economy in Southern Africa with a land area of 17,364 km\(^2\) and a population of 1.2 million. The country is largely mountainous, bordered on the east by Mozambique and on all other borders by South Africa with approximately 76% of the population living in rural areas. Eswatini is very closely linked to South Africa and depends on it for about 85% of imports and about 60% of exports.

2. The King, as Head of State, holds supreme executive, legislative and judicial powers. Eswatini has been independent since 1968. The country defines itself as a “monarchial democracy”, where both parliamentary and traditional systems of governance run concurrently. The Prime Minister, appointed by the King, is Head of Government and chairs Cabinet. The King also appoints 10 of the 76 members of the House of Assembly (the lower house of Parliament) and 20 of the 31 members of the Senate (upper house of Parliament). Parliamentary elections, were last held in September 2018 and the outcome is not expected to translate into any major policy shifts.

3. Eswatini is a member of the Common Monetary Area (CMA) with South Africa, Lesotho and Namibia, and the domestic currency, the Lilangeni\(^2\) (E), is pegged at parity with the South African currency, the Rand, which is also legal tender in the country. The CMA has provided a nominal anchor to monetary policy, with the country’s inflation in general mirroring that in South Africa. The CMA has also facilitated capital and commercial transactions with South Africa.

4. With a Gross Domestic Product (GDP) per capita of approximately US$3,000, Eswatini is classified as a lower middle-income country. The economy is largely driven by an agro-based export sector and agriculture employs over 70% of the population\(^3\). Sugar is the largest single earner of foreign exchange, contributing up to 14.3% of GDP in 2016 and combined with other industries producing wood pulp, edible concentrates and canned fruit, accounted for 39.5% of GDP the same year. Despite the large agrarian population, many practice subsistence farming only resulting in low productivity. Agriculture (without the sugar industry) contributed 7.3% to GDP in 2016 and the Government of the Kingdom of Eswatini (GoKE) seeks to boost the sector through commercialization and intensification of agriculture\(^4\).

5. Eswatini is also a member of the Southern African Customs Union (SACU) which includes Botswana, Lesotho, Namibia, South Africa. SACU members share a common external tariff policy, exchange freely their goods internally, and distribute among themselves the pool of customs and excise taxes collected by the union. SACU members share a common external tariff policy, exchange freely their goods internally, and distribute among themselves the pool of customs and excise taxes collected by the union. For 2018/19, SACU receipts are expected to account for 34% of the

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\(^1\) Kingdom of Swaziland until May, 11 2018  
\(^2\) US$ 1 ≈ E 14.5  
\(^3\) US Department of Agriculture (Swaziland agricultural economic fact sheet)  
\(^4\) FAO (Swaziland Agricultural Development Project - SADP)
country’s total revenue and grants as compared to 43% in the previous period as growth in South Africa, the main contributor to the SACU revenue pool, remains moderate, while domestic spending pressures rise\(^5\).

6. **Poverty, inequality and unemployment remain the most stubborn primary development challenges for Eswatini and overcoming these is a Government priority.** Poverty levels have remained unchanged over the last five years, with approximately 40 percent of the population estimated to be living under the international USD1.90 poverty line. Furthermore, it is estimated that 60% of the population is poor overall. Income inequality is also high, with an estimated Gini coefficient of 0.51 in 2009/10.

7. **Development outcomes are hindered by the high HIV/AIDS prevalence.** In 2017, the prevalence rate was 27.2 percent (female: 32.5 percent, male 20.4 percent). Consequently, life expectancy fell to 46 years in 2004, but has since rebounded and in 2015 reached 58.9 years.

8. **Agriculture has the potential to reduce poverty and promote shared prosperity, provided the requisite investments are made.** The Government is supporting improved agricultural productivity through schemes that allow smallholders to coordinate and engage in commercial-scale production. The concentration has been principally on sugar cane production, and is being piloted for other commercially viable products, such as horticulture.

### Sectoral and Institutional Context

9. **The Ministry of Natural Resources and Energy (MNRE) is responsible for policy formulation and has overall oversight over the electricity supply industry in Eswatini.** In 2018, the MNRE promulgated the National Energy Policy 2018 (NEP 2018). The policy sets out five objectives: (a) Ensuring access to modern energy services for all; (b) Enhancing employment creation; (c) Ensuring security of energy supply; (d) Stimulating economic growth and development; and (d) Ensuring environmental and health sustainability. To achieve these objectives, the NEP 2018 has eleven policy positions for the electricity sector as in Table 1.

<table>
<thead>
<tr>
<th>No.</th>
<th>Policy Position</th>
</tr>
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<tbody>
<tr>
<td>1.</td>
<td>To ensure adequate security of electricity supply</td>
</tr>
<tr>
<td>2.</td>
<td>To ensure efficient and cost-effective electricity supply integrating pricing for economic efficiency and financial sector viability</td>
</tr>
<tr>
<td>3.</td>
<td>To support the development of renewable energy resources for a target of 50% of the electricity generation mix</td>
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<tr>
<td>4.</td>
<td>To plan and support a comprehensive development of national capacities for the development of renewable energy projects</td>
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<tr>
<td>5.</td>
<td>To strive to provide all households with access to modern energy by 2022.</td>
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<tr>
<td>6.</td>
<td>To strive to ensure eradication of energy poverty at all levels by 2030.</td>
</tr>
<tr>
<td>7.</td>
<td>To ascertain options and ensure establishment of a national electricity fund in support of renewable energy and accelerating access to modern energy throughout the country.</td>
</tr>
<tr>
<td>8.</td>
<td>To ensure the launch and implementation of a National Energy Efficiency Policy and associated implementation strategy covering all relevant sectors of the economy.</td>
</tr>
<tr>
<td>9.</td>
<td>To facilitate the further liberalization of the electricity market.</td>
</tr>
<tr>
<td>10.</td>
<td>To facilitate the access of Independent Power Producers (IPPs) in the electricity market</td>
</tr>
</tbody>
</table>

\(^5\) IMF: Country Report No. 17/274
The electricity supply industry is regulated by the Eswatini Energy Regulatory Authority (ESERA) established by the Energy Regulatory Act (2007). The core functions of ESERA are to: issue and enforce licenses for generation, transmission, system operation, distribution, supply, and import and export of electricity. ESERA also approves tariffs, prices and charges in the electricity supply industry and is responsible for the development and enforcement of quality of service and supply standards, and power system planning.

The state-owned and vertically integrated Eswatini Electricity Company (EEC) is the national utility of Eswatini. EEC has an installed electricity generation capacity of 70MW comprising mainly of hydropower from the Maguga (19.8MW), Ezulwini (20MW), Edwaleni (15MW) and Magudza (5.6MW) hydro power stations. The balance of EEC installed capacity, 9MW, is provided by two diesel fired units at Edwaleni that are currently mothballed due to high operating costs. Utilizing bagasse, the sugar industry owns and operates by comparison, significant co-generation facilities that provide electricity to its factories and associated communities. Total sugar industry co-generation capacity is 107MW comprising 41.5MW and 65.5MW at Ubombo Sugar Limited (USL) and Royal Swazi Sugar Corporation (RSSC) respectively. In addition to its own use, USL sells a portion of the electricity it generates to EEC. In 2017 USL sold 54GWh of electricity to EEC, accounting for about 4.5% of total energy sent out by the utility company.

Domestic generation is insufficient to meet national demand and therefore Eswatini is a net importer of electricity. This is compounded by the inability, due to hydrology and the lack of water storage, of EEC’s hydro power stations to provide base load power which leads to significant variations in annual domestic generation output. In 2017 system maximum demand was 232MW\(^6\) indicating a capacity shortfall of approximately 170MW. In 2016 and 2017, local generation output was adversely impacted by El Niño induced drought, the worst in 30 years, and at 123GWh and 119GWh respectively was only about 10% of total energy sent out.

South Africa is the main source of electricity imports, followed by Mozambique and the Southern African Power Pool (SAPP). GoKE therefore seeks to reduce its reliance on imports as a means of stabilizing the cost of supply but also recognizes that harnessing domestic resources should not undermine the electricity trade facilitated by existing interconnections with Mozambique and South Africa. An optimal balance will keep the cost of supply at an efficient level as the Kingdom benefits from low off-peak prices on the SAPP day ahead market for example.

Eswatini has made significant progress in increasing the electrification rate and the goal is to reach universal access by 2022. In 2003 only 5% of the population had access to electricity and by 2017 this had risen to 75%. This is in large part due to the Rural Electrification Program (REP) that is integral to GoKE’s Vision 2022 national development strategy which aims for Eswatini to attain “developed” country status by 2022. The REP through national budget allocations and grants from cooperating partners. These sources together provide approximately E220 million per year towards the REP. However, funding gaps remain and there is a backlog of requests for connections at the MNRE that is currently estimated at E800 million across the country.

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\(^6\) Excludes demand at Ubombo Sugar Limited (USL) and Royal Swazi Sugar Corporation Limited (RSSC)
The REP has resulted in an almost three-fold increase in EEC’s household consumers, from 59,600 in 2008 to 167,000 in 2017. Over the same period non-household consumer growth has remained flat (Figure 3). This is also reflected in consumption by the household sector. Previously, this was the second largest consumer category, by consumption, and has since 2016 become the largest. Over the period 2008 to 2017, energy consumption by the household category has risen 40%.

Relationship to CPF

The Country Partnership Strategy (CPS) FY2015-2018 recognized the country specific constraints, as well as client demand for World Bank Group (WBG) support in selected developmental areas, consistent with the WBG strategic goals of reducing extreme poverty and promoting shared prosperity. The CPS prioritized two program pillars: (i) Promoting growth and job creation – to support Government in creating an enabling environment for private sector investment and competitiveness, MSME growth and job creation with an emphasis on agriculture and tourism; and (ii) Strengthening state capabilities – to design, implement and monitor policies to reduce poverty and inequality.

In 2017 GoKE requested the cancellation of two lending operations programmed for the CPF period under its two pillars that had been prepared and approved by the Bank’s Board of Executive Directors. The cancellation was due to a re-prioritization by the Government that sought to focus the Bank’s support towards investments in public infrastructure. Hence GoKE requested that the loan proceeds that had been earmarked for the projects be channeled towards operations that would focus on priority rural infrastructure development. Specifically, GoKE requested for operations targeted at alleviating acute water shortages and overcoming energy supply gaps to improve living conditions and enhance employment and income generation activities.

The proposed project is acknowledged in the CPF Performance and Learning Review (PLR) as falling under Pillar 1 of the CPF. The project supports improvements in the availability, quality and reliability of electricity, as a means both of strengthening the investment climate and raising living standards for people living in rural areas and small towns. The PLR states that “specifically, the Bank would support Government’s objective of achieving universal access through a new investment operation in FY19”.

C. Proposed Development Objective(s)

The Project Development Objective (PDO) is to: Improve the reliability of electricity supply and increase access to electricity services in targeted areas of Eswatini.

Key Results (From PCN)

The PDO level results indicators are as follows:

(a) Increased power transmission capacity in targeted areas (MW);
(b) Reduced annual power outages in targeted areas (number)
(c) Distribution system loss reductions in targeted areas (percentage)
(d) People provided with new or improved electricity service (number), of which women (percent)

D. Concept Description
21. The proposed project supports GoKE’s goal of reaching universal access in electricity service provision by 2022 and shall target the Shiselweni region, one of the poorest in Eswatini. The multiple indicator cluster survey conducted in 2014 identified Shiselweni as the region with the lowest electricity access rate amongst the four regions at 48 percent with the next being the Lubombo region which had an electrification rate of 66 percent. This reduced the potential for economic growth and GoKE, through the MNRE, prioritized electrification of the region which has increased its electrification rate. However, the region remains one of the poorest with high poverty indices, second only to the Lubombo region. 67.2 percent of the region’s population live below the poverty line with 21.1 percent described as living in extreme poverty.

22. The existing network has limited capacity to deliver the power needed to meet current and potential demand reliably. Currently, Shiselweni is served by an 11kV distribution network that runs from the bulk supply point at Nhlangano substation to Lavumisa, approximately 90km away. The long length of the 11kV network and current load in the region results in poor quality of service characterized by low voltages, frequent power outages and increased technical losses. The proposed project will therefore strengthen the electricity network in the Shiselweni region of Eswatini to improve the reliability of service, and increase access to electricity for domestic and productive use. This will be achieved through:

   a. Reinforcement of the southern transmission and distribution grids through the construction of 87km of 132kV transmission lines and strengthening of the distribution network;
   b. Expansion of electricity access in Shiselweni; and
   c. Analytical support and capacity building.

23. The project will increase access and reliability of electricity in the Shiselweni region benefitting around 13,000 households. The project will have multiple benefits in the targeted areas including:

   a. Supporting rural electrification targets as included in the NEP with the view of stimulating productive use of electricity and increased entrepreneurial activities;
   b. Improving electricity supply quality and reliability while reducing technical losses; and
   c. Ensuring adequate transmission capacity and power quality to support investments under the World Bank’s water and sanitation project in the Shiselweni region currently under preparation;

   \textbf{Component 1: Reinforcement of the Transmission and Distribution Grid}

24. This component comprises two sub components with the objective of strengthening the transmission and rural networks for social and economic development. The map of the project area is shown in Figure 5 and the two sub-components are described below.
Figure 5: Map of project area with proposed transmission line scope

Component 1a: Reinforcement of the Southern Transmission Grid

25. Component 1a will finance the construction of 87km of 132 kV lines from Nhlangano II to Lavumisa with 3 new 132/11kV substations and associated works at the Nhlangano II. The network in the region is designed and operated at 11kV which limits the ability to deliver power and the long lines result in low voltages that can limit the use of appliances as well as high technical losses. Sub-component a will help EEC improve its network to support growing demand in the region. It will cover the electrical, civil and electromechanical works, switchgear, and protection and control equipment. Specific activities are:

   
   d. Construction of Nhlangano II - Mhlosheni 132kV transmission line (24km)
   
   e. Construction of Mhlosheni - Hluthi 132kV transmission line (27km)
   
   f. Construction of Hluthi - Lavumisa 132kV transmission line (36km)
   
   g. Construction of a 132kV line bay at Nhlangano II substation
   
   h. Construction of 132/11kV substations at Mhlosheni, Hluthi and Lavumisa

26. The project was selected as the most viable option to address the constraints based on a preliminary study by EEC that also assessed the technical viability of strengthening the 66kV network. EEC has completed a preliminary project note based on in-house analysis which provides a strong rationale for the project. Detailed feasibility will be undertaken during preparation to determine the final cost estimates and line route.

27. This sub-component will also finance the procurement of an owner’s engineer for the project, who will assist the PIU with: (a) overall project management and supervision including procurement, design, contract management; and (b) supervision and monitoring of the implementation of the ESMPs and RAPs as needed. This subcomponent will also provide support for a program of capacity-building activities to support the design compliance with fiduciary, gender,
M&E, procurement, and safeguards requirements. Training will be provided for EEC staff, Project stakeholders, and consultations with relevant community groups.

**Component 1b: Distribution network reinforcement**

28. The objective of this component is to improve reliability of the distribution network in the Shiselweni region and align the distribution network with present and projected electricity demand. It will be implemented through EEC based on the utility’s network expansion plan and distribution system performance analysis. Activities will include construction of 11kV feeders, increased automation (for example, through remote circuit breakers), installation of switchgear to allow network reconfiguration, conductor upgrades, installation of capacitor banks, and expansion of transformation capacity.

**Component 2: Electricity access expansion**

29. Component 2 will support GoKE’s program for rural electrification by financing an estimated 13,000 household connections through the REP. The component will be implemented by EEC’s Rural Electrification Unit focusing on the Shiselweni region and will help reduce the outstanding backlog of connection applications. This backlog comprises applications that have been evaluated by MNRE and determined to be cost effective for connection to the grid. Cost estimates have been prepared by EEC through its Rural Electrification Unit that undertakes the works for REP projects under the direction of MNRE. Selection criteria that take into account the poverty level, potential for economic activity and cost per connection will be developed to select applications that will be financed under the project. Beneficiaries will include households and micro-small enterprises in rural areas of the Shiselweni region.

**Component 3: Analytical Support and Capacity Building**

30. This component will finance technical assistance (TA) to: (i) enhance electrification planning capacity, considering GoKE’s stated capacity of reaching universal access in the short-term; and (ii) support the development of a policy and regulatory environment that will engender private sector participation in off-grid electrification and renewable energy generation. The following sub-components are envisaged:

i. **Geospatial electrification planning platform**: The platform will be a tool to help GoKE take appropriate measures in providing and sustaining access to electricity. As the government nears the universal access goal, more nuanced measures that balances the overall goal with available technologies, expected use and cost-effectiveness. The GIS electrification planning platform will be used to determine optimal approaches, such as private sector led off-grid solutions and provide the basis for a National Electrification Plan (NEP).

j. **Operationalization of the rural electrification fund (REF)**: GoKE has established a Rural Electrification Fund (REF) that is currently capitalized by a levy on electricity sales. This sub-component will support GoKE in finalizing the REF governance structure including modalities for disbursements (e.g. capital subsidies to local private sector off-grid electricity entrepreneurs), monitoring and additional replenishment.

k. **Competitive and transparent framework for procurement of renewable energy generation**: This sub-component will support GoKE in operationalizing the recently promulgated Independent Power Producer policy in order to attract private sector grid-scale renewable energy developers.

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10 2018
Legal Operational Policies

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<table>
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Summary of Screening of Environmental Risks and Impacts

Social: Screening and scoping of the project area by the Bank indicates that the transmission line will cross communal land and smallholder farms; land used for grazing and subsistence farming, which is under traditional governance. The area is rural in nature and the population density is low, with scattered settlements and homesteads. Therefore, while the transmission line traverses a significant distance, the relative impact is anticipated to be moderate. An RPF will be in place to guide resettlement planning and the development of RAPS during implementation but impacts are expected to be relatively minor and will be avoided and mitigated as required. Labor influx will be relatively minor with the establishment of 2 camps (in the middle and at the end of the line) with a combined total of approximately 80 workers - due diligence and relevant contractual clauses will be put in place to minimize negative social harm and also contribute to the hiring of local labor. Vulnerable/disadvantaged groups will be identified in the social assessments and differentiated measures put in place to mitigate potential social risks and maximize project benefits. The capacity of the client to manage and mitigate these risks will be assessed during preparation and addressed (along with mitigation measures) in the ESCP. Environment: Based on a visual survey carried out during identification, key environmental impacts are moderate, related to: (i) aesthetic and visual quality of the surrounding landscape from transmission towers, (ii) erosion and sedimentation of rivers from earth works and run-off during the construction phase, (iii) traffic management during the construction phase, (iv) disposal and management of waste/spoil during the construction phase, (v) occupational health and safety of workers, (vi) nuisances related to air and noise emissions from construction activities, and (vii) community health and safety. An ESIA/ESMP will include known mitigation measures.

Note To view the Environmental and Social Risks and Impacts, please refer to the Concept Stage ESRS Document.

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