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THE AFRICAN DEVELOPMENT FUND



PROJECT APPRAISAL REPORT

EASTERN ETHIOPIA ELECTRICITY GRID REINFORCEMENT PROJECT

FEDERAL DEMOCRATIC REPUBLIC OF
ETHIOPIA

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CURRENCY EQUIVALENTS

Exchange Rate as of June 2023

| | | | |
|-------|----------|-------|-----------|
| UA 1 | USD 1.30 | UA 1 | ETB 70.02 |
| UA 1 | EUR 1.24 | USD 1 | ETB 54.00 |
| EUR 1 | USD 1.07 | EUR 1 | ETB 58.00 |

Fiscal Year

| |
|---|
| Bank's Fiscal Year 1st January – 31st December |
| Borrower's Fiscal Year 8th July - 7th July |

Weights and Measures

| Weights and Measures | | | |
|----------------------|---|-----|------------------------------------|
| M | Meter | KOE | kilogram of oil equivalent |
| cm | centimetre = 0.01 meter | kV | kilovolt = 1,000 volts |
| mm | millimetre = 0.001 meter | kVA | kilovolt ampere (1,000 VA) |
| km | kilometre = 1,000 metres | kW | kilowatt = 1,000 watts |
| m ² | square meter | GW | gigawatt (1,000,000 kW or 1000 MW) |
| cm ² | square centimetre | MW | megawatt (1,000,000 W or 1 000 kW) |
| km ² | square kilometre = 1,000,000 m ² | kWh | kilowatt hour (1,000 Wh) |
| Ha | hectare = 10,000 m ² | MWh | megawatt hour (1,000 KWh) |
| t (t) | metric ton (1,000 kg) | GWh | gigawatt hour (1,000,000 KWh) |

ABBREVIATION AND ACRONYMS

| | |
|-------|---|
| ADF | African Development Fund |
| AfDB | African Development Bank Group |
| CFRA | Country Fiduciary Risk Assessment |
| CRFA | Country Resilience and Fragility Assessment |
| CPIA | Country Policy and Institutional Assessment |
| CSP | Country Strategy Paper |
| EDCF | Korea Economic Development Co-operation Fund |
| EEP | Ethiopia Electric Power |
| EEU | Ethiopia Electric Utility |
| EEAP | Ethiopian Energy and Petroleum Authority |
| EIRR | Economic Internal Rate of Return |
| ESIA | Environmental and Social Impact Assessment |
| ESMP | Environmental and Social Management Plan |
| ESCON | Environmental and Social Compliance Note |
| FC | Foreign Currency |
| FIRR | Financial Internal Rate of Return |
| GAP | Gender Action Plan |
| GHG | Green House Gases |
| IFR | Interim Financial Report |
| ISS | Integrated Safeguards System |
| KEXIM | Korea Exim Bank |
| LC | Local Currency |
| NPV | Net Present Value |
| OCB | Open Competitive Bidding |
| OFAG | Office of Federal Auditor General |
| OS | Operational Safeguard |
| PAR | Project Appraisal Report |
| PCN | Project Concept Note |
| PCR | Project Completion Report |
| PEFA | Public Expenditure and Financial Accountability |
| PIU | Project Implementation Unit |
| PLW | People Living with Disabilities |
| RAP | Resettlement Action Plan |
| SEAH | Sexual Exploitation and Harassment |
| SDG | Sustainable Development Goals |
| TYDP | Ten-Year Development Plan |
| UA | Unit of Account |
| USD | United States Dollar |

PROJECT INFORMATION SHEET

CLIENT INFORMATION

| | |
|---------------------------|---|
| Project Name | Eastern Ethiopia Electricity Grid Reinforcement Project |
| Sector | Energy/Power |
| Grant Recipient | Federal Democratic Republic of Ethiopia |
| Project Instrument | ADF-16 Grant and EDCF loan |
| Executing Agency | Ethiopia Electric Power (EEP) |

COUNTRY AND STRATEGIC CONTEXT

| | |
|--|--|
| Country Strategy Paper Period: | CSP 2023 – 2027 |
| Country Strategy Paper Priorities supported by Project: | Priority Area 2: Quality and sustainable infrastructure development to support agro-industrialization |
| Government Program (PRSP, NDP or equivalent): | Ethiopia’s Ten-Year Development Plan (TYDP) 2021-2030 |
| Project classification: | <p>High 5 priorities: H5-2.0 Light up and power Africa, H5-2.3 Power Transmission.; H5-5-0 improve the Quality of Life of the People in the project area, H5-5.7 scale up promising solutions for employment, H5-5.16 Climate Change and Green Growth</p> <p>Sustainable Development Goals: (i) SDG 7 - Ensure access to affordable, reliable, sustainable, and modern energy for all; (ii) SDG 8 - Promote sustained, inclusive, and sustainable economic growth, full and productive employment, and decent work for all; (iii) SDG 9 - Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation; and (iv) SDG 13 – taking urgent action to combat climate change and its impacts.</p> <p>Quality Sustainable Infrastructure Development to support agro-industrialization (Power Infrastructure Development)</p> |
| Country Performance and Institutional Assessment: | <p>In 2020 overall CPIA 4.3</p> <p>The Economic Management cluster scored 4.3 in the 2020 and 2021 CPIA, Structural Policies cluster scored 3.8 in 2021 compared to 3.9 in 2020, Policies for Social Inclusion/ Equity cluster scored 4.5 in 2021 compared to 4.7 in 2020 Governance scored 4.2 in 2020 and 2021 and Infrastructure and Regional Integration scored 4.6 in 2020 and 2021</p> |
| Projects at Risk in the country portfolio: | Zero percent projects at risk as of July 2023. |

PROJECT CATEGORISATION

| | |
|---|---|
| Environmental and Social Risk Categorization | Category 1 SNSC Categorization Date: 9 February 2023 |
| Does the project involve involuntary resettlement? | Yes |
| Climate Safeguards Categorization: | Category 2: moderately vulnerable to the impacts of climate change |
| Fragility Lens Assessment: | Yes |
| Gender Marker System Categorization: | Category 2 |

ADF KEY FINANCING INFORMATION

| | |
|------------------------|-----|
| Interest Rate: | N/A |
| Service Charge: | N/A |
| Commitment Fee: | N/A |
| Tenor: | N/A |
| Grace Period: | N/A |

EDCF's KEY FINANCIAL INFORMATION

| | |
|------------------------------|---------------------------------------|
| Loan currency | USD |
| Loan type | EDCF Loan |
| Interest type (Lending Rate) | Fixed Rate |
| Interest Rate (%) | 0.01% p.a. |
| Grace period | 15 years |
| Maturity Period | 40 years (including the Grace Period) |
| Administered Loan Charge | 0.1% (upfront) |

| Source | Amount (millions) | | Financing Instrument |
|-------------------------------------|--------------------------|--------------------------|----------------------|
| | UA | USD | |
| African Development Fund | 40 million | Equivalent to 52 million | Grant |
| Korea Eximbank (EDCF) | Equivalent to 40 million | 52 million | Loan |
| Government Counterpart Contribution | 12.22 million | 15.89 million | Cash |
| Total Project Cost: | 92.22 million | 119.89 million | |

PROJECT DEVELOPMENT OBJECTIVE AND COMPONENTS

| | |
|---------------------------------------|---|
| Project Development Objective: | To increase access to clean and reliable electricity supply by reinforcing the transmission system capacity of the Eastern Ethiopia Electricity Grid. |
| Project Components: | Component 1: Construction of Transmission Line, Substations; and Studies UA80.11 million (USD 104.14 million) |
| | Component 2: Project Supervision, Capacity Building and Audits UA 4.42 million (USD 5.75 million) |
| | Component 3: Implementation of ESMP, RAP, and GAP. UA 7.69 million (USD 10.0 million) |

PROJECT PROCESSING SCHEDULE TO BOARD APPROVAL

| | |
|---------------------------------------|------------------------------------|
| PCN Approval: | 9 March 2023 |
| Appraisal Mission: | 17 - 28 April, 2023 |
| Planned Board Presentation: | 13 September 2023 |
| Effectiveness: | 15 November 2023 |
| Project Implementation Period: | 1 January 2024 to 31 December 2028 |
| Planned Mid-term Review: | 15 – 29 May 2026 |
| Project Closing Date: | 31 December 2028 |

1 STRATEGIC CONTEXT

A. Country Context, Strategy and Objectives

1. Ethiopia’s long-term vision is elaborated in the country’s Ten-Year Development Plan: A Pathway to Prosperity 2021-2030 (TYDP)¹ aimed at creating the necessary and sufficient conditions for transforming Ethiopia into an “African Beacon of Prosperity”. The TYDP has ten (10) Strategic pillars² set around six (6) overarching priority areas³. To deliver *quality and efficient infrastructure*, the TYDP targets four specific areas for development planning: **transport, water resources, energy, and innovation & technology development**.

2. The National Power System Expansion Master Plan (2021) has prioritized the project and it is in line with TYDP Energy Development Plan which focuses on, among others, ensuring access to high-quality clean energy supply services and building a reliable electric power infrastructure. It is also aligned with Ethiopia’s Climate Resilient Green Economy Strategy (CRGE) of 2011, which aims to have the country achieve middle income status by 2025 through a green economy and climate resilient approach via the expansion of electricity generation from renewable energy sources for domestic and regional markets, while ensuring that transmission, distribution, and generation bottlenecks are addressed. The Project is directly aligned with the following United Nations (UN) Sustainable Development Goals (SDG): (i) SDG 7 – Affordable and Sustainable Clean Energy; (ii) SDG 8 – Decent Work and Economic Growth; (iii) SDG 9 – Industry, Innovation, and Infrastructure; and (iv) SDG 13 – taking urgent action to combat climate change and its impacts. The Project also mirrors the key aspiration of the Africa Union Agenda 2063 of inclusive growth and sustainable development.

3. The main objective of the Bank’s Ethiopia Country Strategy Paper (CSP) 2023-2027 is to support Ethiopia to expand inclusive and sustainable growth through Agro-industrialization, improved connectivity and competitiveness and reduced vulnerability to shocks under two Priority Areas: Priority Area 1 – Improved economic and financial governance for increased resilience, enhanced service delivery, and private sector growth; and Priority Area 2 – Quality and sustainable infrastructure development to support Agro-industrialization. In line with the Proposal to Increase Bank’s Selectivity (2021), the Project is in line with the CSP under Priority Area 2. The project will also create an enabling environment for private sector growth in the region, which is part of Priority Area 1.

4. The Project will directly contribute to the Bank Group’s General Capital Increase (GCI) (i.e., GCI-VII) commitments in relation to promoting low-carbon and climate-resilient investments such as transmission lines; and is also aligned to the African Development Fund (i.e., ADF-16) pillar of “Sustainable, climate-resilient and quality infrastructure”. The project is also well aligned with the Bank’s Ten-Year Strategy (2013 – 2022 extended to June 2023) supporting its main objectives (inclusive growth and transition to green growth) and one of its main operational priorities – Infrastructure development and the Bank’s High 5 priority of **Light up and Power Africa** by improving and adding new transmission lines to support increased electricity access as prescribed in the New Deal on Energy for Africa (NDEA). It also contributes to three of the other High 5 priorities of **Industrialize Africa and Improve the Quality of Life for the People of Africa** by providing reliable electricity services for Agro-processing and livestock industries with a corresponding increase in job opportunities, and **Integrate Africa** by providing a take-off point for future power interconnection to the Federal Republic of Somalia in accordance with **Theme 6** of the NDEA, which is, accelerating major regional projects and driving grid integration. By focusing on the provision of basic infrastructure for energy transmission

¹ Ethiopia Ten-Year Development Plan: A Pathway to Prosperity 2021-2030

² The TYDP key strategic pillars include: 1. Quality Economic Growth and Shared Prosperity, 2. Economic Productivity and Competitiveness, 3. Technological Capability and Digital Economy, 4. Sustainable Development Financing, 5. Private Sector-led Economic Growth, 6. Resilient Green Economy, 7. Institutional Transformation, 8. Gender and Social Inclusion, 9. Access to Justice and Efficient Civil Services, and 10. Regional Peace Building and Economic Integration.

³ TYDP (2021-2030) has six overarching priority areas: (i) Multi-sectoral and Diversified Sources of Growth and Job Opportunities, (ii) Sustainable and Inclusive Financial Sector Development, (iii) Harnessing the Demographic Dividend, (iv) Quality and Efficient Infrastructure Development, (v) Sustainable Urban Development, and (vi) Peace, Justice, and Inclusive Institutions.

and capacity building, the project is in line with the Bank’s Strategy for Addressing Fragility and Building Resilience in Africa (2022-2026).

5. The **Project is consistent with the Bank’s Energy Sector Policy 2012** which seeks to promote energy security and increase access to affordable and reliable energy services for household, industrial and commercial use. In addition, the Project is aligned with the **Bank’s Climate Change and Green Growth Action Plan (2021-2025)** which seeks to promote low carbon development and mitigate as well as boost resilience and adaptation to climate change; the Bank’s **Jobs for Youth in Africa Strategy (2016-2025)** as it will boost industrial activities, key for youth employment and the **Bank’s Gender Strategy (2021-2025)** under its pillar 3 which calls for Increasing women’s access to social services through infrastructure.

B. Sector and Institutional Context

6. Ethiopia’s energy sector is dominated by two key players, the Ethiopian Electric Power (EEP) responsible for electricity generation, transmission, and bulk sales (including exports) of electricity, and the Ethiopian Electric Utility (EEU) responsible for distribution, sales, and customer connections. The two entities fall under the supervision of the Ministry of Water and Energy (MoWE) and were established through a legal framework approved in 2013 alongside the Ethiopian Energy and Petroleum Authority (EEPA) – the Regulator. The 2014 Energy Proclamation defines the national legal framework for electricity and energy efficiency as well as the powers and duties of the EEPA. Finally, the 2018 Public-Private Partnership Proclamation establishes the framework for private investment in infrastructure projects, with energy as one of its targets with Corbetti and Tulu Moyo geothermal projects among the first beneficiaries.

7. Ethiopia had 5,320 MW installed generation capacity (effective capacity is 5,044 MW) and 17,838⁵ km of high voltage transmission lines in 2022. The total generated energy was 16,261.47 GWh in 2022, dominated by hydropower at 96.14%, followed by wind at 3.8% and biomass (waste to energy) at 0.03%. The national peak demand by January 2023 reached 3,297 MW (including exports). Ethiopia’s National Electrification Program (NEP-2.0) - which is an integrated plan for universal access issued in 2019 - originally targeted universal access by 2025, but this target has been revised to 2030. The national average electricity access rate is 51% (38% on-grid and 13% off-grid) of the population according to UN Tracking SDG7 – The Energy Progress Report 2022⁶, and varies widely in the country with Addis Ababa and surrounding areas at 99.9% followed by Tigray at 50.9%, Amhara at 28.6% Oromia at 26.7% and other regions including Somali region below 20%. Electrification of Social facilities such as schools follow a similar pattern with Harari, Tigray, and Addis Ababa above 90% while several regions are below the average of 70%, with Somali region scoring 53% of Secondary schools connected to electricity (NEP-2.0). The universal access program envisages connecting 65% of the population to the national grid and the remaining 35% to off-grid and mini-grid systems. In the last three years, the overall system losses was recorded between 22.77% and 19.28%, which are far higher than the 12.5% targeted in the TYDP. The local average electricity tariff of US cents 3/kWh⁷ is considered low and insufficient to cover generation and delivery costs. However, in 2022, EEP exported 882 GWh of electricity to Sudan, 643 GWh to Djibouti and 7.5 GWh to Kenya at between US cents 5.0 and 6.5 per kWh, allowing the company to earn reasonable foreign exchange. Exports to Kenya through the 500 kV HVDC Ethiopia-Kenya Electricity Highway commenced in September 2022 and is expected to improve export earning further while helping Kenya to reduce reliance on fossil fuel-based power generation. A tariff study including wheeling charges is currently underway to setup a new tariff framework and enable EEP and EEU submit revised tariff proposals to the Ethiopian Energy and Petroleum Authority (EEPA), the regulator for consideration.

⁵ According to EEP data, 20253 KM is what they call “Circuit length in which case for double circuit line, they multiply length by 2, while the smaller figure is “route length” which is the line length.

⁶ https://un-energy.org/wp-content/uploads/2022/06/sdg7-report2022-full_report.pdf

⁷ The estimated cost of electricity production US cents. 3.2 per kWh

8. Electricity supply to Eastern Ethiopia is transmitted through a 260 km 132 kV radial transmission line starting from Dire Dawa II substation, running eastwards through Harar, Jijiga and terminating at Deghabur substation. As a result of this very long radial line, the eastern power grid has very poor voltage profiles and experiences frequent outages. This limits the transmission line's power transfer capacity to 70 MW against the 120 MW demand.

C. Rationale for Bank's Involvement

9. The Bank's comparative advantage for this intervention is linked to its long experience in designing, financing, and implementation supervision of infrastructure projects especially power investment operations in distribution and transmission network expansion throughout the region and particularly in **Ethiopia**, including through co-financing with other Development partners. Within **Ethiopia**, the Bank financed the **Second Ethiopia-Djibouti Power System Interconnection Project (SEDPSIP)**, Mekele - Dallol 230kV and Semera - Afdera Power Transmission Project and Addis Ababa Distribution and Transmission Rehabilitation and Upgrading Project (AADTRU) which are similar to this intervention in nature and scope. The Bank also co-financed the Ethiopia-Kenya Electricity Highway to connect Ethiopia to Kenya and the Eastern Africa Power Pool.

10. Ethiopia's Eastern Region is inhabited by both farming and pastoral communities with a combined population of over two and a half million people. The region is endowed with vast and untapped arable land, but frequent drought is a major challenge for farmers and pastoralists alike. Further, the inability of the existing transmission system to deliver reliable and adequate power supply has become a bottleneck for scaling up electricity access to households, impacting the production capacity of industries in the region, and, consequently, curtailing job and revenue generation opportunities. With a weak transmission grid system, the country cannot exploit opportunities of grid interconnections with the neighboring countries, cannot evacuate electricity produced from planned Renewable resources around Dire Dawa, Harar and Jijiga in the future, and will face challenges to accommodate the planned irrigation farming or even sustain Agro/pastoral processing industries in the region. Communities in the Horn of Africa, which include the entire Eastern Ethiopia, continue to face the threat of starvation following five (5) consecutive failed rainy seasons (October 2020 to December 2022), decimating their livestock, and leaving the land bare, a climatic event not seen in at least 40 years⁸. The situation is untenable, particularly in the context of the world food shortage arising from the on-going conflict between Russia and Ukraine⁹. Cognizance of the huge challenges, the GoE, including the Regional Government in Jijiga, is fully committed to reinforcing the power infrastructure in the region, conducting studies and developing implementation plans for a massive irrigation program for the eastern Ethiopia region. The proposed investment will contribute towards restoring Ethiopia to its pre-COVID status by tapping into its potential for industrial growth, reducing insecurity, providing job opportunities, which are drivers for anchoring the regions resilience, and most importantly, support the Government in responding to the increasing cycles of drought in Eastern Ethiopia through supplying adequate and reliable power for the planned irrigation farming and Agro/pastoral processing industries in the region.

11. Furthermore, for this project, the Bank has supported EEP to undertake critical project preparation activities by mobilizing resources to update the feasibility study, undertake design, and prepare tender documents. EEP has also used their own resources to engage a consultant to prepare the Environmental and Social Impact Assessment (ESIA) and Resettlement Action Plan (RAP).

12. By reinforcing the transmission system capacity of the Eastern Ethiopia Electricity Grid to enhance access to clean reliable electricity supply, the project will contribute towards the Bank's

⁸ Horn of Africa Drought Humanitarian Overview & Call for Action, published by UN Office for the Coordination of Humanitarian Affairs on 4th July 2022

⁹ The Language agreed in the Communique of the 2022 Annual Meetings of the Bank Group held in Accra, Ghana, was "Russia's invasion of Ukraine." Algeria, China, Egypt, Eswatini, Namibia, Nigeria and South Africa entered a reservation and proposed "Russia-Ukraine Conflict."

prioritized investments of promoting universal access to energy services and ensuring a viable energy transition through grid connected low carbon energy transmission and distribution systems, under the Climate Change and Green Growth Action Plan (2021-2025). As the Government plans to embark on large scale development of irrigation schemes in Fafem, the project will enable the replacement of diesel pumps currently in use, with clean electricity, thereby reducing greenhouse gas emissions associated with the burning of fossil fuels.

D. Development Partners Coordination

13. The Ministry of Water and Energy is responsible for coordinating development partner activities within the energy sector. The Bank collaborates with other development partners through the Energy Sector Working Group (ESWG) comprised of multilateral and bilateral funding institutions (AfDB, the WB, European Union-EU, AFD, DFID and KFW, among others). The ESWG meets regularly to discuss challenges affecting the energy sector and provide expert opinion on possible solutions that the Government could consider. The Bank is also a key financier for the East Africa power systems integration and collaborates with other Development Partners in promoting the establishment of the East Africa Electricity Market. In addition, the Bank is a key founder of the *Horn of Africa Regional Initiative* whose goal is to help the Horn of Africa Countries to address the drivers of fragility and conflict and facilitate regional economic integration and trade. During the preparation and appraisal missions, the project team discussed the project with the World Bank, JICA, AFD, BADEA and the Africa Union. The design and timing of implementation of this project are aligned to the other multi-donor funded Regional and National Transmission Network Expansion activities such as the second Ethiopia - Djibouti interconnector, the Ethiopia - Kenya Electricity Highway interconnector and the implementation of the National Control and Coordination Centre, and the Ethiopia – Somalia transmission project currently at feasibility study stage. The project will benefit from the Korea Eximbank co-financing resources and has been positively received by the ESWG. The project appraisal is a joint effort of the Bank and experts from Korea Eximbank and officials from the Korean Embassy in Ethiopia – both teams conducted a joint appraisal mission.

2 PROJECT DESCRIPTION

A. Project Development Objective

14. The Project Development Objective is *to increase access to clean and reliable electricity supply by reinforcing the transmission system capacity of the Eastern Ethiopia Electricity Grid*. The reinforced eastern grid will address voltage drop and power losses in the region and allow more industries and households to be connected to grid electricity, facilitate the full-scale operation of factories connected to the grid and eliminate the use of diesel generators that currently provide base power to the region, and, more importantly, support the launch of the Government’s program for irrigated agriculture in the region. Consequently, the project is key to addressing fragility by enhancing the socioeconomic viability of the Eastern Ethiopia region and ultimately, the Federal Republic of Somalia through its eventual interconnection.

B. Theory of Change

15. Ethiopia’s liberalized economic policy and rural resettlement program have fostered a rise of new and widely dispersed centers of socioeconomic development throughout the country and particularly in the rural areas. These rural development programs are hampered by major challenges relating to infrastructure deficits. Climate change has also resulted in more severe and frequent cycles of droughts leaving millions of citizens without livelihoods and reliant on food aid. Eastern parts of Ethiopia, with a population of over two and a half million people and endowed with hundreds of thousands of hectares of arable land, is one of the regions most affected by the twin challenges of infrastructure deficit and food insecurity. To address these challenges, the government plans to unlock the economic potential and remove investment bottlenecks in the region by mobilizing approximately

USD 119.89 million from its own resources, the Bank, and the Korea Eximbank for the construction of a 157km 400 kV transmission backbone from Hurso to Jijiga including the construction of associated substations. This investment is expected to improve the quality, reliability, and transfer capacity of the Eastern Transmission Grid system. Resources will also go into technical assistance for capacity building to improve the planning and operational performance of the EEP. The beneficiaries of the additional power will include: (i) the local communities who will benefit from a government irrigation program targeting a total of 462,174 ha of irrigated land across Shebeley, Haroorays, Tuli- Guled, Awbare and Banbas in the region, (ii) investors in agro-pastoral processing and related industries and thereby increasing job opportunities for the local people, and (iii) local households who stand to benefit from the Government's re-activated universal electricity access campaign. In the process, the project will contribute to the elimination of the use of diesel generators in the region, thus abating 8,096,868 tCO_{2e} per year of greenhouse gas emissions. The reinforced transmission grid will also eventually facilitate power export to the Federal Republic of Somalia in the future.

16. Expected development impacts include enhanced food security and socio cohesion, increased job opportunities for the local people, and reduced fragility. The success of the project is premised on the assumptions that the Government can mobilize adequate resources for downstream activities such as the irrigation program, agro-pastoral economic activities, adequate power generation capacity, and distribution network extension to water pumping stations. Success will also depend on addressing the challenge of affordability of electricity services faced by rural consumers, and most critically, maintaining peace and security in the region. One of the most critical policy measures for financial sustainability of the sector is the on-going tariff revision study. It is expected that the study will be completed and approved by both the managements of EEP and EEU during the last quarter of this year for submission to the regulatory authority's review and approval.

C. Project Components

17. The Project area starts from the existing Hurso 230 kV substation that shall be upgraded to 400 kV in the future and extends in the Eastern direction to Jijiga via major towns of Harar and Fafem. The total length of the 400 kV transmission line is around 157 km. Three (3) new substations will be constructed under this project, and four (4) existing substations will be reconfigured and upgraded. The transmission line from Hurso to Jijiga via Harar will be designed and constructed at 400 kV level but will initially be operated at 230 kV until the 400 kV transmission line from Debre Zeit to Hurso substation is constructed. The construction of the line is in the study phase by the World Bank¹⁰.

18. Component 1: Construction of Transmission Lines, Substations, and Studies (UA 80.11 million)

- **Sub-Component 1.1: 230 kV Substations.** This sub-component comprises the construction of two (2) new substations (Harar IV 230/132/33/15 kV, Jijiga II 230/132/33/15 kV) and extension of existing 230 kV Hurso substation. In the future, Harar IV and Jijiga II substations will be upgraded to 400 kV level: consequently, adequate space has been considered in the design of these two substations. These will increase the ability to connect more loads in the towns of Harar, Fafem and Jijiga.
- **Sub-component 1.2: 132 kV and 66 kV Substations.** This sub-component comprises the construction of new Fafem 132/33 kV substation, and the reconfiguring and upgrading of the capacity of three existing substations (132/33/15 kV at Jijiga, 132/66/33/15 kV at Harar III and 66/15 kV at Harar II substations).
- **Sub-component 1.3: 400 kV, 132 kV (Loop-In – Loop-Out) LILOs¹¹ and 66 kV Double Circuit Transmission lines:** This sub-component comprises the construction of 157 km of 400 kV Double Circuit Transmission line from Hurso substation to Jijiga II substation through Harar IV substation busbars, 4.617 km of 132 kV Line-In-Line-Out (LILo) to Harar III, Fiq, Fafem, Jijiga 132 kV

¹⁰ Feasibility study, financed by the World Bank, for extending the 400 kV line to the Federal Republic of Somalia is on-going.

¹¹ Line-In-Line-Out

substations and 2.7 km 66 kV Double Circuit to Harar II substation. There are plans to extend the 400 kV from Jijiga II substation to the Federal Republic of Somalia once the 400 kV interconnection feasibility study is completed.

19. Sub-Component 1.4: Consultancy Services for System Studies: A consultant will be hired to work with EEP staff to undertake a detailed Power System Study for the Ethiopia Power System, identify transmission and distribution equipment and improvement of design requirements, identify training needs for dispatch center, and possible Network expansion to assess its capacity to evacuate power efficiently to other neighboring countries. **Component 2: Project Management and Administration, Capacity Building, and Audits (UA 4.42million)**

- **Sub-Component 2.1: Project Management and Administration** for project supervision and management including review of design, specifications, and assistance to the Executing Agency during the entire procurement process including EPC contract negotiation and due diligence before contract award.

- **Sub-Component 2.2: Technical Assistance for capacity building** for improving the energy sector operational performance in the following key areas: planning capability; project management; corporate services and governance; Gender mainstreaming, Environment, Health, and Safety (EHS) impact assessment and management; corporate strategy planning, monitoring, and evaluation; and improving operational excellence.

- **Subcomponent 2.3:** Project Audits services (including financial and environmental audits).

- **Sub-Component 2.4:** Project Implementation Unit (PIU) operating costs.

20. Component 3: Implementation of Environment and Social Management Plan (ESMP), Resettlement Action Plan (RAP), Gender Action Plan (GAP) (UA 7.69 million)

- **Sub-Component 3.1:** Implementation of ESMP and RAP.

- **Sub-Component 3.2:** Implementation of GAP.

D. Project Cost and Financing Arrangements

21. The overall project cost, net of taxes and duties, is estimated at USD 119.89 million equivalent to UA 92.22 million, comprising foreign exchange costs of USD 84.38 million (UA 64.90 million) and local costs of USD 35.52 million (UA 27.32 million). The African Development Fund financing through an ADF-16 grant of UA 40 million, 43.4% of the total financing requirement, as Ethiopia is in the AfDB's category of grants only countries. The project also benefits from a joint co-financing arrangement with Korean Eximbank under the Korean - African Energy Investment Framework (KAEIF) through the Korea Economic Development Cooperation Fund (EDCF). EDCF will provide a loan of USD 52.0 million, 43.4% of the total financing requirement, that will be administered by AfDB. The remaining 13.3% (i.e., USD 15.89 million) of the project cost will be covered by the Government of Ethiopia.

22. AfDB Fund financing will cover 49.5% of the foreign cost and 28.8% of local costs, the EDCF loan (administered by AfDB) will cover 50.5% of the foreign cost and 26.4% of local costs of the total project costs excluding local taxes in Ethiopia, and the Government counterpart fund will cover the 44.7% of local costs of the project mainly covering the costs of implementation of ESMP, RAP, and GAP and partly the local costs of Works category of expenditures.

23. The project costs are driven by the 400 kV double circuit Hurso-Harar-Jijiga transmission line, which will be strung with one circuit under the project¹². Both the transmission lines and the associated 230 kV substations will in future be upgraded to 400 kV level, and the second circuit will be strung. Both the transmission lines and substations costs have been informed by cost data from recently opened

¹² The independent consultant has confirmed that the towers are adequately designed to handle one-sided loading, i.e., one circuit strung on the double circuit tower.

tenders for similar projects in the region and the country.

Table 1: Estimated Cost of the Project by Component

| COMPONENTS | | USD million | | | UA million | | | % of Total Cost |
|---|---|--------------|--------------|---------------|--------------|--------------|--------------|-----------------|
| | | FC | LC | Total | FC | LC | Total | |
| Component 1: Construction of Transmission lines, Substations and Studies | | | | | | | | |
| 1.1 | 230 kV Substations | 26.55 | 10.32 | 36.87 | 20.42 | 7.94 | 28.36 | 30.76 |
| 1.2 | 132 kV and 66 kV Substations | 11.42 | 4.44 | 15.87 | 8.79 | 3.42 | 12.21 | 13.23 |
| 1.3 | 400 kV, 132 kV LILOs and 66 kV Transmission Lines | 33.73 | 7.40 | 41.14 | 25.95 | 5.70 | 31.64 | 34.31 |
| 1.4 | Consultancy Services for System Studies | 2.58 | 0.17 | 2.75 | 1.99 | 0.13 | 2.12 | 2.30 |
| Component 2: Project Supervision, Capacity Building and Audits | | | | | | | | |
| 2.1 | Project Management and Administration | 3.50 | 0.50 | 4.00 | 2.69 | 0.38 | 3.08 | 3.34 |
| 2.2 | Technical Assistance for Capacity Building | 0.85 | 0.10 | 0.95 | 0.66 | 0.08 | 0.73 | 0.79 |
| 2.3 | Financial and Environmental Audits Services | 0.00 | 0.50 | 0.50 | 0.00 | 0.38 | 0.38 | 0.42 |
| 2.4 | PIU Operating Costs | 0.00 | 0.30 | 0.30 | 0.00 | 0.23 | 0.23 | 0.25 |
| Sub-total base costs | | 78.64 | 23.74 | 102.38 | 60.49 | 18.26 | 78.75 | 85.00 |
| Physical Contingency (3.3%) of component-1 ¹³ | | 2.70 | 0.59 | 3.29 | 2.08 | 0.46 | 2.53 | 2.74 |
| Price Contingency (4.7%) of component-1 | | 3.04 | 1.18 | 4.22 | 2.34 | 0.91 | 3.25 | 3.52 |
| Component 3: Implementation of ESMP, RAP, and GAP | | | | | | | | |
| 3.1 | Environment and Social Management Plan (ESMP) and RAP | 0.00 | 9.70 | 9.70 | 0.00 | 7.46 | 7.46 | 8.09 |
| 3.2 | Gender Action Plan (GAP) | 0.00 | 0.30 | 0.30 | 0.00 | 0.23 | 0.23 | 0.25 |
| TOTAL | | 84.38 | 35.52 | 119.89 | 64.90 | 27.32 | 92.22 | 100.00 |

Table 2: Project sources of financing

| Sources of financing | USD million | | | UA million | | | % of Total Project Cost |
|------------------------|--------------|--------------|---------------|--------------|--------------|--------------|-------------------------|
| | FC | LC | Total | FC | LC | Total | |
| ADF Grant | 41.76 | 10.24 | 52.00 | 32.12 | 7.88 | 40.00 | 43.40 |
| EDCF Loan | 42.62 | 9.38 | 52.00 | 32.78 | 7.22 | 40.00 | 43.40 |
| Government of Ethiopia | 0.00 | 15.89 | 15.89 | 0.00 | 12.22 | 12.22 | 13.30 |
| Total Costs | 84.38 | 35.52 | 119.89 | 64.90 | 27.32 | 92.22 | 100.00 |

Table 3: Project cost by category of expenditures

| Category | USD Million | | | UA Million | | | % of Base Total Cost | % of Total Project cost |
|----------------------------|--------------|--------------|---------------|--------------|--------------|--------------|----------------------|-------------------------|
| | F.C. | L.C. | Total | F.C. | L.C. | Total | | |
| Works | 71.70 | 22.17 | 93.88 | 55.16 | 17.06 | 72.21 | 91.70 | 78.30 |
| Services | 6.93 | 1.27 | 8.20 | 5.33 | 0.98 | 6.31 | 8.01 | 6.84 |
| PIU operating cost | 0.00 | 0.30 | 0.30 | 0.00 | 0.23 | 0.23 | 0.29 | 0.25 |
| Total Base Costs | 78.64 | 23.74 | 102.38 | 60.49 | 18.26 | 78.75 | 100.00 | 85.00 |
| Physical contingencies | 2.70 | 0.59 | 3.29 | 2.08 | 0.46 | 2.53 | 3.21 | 2.74 |
| Price contingencies | 3.04 | 1.18 | 4.22 | 2.34 | 0.91 | 3.25 | 4.12 | 3.52 |
| Miscellaneous | 0.00 | 10.00 | 10.00 | 0.00 | 7.69 | 7.69 | 9.77 | 8.34 |
| Total Project Costs | 84.38 | 35.52 | 119.89 | 64.90 | 27.32 | 92.22 | | 100.00 |

Table 4: Project Expenditure Schedule – for AfDB and EDCF

| COMPONENT | Korea EDCF (USD Million) | | | | | | ADF (UA Million) | | | | | |
|-------------------------------------|--------------------------|-------|------|------|------|-------|------------------|-------|------|------|------|-------|
| | 2024 | 2025 | 2026 | 2027 | 2028 | Total | 2024 | 2025 | 2026 | 2027 | 2028 | Total |
| Component 1: Construction of | 12.49 | 17.40 | 7.85 | 7.71 | 5.05 | 50.50 | 9.18 | 12.86 | 5.51 | 5.51 | 3.67 | 36.73 |

¹³ The contingencies exclude component 1.4

| COMPONENT | Korea EDCF (USD Million) | | | | | | ADF (UA Million) | | | | | |
|--|--------------------------|--------------|-------------|-------------|-------------|--------------|------------------|--------------|-------------|-------------|-------------|--------------|
| | 2024 | 2025 | 2026 | 2027 | 2028 | Total | 2024 | 2025 | 2026 | 2027 | 2028 | Total |
| Transmission lines, Substations and Studies | | | | | | | | | | | | |
| Component 2: Project Supervision, Capacity Building and Audits | 0.30 | 0.37 | 0.37 | 0.30 | 0.15 | 1.50 | 0.65 | 0.82 | 0.82 | 0.65 | 0.33 | 3.27 |
| Component 3: Implementation of ESMP, RAP, and GAP | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Total Project Cost | 12.79 | 17.77 | 8.23 | 8.01 | 5.20 | 52.00 | 9.84 | 13.67 | 6.33 | 6.16 | 4.00 | 40.00 |

E. Project's Target Area, Population Beneficiaries, and other Stakeholders

24. The proposed project is in the eastern part of Ethiopia and traverses' parts of Somali, Harari and Oromia Regional States inhabited by small scale farming communities and pastoralists and will impact a population of 2.5 million people (46% of whom are women) living along the project trace. The bulk of the project lies in the Somali Regional State in Ethiopia which borders the Afar Regional State, Oromia Regional State and Dire Dawa City to the west, as well as Djibouti to the north, the Federal Republic of Somalia to the east and south, and Kenya to the southwest.

25. The main beneficiaries will be the local communities of Harari and Somali Regional States of Ethiopia who will benefit from improved electricity access that currently stands at below 20% due to capacity constraints on the transmission grid. In addition, the community will benefit from the proposed government electricity enabled irrigation scheme of about 462,174 hectares in Shebeley, Haroorays, Tuli-Guled, Awbare and Banbas that will address food security challenges in the area with possible surpluses for export to other parts of the country as well as adequate pastures for livestock. Other beneficiaries are the business operators and industrialists representing roughly 8% of consumption of electricity (lowest compared to other regions) who will enjoy improved quantity and quality of power supply. The project will also benefit 200 students (40% girls) who will each receive a 6-months internship to the project during the construction stage. In addition, the project will sponsor 30 students (50% girls) to pursue diploma and artisan courses in the energy sector.

F. Bank Group Experience and Lessons Reflected in Design

26. In the design of the project, the Bank has drawn lessons learnt from recently completed and ongoing projects in the country and in the region, financed by the Bank as well as by other Development Partners. Some of the key lessons include: (a) project start-up and implementation delays due to challenging procurement processes, poor performance by contractors, frequent change-orders due to poor designs, and frequent change of PIU staff; (b) delay in first disbursement caused by inadequate knowledge of Bank standard documents and payment processes; (c) delays in processing of transmission lines right-of-way and site acquisitions; (d) inaccurate monitoring and evaluation information; (e) lack of awareness of the Bank's support for infrastructure development efforts by the local communities; (f) unnecessary delay in project closing activities, including inadequate information for preparation of Project Completion Reports; and (g) bidders' complaints about inadequate clarity of the detailed technical specification and inconsistency in the application of the r evaluation and qualification criteria set in the project bidding documents.

27. The above challenges are addressed in the design of the Projects by: (i) expediting start-up and project delivery, advance contracting for project management and supervision services, and a fully-established PIU before the project is presented to Board, a training program for the PIU in the key project implementation and management aspects that extend beyond the project launch to cover the entire project duration planned to enhance familiarity with Bank's project processing and implementation documents; (ii) continuous dialogue with the Executing Agency to ensure expeditious release of

counterpart funding for timely implementation of ESMP and RAP along with acquisition project Right-of-Way (RoW); (iii) the project management and supervision consultant revising and updating the design based on best engineering practices to avoid frequent change-orders as well as developing clear technical specifications and stringent qualification and evaluation criteria for each bid document and use a qualified evaluation team to minimize bidder’s complaints and selection of poor contractor(s); and joint participation in the entire bid evaluation process including conducting due diligence of the bidders prior to award of contract and during the entire contract duration; (iv) ensuring value for money and quality of bids, the main project investment components structured around their core functions in the electricity grid system and tendered as separate lots, i.e., Transmission Lines, and Substations; (v) ensuring that the project costing and choice of technology used has been informed by data and information obtained from current research knowledge and recently opened tenders of similar projects in the region and within the Bank; (vi) the Bank engaging with the EDCF regularly to ensure an efficient funds-flow to avoid delays in both start-up and settlement of project invoices.

3 PROJECT FEASIBILITY

A. Financial and Economic Analysis

28. A financial analysis has used the current average bulk tariff charge of USD 0.045/kWh for estimating project revenues. The analysis has also considered Optical Ground Wire (OPGW) lease rate of 35 USD/fiber/km/year to be contracted to telecom companies. Energy demand is expected to grow from 465 GWh in 2024 to 5,815 GWh in 2041 over the project operating period. The Financial Net Present Value (FNPV) shows a positive of 695 million USD at 9% discount rate, and a Financial Internal Rate of Return (FIRR) of 27.1%, which is above the minimum financial decision criteria.

29. To estimate the economic impact of the project, the economic benefits of electricity transmission are computed using an economic value of 31 US cents/kWh. The Economic Net Present Value (ENPV) resulted in a positive 4,210 million USD at 12% discount rate, and Economic Internal Rate of Return (EIRR) of 56.0% which is also above the minimum economic decision criteria.

Table 5: Key economic and financial figures (for cost benefit analysis)

| | | | |
|------------------|----------|---------------|-------------------|
| FIRR (base case) | (%) 27.1 | FNPV, (9% DR) | USD 695 million |
| EIRR (base case) | (%) 56.0 | ENPV (12% DR) | USD 4,210 million |

30. The financial and economic outcomes of the project have been tested against the possible risk parameters during the construction and operation phases. The identified key risks include investment cost overrun, construction delays, possible decrease in energy sales and reduction in revenue due to inadequate tariff to cover the incremental costs of the project. The results of the sensitivity analysis reveal (Table 18, Technical Annexes) that the metrics of the project are more sensitive to a decrease in tariff and construction delays than to a variation in investment or operating cost.

Additional Positive Effects

31. Improved adequacy and reliability of power supply because of the project will result in additional non-financial benefits: (i) longer lighting hours in households means school-going children will have adequate time to do homework and consequently do better at school as has been demonstrated by the recent IDEV impact assessment of the Bank’s Last Mile Connectivity Project in Kenya¹⁴; (ii) reduced health risks: besides being a fire hazard, kerosene lamps emit toxic fumes including carbon monoxide and other fine particulates cause eye strains and chest infections that could lead to asthma and cancer; (iii) enhanced social cohesion and wellbeing as families will have longer hours of broadcast news, information and entertainment at home through Televisions, radios and mobile phones; (iv) temporary workers in the project will attain skills that could help them start artisanal business such as metal fabrications, painting, welding, etc. that will be an important input to the irrigation project when the project is completed; (v) increased operation of existing factory and new agro-based industries and

¹⁴ IDEV Report: Impact Evaluation of the AfDB-supported Kenya Last Mile Connectivity Project, Phase I, March 2022.

businesses mean enhanced wealth creation from trading within the region and beyond the national borders; (vi) lots of job opportunities for the community with corresponding improvement in their individual social status and quality of life; (vii) reliable electricity services will ensure sustainability of Government interventions in other social sectors such as provision of quality health services in rural health facilities, markets, street lighting, etc.; and (viii) the additional concessional co-financing resources will help the Government to achieve the project objective at the lowest financing cost and, therefore, help maintain retail tariffs at affordable levels for the beneficiary communities. Refer to Section 3 (B) paragraph 36 below for additional Environmental and Social positive impacts.

B. Environmental and Social Safeguards

Environmental

32. **Environmental and Social Categorization:** In-country environmental assessment, legal and institutional framework, and the Bank's Integrated Safeguards Systems Operational Safeguards (ISS, OS) are key to determining project categorization based on the level of Environmental and Social risks and impacts. The Eastern Ethiopia Electricity Grid Reinforcement project was proposed and validated as [Category 1] on the 11th of April 2023.

33. **Applicable Safeguards Instruments:** The Borrower/Recipient prepared location/site specific Environmental and Social Impacts Assessments (ESIAs) with their embedded Environmental and Social Management Plan (ESMP) and a Resettlement Action Plan (RAP) for the Project which were reviewed, cleared, and disclosed by the Client on 04 April 2023, and by the Bank on 29 April 2023. This disclosure compliance ensures the 120 days before the Board date and follows the In-country and Bank information sharing and disclosure policies.

34. **Institutional Capacity to prepare and implement the safeguards Instruments:** The project Executing Agency, Ethiopia Electric Power (EEP), has a full-fledged Environmental and Social Safeguards Department with the relevant officers having expertise in project level Environmental and Social safeguards implementation and mainstreaming. These capacities are replicated at the regional levels. EEP has been implementing the Bank-financed Energy Transmission Lines and Substation projects in Ethiopia. Their existing Environmental & Social safeguards /Occupational Health and Safety (E&S/OHS) units and the overall project implementation Unit of EEP will be responsible for implementation of the project.

35. **Stakeholder Consultation:** The Bank assessed and evaluated stakeholder engagement processes and confirmed that comprehensive consultations were undertaken at various levels. This is evidenced by the inclusion of a standalone Stakeholder's Engagement Plan (SEP) which details consultation processes throughout the project lifecycle at the national, regional, and community/local levels, including the involvement of the affected populations.

36. **Negative and Positive Environmental and Social Impacts:** The Project's major adverse impacts include physical and economic displacement in the land acquisition of a total estimated 1,213.43 ha of land for transmission lines to provide the Right of Way (ROW), substations and tower foundations, impact on 1,106 project affected households (Project Affected Households - PAH), impact on vegetation (71,860 various fruit trees and 15,832 eucalyptus trees), impacts on about 313 housing and structures, impacts on farm lands, impact on about 10 burial sites, impact on Vulnerable and Underserved Groups (201 people), impact on public and occupational health and safety, impact of noise pollution, air quality, soil erosion; impact on wildlife and their habitats, health implications arising from Electro Magnetic Fields (EMF), Risks of Electrocutation and Accidents during Maintenance, Risk of Electrocutation due to Collisions by Birds and waste Generation and disposal. **The major positive impacts include** advancement in Ethio - Somalia relations, cooperation and ties which may reduce the likelihood of conflict; increased economic activity and improved Ethiopia's Revenue, Employment Opportunities, and Reduced Green House Gas Emissions.

37. **Involuntary Resettlement:** The projects components, sub-components, and activities that will

lead to outcomes present both physical and economic displacement. The Resettlement Action Plan has been prepared. The Government of Ethiopia assured that the resources for RAP implementation will be provided 100% by the Government of Ethiopia through the EEP.

38. **Compliance:** Executing Agency's capacity, reporting requirements and overall compliance. The project will be implemented in compliance with the Bank's ESS policy and In-country legislations/policies. The Ethiopia Electric Power (EEP) will be the Executing Agency. The PIUs will be located at EEP at the national headquarters and at regional levels for smooth implementation of the project. The E&S measures implementation reporting will be done on a monthly, while an annual E&S performance audit carried out by an independent external expert will be submit from end of year 1 on annual basis. These compliance aspects of the project will be captured in the ESS conditions of the ADF Protocol of Agreement and EDCF Loan Agreement.

Climate Change and Green Growth

39. The project has been screened for climate risks using the Bank's Climate Safeguards System (CSS) and classified as **Category 2**, meaning it is moderately vulnerable to the impacts of climate change. Key climate risks include high temperatures, drought, reduced and erratic rainfall as well as seasonal flooding. High temperatures pose the risk of line sagging which increases transmission losses and operational costs, while droughts and reduced rainfall patterns result in accelerated levels of evapotranspiration across water bodies which are the main source of electricity production in Ethiopia. In the event of heavy rainfall and seasonal flooding, physical damage to infrastructure, faults and interrupted power supply could occur. Measures to reduce these risks have been incorporated into the project design such as siting tower installations away from steep slopes, use of alternative routes for sections that are vulnerable to climate risks such as flooding, erosion, surface run off and landslides, deepening foundations of transmission towers in the areas prone to flash floods and use of heat resistant cables.

40. The project will supply grid electricity to the Somali Region where the government has plans to enhance and expand irrigated farming from the current 1,038 ha to over 462,174 ha according to the Somali Region State Irrigation Bureau. Currently, the average daily consumption of diesel for water abstraction (domestic, industrial, farming) in the project area is 16,488 liters, resulting in greenhouse gas emissions of 4,814,496 tCO₂e per year. Once the project is implemented, it is expected that electric pumps will replace the diesel pumps currently in use and so avoid greenhouse gas emissions. With the projected significant increase in hectareage of irrigated farming, use of electric pumps powered by the grid will replace diesel pumps which would have consumed 27,730 liters of diesel fuel per day to supply the projected water demand needed for farming alone, with each pump serving an average of 50ha in water supply. This displacement of diesel pumps in farmlands is expected to avoid emissions of 8,097,160 tCO₂e per year. Use of electric pumps to abstract ground water for irrigation is also expected to enhance the resilience and adaptive capacity of farmers, who depend on rainfed agriculture, through access to water during periods of drought or insufficient rainfall.

41. The construction of high voltage transmission lines is also expected to reduce emissions associated with system losses and evacuation of clean energy from Ethiopia to the Federal Republic of Somalia and will contribute to emission reduction as clean power will replace diesel-powered mini grids which are currently being used for power supply in Somalia. The project is well aligned to Ethiopia's Climate Resilient and Green Economy Strategy (CRGE) for Energy and Water, and Ethiopia's Updated Nationally Determined Contributions (NDCs), both of which seek to enhance economic growth through energy efficiency and acceleration of irrigation plans. The project has also been assessed using the Joint MDB Paris Alignment direct finance methodologies for mitigation and adaptation and is considered aligned because the main activities of enhancing adequate and reliable renewable grid electricity supply is not inconsistent with the goals of the Paris Agreement which aim to limit global warming to 2°C, increase the ability of countries to deal with the impacts of climate change, and make finance flows consistent. A brief Paris Alignment Note for the project is attached in the Climate Change Technical Annexes.

C. Other Cross-cutting Priorities

Poverty reduction, Inclusiveness and Job Creation

42. Due to power constraints, several companies engaging in agro-processing value addition businesses operate below capacity, impacting their agricultural input uptake, throughput, and the number of jobs created upstream. With power, the regions manufacturing productivity will increase, several health centers, schools, and government administrative centers will become operational to support the mostly nomadic lives of the people in the region, and availability of electricity will support Government irrigation program and bring more than 462,174 ha under irrigation at a rate of 12% per year.

Opportunities for Building Resilience

43. Ethiopia is making steady progress in the implementation of the ‘Permanent Cessation of Hostilities Agreement that was signed on 2nd November 2022 between the Government of Ethiopia (GoE) and the Tigray People’s Liberation Forces (TPLF). Key highlights are the withdrawal of Eritrean forces from Ethiopia, the delisting of Tigray from Ethiopia’s terrorist list and the appointment of the President of the Interim Regional Government of Tigray. Both parties have been cooperating with the African Union (AU) Monitoring, Verification and Compliance team. The GoE has proposed draft Policy Options for Transitional Justice which the International Commission of Human Rights Experts on Ethiopia have lauded as a positive first step. In addition, the delivery of humanitarian relief has improved.

44. As such, there is consensus amongst development partners that, the country is on a recovery path and most development partners are beginning to re-engage despite security threats in the Oromia region. On other fronts, the conflict in Sudan has prompted an upsurge in refugee incursions into Ethiopia. Furthermore, flooding in the Somali region which has led to additional internal displacements, destroyed agricultural produce, and cost lives, has placed additional strain on the government, which, following the peace agreement, has refocused its attention on promoting structural transformation, as outlined in the TYDP.

45. In addition, these emerging challenges and improved access to previously inaccessible regions of the country like Mekelle in the Tigray Region and some parts of Afar, Amhara and the Oromia Regions, have prompted development partners to request a further review of the Ministry of Finance-led draft Ethiopia Resilient Recovery and Reconstruction Planning Frameworks, which, amongst others, underscore the importance of effective service delivery and the opening up of business opportunities for women and youth in the peripheral kebeles and regions bordering neighboring states like the Somali region. During the consultations, some stakeholders touted the prospects of scaling up power distribution in the Dire Dawa, Harar and Jijiga corridor, strengthening irrigation in drought-prone Somali region and facilitating regional integration with improved power to bolster cross-border economic activity with Djibouti, Somalia, and Kenya. However, for this to be optimal, the GoE needs to step-up its commitment to ensure downstream supply of increased power to communities at affordable costs, which, if well-purposed, is critical for strengthening the community resilience through job creation and the stimulation of business opportunities for youth and women. Given the volatility of the region a detailed fragility analysis (Technical Annexes 3-2) recommends the imperative of the project in-building the DO NO HARM safeguards; and for the following three dimensions of the Country Resilience and Fragility Assessment (CRFA) to be given particular attention during the implementation of this project: (i) security, (ii) economic and social inclusiveness, and (iii) climate/environmental impacts.

Gender Equality and Women’s Empowerment Promotion

46. **Gender assessment of Ethiopia’s energy sector:** Gender disparities in the energy sector have been observed around the world. This is intense in Ethiopia’s energy sector. Women are less represented in policymaking, corporate leadership, and governance, as entrepreneurs and venture capitalists, and in the labor workforce. In relation to employment, the energy sector is the least gender diverse. Gender inequality in Ethiopia is driven by social and cultural norms which have denied women opportunities to education (only 5.3% of women are enrolled in higher education compared to 10.9% of men) and decision-making positions and lack of access to productive resources holding women in subordinate and poor positions, thus limiting their ability to connect and use power. Available statistics for 2018 indicate that the rate of poverty among women was 12.9%, as compared to 10.6% for men. Assessment of EEP gender balance indicated that only 16% of EEP staff are women. Out of the 10 executives, only one is a woman. Out of 52 Directors, only 4 are women, i.e., 7.8%. Out of 185 managers, only 33 are women. Out of 45 regional managers, only 5 are women. Out of 46 plant managers, only one is a woman. Out of 130 substation managers, only 10 are women and out of 42 project managers, only 3 are women. For EEU only 20% of the employees are women. Both institutions are cognizant of their gender parity imbalance. Gender directorate has been introduced in EEP to direct and guide gender mainstreaming.

47. **Gender Categorization:** The project is **category 2** on the Bank’s gender marker system. This is because one of its outcomes aims at increasing economic opportunities for men and women in the beneficiary regions. The project will enhance creation of temporary and permanent jobs as both skilled and unskilled of which at least 30% will be reserved for women. The target set for women participation is low based on the socio-cultural norms which have limited women’s skills’ development and general participation in formal employment. Grid reinforcement will enable increased access to stable and reliable supply of electricity to Harar, Jijiga, and surrounding towns and villages. This will enhance customer connectivity and support the Government’s program of promoting power supply for production including Agro-processing, replacing diesel generators, and supplying power to new irrigation schemes. Such will result in sustainable development and poverty reduction efforts - an enabler for gender equality. The project will enhance human development in social and economic aspects, e.g., enabling extra study time for boys and girls, communication, easing household chores especially for women, enabling health services such as antenatal and obstetric care, enabling a range of SMEs development including different agricultural value chains. This will result in improved livelihoods for both men and women, girls and boys, thereby positively impacting on gender equality. Under the project’s output “**Technical Assistance for Capacity Building**” the project will support EEP and the PIU Staff with training on gender mainstreaming (50% women), internships and attachments for students in the energy sector (40% women), sponsor students to pursue diploma and artisan courses in the energy sector (50% girls), train project area community members on the power safety and use of electricity for livelihood activities by ensuring women participation at not less than 50% of the participants. The project will implement a non-gender discriminatory policy in employment, ensure women recruitment for both skilled and unskilled project activities, guard against payment discrimination based on gender, conduct massive sensitization campaigns to cultural and religious leaders and men and women in the project area communities by encouraging women involvement in the project implementation activities including being active members of the Grievance Redress Mechanism (GRM), support preparation and implementation of Gender Based Violence (GBV) policy for the project and conduct project area community members’ training on the electricity safety and use for livelihood activities. A gender action plan with a budget of USD 300,000 has been prepared to support gender mainstreaming in the project. See Technical Annexes 3-3 for details.

4 IMPLEMENTATION

A. Institutional and Implementation Arrangements

48. The Grant Recipient and the Borrower will be the Ministry of Finance. The Ethiopian Electric

Power (EEP) will be the Executing Agency of the project through a dedicated Project Implementation Unit (PIU) which will manage all aspects of the project implementation assisted by the project management and supervision consultant. The PIU staff shall include the Project Manager, two (2) Electrical Engineers in charge of substations, two (2) Transmission Engineers in charge of transmission lines, a Procurement/Contract Management Expert, Project Accountant, Monitoring & Evaluation Expert, Gender Expert, Environmental Safeguards Specialist, Social Safeguards Specialist, Occupational, Health and Safety Specialist and Resettlement Specialist. The PIU will also include two (2) Site Coordinators, and a sufficient number of site supervisors. In addition, EEP shall assign the following experts to support the PIU on a temporary basis whenever required: a Protection/Control Engineer, and an ICT/Communication Engineer. A Project Supervision and Management Consultant will be employed by EEP, and its office shall be located within proximity of the PIU to create an optimal environment for knowledge and skills transfer. The specific job descriptions of the key PIU staff and their qualification requirements are provided in Technical Annexes 4-4.

49. The support of Ethiopia Electricity Utility (EEU) in ensuring the careful sequencing of works with EEP at the Harar II and Harar III substations, coordinating distribution system outages during the implementation of the 132 kV LILO lines and allocating resources for downstream investments is essential for achieving the objectives of the project. Consequently, EEP and EEU will establish an implementation and coordination framework to ensure seamless integration of the project outputs into the Ethiopian Electricity Grid system. The involvement of EEP project engineering experts, EEU System Operations experts, and the management and supervision consultant will reinforce the project supervision and coordination framework, and in addition, the project management capabilities of EEP.

50. The project will also have a High-Level Project Steering Committee that will include at least senior officials from Ministry of Finance (chairperson), Ministry of Water & Energy, EEP and EEU, and representatives from local/regional Government¹⁵, and shall meet biannually to provide oversight and strategic guidance in accordance with the project financing agreement. PIU shall provide secretarial services and take care of logistics.

B. Procurement

51. Procurement of goods and works and acquisition of consulting services under the project which are financed by the African Development Fund and EDCF will be carried out in accordance with the Procurement Policy for Bank Group funded operations, dated October 2015 and the provisions stipulated in the Financing Agreement. Specifically, procurement under the project will be carried out following: *i) Borrower Procurement System (BPS)*: Specific Procurement Methods and Procedures (PMPs) under BPS comprising the legal instruments having the force of law in the Borrower's country which include the Public Procurement and Property Administration Proclamation (September 2009) using the national Standard Solicitation Documents (SSDs) for various group transactions to be entailed under the Project; and *ii) Bank Procurement Methods and Procedures (BPMs)*: Bank Standard PMPs using the relevant Bank Standard or Model Solicitation Documents (SDs), for procurement of contracts that are acquired on Open Competitive Bidding International (OCBI).

52. Procurement Risks and Capacity Development: The assessment of procurement risks at the Country, Sector and Project levels and of procurement capacity at the Executing Agency level was undertaken for the project and the outputs have informed the decisions on the procurement regimes (BPS and BPM) being used for groups of similar transactions under the project. The assessment of the Executing Agency and its Procurement Management Unit (PMU), responsible for handling and following up procurement activities in EEP showed that each organization has a system in place and trained staff competent to handle large contracts. Also, the PMU has practical experience and exposures in the working procedures of Bilateral and Multilateral Financing Institutions including the Bank. In addition, the assessment revealed increasing trends in the level of participation in public procurement by both private sector local & international contractors, suppliers, and consultants either as sole entities

¹⁵ Local/regional governments shall also represent local communities.

or in form of joint-ventures and sub-contracting.

53. **Advance Procurement:** The Government made a request for the use of Advance contracting to allow for an early start of the procurement process of the project prior to the approval of its financing by the Bank and the joint co-financier (EDCF) with the objective of expediting the implementation of the project once it has been approved by the Bank's Board. The packages concerned are those for the recruitment of the Project Management and Supervision Consultant. The project Procurement Plan has been prepared by the Executing Agency and will be updated and finalized for Bank's approval during Project negotiations. It is noted that the activities pertaining to the preparation of the procurement documents of the project have progressed well, reaching their final stage. Details of the procurement arrangements under the project are summarized in the Procurement Technical Annexes 4-5.

C. Financial Management, Disbursement, and Audit

54. Both Ethiopia's CFRA and PEFA 2019 assessment reported an overall performance improvement between 2015 and 2019. Some areas of public financial management which need improvement have been identified and PFM reforms are either already implemented or are in the process of being implemented. The Bank carried out an assessment of the EEP in accordance with the Bank's Financial Management (FM) Implementation Guidelines-2014 to ensure that the FM arrangements in EEP meet the Bank's minimum requirements and is adequate to provide, with reasonable assurance, accurate and timely information on the status of the project required by the Bank. The assessment was made on the financial arrangements of EEP, which concluded that the overall risk is "Moderate" after mitigation measures are taken and implemented as agreed.

55. EEP will establish a PIU that will include a position of a Project Accountant (Financial Management Specialist) with qualifications and experience acceptable to the Bank before the first disbursement to achieve the financial management objective of the project. Since Ethio-Kenya Electricity Highway project is due to be completed soon, the financial management staff will be transferred to implement this project. The project staff, including the Project Accountant, have relevant knowledge and experience and are currently working on a project funded by the Bank and are acceptable to the Bank's requirements. The Project Accountant will prepare Interim Financials (IFR) which are in line with the Government's and Bank's reporting requirements and submit them to the Bank within 45 days after the end of each quarter. The IFR will use the same format as the project financial statements. The Internal Audit Department will audit the project at least once annually. The internal audit reports will be shared with the Bank during supervision missions, or any time as required by the Bank. The Project will follow the country's financial year of 8 July to 7 July of the following year.

56. **Disbursement:** EEP will utilize the Bank's four disbursement methods explained in the Disbursement Handbook. During the appraisal, it has been agreed that the direct payment method and special account/ revolving fund will be widely used to pay for all eligible project expenditures. Direct payment method will be used for payments to contractors or service providers upon recommendations of their satisfactory performance by the project authorized consultant and officials. Special Account payment method will be used for small or numerous expenses related to operating cost incurred for implementation of agreed project activities. The other methods prescribed in the Disbursement Handbook are also applicable when the need arises after consultation with the Bank and obtaining its prior approval. The Disbursement Handbook is accessible through the Bank's website. The Bank will issue a Disbursement Letter, which will provide specific guidelines on key disbursement procedures and practices. The EEP has experience working with the Bank and is currently implementing several ongoing Bank financed projects.

57. **External Audit:** As per the statutory requirement of the country, the Office of Federal Auditor General (OFAG) or its appointee or an independent firm selected competitively will audit the project's financial statements. If OFAG is to audit the project, the cost of the audit (other than out of pocket costs) will be covered by government resources. The audit will be in accordance with the audit terms of reference approved by the Bank. The annual Audit Report, complete with a Management Letter and

management responses, shall be submitted to the Bank no later than six (6) months after the end of the country's fiscal year.

D. Monitoring and Evaluation

58. The project is scheduled for implementation over a 60-month period, from January 2024 to December 2028. This schedule is reasonable, given the scope of activities to be implemented and the project implementation capacity and experience gained from the implementation of similar power transmission projects. The key project outputs and outcomes, and the corresponding indicators elaborated in the Monitoring Plan (see Technical Annexes 4.1), were developed jointly with the Executing Agency and agreed upon with the Government. EEP will oversee the progress of the entire project implementation and will be responsible for coordinating and reporting on the progress made on all the project **outcomes** apart from the jobs created because of the project, which will be reported directly by the PIU (to be established within EEP) on an annual basis as well. All the project **outputs** will be reported on a quarterly basis by the PIU except for the Technical Study that the PIU will submit progress on an annual basis. The project reports will form the basis for dialogue between the Bank, EDCF and the Government during the biannual supervision and mid-term project review missions to ensure the project remains on track, within budget, and in compliance with the financing agreements.

59. The Bank, jointly with EDCF, will also monitor Project implementation by conducting at least two supervision missions every year. Moreover, a mid-term review will be carried out to assess Project implementation against stated objectives and to draw lessons. In accordance with the Bank's guidelines, a Project Completion Report will be prepared by EEP with the support of the project management and supervision consultant at the end of the Project, to evaluate achievements against outputs and outcomes and draw lessons to inform EEP implementation of future and other on-going operations. Within six months of the completion of the project, or when 85% of the project resources are disbursed, the Bank, together with EDCF will prepare a PCR as per the Bank's template. The lessons learned as captured in the PCR will inform the design of future similar operations in the country and in the region.

E. Governance

60. EEP is a 100% state-owned company and is managed by the Board of Directors consisting of 7 members from various Ministries and Government organizations and its CEO. The Board holds monthly meetings and works closely with the Management Committee of EEP on the overall activities of the company. The internal controls of the company are very effective in monitoring the utilization of its resources. At the project level, the project office will be required to maintain accounting and financial records that will be reviewed by the Bank during project supervision missions and audited in accordance with international accounting standards and submitted to the Bank in line with the financing agreements. Furthermore, the Government has established the Federal Ethics & Anti-Corruption Commission with the objective of fighting corruption at all levels and enhancing transparency and accountability. The commission is being strengthened through technical assistance programs from development partners. The Ethiopian Energy and Petroleum Authority (EEPA) coordinates and supervises the operations of power utilities at the sector level including reviewing and approving tariffs, setting performance targets, issuing permits and licenses, etc. EEPA is also the power regulatory authority.

F. Sustainability

61. Consultations conducted by the Bank and Korea Exim Bank with national and regional government officials, power utilities (EEP and EEU), and the Regulator (EEPA), factory owners and communities in the project area confirmed the prioritization and project commitment at all levels of Government. The project is technically, institutionally, economically, and financially sustainable as described in the following key factors:

62. **The Government of Ethiopia is committed to rapidly meet the expansion and improvement of the transmission network.** The goals of expansion of the national power transmission

network are articulated in major national documents: National Electrification Program 2, Integrated Plan for Universal Access as well as the Ethiopian Power System Expansion Master Plan Study (EPSEMPS). These goals are shared across the political spectrum and fully supported by a broad base of civil society, communities, the private sector actors, and the energy sector institutions.

63. **Capacity of EEP Operation and Maintenance Personnel:** Being a standard power utility asset, EEP has over the years accumulated adequate skills and experience to operate and maintain the project assets and to sustain the project outcomes and benefits. In addition, the design of the transmission lines and substations has considered climate change mitigation measures to reduce operational costs and enhance system availability. The design of transmission line towers has also incorporated measures to mitigate the risk of vandalized towers that would eventually result in tower collapse causing major outage of the line. To mitigate the risk of forced access to the transmission system operations and control platform, the design of the project incorporates a cyber security protocol within the Supervisory Control and Data Acquisition (SCADA) application. Finally, EEP follows international best practices of allocating resources in their recurrent budget for transmission asset maintenance and procurement of modern maintenance tools, materials, and equipment.

64. **Financial Sustainability:** The increased transmission capacity will allow the transfer of more electric power on the transmission lines, reduction of technical losses and, as a result, revenue from sales of electric energy will be increased. This will contribute to improving the financial sustainability of both EEP and EEU. The project also provides a backbone for the regional transmission system that is a potential source for generating power export revenues for EEP and forex for the Government of Ethiopia from the sale of electricity and the lease of spare capacity on the fiber optic cable to telecommunication companies and others. The project will also improve the grid capacity for utilization of alternative renewable sources of power around Dire Dawa, Harar and Jijiga, that have potential for de-risking revenue falls arising from climate impacts such as droughts.

G. Risk Management

65. Apart from the risks discussed in the preceding paragraphs in relation to the environmental and social aspects, climate change, and fiduciary matters, the Project will involve other risks during implementation, which relate mainly to start-up delays arising from delay in procurement process, prolonged construction periods due to poor performing contractor(s), possible design changes, and cost overruns. Transmission lines are also vulnerable to damage due to natural environmental forces, malfunction, and vandalism which will ultimately hinder the grid's power transmission function. Nonetheless, the overall project risk rating is assessed as **'low to moderate'** and appropriate mitigation measures have been proposed as highlighted in the risk matrix presented in Technical Annexes 4-2.

H. Knowledge Building

66. The approach selected for the implementation of the project ensures close contact between the selected international management and supervision consultant, and the project EEP and EEU staff. It is, therefore, expected that extensive knowledge will be accrued involving activities under the pre-construction, construction, and post-construction phases of the Project, and further complemented by a Capacity Building activity incorporated in the project. This knowledge will be documented in the various monthly, quarterly, and annual reports as well as in the Bank supervision aide-memoires, mid-term review report and PCR, where the "lessons learnt" accumulated over the duration of the project implementation will inform future Bank operations in Ethiopia and other RMCs. It is important to note that the project has made provision for students' internships, attachments and thereby providing opportunities for the selected youth to acquire knowledge and skills in the design and construction of electricity transmission systems. For the community in the project area, training on electric power safety aspects and use of electricity for activities to enhance their livelihood has been factored into the project design.

5 LEGAL INSTRUMENTS AND AUTHORITY

A. Legal Instrument

67. The legal instruments governing this Project will be: (a) a Protocol of Agreement between the African Development Fund (the “Fund”) and the Federal Democratic Republic of Ethiopia (the “Recipient”) (ADF Grant); and (b) a loan agreement between the African Development Bank and African Development Fund as administrator of the Economic Development Cooperation Fund (“EDCF”) loan resources under the Korea-Africa Energy Investment Framework (the “KAEIF”) and the Federal Democratic Republic of Ethiopia (the “Borrower”) (the “EDCF Loan”).

B. Conditions Associated with Fund’s Intervention

68. The conditions associated with Fund’s intervention shall be articulated around the following:

- (i) **Condition precedent to entry into force of the ADF Grant agreement** shall be the signature of the Agreement by the parties.
- (ii) **Condition precedent to entry into force of the EDCF Loan agreement** shall be subject to the fulfilment by the Borrower of the provisions of Section 12.01 of the General Conditions Applicable to Loans and Guarantee Agreements of the ADF (Sovereign Entities).
- (iii) **Conditions precedent to the first disbursement of the ADF Grant and EDCF Loan:**
 - a) Payment by the Borrower of the Administered Loan Charge to the Bank (on behalf of MoEF/KEXIM) (this is for the EDCF Loan Only).
 - b) Subsidiary agreement between Recipient/Borrower and the Executing Agency; and
 - c) Submission of evidence of the appointment of the following PIU staff: Project Manager, two Electrical Engineers in charge of substations, two Transmission Engineers in charge of transmission lines, Procurement/Contract Management Expert, Project Accountant, Gender Expert, Environmental Safeguards Specialist, Social Safeguards Specialist, Occupational, Health and Safety Specialist and Resettlement Specialist with qualifications and experience acceptable to the Fund.
 - d) Evidence of establishment of High-Level Project Steering Committee made up of at least senior officials from Ministry of Finance and Ministry of Water & Energy, CEO of EEP, CEO of EEU, and senior officials from local/regional Government.

(iv) Conditions precedent to disbursements for works involving resettlement under ADF Grant and EDCF Loan

Subject to the provisions of Entry into Force and Conditions Precedent to First Disbursement of the Agreements, the obligation of the Fund to disburse the Grant/Loan for works that involve resettlement shall be subject to the satisfaction of the following additional conditions by the Recipient/Borrower:

- a) Submission of a works and compensation schedule prepared in accordance with the Full Resettlement Action Plan (“FRAP”) and the Fund’s Safeguards Policies in form and substance satisfactory to the Fund detailing: (i) each section of a lot of the civil works under the Project, and (ii) the time frame and amount for compensation and/or resettlement of all Project affected persons (“PAPs”) in respect of each section(s) requiring compensation.
- b) Submission of satisfactory evidence that all Project affected persons (“PAPs”) in respect of civil works in a section of a given lot have been compensated and/or resettled in accordance with the Environmental and Social Management Plan (“ESMP”), the Full Resettlement Action Plan (“FRAP”) and /or the agreed works and compensation schedule and the Fund’s Safeguards Policies, prior to the commencement of civil works in such section of a lot and in any case before the PAPs’ actual move and/or taking of land and related assets; or
- c) In lieu of paragraph (b) above, submission of satisfactory evidence indicating that the resources allocated for the compensation and/or resettlement of PAPs have been deposited in

a dedicated account in a bank acceptable to the Fund or remitted to a trusted third party acceptable to the Fund] where the Recipient/Borrower can prove, to the satisfaction of the Fund that, compensation and /or resettlement of PAPs in accordance with paragraph(s) (a)(b) above could not be undertaken fully or partially, because of the following reasons:

- (i) the identification of the PAPs by Recipient/Borrower is not feasible or possible.
- (ii) ongoing litigation involving the PAPs and/or affecting the compensation and/or resettlement exercise; or
- (iii) any other reason beyond the control of the Recipient/Borrower, as discussed and agreed with the Fund.

(v) Undertakings of the Grant Recipient

- (a) The Recipient shall make available the amount of [*Twelve Million Two Hundred Forty Thousands Unite of Accounts (UA 12,240,000)*] [equivalent to [*ETB 859,000,000*]] as its counterpart contribution (the “Counterpart Contribution”) towards the costs of the Project and to this end, shall submit to the Fund, satisfactory evidence indicating that the Counterpart Contribution has been deposited in a dedicated account in a bank acceptable to the Fund within three (3) months of the first disbursement of the Grant or such later date as may be approved by the Fund

(vi) Undertakings of the Recipient/ Borrower

- (a) The Recipient / Borrower shall within six (6) months of the first disbursement of the Grant/ Loan employ a Project Supervision and Management Consultant to support the Project.

(vii) Other Undertakings: The Recipient /Borrower undertakes to:

- (a) carry out the Project in accordance with the Environmental and Social Management Plan (“ESMP”), and the approved Full Resettlement Action Plan (“FRAP”) and /or the agreed works and compensation schedule, the Fund’s Safeguards Policies and the applicable national legislation in a manner and in substance satisfactory to the Fund;
- (b) prepare and submit to the Fund, as part of the Project Reporting monthly reports on the implementation of the ESMP and the FRAP, annual ESIA and FRAP audit reports including any deficiencies identified and the corrective measures thereto;
- (c) refrain from taking any action which would prevent or interfere with the implementation of the ESMP, the FRAP, including any amendment, suspension, waiver, and/or voidance of any provision thereof, whether in whole or in part, without the prior written concurrence of the Fund; and
- (d) cause the Executing Agency and all its contractors, sub-contractors and agents not to commence implementation of any works on any section of a given section under the Project, unless all PAPs under such section have been compensated and/or resettled in accordance with the FRAP and/or the agreed works and compensation schedule.

C. Compliance with Bank Policies

- This project complies with all applicable Bank policies.
- There are exceptions to Bank policies.

African Development Bank Group Independent Recourse Mechanism

69. Communities and individuals who believe that they are adversely affected by an African Development Bank Group (AfDB) supported project may submit complaints to existing project-level grievance redress mechanisms or the AfDB’s Independent Recourse Mechanism (IRM). The IRM

ensures project affected communities and individuals may submit their complaint to the AfDB's Independent Recourse Mechanism which determines whether harm occurred, or could occur, as a result of AfDB non-compliance with its policies and procedures. To submit a complaint or request further information please contact: IRM@afdb.org or, visit the IRM website www.irm.afdb.org. Complaints may be submitted at any time after concerns have been brought directly to the AfDB's attention, and Bank Management has been given an opportunity to respond before reaching out to the IRM.

6 RECOMMENDATION

70. Management recommends that the:

- (a) ADF Board of Directors approve the proposed ADF Grant of an amount not exceeding UA 40 million to the **Federal Democratic Republic of Ethiopia**.
- (b) ADB and ADF Boards of Directors approve the administration of a loan of an amount not exceeding USD 52 million, to **Federal Democratic Republic of Ethiopia**, from the resources of the Economic Development Cooperation Fund ("EDCF") under the Korea-Africa Energy Investment Framework for the purposes **and subject to the conditions stipulated in this report**; and
- (c) That procurement of goods, services and works using the proceeds of the Loan shall be open to all countries including those that are not Member states of the Bank.

7 RESULTS FRAMEWORK

| RESULTS FRAMEWORK | | | | | |
|---|-------------------------------------|--------------------------|--------------------|--|--|
| A PROJECT INFORMATION | | | | | |
| PROJECT NAME: Eastern Ethiopia Electricity Grid Reinforcement Project SAP CODE : P-ET-FA0-020 | | | | COUNTRY/REGION: ETHIOPIA | |
| PROJECT DEVELOPMENT OBJECTIVE: To increase access to clean reliable electricity supply by reinforcing the transmission system capacity of the Eastern Ethiopia Electricity Grid | | | | | |
| ALIGNMENT INDICATOR (S): Share of population with access to electricity (% population) up from the current 51% ¹⁶ access rate. | | | | | |
| B RESULTS MATRIX | | | | | |
| Results Chain and Indicator Description | RMF/ADOA Indicator | Unit of Measurement | Baseline (2022) | Target At Completion (2028) | Means of Verification |
| OUTCOME STATEMENT 1: Increased power transfer to the Eastern Region | | | | | |
| 1.1: Transmission capacity | <input type="checkbox"/> | MW | 70 | 360 | Measured at Project commissioning and recorded in MoWE and EEP Annual reports. |
| 1.2: Reserve Margin over peak demand | <input type="checkbox"/> | % | -42% ¹⁷ | 125% ¹⁸ | |
| 1.3: Energy sales | <input type="checkbox"/> | GWh/year | 1,305 | 2,725 | Daily measurements consolidated in the Annual Report of EEP. |
| 1.4: Net GHG emissions avoided | <input checked="" type="checkbox"/> | tCO ₂ e /year | 0 | 8,097,160 | Measured by MoWE as part of NDC19 annual reporting. |
| OUTCOME STATEMENT 2: Increased economic opportunities for men and women in the beneficiary regions | | | | | |
| 2.1: Permanent jobs created | <input type="checkbox"/> | Number | 0 | 60 (30 % women) | Project labor-force log consolidated in Annual Project progress reports. |
| 2.2: Temporary Jobs created | <input type="checkbox"/> | Number | 0 | 600 (30% women) | |
| OUTPUT STATEMENT 1: New High Voltage Transmission System | | | | | |
| 1.1: New 400 kV, 132 kV and 66 kV double circuit transmission lines built | <input checked="" type="checkbox"/> | Km | 0 | <ul style="list-style-type: none"> • 157 km of 400 kV • 4.62 km of 123 kV • 2.7 km of 66 kV | Output measurements in Project quarterly progress reports. |
| OUTPUT STATEMENT 2: Substation Upgraded and Constructed | | | | | |
| 2.1: New substations built | <input type="checkbox"/> | Units | 0 | 3 | Output measurements in Project quarterly progress reports. |
| 2.2: Substations extended, reconfigured, or upgraded | <input type="checkbox"/> | Units | 0 | 4 | |
| OUTPUT STATEMENT 3: Technical Assistance and Capacity Building | | | | | |
| 3.1: EEP staff trained including, in gender | <input type="checkbox"/> | Number* | 0 | 120 EEP Staff (50% being | From Staff training log |

¹⁶ https://un-energy.org/wp-content/uploads/2022/06/sdg7-report2022-full_report.pdf

¹⁷ (Line Capacity – Peak demand)/Peak Demand in this case (70-120)/120= - 42%

¹⁸ This reserve will decrease rapidly as new customers are connected to grid, particularly the irrigation pumping stations.

¹⁹ Nationally Determined Contributions

| RESULTS FRAMEWORK | | | | | |
|---|--------------------------|---------------------|-----------------|--|---|
| A PROJECT INFORMATION | | | | | |
| PROJECT NAME: Eastern Ethiopia Electricity Grid Reinforcement Project SAP CODE : P-ET-FA0-020 | | | | COUNTRY/REGION: ETHIOPIA | |
| PROJECT DEVELOPMENT OBJECTIVE: To increase access to clean reliable electricity supply by reinforcing the transmission system capacity of the Eastern Ethiopia Electricity Grid | | | | | |
| ALIGNMENT INDICATOR (S): Share of population with access to electricity (% population) up from the current 51% ¹⁶ access rate. | | | | | |
| B RESULTS MATRIX | | | | | |
| Results Chain and Indicator Description | RMF/ADOA Indicator | Unit of Measurement | Baseline (2022) | Target At Completion (2028) | Means of Verification |
| mainstreaming. | | | | female) | consolidated in Annual Project progress reports. |
| 3.2: Internships and attachments for students provided in EEP and the project | <input type="checkbox"/> | Number* | 0 | 200 internees .60:40 of male: female ratio | Count from Project training logs consolidated in Annual Project progress reports |
| 3.3: Students sponsored to pursue diploma and artisan courses in energy sector | <input type="checkbox"/> | Number* | 0 | 30 students (50% being female) | |
| 3.4: Project area community members trained on the power safety and use for livelihood activities | <input type="checkbox"/> | Number* | 0 | 50:50 % participation of community members in power use and safety training. | |
| 3.5: Transmission system study completed | <input type="checkbox"/> | Number | 0 | 1 | Report Acceptance and validated by EEP and recorded in Annual Project progress reports. |
| OUTPUT STATEMENT 4: Temporary Jobs | | | | | |
| 4.1: Temporary Jobs created | <input type="checkbox"/> | Number | 0 | 600 (30% women) | Project labor-force log consolidated in Annual Project progress reports |

8 ENVIRONMENTAL AND SOCIAL COMPLIANCE NOTE (ESCON)

ENVIRONMENTAL AND SOCIAL COMPLIANCE NOTE (ESCON)



AFRICAN DEVELOPPEMENT BANK GROUP

| A. Basic Information ²⁰ | |
|---|--|
| Project Title: The Eastern Ethiopia Electricity Grid Reinforcement Project EEEGRP | Project "SAP code" : P-ET-FA0-020 |
| Country: Ethiopia | Lending Instrument ²¹ : DI <input checked="" type="checkbox"/> FI <input type="checkbox"/> CL <input type="checkbox"/> BS <input type="checkbox"/> GU <input type="checkbox"/> RPA <input type="checkbox"/> EF <input type="checkbox"/> RBF <input type="checkbox"/> |
| Project Sector: Energy | Task Team Leader: Arkins M Kabungo |
| Appraisal date: 16-28 April 2023 | Estimated Approval Date: 13 September 2023 |
| Environmental Safeguards Officer: Lisbeth GODONOU | |
| Social Safeguards Officer: Kingsley EJIM | |
| Environmental and Social Category: 1 | Date of categorization: March 21, 2023 |
| Operation type: SO <input checked="" type="checkbox"/> NSO <input type="checkbox"/> PBO <input type="checkbox"/> | |
| Is this project processed under rapid responses to crises and emergencies? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| Is this project processed under a waiver to the Integrated Safeguards System? | Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> |
| B. Disclosure and Compliance Monitoring | |
| B.1 Mandatory disclosure | |
| Environmental Assessment/Audit/System/Others (specify: 2 Environmental and Social Impact Assessment for: Degehabur-Kebridehar 132Kv Power Transmission Line and Hurso-Harar-Jijiga II 400 Kv Power Transmission Line). | |
| Was/Were the document (s) disclosed <i>prior to appraisal</i> ? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> |
| Date of "in-country" disclosure by the borrower/client | 04/04/2023 |
| Date of receipt, by the Bank, of the authorization to disclose | 6/04/2023 |
| Date of disclosure by the Bank | 28/04/2023 |
| Resettlement Action Plan/Framework/Others (specify: 2 Resettlement Action Plan for: Degehabur-Kebridehar 132Kv Power Transmission Line and Hurso-Harar-Jijiga II 400 Kv Power Transmission Line). | |
| Was/Were the document (s) disclosed <i>prior to appraisal</i> ? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> |
| Date of "in-country" disclosure by the borrower/client | 04/04/2023 |
| Date of receipt, by the Bank, of the authorization to disclose | 6/04/2023 |
| Date of disclosure by the Bank | 28/04/2023 |
| Stakeholder Engagement Plan/ Audit/System/Others (Specify: Stakeholder Engagement Plan for: Degehabur-Kebridehar 132Kv Power Transmission Line and Hurso-Harar-Jijiga II 400 Kv Power Transmission Line). | |
| Was/Were the document (s) disclosed prior to appraisal? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> |
| Date of "in-country" disclosure by the borrower/client | 04/04/2023 |
| Date of receipt, by the Bank, of the authorization to disclose | 6/04/2023 |
| Date of disclosure by the Bank | 28/04/2023 |
| Vulnerable Peoples Plan/Framework/Others (specify: NA). | |
| Was the document disclosed <i>prior to appraisal</i> ? | Yes <input type="checkbox"/> No <input type="checkbox"/> NA <input checked="" type="checkbox"/> |
| Date of "in-country" disclosure by the borrower/client | NA |
| Date of receipt, by the Bank, of the authorization to disclose | NA |
| Date of disclosure by the Bank | NA |
| If in-country disclosure of any of the above documents is not expected, as per the country's legislation, please explain why: NA. | |
| B.2. Compliance monitoring indicators | |
| Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> |
| Have costs related to environmental and social measures, including for the running of the grievance redress mechanism, been included in the project cost? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> |
| Is the total amount for the full implementation for the Resettlement of affected people, as integrated in the project costs, effectively mobilized and secured? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> |
| Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> |
| Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents? | Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA <input type="checkbox"/> |


²⁰ Note: This ESCON shall be appended to project appraisal reports/documents before Senior Management and/or Board approvals.

²¹ DI=Direct Investment; FI=Financial Intermediary; CL=Corporate Loan; BS=Budget Support; GU=Guarantee; RPA=Risk Purchase Agreement; EF=Equity Financing; RBF=Results Based Financing.

C. Clearance

Is the project compliant to the Bank's environmental and social safeguards requirements, and to be submitted to the Board?

Yes No

| <i>Prepared by:</i> | <i>Name</i> | <i>Signature</i> | <i>Date</i> |
|-----------------------------------|--------------------------|---|-------------------|
| Environmental Safeguards Officer: | Lisbeth GODONOU | | |
| Social Safeguards Officer: | Kingsley EJIM | | 09/02/2023 |
| Task Team Leader: | Arkins M Kabungo | | 09/02/2023 |
| <i>Submitted by:</i> | | | |
| Sector Director: | Henry Paul Batchi BALDEH | HBB | 25/07/2023 |
| <i>Cleared by:</i> | | | |
| Director SNSC: | Maman-Sani ISSA |  | 09/08/2023 |