



Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 30-Mar-2020 | Report No: PIDC28661

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

Country Ukraine	Project ID P171980	Parent Project ID (if any)	Project Name Ukraine: Facilitating Power System Integration with Europe Project (P171980)
Region EUROPE AND CENTRAL ASIA	Estimated Appraisal Date Sep 21, 2020	Estimated Board Date Jan 21, 2021	Practice Area (Lead) Energy & Extractives
Financing Instrument Investment Project Financing	Borrower(s) Ministry of Finance of Ukraine	Implementing Agency Private Joint Stock Company "National Power Company "Ukrenergo"	

Proposed Development Objective(s)

To establish a cross border power interconnection between Ukraine and EU, that strengthens competitive electricity markets in Ukraine and facilitates Ukraine's power system integration with EU.

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

Total Project Cost	270.00
Total Financing	240.00
of which IBRD/IDA	240.00
Financing Gap	30.00

DETAILS**World Bank Group Financing**

International Bank for Reconstruction and Development (IBRD)	240.00
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Environmental and Social Risk Classification
Substantial

Concept Review Decision
Track II-The review did authorize the preparation to continue



Other Decision (as needed)

B. Introduction and Context

Country Context

- 1. Since 2014, Ukraine has undertaken considerable reforms to reinforce macroeconomic stability and bolster foundations for growth.** After a significant contraction in 2014-2015, economic growth has picked up (2.4 percent in 2016-2017, 3.5 percent in 2018-2019). However, higher sustained economic growth is needed to deliver durable improvements in living standards. While moderate poverty declined to 16.8 percent in 2018 from a peak of 27 percent during the crisis in 2015, it remains above the pre-crisis level (14.1 percent in 2013). The Ukrainian economy continues to be driven by domestic consumption and agriculture. Exports remain concentrated in basic commodities rather than higher value-added products that are integrated with global value chains. Investment and productivity have yet to rise to levels needed to support strong and sustained economic growth (in 2018, fixed investment remained at 17 percent of GDP, while foreign direct investment (FDI) remained at 2 percent).
- 2. Key structural reforms in the social and energy sectors have helped reduce current expenditures and public debt.** During the crisis of 2014-2015, fiscal adjustments were made through: (i) energy tariff reforms aimed at closing the quasi-fiscal deficit; and (ii) a nominal freeze on wages, pensions, and social assistance despite high inflation. Consequently, the overall fiscal deficit was reduced from 10 percent of GDP in 2014 to 2.3 percent in 2016 (reform of energy pricing, primarily for natural gas, being the most important contributor to the reduction of public expenditures between 2014 and 2016). From 2016 onwards, significant further reforms were implemented in the social sectors (pensions, housing utility subsidies, and health) to promote fiscal sustainability. As a result, spending on social benefits declined from 16.3 percent of GDP in 2016 to 14.8 percent in 2019. On the revenue side, performance has improved modestly with the economic recovery. Tax revenues increased from 33 percent of GDP in 2016 to 34.4 percent in 2019. Overall, the fiscal deficit was maintained at about 2 percent of GDP in the last three years, with a primary surplus of 1.2 percent GDP in 2018. Public and publicly guaranteed debt declined from 81 percent in 2016 to an estimated 51 percent in 2019.
- 3. The elections in 2019 have provided the new Ukrainian authorities an unprecedented mandate and opportunity to address obstacles to economic growth and advance major economic reforms.** President Zelensky was elected in April 2019 with a large majority of the vote. Subsequently, the President's Servant of the People party won a majority of seats in the July 2019 Parliamentary election. The new Government which took office in August 2019 presented its 5-year program to Parliament in October 2019, setting ambitious aspirational goals, in particular with regard to GDP growth acceleration, attraction of FDI, development of infrastructure, job creation, poverty reduction and improvement in public services. The program also outlines key reform priorities including opening the agricultural land market, de-monopolization by unbundling the two largest state-owned monopolies - Naftogaz and Ukrainian Railways - and making further progress in strengthening nascent anticorruption institutions.
- 4. In the short term, growth is expected to remain robust at around 3.6 percent on average by 2021, but with significant economic, fiscal, and social fragility.** Political uncertainty and vested interests undermine the reform agenda



and the investment process. The large share of the State in the economy, coupled with weak institutions and governance challenges, including in the non-banking financial sector, pose additional risks. Ukraine has made progress in recent years in strengthening its macroeconomic framework but faces significant financing needs in 2020-2021. Public and publicly guaranteed debt has declined from 81 percent of GDP in 2016 to an estimated 51 percent of GDP in 2019. The fiscal deficit has been maintained at under 2.5 percent of GDP for four years in a row (2016-2019), while current public expenditures have declined from 46 percent of GDP in 2013 to an estimated 37 percent in 2019. At the same time, Ukraine faces sizable debt repayments in 2020-2021, with about 8 percent of GDP (US\$11 billion) per year needed to repay public debt and finance the fiscal deficit. The authorities plan to finance about 40 percent of this from external sources (horizon of 5 years or more), with the rest raised domestically (with maturity up to 2 years). In order to raise the necessary external financing at affordable terms and exit the cycle of rolling over public debt during the next three years, it will be important to deliver on the pending reform agenda, maintain prudent macroeconomic management, and secure financing from international development partners.

5. **Further ambitious structural reforms will be critical to achieving sustained higher growth.** With powerful vested interests standing in the way of reform, building a coalition among reformers in government, Ukrainian civil society, and international development partners around key reforms will be critical to their progress. Financing and technical support from the World Bank, as envisioned by the FY17-21 CPF, in close coordination with the IMF, EU, US Treasury, USAID, the UK, and other bilateral partners has been central to this effort. Lack of competition and weak institutional governance have been identified as major impediments to investment, productivity, and growth by the Ukraine Growth Study completed in 2019.¹ An anticompetitive environment in key sectors distorts markets and serves as a barrier to entry and investment. It can also facilitate State capture by oligarchs and high levels of corruption, further undermining investor confidence. In this context, the promotion of institutional reforms, transparency and competition in infrastructure sectors with a large footprint of State-owned enterprises (energy and transport) can help promote investment and efficiency in important parts of the economy.

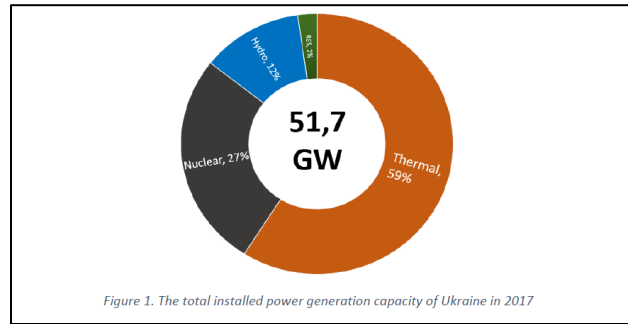
Sectoral and Institutional Context

6. **At the end of 2017, the total installed power generation capacity of Ukraine² was 51.7 GW.** Thermal power plants (TPPs, CHPs, block stations) accounted for 59 percent of this, nuclear 26.7 percent, 12 percent was hydro power plants (HPPs) and hydro storage power stations (PSPs), while renewable energy sources (wind, solar, biomass) made up the remaining 2.3 percent³.

¹ *Ukraine Growth: Faster, Lasting, Kinder*, World Bank, 2019.

² Excluding generating facilities of the Crimean Electric Power System and the Uncontrolled Territory of the Donbas Electricity System.

³ Danish Energy Agency Report "[Long-term Energy Modelling and Forecasting in Ukraine: Scenarios for Action Plan of Energy Strategy of Ukraine until 2035](#)," Kyiv-Copenhagen 2019



7. In 2018, this system generated 159.3 TWh of electricity, supplying 153.1 TWh for domestic consumption and 6.2 TWh were exported. The recent system peak was recorded on December 20, 2018 at 23.908 GW⁴, or less than half of nameplate capacity. The country has Europe’s largest capacity nuclear power plant – Zaporizhzhia. Four nuclear power stations with a total installed capacity of 13.835 GW, supply more than half of the total electricity generated⁵. The remaining electricity is generated by coal-fired thermal plants (30 percent), natural gas fired combined heat and power (CHP) plants (8 percent), and hydro power plants (7 percent). Renewables accounted for a very small portion of the electricity generated. Several GW of planned nuclear capacity was frozen or scratched after the 1986 Chernobyl nuclear accident.

8. The electricity sector has gone through several stages of reform which started with unbundling and partial privatizations in the 1990s. Power generation, transmission, and Wholesale Electricity Market (WEM) operations are now conducted under separate entities, while the sector is regulated by the National Energy and Utilities Regulatory Commission (NEURC). Electricity distribution and retail were combined in several regional power companies (OblEnergos), most of which are now privatized and unbundled, however controlled by a handful of individuals. The State owns and manages all nuclear power plants (NPP), which are operated by the State-owned entity, Energoatom. Similarly, all hydropower plants (HPP) belong to the joint-stock company, Ukrhydroenergo, with 100 percent State ownership. The national transmission network is owned and operated by the State-owned Transmission System Operator (TSO), Ukrenergo, which is owned directly by the Ministry of Finance (MoF)⁶. TPPs in Ukraine are grouped into five regional companies (Donbassenergo, Dniproenergo, Centrenergo, Zakhidenergo, Skhidenergo). Only Centrenergo is still under State ownership while a majority of the shares of the others are owned by the country’s energy giant, DTEK.

9. Ukraine has transitioned to the new WEM operations, facing various challenges in market concentration under the new heavily regulated market structure. Per the Market Operator, since the WEM became active on July 1, 2019, monthly volumes transacted through WEM ranged from 30-38 percent of total consumption; the rest being supplied by State-owned entities (SOEs). These SOEs that supply 60 to 70 percent of the country’s electricity are currently largely shut out from WEM trading due to rules governing public service obligations (PSO) for nuclear and hydro producers to supply electricity at lower regulated rates for residential consumers. This limits market liquidity and resource diversity, making one private player - DTEK Energy⁷ a dominant participant in the WEM. In the absence of a larger market volume or other credible private suppliers under current WEM structure, the government has had to resort to price caps to counter elevated bid prices. DTEK is also exporting up to 645 MW of power from the Burshtyn Island that is isolated from the Ukraine main system and synchronized with the united European energy system, while another DTEK affiliate DTEK Renewables, owns and operates about 1 GW of renewables, split almost evenly between

4 Source: Ukrenergo annual report.

5 53 percent of the electricity generated in 2018 came from nuclear plants – indicating approximately 70 percent plant utilization factor.

6 Ownership was transferred from the Ministry of Energy and Environmental Protection (MoEEP) as part of Ukrenergo’s corporatization.

7 DTEK owns or controls in excess of 17 GW of TPP assets, per the company’s website. This is sufficient physical capacity to supply the full volume of WEM twice over.



wind and solar generation. There is likely, a need to analyze the effects of this concentrated market power on consumers. The World Bank has supported the transition process through the closed First Power Transmission Project and Second Power Transmission Project (PTP2).

10. **Renewables, largely solar and wind, while accounting for only a small portion of total electricity generated, have seen a surge in capacity additions in recent years due to generous Feed-in-Tariffs (FiTs), creating financial and operational challenges.** The FiT scheme introduced in 2009 provided tariffs in the range of 10 to 11.4 US cents/kWh for wind, and 15 to nearly 20 US cents/kWh for solar through offtake from a Guaranteed Buyer (GB). Accordingly, solar and wind generation capacities have increased significantly, reaching 5,005 MW for solar and 1,032 MW for wind at the end of 2019. Furthermore, during the last few weeks of 2019 around 7 GW of additional renewable capacity has been provided grid-connection approvals under the FiT scheme. Per MoEEP estimates, the resulting financial deficit of the GB under FiT will be between UAH 8-10 billion (US\$ 320-400 million) for 2020 – without considering the additional renewable capacity still in the pipeline. Per our estimates, by 2025 GB outflows for just large solar and wind plants would be around US\$ 1.8 billion annually – for supplying around 9% of the domestic electricity consumption. Not only is this a significant burden in a country with 2019 GDP of around US\$ 150 billion, but it also puts at risk the upkeep and viability of ageing government owned generation infrastructure that is supplying a bulk of the electricity produced. Furthermore, FiT tariffs particularly for solar, have a very significant disconnect with single digit solar tariffs achieved elsewhere – including within Former Soviet Union (FSU) countries, leaving open the possibility for large rent harvesting by developers operating in Ukraine.

11. **Currently in Ukraine, the balancing of power stations (to meet demand) is done mainly through coal and hydro generation, leading to sub-optimal operation of normally baseload designed TPPs resulting in greater emissions. Similarly for HPPs and PSPs there is increased wear-and-tear from frequent use of PSPs for rapid response to supply fluctuations.** According to the model calculations in the Danish Energy Agency Report cited previously, (scenario New Balancing Techs), the use of modern balancing capacities and maneuvering technologies will reduce capital investment by 13 billion euros in the period 2020-2050, while achieving the Report's stated renewable energy target. In addition, the Report predicts that use of advanced precision forecasting systems (scenario Optimize Balancing) would further reduce investment needs by 11.5 billion €, while increasing production of electricity from renewables. In reality, renewable additions have been faster than expected, and the need for modern balancing technologies and practices is therefore more acute.

12. **Ukraine has made a long-term strategic decision to integrate its power system with European systems comprised by ENTSO-E⁸ member TSOs with separation from IPS/UPS⁹ operated by some FSU countries.** This decision will make it possible for Ukraine to participate in the European power market, strengthening its own supply options, and potentially even becoming a more significant power exporter. In June 2017, Ukraine and Moldova executed an agreement with ENTSO-E on the conditions for future ENTSO-E synchronization, under which, both countries are required to implement a catalogue of measures for synchronization. These required measures include reinforcement of the transmission network, realization of frequency regulation capability, establishment of telecommunication network, and studies on future grid stability; some of these are supported under the World Bank's ongoing PTP2. The proposed integration of Ukraine's power system with ENTSO-E is expected to bring several tangible benefits for Ukraine, including: (i) enhanced reliability and security of electric supply; (ii) increased competitiveness and liquidity in the WEM through power exchanges with Europe; (iii) improved grid resilience and options for mutual assistance with Europe; and (iv) diversification of energy mix. It is estimated that the monetizable benefits alone from ENTSO-E synchronization are more

⁸ European Network of Transmission System Operators for Electricity

⁹ Integrated Power System/United Power System



than US\$1 billion annually, while the synchronization cost is estimated at around \$400 million¹⁰.

13. **Ukraine needs a significant amount of battery storage for frequency support before its synchronization with ENTSO-E.** Ukraine as well as Moldova have historically relied on Russia for power system frequency control. Hence, Ukraine's own system capability for frequency regulation is under-developed. The ENTSO-E synchronization requires that Ukraine have sufficient frequency reserves before being connected to the European grid. While a significant portion of the required reserves will be made available through existing generators, the large portion of base-loaded nuclear and thermal plants alongside entry of variable renewable energy into the mix indicates the need for rapid frequency regulation capability. Ukrenergo and its international consultants estimate that 220 MW of primary frequency reserve would need to be provided by battery storages. The World Bank has started working with Ukrhydroenergo (UHE) and USAID to evaluate various battery-use cases for a potential project where the state-owned hydro power company develops and operates battery storage and contributes these services per grid requirement. This is consistent with their current role as a provider of system flexibility while nuclear and TPP units have more constraints in that area. USAID and UHE are finalizing a Feasibility Study, which shows clear net benefits from the proposed project. In parallel, Ukrenergo has also entered into an MoU with IFC, which will provide technical support including assessment of potential solutions and the development of future business models that could be used for the development of an auxiliary services market.

14. **In its journey towards eventual integration with the European ENTSO-E system, Ukraine's power system has achieved three important intermediary milestones: (i) privatization of significant portions of its TPP assets and upstream coal mines, (ii) induction of significant new renewables capacity (wind and solar primarily) with associated variability of output, and (iii) creation of a WEM with new dispatch and pricing rules.** This has been a fast paced and tumultuous journey, leaving gaps that need to be addressed if the positive fruits of a "market-based" system are to be realized and sustained in the long-term. This involves addressing (i) market concentration issues by injecting competition into the power supply mix, (ii) enhancing load balancing capabilities through the induction of modern technology and practices, and (iii) improving know-how, rules and rule-making capacity within government institutions in preparation for a much more de-carbonized, dynamic, open and collaborative power market. The three components of this project proposal address these gaps by building modern infrastructure and expanding the expertise needed in mission-critical areas – preparing people, institutions, and infrastructure for Ukraine's rightful role as a central player in the European ENTSO-E market.

15. **An Earlier asynchronous interconnection brings significant energy exchange benefits to Ukraine and be in line with the longer term objective of the ENTSO-E synchronization.** A Pre-Feasibility Study on the synchronous interconnection that ENTSO-E member TSOs had conducted in 2016 has identified various issues that need to be addressed for the ENTSO-E synchronization. While Ukraine is very committed that the full synchronization process be completed by 2023, experiences from other ENTSO-E entrants such as the three Baltic countries, Turkey, and others in Eastern Europe, indicate that actual time to synchronization could be longer. Given the already delayed initial steps including grid stability studies, having an earlier asynchronous link through a new Back to Back (B2B) facility¹¹ makes eminent sense. Ukraine began exploring the feasibility of installing a B2B station with a capacity of 600 MW to enable earlier asynchronous interconnection with ENTSO-E, alongside continuing to make progress on full synchronization. This technical solution has been also adopted for a proposed connection between Moldova and Romania. As per the request from Ukrenergo, the World Bank initiated a Feasibility Study for such an asynchronous interconnection project in July 2019, which has already identified significant economic benefits to be realized through the asynchronous interconnection.

¹⁰ Source: Ukrenergo 2017 presentation

¹¹ Back to Back station converts an alternate current to direct current, and then to an alternate current, so that two asynchronous power system (even though those are same frequency) can be interconnected. The arrangement based on the power electronics technology is widely available in globe.



16. **Building an early asynchronous link with neighboring ENTSO-E countries serves power balancing, frequency control, and market competition needs, by providing enhanced power exchange and load balancing capabilities through Europe, ahead of synchronization.** The rigidities in the Ukrainian generation mix – heavily reliant on nuclear and thermal units - is currently being tested under the still incipient WEM rules and the increased system forecasting uncertainty due to large induction of renewables. Ability to have rapid response for frequency control and load balancing from Europe will increase grid stability in Ukraine and improve power quality and resilience. It will also help the government in its current efforts to appropriately value and provide auxiliary services in-line with European practices. Furthermore, it also provides economic benefits to all ENTSO-E members through linking with one of Europe’s net power exporters.

Relationship to CPF

17. **The proposed Project is consistent with the Country Partnership Framework (CPF) for Ukraine (FY2017-21).** Specifically, it is consistent with and contribute to the CPF’s following Focus Areas: (1) Focus Area 1. Making markets work; (2) Focus Area 2: Fiscal and Financial Stability; and (3) Focus Area 3: Efficiency and Inclusiveness of Social Service Delivery. The proposed Project will contribute to these focus areas through improved competitiveness in the WEM, enhanced resilience of the power system, and enhanced energy security, leading to the improved quality and efficiency of the electricity supply.

C. Proposed Development Objective(s)

To establish a cross border power interconnection between Ukraine and EU, that strengthens competitive electricity markets in Ukraine and facilitates Ukraine’s power system integration with EU.

Key Results (From PCN)

18. The following PDO Level Result Indicators are suggested for the proposed Project.
- a) Increased interconnection capacity between Ukraine and Europe (in MW)
 - b) Battery storage capacity installed (in MWh)
 - c) Development of a more transparent and modern TSO, compatible with EU Power Market.

D. Concept Description

19. The proposed Project will consist of the following three components: (i) B2B interconnect and network strengthening for ENTSO-E integration; (ii) introduction of battery storage; and (iii) technical assistance.

Component 1: B2B interconnect and network strengthening for ENTSO-E integration (estimated cost: US\$ 224 million).



1. This component will finance the design, purchase, installation, and construction of the proposed B2B interconnection, which will allow electricity exchanges between European and Ukrainian electricity markets. The interconnect will be developed, operated, and owned by Ukrenergo. The 600 MW capacity B2B station (2 units of 300MW), is proposed to be built on one of two proposed plots adjacent to the existing 750kV Zakhidnoukraniska substation, located approximately 70 km south of the city of Lviv. The proposed B2B will be located at an electricity transmission hub on the border between Ukraine's main grid and western part of the system, called Burshtyn Island (BI). BI is already synchronized with ENTSO-E systems. The proposed location of the interconnection is considered optimal, given land availability and blueprint of the power system. The proposed B2B station will consist of High Voltage Direct Current (HVDC) converter valves and its building, high voltage AC equipment such as transformers and circuit breakers, protection and control equipment and its building, and other auxiliary facilities. A short distance (less than one kilometer) of high voltage (330 or 750kV) transmission lines will be constructed to connect the B2B station to the existing Zakhidnoukraniska substation. The proposed B2B station would require approximately seven hectares of land; two vacant plots adjacent to the 750kV substation have been identified for the proposed B2B station. It is found that one of the sites is owned by the newly created Amalgamated Territorial Community (Local Council), while the other is owned by Ukrenergo. Further review will be conducted to identify land transfer acquisition procedures and environmental and social impacts.

2. This component would also finance other necessary grid strengthening infrastructure, specific scope of which will be discussed and agreed with Ukrenergo during project preparation, to achieve the Ukrainian power system's integration with Europe. Some examples of potential investments include reinforcements and expansion of transmission lines and substations, and upgrades of monitoring and control systems. Moreover, the component will finance the cost of the implementation support consultant, which will support Ukrenergo in overall project management and supervision including procurement, design, contract management, and preparation for operation and maintenance (O&M) of the completed investments. Additionally, it will include support for supervision and monitoring of the implementation of the Environmental and Social Management tasks including establish and maintaining of Grievance Redress Mechanism. The subcomponent will also support Ukrenergo's interaction with key stakeholders such as ENTSO-E to mobilize for EU integration.

Component 2: Introduction of Battery Storage (estimated cost: US\$ 41 million).

3. This component will support Ukrhydroenergo's (UHE's) new battery storage infrastructure, which could be combined with solar photovoltaic (PV) plants. The proposed battery storage and PV will contribute to satisfying the necessary frequency regulation reserves that Ukraine must prepare before the ENTSO-E synchronization, through provision of grid ancillary services. Both PV and battery storage will be installed within the precincts of the company's hydro power plants (HPPs). The proposed PV plants will supply electricity to the battery storage facilities and also cater to auxiliary consumption within the HPP facility. The proposed battery storage facilities and PV plants will be developed and operated by UHE. The component will be designed in a manner that supports commercial arrangements between UHE and Ukrenergo for ancillary services. A preliminary feasibility study for the component has identified three HPP sites for the PVs and battery storages and those capacities, exact locations of the battery storage facilities and potential PV plants, as well as technical characteristics including capacity will be identified during the project preparation. The component will also finance the cost of the implementation support consultant, which will support Ukrenergo in overall project management and supervision including procurement, design, contract management, and preparation for operation and maintenance (O&M) of the completed investments.

Component 3: Technical Assistance and Capacity Building (estimated cost: US\$ 5 million).



4. This component will help strengthen Ukraine’s insitutional capacity in the energy sector, focusin in particular on issus that faciitate ENTSO-E integration. . The component would support (i) the development of a competitive WEM ; (ii) incorporation of market pricing of electricity in line with EU market rules; and (iii) the development of an overall energy strategy for the country. Additionally this component would support analytical or capacity building work on an as-needed basis, in keeping with government requests in the sector.

5. **Project Financing.** The proposed Project will be funded by (a) an IBRD loan of US\$240 million, (b) Clean Technology Fund of US\$ 30 million for the Component 2; (c) Government of Ukraine counterpart funding, and (d) potential development partner co-financing. Detailed scope of components and financing structure will be discussed and agreed during the project preparation and appraisal. A summary of project cost estimates by components is provided in Table 1.

Table 1. Summary of Preliminary Project Costs by Components (USUS\$, millions)

Component	Estimated Cost	Financing		
		World Bank	CTF	Borrower and IFIs
1. B2B Interconnect and Network Strengthening for ENTSO-E Integration	224	224	0	TBC
2. Introduction of Battery Storage	41	11	30	TBC
3. Technical Assistance and Capacity Building	5	5	0	0
Total	270	240	30	TBC

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts

Environmental and Social risk is rated as Substantial, while the Environmental risk is rated as Substantial and the Social risk is rated as Moderate. From environmental perspective, given the lack of capacity of the implementing agencies to ensure compliance with new WBF requirements, and also given that, as at this stage of project design, it is not known if the construction of B2B station will be located next to identified valuable biodiversity sites and, respectively, this might or not cause risks and impacts to them, it is proposed to qualify project environmental risks as “Substantial”. For the social side, the risk is considered as “Moderate”, as expected social issues are well identified and manageable, given that labor influx or GBV issues are not expected, physical/economic displacements are unlikely, and implementing agencies have prior experiences in managing social risk.

At PCN stage, the project recognizes the following standards (ESS) as relevant: Assessment and Management of Environmental and Social Risks and Impacts (ESS1); Labor and Working Conditions (ESS2); Resource Efficiency and Pollution Prevention and Management (ESS3); Community Health and Safety (ESS4); Land Acquisition, Restrictions on Land Use and Involuntary Resettlement (ESS5); Biodiversity Conservation and Sustainable Management of Living Natural resources (ESS6); and Stakeholder Engagement and Information Disclosure (ESS10).

The following actions are to be completed prior to Bank Board Approval:

1. Prior to project appraisal, preparation of Environmental and Social Commitment Plan (ESCP).



2. Prior to project appraisal, conducting detailed Biodiversity Assessment for selection of the site for B2B station construction and preparation of unified ESA report which would cover site specific ESIA&ESMP section for Component 1 and an Environmental and Social Management Framework for Component 2 activities.
3. Prior to project appraisal, preparation of Resettlement Policy Framework (RPF)
4. Prior to project appraisal, preparation of a Stakeholder Analysis/Screening and Stakeholder Engagement Plan (SEP).
5. Preparation of the Labor Management Procedure (LMP) outlining project related workers and labor rights and grievance management system for workers, if needed.

Possible issues to be addressed in the Borrower Environmental and Social Commitment Plan (ESCP) include:

1. Monitoring the progress made on implementing the agreed measures for mitigating environmental and social risks.
2. Implementation of SEP.
3. Establishment and operationalization of Project-level GRM.
4. Preparation and implementation of Labor Management Procedures (LMPs) and/or Grievance Mechanism for all Direct and Contracted Workers.
5. Preparation and implementation of site-specific ESIA and related ESMP for Component 2 activities.
6. Preparation and Implementation of RAP, if necessary.
7. Maintaining through project implementation E&S institutional capacity.

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