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Report No: PAD3330

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROGRAM APPRAISAL DOCUMENT

ON A

PROPOSED GRANT

IN THE AMOUNT OF SDR97.2 MILLION
(US\$134 MILLION EQUIVALENT)

TO THE

REPUBLIC OF TAJIKISTAN

FOR A

POWER UTILITY FINANCIAL RECOVERY
PROGRAM FOR RESULTS

February 3, 2020

Energy & Extractives Global Practice
Europe And Central Asia Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective Oct. 31 , 2019)

Currency Unit = Tajik Somoni (TJS)

TJS9.696 = US\$1

US\$ 1.379 = SDR 1

FISCAL YEAR

January 1 - December 31

Regional Vice President: Cyril E Muller

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ABBREVIATIONS AND ACRONYMS

ACCA	Association of Chartered Certified Accountants
ACG	Anti-Corruption Guidelines
ACM	Asbestos-containing materials
ADB	Asian Development Bank
AES	Renewable Energy Association
AET	Association of Energy Workers of Tajikistan
AIIB	Asian Infrastructure Investment Bank
AKFED	Aga Khan Fund for Economic Development
AMC	Anti-Monopoly Committee
AMI	Advanced Metering Infrastructure
ASFCCC	Agency for State Financial Control and Combating Corruption
BAU	Business as Usual
BT	Barqi Tojik
CALISS	Central Asia Longitudinal Inclusive Society Survey
CAPS	Central Asian Power System
CASA-1000	Central Asia South Asia Electricity Transmission and Trade Project
CEP	Committee on Environmental Protection
CHP	Combined Heat and Power Plant
CIPA	Certified International Professional Accountant
COA	Chamber of Accounts
CPF	Country Partnership Framework
CRM	Customer Relationship Management
DAAM	Department of Accounting and Audit Methodology
DCC	Development Coordination Council
DH	District Heating
DLI	Disbursement Linked Indicator
DSCR	Debt Service Coverage Ratio
ECCAA	Eurasian Council of Certified Accountants and Auditors
EBITDA	Earnings Before interest, Taxes, Depreciation and Amortization
EBRD	European Bank for Reconstruction and Development
EDB	Eurasian Development Bank
EE	Energy Efficiency
EGI	Electricity Governance Initiative
EIA	Environmental Impact Assessment
EIRR	Economic Internal Rate of Return
ESIA	Environmental and Social Impact Assessment
ESMAP	Energy Sector Management Assistance Program
ESMP	Environmental and Social Management Plan
ESPMU	Energy Sector Project Management Unit
ESSA	Environmental and Social Systems Assessment
EU	European Union
FDI	Foreign Direct Investment
FHH	Female Headed Household
FSA	Fiduciary Systems Assessment
GBAO	Gorno-Badakhshan Autonomous Oblast
GCC	General Conditions of Contract

GDP	Gross Domestic Product
GEP	Generation Expansion Plan
GHG	Greenhouse Gases
GRM	Grievance Redress Mechanism
GWh	Gigawatt-hours
HFO	Heavy Fuel Oil
HPP	Hydropower Plant
INDC	Intended Nationally Determined Contribution
IAS	International Accounting Standards
IAASB	International Auditing and Assurance Standards Board
IDA	International Development Association
IFAC	International Federation of Accountants
IFC	International Finance Corporation
IFIs	International Financial Institutions
IFRS	International Financial Reporting Standards
ILO	International Labor Organization
INTOSAI	International Organization of Supreme Audit Institutions
IPPs	Independent Power Producers
IPSAS	International Public-Sector Accounting Standards
ISA	International Standards on Auditing
ISDB	Islamic Development Bank
IVA	Independent Verification Agent
JICA	Japan International Cooperation Agency
KfW	Kreditanstalt für Wiederaufbau
kWh	Kilowatt-hour
LCP	Least Cost Plan
MCC	Metering Control Centre
MEWR	Ministry of Energy and Water Resources
MOHSP	Ministry of Health and Social Protection
MIGA	Multilateral Investment Guarantee Agency
MOF	Ministry of Finance of the Republic of Tajikistan
MW	Megawatt
NGO	Non-governmental organization
NPV	Net Present Value
OJSC	Open Joint Stock Company
O&M	Operation and Maintenance
PforR	Program-for-Results
PAP	Project Action Plan
PCB	Polychlorinated biphenyl
PDO	Program Development Objectives
PEC	Pamir Energy Company
PEFA	Public Expenditure Financial Accountability
PFM	Public Financial Management
PFMPP	Public Finance Management Modernization Project
PIPAA	Public Institute of Professional Accountants and Auditors
PMU	Project Management Unit
ESPMU	Energy Sector Project Management Unit
POPs	Persistent Organic Pollutants



PPA	Power Purchase Agreement
PPL	Public Procurement Law
PPP	Purchasing Power Parity
PRG	Project Realization Group
PSIA	poverty and social impact assessment
QCBS	Quality and Cost Based Selection
RE	Renewable Energy
ROSC	Report on the Observance of Standards and Codes
RSS	Reliability and Safety Service
SAI	Supreme Audit Institution
SAPP	State Agency for Public Procurement
SB	Supervisory Board
SECO	Swiss Secretariat for Economic Affairs
SEE	State Ecological Expertise
SIB	Shabakahoi Intiqoli Barq
SOE	State Owned Enterprise
STB	Shabakahoi Taqsimoti Barq
TALCO	Tajikistan Aluminum Company
TJS	Tajik Somoni
T&D	Transmission and Distribution
TFMIS	Treasury Financial Management Information Systems
TOU	Time of Use
TSA	Targeted Social Assistance
USAID	United States Agency for International Development
VAT	Value Added Tax
WA	Withdrawal Application
WTP	Willingness-to-Pay



BASIC INFORMATION

Is this a regionally tagged project?		Financing Instrument
No		Program-for-Results Financing
Bank/IFC Collaboration	Does this operation have an IPF component?	
No	No	

Proposed Program Development Objective(s)

The program development objectives are to improve the financial viability, increase the reliability of electricity supply, and strengthen the governance of BT.

Organizations

Recipient: Republic of Tajikistan

Implementing Agency: Barqi Tojik
Ministry of Energy and Water Resources

COST & FINANCING

SUMMARY (USD Millions)

Government program Cost	1,508.59
Total Operation Cost	479.10
Total Program Cost	479.10
Total Financing	439.10
Financing Gap	40.00

Financing (USD Millions)

Counterpart Funding	257.96
Borrowing Agency	257.96
International Development Association (IDA)	116.00



IDA Grant	116.00
Financing Gap	75.00

Expected Disbursements (USD Millions)

Fiscal Year	2020	2021	2022	2023	2024	2025	2026
Absolute	0.00	43.06	46.10	14.64	9.20	11.90	9.1
Cumulative	0.00	43.06	89.16	103.80	113.00	124.90	134.00

INSTITUTIONAL DATA

Practice Area (Lead)

Energy & Extractives

Contributing Practice Areas

Climate Change and Disaster Screening

Yes

Private Capital Mobilized

No

Gender Tag

Does the program plan to undertake any of the following?

a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF

No

b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment

Yes



c. Include Indicators in results framework to monitor outcomes from actions identified in (b)

No

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	● High
2. Macroeconomic	● Substantial
3. Sector Strategies and Policies	● Substantial
4. Technical Design of Project or Program	● Substantial
5. Institutional Capacity for Implementation and Sustainability	● Substantial
6. Fiduciary	● High
7. Environment and Social	● Substantial
8. Stakeholders	● Substantial
9. Other	● Substantial
10. Overall	● Substantial

COMPLIANCE

Policy

Does the program depart from the CPF in content or in other significant respects?

Yes No

Does the program require any waivers of Bank policies?

Yes No



Legal Covenants			
Name	Recurrent	Due Date	Frequency
Conversion into equity of BT's fines and penalties to MOF for overdue debt service		Dec. 31, 2021	Continuous
Description of Covenant			
The Recipient shall, no later than December 31, 2021, convert into equity BT's penalties or charges due to the MOF for overdue debt service under the Group 1 Subsidiary Agreements, Group 2 Subsidiary Agreements, and Group 3 Subsidiary Agreements, and thereafter shall not apply new penalties or charges on BT debt service obligations to the MOF with respect of the abovementioned agreements that are not fully reflected in approved electricity tariffs of BT.			
Name	Recurrent	Due Date	Frequency
Long-term debt service coverage	X		Continuous
Description of Covenant			
Except as the Bank shall otherwise agree, BT shall not incur any debt unless a reasonable forecast of the revenues and expenditures of BT shows that the estimated net revenues of BT for each calendar year during the term of the debt to be incurred shall be equal to or more than the estimated debt service requirements of BT in such year on all debt of BT including the debt to be incurred.			

Conditions

Source of Fund	Name	Type
IDA	BT Subsidiary Agreement	Effectiveness
Description of Condition		
The BT Subsidiary Agreement has been executed on behalf of the Recipient (acting through MOF), in a manner acceptable to the Bank.		

TASK TEAM

Bank Staff

Name	Role	Specialization	Unit
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Ahmed Merzouk	Procurement Specialist	Procurement	GGOPC
Niso Bazidova	Financial Management Specialist (ADM Responsible)	Financial management	GGOEE
Garik Sergeyan	Financial Management Specialist	Financial management	GGOEE
Oxana Druta	Financial Management Specialist	Financial management	GGOEE



Javaid Afzal	Environmental Specialist(ADM Responsible)	Environmental	GENEC
Gennady Pilch	Lead Counsel	Legal	LEGOP
Jasna Mestnik	Finance Officer	Disbursements	WFACS
Eric Ranjeva	Finance Officer	Disbursements	WFACS
Suryanarayana Satish	Social Specialist(ADM Responsible)	Social	GSU03
Dung Kim Le	Team Member	Operational support	GEE03
Emil Zalinyan	Team Member	Financial analysis	IECE1
Hiwote Tadesse	Team Member	Operational	IECE1
Joerie Frederik de Wit	Team Member	Energy economist	IEEES
Katsuyuki Fukui	Team Member	Technical	IECE1
Natalia Manuilova	Team Member	Corporate governance	GGOEE
Pedro Antmann	Team Member	Technical	IAFE4
Oleksiy Sluchinskyy	Sr. Economist	Social protection	GSP03
William Seitz	Economist	Poverty analysis	GPV03
Audrey Sacks	Sr. Social Development Specialist	Gender	GSU03
Fatimah Shah	Sr. Operations Officer	PforR policy	OPSIL
Nigina Alieva	Communications Officer	Communication strategy	ECAEC
Extended Team			
Name	Title	Organization	Location
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Ezgi Canoplat	Social Development Consultant	The World Bank	Washington, DC
Savri Kurbanbekova	Social Development Consultant	The World Bank	Tajikistan
German Kust	Environmental Consultant	The World Bank	Russia
Mukim Temurov	Social Protection Consultant	The World Bank	Tajikistan
Malika Babadzhanova	Environmental Consultant	The World Bank	Tajikistan



**REPUBLIC OF TAJIKISTAN
TAJIKISTAN POWER UTILITY FINANCIAL RECOVERY PROGRAM**

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I. STRATEGIC CONTEXT

A. Country Context

- Tajikistan is a landlocked country located in southeast Central Asia. It has a population of 8.5 million and a Gross National Income per capita of US\$990 (current US\$, Atlas Method, 2017).** After a period of reduction in economic growth in 2014–2015 due to spill-over effects from Russia’s economic deceleration, growth has resumed. Specifically, real Gross Domestic Product (GDP) growth recovered to 6.9 percent in 2016 and 7.1 percent in 2017. Growth of GDP accelerated to 7.2 percent in the first half of 2018, up from 6 percent in the year-earlier period. Growth was largely supported by heightened public investment in infrastructure projects. On the supply side, the construction of the Rogun Hydropower Plant (HPP), now fully underway, and a strong performance by both industrial and agriculture sectors bolstered overall economic activity.
- Changes include the recent opening of borders with China and Uzbekistan during 2016–2017 and increased trade with Afghanistan.** These developments have reopened nearby export markets and reduced the costs of trading with new markets. To succeed in this potentially transformative move towards an economy integrated with neighbors and wider markets, Tajikistan will need to address principal structural and macroeconomic issues. Adopting policies that ensure opportunity for all, allow for more openness and accountability, and address inequalities will reduce fragility, increase resilience, and improve citizens’ standard of living.
- The combination of prudent monetary policy and lower imported food prices have resulted in subsiding inflationary pressures.** Relatively stable exchange rates from prudent monetary policy and the availability of food imports from Uzbekistan since the re-opening of bilateral borders has led to a decline in the consumer price inflation from 7.3 percent in 2017 to 3.9 percent in 2018. Specifically, with food accounting for more than 55 percent of the consumption basket, the dampening effects from food inflation offset increased water and electricity tariffs and the secondary effects from rising global oil prices. The National Bank of Tajikistan (NBT) has maintained its focus on absorbing excess liquidity from the market.
- Poverty has followed a declining trend, but still remains a challenge.** Poverty measured at the internationally comparable line (US\$3.2 per person per day at PPP) stood at 20.3 percent of the population in 2015, and is expected to have fallen to 15 percent in 2018. Based on the national definition, the poverty rate fell from 31 percent in 2015 to 27.4 percent in 2018. The poverty rate is substantially higher in rural and remote areas than in urban centers.¹
- Growth prospects are modestly positive.** Tajikistan’s outlook remains positive, building on Russian economic growth, up-trending global prices for major export commodities and further dynamism in the region. Growth is projected to average 6 percent in the medium term, supported by firm private consumption, a gradual rehabilitation of the banking sector, and continued investment in public infrastructure projects. Barring external shocks, the Central Bank’s inflation targeting framework is expected to keep inflation in the single digits. Based on the international measurement, the poverty rate is expected to fall to 12.5 percent by 2020.
- During 2019, Tajikistan has pursued a policy of fiscal consolidation, resulting in a fiscal deficit.** Notwithstanding high expenditures for Rogun HPP investment and a shortfall of tax revenue collections relative to projected budget figures, the country is expected to have spent US\$0.5 billion from the September 2017 issuance of Eurobonds. The Government has focused its fiscal policy attention on domestic revenue mobilization,

¹ Based on Data from the Agency of Statistics of the Republic of Tajikistan.



while seeking to identify least-cost financing options for, specifically, the ongoing Rogun project. Parallel efforts towards the financial recovery of the public power utility are aimed at reducing budgetary subsidies to state-owned enterprises.

7. **The high import content of the Rogun investment may continue to exert pressures on Tajikistan’s balance of payment considering the currency exchange risks.** Beyond the reliance on inflow of remittances, the focus on improvement of the private sector-enabling business climate, including through ongoing tax reform and trade facilitation efforts, supports the objectives of increasing the economy’s export reliance, a development spearheaded by, inter alia, the energy sector with high growth rates of exports to Uzbekistan and Afghanistan.

8. **Loss-making SOEs are a drag on the government budget and the private sector activity.** Barqi Tojik Open Joint-Stock Holding Company (BT) accounts for over 80 percent of total SOE debt to the Ministry of Finance (MOF). BT’s debt to MOF is comprised of: (a) TJS7.9 billion long-term debt under Subsidiary Agreements with the MOF, which were signed to on-lend to BT the resources received by MOF from various development partners for investment projects; (b) TJS2.5 billion² current portion of long-term debt; and (c) TJS2.2 billion interest payable for loans from MOF.

B. Sectoral and Institutional Context

9. **The power sector is comprised of the vertically integrated energy company, BT, three independent power producers (IPPs), and a concession in Gorno-Badakhshan Autonomous Oblast (GBO) combining power generation and distribution.** BT is a state-owned company which owns and operates most of the electricity generating plants and is also responsible for electricity transmission, dispatch, and distribution services to around 9 million people in all regions of the country, except for GBAO. Two of the IPPs – Sangtuda-1 and Sangtuda-2 hydropower plants (HPPs) – were constructed with investments from Russian and Iranian state-owned companies and supply electricity to BT under 20-year Power Purchase Agreements (PPAs). The third IPP – Rogun HPP – is under construction. Pamir Energy Company (PEC) generates and supplies electricity to around 245,000 people in GBAO under a 25-year concession agreement.

10. **The Government has initiated optimization of the organizational structure of BT and its unbundling into separate electricity generation, transmission, and distribution companies.** The main objective of unbundling is to improve operational and financial performance by clearly defining the technical boundaries of assets along the value chain and improving the financial discipline, including involvement of a management contractor for electricity distribution. Therefore, as a first step, in June 2019,³ the Government established, under BT, the new state-owned electricity transmission and distribution companies - Shabakahoi Intiqoli Barq (SIB) Open Joint-Stock Company (OJSC) and Shabakahoi Taqsimoti Barq (STB) OJSC respectively. The new companies are legally separate, but not independent. BT would remain state-owned and operate all state-owned electricity generation plants except for Rogun HPP. The Government does not have any plans to privatize BT, SIB, or STB during the implementation period of the proposed Program for Results (PforR) operation.

11. The unbundling was also driven by the need to: (i) optimize the structure of BT by combining several regional electricity distribution and some other service provider companies owned by BT into a single electricity distribution company and one electricity transmission company; and (ii) divest non-core business related assets (e.g. kindergartens, guest houses). The newly-established companies would become operational by the end of

² As of Dec. 31, 2017. For all financial data as of Dec. 31, 2017, the following exchange rates were used US\$1 = TJS8.82; €1 = TJS10.58; 1P = TJS0.15; and 1XDR = TJS12.53.

³ The Government Decision No. 330, dated June 22, 2019.



2020 given that some other important activities are still ongoing: (a) transfer of assets and liabilities; (b) appointment of staff; (c) selection of the supervisory board members; and (d) appointment of management; etc.

12. **Rogun Joint Stock Company is responsible for construction and operation of Rogun HPP.** The Government has started construction of the 3,600 MW and US\$3.9 billion Rogun HPP through the incorporated Rogun Joint-Stock Company, which is legally independent from BT. The Government expects the project to create significant economic benefits through increased electricity exports. The project is under construction and the first 600 MW unit was commissioned on November 16, 2018. The total design capacity will be available once the design height of the dam is reached and the reservoir is filled to the required operational level, which is expected by 2029. The project is expected to generate 13,000 GWh annually to meet the domestic and export demands for electricity. Currently, there are no long-term power purchase agreements for export of electricity from Rogun HPP.

13. **Electricity supply mix is comprised of hydropower and thermal generation.** The total installed generation capacity of Tajikistan is 6,100 MW and HPPs account for 90 percent. The 3,000 MW Nurek HPP, with a seasonal reservoir, is the largest generating plant in operation. HPPs account for 94 percent of the total annual energy generation in the country. The thermal power plants are operated in winter to supply electricity and heat given: (a) high winter electricity demand, which accounts for 60 percent of annual demand; and (b) limited generation by HPPs due to hydrology conditions. The bulk of thermal energy-based generation comes from the new 400 MW coal-fired Dushanbe-2 combined heat and power plant (CHP), which was completed in 2017. BT also operates the 200 MW Dushanbe-1 CHP, which is run on heavy fuel oil (HFO).

14. **Electricity demand increased in 2017.** Total annual net domestic electricity demand in BT service area⁴ was 13,549 GWh in 2017. This is an increase of 5.5 percent over 2016, which is driven by recovery of GDP growth rates after deceleration in 2014, including reduction of consumption by the single largest industrial consumer – Tajikistan Aluminum Company (TALCO). It should be noted that TALCO’s demand has reduced from about 40-45 percent of total domestic consumption in 2009-2013 to 20-25 percent in 2014-2017 due to: (a) reduction in output from the plant due to depressed global prices of the final product; and (b) implementation of energy efficiency (EE) measures at the plant. Several of those measures were informed by the Energy Audit at TALCO, which was conducted in 2012 with the support of the Bank’s Energy Loss Reduction Project.

15. **Demand is highly seasonal, with a winter peak driven by reliance on electricity-based heating.** BT has been struggling to fully meet this winter electricity demand given reliance on hydro and unfavorable hydrology conditions in winter. On the contrary, there has been significant electricity surplus in the summer given the abundant hydropower resource. The winter peaks have reduced since resumption of district heating (DH) supply to some parts of the capital city of Dushanbe after commissioning of Dushanbe-2 CHP and gradual rehabilitation of the DH network.

16. **The Pamir Energy Company (PEC) generates and supplies electricity to around 245,000 residential consumers in GBAO under a 25-year concession agreement.** PEC is a special purpose company, which is owned 70 percent by the Aga Khan Fund for Economic Development (AKFED) and 30 percent by the International Finance Corporation (IFC). It operates GBAO’s power generation and distribution under a 25-year concession agreement, which was signed on May 24, 2002 (and expires in 2026), by the Government and PEC. The company constructed and currently operates ten medium and small HPPs, which account for 90 percent of the supply to GBAO consumers. Some electricity is also supplied to the GBAO grid from BT network.

17. **Electricity demand and supply in PEC service area.** The total electricity demand in GBAO is estimated at 220 GWh per year, including an estimated 20 GWh of unmet electricity demand from consumers without access. The

⁴ Excluding the unmet demand of settlements without access to electricity.



supply reliability has significantly improved since the construction and rehabilitation of new HPPs, primarily Pamir I. Currently, PEC is able to ensure reliable and adequate electricity supply to grid-connected consumers in GBAO, but additional investments would be required to connect 11,666 residential consumers and to meet the projected increase in electricity demand.

18. **The Government embarked on a comprehensive program to improve electricity supply reliability in GBAO.** PEC has started implementation of high-priority projects, which would help to reliably meet electricity demand for grid-connected customers, and provide electricity service to customers without access to electricity. Those include the Rural Electrification Project supported by the Bank, construction of Sebzor HPP supported by Kreditanstalt für Wiederaufbau (KfW) and European Union (EU), and transmission lines supported by the Bank and Swiss Secretariat for Economic Affairs (SECO).

19. **The Tajik power system was disconnected from the Central Asian Power System (CAPS) since 2009.** Following independence in 1991, Tajikistan continued to be a member of the CAPS. However, several years after independence Tajikistan had to disconnect from CAPS due to reasons beyond its control to avoid technical failures on the Tajik network.

20. **Electricity exports are increasing, and regional connectivity is improving.** Currently, BT exports around 2,500 GWh of electricity per year, including to Uzbekistan, but exports could be significantly increased with synchronization of Tajikistan with the Uzbek network and expected commissioning of 1,300 MW Central Asia South Asia (CASA-1000) Project in 2022. BT is currently implementing two important projects aimed at improving regional connectivity and increasing its participation in regional electricity trade:

- **US\$1 billion Central Asia South Asia (CASA) Electricity Transmission and Trade Project (CASA-1000)**, which would allow Tajikistan to export about 3,000 GWh of electricity to Afghanistan and Pakistan during the months of April-October starting from 2022.
- **US\$35 million Reconnection to the CAPS Project**, which would strengthen the relay protection and synchronize Tajikistan and Uzbekistan electricity networks. This would allow Tajikistan to export up to 3,200 GWh of electricity (starting from 2023) using the existing 220 and 550 kV transmission lines with Uzbekistan.

Financial and Operational Challenges of BT

21. The power system is currently facing the key challenges below, which need to be addressed to ensure adequate and reliable electricity supply, and a financially sustainable power sector.

22. **Challenge #1: Financial distress of BT.** BT has been in financial distress due to: (a) below cost-recovery tariffs; (b) unsustainable and increasing debt levels; (c) low collection rates for billed electricity; (d) operational inefficiencies; (e) lack of opportunities for realization of full export potential; (f) previously non-competitive procurement of a portion of the heavy fuel oil (HFO) required for CHPs; and (g) depreciation of TJS vs US\$. This has led to significant deterioration of financial standing of BT with severe cash flow shortages.

23. **BT has a sizeable cash deficit because tariffs are below cost recovery levels and there are operational inefficiencies.** The significant increase in cash costs, which were not fully passed through to end-user tariffs, coupled with operational inefficiencies, resulted in significant cash deficit⁵ of BT, which is estimated at TJS11.7

⁵ Difference between cash sales and accrual-based costs related to core business activities: cost of electricity from IPPs; O&M; liabilities related to repayment of outstanding principal amounts of debt; interest costs; accumulated payables to IPPs, and taxes.



billion (US\$1.2 billion) as of 2018. This cash deficit can only be eliminated in case the Government implements gradual tariff increases coupled with financial measures and operational efficiency improvements by BT.

24. **BT's revenues grew by 36 percent in 2015-2017 due to tariff increases, but expected positive impact was negated by low collection rates for billed electricity and significant increase in main costs.** In 2017, BT earned TJS2.1 billion (US\$240 million) from sales of electricity. The Company supplied 13,562 GWh of electricity to domestic consumers at an average tariff of 15.92 diram/kWh (USc 1.8/kWh), VAT inclusive, and exported 1,421 GWh to Afghanistan and the Kyrgyz Republic at weighted average export tariff of US\$0.035/kWh.

25. **Despite some improvement since 2015, the collection rate for billed electricity at 85 percent (2018) remains below 95 percent, the threshold level for well-functioning energy companies.** Collection rates have improved for TALCO, state budget financed organizations, and pumping stations. In particular, TALCO has been paying almost in full for electricity consumed since 2016 and even settled some of the outstanding old payables for electricity. As of end-2018, BT's receivables from TALCO stood at TJS400 million (US\$43 million).

26. **TJS denominated main costs of BT significantly increased since 2015.** The largest costs of BT – energy purchased from IPPs, debt service, and fuel costs – significantly increased since 2015 due to an increase of commercial debt and depreciation of the local currency to the US\$.

- i. **Cost of energy under PPAs with IPPs.** Specifically, the cost of energy from Sangtuda-1 and Sangtuda-2 IPPs increased by over 20 percent since PPAs for the supply of energy from both of those IPPs are denominated in US\$. In 2017, the local currency denominated energy cost for both IPPs increased to TJS700 million, compared to TJS390 million for an equivalent volume in 2015. BT was able to pay only TJS360 million. BT plans to repay the outstanding balances of payables to both IPPs by 2023 as progress is made with implementation of the Government program for Financial Recovery of BT (adopted on April 5, 2017 and updated in April 15, 2019). It should be noted that the PPAs for both IPPs are structured such that the BT or the Government, as the back-stopper of BT obligations under the contracts, do not assume risks beyond those under traditional hydro IPP projects.
- ii. **Debt service costs.** Local currency debt service costs of BT increased significantly since 2014 due to: (a) an increase of US\$ denominated long-term borrowing from MOF; (b) an increase of US\$ denominated commercial debt; and (c) a depreciation of TJS.
 - *Borrowing by BT from MOF increased by US\$350 million in 2014-2017* due to additional sovereign-guaranteed credits and grants received by MOF and on-lent to BT for the implementation of various investment projects in the power sector. Financing for those projects was provided by International Financial Institutions (IFIs) and bilateral agencies as grants and sovereign-guaranteed loans and credits, mostly with concessional terms. It should be noted that MOF on-lent US\$200 million equivalent of grants as loans to BT with annual interest rates of 4-6 percent. Concessional loans and credits were also on-lent to BT at 4-6 percent annual interest rates, which is significantly higher than the rates in the original financing agreements between MOF and the financiers. Interest payments on these loans contributed to a significant increase in debt service costs of BT.
 - *BT's outstanding commercial loans reached TJS1.7 billion (US\$180 million) as of end-December 2018.* Those include a number of TJS denominated loans taken from Orienbank in 2011-2012 for financing of recurrent expenditures (salaries, payments to suppliers, etc.) at an annual effective interest rate of 25 percent. The interest rate at the time of borrowing in 2011 was commensurate with the prevailing market rates for loans with similar maturities and credit risk. The original



amount of the principal of those loans was TJS347 million (US\$73 million)⁶ in 2012 and was denominated in local currency. However, BT was struggling to make timely interest payments and, as per terms of the loan agreements, the unpaid interest was capitalized and added to the principal amount. BT requested Orienbank to convert the loans to US\$ denomination in 2016 to allow reduction in interest rate to 23 percent, which was also commensurate with then prevailing market rates.⁷

iii. **TJS depreciated by 66 percent in 2014-2017.** Depreciation of TJS vs US\$ and some other currencies in which BT debt was denominated, significantly increased the debt service costs in local currency given that BT's revenues are also in local currency. The increase in debt service costs was not reflected in the tariffs and the tariff increases in 2017-2018 did not allow to compensate for the negative impact of this depreciation on cash costs of BT.

iv. As a result, BT stopped servicing the debt from MOF and the latter had to fulfil the obligations assumed under international financing agreements using the state budget revenues. Due to overdue payments, MOF applied fines and penalties, which reached TJS2.66 billion (US\$300 million) as of end-2017.

a. **Non-competitive purchase of Heavy Fuel Oil (HFO).** In 2015-2017, BT purchased about 67,000 tons of HFO each year for its Western Boiler House and Dushanbe-1 CHP. The fuel is needed to supply district heating to parts of Dushanbe city. BT purchases HFO from two sources: (a) 45,000 tons through an agency, which carries out competitive procurement process; and (b) 22,000 tons under single-source contract as per requirements of a Government decree. The price paid in 2016-2017 for HFO purchased under single-source contract (US\$750/ton) was about 25 percent higher than the price of HFO in contracts that were signed following competitive procurement process (US\$600/ton). This has resulted in US\$3.3 million of additional cost to BT.

27. **Excessive electricity losses also contribute to cash shortages.** Total electricity losses at BT are estimated at 24 percent of total annual electricity generation. This number is based on 16 percent of technical losses, reported by BT, and an estimated 8 percent of commercial losses, which are recognized in BT unaudited annual financial statements as part of annual sales. The accepted level of technical losses in power systems with similar configuration and age should be around 11-12 percent. The excessive technical losses are due to under-spending on network rehabilitation and upgrades. Additionally, there are issues with metering given that wholesale meters at substation level are not installed at all required places to properly account for electricity flows. The same applies to retail/consumer-level metering infrastructure, which needs to be replaced in most of the regions coupled with introduction of adequate billing infrastructure.

28. **The Government has undertaken measures to improve the financial performance of the sector.** The investment projects for rehabilitation of Nurek, Kairakum, and Golovnaya HPPs, which are supported by development partners, would secure continued supply of low-cost electricity, which would be critical for improvement of the operating cash flow of BT. Implementation of all those projects is progressing well without major issues. Under Nurek Hydropower Rehabilitation Project (Phase I), which is financed by the Bank, Asian Infrastructure Investment Bank (AIIB), and the Eurasian Development Bank, BT undertook the commitment to comply with various technical and financial covenants in the financing agreement of the project. BT is in compliance with all the covenants except for the covenant on improvement of collection rates for billed electricity and short-term debt service. Going forward, BT would ensure compliance with further improvement of metering and billing, as well as renegotiation of the terms of its commercial loans.

⁶ Exchange rate as of Dec. 31, 2012: US\$1 = TJS4.77.

⁷ Based on the data from the National Bank of Tajikistan.



29. Additionally, BT successfully implemented Advanced Metering Infrastructure (AMI) project in Khujand, which yielded significant improvements in billing rates, collections, and reduced technical and commercial electricity losses. The details are discussed in the Program description related to further roll-out of AMI in other cities and regions.

30. **Challenge #2: Reduction of electricity supply reliability due to issues on electricity transmission and distribution (T&D) networks.** The financial distress of BT impacted the reliability of electricity supply, which deteriorated due to obsolescence and under-maintenance of the electricity T&D networks. BT has 450 T&D substations, which require urgent rehabilitation of key equipment. Most of those substations were constructed in the 1960-70's and have not undergone any major capital upgrade. This has resulted in an increased number of outages, which often times result in black-outs for consumers. BT was able to finance only the most urgent rehabilitation and replacement of assets where deferral of spending was not feasible due to significant technical risks and severe consequences in terms of end-user supply reliability. Specifically, the number of equipment failures in T&D networks increased from 2,237 in 2014 to 2,417 in 2017.

31. **Challenge #3: Weak governance and lack of transparency at BT.** The financial distress of BT is also caused by a lack of planning of investments and expenditures and gaps in accounting and financial reporting of BT related to revenue recognition due to issues linked to commercial losses of electricity. Additionally, BT needs to introduce proper planning of investments and expenditure into generation, transmission, and distribution. Currently, there is no generation expansion plan, which is prepared consistent with the principles of least economic cost planning. BT does not have a T&D investment program that draws upon the planned generation investments and takes into account the need for replacement of ageing and unreliable assets. Moreover, BT does not disclose the key operational⁸ and financial⁹ data and information related to its activities, which is important for building consumers' support for ongoing and planned investments and building the trust and credibility with potential lenders and investors.

Ongoing BT Restructuring

32. **Good momentum with power sector restructuring.** The Government, with support from the Asian Development Bank (ADB), has been carrying out sector reforms to unbundle BT into separate power generation, transmission and distribution, and plans to establish a market operator. The new state-owned electricity transmission (SIB) and distribution companies (STB) have already been established as separate legal¹⁰ entities under BT, which would remain state-owned and operate all state-owned power generation assets except for Rogun HPP. The restructuring was also driven by the need to optimize the structure of BT by reducing and merging some subsidiaries and other companies wholly-owned by BT. The Government plans to engage a management contractor by 2022 for operation of the newly-created electricity distribution company. The planned involvement of the private sector into operation of the electricity distribution company under a management contract is expected to further reorient the company from bureaucratic and political incentives to profit-seeking, cost control, and customer orientation. The management contract for electricity distribution would need to have clear baseline and unambiguous set of performance indicators and vest enough authority to the management contractor to make operational decisions (e.g. enforcement of payments through disconnection of service).

⁸ Quarterly generation, transmission, exports, imports and domestic consumption data.

⁹ Quarterly un-audited financial statements.

¹⁰ Not independent.



33. The new companies have improved corporate governance structures with elements consistent with good international practice, including the requirement to create supervisory boards (SBs) for each of the companies that may include independent members with significant experience in the power sector.

34. The current dynamics is most conducive for promoting reforms. There is support from the senior authorities to reform the power sector, as manifested in the progress with reforming the electricity tariff structure, regular tariff increases consistent with the agreements reached during preparation of the Nurek Hydropower Rehabilitation Project (Phase I), and alignment of the development partners' views on several of the priority measures to improve operating and financial performance of BT.

Rationale for Bank Involvement

35. The proposed Program will ensure reliability of electricity supply in Tajikistan by addressing the critical issues hindering long-term financial viability of BT. Without the Program, BT will continue to accumulate debt and obligations from O&M suppliers, which will undermine its ability to carry out necessary and timely repair and maintenance of its core assets. In turn, this will increase the number of unplanned shut-downs and failures for its main power plants, as well as undermine the reliability and quality of its T&D system. Combined with reduced supply from Sangtuda-1 IPP, without the Program, this will lead, in time, to major electricity shortages throughout the country. The details on the extent and causes of deterioration of BT's financial standing, as well as the current situation, are presented in Annex 4.

Climate Change Context

36. Tajikistan is at risk of hydrometeorological hazards and natural disasters. Frequent natural disasters include landslides, floods, flash-flooding, mudflows, droughts, avalanches, heavy winds and storms. These risks are in part due to the country's complex mountainous terrain, but are expected to be exacerbated and heightened through expected climate changes. The projected impacts from climate change make Tajikistan increasingly vulnerable to: heavy precipitation, landslides, earthquakes, and floods. Climate change is also expected to increase risks and severity of natural disasters. In recent years, the number of natural disasters has increased nearly three times and, in many cases, have been considered as catastrophic, causing fatalities and leading to significant economic losses. The Program activities will help address this vulnerability context and increase the resilience of the T&D network to anticipated adverse effects of climate change.

C. Relationship to the CPF and Rationale for Use of Instrument

37. **The proposed Program is fully aligned with Tajikistan's FY2019-23 Country Partnership Framework (CPF).** Specifically, the Program will contribute directly to the achievement of Objective 4 (*Improved Financial Viability of Public Electricity and Water Utilities*) under the CPF Focus Area II (*Public Institutions and Sustainability*). Indirectly, the Program will also contribute to the two other CPF Focus Areas:

- *Focus Area I (Human Capital and Resilience).* Reliable electricity supply is an essential prerequisite for enhanced educational, social and health services. It is not possible to ensure quality delivery of educational, social and healthcare services if there are frequent electricity outages and supply interruptions. This creates not only significant additional costs for public and social facilities, but also significantly impacts the quality of the services.
- *Focus Area III (Enabling Private-Sector Growth and Creating Markets).* Reliable electricity supply is an important precondition for improved economic opportunities and, thus, private sector led economic growth. The Program would also contribute to the expansion of electricity export opportunities. If BT is not financially sustainable, then its ability to implement regional trade of electricity would be



undermined. There will be limited appetite to deal with a financially distressed entity not capable of honoring its contractual obligations.

38. **The Program is also aligned with the World Bank (the Bank) Group’s Energy Sector Directions Paper and the Sustainable Development Goal No. 7** - ensuring access to affordable, reliable, sustainable, and modern energy for all.

39. **By improving financial viability of BT and reliability of electricity supply, the Program contributes to the Bank’s twin goals, specifically to reduce extreme poverty.** When households experience electricity supply outages and voltage fluctuations, it creates economic costs for them. During electricity supply outages, low-income households resort to candles for lighting and firewood and coal for cooking, which are inefficient and harmful to their health and the environment. The lack of reliable electricity also undermines productivity of businesses and other commercial consumers, which often need to install expensive back-up options based on diesel. The economic costs of unreliable electricity supply for small and medium size enterprises (SOEs) could be substantial given the foregone revenues and damaged production/inventory due to unreliable electricity supply. More than 10 percent of firms reported electricity related issues as the single biggest impediment to their business in the last World Bank Enterprise Survey. High-income households often revert to diesel generators, which are costly compared to grid electricity, and unaffordable for low-income households.

40. **The proposed Program addresses the binding constraints for attracting private financing in the sector and is consistent with the “Maximizing Finance for Development” approach.** The Program supports achieving financial sustainability in the power sector and strengthening sector governance, which would help to improve the environment for private investment. These measures should help to improve the creditworthiness of BT and establish a track record of sustainable operation, thus helping to unlock much-needed commercial financing from local and international capital markets, as well as public financing from different development finance institutions. Improvement of the financial standing of BT could also facilitate engagement of the IFC and the Multilateral Investment Guarantee Agency (MIGA) in the power sector.

41. **By addressing the reliability of supply, the proposed Program supports key priorities of Tajikistan’s Nationally Determined Contribution (INDC) to mitigate greenhouse gas (GHG) emissions.** In particular, the INDC for Tajikistan specifies a flexible target, not exceeding 80-90 percent of the 1990 level by 2030, which amounts to 1.7-2.2 tons of CO₂ equivalent per capita, as the country’s contribution to anthropogenic GHG emission reductions. The Program will help to avoid increased reliance on alternative energy consumption, which includes back-up diesel generators, candles for lighting, firewood and coal for cooking in low-income households, in case the financial condition of BT deteriorates to an extent where reliable operation and supply of hydropower, which currently accounts for 94 percent of total supply, becomes unfeasible.

42. **The Bank support to the power sector is proposed as a Program-for-Results (PforR) financing.** The PforR instrument provides important advantages. First, it provides incentives to start implementing critical policy, financial, and other operational improvements, while increasing transparency and accountability in the administration of the sector going forward. Second, it will provide incentives for implementation of sound policies (e.g. implementation of new electricity tariff methodology) and improvements in financial and operational performance. Third, given that the PforR lends support to a well-defined Government program that enjoys broad ownership and employs a focus on results, the PforR instrument provides a strong platform for managing program risks as implementation progresses. And, finally, considering the need to build capacity, the use of country systems for implementation, combined with implementation support provided under the operation, will support strengthening and enhancing development impact and sustainability of results achieved.



II. PROGRAM DESCRIPTION

A. Government Program

43. The “Government program for Financial Recovery of BT” includes policy, financial, and operational measures aimed at improving the financial viability of BT and increasing reliability of electricity supply. To ensure reliable electricity supply and improvement of the financial viability of BT, the Government intends to undertake several critical steps, which are reflected in the Government program, which was approved on April 15, 2019. The total size of the Government program for 2019-2025 is US\$1.5 billion, which will be financed from BT’s additional cash flows and cost savings due to implementation of operational and financial efficiency improvements; ADB’s support for introduction of metering and billing in the city of Dushanbe and maybe some additional urban centers; and the financing under the proposed PforR operation comprised of the Bank grant and potential co-financing from other development partners. The Program financing details are presented in the subsequent section.

44. The Government program includes the following key measures.

Group 1: Policy Measures:

- a. Achievement of cost-recovery end-user tariffs. This means: (i) adoption of new electricity tariff methodology; and (ii) consistent implementation of new electricity tariff methodology that would allow for full recovery of electricity supply costs by BT, including full pass-through of the cost of electricity purchased from IPPs. The new electricity tariff methodology was approved by the Government Decree No. 331, dated June 22, 2019. The new methodology will be implemented in two phases. The first phase will include a relatively simplified approach to tariff-setting, which would involve single energy-based tariff for generation, transmission, and distribution, as well as one-part energy tariff for end-users. This would allow for reaching full cost recovery.¹¹ The second phase will include introduction of fixed and variable charges for generation companies under BT, as well as time-of-use (TOU) tariffs for end-users. This sequencing is driven by the need to ensure adequate time period for BT and the Anti-Monopoly Committee (AMC) to build their capacity. The details are presented in the Technical Assessment Report. The tariff increases would need to be accompanied by adequate mitigation of socially vulnerable consumers and would include roll-out of the Targeted Social Assistance (TSA) program combined with introduction of lifeline/block tariffs.
- b. Establishment of an energy regulator and ensuring it has the capacity to review and approve the tariffs as per new methodology. Initially, the tariff related regulatory function will be carried out by the Tariff Unit to be established within AMC.
- c. Competitive purchase of equipment, materials, fuel, civil works, and consulting services above certain threshold value.

Group 2: Financial Measures:

- a. Revision of Subsidiary Agreements signed between MOF and BT under various donor-financed projects, supported by international or bilateral financial institutions, to align the terms with original terms of financing as made available to the Republic of Tajikistan;

¹¹ Revenue required to cover all O&M costs, cost of energy from IPPs, depreciation expenses, taxes, and return on assets.



- b. Conversion into equity of BT's fines and penalties for overdue principal repayments and interest on funds received from MOF under Subsidiary Agreements;
- c. Collection of receivables using legal mechanisms within existing legislative framework (e.g. law suits at court for administrative and economic matters);
- d. Write-off of non-performing debts of BT to third parties and unrecoverable receivables from bankrupt or dissolved companies;
- e. Improvement of inventory management efficiency at BT;
- f. Gradual reduction of payables;
- g. Gradual repayment of short-term commercial debt to a justified and sustainable level. This will include renegotiation of terms and gradual repayment of the commercial loans to Orienbank from additional cash and cost savings accruing to BT from implementation of the measures in the Government program.
- h. Introduction of AMI in the cities of Istaravshan, Isfara, and Konibodom.

Group 3: Supply Reliability and Operational Measures:

- a. Adequate electricity supply from Sangtuda-1 and Sangtuda-2 IPPs;
- b. Timely rehabilitation and upgrade of key electricity T&D assets;

Group 4: Institutional Strengthening and Corporate Governance Measures:

- a. Use of technically, economically, and financially sound principles for investment decision-making in generation, transmission, and distribution;
- b. Introduction of good-practice corporate governance principles at BT;
- c. Implementation of good-practice corporate governance principles at BT and newly-established companies.
- d. Estimation and formal recognition (in operational and financial reporting) of commercial energy losses of BT.
- e. Improved operational and financial transparency of BT.

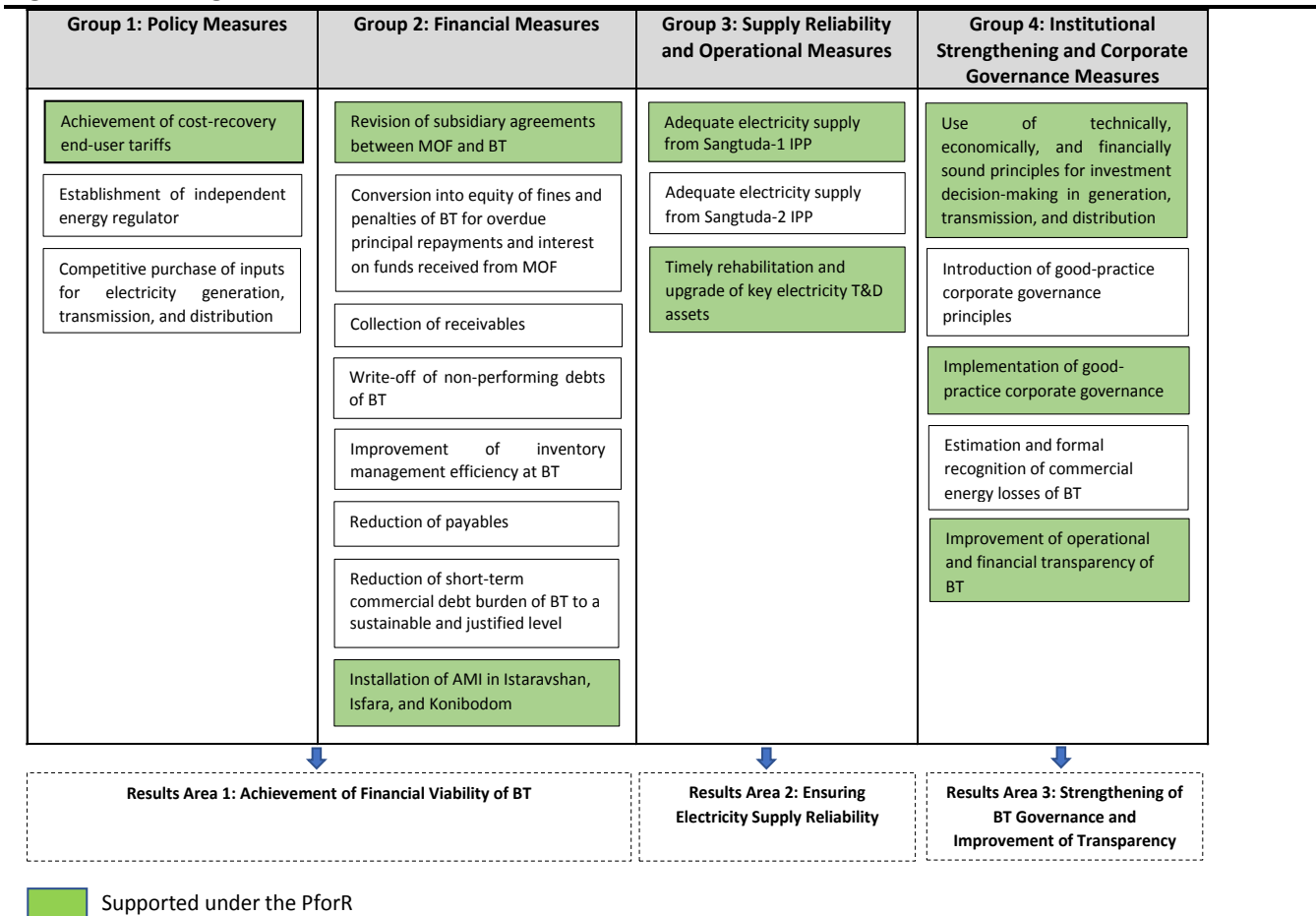
45. **The Government program has specific financial and reliability outcome indicators.** The key objectives of the Government program are to eliminate the cash deficit of BT and improve reliability of electricity supply. The Government program covers the period from 2019 to 2025. The cash deficit is measured as the difference between the cash revenues of BT from domestic sales and exports and accrual-based costs comprised of direct production costs, selling costs, general and administrative expenses, and costs related to liabilities. The details on computation of the cash deficit are presented in the Disbursement Verification Protocol Table in Annex 2. The Government program also includes an outcome indicator for improvement of electricity supply reliability, which is measured through the reduction of equipment failures in electricity T&D networks of BT at substations and on lines.

B. PforR Program Scope

46. **The part of the Government program supported under the proposed PforR will cover the key measures across all four groups.** The Program would cover the period of 2019-2025. The Program to be supported under the PforR has an estimated cost of US\$479 million. The Program will be financed from BT's own resources, the proposed IDA grant, and other sources to be secured by the Government. The measures are grouped into three Results Areas.



Figure 1: The Program Boundaries.



Source: Bank team.

Results Area 1: Achievement of Financial Viability of BT

47. **Achievement of cost-recovery end-user tariffs.** Cost recovery tariffs are the most important element of long-term financial viability of any power utility company. BT’s end-user tariffs have historically been below the level of cost recovery. The average end-user tariff for 2017 was estimated at 20 percent of cost recovery level.¹² This was due to short-comings in the tariff setting methodology – in use until June 2019 – which did not allow for inclusion of some costs into BT’s tariff, and very few instances of tariff increases to reflect the changes in the cost of electricity supply. The situation has changed since 2016 and the Government has already implemented five tariff increases with the last one effective from October 2019. It is important to continue regularly adjusting the tariffs considering the changes in the costs of BT, as well as depreciation of the local currency.

¹² The cost recovery tariff was assessed following the cash needs approach. This was done through assessment of the amount of cash revenue that BT requires to fully finance the recognized recurrent expenses (accrual-based items in the financial statements), which include the O&M costs, administrative costs, capital repairs from own funds, pension liabilities, debt service, and taxes. It also assumes gradual repayment of accrued liabilities.



48. As noted, the previous tariff-setting methodology did not allow for inclusion into the tariff of all economically justified and reasonable costs incurred by BT to supply electricity to consumers. For example, the debt service costs, which is a significant cost item, were not included into the revenue requirement. The newly-adopted tariff methodology¹³ would allow for full recovery of cash costs at each segment of the power system value chain – generation, transmission, and distribution. Therefore, the cost-recovery in this particular case is defined as the total revenue required to cover cost of energy from IPPs; O&M costs; debt service; and taxes, and does not include return on assets.¹⁴ If the Government decides to also require return on assets/profit for BT, then tariff increases may be higher. One of the important elements of the new methodology is the mechanism to adjust BT's revenue requirement for fluctuations of foreign exchange (FR) against TJS. Specifically, it will allow for additional revenue to compensate BT's loss if FX appreciates against TJS and reduction of revenue of FX depreciates against TJS.

49. Currently, the end-user tariffs are differentiated by multiple groups of consumers, which is not supported by any clear allocation of costs, economically justified rationale or policy considerations. The end-user tariff structure would need to be revised and be based on certain technical and economic principles, such as voltage levels, and the cost of supply to each category of consumers.

50. Successful implementation of the new tariff methodology will require establishment of a competent regulatory body. In the short to medium-term, the Government plans to create an Electricity Tariff Unit under the AMC to be responsible for review of electricity tariffs for: (a) electricity generation, transmission, distribution, market operator, and settlement center services; and (b) all approved categories/groups of end-users. Based on the review, AMC will be making recommendations to the Government regarding recommended level of tariffs. In the long-term, the Government is considering establishing an independent energy sector regulator. In order for the new Tariff Unit to effectively implement its functions, the Government will need to: (a) adopt the required technical, legal, reporting and other rules and regulations required for functioning of the tariff department; (b) ensure that the Tariff Unit has the required financing and is adequately staffed with specialists possessing required qualifications; and (c) implement capacity-building and training of key staff. Discussions are underway with development partners to provide capacity building support to AMC.

51. **Revision of Subsidiary Agreements between MOF and BT.** The revision of some of BT's Subsidiary Agreements with MOF would help to significantly improve the financial standing of BT. Currently, BT has several grants and loans with terms that do not match the original terms of such financing provided to the Republic of Tajikistan. BT has about US\$450 million equivalent¹⁵ of liabilities to MOF, which were received as grants by the Republic of Tajikistan, and on-lent to BT as loans at interest rates ranging from 3 to 8 percent. Moreover, BT has about US\$960 million equivalent of loans that were received by the Republic of Tajikistan as loans and credits from various financiers and on-lent by MOF to BT under different terms. Specifically, the interest rates under these subsidiary agreements are between 1 and 5 percent higher than the interest rates under the original financing agreements.

52. The sustainability of debt service costs under the new Subsidiary Agreements will be ensured through the adoption of a decree/decision by BT's Supervisory Board prohibiting such borrowing if the costs of new loans or

¹³ The Government Decree No. 331, dated June 22, 2019.

¹⁴ The Government, as the owner of BT, in the medium term can forego return on assets from public policy perspective as long as it does not impact the ability of BT to finance the new capital investments. Without return on assets, BT will be able to borrow (public and commercially) given that it is expected to receive enough revenue through tariff to cover debt service.

¹⁵ US\$ equivalents were converted at the exchange rates as of the date of respective Subsidiary Agreements.



credits are not aligned with the terms in the respective legal agreements between the Republic of Tajikistan and various financiers.

53. **Installation of AMI in Istaravshan, Isfara, and Konibodom.** Installation of AMI and the upgrades to the electricity distribution network in those cities would contribute to sustainable increase of collection rates for billed electricity and reduction of commercial and technical losses. Therefore, those investments would contribute to long-term financial viability of BT through increase of cash revenues and reduction of costs.

54. The implementation of AMI and grid enhancement in the target cities is expected to: (a) sustainably reduce commercial electricity losses from 8.5 percent to 2 percent; (b) contribute to permanent increase of collection rates to 95 percent; and (c) improvement of the quality of electricity service provided by BT to its 125,000 residential (10 percent of total) and 5,000 commercial and industrial customers in those target cities. These investments under the Program are estimated at US\$24 million. Additionally, implementation of AMI will promote efficiency in consumption by targeted users, and provide detailed data needed for improvement of generation and demand balancing function. The proposed technical solution is robust and consistent with accepted industry standards for metering and billing systems as reflected in the detailed feasibility studies. The AMI will comprise: (a) installation of smart meters (with 2-way remote communication); (b) meter data collection and management (with automated data collection); and (c) billing system (with structured customer accounts and billing procedure based on accurate measured data, including customer relationship management (CRM)). BT plans to expand AMI to Dushanbe, Kulyob, and Bokhtar with support from ADB and EBRD. These projects, to be completed by 2023, would bring AMI coverage to 45 percent of total residential consumers in the country.

Results Area 2: Ensuring Electricity Supply Reliability

55. **Adequate electricity supply from Sangtuda-1 power plant.** Sangtuda-1 IPP accounts for 10 percent of winter electricity generation and therefore is critical for adequacy of electricity supply in the country. If Sangtuda-1 stops supplying electricity due to BT's continuously shrinking payments under the PPA, then the electricity supply gap will need to be filled in by more expensive imports of energy from Uzbekistan or other neighboring countries. There is not enough generation capacity in Tajikistan to substitute the supply from Sangtuda-1 IPP in winter. This is due to unfavorable hydrology conditions during the winter period. CHPs cannot increase output because they are already utilized at fully capacity during winter months to supply both electricity and heat for DH network. Therefore, discontinuation of supply from Sangtuda-1 due to non-payments by BT would lead to increase in the cost of electricity for domestic consumers.

56. **Timely rehabilitation and upgrade of BT's key electricity T&D assets.** This is essential for reducing the frequency of equipment failures and resulting electricity supply interruptions at BT's T&D assets and, therefore, improving the reliability of electricity supply. This would also increase the volume of sales and therefore contribute to the financial viability of the company.

57. The Government program plans to invest TJS617 million (US\$65.4 million) in rehabilitation and upgrade of key T&D assets in 2019-2024. Those investments include rehabilitation, replacement, and upgrade of key electricity distribution assets in 17 regional distribution networks of BT, which cover the entire service territory of BT. The upgrade and rehabilitation would include: (a) replacement of old oil circuit breakers with vacuum circuit breakers at substations; (b) replacement of disconnectors at substations; (c) repair and replacement of power and voltage transformers at substations; (d) installation of new relay protection and automation cubicles at substations; (e) construction of new 0.4 kV and 10 kV power distribution lines; and (f) rehabilitation of existing power distribution lines.



Results Area 3: Strengthening of BT Governance and Improvement of Transparency

58. **Implementation of good-practice corporate governance at BT.** This is an essential element of long-term financial viability of power utility companies, which was reviewed and confirmed by various empirical studies, including the recent Bank study.¹⁶ The governance of BT had shortcomings both on the level of corporate structures required to efficiently manage the company, including timely decision making, as well as the operational level. On June 22, 2019, the Government approved the new charters of the electricity transmission and distribution companies, which include sound corporate governance structure. Additionally, the required documents are being finalized to initiate selection of Supervisory Boards and formation of the specialized committees (audit and compensation), for the new companies. The Government would also need to carry out the required legislative changes to introduce similar missing elements of corporate governance into BT's charter.

59. The PforR would ensure that the newly-introduced elements of sound corporate governance are maintained throughout the implementation of the Program, including functional Supervisory Boards and specialized audit and compensation committees at BT generation, transmission, and distribution companies.

60. **Use of technically, economically, and financially sound principles for investment decision-making in generation, transmission, and distribution.** Preparation and reliance on generation and T&D network development plans is important for ensuring that electricity demand, both domestic and export, is met in a cost-efficient manner and considering the constraints in the power system and country-level constraints. Preparation and reliance on such plans are an important element of sound corporate governance, which helps to avoid excessive investments in capital-intensive projects that are not justified from the perspective of meeting the electricity demand in the country or supplying for exports.

61. Those investment plans will need to be based on the principles of technical feasibility, economic cost minimization, financeability and affordability. Currently, the Government makes decisions to pursue new capital investment projects, primarily in electricity generation, that are not always consistent with accepted good-practice principles of technical feasibility and economic least cost. Going forward, the Ministry of Energy and Water Resources (MEWR) should revisit the Power Sector Development Master Plan (Feb. 2017), which contains generation expansion scenarios, to update the generation expansion plan (GEP). This would ensure that only economically justified and technically feasible projects are pursued also considering the constraints related to availability of financing and considering the public borrowing space in case of projects with public participation.

62. Based on GEP, BT should also prepare T&D network development plans considering the planned generation capacity, system-wide power flow analyses considering expected changes in domestic demand, and other priority technical and reliability considerations. Therefore, it is important to support, as part of the Program, the technically rigorous and conceptually sound approach to power sector planning and prioritization of new investments in the power generation, transmission, and distribution sectors.

63. **Improvement of BT's operational and financial transparency.** Improved transparency of BT would contribute to the credibility of the power sector and the power sector investment environment in general, and, thus, would impact the financial terms of overall investments in the power sector and the lending to BT in particular. In their turn, the improved terms of lending to BT would reduce the debt service costs and therefore contribute to faster improvement of financial viability of the company.

64. Currently, BT publishes very little information on its operational and financial indicators beyond the mandatory requirement to publish the audited financial statements of BT and specific projects consistent with

¹⁶ Vivien Foster and Anshul Rana, "Rethinking Power Sector Reform in the Developing World," 2019, The World Bank.



the requirements of various international financial institutions. Moreover, the scarce information that is available to the general public is outdated. Over time, strengthened governance and accountability should translate to increased operational efficiency, including the reduction of technical, commercial and collection losses. With an overarching objective of improving sector efficiency, the PforR supports improved transparency. Specifically, the Program requires BT generation, transmission, and distribution companies to publish on their website the key operational and financial data for the power sector on a quarterly basis, including data on service quality.

Activities Excluded from the Program

65. The Program would not support the following activities:

- *Improvement of inventory management efficiency at BT.* This activity is not directly supported under the Program given that there is limited further improvement that can be realized. Maintaining current levels of inventory, as percentage of sales, would be sufficient from the perspective of long-term efficiency of BT operations.
- *Recovery of old receivables and write-off of past-due receivables with low probability of recovery.* This is an important step; however, it cannot be supported under the Program given that recovery and write-offs are linked to decisions to be made by courts, which are independent from the executive branch of the Government and, thus, would not be under direct control of the Government.
- *Conversion into BT's equity of fines and penalties due to MOF.* The conversion into equity of fines and penalties of BT for overdue principal repayments and interest on funds received from MOF under Subsidiary Agreements is essential, but is a one-time activity underpinning successful achievement of the broader Program results. This would be a dated covenant under the Financing Agreement to be signed with the Recipient under this operation.
- *Write-off of non-performing debts of BT to third parties and unrecoverable receivables from bankrupt or dissolved companies.* This is not a priority measure in terms of impact on financial standing of BT. Additionally, this activity depends on the decisions of courts, which are independent from the executive branch of the Government and, thus, would not be under direct control of the Government.
- *Repayment of overdue payables to Sangtuda-1 and Sangtuda-2 IPPs.* Repayment of overdue payables is not included into the PforR because future purchases of electricity have higher priority in the list of measures to be supported.
- *Electricity purchases from Sangtuda-2.* This IPP accounts for about 5 percent of total electricity supply in the country. Moreover, there is no agreement between BT and the IPP regarding the outstanding amount of the payable. BT is currently confirming the outstanding amount of the payable through accounting and invoice reconciliation process.
- *Gradual repayment of expensive commercial debt of BT to a local commercial bank.* This commercial debt is in the form of a loan from Orienbank. The repayment of the loan would not be part of the Program expenditure supported under the PforR. The Government and the BT are in discussions with the Orienbank to reach a resolution on softening of the terms of the commercial loans of BT.
- *Competitive purchase of equipment, materials, fuel, civil works, and consulting services above certain threshold value.* There is progress in introducing improved procurement framework and the issue is being addressed as part of the ongoing reforms related to procurement of works, goods, consulting, non-consulting services by BT.



Sustainability of Program Results

66. The sustainability of Program results will be ensured with improvements in legal and regulatory framework related to electricity tariff-setting, introduction of institutional mechanism to plan investments; and implementation of good-practice corporate governance measures.

- a. *New tariff methodology and establishment of a Tariff Unit.* The new tariff methodology introduced principles of cost-recovery in computation of tariffs. Additionally, the Government formally tasked AMC to implement the new tariff methodology with new adequately-staffed Tariff Unit to be created/designated. In the longer-term, separate regulatory commission may be established that would assume the energy sector regulatory functions and replace the Tariff Unit at AMC.
- b. *Involvement of the private sector in operation of the electricity distribution company.* The management contract for power distribution is expected to contribute to the sustainability of results under the PforR by improving the financial and operational efficiency of the newly-created electricity distribution company where most of the issues related to billing, collection rates, and losses exist. It is important to ensure that the management contract for electricity distribution has clear baseline and unambiguous set of performance indicators and vest enough authority to the management contractor to make operational decisions (e.g. enforcement of payments through disconnection of service). Overall, the ongoing unbundling is expected to contribute to sustainability of results expected to be achieved under the PforR.
- c. *Establishment of escrow account and escrow account management board.* Introduction of escrow account with formula-based distribution of cash to generation, transmission, distribution and other service providers will allow to manage the cash flows of the sector in rules-based manner and ensure that the distribution company has the incentive to fully collect the cash for billed sales considering that all other entities in the supply chain should be paid in full and only after that the distribution company can access the funds on the account.
- d. *Introduction and implementation of good-practice corporate governance principles.* Establishment of competent SBs together with the required committees will allow to improve efficiency of BT generation, transmission, and distribution companies' management and operations.
- e. *Introduction and institutionalization of investment planning into generation, transmission, and distribution.* This will help to ensure that new capital investment project decisions are made based on well-defined technical viability, economic efficiency, and financial affordability principles.
- f. *Improved transparency of BT.* Disclosure of key operational and financial data is prerequisite for increased public trust in the sector, and important signal to potential investors and lenders regarding commitment to transparency.

Adaptation to Climate Change

67. The Program will help to adapt the electricity T&D sector to impacts from climate change. Specifically, improved financial viability of BT would enable the company to make the required investments into further strengthening of reliability of the T&D network by adopting design solutions that consider the increased frequency of extreme meteorological events caused by climate change. Without financial viability of BT, such investments, which take into account potential impacts from climate change, cannot be implemented. Therefore, without this Program, the T&D sector would remain significantly exposed to impacts from climate change.



Program Financing

68. The Program is financed by BT and the Bank. The BT financing would come from additional operating cash flows and cost savings during implementation of the Program. The financing from the Bank is in form of an IDA grant. Currently, the Program has a financing gap of US\$40 million and the Government is in advanced in its discussions with potential financiers to fill this gap. The likelihood of the funds materializing is high, and the Government will ensure that alternative sources are found in case of any shortfall.

Table 1: Program Financing.

Source	Amount (US\$ Million)	% of Total
Counterpart Funding	257.96	63.7%
Borrowing Agency	257.96	63.7%
International Development Association (IDA)	134.0	28.0%
IDA Grant	116.00	28.0%
Financing Gap	75.00	8.3%
Total Program Financing	479.1	100%

Partnership Arrangements

69. **The Bank consulted the development partners regarding the Program design.** Donor activities in the power sector are coordinated through the Working Group of the Development Coordination Council (DCC), which is comprised of representatives of the World Bank, Asian Development Bank (ADB), European Bank for Reconstruction and Development (EBRD), United State Agency for International Development (USAID), KfW, Japan International Cooperation Agency (JICA), and European Union (EU). DCC Working Group meets regularly to: (a) review progress BT has made with implementation of the measures in the Government’s program for Financial Recovery of BT; (b) update participants on progress with respective projects/programs of each partner; and (c) exchange opinions on power sector related issues.

70. **The Program is well aligned with and complementary to planned policy program of ADB.** The Program complements the planned Sector Development Program of ADB, which is planned to be a US\$90 million operation, and specifies number of policy actions related to power sector restructuring and improvement of governance, and implementation of management contracts for power distribution to increase efficiency of its operations. The following table summarizes the key policy actions.

Table 2: Policy Actions under the Proposed ADB Sector Development Program.

Policy statement	Actions/indicators
Policy Area A: Sector structural reform	
1. Sector unbundling and introduction of sound corporate governance principles	<p>Establishing new Transmission and Distribution Companies</p> <ul style="list-style-type: none"> • Charters of the two new companies (Transmission and Distribution) are approved. • Two new companies are legally registered and established. • Members of the Board of Directors (maximum 7 members of which 3 are international independent professionals from the electricity sector) of each company are appointed and start their duties. • Adoption of the Corporate Code of Conduct.



Policy statement	Actions/indicators
	<p>Changes to BT (the Generation Company)</p> <ul style="list-style-type: none"> Amended charter of Barqi Tojik to separate transmission and distribution functions and addition of new functions of market operator and compliance officer are approved. New functions of market operator and compliance officer are established, staffed and start operations.
<p>2. Sector’s financial flow is re-defined with an escrow account mechanism</p>	<ul style="list-style-type: none"> Establish an Escrow Account and Escrow Account Management Board to manage cash resources according to rules of escrow account operation. Escrow Account Management Board approves fund distribution formula, which includes a component for servicing old debt obligations. The Distribution Company and large consumers (receiving electricity on 110kV or above) sign power sales purchase agreements with BT and transmission agreement with Transmission Company.
<p>3. Electricity sector regulator is established</p>	<ul style="list-style-type: none"> An electricity regulator is established under AMC with a well-defined organizational structure.
<p>4. Tariff methodology is adopted</p>	<ul style="list-style-type: none"> Tariff methodology is enacted.
<p>Policy Area B: Sustainable Management Structure</p>	
<p>5. Management contract for power distribution is implemented</p>	<ul style="list-style-type: none"> Management contractor for power distribution is mobilized. Representatives of IFIs are appointed as observers to the Board of Directors of Transmission and Distribution Companies (without voting rights). Resolution on the taxation issues for the management contractor is in place.

71. **EBRD has an ongoing regulatory assistance project that is complementary to the Program.** The Electricity Sector Regulatory Development Program of EBRD would help to implement the new electricity tariff methodology and strengthen the capacity of the Tariff Unit at AMC. Specifically, the following support will be provided:

- a. In-depth review of all relevant laws and regulations, related to electricity sector, to provide recommendations on legislation and regulations that will need to be amended for establishment and operation of Tariff Unit under AMC.
- b. Support with establishment of Tariff Unit, which includes, but not limited to: (i) establishment and implementation of data reporting system; advice on the composition of the Tariff Unit; (ii) preparation of the scope of work and qualification requirements for the staff; (iii) recommendations on the methods of funding of the unit; (iv) development of communication strategy.
- c. Training on all aspects of power sector tariff setting, including review of cost components, review of benchmarking rates and quality of service against local and international companies; least-cost generation planning and preparation of T&D investment plans; transparency and accountability of BT’s reporting; asset valuation, technical and economic aspects of power sector operations; and consumer protection.



Program Beneficiaries

72. The beneficiaries of the Program are all electricity consumers in the country and BT.

73. *Electricity consumers:* The Program will contribute to the ongoing efforts of the Government in ensuring reliable electricity supply. Specifically, improvement of the financial standing of BT will help ensuring adequate electricity supply through timely investments in rehabilitation and maintenance of key T&D assets and adequate electricity purchases from Sangtuda-1.

74. *BT:* Improvement of the financial standing of BT would allow it to finance the required expenses on maintenance and repair as well as modernization of the electricity supply assets. Without the Program, BT will struggle to maintain reliable operation of its assets, which would impact volume of electricity sales to domestic consumers. The Program would also significantly contribute to the sustainability of ongoing projects aimed at improving regional electricity trade: CASA-1000 and Reconnection to CAPS. Therefore, without the Program, the operating revenues of BT would significantly reduce with further significant deterioration of its solvency and liquidity.

C. Program Development Objectives (PDO) and PDO Level Results Indicators

75. The program development objectives are to improve the financial viability, increase the reliability of electricity supply, and strengthen the governance of BT.

76. The PforR supports results in three areas: (i) achievement of financial viability of BT; (ii) ensuring electricity supply reliability by BT; and (c) strengthening of BT governance and improvement of transparency. The following outcome indicators will be used to measure achievement of the PDO:

- **PDO Level Outcome Indicator 1 (Custom) / DLI 3:** Reduction of BT's cash deficit (% reduction of cash deficit).
- **PDO Level Outcome Indicator 2 (Custom) / DLI 5:** Adequate electricity supply received by BT from Sangtuda-1 power plant (GWh).
- **PDO Level Outcome Indicator 3 (Custom) / DLI 6:** Reduction of equipment failures in electricity T&D networks of BT (Number of equipment failures).
- **PDO Level Outcome Indicator 4 (Custom) DLI 8:** Use of technically, economically, and financially sound principles for the Recipient's investment decision-making in electricity generation, transmission, and distribution (Yes/No).

77. The following DLIs are proposed for the Program considering the results areas and the measures it would be supporting. DLIs 5 and 6 would be fully financed by a partner to be identified. All other DLIs would be fully financed by the Bank.



Table 3: Disbursement Linked Indicators.

Disbursement Linked Indicators	Rationale for Selection of DLI	Amount Allocated from Bank Financing (US\$ million)	Financed by Non-bank Sources
DLI 1: Achievement of cost-recovery end-user tariffs.	Tariff increase is the most important contributor to increase of operating cash flows of BT generation, transmission, and distribution companies.	19,000,000	-
DLI 2: Revision of Subsidiary Agreements between the MOF and BT. ¹⁷	The terms of new financing received by BT from MOF are aligned with terms of original financing received by MOF.	33,000,000	-
DLI 3: Reduction of BT's cash deficit.	Elimination of cash deficit is the overarching objective and would be possible only with increase in revenues, improvement of collections, reduction of losses, settlement of payables, and timely debt service – main measures of the Program.	28,000,000	-
DLI 4: Improvement of BT's collection rate for billed electricity in the cities of Istaravshan, Isfara, and Konibodom.	Electricity supply from Sangtuda-1 HPP to domestic consumers is critical for ensuring domestic electricity demand is met.	-	23,394,000
DLI 5: Adequate electricity supply is received by BT from Sangtuda-1 power plant.	Improvement in collections is instrumental for long-term financial viability of BT generation, transmission, and distribution companies.	17,000,000	-
DLI 6: Reduction of equipment failures in electricity T&D networks of BT.	Reduction in incidence of equipment failures will improve reliability of electricity supply for consumers.	-	16,506,000
DLI 7: Use of technically, economically, and financially sound principles for the Recipient's investment decision-making in electricity generation, transmission, and distribution.	Planning of capital investments following the accepted good-practice technical, economic, and financial principles is a prerequisite for long-term financial viability of BT, fiscal sustainability of the Government, and the power sector in general.	14,900,000	-
DLI 8: Implementation of good-practice corporate governance at BT.	Consistent adherence to good corporate governance principle is an important precondition for long-term operational efficiency and financial viability.	17,000,000	-
DLI 9: Improvement of BT's operational and financial transparency.	Disclosure of operational and financial information and data contributes to building public support to sector reforms and improving credibility with potential investors.	5,100,000	-

¹⁷ In accordance with applicable internal procedures.

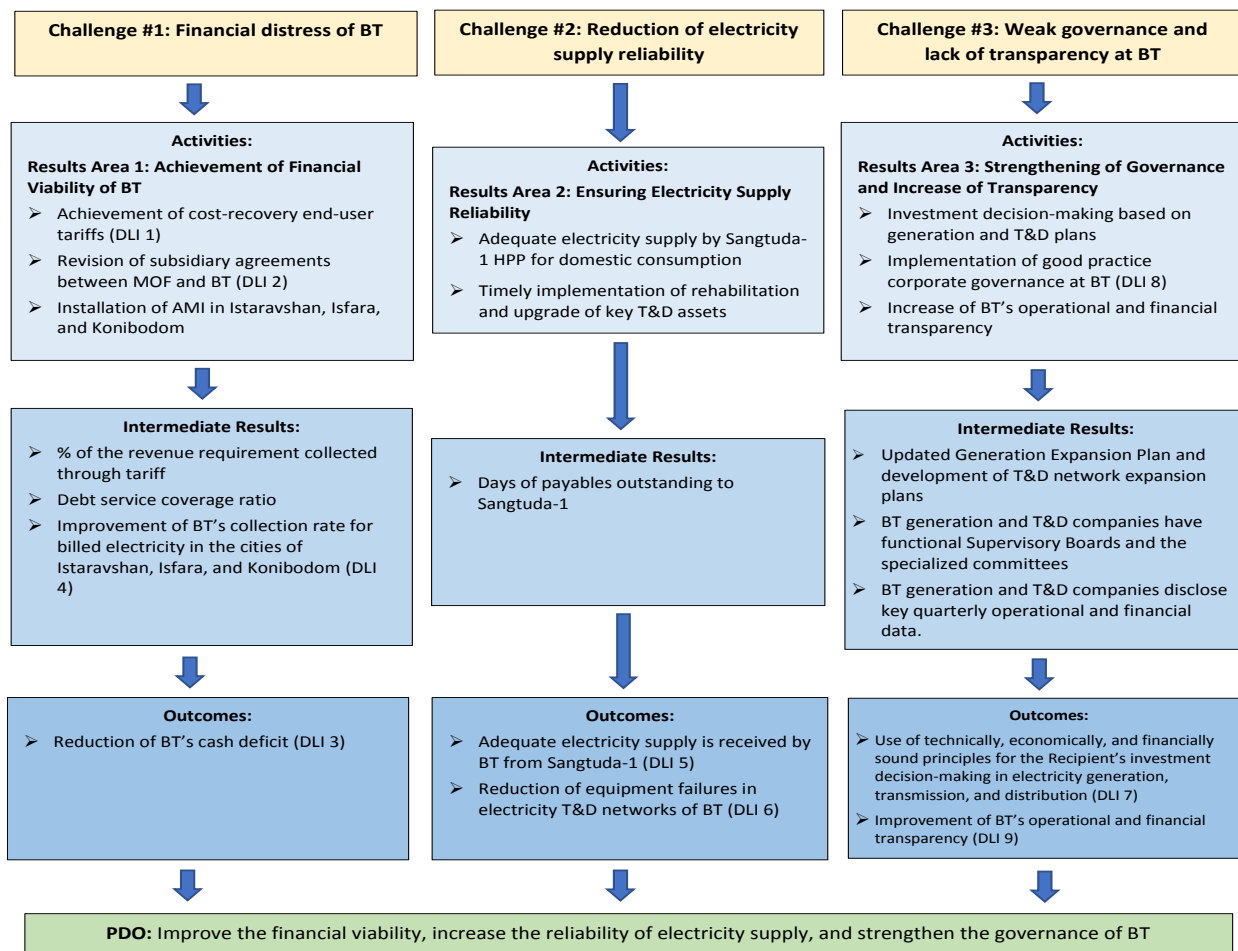


Disbursement Linked Indicators	Rationale for Selection of DLI	Amount Allocated from Bank Financing (US\$ million)	Financed by Non-bank Sources
Total		134,000,000	39,900,000¹⁸

78. The DLIs were selected considering the most essential results that need to be achieved in order to restore the financial standing of the state-owned generation companies and the private power distribution company. Therefore, several of the Intermediate Results Indicators are also used as DLIs. The financing allocated to each DLI reflects its importance for achieving the financial viability, electricity supply reliability, and improvement of the governance of BT.

79. The following results chain demonstrates the link between the activities, including DLIs, intermediate result indicators, and the outcomes to be achieved under the Program.

Figure 2: Results Chain of the Program.



Source: Bank team.

¹⁸ US\$40 million loan (under discussion) from a financier (net of 0.25 percent front-end fee).



80. **Climate Co-Benefits of the Program.** The following measures supported under the Program will generate climate co-benefits.

- *Achievement of cost-recovery end-user tariffs:* This measure is expected to contribute to the reduction of carbon emissions due to the anticipated demand reduction from expected tariff increases as they converge to cost-recovery levels. It is considered part of the Multilateral Development Banks' (MDB) list of eligible mitigation activities under Category 9.1 "Efficient pricing of fuels and electricity (efficient end-user tariff)."
- *Reduction of technical and commercial losses.* Rehabilitation and upgrade of T&D assets together with scale-up of metering and billing will help to reduce technical and commercial losses in T&D. Therefore, it is aligned with the MDB list of eligible mitigation activities under Category 3.3 "Improvement in utility-scale energy efficiency through efficient energy use, and loss reduction."

III. PROGRAM IMPLEMENTATION

A. Institutional and Implementation Arrangements

81. MEWR would be responsible for preparing and updating the GEP, as well as the T&D network investment plans. AMC would be responsible for implementation of the new tariff methodology, including development of the Electricity Tariff Paper specifying the trajectory of annual tariff increases until 2025 to reach cost recovery levels, review of tariffs to be submitted by BT, and making at least annual recommendations to the Government regarding the tariff adjustments. The Government and BT would be responsible for revisions of the Subsidiary Agreements for financing provided to BT under various donor-financed projects. BT would be responsible for all other activities under the Program, which include installation of AMI in the target cities; securing adequate electricity supply from Sangtuda-1 for BT's domestic supply needs; implementation of the annual capital repair and upgrade of key T&D assets; implementation of the good-practice corporate governance; and disclosure of key operational and financial data and information. The overall oversight for implementation of the Program would also be MEWR's responsibility.

B. Results Monitoring and Evaluation

82. BT will be responsible for monitoring and evaluating the PDO Level and Intermediate Results Indicators during implementation and submitting the required reports to the Bank. All the data required for monitoring of progress towards achievement of PDO Level Indicators is available from BT. Specifically,

- *PDO Level Outcome Indicator 1 (Custom): Reduction of BT's cash deficit (Percent reduction).* The annual audited financial statements of BT would be used for monitoring of this indicator. The audit report contains all the cash revenue and the accrual-based cost data required for computation of cash deficit.
- *PDO Level Outcome Indicator 2 (Custom): Adequate electricity supply received by BT from Sangtuda-1 power plant (GWh).* Electricity supplied for domestic consumption will be monitored based on the monthly bills to be submitted Sangtuda-1 to BT, which contain both the volume of electricity supply for each month and the amount due. The amount of electricity is determined based on the meter readings at substation-level points specified in the PPA.
- *PDO Level Outcome Indicator 3 (Custom): Reduction of equipment failures in electricity T&D networks of BT (Number of equipment failures).* The registered equipment failures will be provided by BT. The



following types of equipment failure categories are registered: (a) emergencies = outages for equipment at 220 kV and above for duration of 25 days and more; (b) equipment failures of first type = failures of equipment at 220 kV and above for duration of 3 days and more as well as outages on lines of 6 kV and above caused by natural disasters and weather conditions (those were excluded from the indicator); and (c) equipment failures of second type = failures at facilities of 6 kV to 220 kV for duration of up to eight hours.

- *PDO Level Outcome Indicator 4 (Custom): Use of technically, economically, and financially sound principles for the Recipient's investment decision-making in electricity generation, transmission, and distribution (Yes/No).* Monitoring of this indicator will be conducted based on the progress with preparation, adoption, and implementation of LCP and T&D expansion plans. All the data will be provided by BT and MEWR.

83. For disbursement purposes, achievement of DLIs will be verified by the Bank and Independent Verification Agents (IVAs). The IVAs would be engaged by BT. Annex 2 contains the details for IVA arrangements.

C. Disbursement Arrangements

84. Upon achievement of DLRs, an evidence of achievement will be based on the respective technical documentation prepared by BT and will be verified by the independent verification agent (IVA) following the Verification Protocol. The Bank will review the documentation submitted and will reserve the right for further due diligence on the robustness of data as needed. After the Bank formally considers the DLRs met, it will then issue an official letter to the government confirming the achievement of DLRs and the value of disbursement. BT will then submit a Withdrawal Application (WA) for the disbursement of the respective amount.

85. BT¹⁹ will receive all the disbursed funds although some of the DLRs are to be achieved by the new distribution and transmission companies. This is due to the fact that BT will keep all the legacy debts, payables, and other liabilities on its balance sheet, thus, will need to be the primary beneficiary from the PforR. For disbursements under all DLIs financed by the Bank as well as the advance payments, Withdrawal Applications will be submitted to the Bank.

86. Following the effectiveness of the IDA Financing Agreement, the Bank will provide an advance payment of US\$30.82 million or 23 percent of the total IDA grant size. The need for the advance is driven by the requirement of relatively large financing needed during the first two years of operation in order to: (a) carry out the urgently needed rehabilitation and upgrade of critical electricity transmission and distribution assets; and (b) ensure adequate level of payments for electricity to Sangtuda-1 IPP. US\$12 million from the advance would allow BT to rehabilitate, as a matter of priority, around five distribution substations and around 75 km of distribution lines, which would be critical for improving reliability of electricity supply, which has been deteriorating since 2014 due to severe under-maintenance. Without the advance, BT would not be able to carry out rehabilitation of those priority assets. US\$18.82 million will be used towards purchases of electricity from Sangtuda-1 IPP. The deterioration of financial standing of BT may not allow it to make timely payment for electricity as per agreed-upon schedule of payments, even considering the fact that it is already below the contractual obligations of BT. This would allow to ensure that consumers receive at least 1,800 GWh of electricity from Sangtuda-1 IPP, which is about 10 percent of gross domestic demand.

87. Whenever the DLRs are achieved, the amount of the advance will be deducted (recovered) from the amount due to be disbursed under the DLIs. The amount of the advance recovered by the Bank then will be available, as

¹⁹ BT or the successor generation company.



needed, for additional advances (“revolving advances”). The Bank requires that the Recipient, through BT, refunds, no later than six months after the closing date of the Financing Agreement, any advances (or portions of advances) if the DLRs have not been met (or have been partially met) by the Program closing date. At the end of the Program, any amount disbursed under DLIs that will exceed the actual Expenditures level for the whole Program period till the Program closing date, will be reimbursed to the Bank. The DLI formula and amounts of the DLIs, advances and prior results, Verification Protocols and DLI Disbursement schedule are described in Disbursement Matrix (Annex 2).

D. Capacity Building

88. The Bank will also be using a US\$330,000 Bank-executed grant from ESMAP to provide capacity building support for key implementing entities such as BT, MEWR, and MOF. Specifically, the following activities will be supported, which are essential for long-term sustainability of the power sector.

89. **Strengthening of the accounting, financial management, and internal audit capacity of BT.** This would include training and certification programs, which are essential for improving the BT staff capacity in budget planning, international accounting/financial reporting standards/auditing standards and internal control procedures.

90. **Ongoing evaluation of the direct poverty impacts of electricity tariff increases and collection of the consumption related data and information essential for decision-making regarding the path of the future tariff increases.** This would include:

- Estimating the direct and indirect impacts of future tariff increases considering the tariff increase trajectory to be reflected in the Electricity Tariff Paper to be adopted by the Government.
- Conducting a consumption elasticity estimation using the L2T survey. This will enable determining the response of consumers to higher electricity costs. The survey will also monitor satisfaction with service.

91. **Further support to inform the Government thinking on strategies to mitigate the impact of tariff increases on vulnerable consumers.** This will include assessing the alternatives for mitigating the impact of electricity tariff increases on poverty, including potential lifeline electricity subsidy schemes for residential consumers. The lifeline subsidy scheme will draw upon the lessons learned from implementation of similar schemes in other countries. The targeted social assistance will be explored taking into account the Government’s fiscal constraints and the plans for increasing the allocation to TSA program, which the Government plans to roll out on national level. As part of this activity, the feasibility of introducing a winterization benefit will be assessed given that the largest share of energy expenditures occurs during the winter season and are related to heating. Overall, the Program implementation will closely coordinate with the ongoing policy dialogue of the Bank related to further improvements and scale-up to TSA program.

92. **Strengthening public communication capacity of BT and MEWR on power sector issues.** The Bank will support the MEWR and BT to prepare a comprehensive communication strategy related to power sector. This is expected to contribute to increased public awareness and broader public engagement, consultations and feedback to resolve power sector challenges, thus, generating public support to ongoing power sector reform



IV. ASSESSMENT SUMMARY

A. Technical (including program economic evaluation)

93. The Program support under the PforR is technically sound and includes all of the key measures required for reverting BT to adequate financial condition and improving reliability of electricity. The Program is underpinned by very solid analytical and technical work. The estimated costs are reasonable and based on detailed technical work.

94. BT, with support from the Bank, prepared a detailed financial model of the company, which identified key factors impacting profitability, liquidity, and solvency. Thereafter, the key priority measures to improve the financial performance of BT were identified and the financial impact from their implementation was estimated. The proposed priority measures to improve financial standing of BT were estimated to be robust and the impacts were estimated correctly. The details are presented in Annex 3.

Program Expenditure Framework and Financing Sources

95. **The total cost of the Program is estimated at about TJS4.5 billion (US\$479 million) over 2020-2025.** The estimated expenditures for roll-out of metering and billing systems in Dushanbe are based on the feasibility study, supported by ADB, which was reviewed by the Bank and found acceptable. The estimates took into account the actual costs observed in the similar recently completed project in Sughd region. The estimated costs for rehabilitation and upgrade of T&D assets were reviewed by the Bank team and found acceptable. The unit costs of the equipment and the cost of civil works are consistent with the costs observed in Tajikistan and other Central Asian countries under similar projects. The projected cost of electricity from Sangtuda-1 is reasonable, i.e. projected considering the average annual historical generation and the PPA tariff, including annual escalation. The Consultancy services would include expenditures to support BT to implement the Program, including strengthening of BT’s accounting and financial reporting capacity, planning of investments, strengthening of environmental management function, costs of Independent Verification Agents (IVAs), and the cost of Program audits.

Table 4: Program Expenditure Framework.

Expenditure Items	Size (US\$)
Cost of electricity from Sangtuda-1	387,317,536
Rehabilitation and upgrade of T&D assets	65,442,749
<i>Equipment and materials</i>	45,541,074
<i>Installation and other services</i>	11,111,069
<i>Commissioning and testing</i>	3,944,786
<i>Shipment, Insurance and Contingencies</i>	4,845,820
Metering and billing for the cities of Istaravshan, Isfara, and Konibodom	23,979,758
<i>Equipment and materials</i>	16,084,143
<i>Installation and other services</i>	5,126,522
<i>Shipment, Insurance and Contingencies</i>	2,572,152
<i>Salaries of Economic and Forecasting Unit and Central Accounting Unit</i>	196,941
Consultancy services, including for capacity building on social protection measures for MOF and other relevant government bodies	2,360,000
Total	479,100,043

Source: Based on data from BT.



96. The Program would be financed with combination of own resources of BT and IDA. The Program would have a financing gap of US\$40 million, which would be filled by mid-2020 from other sources including potential financing from development partners. The other financier of the Program will focus its disbursements on DLIs related to improvements in metering and billing infrastructure in the cities of Istaravshan, Isfara, and Konibodom (DLI 4) as well as rehabilitation and upgrade program in T&D (DLI 6).

Table 5: Financing Sources of the Program.

Source	US\$	Proportion
BT own funds (tariff-regulated revenue)	305,100,043	64%
IDA (PforR funding)	134,000,000	28%
Financing gap	40,000,000	8%
Total	479,100,043	100%

Financial Evaluation of the Program

97. Financial performance of BT was forecasted for two scenarios. The Business-As-Usual (BAU) Scenario is the scenario without implementation of the Government program for financial recovery of BT. The Financial Recovery Scenario is based on the agreed-upon targets to be achieved by BT in the Government program.

98. **BAU Scenario:** BT will continue to struggle with insufficient liquid assets to meet its current liabilities. In 2025 the ratio of current assets to current liabilities is estimated to be 0.26. Low collection ratio will lead to further build-up of overdue receivables, which may exceed 300 days of sales by 2025. This will result in continued non-payment to electricity suppliers and to the Ministry of Finance on its long-term liabilities at least till the start of exports to Afghanistan and Pakistan under CASA-1000. Total debt of BT, including payables to Sangtuda-1 and Sangtuda-2 as well, will reach TJS29,104 million (US\$2,383 million) or 140 percent of its assets. Losses from the foreign exchange rate changes will eat up any operating profit; total cumulative loss over the eight-year forecast period is estimated to be TJS8,539 million (US\$835 million), and the cash deficit will widen to TJS16,393 million by 2025 from TJS10,433 million in 2017.

99. **Financial Recovery Scenario:** Increase of end-user tariffs, gradual improvement of collection rates, more efficient working capital management and reduction of technical losses will help BT generate more cash from operations. EBITDA margin will increase to 55 percent by 2025, and the liquidity will improve²⁰. Revision of Subsidiary Agreements will reduce the debt service costs of BT and free up additional cash for repayment of its overdue liabilities. BT will gradually repay its current and overdue financial liabilities using incremental operating cash flows from financial recovery measures. It is estimated that by 2024 BT will have fully repaid its overdue debt (principal plus interest) to Ministry of Finance, overdue payables to Sangtuda-1 and Sangtuda-2 and debt to Orienbank. As a result, by the end of 2025 the debt-to-assets ratio will have come down to 0.95, net debt (i.e. total financial debt net of cash balance) will stand at 4 time of earnings before interest, tax and depreciation (EBITDA)²¹, and operating cash flow will be more than 2 times its debt service requirements (DSCR). Details are presented in Annex 3.

100. **Covenants.** There are two key financial and legal covenants proposed for the financing agreement considering the results of the financial analysis and the importance of those for the long-term financial viability of BT.

²⁰ The ratio of current assets to current liabilities, inclusive and exclusive of penalties on overdue loans will be 0.63 and 1.19 respectively.

²¹ A proxy for operating cash flow.



- **Conversion into equity of BT's penalties and charges on overdue debt service costs to MOF.** The Recipient shall, no later than December 31, 2021, convert into equity BT's penalties or charges due to the MOF for overdue debt service under the Group 1 Subsidiary Agreements, Group 2 Subsidiary Agreements, and Group 3 Subsidiary Agreements, and thereafter shall not apply new penalties or charges on BT debt service obligations to the MOF with respect of the abovementioned agreements that are not fully reflected in approved electricity tariffs of BT.
- **Long-term debt service coverage ratio.** Except as the Bank shall otherwise agree, BT shall not incur any debt unless a reasonable forecast of the revenues and expenditures of BT shows that the estimated net revenues of BT for each calendar year during the term of the debt to be incurred shall be equal to or more than the estimated debt service requirements of BT in such year on all debt of BT including the debt to be incurred.

Economic Evaluation of the Program

101. The economic evaluation of the Program includes justification of the rationale for public financing of the Program, the value added from the Bank involvement, and assessment of economic impacts of the Program.

102. *Rationale for Public Financing.* The public financing of the Program is justified given that activities supported cannot be undertaken with commercial or private financing. In particular, commercial or private financing is not feasible because BT would not be able to service commercial debt without tariff increases to levels that would create major affordability issues for residential consumers and cost impacts for commercial. It should be noted that the proposed operation would ensure that required pre-conditions are in place for BT to increasingly rely on commercial financing once it emerges from severe financial distress by 2025.

103. *Value Added by the Bank Support.* The Bank has been providing substantial advisory and analytical support to inform the Government thinking on key challenges facing the power sector and measures to address them. The Bank will be able to add substantial value given: (a) the depth of the Bank's expertise and engagement in the power sector of Tajikistan; and (b) global experience of the Bank helping various clients to address the financial distress in the power sectors (e.g. Georgia, Romania, Armenia).

104. *Economic Analyses.* The economic analyses were conducted both for the Government program (see Annex 3) and the Program supported under the PforR. The economic analysis was conducted based on real economic prices and costs, and exclusive of taxes and tariffs. Net benefits and costs were estimated over the period 2019-2050 and discounted to the base year of 2019 using a social discount rate of 5.3 percent.²²

105. Economic costs of the Program under PforR: The main economic costs of the Program include: (a) US\$57 million for rehabilitation and upgrade of electricity transmission and distribution assets; (b) US\$18.3 million for metering and billing investments in the cities of Istaravshan, Isfara and Konibodom; and (c) incremental variable O&M costs of electricity from Sangtuda-1 IPP.

106. Economic benefits of the Program under PforR: The main economic benefits of the Program include: (a) avoided costs of electricity imports to make up for the discontinuation of supply from Sangtuda-1 HPP; (b) avoided increase in un-served energy due to expected rise of transmission and distribution equipment failures; and (c) reduction of electricity supply cost due to reduction of technical and commercial energy losses.

107. Results: The economic analysis of the Program yielded an economic Net Present Value (NPV) of US\$586 million and Economic Internal Rate of Return (EIRR) of 50.1 percent exclusive of the social cost of avoided CO2

²² Estimated as 2 times the real per capital long-term GDP growth consistent with the World Bank Guidance on Discounting Costs and Benefits in Economic Analysis of World Bank Projects (May 9, 2016).



emission. Under the low and high cost of CO2 emissions scenarios the program attains and NPV of US\$1,278 and US\$1,968 million with EIRR of 73.6 and 90.5 percent respectively.

108. **Sensitivity Analysis:** Sensitivity analysis was conducted to assess the robustness of the estimated Program economic returns to changes in the main evaluation variables. The results of the sensitivity analyses suggest that the Program returns are robust even in case of significant variation of main evaluation variables.

Table 6: Results of Sensitivity Analysis: Program Supported under PforR.

Variable	Base case	Switching value (NPV=0/EIRR=5.3%)	Scenario analysis		
			Scenario	NPV (US\$m)	EIRR (%)
-	-	-	Base case	586	50.1
Construction cost	112 US\$m	816 US\$m	a. 30% higher	572	42.5
Electricity import price	3.2 USc/kWh	0.56 USc/kWh	b. 30% lower	373	37.9
WTP	4.0 USc/kWh	<0 USc/kWh	c. 30% lower	583	49.9
			Combination of a, b, c	355	31.6

Source: BT.

B. Fiduciary

109. The Program’s Fiduciary Systems analysis took into consideration the latest Public Expenditure and Financial Accountability Assessment (PEFA) conducted in November 2017, the Bank’s recent assessment of the National Procurement Procedures carried out as part of the implementation of the Bank’s Procurement Regulations, the Bank 2009 Report on the Observance of Standards and Codes (ROSC), the Bank’s knowledge of the country’s PFM systems²³ and the energy sector, the reviews of internal and external audit reports, the results of implementation support and supervision missions under the World-Bank financed ongoing projects²⁴ implemented by BT, as well as the results of the field visits to the company within the assessment frames. The assessment also builds on the lessons from the implementation of the currently ongoing projects.

110. **Adequacy of budget and program expenditure framework.** The assessment confirmed that the Program budgeted expenditures, in general, are prepared with due regard to relevant policies and will be executed overall in an orderly and predictable manner. BT prepares its annual economic and financial plans (EFP) based on expenditure projections received from its departments. The EFP is reviewed by the head of finance and administrative department and approved by the BT Chairman. The EFP presents the expected financial performance of BT, including the revenue forecast together with planned production costs, finance costs, payables for electricity purchases, etc. The review of EFP for 2016-2018 indicates that the actual and projected revenues of BT do not deviate by more than 7.5 percent in any of the years. The Program expenditures are overall predictable, and the costs are justified by detailed analyses. The details are contained in the Fiduciary Systems Assessment (FSA) Report.

111. **Impact of the Government’s overall fiscal situation on the Program expenditures.** The overall fiscal context and situation of the Government will not have direct impact on the Program expenditures given that those are fully financed by BT. There may be indirect impact on the Program expenditures/outcomes from overall fiscal standing of the Government through depreciation of the local currency.

²³ As part of the knowledge obtained via implementation of the ongoing Second Public Finance Management Modernization (PFMMPII) project (P150381).

²⁴ Nurek Hydropower Rehabilitation project (P150816) and CASA-1000 project (P145054).



112. **Procurement profile of the Program.** Based on the above program expenditures framework, anticipated procurement of goods, works, non-consulting services and consulting services will include modest value contracts below the OPRC thresholds. Those would include: (a) goods contract for supply of metering and billing system in three cities with estimated value not to exceed US\$24 million; (b) about 32-42 contracts over 2020-2025 for supply of goods and associated works for rehabilitation and upgrade of key assets at substations and repair/replacement of power distribution lines; the estimated average value of one contract at US\$1.5-2 million; and (c) consultancy services for capacity building, IVA and audit. These procurements would be related to BT substructures and divisions.

113. **Procurement planning.** PPL requires preparation of a procurement plan for each financial year in accordance with the approved format. There is overall acceptable procurement planning capacity at the BT. The plan is being prepared by procurement staff based on demands submitted by BT substructures and divisions. The consolidated plan is internally reviewed by all departments, including technical, financial and others, and is approved by the Chairman of BT. Once approved, the plan is to be agreed with the State Agency on Public Procurement (SAPP). The MOF has no role in procurement planning for BT as funds for the contracts are secured from its own budget. The plan includes information on department/substructure for which procurements package is intended, description of procurement, reference number, estimated value, procurement method, contract start and completion dates.

114. The risk associated with Program Planning and Budgeting is assessed as Substantial.

Budget Execution

115. **Treasury management and funds flow.** PEFA-2017 assessed predictability of in-year budget resources allocation (PI-21) at “C+”, indicating that cash management is in infancy stage and has room to improve. PEFA-2017 also indicates that though in two out of three years during 2013-2015 the recorded liabilities on expenditures remained at a low level, below 2 percent of actual expenditures, for subsequent years, due to a decrease in revenue receipts, the level of recorded liabilities on expenditures increased (in 2016 is was 15.4 percent, with of almost 9 times increase as compared to the average for the previous three years).²⁵ This trend indicates increasing challenges for the state treasury to meet obligations timely.

116. Considering the above, as well as the fact that the treasury and the National Bank do not provide the full range of banking services, such as opening a letter of credit (which could be necessary for the Program, in particular under contracts that may require purchase of goods from abroad), the Program will not rely on the country’s treasury system. This is also dictated by the commercial nature of BT, which currently does not use the state treasury system for its operations and keeps its accounts in local commercial banks (except one account in the treasury used for repaying sub-loan interest and principal payments). Moreover, starting from 2014, the banking sector in Tajikistan has been experiencing difficulties. For the above reasons reliance on the local banking sector would also be challenging for the Program funds flow. Currently, the Designated Accounts of the Bank-financed projects in Tajikistan are still maintained in local commercial banks, however the Bank monitors the banking sector situation in the country, and currently only a few commercial banks are acceptable to the Bank for holding the projects’ designated accounts. Therefore, it is proposed to channel the PforR funds to BT via a dedicated account opened in a local commercial bank, which should be acceptable to the Bank. Alternatively, the Program dedicated account could be opened in an international reputable commercial bank outside Tajikistan.

117. The risk associated with Treasury Management and Funds Flow is assessed to be High.

²⁵ Source: PEFA-2017.



118. **Accounting and financial reporting.** Following the recommendations on accounting and auditing of the ROSC, the Accounting Law was amended in 2011 to require all Public Interest Companies, including all major SOEs, to apply IFRS for financial reporting.

119. Currently, BT prepares and submits number of financial reports on monthly, quarterly and annual basis to the relevant government authorities. Monthly financial reports are submitted to the Tax Committee, the MOF, the MEWR. Quarterly reports are submitted to the MEWR, the MOF, Agency of Statistics, and Pension Fund. Annual reports are submitted to the MOF, the MEWR, Agency of Statistics and Tax Committee. In general, there are no delays with submission of such statutory reports.

120. Although the BT will continue reliance on external consultants' help for financial reporting, the Company needs to build sustainable internal capacity for IFRS financial reporting. For this purpose, BT will need to prepare and agree with the Bank a Capacity Building plan, as reflected in the Program Action Plan (PAP), which would include concrete actions and milestones on IFRS training provision to the accounting staff.

121. The risk associated with Accounting and Financial Reporting is assessed to be High.

122. **Procurement processes and procedures.** The Program's procurement will be governed by the existing public procurement legal framework. The current PPL provides for a good range of methods for procurement of goods, works and services: (i) bidding with unlimited participation; (ii) bidding with limited participation; (iii) request for quotations; (iv) single-source procurement; (v) electronic procurement and a simplified public procurement proceeding. Bidding with unlimited participation is the default procurement method. In practice BT applies all these methods. Analysis conducted shows positive indication that open competitive procedures appears to be the default method and constitutes 95.4 percent of the reviewed cases.

123. **Bidding documents:** Tajikistan framework has a set of standard bidding documents. The set is not complete and includes a single SBD for the procurement of goods, works and services, lacking a standard form of contract. No General Conditions of Contract (GCC) are included in the SBDs for the procurement of goods, works, and services. The GCC for the procurement of consulting services are broadly consistent with international requirements, but certain gaps in coverage have been observed. Examples of areas that should be more directly addressed in the GCC include matters such as intellectual property rights, termination for convenience of the Government, suspension, assignment, warranty, and governing law. Thus, revision of standard bidding documents for goods, works, and services to include GCC was included into the PAP.

124. BT is using the standard bidding documents for procurement of goods, works and services developed by the SAPP. The bidding documents are available both in Tajik and Russian languages. The documents preparation mainly depends on readiness of the technical specifications that sometimes are being prepared in advance. Technical specifications are being developed by experts from the respective departments who are included to the Tender Committee. Access to comprehensive specifications remains the critical challenge during the preparation of bidding documents for all procuring entities.

125. Provisions for procurement of consulting services are clearly defined in the Public Procurement Law. Consulting services may be hired through tendering with limited participation (short list) as well as single-source procurement. Standard Request for Proposals are available and procurement capacity exists to carry out procurement of consultants. BT typically does not hire consultants for operational needs and relies on its in-house capacity given financial distress. However, for the purposes of the PforR, BT will hire consultants for Program implementation needs as well as IVAs and the Program auditors as detailed in the PAP.

126. **Government e-Procurement system.** The Government of Tajikistan is carrying out a full-scale transition across the country to an e-Procurement system. Initial Unified Public Procurement Portal and e-Quotation



module were enhanced and now are functioning as a single e-procurement module (<http://eprocurement.gov.tj>). Forty pilot procuring entities, including BT, were trained as users and are gradually start using the system for their own procurements. Since 2017 BT has conducted 55 tenders applying electronic procurement method.²⁶

127. **Contract administration.** After the contract is awarded, BT signs the contract with the selected bidder and transfers responsibility for contract execution to its sub-structure TajikEnergoSnab. Normally, the terms in BT's contracts provide for payment to be made within 60 days after the acceptance certificate is issued. Based on the reviewed sample, no instances of significant time and cost overrun were noticed. Although the contracts were implemented according to the original time schedule, in 30 percent of cases payments were significantly delayed. This is primarily the result of financial distress of BT, which results in severe cash shortage and does not allow the Company to make payments in timely manner. The cases of delayed payments will reduce as the financial condition of the Company improves during the implementation of the proposed Program.

128. **Complaints handling mechanism.** The PPL applicable to the Program does not provide for independent procurement complaint review mechanism. The Government of Tajikistan is still looking into the feasible options where to host function of independent Board of Grievances. The PPL provides the rights for bidders to complaint following the certain rules. Public procurement participants have the right to file a complaint with the procuring entity and / or the SAPP (as the Authorized Body). The actual practice in the BT is that the participants must submit the complaint in a form of a letter to the Chairman with a copy to the SAPP. BT's records show that no complaints have been received Data from the module for online complaints in current e-Portal also confirms that no complaints on tenders conducted by BT were filed.

129. A survey on assessment of level of corruption in public procurement conducted by the SAPP in 2018 revealed that only 21 percent of 62 respondents from the private sector supported establishing the independent complaint review body, while 51.6 percent did not see such a need and 27.4 percent did not provide an answer. It is necessary to strengthen the capacity of staff handling complaints and make reporting on outcomes of complaint reviews open to public, for instance, through tracking on the BT website. BT shall create a dedicated section in its public Web site to post the information on: (a) any procurement related complaint received; (b) date, time and place of the complaint review; (c) status of handling of this complaint (accepted or rejected with indication of the related reasons); and (d) decision of complaint handling. To mitigate the risks and weaknesses noted, an action was included into PAP seeking to address these challenges.

130. **Debarment and blacklisting of vendors.** The PPL has provisions for the SAPP to include poor performing suppliers and contractors to the Register of unreliable suppliers and contractors. Based on the data from the e-Portal, the only case registered in the database was for non-fulfilment of contractual obligations by supplier in health sector that was made as a result of complaint from the procuring entity. No sanction cases were registered in the e-Portal for the energy sector. The Recipient will use the Bank's List of Debarred and Cross-Debarred firms and individuals to ensure that persons or entities debarred or suspended by the Bank are not awarded contracts under the Program during the period of such debarment or suspension. The list can be accessed on the World Bank's website (www.worldbank.org/debarr). The compliance with this requirement would be checked by the Program auditor.

Internal Control Systems

131. **Internal controls and internal audit.** In general, there is overall adequate segregation of duties at BT. Meanwhile it was observed that except for payments for operating expenditures, the authorization control of payments under contracts is assigned to the BT's Supervisory Board, which though assures additional layer of

²⁶ Source: test.zakupki.gov.tj



controls over payments, but also makes the payment process inflexible as even non-material amounts to be paid require the board approval.

132. The main shortcoming in the internal control systems of BT relates to revenue management system. The external auditor issued a repetitive qualified audit opinion on the company's financial statements for FY2014-2017, mostly due to shortcomings and undeveloped state of the company's records and systems of revenue and related receivable recognition for electricity supplied to its customers. The auditor's assessment of the level of provisions for doubtful trade receivables differed from the company's assessment.²⁷

133. The issue is due to lack of proper metering and automated software for revenue recognition at several subdivisions and subsidiaries of the company, and receivables recording is done manually, which is prone to misstatements and manipulation in records. Under the Program, BT will build on previous successful experience in Sughd and extend the use of AMI to cities of Istaravshan, Isfara, and Konibodom, which will contribute to further reductions in energy loss rates and increase in collection rates (DLI No. 5) for billed electricity, thus substantially contributing also into the improvement of company's overall revenue recognition.

134. **Internal Audit.** The internal audit (IA) function at BT is weak and needs substantial improvement in terms of staffing (currently it has only 3 staff with technical and economic background), and professional capacity. The audit work plans of the BT's IA unit are developed on annual basis and approved by the BT Chairman and the IA unit directly reports to the BT Chairman. Approved plans cover audits of 10-12 departments and branches of BT annually, and mostly are reviews of economic/technical performance of the branches and departments with less attention to systems performance. In practice each auditor spends around 15 person-day for each audit. The analysis indicates a need for BT to increase the IA unit's staffing capacity by hiring at least an additional two staff, by organizing specific professional training and introducing a mandatory local certification for the IA staff.

135. There is a national certification program facilitated by the MOF for public internal auditors, while the program does not capture the SOEs. Currently the MOF is in the process of amending the respective legislation to include the SOEs internal audit function also under the MOF certification program. Meanwhile the importance of the BT IA staff certification was discussed with the Department of Accounting Policy, Financial Reporting and Audit (DAPFR) of the MOF, which facilitates the national certification process of the IAs. It has been agreed that the MOF will provide opportunity for the BT IA unit's staff to pass the necessary certification stages and obtain the certificates. Considering the identified weaknesses, the PAP requires BT to hire two additional internal auditors and provide the required training to ensure that all internal audit staff pass the IA Certification.

136. The risk associated with Internal Controls and Internal Audits is assessed to be High.

137. **Program audit.** The audit of the entity (BT) and the Program annual financial statements will be conducted: (i) by independent private auditors acceptable to the Bank, on terms of reference (TOR) acceptable to the Bank, and (ii) according to the International Standards on Auditing (ISA) issued by the International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC). The audit of the entity's annual financial statements should be conducted by auditors who have relevant experience in energy sector. The same auditor will be appointed to conduct the audit of the Program annual financial statements.

138. The annual audits of the entity and the Program financial statements will be provided to the Bank within six months since the end of each fiscal year; and for the Program also at the Program closing. The Recipient has agreed to disclose the audit reports for the Program and the entity within one month of their receipt from the auditors and acceptance by the Bank, by posting the reports on BT or the MEWR's web sites. Following the Bank's

²⁷ Source: FY2014-17 audited financial statements and management letters.



formal receipt of these reports from the Recipient, the Bank will make them publicly available according to World Bank Policy on Access to Information.

139. The entity annual financial statements will include: (a) a statement of financial position as at the end of the year; (b) a statement of comprehensive income for the year; (c) a statement of changes in equity for the year; (d) a statement of cash flows for the year; and (e) notes, comprising a summary of significant accounting policies and other explanatory information.

140. The Program annual financial statements will include: (i) a summary of Funds received under each DLIs and a summary of Expenditures shown separately under the main program headings and by main categories of expenditures, both for the current fiscal year and accumulated to-date; (ii) a statement of segregated account; and (iii) Notes, comprising a summary of significant accounting policies and other explanatory notes.

141. The risk associated with external audit is assessed as Substantial.

Governance and Anti-Corruption

142. **Governance.** The corporate governance is in infancy with some elements of corporate governance in its charter. However, additional measures will be required to align BT's governance mechanisms with the principles of good corporate governance. As per its charter, BT is governed by General Shareholders Meeting²⁸, its Supervisory Board (SB) and its Chairman. The nomination of state representatives to the SB is established by the Government Resolution,²⁹ which appoints the civil servants to the BT Supervisory Board.

143. The Government started a reorganization process of the Company with an ultimate purpose to separate generation, transmission and distribution functions. The generation function will remain with BT, and transmission and distribution functions become separate legal entities with separate boards. The power transmission and distribution companies will also remain state-owned and would be privately operated under management contracts to be awarded by 2020.

144. The reorganization process is supported by Asian development Bank's (ADB) Sectoral Development Program (ADB Draft Policy Matrix, which was communicated to the Government in ADB's mission aide-memoire dated Feb. 15, 2019), which includes recommendations on further improvement of corporate governance. This would include establishment of new SBs for BT generation, transmission, and distribution companies, and introduction of good corporate governance practices into the sector. Good practices suggest that decision making on day to day operations, including procurement (except for major contracts), and implementation of the strategy, should be delegated to the management to allow the SB to focus on strategic issues. Management must be given tools to implement the strategy set by the SB and be held accountable for its implementation and company operations. Through DLI No. 9, the Bank will monitor and enforce that BT consistently maintains good governance practice to be established under the ADB Sectoral Development Program.

145. **Program anti-corruption arrangements.** The country's Agency for State Financial Control and Combating Corruption (ASFCCC), established in 2007, is a specialized agency to fight corruption, and will oversee and control the Program on anti-corruption issues. The Agency reports directly to the President of the Republic of Tajikistan and submits reports on results of investigations and financial audits to the President twice a year. In accordance with the schedule of audits approved by the President of the Republic of Tajikistan ASFCCC and CoA conduct audit every other year alternately. To address the possible cases of fraud and corruption associated with the

²⁸ There is only one shareholder, which is the state, and which is represented by State Committee for Investment and Management of State Property.

²⁹ Resolution of the Government of the Republic of Tajikistan "on Supervisory Board Members of the Open Joint Stock Company Barqi Tojik", #718, November 29, 2014.



Program implementation, the Program will rely on the respective country systems. It was agreed that the ASFCCC will oversee and control the Program on anti-corruption issues.

146. Investigations or criminal cases could be initiated based on the operational information collected by law enforcement agencies, including examination of media communications, information obtained from other jurisdictions, information from tax inspectors, auditors, as well as complaints received through government websites and hotlines, electronic appeals, reports from embassies and information received through other channels of complaints.

147. The Program implementation will be aligned to the Anti-Corruption Guidelines (ACG) applicable to PforR operations, and will include the below measures:

148. *Sharing of debarment list of firms and individuals.* The Recipient will use the Bank’s List of Debarred and Cross-Debarred firms and individuals to ensure that persons or entities debarred or suspended by the Bank are not awarded contracts under the Program during the period of such debarment or suspension. The list can be accessed on the Bank’s website (www.worldbank.org/debarr). The compliance with this requirement would be checked by the Program auditor.

149. *Sharing of information on fraud and corruption allegations.* The Recipient will share with the Bank information on all complaints and actions taken or being taken on complaints and grievances received on fraud and corruption under the Program. The Bank will be also informed about the actions and decisions taken by the relevant institutions to address the matter raised in the complaint. The ASFCCC will handle and report to the Bank allegations occurring under the Program through annual reports during the Program implementation.

150. *Investigation of fraud and corruption allegations.* The implementing agencies will provide full support to the country’s anti-corruption agencies and the Bank when carrying out investigations related to fraud and corruption allegations made during the Program implementation. The Bank will be informed on all credible and material allegations or other indications together with the investigative and other actions that the Recipient proposed to take with respect thereto. The Bank will retain a right to investigate allegations, and the Recipient will provide the Bank the necessary access to needed persons and information applicable to the Program.

151. Other pillars of the Program Anti-Corruption system include use of independent auditors/verifiers for the audit/verification of the Program. The auditors will be appointed from the list of auditors acceptable to the Bank.

152. The risk of governance, fraud and corruption under the Program is High.

C. Legal Operational Policies

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

D. Environmental and Social

Environmental

153. The environmental and social systems assessment for the Program has been prepared in consultations with the relevant staff BT and other stakeholders. The Program supports some civil works, such as construction of distribution lines and rehabilitation/upgrading of electricity transmission and distribution substations, which are



likely to generate negative environmental impacts. Besides, other Program activities may require removal and disposal of PCB-based oil from old transformers and circuit breakers and disposal of old equipment. These could result in environmental effects like soil and water contamination and impacts on human health due to inadequate care and handling of hazardous waste.

154. The ESSA concluded that adequate legislation is in place in the country for environmental management, including systems for project-level environmental impact assessment. The country has signed Stockholm Convention for Persistent Organic Pollutants (POPs). BT, as the implementing agency, developed and adopted corporate level environmental policy in 2006.

155. In-house capacity at BT for project level environmental risk management and hazardous waste management is weak. In the absence of adequate procedures for removal, handling, storage, transportation, and disposal of PCB based used oil, BT did not report any large-scale soil and water contamination or negative impacts on human health. This risk is partially mitigated through current practice to handling of oils containing PCB. BT stores all used transformer and other oils in the specially equipped warehouses on the territory of multiple substations. There is significant spare capacity to store large volumes of oil for the next ten years until adequate disposal mechanisms become available.

156. For large scale energy projects implemented by ESPMU, an organization under MEWR, fulfills capacity gaps for project-level environmental risk management. With BT's existing weak environmental management capacity, unbundling of BT into three independent companies further increases the environmental risk level.

157. **Environmental systems improvement.** Based on the capacity gaps, it was agreed that the Recipient would implement the following activities, which are also reflected in the PAP.

- a. *Strengthen E&S capacity at BT generation, transmission, and distribution companies* to provide necessary guidance and compliance with environmental management under the national laws.
- b. *Ensure BT generation, transmission, and distribution companies are adequately staffed to carry out the environmental management and monitoring functions under the Program.* MEWR should formally assign ESPMU to be responsible for E&S aspects of the Program until ESSG is created in BT generation, transmission, and distribution companies. The ESPMU should also be responsible for capacity development program for BT generation and transmission companies in managing E&S aspects of the Program. MEWR should also ensure that the management contractor for electricity distribution company has the in-house capacity to comply with the requirements of local legislation related to key aspects of their operations.
- c. *Adopt environmental policies and corporate level guidelines, including SOPs for hazardous waste management.* BT generation and transmission companies will hire a consultant to prepare Environmental Policy and corporate level environmental guidelines and SOPs (including emergency plans for oil spills), including for hazardous waste management, which would also cover PCBs. The management contractor for electricity distribution company will also be required to develop environmental policies and corporate guidelines.

Social

158. The Program is expected to have overall positive social impacts as the interventions will improve the reliability of electricity supply and improve customer responsiveness of BT, which needs significant improvement considering the results of surveys, including the survey conducted by the Consumer Union within the framework of Electricity Governance Initiative (EGS). Specifically, rehabilitation and upgrade of T&D assets are expected to be moderately pro-poor as those facing unreliable electricity supply are more often living in the country's rural



areas, where poverty rates are higher. The scale up of AMI to cover the cities of Istaravshan, Isfara, and Konibodom is also expected to lead to increased reliability of supply. The improved reliability of electricity supply would also contribute to improved health, livelihood, and creates gender benefits. Women and girls are often primarily responsible for household activities that become substantially easier and less time-consuming when reliable electricity is available. Moreover, reliable electricity supply creates increased economic opportunities for all residential consumers, including Female Headed Households (FHHs). The Program would also contribute to the effectiveness of Incidence Recording and Management Systems to be introduced together with AMI. This would include effective processing of customer claims and complaints related to reliability of electricity supply.

159. The main negative social impact of the Program is the gradual tariff increases, which, coupled with other measures in the Program, are planned to improve the financial standing of BT. Tariff increases would impact the poor households as they will have to devote an increasingly larger share of their household budget to electricity. Electricity poverty – defined as households that spend 10 percent of their total budget or more on electricity – is expected to increase. Other adverse impacts related to construction activities are likely to be negligible given that the Program primarily includes rehabilitation and upgrade of existing power transmission and distribution assets, which mainly include existing substations.

160. The impact of tariff increases was estimated as part of the Poverty and Social Impact Analysis (PSIA). Annual increases in tariffs of 15 percent (in nominal terms) would be expected in 2019-2021 with subsequent increases of 8 percent (in nominal terms) in 2022-2024. The poverty impact of rising electricity tariffs can be estimated using simulation approaches based on GDP growth projections and assumptions about future progress in poverty reduction. It is likely that rising electricity tariffs would increase the poverty rate in every year, and by 0.6 percentage points in 2024. The number of people falling below the poverty line due to the cost increases would reach approximately 58,000 in that year.³⁰

161. **The impact of increasing electricity tariffs on vulnerable consumers will be mitigated through combination of payments under TSA and lifeline/block tariff structure.** The Government should complete the roll-out of TSA to include the remaining 40 districts of the country and increase the coverage to 200,000 households or 15 percent of the total. Additionally, the coverage should be expanded to include largest number of households. The additional fiscal costs can be covered from:

- (a) Savings in debt service costs under sovereign-guaranteed loans and credits. Currently, BT pays only negligible amount of debt service to MOF under Subsidiary Agreements, which were used to on-lend the international financiers' resources to BT. With improvement in financial standing of BT, it could make timely debt service and increased tax payments to MOF, which will free up some resources at the state budget.
- (b) Increased tax revenues from BT given larger revenues due to tariff increases.

162. The Ministry of Health and Social Protection (MOHSP) or designated government entity should estimate the poverty impacts of tariff increases by July of each year of the Program implementation, which is also included as a requirement under the PAP. This will allow to provide timely inputs to MOF during preparation of the annual state budget in order to program for TSA allocation. The Program would provide the required support to MOHSP

³⁰ Poverty was measured using the international line for lower middle-income countries at US\$3.2 per person per day in 2011 PPP terms. Dynamic estimates based on the National Proxy Means Testing survey data for 2015, GDP growth projections from the IMF to 2024, and official inflation and population growth rates reported by the national statistical agency of Tajikistan. The poverty trends assume a 0.87 pass-through of GDP growth to consumption.



and relevant entities in carrying out poverty impact assessment of tariff increases and estimation of the cost of mitigation.

163. **The mitigation through TSA program will be complemented with lifeline/block tariffs for electricity.** The lifeline tariff structure will be introduced in parallel as a poverty impact mitigation measure. It may not be an optimal solution, however, it does not create additional fiscal costs considering the constrained fiscal situation in the country. Specifically, the end-user tariffs may be structured in a way to allow for lower tariff for consumption until specified threshold volume (e.g. 250 kWh per month). BT will recover the revenue shortfall by charging higher tariff to consumers with larger monthly consumption because larger consumption is associated with higher income levels. The decision on introduction of lifeline/block tariff structure will be made in 2020 because it requires the following prerequisites to take place: (a) the new tariff methodology is being implemented and detailed cost allocation is done to determine the tariff for all categories of consumers; and (b) optimal level of lifeline tariff is determined based on various factors, including summarized consumption data from BT. The ongoing ESMAP financed activity on Improvement of Electricity Tariff Setting and Mitigation of Impacts on the Poor will help to complete this analysis and provide recommendations regarding the lifeline tariff mechanism by the end of 2019. See Annex 5 for details.

164. The roll-out of lifeline/block tariff-based subsidy mechanism will be carried out as needed to mitigate the impact of tariff increases on the poverty rate (especially important in the absence of full TSA rollout). However, this may reduce operational efficiency due to the technical constraints at power distribution level, i.e. availability of adequate metering and billing infrastructure. Without appropriate billing and metering infrastructure, the lifeline/block tariff mechanism is less effective, and creates the potential for abuse of the preferential tariff rates and erosion of the revenue base of BT. However, the Program will specifically be supporting introduction of AMI in three cities (Istaravshan, Isfara, and Konibodom), which combined with similar efforts supported by ADB and EBRD, are expected to cover almost 50 percent of residential consumers by 2023.

165. **Social systems improvement.** The Government would implement the following key actions to mitigate social risks associated with the implementation of Program, with key measures included in the PAP.

- *Expansion of TSA program coverage.* It is recommended, as a matter of priority, to expand the coverage of TSA to include the remaining 28 districts of the country and increase the coverage to 200,000 households or 15 percent of the total. The fiscal costs can be covered from:
 - (c) Savings in debt service costs under sovereign-guaranteed loans and credits. Currently, BT pays small amount of debt service to MOF under Subsidiary Agreements, which were used to on-lend the international financiers' resources to BT. With improvement in financial standing of BT, it will be able to make timely payments, which will free up some resources at the state budget.
 - (d) Increased tax revenues from BT given larger revenues due to tariff increases.
- *Going forward, the TSA Program, as a platform for the proposed energy cost compensation, may be improved further.* The following aspects require attention: (a) indexing the benefit and any future energy cost top-ups on an annual basis to account for increased cost of living (which has been initiated in 2019); (b) improving the targeting performance of the TSA mechanism; and (c) introducing differentiation in the benefit level, depending on the family composition; etc. Importantly, options of a separate/ supplementary top-up benefit should be considered, as part of an increased budget allocation for addressing energy poverty. This work is in progress under the ongoing policy dialogue of the Bank, including the ESMAP financed activity on Improvement of Electricity Tariff Setting and Mitigation of Impacts on the Poor.



- *Strengthening of BT GRM.* It is recommended to ensure that the newly-created distribution company introduces adequate GRM to address the questions and complaints from customers.
- *Increased disclosure of operational and financial data related to BT.* As part of the broader agenda for improvement of corporate governance of BT and improving the access to information by consumers, the Program should promote increased disclosure of data related to power sector balance (from generation all the way down to consumption), outages, as well as tariffs and other financial information.

166. **Public consultations of ESSA.** The draft ESSA report was consulted with key stakeholders on April 22, 2019 during a workshop in Dushanbe. The feedback received from the public consultation was incorporated into the final ESSA report. The following key issues were raised during the workshop: (i) it is important to build BT's capacity (adding human and technical resources) for Program related environmental protection; (ii) BT should draw upon the experience of the neighboring and other countries in storage and disposal of hazardous materials, and should establish inventory of PCB-based oils and other hazardous waste; and (iii) mitigation of social impacts on the poor is essential and lifeline tariff mechanism should be considered.

167. **Citizen engagement.** The Program is currently supporting a number of activities, which would allow to improve the participatory decision-making and incorporate feedback from the general public on important issues related to long-term financial viability of the power sector and the reliability of electricity supply.

168. **Tariff revisions and development of mitigation mechanisms.** Each planned revision of tariffs, the Electricity Tariff Paper, which would specify the mid-term tariff increase trajectory, and the proposed lifeline/block tariff mechanism would need to be disclosed and undergo public consultations. The feedback from key stakeholders will be considered in the revised Electricity Tariff Paper as well as the final design of the proposed lifeline/block tariff structure, which would be used to mitigate the impact of the planned electricity tariff increases on end-users. An intermediate outcome indicator is proposed to measure the efficiency of citizen engagement into decision-making on such matters. The results would be measured through surveys to be carried out each year.

169. **Use of technically, economically, and financially sound principles for investment decision-making in electricity generation and T&D.** The preparation and finalization of the GEP and T&D plans should be carried out with broad involvement of stakeholders. Those plans will be shaping the development of the power sector in the long-term and therefore inputs from all stakeholder should be taken into account, i.e. the preparation and finalization of those investment plans should proceed in participatory manner. The decisions related to investments into new power generation and T&D assets would have implications for end-user tariffs, therefore, it is important to engaged with all stakeholders before finalizing the documents. Thus, MEWR would organize round-table discussions to present the approach related to planning of investments; the main inputs and assumptions; as well as the timeline and process to be followed for finalization of those plans. Subsequently, the drafts of those plans would be disclosed, and public consultation meetings would take place. The feedback collected from public consultations will be used to finalize the documents. The efficiency of citizen engagement would be measured through annual surveys.

170. **Grievance Redress.** Communities and individuals who believe that they are adversely affected as the result of a World Bank supported PforR operation, as defined by the applicable policy and procedures, may submit complaints to the existing program grievance redress mechanism of the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address pertinent concerns. Affected communities and individuals may submit their complaints to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World



Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For more information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

E. Risk Assessment

171. **The risks to achieving the Program Development Objective and associated results are rated as Substantial.** This is due to High Governance and Fiduciary Risks as well as the following Substantial risks: Macroeconomic, Sector Strategies and Policy, Institutional Capacity for Implementation and Sustainability, BT Export Revenue, Impact of Rogun HPP on Financial Standing of BT, and Environmental and Social.

172. **The Governance Risk is High** given that accountability and transparency issues, and weak civil society oversight, may affect the Program. Tajikistan's anti-corruption framework, which includes the Law of the Republic of Tajikistan on Combating Corruption (2008), Anti-Corruption Strategy in the Republic of Tajikistan 2013-2020 (2013), and the Code of Ethics for Civil Servants (2004), will help mitigate governance risks. To increase demand for accountability, the Country Partnership Strategy (CPS) aims to engage civil society in all aspects of the Bank's portfolio, enabling Civil Society Organizations (CSOs) to gain experience in preparing, implementing and monitoring government programs. The project will provide further mitigation through due diligence on the cost estimates (review by international consultants of the cost estimates from the feasibility study) and a robust procurement process.

173. **Macroeconomic Risk is Substantial** given Tajikistan's high vulnerability to external and domestic shocks, low policy buffers, and weak macroeconomic and fiscal frameworks. Those risks may impact the timely implementation of the Program due to their direct or indirect impacts on BT. The macroeconomic risk to the Project would be partially mitigated through improved overall macroeconomic condition driven by acceleration in economic growth and slight improvement in the balance of payments, which reduces the downward pressure on local currency (TJS) with direct implications for financial standing of BT, which has all of its debts denominated in foreign exchange (FX). The economic growth has accelerated since 2016, the macroeconomic and external balances have slightly improved, and the Government is in advanced discussions with IMF for a 3-year program, which would help to ensure that overall macroeconomic and fiscal policies are prudent.

174. **Sector Strategies and Policy Risk is Substantial** given inadequacy and year-to-year variability of BT revenues due to non-predictable tariff increases, possible further devaluation of TJS that reduces the cash available to service foreign currency denominated debt, and variability of collection rates for electricity. This may impact the financial sustainability of the project and BT's overall operations. This risk will be mitigated through covenants included under the ongoing Nurek project and the potential Power Sector Financial Recovery Program-for-Results, which would specify clear set of Disbursement Linked Indicators (DLIs) related to operational and financial performance improvement of BT. This would create significant incentives for the Government to implement the key measures and reforms in its program for financial recovery of BT. Additionally, ADB is preparing a policy-based lending operation with delivery by the end of 2019, which would specify critical power sector measures as prior actions. The 3-year IMF program has some actions related to energy sector, such as implementation of new tariff methodology.

175. **BT Export Revenue Risk is Substantial.** Projected BT revenues after 2022 would to large extent depend on the cash received from exports under CASA-1000 project. Specifically, BT is expected to earn about US\$140



million from exports of energy under CASA-1000, which would account for 50 percent of total estimated revenues in 2022.

176. **Institutional Capacity for Implementation Risk is Substantial** given lack of experience of BT with implementation of similar projects. However, BT has overall experienced technical, economic, and financial departments that would be able to ensure timely implementation of the required company-level activities from the Program. Moreover, depending on the need, BT would hire external experts to advise on key operational and financial issues related to implementation of the Program.

177. **The Risk of Rogun HPP Impact on Financial Standing of BT is Substantial.** The potential impact of Rogun HPP will be confined to the financial obligations of BT under the current or new PPA for purchase of electricity from Rogun HPP. The PPA is a standard mechanism for purchase of electricity from IPPs and the cost of electricity should be passed on by BT into the end-user tariffs, which is the good-practice regulatory approach. The main issue would be to ensure that BT (or the new distribution company - STB) does not purchase more electricity from Rogun HPP than justified from domestic and export demand perspective. Therefore, BT's PPA with Rogun HPP would be based on realistic projection of domestic electricity demand as well as availability of firm and long-term export commitments.

178. **Fiduciary Risk is High.** The findings on financial management risks include, but not limited to: (i) limited capacities of the FM/accounting staff at BT, in particular at regional level; (ii) weak internal controls, and (iii) lack of good governance practice at BT. The findings on procurement risks indicate the following key weaknesses: (i) use of incomplete bidding documents, unclear qualifications and technical requirements, evaluation criteria and contract conditions; (ii) lack of contract management mechanism including contract delivery quality and cost controls; and (iii) lack of clarity and transparency on matters related to filing of complaints, their processing, and decisions made. The fiduciary risks will be mitigated through improved capacity building of BT on accounting and auditing, consistent implementation of good-practice corporate governance principles, and improvements to be made to standard procurement documents.

179. **Environmental and Social Risk is Substantial.** Activities proposed under Results Area 2 of the PforR Program could lead to substantial environmental effects. BT, as the main implementing agency, has limited in-house capacity for environmental due diligence. BT developed and adopted corporate level environmental policy in 2006. However, project level environmental management including procedures and practices to manage hazardous waste remains weak. The proposal to create power transmission and distribution companies by unbundling BT (responsible for power generation) may further aggravate the project-level environmental management requirements unless new companies adopt and implement environmental policy adopted by BT. Environmental risk rating for PforR Program is Substantial based on the capacity assessment of BT. The environmental risk would be mitigated through adoption of corporate environmental policy and guidelines for carrying out rehabilitation works; hiring of additional environmental staff; and training activities. The tariff increases, supported under the Program, would have impacts on socially vulnerable consumers. Therefore, the Program requires, through the Program Action Plan, further roll-out of TSA program with required budget top-up and introduction of lifeline tariffs if the TSA does not provide the required mitigation.

the cutting of the program's overall budget in the 2019-2020 fiscal year, including on measures to increase



ANNEX 1. RESULTS FRAMEWORK MATRIX

**Results Framework
COUNTRY: Republic of Tajikistan
Power Utility Financial Recovery Program for Results**

Program Development Objective(s)

The program development objectives are to improve the financial viability, increase the reliability of electricity supply, strengthen the governance of BT.

Program Development Objective Indicators by Objectives/Outcomes

Indicator Name	DLI	Baseline	End Target
Results Area 1: Achievement of Financial Viability of BT			
Reduction of BT’s cash deficit	3	To be confirmed by the audit of 2019 annual financial statements	0
Results Area 2: Ensuring Electricity Supply Reliability			
Adequate electricity supply received by BT from Sangtuda-1 power plant	5	At least 1,800 GWh/year	At least 1,800 GWh/year
Reduction of equipment failures in electricity T&D networks of BT	6	2,417 ³¹	1,400
Results Area 3: Strengthening of BT Governance and Improvement of Transparency			
Use of technically, economically, and financially sound principles for the Recipient’s investment decision-making in electricity generation, transmission, and distribution	7	No	Yes

³¹ As of end-2017.



Intermediate Results Indicator by Results Areas

Indicator Name	DLI	Baseline	End Target
Results Area 1: Achievement of Financial Viability of BT			
Extent to which end-user tariffs reflect the revenue requirement of BT ³²	1	20% ³³	100%
Days of payables outstanding to Sangtuda-1 power plant	-	593 ³⁴	45
Debt service coverage ratio	-	0.04 ³⁵	1.1
Timely debt service payments by BT to MOF	-	No	Yes
Improvement of BT's collection rate for billed electricity in the cities of Istaravshan, Isfara, and Konibodom	-	84% ³⁶	95%
Results Area 2: Ensuring Electricity Supply Reliability			
Actual expenditures on repair and upgrade of electricity T&D assets compared to the plan for 2020-2025	-	No	Yes
Results Area 3: Strengthening of BT Governance and Improvement of Transparency			
Update and adoption of GEP and preparation and update of T&D network development plans		No	Yes
BT generation, transmission, and distribution companies have functional Supervisory Boards and the specialized committees	8	No	Yes
BT generation, transmission, and distribution companies disclose key quarterly operational and financial data	9	No	Yes
Percentage of citizens who believe that the Program has established effective engagement processes	-	0%	60%

³² Exclusive of Rogun HPP.

³³ As of Dec. 31, 2018. Estimated based on audited financial statements of BT for 2017.

³⁴ As of Dec. 31, 2017. Estimated based on audited financial statements of BT for 2017.

³⁵ As of Dec. 31, 2017. Estimated based on audited financial statements of BT for 2017.

³⁶ As of Dec. 31, 2018. Confirmed by the Bank team.



Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Data Source	Methodology for Data Collection	Responsibility for Data Collection
Reduction of BT's cash deficit	This indicator will measure the progress with ability of BT generation, transmission, and distribution companies to generate sufficient cash revenues to cover the direct production costs; selling costs; general and administrative costs; and costs associated with current liabilities	Annual	IVA report to be prepared by the auditor of annual financial statements of BT generation, transmission, and distribution companies	IVA report	IVA with inputs from BT
Adequate electricity supply received by BT from Sangtuda-1 power plant	This indicator will measure the progress with reliability of electricity supply given that supply from Sangtuda-1 HPP is essential for ensuring enough electricity supply to consumers	Semi-annual	Monthly bills submitted by Sangtuda-1 and meter readings of BT at receiving points	BT to provide copies of bills submitted by Sangtuda-1 and meter readings	BT
Reduction of equipment failures in electricity transmission and distribution networks of BT	This indicator will measure the progress with improvement of electricity supply reliability due to timely implementation of timely repair and upgrade program. This indicator will include outages caused by emergencies; equipment failures of the first type; and equipment failures of the second type ³⁷	Annual	IVA report to be prepared by engineering consultant	IVA report	IVA with inputs from BT
Use of technically, economically, and financially sound principles for the Recipient's investment decision-making in electricity generation, transmission, and distribution	This indicator will measure the progress with implementation of good corporate management practices related to planning of new capital expenditures	Annual	IVA report to be prepared by engineering consultant.	IVA report.	IVA with inputs from BT.

³⁷ Emergencies = outages for equipment at 220 kV and above for duration of 25 days and more; equipment failures of first type = failures of equipment at 220 kV and above for duration of 3 days and more as well as outages on lines of 6 kV and above caused by natural disasters and weather conditions (those were excluded from the indicator); equipment failures of second type = failures at facilities of 6 kV to 220 kV for duration of up to eight hours.



Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Data Source	Methodology for Data Collection	Responsibility for Data Collection
Extent to which end-user tariffs reflect the revenue requirement of the sector	This indicator will measure the progress with convergence of end-user tariffs with the cost-recovery level. It will be computed as the ratio of the actual weighed average end-user tariff to the revenue requirement at generation, transmission, and distribution	Annual	BT audited financial statements; IVA report on tariff increases with supporting documents	BT audited financial statements and IVA report	BT and IVA
Improvement of BT's collection rate for billed electricity in the cities of Istaravshan, Isfara, and Konibodom	This indicator will measure the progress with improvement of cash collection rates for electricity sales. It will be computed as the ratio of cash collections to all domestic sales of electricity	Annual	BT audited financial statements and data from sales department	BT audited financial statements and data from sales department	BT
Days of payables outstanding to Sangtuda-1 HPP	This indicator will measure the progress with reduction of delays in payments for electricity supplied by Sangtuda-1 IPP for electricity. It will be computed by dividing the average payables to Sangtuda-1 during the year by cost of electricity purchase/ 365	Annual	BT audited financial statements	BT audited financial statements	BT
Debt service coverage ratio	This indicator measures the progress with improvement of BT, transmission, and generation companies' ability to service the debt. It will be computed as the ratio of earnings before interest, depreciation, and amortization (EBIDA) and total short and long-term debt service requirements	Annual	BT audited financial statements	BT audited financial statements	BT
Timely debt service payments by BT to MOF	This indicator measures the progress of BT in making timely debt service costs to MOF under the subsidiary agreements	Annual	BT audited financial statements	BT audited financial statements	BT



Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Data Source	Methodology for Data Collection	Responsibility for Data Collection
Actual expenditures on repair and upgrade of electricity T&D assets compared to the plan for 2020-2025	This indicator will measure the progress with implementation of 6-year plan for repair and upgrade of electricity T&D assets. It will be measured by comparing the actual expenditures with planned expenditures at the fixed exchange rate as of Dec. 31, 2018	Annual	BT's report on expenditures under rehabilitation and upgrade program; BT audited annual financial statements	BT's report on expenditures under rehabilitation and upgrade program; BT audited annual financial statements	BT
Update and adoption of GEP and preparation and update of T&D network development plans	This indicator will measure the progress with preparation of the investment plans for power generation and T&D and their adoption	Annual	Approved plans with relevant decisions/decrees and IVA report	Approved plans with relevant decisions/decrees and IVA report	BT and IVA
BT generation, transmission, and distribution companies have functional Supervisory Boards and the specialized committees	This indicator will measure the progress with implementation of good corporate governance principles at generation, transmission, and distribution levels. It will be measured based on the outputs from IVA	Annual	IVA report	IVA report	IVA
BT discloses key quarterly operational and financial data	This indicator will measure the progress with disclosure of key quarterly operational and financial data at generation, transmission, and distribution level. It will be measured by reviewing the disclosures made by the BT on its website	Quarterly	BT's web-site	BT's web-site	BT
Percentage of citizens who believe that the Program has established effective engagement processes	This indicator will monitor progress with citizen engagement activities	Annual	Annual surveys of public opinion to be commissioned by BT	Survey	BT



ANNEX 2. Disbursement Linked Indicators, Disbursement Arrangements and Verification Protocols

COUNTRY: Republic of Tajikistan

Tajikistan Power Utility Financial Recovery Program for Results

Disbursement Linked Indicators

Disbursement Linked Indicator Matrix	Total financing allocated to DLI	% of total financing	DLI baseline	1S 2020	2S 2020	1S 2021	2S 2021	2022	2023	2024	2025
<i>Results Area 1: Achieving Financial Viability of BT</i>											
DLI 1: Achievement of cost-recovery end-user tariffs	-	-	Tariffs below cost recovery	-	(a) At least 12 percent increase of average end-user tariff for BT has been adopted by the Recipient; (b) approval by the Recipient's government of the Electricity Tariff Paper satisfactory to the Bank, with estimated full cost-recovery tariff and tariff adjustment plan to reach full cost-recovery by	-	At least annual adjustment of generation, transmission, distribution and end-user tariffs as per new tariff methodology and consistent with the targets approved under the Electricity Tariff Paper	At least annual adjustment of generation, transmission, distribution and end-user tariffs as per new tariff methodology and consistent with the targets approved under the Electricity Tariff Paper	At least annual adjustment of generation, transmission, distribution and end-user tariffs as per new tariff methodology and consistent with the targets approved under the Electricity Tariff Paper	At least annual adjustment of generation, transmission, distribution and end-user tariffs as per new tariff methodology and consistent with the targets approved under the Electricity Tariff Paper	At least annual adjustment of generation, transmission, distribution and end-user tariffs as per new tariff methodology and consistent with the targets approved under the Electricity Tariff Paper



Disbursement Linked Indicator Matrix	Total financing allocated to DLI	% of total financing	DLI baseline	1S 2020	2S 2020	1S 2021	2S 2021	2022	2023	2024	2025
					the end of 2025; and (c) establishment of an adequately staffed Tariff Unit at AMC						
<i>Amount allocated (US\$)</i>	19,000,000	11%	-	-	11,000,000	-	3,000,000	2,000,000	1,000,000	1,000,000	1,000,000
DLI 2: Revision of the Subsidiary Agreements between the MOF and BT			BT incurs excessive debt service costs under loans received from MOF	US\$8,000,000 : The Recipient converts into equity ownership of BT the outstanding principal amounts and interest payable by BT to MOF for ten loans under Group 1 Subsidiary Agreements	US\$2,400,000 : The Recipient converts into equity ownership of BT the outstanding principal amounts and interest payable by BT to MOF for four additional loans under Group 1 Subsidiary Agreements	US\$5,600,000: (a) the MOF and BT revise the terms of ten loans under Group 2 Subsidiary Agreements to align those with the terms in respective legal agreements between the Recipient and the	US\$5,600,000: (a) the MOF and BT revise the terms of additional nine loans under Group 2 Subsidiary Agreements to align those with the terms in respective legal documents between the	-	-	-	-



Disbursement Linked Indicator Matrix	Total financing allocated to DLI	% of total financing	DLI baseline	1S 2020	2S 2020	1S 2021	2S 2021	2022	2023	2024	2025
					<p>US\$4,600,000 : The BT Supervisory Board adopts a formal decision to prohibit BT from receiving new financing from the MOF unless the terms of such financing are aligned with the terms reflected in the legal documents between the Recipient and the financiers</p>	<p>financiers; and (b) the Recipient converts into equity the difference between the original and revised interest payable by BT to the MOF under each of the ten loans from Group 2 Subsidiary Agreements , assuming the revised terms of each such loan were in effect since the effectiveness date of the respective Group 2 Subsidiary Agreements</p>	<p>Recipient and the financiers; and (b) the Recipient converts into equity the difference between the original and revised interest payable by BT to MOF under each of the nine loans from Group 2 Subsidiary Agreements , assuming the revised terms of each such loan were in effect since the effectiveness date of the respective Group 2 Subsidiary Agreements</p>				



Disbursement Linked Indicator Matrix	Total financing allocated to DLI	% of total financing	DLI baseline	1S 2020	2S 2020	1S 2021	2S 2021	2022	2023	2024	2025
				US\$2,000,000 : The terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal agreements between the Recipient and the financiers	US\$2,000,000 : The terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal documents between the Recipient and the financiers	US\$1,400,000: The terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal documents between the Recipient and the financiers	US\$1,400,000: The terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal documents between the Recipient and the financiers				
<i>Amount allocated (US\$)</i>	33,000,000	19%	-	10,000,000	9,000,000	7,000,000	7,000,000	-	-	-	-
DLI 3: Reduction of BT's cash deficit	-	-	To be confirmed based on the audit of 2019 financial statements	-	At least 7 percent reduction from the BT's cash deficit in 2019	-	At least 22 percent reduction from the level of the preceding year	At least 35 percent reduction from the level of the preceding year	At least 50 percent reduction from the level of the preceding year	At least 80 percent reduction from the level of the preceding year	No cash deficit
<i>Amount allocated (US\$)</i>	28,000,000	16%	-	-	1,960,000	-	4,200,000	3,640,000	4,200,000	8,400,000	5,600,000
DLI 4: Improvement of BT's collection rate for billed electricity in the cities of			Average collection rate in each of the three cities	-	BT signed the contract for supply and installation of AMI in the	-	-	AMI in the cities of Istaravshan, Isfara, and Konibodom	At least 91 percent average collection rate for	At least 93 percent average collection rate for	At least 95 percent average collection rate for



Disbursement Linked Indicator Matrix	Total financing allocated to DLI	% of total financing	DLI baseline	1S 2020	2S 2020	1S 2021	2S 2021	2022	2023	2024	2025
Istaravshan, Isfara, and Konibodom ³⁸			is 84 percent		cities of Istaravshan, Isfara, and Konibodom			is operational	billed electricity in the cities of Istaravshan, Isfara, and Konibodom	billed electricity in the cities of Istaravshan, Isfara, and Konibodom	billed electricity in the cities of Istaravshan, Isfara, and Konibodom
<i>Amount allocated (US\$)</i>	23,394,000	13%	-	-	3,394,000	-	-	5,000,000	5,000,000	5,000,000	5,000,000
Results Area 2: Ensuring Electricity Supply Reliability											
DLI 5: Adequate electricity supply is received by BT from Sangtuda-1 power plant			Average of 1,895 GWh/year in 2013-2017	At least 1,000 GWh is received by BT	At least 800 GWh is received by BT	At least 1,000 GWh is received by BT	At least 800 GWh is received by BT	At least 1,800 GWh is received by BT	At least 1,800 GWh is received by BT	At least 1,800 GWh is received by BT	At least 1,800 GWh is received by BT
<i>Amount allocated (US\$)</i>	17,000,000	10%		3,000,000	3,000,000	3,000,000	3,000,000	2,000,000	1,000,000	1,000,000	1,000,000
DLI 6: Reduction of equipment failures in electricity transmission and distribution networks of BT ³⁹	-	-	2,417	2,350 or fewer	2,250 or fewer	2,100 or fewer	1,950 or fewer	1,800 or fewer	1,700 or fewer	1,600 or fewer	1,500 or fewer
<i>Amount allocated (US\$)</i>	16,506,000	9%	-	1,206,000	1,800,000	2,700,000	2,700,000	2,700,000	1,800,000	1,800,000	1,800,000
Results Area 3: Strengthening of BT Governance and Improvement of Transparency											
DLI 7: Use of technically, economically, and financially sound principles for the Recipient's investment decision-making in electricity generation,	-	-	No	-	-	MEWR completes the update of GEP	MEWR approves the updated GEP	New generation investment decisions are made by the Recipient in	New generation as well as T&D projects initiated by BT or the	New generation as well as T&D projects initiated by BT or the	New generation as well as T&D projects initiated by BT or the

³⁸ The responsibility with implementation of this DLI will be with the power distribution company – STB JSC, which is a separate legal entity controlled by BT.

³⁹ The responsibility with implementation of this DLI will be with the electricity transmission company (SIB) and electricity distribution company (STB), which are separate legal entities controlled by BT.



Disbursement Linked Indicator Matrix	Total financing allocated to DLI	% of total financing	DLI baseline	1S 2020	2S 2020	1S 2021	2S 2021	2022	2023	2024	2025
transmission, and distribution								accordance with the updated GEP; T&D network development plans, based on GEP, are prepared by BT and approved by MEWR	Recipient's government are consistent with the approved plans	Recipient's government are consistent with the approved plans	Recipient's government are consistent with the approved plans
<i>Amount allocated (US\$)</i>	14,900,000	9%	-	-	-	3,900,000	5,000,000	4,000,000	1,000,000	500,000	500,000
DLI 8: Implementation of good-practice corporate governance at BT	-	-	No good-practice corporate governance structure	-	SBs are functional and formed specialized committees (audit and compensation committees) at generation, transmission, and distribution companies, comprising of SB members and chaired by independent SB members	SBs and specialized committees are functional	SBs and specialized committees are functional	SBs and specialized committees are functional	SBs and specialized committees are functional	SBs and specialized committees are functional	SBs and specialized committees are functional
<i>Amount allocated (US\$)</i>	17,000,000	10%	-	-	4,000,000	5,000,000	4,000,000	2,000,000	1,000,000	500,000	500,000



Disbursement Linked Indicator Matrix	Total financing allocated to DLI	% of total financing	DLI baseline	1S 2020	2S 2020	1S 2021	2S 2021	2022	2023	2024	2025
DLI 9: Improvement of BT's operational and financial transparency	-	-	BT does not publish the key operational and financial data	-	BT publishes on its website the key quarterly operational data and quarterly un-audited financial statements for 2019	-	BT publishes on its website the key quarterly operational data and quarterly un-audited financial statements for 2020	BT publishes on its website the key quarterly operational data and quarterly un-audited financial statements for 2021	BT publishes on its website the key quarterly operational data and quarterly un-audited financial statements for 2022	BT publishes on its website the key quarterly operational data and quarterly un-audited financial statements for 2023	BT publishes on its website the key quarterly operational data and quarterly un-audited financial statements for 2024
<i>Amount allocated (US\$)</i>	5,100,000	3%	-	-	1,100,000	-	1,000,000	1,000,000	1,000,000	500,000	500,000
Total disbursements	173,900,000⁴⁰	100%		14,206,000	35,254,000	21,600,000	29,900,000	22,340,000	16,000,000	18,700,000	15,900,000

⁴⁰ The total is exclusive of 0.25% or US\$100,000 front-end fee that is assumed to be payable on a US\$40 million loan.



Bank Disbursement Arrangements

DLI	Bank financing allocated to the DLI	Prior DLI (US\$ million)	Deadline for DLI Achievement	Minimum DLI value to be achieved to trigger disbursements of Bank Financing	Maximum DLI value(s) expected to be achieved for Bank disbursements purposes	Determination of Financing Amount to be disbursed against achieved and verified DLI value(s)
DLI 1: Achievement of cost-recovery end-user tariffs	US\$19,000,000					
DLR 1.1: (a) At least 12 percent increase of average end-user tariff for BT has been adopted by the Recipient; (b) approval by the Recipient’s government of the electricity tariff paper satisfactory to the Association, with estimated full cost-recovery tariff and tariff adjustment plan to reach full cost-recovery by the end of 2025; and (c) establishment of an adequately staffed Tariff Unit at AMC.	US\$11,000,000	-	Dec. 31, 2020	Adequately staffed Tariff Unit at AMC is established; approval of the Electricity Tariff Paper (which may be updated) with estimated full cost-recovery tariff and tariff adjustment plan to reach full cost-recovery by the end of 2025; and at least 12 percent increase of weighted average end-user tariff.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 1.2: At least annual adjustment of generation, transmission, distribution and end-user tariffs as per new tariff methodology and consistent with the targets approved under the Electricity Tariff Paper.	US\$3,000,000	-	Dec. 31, 2021	At least annual adjustment of generation, transmission, distribution and end-user tariffs as per new tariff methodology and consistent with the targets approved under the Electricity Tariff Paper.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 1.3: At least annual adjustment of generation, transmission, distribution and end-user tariffs as per new tariff methodology and consistent with the targets approved under the Electricity Tariff Paper.	US\$2,000,000	-	Dec. 31, 2022	Adjustment of generation, transmission, distribution and end-user tariffs as per new tariff methodology and consistent with the targets approved under the Electricity Tariff Paper.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 1.4: At least annual adjustment of generation, transmission, distribution and end-user tariffs as per new tariff	US\$1,000,000	-	Dec. 31, 2023	Adjustment of generation, transmission, distribution and end-user tariffs as per new tariff	N/A	100 percent disbursement for full compliance. No disbursement in case of



DLI	Bank financing allocated to the DLI	Prior DLI (US\$ million)	Deadline for DLI Achievement	Minimum DLI value to be achieved to trigger disbursements of Bank Financing	Maximum DLI value(s) expected to be achieved for Bank disbursements purposes	Determination of Financing Amount to be disbursed against achieved and verified DLI value(s)
methodology and consistent with the targets approved under the Electricity Tariff Paper.				methodology and consistent with the targets approved under the Electricity Tariff Paper.		partial or complete non-compliance.
DLR 1.5: At least annual adjustment of generation, transmission, distribution and end-user tariffs as per new tariff methodology and consistent with the targets approved under the Electricity Tariff Paper.	US\$1,000,000	-	Dec. 31, 2024	Adjustment of generation, transmission, distribution and end-user tariffs as per new tariff methodology and consistent with the targets approved under the Electricity Tariff Paper.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 1.6: At least annual adjustment of generation, transmission, distribution and end-user tariffs as per new tariff methodology and consistent with the targets approved under the Electricity Tariff Paper.	US\$1,000,000	-	Dec. 31, 2025	Adjustment of generation, transmission, distribution and end-user tariffs as per new tariff methodology and consistent with the targets approved under the Electricity Tariff Paper.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLI 2: Revision of the Subsidiary Agreements between MOF and BT	US\$33,000,000					
DLR 2.1: The Recipient converts into equity ownership of BT the outstanding principal amounts and interest payable by BT to MOF for at least ten loans under Group 1 Subsidiary Agreements.	US\$8,000,000	-	June 30, 2020	Conversion into equity of the outstanding principal amounts and interest payable for any ten loans under Group 1 Subsidiary Agreements.	Conversion into equity of the outstanding principal amounts and interest payable for any ten loans under Group 1 Subsidiary Agreements.	US\$8,000,000
DLR 2.2: The terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal agreements between the Recipient and the financiers.	US\$2,000,000	-	June 30, 2020	The financial terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal documents between the Recipient and the financiers.	The financial terms of any new financing received by BT from the MOF are aligned with the terms in the legal documents between the Recipient and the financiers.	US\$2,000,000



DLI	Bank financing allocated to the DLI	Prior DLI (US\$ million)	Deadline for DLI Achievement	Minimum DLI value to be achieved to trigger disbursements of Bank Financing	Maximum DLI value(s) expected to be achieved for Bank disbursements purposes	Determination of Financing Amount to be disbursed against achieved and verified DLI value(s)
DLR 2.3: The Recipient converts into equity ownership of BT the outstanding principal amounts and interest payable by BT to MOF under additional four loans under Group 1 Subsidiary Agreements.	US\$2,400,000	-	Dec. 31, 2020	Conversion into equity of the outstanding principal amounts and interest payable for any three additional loans under Group 1 Subsidiary Agreements.	Conversion into equity of the outstanding principal amounts and interest payable for any three additional loans under Group 1 Subsidiary Agreements.	US\$2,400,000
DLR 2.4: The BT Supervisory Board adopts a formal decision to prohibit BT from receiving new financing from the MOF unless the terms of such financing are aligned with the terms reflected in the legal documents between the Recipient and the financiers.	US\$4,600,000		Dec. 31, 2020	Decision by the Supervisory Board of BT prohibiting receiving financial resources under terms, which are not aligned with the terms of financing in the legal documents between the Recipient and the financiers.	Decision by the Supervisory Board of BT prohibiting receiving financial resources under terms, which are not aligned with the terms of financing in the legal documents between the Recipient and the financiers.	US\$4,600,000
DLR 2.5: The terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal agreements between the Recipient and the financiers.	US\$2,000,000	-	Dec. 31, 2020	The financial terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal documents between the Recipient and the financiers.	The financial terms of any new financing received by BT from the MOF are aligned with the terms in the legal documents between the Recipient and the financiers.	US\$2,000,000
DLR 2.6: (a) the MOF and BT revise the terms of ten loans under Group 2 Subsidiary Agreements to align those with the terms in respective legal agreements between the Recipient and the financiers; and (b) the Recipient converts into equity the difference between the original and revised interest payable by BT to the MOF under each of the ten loans from Group 2 Subsidiary Agreements, assuming the revised terms of each such loan were in effect since the effectiveness date of the respective Group 2 Subsidiary	US\$5,600,000	-	June 30, 2021	<ul style="list-style-type: none"> a. Revision of the terms of any seven loans from Group 2 Subsidiary Agreements to align those with the terms in the respective legal documents between the Recipient and the financiers. b. The Recipient converts into equity the difference between the original and revised interest payable by BT to the MOF under each of the seven loans from Group 2 Subsidiary Agreements, assuming the 	<ul style="list-style-type: none"> a. Revision of the terms of any seven loans from Group 2 Subsidiary Agreements to align those with the terms in the respective legal documents between the Recipient and the financiers. b. The Recipient converts into equity the difference between the original and revised interest payable by BT to the MOF under 	US\$5,600,000



DLI	Bank financing allocated to the DLI	Prior DLI (US\$ million)	Deadline for DLI Achievement	Minimum DLI value to be achieved to trigger disbursements of Bank Financing	Maximum DLI value(s) expected to be achieved for Bank disbursements purposes	Determination of Financing Amount to be disbursed against achieved and verified DLI value(s)
Agreements.				revised terms of each such loan were in effect since the effectiveness date of the respective Group 2 Subsidiary Agreements.	each of the seven loans from Group 2 Subsidiary Agreements, assuming the revised terms of each such loan were in effect since the effectiveness date of the respective Group 2 Subsidiary Agreements.	
DLR 2.7: The terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal documents between the Recipient and the financiers	US\$1,400,000	-	June 30, 2021	The financial terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal documents between the Recipient and the financiers.	The financial terms of any new financing received by BT from the MOF are aligned with the terms in the legal documents between the Recipient and the financiers.	US\$1,400,000
DLR 2.8: (a) the MOF and BT revise the terms of nine additional loans under Group 2 Subsidiary Agreements to align those with the terms in respective legal agreements between the Recipient and the financiers; and (b) the Recipient converts into equity the difference between the original and revised interest payable by BT to the MOF under each of the nine loans from Group 2 Subsidiary Agreements, assuming the revised terms of each such loan were in effect since the effectiveness date of the respective Group 2 Subsidiary Agreements.	US\$5,600,000	-	Dec. 31, 2021	<p>a. Revision of the terms of any seven loans from Group 2 Subsidiary Agreements to align those with the terms in the respective legal documents between the Recipient and the financiers.</p> <p>b. The Recipient converts into equity the difference between the original and revised interest payable by BT to the MOF under each of the seven loans from Group 2 Subsidiary Agreements, assuming the revised terms of each such loan were in effect since the effectiveness date of the respective Group 2 Subsidiary Agreements.</p>	<p>a. Revision of the terms of any seven loans from Group 2 Subsidiary Agreements to align those with the terms in the respective legal documents between the Recipient and the financiers.</p> <p>b. The Recipient converts into equity the difference between the original and revised interest payable by BT to the MOF under each of the seven loans from Group 2 Subsidiary Agreements, assuming the revised terms of each such loan were in effect since the effectiveness date of the respective Group 2</p>	US\$5,600,000



DLI	Bank financing allocated to the DLI	Prior DLI (US\$ million)	Deadline for DLI Achievement	Minimum DLI value to be achieved to trigger disbursements of Bank Financing	Maximum DLI value(s) expected to be achieved for Bank disbursements purposes	Determination of Financing Amount to be disbursed against achieved and verified DLI value(s)
					Subsidiary Agreements.	
DLR 2.9: The terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal documents between the Recipient and the financiers	US\$1,400,000	-	Dec. 31, 2021	The financial terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal documents between the Recipient and the financiers.	The financial terms of any new financing received by BT from the MOF are aligned with the terms in the legal documents between the Recipient and the financiers.	US\$1,400,000
DLI 3: Reduction of BT's cash deficit	US\$28,000,000					
DLR 3.1: At least 7 percent reduction from the BT's cash deficit in 2019.	US\$1,960,000	-	Dec. 31, 2020	At least 7 percent reduction compared to 2019.	100 percent reduction compared to 2019.	Formula: US\$1,960,000 plus US\$280,000 per each additional 1 percent reduction above the target, but not more than US\$28,000,000.
DLR 3.2: At least 22 percent reduction from the level of the preceding year.	US\$4,200,000	-	Dec. 31, 2021	At least 22 percent reduction from the level of the preceding year.	100 percent reduction from the level of the preceding year.	Formula: US\$4,200,000 plus US\$280,000 per each additional 1 percent reduction above the target, but not more than US\$28,000,000.
DLR 3.3: At least 35 percent reduction from the level of the preceding year.	US\$3,640,000	-	Dec. 31, 2022	At least 35 percent reduction from the level of the preceding year.	100 percent reduction from the level of the preceding year.	Formula: US\$3,640,000 plus US\$280,000 per each additional 1 percent reduction above the target, but not more than US\$28,000,000.
DLR 3.4: At least 50 percent reduction from the level of the preceding year.	US\$4,200,000	-	Dec. 31, 2023	At least 50 percent reduction from the level of the preceding year.	100 percent reduction from the level of the preceding year.	Formula: US\$4,200,000 plus US\$280,000 per each additional 1 percent reduction above the target, but not more than



DLI	Bank financing allocated to the DLI	Prior DLI (US\$ million)	Deadline for DLI Achievement	Minimum DLI value to be achieved to trigger disbursements of Bank Financing	Maximum DLI value(s) expected to be achieved for Bank disbursements purposes	Determination of Financing Amount to be disbursed against achieved and verified DLI value(s)
						US\$28,000,000.
DLR 3.5: At least 80 percent reduction from the level of the preceding year.	US\$8,400,00	-	Dec. 31, 2024	At least 80 percent reduction from the level of the preceding year.	100 percent reduction from the level of the preceding year.	Formula: US\$8,400,000 plus US\$280,000 per each additional 1 percent reduction above the target, but not more than US\$28,000,000.
DLR 3.6: No cash deficit at BT.	US\$5,600,000	-	Dec. 31, 2025	100 percent reduction compared to 2019.	100 percent reduction compared to 2019.	US\$5,600,000
DLI 4: Improvement of BT's collection rate for billed electricity in the cities of Istaravshan, Isfara, and Konibodom.	-					
DLR 4.1: BT signed the contract for supply and installation of AMI in the cities of Istaravshan, Isfara, and Konibodom.	-	-	Dec. 31, 2020	The contract with the lowest qualified responsive bidder is signed.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 4.2: AMI in the cities of Istaravshan, Isfara, and Konibodom is operational.	-	-	Dec. 31, 2022	AMI is commissioned.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 4.3: At least 91 percent average collection rate for billed electricity in the cities of Istaravshan, Isfara, and Konibodom.	-	-	Dec. 31, 2023	Average collection rate of at least 91 percent in each of the three cities.	Average collection rate at 95 percent.	Formula: US\$5,000,000 for 91 percent; and US\$250,000 per 0.1 percent up to 95 percent. No disbursement in case of partial or complete non-compliance.
DLR 4.4: At least 93 percent average collection rate for billed electricity in	-	-	Dec. 31, 2024	Average collection rate of at least 93 percent in each of the three	Average collection rate at 95 percent.	Formula: US\$5,000,000 for 93 percent; and US\$250,000



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the cities of Istaravshan, Isfara, and Konibodom.				cities.		per 0.1 percent up to 95 percent. No disbursement in case of partial or complete non-compliance
DLR 4.5: At least 95 percent average collection rate for billed electricity in the cities of Istaravshan, Isfara, and Konibodom.	-	-	Dec. 31, 2025	Average collection rate of at least 95 percent in each of the three cities.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLI 5: Adequate electricity supply is received by BT from Sangtuda-1 power plant	US\$17,000,000	-	- For 1 st semester of 2020: June 30, 2020. - For 2 nd semester of 2020: Dec. 31, 2020. - For 1 st semester of 2021: June 30, 2021. - For 2 nd semester of 2021: Dec. 31, 2021. - For 2022: Dec. 31, 2022. - For 2023: Dec. 31, 2023. - For 2024: Dec. 31, 2024. - For 2025: Dec. 31, 2025.	- For 1 st semester of 2020: at least 1,000 GWh is received by BT. - For 2 nd semester of 2020: At least 800 GWh is received by BT. - For 1 st semester of 2021: At least 1,000 GWh is received by BT. - For 2 nd semester of 2021: At least 800 GWh is received by BT. - For 2022: At least 1,800 GWh is received by BT. - For 2023: At least 1,800 GWh is received by BT. - For 2024: At least 1,800 GWh is received by BT. - For 2025: At least 1,800 GWh is received by BT.	N/A	- For 1 st semester of 2020: US\$3,000,000 - For 2 nd semester of 2020: US\$3,000,000 - For 1 st semester of 2021: US\$3,000,000 - For 2 nd semester of 2021: US\$3,000,000 - For 2022: US\$2,000,000 - For 2023: US\$1,000,000 - For 2024: US\$1,000,000 - For 2025: US\$1,000,000
DLI 6: Reduction of equipment failures in electricity transmission and distribution networks of BT	-	-	- For 1 st semester of 2020: June 30, 2020.	- For 1 st semester of 2020: 2,350 or fewer. - For 2 nd semester of 2020: 2,250 or fewer.	1,500.	Formula: US\$18,000 per unit of reduction in case the specified minimum targets are achieved or exceeded,



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			<ul style="list-style-type: none"> - For 2nd semester of 2020: Dec. 31, 2020. - For 1st semester of 2021: June 30, 2021. - For 2nd semester of 2021: Dec. 31, 2021. - For 2022: Dec. 31, 2022. - For 2023: Dec. 31, 2023. - For 2024: Dec. 31, 2024. - For 2025: Dec. 31, 2025. 	<ul style="list-style-type: none"> - For 1st semester of 2021: 2,100 or fewer. - For 2nd semester of 2021: 1,950 or fewer. - For 2022: 1,800 or fewer. - For 2023: 1,700 or fewer. - For 2024: 1,600 or fewer. - For 2025: 1,500 or fewer. 		but not more than US\$16,506,000.
DLI 7: Use of technically, economically, and financially sound principles for the Recipient’s investment decision-making in electricity generation, transmission, and distribution	US\$14,900,000					
DLR 7.1: MEWR completes the update of GEP.	US\$3,900,000	-	June 30, 2021	Update of GEP is completed.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 7.2: MEWR approves the updated GEP.	US\$5,000,000	-	Dec. 31, 2021	Updated GEP is approved.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 7.3: New generation investment decisions are made by the Recipient in	US\$4,000,000	-	Dec. 31, 2022	Generation investments and investment decisions are made in	N/A	100 percent disbursement for full compliance. No



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accordance with the updated GEP; T&D network development plans, based on GEP, are prepared by BT and approved by MEWR.				accordance with updated GEP; T&D network development plans, based on GEP, are prepared and adopted.		disbursement in case of partial or complete non-compliance.
DLR 7.4: New generation as well as T&D projects initiated by BT or the Recipient's government are consistent with the approved plans.	US\$1,000,000	-	Dec. 31, 2023	Generation as well as T&D investments and investment decisions are made consistent with adopted plans.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 7.5: New generation as well as T&D projects initiated by BT or the Recipient's government are consistent with the approved plans.	US\$500,000	-	Dec. 31, 2024	Generation as well as T&D investments and investment decisions are made consistent with adopted plans.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 7.6: New generation as well as T&D projects initiated by BT or the Recipient's government are consistent with the approved plans.	US\$500,000	-	Dec. 31, 2025	Generation as well as T&D investments and investment decisions are made consistent with adopted plans.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLI 8: Implementation of good-practice corporate governance at BT	US\$17,000,000					
DLR 8.1: SBs are functional and formed the specialized committees (audit and compensation committees) at generation, transmission, and distribution companies, comprising of SB members.	US\$4,000,000	-	Dec. 31, 2020	SBs are functional and form specialized committees (audit and compensation committees) at generation, transmission, and distribution companies, comprising of SB members and chaired by independent SB members.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 8.2: SBs and specialized committees are functional.	US\$5,000,000	-	June 30, 2021	SBs and specialized committees are functional.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.



DLI	Bank financing allocated to the DLI	Prior DLI (US\$ million)	Deadline for DLI Achievement	Minimum DLI value to be achieved to trigger disbursements of Bank Financing	Maximum DLI value(s) expected to be achieved for Bank disbursements purposes	Determination of Financing Amount to be disbursed against achieved and verified DLI value(s)
DLR 8.3: SBs and specialized committees are functional.	US\$4,000,000	-	Dec. 31, 2021	SBs and specialized committees are functional.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 8.4: SBs and specialized committees are functional.	US\$2,000,000	-	Dec. 31, 2022	SBs and specialized committees are functional.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 8.5: SBs and specialized committees are functional.	US\$1,000,000	-	Dec. 31, 2023	SBs and specialized committees are functional.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 8.6: SBs and specialized committees are functional.	US\$500,000	-	Dec.31, 2024	SBs and specialized committees are functional.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 8.7: SBs and specialized committees are functional.	US\$500,000	-	Dec. 31, 2025	SBs and specialized committees are functional.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLI 9: Improvement of BT's operational and financial transparency	5,100,000					
DLR 9.1: BT publishes on its website the key quarterly operational data and quarterly un-audited financial statements for 2019.	1,100,000	-	Dec. 31, 2020	BT publishes on its website the key quarterly operational and financial data for 2019.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.



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DLR 9.2: BT publishes on its website the key quarterly operational data and quarterly un-audited financial statements for 2020.	1,000,000	-	Dec. 31, 2021	BT publishes on its website the key quarterly operational and financial data for 2020.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 9.3: BT publishes on its website the key quarterly operational data and quarterly un-audited financial statements for 2021.	1,000,000	-	Dec. 31, 2022	BT publishes on its website the key quarterly operational and financial data for 2021.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 9.4: BT publishes on its website the key quarterly operational data and quarterly un-audited financial statements for 2022.	1,000,000	-	Dec. 31, 2023	BT publishes on its website the key quarterly operational and financial data for 2022.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 9.5: BT publishes on its website the key quarterly operational data and quarterly un-audited financial statements for 2023.	500,000	-	Dec. 31, 2024	BT publishes on its website the key quarterly operational and financial data for 2023.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.
DLR 9.6: BT publishes on its website the key quarterly operational data and quarterly un-audited financial statements for 2024.	500,000	-	Dec. 31, 2025	BT publishes on its website the key quarterly operational and financial data for 2024.	N/A	100 percent disbursement for full compliance. No disbursement in case of partial or complete non-compliance.



Verification Protocol

DLI	Definition/ Description of achievement	Scalability of Disbursements (Yes/No)	Protocol to evaluate achievement of the DLI and data/result verification		
			Data source/agency	Verification Entity	Procedure
DLI 1: Achievement of cost-recovery end-user tariffs.					
DLR 1.1: (a) At least 12 percent increase of average end-user tariff for BT has been adopted by the Recipient; (b) approval by the Recipient’s government of the electricity tariff paper satisfactory to the Association, with estimated full cost-recovery tariff and tariff adjustment plan to reach full cost-recovery by the end of 2025; and (c) establishment of an adequately staffed Tariff Unit at AMC.	The target will be considered achieved if: (a) the approved weighted average end-user tariff increase for 2021 is 12 percent considering the electricity consumption weights by various categories of consumers from previous year’s actual data; (b) the Government approves the Electricity Tariff Paper with estimated level of full cost-recovery tariffs and further annual increases required to reach the estimated cost-recovery level; and (c) the Tariff Unit at AMC is formally established, has at least one power engineer, one economist, two financial analysts.	No	Data sources: (a) copy of the Government Decree with approved electricity tariff increase and effectiveness date of the new tariffs; (b) copy of the approved Electricity Tariff Paper; and (c) copy of legislation confirming creation of the Tariff Unit at AMC and its authority to carry out electricity tariff reviews and recommendation on approval to the Government. Agency: MEWR	Regulatory consultant under TOR acceptable to the Bank.	<ul style="list-style-type: none"> - Confirmation by IVA whether the approved tariff increases for all categories of consumers would translate into 12 percent increase of weighted average tariff; - Review by IVA of legislation to confirm that establishment of the Tariff Unit is in compliance with requirements of local legislation. - Review by IVA of overall technical robustness of the Tariff Paper and accuracy of proposed tariff increase trajectory to reach full cost recovery by the end of 2025. <p>Review by IVA of computations of cost-recovery tariffs for electricity generation, transmission, distribution, other services, and end-users to verify: (a) compliance with requirements of tariff methodology; (b) economic justification for costs included into the tariffs; and (c) consistency of proposed capital expenditures with generation LCP and T&D investment plans.</p>



DLI	Definition/ Description of achievement	Scalability of Disbursements (Yes/No)	Protocol to evaluate achievement of the DLI and data/result verification		
			Data source/agency	Verification Entity	Procedure
DLR 1.2: At least annual adjustment of tariffs as per tariff methodology, which is acceptable to the Bank, and consistent with the targets approved under the Electricity Tariff Paper.	The target will be considered achieved if: (a) tariff increases, over the previous year, for all categories of consumers are not less than the target for 2022 in the Tariff Paper; and (b) tariffs for electricity generation, transmission, distribution, other services (e.g. market operator, settlement center), and end-users are computed as per requirements of the tariff methodology.	No	Data sources: (a) copy of the Government Decree with approved electricity tariffs; (b) copy of the updated and approved Electricity Tariff Paper (if applicable). Agency: MEWR	Tariff consultant under TOR acceptable to the Bank.	Verification by IVA of adjustment of electricity tariffs for generation, transmission, distribution, other services, and end-users to confirm whether: (a) tariffs are computed consistent with the requirements of the tariff methodology, and (b) the approved increases are consistent with the increase trajectory in the Electricity Tariff Paper.
DLR 1.3: At least annual adjustment of tariffs as per tariff methodology, which is acceptable to the Bank, and consistent with the targets approved under the Electricity Tariff Paper.	The target will be considered achieved if: (a) tariff increases, over the previous year, for all categories of consumers are not less than the target for 2023 in the Tariff Paper; and (b) tariffs for electricity generation, transmission, distribution, other services (e.g. market operator, settlement center), and end-users are computed as per requirements of the tariff methodology.	No	Data sources: (a) copy of the Government Decree with approved electricity tariffs; (b) copy of the updated and approved Electricity Tariff Paper (if applicable). Agency: MEWR	Regulatory consultant under TOR acceptable to the Bank.	Verification by IVA of adjustment of electricity tariffs for generation, transmission, distribution, other services, and end-users to confirm whether: (a) tariffs are computed consistent with the requirements of the tariff methodology, and (b) the approved increases are consistent with the increase trajectory in the Electricity Tariff Paper.
DLR 1.4: At least annual adjustment of tariffs as per tariff methodology, which is acceptable to the Bank, and consistent with the targets approved under the Electricity Tariff Paper.	The target will be considered achieved if: (a) tariff increases, over the previous year, for all categories of consumers are not less than the target for 2024 in the Tariff Paper; and (b) tariffs for electricity generation, transmission, distribution, other services (e.g. market operator, settlement center), and end-users are computed as per requirements of the tariff methodology.	No	Data sources: (a) copy of the Government Decree with approved electricity tariffs; (b) copy of the updated and approved Electricity Tariff Paper (if applicable). Agency: MEWR	Regulatory consultant under TOR acceptable to the Bank.	Verification by IVA of adjustment of electricity tariffs for generation, transmission, distribution, other services, and end-users to confirm whether: (a) tariffs are computed consistent with the requirements of the tariff methodology, and (b) the approved increases are consistent with the increase trajectory in the Electricity Tariff Paper.
DLR 1.5: At least annual adjustment of tariffs as per tariff methodology, which is acceptable to the Bank, and	The target will be considered achieved if: (a) tariff increases, over the previous year, for all categories of consumers are	No	Data sources: (a) copy of the Government Decree with approved electricity	Regulatory consultant under TOR acceptable to	Verification by IVA of adjustment of electricity tariffs for generation, transmission,



DLI	Definition/ Description of achievement	Scalability of Disbursements (Yes/No)	Protocol to evaluate achievement of the DLI and data/result verification		
			Data source/agency	Verification Entity	Procedure
consistent with the targets approved under the Electricity Tariff Paper.	not less than the target for 2025 in the Tariff Paper; and (b) tariffs for electricity generation, transmission, distribution, other services (e.g. market operator, settlement center), and end-users are computed as per requirements of the tariff methodology.		tariffs; (b) copy of the updated and approved Electricity Tariff Paper (if applicable). Agency: MEWR	the Bank.	distribution, other services, and end-users to confirm whether: (a) tariffs are computed consistent with the requirements of the tariff methodology, and (b) the approved increases are consistent with the increase trajectory in the Electricity Tariff Paper.
DLR 1.6: At least annual adjustment of tariffs as per tariff methodology, which is acceptable to the Bank, and consistent with the targets approved under the Electricity Tariff Paper.	The target will be considered achieved if: (a) tariff increases, over the previous year, for all categories of consumers are not less than the target for 2026 in the Tariff Paper; and (b) tariffs for electricity generation, transmission, distribution, other services (e.g. market operator, settlement center), and end-users are computed as per requirements of the tariff methodology.	No	Data sources: (a) copy of the Government Decree with approved electricity tariffs; (b) copy of the updated and approved Electricity Tariff Paper (if applicable). Agency: MEWR	Regulatory consultant under TOR acceptable to the Bank.	Verification by IVA of adjustment of electricity tariffs for generation, transmission, distribution, other services, and end-users to confirm whether: (a) tariffs are computed consistent with the requirements of the tariff methodology, and (b) the approved increases are consistent with the increase trajectory in the Electricity Tariff Paper.
DLI 2: Revision of the Subsidiary Agreements between the MOF and BT					
DLR 2.1: The Recipient converts into equity ownership of BT the outstanding principal amounts and interest payable by BT to MOF for ten loans under Group 1 Subsidiary Agreements.	The target will be considered achieved if the Recipient converts into BT's equity the outstanding principal amounts and interest payable under any ten loans from Group 1 Subsidiary Agreements.	No	Data sources: Financial and accounting records from BT confirming conversion of the outstanding principal amounts of the loans and the interest payable into equity, and other relevant documents. Agency: BT	TOR and audit firm and acceptable to the Bank.	Verification by IVA of the legal documents and relevant accounting and financial records and entries confirming conversion of the outstanding principal amounts and interest payable for specified loans into equity.
DLR 2.2: The terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal agreements between the Recipient and the financiers.	The target will be considered achieved if the terms of any new financing provided to BT by MOF are aligned with the terms in the respective legal documents between the Recipient and	No	Data sources: New subsidiary agreements between the MOF and BT. Agency: BT	TOR and audit firm and acceptable to the Bank.	Verification by IVA to confirm whether the terms of new financing received by BT from MOF are aligned with the terms in the respective legal agreements



DLI	Definition/ Description of achievement	Scalability of Disbursements (Yes/No)	Protocol to evaluate achievement of the DLI and data/result verification		
			Data source/agency	Verification Entity	Procedure
	the financiers. In case of loans received by the Recipient, up to 1% of mark-up by MOF would be considered acceptable.				between the Recipient and the financiers.
DLR 2.3: The Recipient converts into equity ownership of BT the outstanding principal amounts and interest payable by MOF to BT under four additional loans under Group 1 Subsidiary Agreements.	The target will be considered achieved if the Recipient converts into BT's equity the outstanding principal amounts and interest payable under additional three loans from Group 1 Subsidiary Agreements.	No	Data sources: Financial and accounting records from BT confirming conversion of the outstanding principal amounts of the loans and the interest payable into equity, and other relevant documents. Agency: BT	TOR and audit firm and acceptable to the Bank.	Verification by IVA of the legal documents and relevant accounting and financial records and entries confirming conversion of the outstanding principal amounts and interest payable for specified loans into equity.
DLR 2.4: The BT Supervisory Board adopts a formal decision to prohibit BT from receiving new financing from the MOF unless the terms of such financing are aligned with the terms reflected in the legal documents between the Recipient and the financiers.	The target will be considered achieved if the Supervisory Board of BT adopts decisions/resolution prohibiting receipt of financial resources under terms, which are not aligned with those in the respective legal agreements between the Recipient and the financiers.	No	Data sources: Copy of the resolution/decision of the Supervisory Board of BT. Agency: BT and MEWR	TOR and audit firm and acceptable to the Bank.	Verification by IVA of BT's Supervisory Board decision confirming: (a) that it is unambiguous and clearly prohibits such borrowing; and (b) it is compliant with the legislation of the Republic of Tajikistan and is legally binding.
DLR 2.5: the terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal documents between the Recipient and the financiers.	The target will be considered achieved if the terms of any new financing provided to BT by MOF are aligned with the terms in the respective legal documents between the Recipient and the financiers. In case of loans received by the Recipient, up to 1% of mark-up by MOF would be considered acceptable.	No	Data sources: New Subsidiary Agreements between the MOF and BT. Agency: BT	TOR and audit firm and acceptable to the Bank.	Verification by IVA to confirm whether the terms of new financing received by BT from MOF are aligned with the terms in the respective legal agreements between the Recipient and the financiers.
DLR 2.6: (a) the MOF and BT revise the terms of ten loans under Group 2 Subsidiary Agreements to align those with the terms in respective legal agreements between the Recipient and	The target will be considered achieved if: (a) MOF and BT revise any seven loans under Group 2 Subsidiary Agreements; and (b) the Recipient converts into equity the difference	No	Revised Subsidiary Agreements and financial and accounting records from BT confirming conversion of	TOR and audit firm and acceptable to the Bank.	Verification by IVA of the revised Subsidiary Agreements to confirm whether: (a) the terms of specified loans were aligned with terms of financing as reflected in



DLI	Definition/ Description of achievement	Scalability of Disbursements (Yes/No)	Protocol to evaluate achievement of the DLI and data/result verification		
			Data source/agency	Verification Entity	Procedure
the financiers; and (b) the Recipient converts into equity the difference between the original and revised interest payable by BT to the MOF under each of the ten loans from Group 2 Subsidiary Agreements, assuming the revised terms of each such loan were in effect since the effectiveness date of the respective Group 2 Subsidiary Agreements.	between the original and revised interest payable by BT to the MOF under each of the seven loans from Group 2 Subsidiary Agreements, assuming the revised terms of each such loan were in effect since the effectiveness date of the respective Group 2 Subsidiary Agreements. In case of loans received by the Recipient, up to 1% of mark-up by MOF would be considered.		the difference between the original and revised interest payable by BT to MOF. Agency: BT		the relevant legal agreements between the Recipient and the financiers; and (b) the difference between the original and revised interest payable by BT to MOF under each of the seven loans from Group 2 Subsidiary Agreements was converted into equity, assuming the revised terms of each such loan were in effect since the effectiveness date of the respective Group 2 Subsidiary Agreements.
DLR 2.7: The terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal documents between the Recipient and the financiers.	The target will be considered achieved if the terms of any new financing provided to BT by MOF are aligned with the terms in the respective legal documents between the Recipient and the financiers. In case of loans received by the Recipient, up to 1% of mark-up by MOF would be considered acceptable.	No	Data sources: New Subsidiary Agreements between the MOF and BT. Agency: BT	TOR and audit firm and acceptable to the Bank.	Verification by IVA to confirm whether the terms of new financing received by BT from MOF are aligned with the terms in the respective legal agreements between the Recipient and the financiers.
DLR 2.8: (a) the MOF and BT revise the terms of nine additional loans under Group 2 Subsidiary Agreements to align those with the terms in respective legal documents between the Recipient and the financiers; and (b) the Recipient converts into equity the difference between the original and revised interest payable by BT to MOF under each of the nine loans from Group 2 Subsidiary Agreements, assuming the revised terms of each such loan were in effect since the effectiveness date of the respective Group 2 Subsidiary	The target will be considered achieved if: (a) MOF and BT revise any seven loans under Group 2 Subsidiary Agreements; and (b) the Recipient converts into equity the difference between the original and revised interest payable by BT to the MOF under each of the seven loans from Group 2 Subsidiary Agreements, assuming the revised terms of each such loan were in effect since the effectiveness date of the respective Group 2 Subsidiary Agreements. In case of loans received by the Recipient, up	No	Revised Subsidiary Agreements and financial and accounting records from BT confirming conversion of the difference between the original and revised interest payable by BT to MOF. Agency: BT	TOR and audit firm and acceptable to the Bank.	Verification by IVA of the revised Subsidiary Agreements to confirm whether: (a) the terms of specified loans were aligned with terms of financing as reflected in the relevant legal agreements between the Recipient and the financiers; and (b) the difference between the original and revised interest payable by BT to MOF under each of the seven loans from Group 2 Subsidiary Agreements was converted into equity, assuming the revised



DLI	Definition/ Description of achievement	Scalability of Disbursements (Yes/No)	Protocol to evaluate achievement of the DLI and data/result verification		
			Data source/agency	Verification Entity	Procedure
Agreements.	to 1% of mark-up by MOF would be considered.				terms of each such loan were in effect since the effectiveness date of the respective Group 2 Subsidiary Agreements.
DLR 2.9: The terms of any new financing received by BT from the MOF are aligned with the terms in the respective legal documents between the Recipient and the financiers.	The target will be considered achieved if the terms of any new financing provided to BT by MOF are aligned with the terms in the respective legal documents between the Recipient and the financiers. In case of loans received by the Recipient, up to 1% of mark-up by MOF would be considered acceptable.	No	Data sources: New Subsidiary Agreements between the MOF and BT. Agency: BT	TOR and audit firm and acceptable to the Bank.	Verification by IVA to confirm whether the terms of new financing received by BT from MOF are aligned with the terms in the respective legal agreements between the Recipient and the financiers.
DLI 3: Reduction of BT's cash deficit	The target will be considered achieved if BT reduces the cash deficit as per targets specified under DLRs.	Yes	Data source: Financial statements and other accounting records and information of BT. Agency: BT	Audit firm under TOR acceptable to the Bank.	Review by IVA of the cash deficit computation for BT for each year covered by DLRs to confirm that the specified target for each DLR is met. The IVA should verify that the computation of the cash deficit was carried out according to the following formula: Cash Revenues minus sum of all Accrual based costs of BT. Cash Revenues should include: (a) cash collected from sales of electricity to domestic consumers and; (b) cash collected from exports of electricity. Accrual based costs should include: a. Direct Production Costs comprised of purchased electricity; materials, salary and related



DLI	Definition/ Description of achievement	Scalability of Disbursements (Yes/No)	Protocol to evaluate achievement of the DLI and data/result verification		
			Data source/agency	Verification Entity	Procedure
					<p>expenses; income taxes, and other direct costs.</p> <p>b. Selling Costs comprised of salary and related expenses; inventory; services expenses; other selling costs.</p> <p>c. General and Administrative Costs comprised of salary and related expenses; professional expenditures; commissions for banking services; fines and penalties; and taxes other than income tax.</p> <p>d. Current portion of outstanding principal amounts of long-term debts to MOF; interest payable MOF; and penalties on overdue debt service to MOF.</p> <p>e. Trade payables, current portion of outstanding principal under long-term debts to other creditors; principals under short-term debts to other creditors; interest payable to other creditors; and penalties on overdue debt service to other creditors.</p>
DLI 4: Improvement of BT's collection rate for billed electricity in the cities of Istaravshan, Isfara, and Konibodom					
DLR 4.1: Contract for supply and installation of AMI in the cities of Istaravshan, Isfara, and Konibodom is signed.	The target will be considered achieved if the contract, acceptable to the financier, with the responsive bidder with lowest evaluated price is signed.	No	Data source: Copy of the signed contract. Agency: MEWR	The Bank.	The Bank will review the signed contract to ensure it is overall consistent with technical requirements as well as general



DLI	Definition/ Description of achievement	Scalability of Disbursements (Yes/No)	Protocol to evaluate achievement of the DLI and data/result verification		
			Data source/agency	Verification Entity	Procedure
					and particular terms of contract as mentioned in the bidding documents.
DLR 4.2: AMI in the cities of Istaravshan, Isfara, and Konibodom is operational.	The target will be considered achieved if AMI has been commissioned and operational acceptance of the new system was completed by BT.	No	Data source: Copy of technical supervision consultant's report and the acceptance certificate. Agency: MEWR	Power engineering consultant under TOR acceptable to the financier.	The IVA will review the documents confirming operational acceptance and functioning of the system.
DLR 4.3: At least 91 percent average collection rate for billed electricity in the cities of Istaravshan, Isfara, and Konibodom.	The target will be considered achieved if collection rates for billed domestic sales in each of three cities reached or exceeded 91 percent.	Yes	Data source: Centralized customer database and other commercial and financial data of the distribution company. Agency: MEWR	Consultant under TOR acceptable to the Bank.	The IVA will review the provided data to verify collection rate for billed sales.
DLR 4.4: At least 93 percent average collection rate for billed electricity in the cities of Istaravshan, Isfara, and Konibodom.	The target will be considered achieved if collection rates for billed domestic sales in each of three cities reached or exceeded 93 percent.	Yes	Data source: Centralized customer database and other commercial and financial data of the distribution company. Agency: MEWR	Consultant under TOR acceptable to the Bank.	The IVA will review the provided data to verify collection rate for billed sales.
DLR 4.5: At least 95 percent average collection rate for billed electricity in the cities of Istaravshan, Isfara, and Konibodom.	The target will be considered achieved if collection rates for billed domestic sales in each of three cities reached or exceed 95 percent.	Yes	Data source: Centralized customer database and other commercial and financial data of the distribution company. Agency: MEWR	Consultant under TOR acceptable to the Bank.	The IVA will review the provided data to verify collection rate for billed sales.
DLI 5: Adequate electricity supply is received by BT from Sangtuda-1 power plant	The target will be considered achieved if BT receives at least 1,800 GWh of electricity/year for the purposes of domestic supply. Lower level of supply will be considered acceptable if it is a result of technical failure caused by reasons not related to BT, hydrology conditions, or lower electricity demand.	No	Data source: Copies of invoices submitted by Sangtuda-1 HPP for electricity supplied; and data from BT on meter reading at acceptance point of electricity in BT's network. Agency: BT generation	The Bank.	The IVA will review the invoices and cross-check with meter readings to be submitted by BT generation company to confirm the amount of electricity supplied to electricity transmission network of BT for domestic consumption purposes.



DLI	Definition/ Description of achievement	Scalability of Disbursements (Yes/No)	Protocol to evaluate achievement of the DLI and data/result verification		
			Data source/agency	Verification Entity	Procedure
			company		
DLI 6: Reduction of equipment failures in electricity transmission and distribution networks of BT	The target will be considered achieved if BT achieves or exceeds the specified annual target of reduction in equipment failures in transmission and distribution networks.	Yes	Data source: BT records of registered outages on power transmission and distribution level; outage logbooks at substation level.	Power engineering consultant with qualifications and TOR acceptable to the Bank.	The IVA will confirm whether the target has been met or exceeded through review of: (a) BT's centralized records of equipment failures at power transmission and distribution level; and (b) sample-based visits to substations to obtain substation-level records and reconcile with centralized database.
DLI 7: Use of technically, economically, and financially sound principles for the Recipient's investment decision-making in electricity generation, transmission, and distribution					
DLR 7.1: MEWR completes the update of GEP.	The target will be considered achieved if MEWR updates the GEP.	No	Data source: Copy of the GEP. Agency: MEWR	Energy economics and engineering consultant under TOR acceptable to the Bank.	MEWR to submit to the Bank the updated GEP, which will be validated by the Bank to confirm: (a) it is based on robust base case domestic electricity demand projection; (b) inputs and assumptions are reasonable; (c) it is consistent with the principle of minimizing total economic cost of generation; and (d) it is technically and financially feasible.
DLR 7.2: MEWR approves the updated GEP.	The target will be considered achieved if MEWR formally approves it as a guiding document for new investments into electricity generation.	No	Data source: Copy of the MEWR decision to approve LCP. Agency: MEWR	Legal consultant under TOR acceptable to the Bank.	Review by IVA of the MEWR decision to confirm it is consistent with requirements of applicable legislation and is binding on BT.
DLR 7.3: New generation investment decisions are made by the Recipient in accordance with the updated GEP; T&D network development plans, based on	The target would be considered achieved if: (a) capital investments (and investment decisions) into electricity generation are consistent with	No	Data source: Data on new generation project started (or investment decisions made); copy of	Energy economics and engineering consultant under TOR acceptable to	- MEWR to submit to the Bank the list of all new electricity generation projects (approved for preparation and



DLI	Definition/ Description of achievement	Scalability of Disbursements (Yes/No)	Protocol to evaluate achievement of the DLI and data/result verification		
			Data source/agency	Verification Entity	Procedure
GEP, are prepared by BT and approved by MEWR.	priorities and projects identified in generation LCP; and (b) MEWR formally approves the T&D network development plans.		approved T&D network development plan. Agency: MEWR and BT.	the Bank.	implementation) so that the Bank can validate those are consistent with approved GEP; - MEWR to submit to the Bank T&D network development plans for the Bank to validate those are economically and technically justified; - Review by IVA of MEWR decision on approval of T&D network plans to confirm it is consistent with requirements of applicable legislation and is binding on transmission and distribution companies.
DLRs 7.4-7.6: New generation as well as T&D projects initiated by BT or the Recipient's government are consistent with the approved plans.	The target will be considered achieved if capital investments and investment decisions into electricity generation and T&D are consistent with priorities and projects identified in generation LCP and T&D network development plans.	No	Data source: Data on capital expenditures of BT generation, transmission, and distribution companies, the state budget, and decisions on priority projects and pipelines Agency: MEWR and BT	Energy economics consultant under the TOR acceptable to the Bank.	MEWR to submit to the Bank the list of all new electricity generation, transmission, and distribution projects (approved for preparation and implementation) so that the Bank can validate those are consistent with approved GEP and T&D network development plans.
DLI 8: BT generation, transmission, and distribution companies have functional Supervisory Boards and the specialized committees.					
DLR 8.1: SBs are functional and formed the specialized committees (audit and compensation committees) at generation, transmission, and distribution companies, comprising of SB members.	The target will be considered achieved if SBs at generation, transmission, and distribution companies are functional and specialized committees were established.	No	Data source: Corporate charters and bylaws of generation, transmission, and distribution companies and other corporate governance related documents.	Audit firm and TOR acceptable to the Bank.	Review by IVA of: (a) corporate charters, bylaws, decisions, and other relevant documents of generation, transmission, and distribution companies to confirm good-practice corporate governance structures were retained; SB committee members



DLI	Definition/ Description of achievement	Scalability of Disbursements (Yes/No)	Protocol to evaluate achievement of the DLI and data/result verification		
			Data source/agency	Verification Entity	Procedure
			Agency: MEWR.		comply with adopted job description; and (b) legislative evidence on creation of specialized committees and assessment whether the staff qualifications are compliant with requirements in job description; the functional responsibilities are clear and consistent with adopted corporate governance structure; and the reporting arrangements are clear.
DLR 8.2-8.7: SBs and specialized committees are functional.	The target will be considered achieved if SBs and specialized committees (e.g. audit and compensation) at generation, transmission, and distribution companies are functional.	No	Data source: Corporate charters and bylaws of generation, transmission, and distribution companies and other corporate governance related documents. Agency: MEWR.	Audit firm and TOR acceptable to the Bank.	Review by IVA of: (a) corporate charters, bylaws, decisions, and other relevant documents of generation, transmission, and distribution companies to confirm good-practice corporate governance structures were retained, i.e. no abrogation of corporate level regulations; revisions to the charters, bylaws, and other legal documents or legislation reversing the earlier decisions; loosening of qualification requirements for SB and specialized committee members, etc.; and (b) actual evidence of performance of SBs and specialized committees based on the minutes of meetings and other documents to confirm.
DLI 9: Improvement of BT's operational and financial transparency					
DLR 9.1-9.6: BT publishes on its website the key quarterly operational data and	The target will be considered achieved if Uniform Resource Locator (URL) link	No	Data source: URL link to the data on respective	The Bank.	The Bank will: (i) review the data to confirm that it contains: (a)



DLI	Definition/ Description of achievement	Scalability of Disbursements (Yes/No)	Protocol to evaluate achievement of the DLI and data/result verification		
			Data source/agency	Verification Entity	Procedure
quarterly un-audited financial statements for 2020-2025.	is submitted to the Bank to confirm that BT published on its website the key quarterly operational and financial data within 30 days after the end of the respective quarters of each year.		website(s). Agency: MEWR		main operational data, including generation, own-use, electricity input into transmission, transmission losses, export and import, distribution technical and commercial losses, and supply to end-users by categories of consumers; (b) electricity service reliability indicators to be agreed with the Bank; (c) key financial data, including quarterly un-audited financial statements; tariffs by categories of consumers; collection rates by categories of consumers; and import and export tariffs.



ANNEX 3. SUMMARY TECHNICAL ASSESSMENT

COUNTRY: Republic of Tajikistan

Tajikistan Power Utility Financial Recovery Program for Results

1. The Program supported under the PforR is technically sound and includes all of the key measures required for reverting BT to adequate financial condition and improving reliability of electricity supply. The Program is underpinned by solid analytical work and technical justifications. The Program also incorporates several of key activities that were recommended by the Bank as part of the ongoing energy sector analytical work, including the ongoing ESMAP-financed Improvement of Power Tariff Setting and Mitigation of Social Impacts on the Poor.

2. BT prepared a detailed financial model of the company, which identified key factors impacting profitability, liquidity, and solvency. Thereafter, the key priority measures to improve the financial performance of BT were identified and the financial impact from their implementation was estimated. The proposed priority measures to improve financial standing of BT were estimated to be robust and the impacts were estimated correctly.

Results Area 1: Achievement of Financial Viability of BT

3. Implementation of the cost-recovery tariff methodology and further optimization of end-user tariff structure would increase BT’s operating cash flows. The new cost recovery methodology allows for full recovery of cash costs at each segment of the power system value chain – generation, transmission, and distribution. It would also allow to cover the costs of dispatch services and the market operator. It should be noted that the Program aims to achieve only the Level 2 of the cost recovery, which is defined as the total revenue required to cover cost of energy from IPPs; O&M costs; debt service; and taxes, and does not include return on assets.⁴¹ The details on the cost-recovery ladder are presented in the Program Technical Assessment Report.

4. Moreover, currently, the end-user tariffs are differentiated by multiple groups of consumers, which is not supported by any clear allocation of costs, economic rationale or policy considerations. The end-user tariff structure would need to be revised and be based on certain technical and economic principles such as voltage level.

5. Technical assessment. Consistent implementation of the conceptually sound tariff methodology, coupled with clear trajectory for tariff increases to reach financial cost recovery and adequate institutional capacity to implement it, are essential for long-term financial viability of BT. The implementation of the tariff methodology should be based on the following key building blocks.

Annex 3: Table 1: Key Steps in Implementation of Electricity Tariff Methodology

	Key Steps	Activities
I	Approval of new electricity tariff methodology	The tariff methodology should be formally approved and become mandatory for computation of electricity tariffs by the regulated entity (BT) and the entity that would be reviewing and making recommendations to the Government regarding the tariffs (completed).
II	Establishment of institutional capacity for implementation of new tariff methodology	Long-term: Setting up an independent regulator with transparent processes that will be in charge of the tariff work is the long-term objective. However, this can require many years depending on different factors: availability of all required competences, political environment, required institutional processes, etc.

⁴¹ The Government, as the owner of BT, in the medium term can forego return on assets from public policy perspective as long as it does not impact the ability of BT to finance the new capital investments. Without return on assets, BT will be able to borrow (public and commercially) given that it is expected to receive enough revenue through tariff to cover debt service.



	Key Steps	Activities
		<p><i>Short to medium-term:</i> The most important first step is setting a technical tariff unit under the umbrella of whatever ministry or organization the decision makers see appropriate and easily executable. The objective is to develop the technical capability as soon as possible, without any institutional requirement. The tariff unit needs to include operational (engineering) and finance competences. At minimum, it should be comprised of the following key staff:</p> <ul style="list-style-type: none"> • One senior engineer specialized in generation; • One senior engineer specialized in transmission and distribution; • One economist; • Two financial analysts (one senior and one junior); • One lawyer to supervise licensing.
III	Evaluation of electricity demand	<p>Preparation of electricity demand forecasts for each tariff category based on the following key inputs:</p> <ul style="list-style-type: none"> • Historical demand data, including estimated un-served energy demand; • Billing database for the most recent year to determine consumption patterns; • Household expenditure surveys; • Projected growth rates of population and GDP; • Other key variables that may influence the domestic electricity demand.
IV	Least-cost generation plan (LCP) and transmission & distribution network development plans	<p>LCP and related transmission and distribution investment plans should be prepared to be used as inputs to project tariffs and develop optimal tariff increase strategies:</p> <ul style="list-style-type: none"> • Identification of the list of potential technologies/projects to meet projected increase in electricity demand; • Projection of capital, fixed and non-fuel variable O&M costs, and fuel costs for various power generation technologies; • Identification and modelling of constraints inherent to the power system and/or specific technologies. • Use of system planning model to evaluate the LCP; • Optimal dispatch model to simulate the long-run generation from each power plant and estimate the long run marginal cost of generation; • Calculate long-run marginal cost (LRMC) of transmission and distribution.
V	Electricity supply cost allocation	<ul style="list-style-type: none"> • Allocate costs among voltage levels; • Collect or generate load profiling data for each customer/tariff category; • Allocate average costs and LRMC of transmission and distribution (using the load profiling data).
VI	Design of initial tariff structure	<ul style="list-style-type: none"> • Develop tariff structure to be based on the LRMC calculated above, with some adjustments considering affordability constraints for residential consumers.
VII	Preparation of tariff model and estimation of the level of	<ul style="list-style-type: none"> • Prepare detailed tariff model to project electricity tariffs;



	Key Steps	Activities
	tariffs	<ul style="list-style-type: none"> • Design optimal tariff increase trajectories based on estimated level of increase required to reach financial cost recovery. • Estimate mitigation potential of block tariff structure and/or TSA payments sufficient to ensure no net increase in the poverty rate. • Fix the end-user tariff levels considering the revenue requirements of BT to ensure full recovery of all cash costs.
VIII	Regular tariff and TSA adjustments based on indexation and cost adjustment mechanisms	<ul style="list-style-type: none"> • Adjust the generation, transmission, and distribution tariffs based on the change of electricity supply costs beyond BT’s control, such as fuel prices, inflation, energy costs of IPPs, and exchange rate fluctuations. • Annually adjust mitigation approaches to ensure no net increase in the poverty rate due to tariff increases.

6. **Establishment of a regulator capable of reviewing and recommending approval of electricity tariffs as per new methodology.** This is an essential building block for long-term financial viability of the power sector. In the short to medium-term, the Government approved the creation of the Electricity Tariff Unit under AMC to be responsible for review of electricity tariffs for: (a) electricity generation, transmission, distribution, and other power system service providers; and (b) all approved categories/groups of end-users. Based on the review, AMC will be making recommendation to the Government regarding recommended level of tariffs. In the long-term, the Government is considering establishing an independent energy sector regulatory commission.

7. In order for the new Tariff Unit to effectively implement its functions, it will need to: (a) adopt the required technical, legal, reporting and other rules and regulations required for functioning of the tariff department; (b) carry out detailed cost-allocation study to improve the economic efficiency of end-user tariffs to ensure they reflect the cost of supply to each category of consumers; (c) have the required financing and competent staff; and (c) receive capacity-building support and training of the key staff. The Bank will be providing limited capacity-building support to BT and AMC on principles for cost allocation until detailed financial and operational data becomes available from unbundled companies; development of regulatory reporting forms; and training of key staff. The Government is in discussions with other development partners to secure financing for capacity-building of BT and AMC to operationalize the new electricity tariff methodology.

8. **Revision of the Subsidiary Agreements between MOF and BT will materially reduce liabilities.** Currently, BT has several grants and loans with terms that do not match the original terms of such financing provided to the Republic of Tajikistan. The Subsidiary Agreements between MOF and BT can be classified into the following groups:

- **Group 1 Subsidiary Agreements.** Those are the legal agreements between the MOF and BT under which BT received from MOF as loans the financial resources provided as grants to the Republic of Tajikistan. Therefore, for loans under these Subsidiary Agreements, the Government should convert into equity ownership of BT the outstanding principal amounts and interest payable by BT.
- **Group 2 Subsidiary Agreements.** Those are the legal agreements between the MOF and BT under which BT received financial resources from the MOF as loans under terms and conditions which are different from those in the respective loan agreements between the Recipient and the financiers. Therefore, MOF and BT should revise the terms of loans under these Subsidiary Agreements to align those with the terms in respective legal agreements between the Recipient and the financiers. Additionally, the Government



should convert into equity the difference between the original and revised interest payable by BT to MOF under each of these loans, assuming the revised terms of each such loan were in effect since the effectiveness date of the respective Group 2 Subsidiary Agreements.

- **Group 3 Subsidiary Agreements.** Those are the legal agreements between the MOF and BT under which BT received from the MOF the financial resources provided to the Recipient as both grants and loans under terms and conditions similar to those in the respective legal agreements. This group of Subsidiary Agreements does not require revision.

9. **Technical assessment.** The restructuring of BT’s subsidiary agreements with MOF would help to significantly improve the solvency of BT through reduction of the outstanding long- and short-term debt. In particular, subsidiary agreements would need to be revised to align the terms with those in the respective legal agreements between the Republic of Tajikistan and the financiers. This means that multiple loans would need to be converted to grants because the Republic of Tajikistan, through MOF, received the resources on grant basis. The subsidiary agreements would need to have the main terms (e.g. tenure, interest rates) revised to align them with the rates in the respective legal agreements between the Republic of Tajikistan and the financiers. This is estimated to reduce the outstanding principal amount of BT’s debt by TJS2 billion and significantly reduce the annual financing costs (interest payments) to MOF. The sustainability of debt service costs under new Subsidiary Agreements will be ensured through the adoption of a decree/decision by BT’s Supervisory Board prohibiting borrowing such borrowing if the costs of new loans or credits are not aligned with the terms in the respective legal agreements between the Republic of Tajikistan and various financiers.

10. BT will reimburse the MOF for debt service costs incurred by the MOF on loans which were not serviced by BT as per schedule in the respective subsidiary agreements. The amounts of such reimbursements will be proposed by BT, in agreement with MOF, for inclusion into the electricity tariff.

Annex 3: Table 2: Subsidiary Agreements Between MOF and BT.

Group 1 Subsidiary Loan Agreements			
1	Subsidiary Agreement No. TAJ-2014-006 (BT-026), dated 25.02.2014	US\$	136,000,000
2	Subsidiary Agreement No. 0213-028 BT; dated 23.11.2010	US\$	112,500,000
3	Subsidiary Agreement No. TAJ-020-BT, dated 23.01.2009	US\$	54,770,000
4	Subsidiary Agreement No. TAJ-2015-009 (BT-033), dated 12.11.2015	US\$	54,000,000
5	Subsidiary Agreement No. TAJ 2015-008 (BT-032), dated 01.10.2015	US\$	45,000,000
6	Subsidiary Agreement No. TAJ 2010-027 BT, dated 16.07.2010	US\$	15,000,000
7	Subsidiary Agreement, dated 29.06.2007, for SECO grant under Energy Loss Reduction Project	US\$	6,600,000
8	Subsidiary Agreement No. TAJ-015 BT, dated 30.10.2008, and Amendment to this Subsidiary Agreement, dated 24.11.2008	US\$	4,341,500
9	Amendment, dated 21.12. 2011, to Subsidiary Agreement dated 29.06.2007	US\$	2,582,000
10	Subsidiary Agreement No. TF096573-035 BT, 20.12.2011	US\$	3,150,000
11	Subsidiary Agreement related to Grant Agreement H178 TJ, dated 07.12.2005	SDR	2,000,000
12	Subsidiary Agreement, dated 07.12.2005, related to SDR5,500,000 IDA Credit No. 4093-TJ and SDR880,000 IDA Grant No. H178	SDR	880,000
13	Subsidiary Agreement No. TAJ-021 (BT), dated 29.06.2007, and Subsidiary Agreement No. KFW-034 BT, dated 28.06.2011	EUR	7,000,000
Group 2 Subsidiary Loan Agreements		Currency	Amount
1	Subsidiary Agreement No. BLA06015, dated 21.12.2006	US\$	267,219,451
2	Subsidiary Agreement No. TAJ 2014-028-1, dated 18.12.2014	US\$	178,969,217



3	Subsidiary Agreement No. TAJ 2014-028-2, dated 18.12.2014	CNY	929,977,078
4	Subsidiary Agreement No. TAJ-2017-02 (BT-039), dated 29.12.2017	CNY	546,032,200
5	Subsidiary Agreement No. BLA06016, dated 21.12.2006	US\$	55,227,590
6	Subsidiary Agreement No. TAJ-2009-025 BT, dated 29.05.2009	US\$	51,000,000
7	Subsidiary Agreement No. TAJ-2013(22) TOTAL No.(266) BT-025, dated 31.07.2011	US\$	35,043,319
8	Subsidiary Agreement No. TAJ 2016-03 (BT-036), dated 19.08.2016	EUR	70,000,000
9	Subsidiary Agreement, dated 07.12.2005, related to SDR5,500,000 IDA Credit No. 4093-TJ and SDR880,000 IDA Grant No. H178	SDR	5,500,000
10	Subsidiary Agreement No. TAJ-021 (BT), dated 29.06.2007, and Subsidiary Agreement No. KFW-034 BT, dated 28.06.2011	EUR	18,000,000
11	Subsidiary Agreement, dated 20.09.2003, and Amendment to Subsidiary Agreement, dated 15.02.2005, related to Financing Agreement No. 665	KWD	3,600,000
12	Subsidiary Agreement No. 2009 0675-031 BT, dated 12.10.2011	EUR	7,000,000
13	Subsidiary Agreement for ADB Loan No. 2303 - TAJ	SDR	14,475,000
14	Subsidiary Agreement No. TAJ 2015-010 (BT-034), dated 21.09.2015	US\$	5,000,000
15	Subsidiary Agreement No. 187, dated 20.08.2001	SDR	26,576,000
16	Subsidiary Agreement No. 011-029-031, dated 04.06.2008	Islamic Dinar	10,400,000
17	Subsidiary Agreement No. 2010 (024) TOTAL (170) – 029 BT, dated 15.12.2011	US\$	35,055,000
18	Subsidiary Agreement No. 1141-033, dated 28.06.2011	US\$	8,500,000
19	Subsidiary Agreement No. 2011(19) TOTAL (170) – 030 BT, dated 20.07.2011	US\$	26,463,789
	Group 3 Subsidiary Agreements	Currency	Amount
1	Subsidiary Agreement for ADB Loan No. 1912-TAJ, dated 20.10.2003	SDR	4,001,000
2	Subsidiary Agreement, dated 18.03.2005, for Loan No. TAD-022	Islamic Dinar	6,623,000
3	Subsidiary Agreement No. TAD-030-032-BT, dated 28.06.2011	US\$	14,067,000
4	Subsidiary Agreement No. TAJ 2014-007 (BT-027) for IsDB Loan No. TAD-0054	US\$	13,070,000
5	Subsidiary Agreement No. BT-037 TAJ 2016-03 0055	US\$	70,000,000

11. **Introduction of AMI in the cities of Istaravshan, Isfara, and Konibodom.** In 2017, BT reported technical losses of 16.4 percent and commercial losses are estimated at around 8 percent. Relatively high level of technical losses is due to aged and in some cases overloaded networks. High level of commercial losses, together with current poor collection rates, is mostly due to inadequate execution of key processes of the revenue cycle (meter reading and transfer of data for billing are carried out manually), lack of a state-of-art billing system, and an unreliable/outdated customer database (unmetered customers and meters without contract).

12. The average collection rate increased during 2015-2017 due to increased collections from industrial (exclusive of TALCO) consumers, TALCO, and state budget financed organizations. The improvement in collections is partially due to improvement of metering in some parts of Dushanbe city and improvements in Sughd area due to implementation of EBRD/EIB financed metering and billing project. Nevertheless, despite some improvement, the collection rate for billed electricity at 84 percent (in 2018) remains below 95 percent, which the threshold level for well-functioning companies.

13. Therefore, the Government, drawing upon the successful experience of AMI in the city of Khujand (Sughd), decided to roll-out similar AMI in other major urban centers, including the cities of Istaravshan, Isfara, and Konibodom.



14. **Technical assessment.** Those three cities account for 8 percent of total electricity consumption in BT service area. The inclusion of those three cities in the Program, to be supported by the Bank, is justified given that other large consumption centers – Dushanbe, Kulob, Bokhtar, and others accounting for about 34 percent of all consumption – would be covered under the planned projects by ADB and EBRD. Additionally, discussions are underway with other development partners to complete the roll-out of AMI to reach out to all remaining consumers (50 percent)⁴² in the service area of BT.

15. The improvement of metering and billing would improve the financial viability of BT. The implementation of AMI and grid enhancements in those three cities is expected to: (a) sustainably reduce commercial electricity losses from 8.5 percent to 2 percent; (b) contribute to permanent increase of collection rates to 95 percent; and (c) improvement of the quality of electricity service provided by BT to its 125,000 residential in those target cities.

16. The proposed technical solution is robust and consistent with accepted industry standards for metering and billing systems as reflected in the detailed feasibility studies. The design of the component also incorporates lessons learnt from the project in the Sughd region. The AMI will comprise:

- a. Smart meters (with 2-way remote communication);
- b. Meter data collection and management (with automated data collection);
- c. Billing system (with structured customer accounts and billing procedure based on accurate measured data, including customer relationship management (CRM)).



17. The total financial cost is estimated at US\$24 million (TJS226 million). This activity has high level of implementation readiness given that the bidding documents for supply and installation have already been finalized by BT based on acceptable standard procurement document templates. The procurement of the metering and billing system is expected to be launched by March 2020 and the system is expected to be commissioned by the end of 2022.

18. Introduction of AMI would help to reduce the commercial losses, but formal recognition of commercial energy losses of BT should be the first step in improving the trustworthiness of operational and financial reporting. Currently, there is no accounting for such commercial losses and those losses are included into sales. This leads to unrealistic sales volumes and impacts the accuracy of the receivables and provisioning for irrecoverable bad debts. Combined, all these factors have an impact on the reliability and accuracy of the operational and financial data of BT, and, in the long-term, would be impacting the creditworthiness of BT with lenders and impacting its ability to raise financing.

Results Area 2: Ensuring Electricity Supply Reliability

19. **Adequate electricity supply from Sangtuda-1 HPP.** Sangtuda-1 HPP accounts for about 10 percent of electricity generation, including in critical winter months, and therefore is critical for adequacy of electricity supply in the country. BT has historically been receiving an average of 1,800 GWh of electricity from Sangtuda-1 HPP and struggled to make timely payments as per terms of the 20-year PPA, which has some deviations from

⁴² About 8 percent already have an AMI.



the traditional PPAs of similar nature. Nevertheless, it should be noted that the PPA does not create excessive risks for BT or the Government, which may lead to significant contingent liabilities or direct fiscal costs.

20. **Technical assessment.** If Sangtuda-1 stops supplying electricity due to BT's inability to make timely payments, then the gap can only be filled with then-commissioned units of Rogun HPP given that there is no other capacity to fill in this gap, which may create reliability issues given that Rogun HPP is not fully completed yet, including the work to be done to increase reliability of its interconnection to the electricity network. Additionally, use of electricity from Rogun would reduce electricity available for exports and, therefore, would result in foregone export revenues.

21. **Timely implementation of the rehabilitation and upgrade of electricity T&D assets is essential for reduction of frequency of equipment failures and resulting electricity supply interruptions.** BT has been under-spending on recurrent repair and maintenance of T&D assets given the shortage of cash revenues. The impacts are most pronounced at the electricity distribution level, which is essential for end-user supply reliability. Specifically, the infrastructure became severely dilapidated throughout those years of under-spending on maintenance and rehabilitation. This has resulted in increased frequency of equipment failures and resulting outages for end-users.

22. The timely implementation of the annual T&D rehabilitation and upgrade program coupled with planned scale-up of metering and billing systems would help to reduce technical losses. The introduction of metering and billing systems would also be conducive to reduction of commercial losses. However, as a first step, BT would need to estimate and formally recognize in its official reporting existence of commercial losses. This would also improve the reliability of financial reporting, which is essential for accurate assessment of credit risk by potential commercial lenders to the company when BT starts raising commercial financing.

23. **Technical assessment.** Timely repairs and maintenance would help to reduce incidence of electricity supply outages that result in electricity supply outages for consumers. Those expenditures include rehabilitation, replacement, and upgrade of key electricity distribution assets in 17 regional distribution networks of BT and the transmission network, which cover the entire service territory of BT. The upgrade and rehabilitation would include: (a) replacement of old oil circuit breakers with vacuum circuit breakers at substations; (b) replacement of disconnectors at substations; (c) repair and replacement of power and voltage transformers at substations; (d) installation of new relay protection and automation cubicles at substations; (e) construction of new 0.4 kV and 10 kV power distribution lines; and (f) rehabilitation of existing power distribution lines.

24. BT prepared detailed cost estimates of priority rehabilitation and upgrade measures across for all regions serviced by BT. As per estimates, BT plans to invest US\$65.4 million (TJS617 million) in rehabilitation and upgrade of key power distribution assets in 2019-2025. The bills of quantities and the unit prices are commensurate with the most recent prices observed in tenders conducted by BT and similar activities in neighboring countries (e.g. Kyrgyz Republic).

Results Area 3: Strengthening of BT's Governance and Improvement of Transparency

25. **Investment decision-making based on generation and T&D plans.** Investments into new generation need to be based on principles of technical feasibility, least economic cost, and financing constraints. It is important to regularly update the GEP and prepare the related T&D plans to ensure the planned power sector development investments are adequate to meet the projected electricity demand in the country at lowest possible economic cost and electricity export commitments of the country. The Program requires BT and/or the Government to follow those plans when deciding on the projects to be constructed to ensure adequate and reliable electricity supply in the country.



26. **Technical assessment.** The sequencing of steps related to update of GEP, its adoption, preparation of the related T&D plans, and following those plans is technically sound and consistent with the good practices in identifying and sequencing the projects in power generation, transmission, and distribution to meet the projected long-term electricity demand, including export demand, considering a range of factors. GEPs are typically prepared for 10-25-year time periods.

27. Update of the GEP is the first step in power sector planning process. The Government has a Power Sector Development Master Plan (February 2017), however, it would require an update given significant developments in the sector in Tajikistan and material reduction in the cost of some non-hydro renewable energy technologies, such as wind and solar PV. The purpose of the GEP is to prepare a forecast of electricity demand in the country and identify the types of electricity generation projects by technology and location, their optimum size, and installed capacities to meet the projected electricity demand inclusive of export demand. The potential electricity generation projects should include all technologies that may be deemed technically viable and realistic from implementation perspective. The purpose of the GEP is to minimize the total capital, fuel, and non-fuel variable and fixed O&M costs of electricity generation considering other technical and non-technical objectives (e.g. value of lost load or unserved energy) and constraints (environmental impact from some of the site-specific potential projects, share of electricity imports in the total supply mix).

28. Once the update of GEP is completed, then power transmission plan needs to be prepared. The purpose of the transmission plan is to identify the areas of the current transmission network (110 kV and above) that are in need of expansion to cost-effectively maintain reliability and accommodate new generation and the growing load. The period to be covered by the transmission plan should be consistent with the period covered by GEP. The transmission plans also need to be regularly updated in synchronization with updates to the GEP.

29. The next step in the power system planning is preparation of the electricity distribution network investment plan. The goal of the distribution system planning is to ensure that the projected electricity demand growth can be satisfied in an optimal way from the secondary feeders to the substations from where electricity must be delivered to the end-users at least economic cost while complying with several technical specifications. These considerations and several other factors, such as the difficulty of land acquisition, aesthetic and environmental considerations, can complicate the task. The design of electricity distribution systems is executed around the existing systems using a procedure containing the following steps: demand forecasting and assignment to existing or new areas, location and dimensioning of substations, and dimensioning and routing of feeders and distribution networks. The electricity distribution network investment plans should also be regularly updated (at least once in five years) considering the changes in the load growth conditions in various locations.

30. **Implementation of the principals of the good-practice corporate governance is important for long-term financial viability of BT.** On June 22, 2019, the Government the Government approved the new charters of the electricity transmission and distribution companies. Those were developed with the support of ADB, the BT, MEWR, and the State Investment Committee (SIC) developed and adopted the charters of new transmission and distribution companies. The new charters are a significant step forward and introduced elements of sound corporate governance. The existing charter of BT would also need to be modified to include the missing elements of good-practice corporate governance structure.

31. Additionally, the required documents are being finalized to initiate selection of Supervisory Boards and formation of the specialized committees (audit and compensation), for the new companies. The PforR would ensure that the newly-established elements of sound corporate governance are maintained throughout the implementation of the Program, including functional Supervisory Boards and specialized audit and compensation committees at BT generation, transmission, and distribution companies



32. **Technical assessment.** These activities would need to be completed under ADB’s Sector Development Program, and there are prior actions linked to each of the mentioned areas as detailed in the Section on Partnership Arrangements. These activities are comprehensive and would ensure that all sound principles of corporate governance are introduced.

33. **Improvement of BT’s operational and financial transparency.** Currently, BT publishes very little information on its operational and financial indicators beyond the mandatory requirement to publish the audited financial statements of BT and specific projects consistent with the requirements of various international financial institutions. Moreover, the scarce information that is available to the general public is outdated.

34. **Technical assessment.** Over time, strengthened governance and accountability should translate to increased operational efficiency, including the reduction of technical, commercial and collection losses. With an overarching objective of improving sector efficiency, the PforR supports improved transparency. Specifically, the Program requires BT generation, transmission, and distribution companies to publish on their website the key operational and financial data for the power sector on a quarterly basis, including data on service quality. These measures will improve the credibility of the sector and the investment environment.

Economic Analysis

35. The economic analysis was conducted both for the Government program and the Program supported under the PforR. The analysis of the broader Government program is important to ensure that it is overall economically viable so that PAP measures could be recommended to modify it drawing upon the results of the assessment. The economic analysis is based on real economic prices and costs, and exclusive of taxes and tariffs. Net benefits and costs were estimated over the period 2019-2050 and discounted to the base year of 2019 using a social discount rate of 5.3 percent. Other key assumptions are listed in the Table below.

Annex 3: Table 3: Assumptions of the Economic Analysis.

Topic	Indicator	Unit	Source	Value (2019)	Change over time
Social cost of carbon	Cost of carbon, low range	US\$/ton	Guidance Note on Shadow Cost of Carbon in Economic Analyses (Nov. 12, 2017)	41	2.25% per year
	Cost of carbon, high range	US\$/ton	Bank guidance	82	2.25% per year
	Carbon intensity, diesel backup generation	kg/kWh	Bank guidance	0.65	-
	Carbon intensity, imported gas-fired generation	Kg/kWh	Bank guidance	0.53	-
Macro-economic	Exchange rates	TJS/US\$	Corporate financial model of BT	9.42	At relative rates of inflation for Tajikistan and the U.S.
	Local inflation rate	%	IMF WEO, Oct. 2018	5.50%	6.00% (After 2023)
	USD inflation rate	%	IMF WEO, Oct. 2018	2.15%	2.23% (After 2023)
	TJK GDP, current prices	TJS billion	IMF WEO, Oct. 2018	74.97	10.2%/year (After 2023)
	TJK population	Millions	IMF WEO, Oct. 2018	9.292	1.8%/year (After 2023)
Discounting	Social discount rate	%	Calculated consistent with the Bank’s Guidance Note on Discounting Costs and Benefits in Economic Analysis of	5.3%	-



Topic	Indicator	Unit	Source	Value (2019)	Change over time
			World Bank Projects (May 9, 2016)		
Demand growth	Electricity demand	GWh	BT	13.750	1%/year
Value of electricity	Residential sector WTP	US\$/kWh	Assumption	4.00	-
	Cost of imports from Central Asia	US\$/kWh	Assumption	3.2	-
Un-served energy	Share of equipment failures leading to outages	%	Team	15%	-
	T&D equipment failures – Base case	#/year	Team	2,417	5.0%/year to 2030, then fixed
	T&D equipment failures – Program	#/year	Team	1,400	-6.6%/year to 2025, then fixed
	Duration of average outage	Hours	Team	0.07	-
	Share of residential cons. with backup diesel	%	Team	0%	-
	Share of non-residential cons. with backup diesel	%	Team	100%	-
Technical losses	Backup diesel generator efficiency	Litres /kWh	Assumption	0.3	-
	Technical losses – Base case	%	BT	15.8%	-
	Technical losses, Program	%	Assumption	15.8%	-0.5 p.p./year to 2025, then fixed
	Share of transmission losses in total T&D losses	%	BT	23%	-
Commercial losses	Commercial loss rate	%	BT	8.0%	Govt. program: drops to 1.4% by 2025 for 28% of LV and MV customers. PforR Program: drops to 1.4% by 2025 for 9.3% of LV and MV customers.
	Commercial loss demand response	%	Assumption	50%	-
Generator costs	Variable O&M, hydro	US\$/kWh	Least cost generation plan	0.28	-
	Fixed O&M, hydro	US\$/MW/year	Least cost generation plan	12,870	-
Economic costs	Metering and billing, Govt. program	US\$ million	GoT	55.0	
	Metering and billing, PforR Program	US\$ million	GoT	18.295	
	Rehabilitation and upgrade of T&D assets	US\$ million	GoT	57.0	-

Source: BT estimates.

36. **Economic costs of the Government program.** The main economic costs of the Government program include: (a) US\$57 million for rehabilitation and upgrade of electricity transmission and distribution assets; (b)



US\$55 million for metering and billing investments in Dushanbe city; and (c) incremental variable O&M costs of electricity from Sangtuda-1 and Sangtuda-2 IPPs. The expenditures towards repayment of overdue payables to Sangtuda-1 and 2 as well as the repayment of commercial debt of BT are financial transactions and do not constitute an economic cost.

37. With the government program, Sangtuda-1 and 2 are assumed to continue supplying power with a variable O&M cost of US\$0.28 c/kWh and fixed O&M of US\$13,146 per MW per year. Given existing capacities of the plants this translates to an average marginal cost of generation of US\$0.70 c/kWh and US\$0.59 c/kWh for Sangtuda-1 and 2 respectively.

38. Economic benefits of the Government program. The main economic benefits of the Government program include: (a) avoided cost of electricity imports to make up for the discontinuation of supply from Sangtuda-1 and Sangtuda-2 IPPs; (b) avoided increase in un-served energy due to expected rise of transmission and distribution equipment failures; and (c) reduction of electricity supply cost due to reduction of technical and commercial energy losses.

39. Without the program, it is assumed that Sangtuda-1 and 2 will stop supplying electricity in 2023 due to continuous non-payments and the resulting inability to properly operate and maintain the plants. At that point, given the costs of backup diesel generation and domestic willingness to pay for power, it would be in the economic interest of the country to make-up for the shortfall of supply from the Sangtuda plants with power imported from its neighbors at an estimated average cost of US\$0.032/kWh.

40. At BT, 15 percent of equipment failures are estimated to result in unplanned un-served energy for an average duration of 4 minutes. Without the program, it is estimated that equipment failures would increase by 5 percent per year to 4,558 incidents annually in 2030 and stay at that level, corresponding to an increase in un-served energy from 0.4 percent to 0.7 percent of demand. With program it is estimated that equipment failures would decrease by 6.6 percent per year to 1,400 incidents annually by 2025 and stay at that level, corresponding to a decrease in un-served energy from 0.4 percent to 0.2 percent of energy demand. The avoided unplanned un-served energy as a result of the program energy was valued at the WTP of residential consumers and copying costs of industrial consumers, which includes the levelized cost of back-up diesel generation. The WTP for residential consumers was conservatively estimated at US\$0.04 c/kWh taking into account similar estimates in some other countries in ECA region and the differences in the disposable income levels.

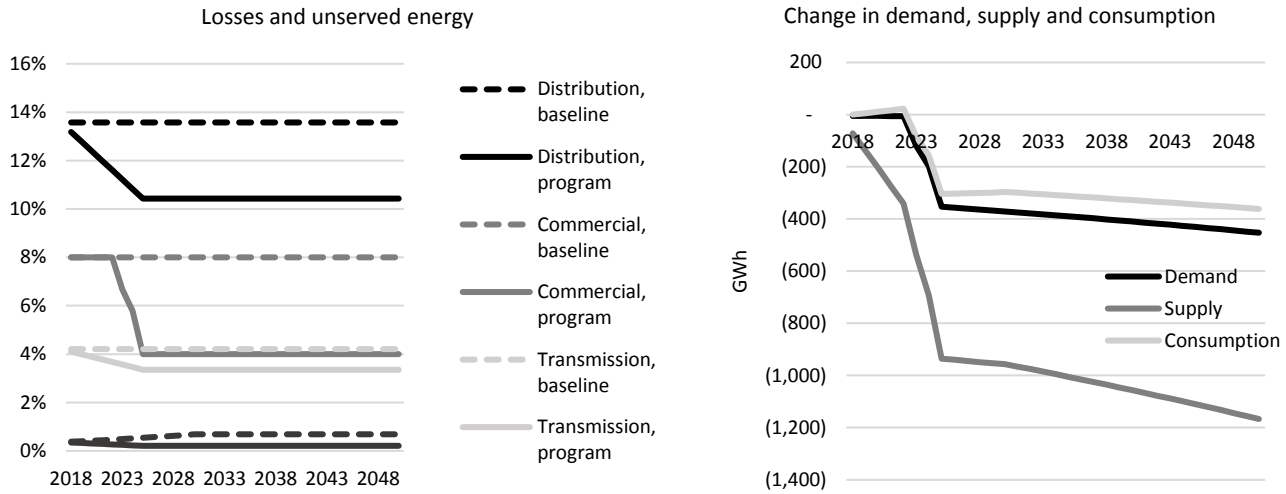
41. Technical losses in 2019 were 15.8 percent of supplied power and are assumed to remain at that level without program. With program technical losses are assumed to decline by 0.5 percentage points per year, dropping to a new long-run level of 13.3 percent by 2025. The reduction in technical losses is expected due to improved reliability of transmission and distribution assets. The supply cost savings due to reduction in technical losses were estimated at the marginal economic cost of energy supply of 0.8 USc/kWh. Commercial losses amounted to 8 percent of supplied energy in 2019 and are expected to drop starting in 2022. The economic benefit of commercial loss reduction was estimated considering that the Government program would reduce commercial losses of 28% of low and medium voltage customers by 6.6%. It is assumed that for each percentage point reduction in commercial losses the targeted consumers would reduce electricity demand by half a percent.

42. Results: The economic analysis of the Government program yielded an economic Net Present Value (NPV) of US\$776 million and Economic Internal Rate of Return (EIRR) of 58.8 percent exclusive of the social cost of avoided CO2 emissions. Under the low and high cost of CO2 emissions scenarios the program attains and NPV of US\$1,717 and US\$2,654 million with EIRR of 85.5 and 104.4 percent respectively. The avoided emissions benefits arise primarily because the program prevents substitution from domestic hydropower to imported gas-fired generation.



43. A reduction of un-served demand has the effect of increasing consumption and the supply to meet it. Lower technical losses reduce required supply to meet given demand while lower commercial losses reduce both demand and supply. The cumulative net effect of these forces relative to the without program scenario is illustrated by the chart on the right.

Annex 3: Figure 1: Key Program Assumptions and Impact.



Source: BT.

44. Sensitivity Analysis: Sensitivity analysis was conducted to assess the robustness of the estimated Project economic returns to changes in the main evaluation variables. The results of the sensitivity analyses suggest that the Project returns are robust even in case of significant variation of main evaluation variables.

Annex 3: Table 4: Results of Sensitivity Analyses: Government Program.

Variable	Base case	Switching value (NPV=0/EIRR=5.3%)	Scenario analysis		
			Scenario	NPV (US\$m)	EIRR (%)
-	-	-	Base case	776	58.8
Construction cost	112 US\$m	1,044 US\$m	a. 30% higher	761	50.4
Electricity import price	3.2 US\$/kWh	0.65 US\$/kWh	b. 30% lower	484	44.4
WTP for electricity	4.0 US\$/kWh	<0 US\$/kWh	c. 30% lower	772	58.6
			Combination of a, b, c	467	37.3

Source: BT.

45. Economic costs of the Program under PforR. The main economic costs of the Program include: (a) US\$57 million for rehabilitation and upgrade of electricity transmission and distribution assets; (b) US\$18.3 million for metering and billing investments in Dushanbe city; and (c) incremental variable O&M costs of electricity from Sangtuda-1 IPP.

46. Economic benefits of the Program under PforR. The main economic benefits of the Program include: (a) avoided costs of electricity imports to make up for the discontinuation of supply from Sangtuda-1 IPP; (b) avoided increase in un-served energy due to expected rise of transmission and distribution equipment failures; and (c) reduction of electricity supply cost due to reduction of technical and commercial energy losses. The economic benefit of commercial loss reduction was estimated considering that the Program would reduce commercial



losses of 9.3 percent of low and medium voltage customers by 6.6 percent (reflecting the smaller scope of support for this component relative to the Government program).

47. **Results:** The economic analysis of the Program yielded an economic Net Present Value (NPV) of US\$586 million and Economic Internal Rate of Return (EIRR) of 50.1 percent exclusive of the social cost of avoided CO2 emission. Under the low and high cost of CO2 emissions scenarios the program attains and NPV of US\$1,278 and US\$1,968 million with EIRR of 73.6 and 90.5 percent respectively.

48. **Sensitivity Analysis:** Sensitivity analysis was conducted to assess the robustness of the estimated Program economic returns to changes in the main evaluation variables. The results of the sensitivity analyses suggest that the Program returns are robust even in case of significant variation of main evaluation variables.

Annex 3: Table 5: Results of Sensitivity Analyses: Program Supported under PforR.

Variable	Base case	Switching value (NPV=0/EIRR=5.3%)	Scenario analysis		
			Scenario	NPV (US\$m)	EIRR (%)
-	-	-	Base case	586	50.1
Construction cost	112 US\$m	816 US\$m	a. 30% higher	572	42.5
Electricity import price	3.2 USc/kWh	0.56 USc/kWh	b. 30% lower	373	37.9
WTP	4.0 USc/kWh	<0 USc/kWh	c. 30% lower	583	49.9
			Combination of a, b, c	355	31.6

Source: BT.

49. The Government program differs from the Bank Program in that it includes non-supply form Sangtuda-2 in the counterfactual and covers more cities under its metering and billing program. As an extra robustness check, the EIRR was calculated for the situation in which Sangtuda power plants would have kept supplying irrespective of the program, thereby lowering the opportunity cost of the program. In this scenario the EIRR for the Government program is still 20.2 percent while that of the PforR Program is 19.4%.

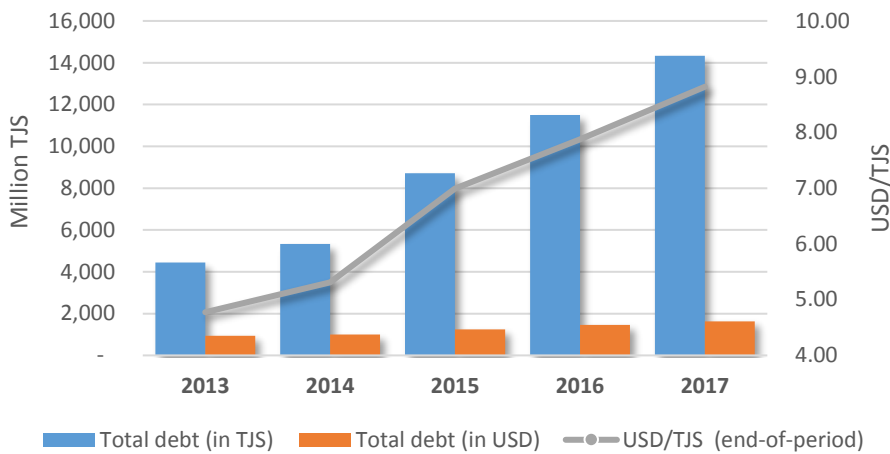
Analysis of Financial Performance of BT

50. The financial condition of BT deteriorated in the period from 2013 to 2017 due to: (a) unsustainable and increasing debt levels and surging local currency denominated debt service costs driven by large depreciation of TJS; (b) low cash collections; and (c) below cost recovery end-user electricity tariffs.

51. As of the end-2017, BT's total liabilities exceeded its total assets. Operating losses persisted in the period of 2013-2017 leading to complete erosion of equity in 2015. Accumulated losses of the BT reached TJS10,732 million (US\$1,217 million), out of which TJS 5,437 million were losses from domestic currency depreciation. Over the observed period, Tajik somoni lost about half of its value against US\$, which explained about 70 percent of the total increase of the Company's financial debt to MOF and Orienbank.



Annex 3: Figure 2: Dynamics of BT’s Financial Liabilities vs. USD/TJS exchange rate.



Source: Corporate Financial Model of BT.

52. As of the end-2017, total liabilities of BT stood at TJS20,663 million (US\$2,343 million), about 61 percent of which were borrowings from IFIs. The ability to sustain those loans was considerably impaired by absence of corresponding revenue allowance in the tariffs and under-collection of receivables. BT failed to make both principal and interest payments on them. By the end of 2017, it had already accrued TJS2,197 million (US\$250 million) of interest payable and incurred penalties on overdue loans in total amount of TJS2,657 million (US\$301 million). In addition, BT has TJS1,618 million (US\$183 million) very expensive dollar denominated commercial debt from a local bank, which costs the company about TJS372 million (US\$42 million) per annum in interest expense.

53. The situation with payables, which account for about 10 percent of its total liabilities, also deteriorated. In particular, payables for electricity purchases from IPPs, Sangtuda-1 and Sangtuda-2 HPPs, rose to TJS1,855 million (US\$201 million). BT struggles to make payments to those IPPs in timely manner because the cost of electricity from those IPPs is higher than the end-user electricity tariff and those IPPs primarily supply electricity during the months of April-October (surplus energy season) when the other lower cost HPPs, owned by BT, can generate at significantly lower cost and spill water given low summer demand and lack of export opportunities.

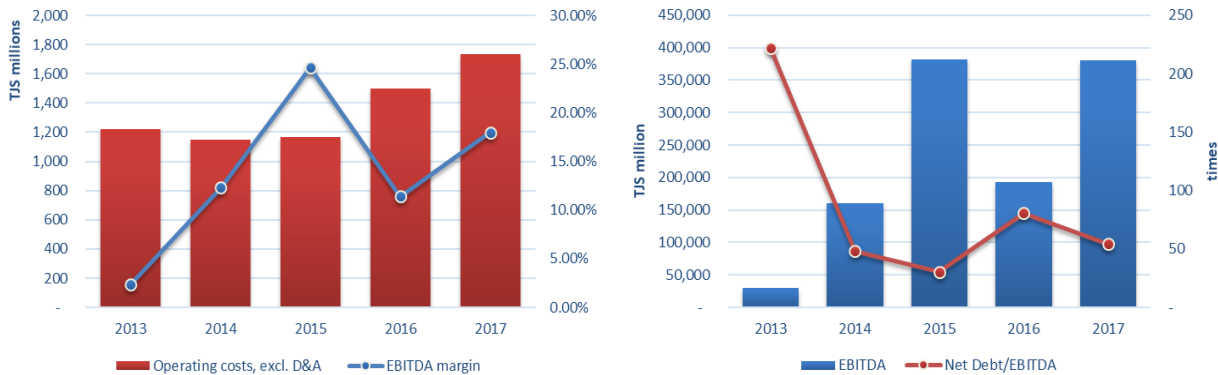
54. In 2017 total current liabilities of TJS9,869 million (US\$1,119 million) accounted for 48 percent of total liabilities. Current assets were only 15% of that amount. This represented a significant reduction in the liquidity, as measured by the ratio of current assets to current liabilities, which was at 0.39 in 2013.

55. Nonetheless, the relatively stable operating costs before depreciation during the period of 2013-2015 and 14 percent average annual growth of sales revenue, driven by end-user tariff increases, lead to substantial improvement of EBITDA margin (18 percent in 2017 vs. 2 percent in 2013) and net debt⁴³-to-EBITDA ratio of the company (222 times EBITDA in 2013 vs. 50 times EBITDA in 2017).

⁴³ Net debt = total liabilities – cash and cash equivalents.



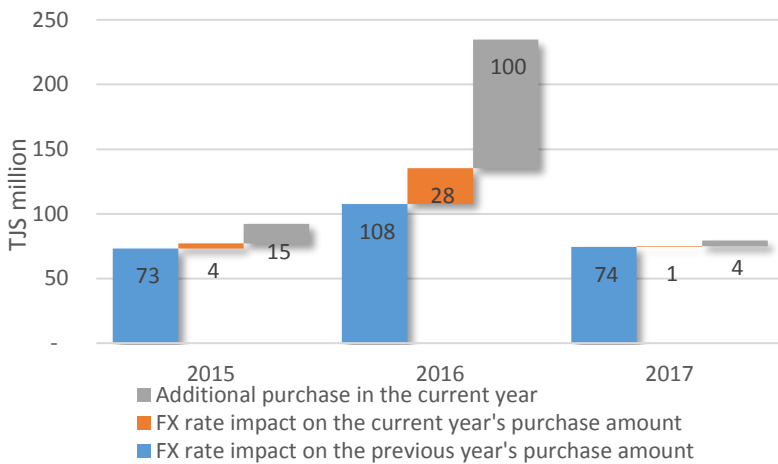
Annex 3: Figure 3: EBITDA Margin and Net Debt/EBITDA Margin.



Source: Corporate Financial Model of BT.

56. The steady increase in the operating profit of BT was interrupted by about 60 percent increase in cost of electricity purchase in 2016. This was caused by 26 percent increase in the real cost of purchase of electricity, though the impact of somoni depreciation accounted for 73 percent of total change in electricity purchase cost between 2013 and 2017.

Annex 3: Figure 4: EBITDA Margin and Net Debt/EBITDA Margin.



Source: Corporate Financial Model of BT.

57. In 2017, BT earned TJS2,113 million (US\$239 million) from sales of electricity. The Company supplied 13,549 GWh of electricity to domestic consumers and exported 1,410 GWh to Afghanistan and Kyrgyz Republic.

58. As of the end-2017, the collection rate for billed electricity was still below the industry average, at around 84.1 percent. The Company had 94 days receivables outstanding. The aluminum producer, TALCO, is the largest debtor to BT with its total debt of TJS399 million (US\$45 million).

**Annex 3: Table 61: Bill Collection Rates by Customer Categories in 2017.**

Customer category	Bill collection rate
Industry, excl. TALCO	94.9
TALCO	96.8
Budgetary organizations, housing and communal enterprises and electric transport	83.7%
Pumps and pumping stations	61.4%
Residential consumers	76.9%
Average	84.1%

Source: Corporate Financial Model of BT.

59. End-user electricity tariffs remain below the cost-recovery levels, which do not allow the company to finance even the required recurrent expenditures. The expected average end-user tariff for 2017 is estimated at 20 percent of cost-recovery level. The cost-recovery tariff was assessed following the cash needs approach. This was done through assessment of the amount of cash revenue that BT requires to fully finance the recognized recurrent expenses (accrual-based items in the financial statements), which include the O&M costs, administrative costs, capital repairs from own funds, pension liabilities, debt service, and taxes. It also assumes gradual repayment of accrued liabilities (i.e. interest payables, overdue loans and payables to Sangtuda-1 and Sangtuda-2 HPPs for purchased electricity) over an eight-year period starting 2018. It should be noted that concept of cash-based cost of service is different from the concept of economically efficient cost of supply and does not take into account the return on invested capital and investments required to meet the long-run forecast electricity demand.

Annex 3: Table 7: Cost-recovery Tariff Projections.

<i>In TJS million</i>	2018	2019	2020	2021	2022	2023	2024	2025
Cash cost of sales	1,474	1,617	1,738	1,869	2,079	2,236	2,405	2,587
Cost of purchased electricity	922	997	1,082	1,175	1,275	1,385	1,503	1,632
Materials	293	348	370	394	489	520	553	588
Salary and related expenses	108	115	122	129	137	145	153	163
Taxes	44	44	44	44	44	44	44	44
Other	106	113	120	127	134	142	151	160
Cash selling expenses	358	376	395	415	437	460	484	510
Cash admin expenses	94	99	104	109	114	120	126	133
Finance costs	2,598	2,425	2,359	2,270	2,266	1,853	1,874	1,898
Current interest on MOF loans	440	398	278	226	244	231	200	170
Current interest on Orienbank loans	398	329	256	177	92	-	-	-
Current period principal repayment on MOF loans	584	488	578	581	603	669	695	721
Current period principal repayment on Orienbank loans	346	358	371	386	401	-	-	-
Repayment of overdue interest on MOF loans	293	304	315	327	340	353	366	380
Retirement of delinquent MOF loan principal	301	312	324	336	349	363	376	391
Retirement of overdue payables to Sangtuda-1,2	236	236	236	236	236	236	236	236
Profit	-	-	-	-	-	-	-	-
Required revenue	4,524	4,517	4,595	4,663	4,900	4,678	4,901	5,146
<i>Cost recovery end-user tariff (diram/kWh)</i>	<i>38.97</i>	<i>38.53</i>	<i>38.81</i>	<i>39.09</i>	<i>40.53</i>	<i>38.31</i>	<i>39.72</i>	<i>41.25</i>

Source: Corporate Financial Model of BT.



60. **Forecast of Financial Performance of BT.** Financial performance of BT was forecast for two scenarios. The BAU Scenario is the scenario without implementation of the Government program for Financial Recovery of BT. The Financial Recovery Scenario is based on the agreed-upon targets to be achieved by BT as reflected in the Action Plan for Financial Recovery, including increase of end-user average tariff, improvements in collection rates, and other efficiency improvements. The key assumptions for each of the forecast scenarios are presented below.

Projected Financial Performance of BT: BAU Scenario

61. The projections of financial performance of BT were made on assumptions that:

- (a) End-user electricity tariffs will remain flat starting from 2019 onward; the actual tariff increase of about 15 percent in 2018 has already been factored into the model.
- (b) Bill collection rate will remain at 85 percent over an eight-year period.
- (c) Technical losses will stay at their current level.
- (d) Domestic supply of electricity will increase by 1 percent during the projection period.
- (e) Exports to Afghanistan and Pakistan are forecast to increase by 2,800 GWh starting from 2022, when cross-border transmission facilities with Afghanistan and Pakistan under CASA-1000 project become operational.
- (f) Electricity will be sold to Afghanistan and Pakistan at marginal prices of US\$5.11/kWh and US\$5.16/kWh respectively
- (g) The following volumes and tariffs for exports to Uzbekistan:

Annex 3: Table 8: Cost-recovery Tariff Projections.

	2019	2020	2021	2022	2023	2024	2025
Volume (GWh)	2,000	2,000	2,500	3,000	3,200	3,200	3,200
Tariff (US\$/kWh)	0.020	0.025	0.026	0.027	0.028	0.028	0.028

Source: BT.

- (h) BT will purchase 2,600 GWh of electricity from Sangtuda-1 and Sangtuda-2.
- (i) Prices of electricity purchased from Sangtuda-1 and Sangtuda-2 will growth at annual rate of 4 percent and 5 percent respectively.
- (j) The exchange rate of Tajik somoni against US dollar will change by the differential between Tajik and US inflation rate in accordance with PPP approach.
- (k) The BT will not accumulate new penalties on overdue loans.

62. In BAU Scenario, BT will continue to struggle with insufficient liquid assets to meet its current liabilities. In 2025 the ratio of current assets to current liabilities is estimated to be 0.26. Low collection ratio will lead to further build-up of overdue receivables, which may exceed 300 days of sales by 2025. This will result in continued non-payment to electricity suppliers and to the Ministry of Finance on its long-term liabilities at least till the start of exports to Afghanistan and Pakistan under CASA-1000. Total debt of BT, including payables to Sangtuda-1 and Sangtuda-2 as well, will reach TJS29,104 million (US\$2,383 million) or 140 percent of its assets. Losses from the foreign exchange rate changes will eat up any operating profit; total cumulative loss over the eight-year forecast period is estimated to be TJS8,539 million (US\$835 million), and the cash deficit will widen to TJS16,393 million by 2025 from TJS10,433 million in 2017.



Projected Financial Performance of BT: Financial Recovery Scenario

63. Under this scenario, the projections of financial performance of BT were made on assumptions that:
- (a) End-user electricity tariffs will increase by 15 percent annually during 2019-2021 and 8 percent thereafter.
 - (b) Bill collection rate will remain at 85 percent over the period 2018-2020 and start increasing to reach 95 percent by 2025.
 - (c) Technical losses will reduce by 0.50 percentage point annually.
 - (d) Overdue receivables will be recovered.
 - (e) All grants on-lent by the Ministry of Finance to BT on credit terms will be converted to grants in 2019.
 - (f) In 2020, half of subsidiary agreements of BT with MOF will be revised to mirror the terms of borrowing by MOF from IFI, and the other half will be revised in 2021.
 - (g) Domestic supply of electricity will increase by 1 percent during the projection period
 - (h) Exports to Afghanistan and Pakistan are forecast to increase by 2,800 GWh starting from 2022, when cross-border transmission facilities with Afghanistan and Pakistan under CASA-1000 project become operational.
 - (i) Electricity will be sold to Afghanistan and Pakistan at marginal prices of US\$5.11/kWh and US\$5.16/kWh respectively.
 - (j) The following volumes and tariffs for exports to Uzbekistan:

Annex 3: Table 9: Cost-recovery Tariff Projections.

	2019	2020	2021	2022	2023	2024	2025
Volume (GWh)	2,000	2,000	2,500	3,000	3,200	3,200	3,200
Tariff (US\$/kWh)	0.020	0.025	0.026	0.027	0.028	0.028	0.028

Source: BT.

- (k) BT will purchase 2,600 GWh of electricity from Sangtuda-1 and Sangtuda-2.
- (l) Prices of electricity purchased from Sangtuda-1 and Sangtuda-2 will growth at annual rate of 4 percent and 5 percent respectively.
- (m) The exchange rate of Tajik somoni against US dollar will change by the differential between Tajik and US inflation rate in accordance with PPP approach.
- (n) The BT will not accumulate new penalties on overdue loans.

64. Increase of end-user tariffs, gradual improvement of collection rates, more efficient working capital management and reduction of technical losses will help BT generate more cash from operations. EBITDA margin will increase to 55 percent by 2025, and the liquidity will improve⁴⁴. Revision of on-lending term of the Ministry of Finance will reduce the debt service costs of the BT and free up additional cash for repayment of its overdue liabilities. Commencement of electricity exports under CASA-1000 project will also significantly contribute to improvement of financial standing of BT starting from 2022. The exports will increase from current level of 1,421

⁴⁴ The ratio of current assets to current liabilities, inclusive and exclusive of penalties on overdue loans will be 0.63 and 1.19 respectively.



GWh to more than 5,900 GWh per year, including the existing exports to Afghanistan. Specifically, exports under CASA-1000 project are expected to generate additional US\$145 million of income per year. BT will gradually repay its current and overdue financial liabilities using incremental operating cash flows from financial recovery measures. It is estimated that by 2024 BT will have fully repaid its overdue debt (principal plus interest) to Ministry of Finance, overdue payables to Sangtuda-1 and Sangtuda-2 and debt to Orientbank. As a result, by the end of 2025 the debt-to-assets ratio will have come down to 0.95, net debt (i.e. total financial debt net of cash balance) will stand at 4 time of earnings before interest, tax and depreciation (EBITDA)⁴⁵, and operating cash flow will be more than 2 times its debt service requirements (DSCR). The detailed projection of balance sheet, income statement, and cash flow statement of BT are contained in the Technical Assessment Report of the Program.

Annex 3: Table 10: Projected Impact of Financial Recovery Measures.

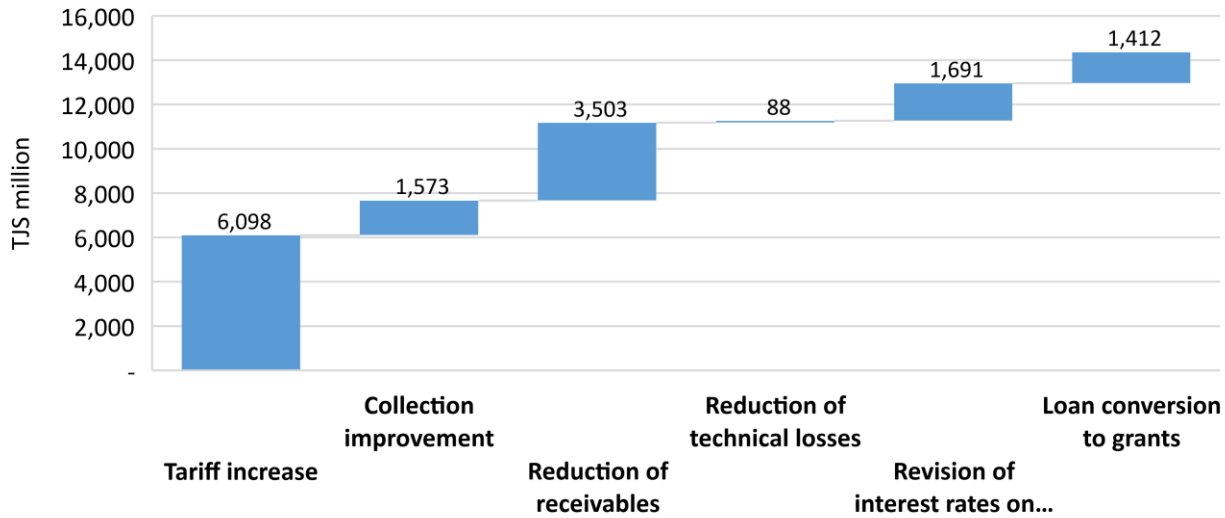
	2019	2020	2021	2022	2023	2024	2025
1. Tariff increase	15%	15%	15%	8%	8%	8%	8%
Additional cash flow, TJS million	166.2	406.0	686.6	893.2	1,091.3	1,308.5	1,546.7
2. Collection improvement	85%	85%	86%	88%	91%	93%	95%
Additional cash flow, TJS million	-	-	82.7	180.4	295.2	429.4	585.5
3. Reduction of receivables for supplied electricity	123	105	68	60	58	58	59
Additional cash flow, TJS million	350.7	614.3	861.8	500.3	447.9	335.1	254.3
4. Reduction of technical losses by 0.5p.p. per annum	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Additional cash flow, TJS million	4.3	6.4	8.9	11.6	14.6	18.0	21.8
5. Additional cash flow from revision of interest rates on sub-loans from MOF, TJS million	-	93.4	319.4	343.0	348.1	313.3	274.1
6. Additional cash flow from conversion of MOF loans to grants, TJS million	187.7	281.9	153.7	175.9	186.8	204.3	221.6
Total cash flow, TJS million	708.9	1,402.1	2,113.1	2,104.4	2,383.9	2,608.6	2,904.0
Cumulative cash flow, TJS million	708.9	2,111.0	4,224.0	6,328.4	8,712.3	11,320.9	14,224.9

Source: Corporate Financial Model of BT.

⁴⁵ A proxy for operating cash flow.



Annex 3: Figure 5: Cumulative Impact of Financial Recovery Measures



Source: Corporate Financial Model of BT.

Annex 3: Table 11: Project Repayment Schedule for Payables and Debts under Financial Recovery Scenario.

	2019	2020	2021	2022	2023	2024	2025
Current payables to Sangtudas-1 and 2	455	806	1,175	1,275	1,385	1,503	1,632
Overdue payables to Sangtudas-1 and 2	-	21	223	793	835	1,198	1,528
Interest on Orienbank loans	412	427	355	207	-	-	-
Retirement of Orienbank loans	-	372	675	902	-	-	-
Current interest on MOF debt	641	278	226	244	232	200	170
Repayment of overdue interest on MOF debt	420	931	952	256	-	-	-
Repayment of MOF debt principal due	-	-	-	641	2,461	1,470	721
Retirement of overdue MOF debt	-	-	-	-	-	790	1,437
Total payments, TJS million	1,928	2,836	3,607	4,319	4,879	5,161	5,488

Source: Corporate Financial Model of BT.

Annex 3: Table 12: Projected Financial Ratios under Financial Recovery Scenario.

	2019	2020	2021	2022	2023	2024	2025
Gross margin	40%	45%	49%	60%	60%	60%	61%
EBITDA margin	34%	40%	45%	56%	57%	57%	56%
Current ratio	0.15	0.19	0.18	0.22	0.30	0.49	1.21
Debt-to-assets	1.43	1.30	1.28	1.19	1.08	0.95	0.81
DSCR	0.10	0.14	0.24	0.44	0.57	0.83	1.34

Source: Corporate Financial Model of BT.



ANNEX 4. SUMMARY FIDUCIARY SYSTEMS ASSESSMENT

COUNTRY: Republic of Tajikistan

Tajikistan Power Utility Financial Recovery Program for Results

Planning and Budgeting

1. **Adequacy of budget and program expenditure framework.** The assessment confirmed that the Program budgeted expenditures, in general, are prepared with due regard to relevant policies and will be executed overall in an orderly and predictable manner. BT prepares its annual economic and financial plans (EFP) based on expenditure projections received from its departments. The EFP is reviewed by the head of finance and administrative department (which includes economic and forecasting, central accounting, and HR units) and approved by the BT Chairman. The EFP presents the expected financial performance of BT, including the revenue forecast together with planned production costs, finance costs, payables for electricity purchases, etc. The review of EFP for 2016-2018 indicates that the actual and projected revenues of BT do not deviate by more than 7.5 percent in any of the years. Specifically, the deviation was 7.5 percent in 2016, 3.4 percent in 2017 and 5.7 percent in 2018 indicating overall adequate predictability of the company's revenues. The deviation between the actual and projected annual costs is also within reasonable range. Specifically, it was 5.2 percent in 2016, and 1 percent in 2017. In 2018, it was 16 percent mostly due to unplanned expenditures on repair of thermal power plants. While total expenditure level, in general, remains close to the budget, the composition of the expenditure by functional classification deviated considerably, indicating a need for enhancing planning/forecasting capacities of the staff.

2. The Program expenditures are overall predictable, and the costs are justified by detailed analyses. The details are contained in the Technical Assessment Report. Specifically:

- a. *Cost of electricity supplied by Sangtuda-1 IPP.* The cost of electricity for the duration of the Program was estimated considering the expected average generation of the power plant during the life of the Program and the agreed-upon tariff between BT and the IPP following the provisions in the Power Purchase Agreement (PPA) signed between BT and Sangtuda-1. In 2016-2018, there has been no deviation between the planned and actual agreed-upon payments by BT to Sangtuda-1 IPP with exception of 2.4 percent in 2016. Given financial distress of BT and its inability to pay in full for delivered energy, BT and Sangtuda-1 IPP have been agreeing a plan of payments for each year by the end of the preceding year, and BT has been executing the payments as per schedule. See FSA report for details.
- b. *Rehabilitation and upgrade of T&D assets.* The review of historical expenditures on rehabilitation and upgrade of T&D assets in 2015-2018 suggests that actual expenditures were very close to projected with maximum annual deviation of 2 percent. Those expenditures are derivative from the cash balance remaining after all other priority expenditures of BT are incurred. Therefore, those are projected accurately. The need for rehabilitation and upgrade expenditures is larger and BT's operations and maintenance department has a well-prioritized list of upgrades that need to be carried out based on the assessment of technical condition and increase in electricity demand in the country.
- c. *Installation of AMI in the cities of Istaravshan, Isfara, and Konibodom.* The cost estimate was prepared based on detailed design prepared by an internationally reputable consulting firm. The cost estimates were reviewed and found commensurate with prevailing market prices for similar goods and works. The metering and billing capital expenditures are non-recurrent, i.e. BT does not make such expenditures each year given financial distress. Historically, those kinds of projects have been



financed with development partners. The last such capital project was implemented with the support of EBRD and EIU in the Sughd region, which yielded very good results with collections for billed electricity increasing to 94 percent and commercial losses reducing to 2 percent.

3. The Economic and Planning department of BT monitors on quarterly basis the execution of approved EFP by reconciliation of actuals performance with planned amounts. Any deviations from the plans are reported to the BT Chairman and the Supervisory Board (SB) of the company. The SB plays a key role in approving the company's expenditures and payments, decides on the priority of payments and controls flow of funds via authorizing the payments under the contracts (except for donor-funded investment projects).
4. Like other investment projects implemented by BT, the Program budget will also be reflected in the republican budget under a separate line, considering that the direct Recipient of the Program funds will be the government, who will then sub-lend the funds to the BT under terms and conditions of a subsidiary agreement. BT received no funding from the republic budget apart from loans issued by the MOF.
5. BT has overall adequate planning and budgeting capacity in place for the implementation of donor funded capital investment projects. The implementation of capital investment projects is done by the staff of dedicated units, the PIUs, specifically created for implementation of international donor funded projects, such as Project Realization Group (PRG) and Energy Sector Projects Management Unit (ESPMU). Both groups have significant experience in implementation of various complex energy sector projects financed by IFIs and bilateral development partners.
6. The ESPMU will be responsible for implementation of AMI, which includes installation of modern metering and billing infrastructure in Istaravshan, Isfara, and Konibodom cities, under the PforR. The detailed feasibility study was prepared, including detailed technical specifications, which were reviewed and found technically robust. Those specifications will be used as inputs to bidding documents following the requirements of the PPL.
7. The Operations and Maintenance department would be responsible for implementation of the repair and maintenance program. They identify the technical needs, prepare the justification, technical specifications and cost estimates for the repair and maintenance program, which then is used as inputs for preparation of tender documents for purchase of required materials, goods, works, and services.
8. **Procurement profile of the Program.** Based on the above program expenditures framework, anticipated procurement of goods, works, non-consulting services and consulting services will include modest value contracts below the OPRC thresholds. Those would include: (a) goods contract for supply of metering and billing system in three cities with estimated value not to exceed US\$24 million; (b) about 32-42 contracts over 2020-2025 for supply of goods and associated works for rehabilitation and upgrade of key assets at substations and repair/replacement of power distribution lines; the estimated average value of one contract at US\$1.5-2 million; and (c) consultancy services for capacity building, IVA and audit. These procurements would be related to BT substructures and divisions.
9. **Procurement planning.** PPL requires preparation of a procurement plan for each financial year in accordance with the approved format. There is overall acceptable procurement planning capacity at the BT. The plan is being prepared by procurement staff based on demands submitted by BT substructures and divisions. The consolidated plan is internally reviewed by all departments, including technical, financial and others, and is approved by the Chairman of BT. Once approved, the plan is to be agreed with the State Agency on Public Procurement (SAPP). The MOF has no role in procurement planning for BT as funds for the contracts are secured from its own budget. The plan includes information on department/substructure for which procurements package is intended, description of procurement, reference number, estimated value, procurement method,



contract start and completion dates. The approved procurement plans are available in the BT offices and are being used as procurement management tool. The plan is also published on the Public Procurement Portal (zakupki.gov.tj). With upgrade of the Public Procurement Portal to the current e-procurement system (eprocurement.gov.tj), the procurement plan is being migrated with further review, approval and disclosure procedures to be handled electronically. Based on the analysis and BT's practice for procurement planning, the assessment has drawn the conclusion on the existence of a fair level of linkage between the approved budget and the approved procurement plan.

10. The risk associated with Program Planning and Budgeting is assessed as Substantial.

Budget Execution

11. **Treasury management, funds flow, and disbursement arrangements.** According to the Law on Treasury, the MOF and its field treasury offices implement control over revenues, expenditures and state budget performance. Local treasury branches directly report to the MOF Central Treasury Office. After introducing a Treasury Single Account (TSA) in Tajikistan, all budget entities keep their balances at TSA, held at the National Bank of Tajikistan, and most of the state-owned cash balances are also in the TSA and are managed by the MOF Central Treasury. Exceptions are the Social Fund as well as several SOEs, which hold their accounts at local commercial banks. The Central Treasury operates a Treasury Financial Management Information System (TFMIS), which is overall adequate but needs enhancement to provide enhanced commitment controls (particularly for avoiding the build-up of expenditure arrears, especially during a period of fiscal compression), cash and payroll management as well as the integration of the TFMIS with other e-Government systems, including the HR management and e-procurement systems.

12. PEFA-2017 assessed predictability of in-year resources allocation (PI-21) be scored as "C+", indicating that cash management is in infancy stage and has room to improve. PEFA-2017 also indicates that though in two out of three years during 2013-2015 the recorded liabilities on expenditures remained at a low level, below 2 percent of actual expenditures, for subsequent years, due to a decrease in revenue receipts, the level of recorded liabilities on expenditures increased (in 2016 is was 15.4 percent, with of almost 9 times increase as compared to the average for the previous three years).⁴⁶ This trend indicates increasing challenges for the state treasury to meet obligations timely.

13. Considering the above, as well as the fact that the treasury and the National Bank do not provide the full range of banking services, such as opening a letter of credit (which could be necessary for the Program, in particular under contracts that may require purchase of goods from abroad), the Program will not rely on the country's treasury system. This is also dictated by the commercial nature of BT, which currently does not use the state treasury system for its operations and keeps its accounts in local commercial banks (except one account in the treasury used for repaying sub-loan interest and principal payments).

14. Moreover, starting from 2014, the banking sector in Tajikistan has been in distress. The country's top commercial banks are among the most affected by the distress, with two large banks in bankruptcy. The main issues in the sector are high levels of non-performing loans, insufficient provisioning, liquidity issues, delays in processing transactions/payments and issuing bank statements, etc. Excluding two problem banks, nonperforming loans amounted to 24.4 percent of loans at end-2016 and 19.5 percent at end-March 2018.⁴⁷

15. For the above reasons reliance on the local banking sector would also be challenging for the Program funds flow. Currently, the Designated Accounts of the Bank-financed projects in Tajikistan are still maintained in local

⁴⁶ Source: PEFA-2017.

⁴⁷ <https://www.imf.org/en/News/Articles/2018/05/29/pr18198-imf-staff-concludes-visit-to-tajikistan>



commercial banks, however the Bank monitors the banking sector situation in the country, and currently only a few commercial banks are acceptable to the Bank for holding the projects' designated accounts. Therefore, it is proposed to channel the PforR funds to BT via a dedicated account opened in a local commercial bank, which should be acceptable to the Bank. Alternatively, the Program dedicated account could be opened in an international reputable commercial bank outside Tajikistan. There are no specific restrictions in the local legislation for BT to open a bank account outside Tajikistan, while it is under the SB authority to make such a decision. Currently, BT maintains its accounts in local commercial banks Amonatbank and Orienbank. The latter is one of the local banks affected by the banking sector distress, and currently BT processes its transactions primarily through Amonatbank.

16. The management of the BT's cash flows is under the sole discretion of the company's SB (except for donor-funded investment projects). The BT submits its annual cash flow plan for the SB approval, which prioritizes some payments – salary, payments to IPPs, servicing of commercial debt, and taxes - over the others given the cash limitations. The disbursement arrangements under the Program are described in detailed in Disbursement Section of the PAD.

17. The risk associated with Treasury Management and Funds Flow is assessed to be High.

18. **Accounting and financial reporting.** Following the recommendations on accounting and auditing of the ROSC, the Accounting Law was amended in 2011 to require all Public Interest Companies (PIEs), including all major SOEs, to apply IFRS for financial reporting.

19. The State Committee on Investment and Management of State Property (SCIMSP) under the Government (which is the owner of all SOEs and has the mandate to exert the State's ownership function), as well as the DDFRS of the MOF monitor the performance of major SOEs via a number of periodic reports, including quarterly financial reports, which include information on revenue, expenditure, financial and non-financial assets, liabilities, guarantees and long-term obligations as audited financial statements. It should be noted that the SCIMSP role is limited to the approval of disposal and revaluation of the company's assets, with no role in the company's operational management. The DDFRS's role is limited to trend analysis of the SOEs performance and identifying risks to the SOEs performance and going concerns, with no any practical power for follow up and support to improve the performance or mitigate identified risks, except reporting the major observations to the Government.

20. BT prepares and submits number of financial reports on monthly, quarterly and annual basis to the relevant government authorities. Monthly financial reports are submitted to the Tax Committee, the MOF, the MEWR. Quarterly reports are submitted to the MEWR, the MOF, Agency of Statistics, and Pension Fund. Annual reports are submitted to the MOF, the MEWR, Agency of Statistics and Tax Committee. In general, there are no delays with submission of such statutory reports.

21. At present, the SOEs, including Barqi Tojik, lack the skills and knowledge needed to comply with this requirement. There are around 230 accounting staff at BT and none of them has an international accounting qualification (such as ACCA, CPA) nor has CAP/CIPA certification. To prepare IFRS compliant financial statements, BT continuously relied on the use of external consultants, with some occasional capacity building activities for the Company's staff. This resulted in some improvements in the financial reporting, given that while before 2014 the auditors issued disclaimer of opinion on the company's IFRS compliant annual financial statements, starting 2014 the audit opinions are qualified. Meanwhile the improvement in the quality of the IFRS compliant financial reporting is due to external consultants' help, while internal capacity building was not sustainable.



22. Although the BT will continue reliance on external consultants' help for financial reporting, the company needs to build sustainable internal capacity for IFRS financial reporting. For this purpose, BT will need to prepare and agree with the Bank a Capacity Building action plan, which would include concrete actions and milestones on IFRS training provision to the accounting staff. The action plan should include the capacity retention measure such as certification of the knowledge (via inclusion of an examination) obtained through trainings. The certification could also be a mandatory requirement for the accounting position and be a part of the qualification requirements for the relevant staff. It has been agreed that such a capacity building plan, acceptable to the Bank, will be developed by BT no later than six months after the Program effectiveness.

23. BT has recently updated its Financial Management Manual, which adequately covers the company's IFRS based accounting policies and procedures. The Company utilizes 1C (v8.2) accounting software, which is adequate for accounting and reporting the Company's activities. The software will also be used for the Program accounting and financial reporting. For the Program purposes BT will prepare the Program annual financial statements to be audited. The Program financial statements will be prepared on cash basis, while for entity (BT) reporting purposes IFRS is used.

24. The risk associated with Accounting and Financial Reporting is assessed to be High.

25. **Procurement processes and procedures.** The Program's procurement will be governed by the existing public procurement legal framework which is constituted of the Law of the Republic of Tajikistan "On Public Procurement of Goods, Works and Services", # 168 dated March 3, 2006 (as amended by Law #815, the "Law of the Republic of Tajikistan on "Introduction of Amendments and Additions to the Law of the Republic of Tajikistan on 'Public Procurement of Goods, Works and Services'" dated April 16, 2012) ("the PPL"), and a comprehensive package of by-laws and regulations. They were developed based on the 1994 UNCITRAL Model Law and are in line with the international public procurement standards. Procurements using funds of state-owned enterprises are subject to the PPL. In practice, BT started following requirements of the PPL only since 2014 due to the Law enforcement by the PPA. This adds to the risks of lack of in-house capacity for effective and fully compliant use of PPL. It is to highlight that the Government of Tajikistan initiated preparation of a new PPL based on the 2011 UNCITRAL Model Law and the principles of the WTO Government Procurement Agreement. The new PPL is planned to be adopted by July 2019.

26. **Procurement methods.** The current PPL provides for a good range of methods for procurement of goods, works and services: (i) bidding with unlimited participation; (ii) bidding with limited participation; (iii) request for quotations; (iv) single-source procurement; (v) electronic procurement and a simplified public procurement proceeding. Bidding with unlimited participation is the default procurement method. In practice BT applies all these methods. Analysis conducted shows positive indication that open competitive procedures appears to be the default method and constitutes 95.4 percent of the reviewed cases. Comparing data by years, it is being noticed that percentage of single-source procedure has decreased from 9 percent in 2017 to 4.6 percent in 2018 and in monetary value from TJS 72,886,288.62 to TJS 5,276,045.00. Increasing trend is observed with use of existing e-procurement platform: percentage of bids conducted through e-procurement platform increased from 40 percent in 2017 to 53.8 percent in 2018.

27. Provisions for procurement of consulting services are clearly defined in the Public Procurement Law. Consulting services may be hired through tendering with limited participation (short list), as well as single-source procurement. The following methods of selecting competitive proposals may be used, in specified circumstances, in the context of short-listing: (i) Quality- and Cost-Based Selection (QCBS); (ii) Quality-Based Selection; (iii) Selection under a Fixed Budget; (iv) Least-Price Selection; and (v) Selection Based on the Consultants' Qualifications. However, FSA shows that despite the rules and procedures for hiring consulting services are



provided for in the PPL, Standard Request for Proposals including contract forms is available and procurement capacity exists in BT, hiring of consultancy services rarely applies in practice due to lack of funds allocated for such services. BT relies mainly on in-house capacity to cover any need in additional expertise. Since the Program framework and profile provides allocation in the budget for outsourcing consulting services such as capacity development support, IVA and audit to the market, the action is included as a Program fiduciary actions to ensure that necessary advisory services are available during the Program implementation to support the achievement of its results.

28. **Procurement notices:** Bidding opportunities are widely advertised. Invitations for bids are issued in national newspaper Asia Plus, are placed on the BT website (<http://www.barqitajik.tj>) and on the Public Procurement Portal (<http://eprocurement.gov.tj>). Three weeks from the date of advertisement is given for preparation and submission of bids which is in compliance with the requirements of the PPL.

29. **Bidding documents:** Tajikistan framework has a set of standard bidding documents. The set is not complete and includes a single SBD for the procurement of goods, works and services, lacking a standard form of contract. There is also a Standard Request for Proposals, and various contract forms, for the procurement of consulting services. No General Conditions of Contract (GCC) are included in the SBDs for the procurement of goods, works, and services. The GCC for the procurement of consulting services are broadly consistent with international requirements, but certain gaps in coverage have been observed. Examples of areas that should be more directly addressed in the GCC include matters such as intellectual property rights, termination for convenience of the Government, suspension, assignment, warranty, and governing law. Furthermore, such provisions included across the GCC are not always consistent, which leaves room for potential inconsistencies in application and interpretation. This is a serious gap that needs to be addressed as part of the program fiduciary actions. This would entail the development of General Conditions of Contract by BT to be included in the standard bidding documents for the Program procurement of goods, works, and non-consulting services as per the relevant international requirements. Thus, revision of standard bidding documents to include GCC was include into the PAP.

30. The BT is using the standard bidding documents for procurement of goods, works and services developed by the SAPP. The bidding documents are available both in Tajik and Russian languages. The documents preparation mainly depends on readiness of the technical specifications that sometimes are being prepared in advance. Technical specifications are being developed by experts from the respective departments who are included to the Tender Committee. Access to comprehensive specifications remains the critical challenge during the preparation of bidding documents for all procuring entities.

31. **Opening and evaluation of bids.** Bids are opened publicly in presence of the bidder's representatives and representatives from the SAPP. Minutes of opening are prepared in a form approved by the SAPP. Evaluation is done in accordance with the evaluation and qualification criteria as stipulated in the bidding documents and is carried out by the Tender Committee. The Committee is appointed by the order of the BT Chairman, comprises from five to nine people and headed by the BT Deputy Chairman. Evaluation takes in average from seven to ten days.

32. **Government e-Procurement system.** The Government of Tajikistan is carrying out a full-scale transition across the country to an e-Procurement system. Initial Unified Public Procurement Portal and e-Quotation module were enhanced and now are functioning as a single e-procurement module (<http://eprocurement.gov.tj>). Forty pilot procuring entities, including BT, were trained as users and are gradually start using the system for



their own procurements. Since 2017 BT has conducted 55 tenders applying electronic procurement method.⁴⁸ Further development of an operational electronic platform that supports public procurement procedures in Tajikistan is critical for making procurement processes more efficient and transparent. By current estimates of the SAPP enhancements to the e-procurement system will be completed in 2020. The comprehensive e-procurement system will cover procurement planning, bidding process, contract management, framework agreements and catalogues, on-line complaints handling, procurement data management and measurement of public procurement performance, and development of interfaces between e-procurement, Treasury and other e-Government systems.

33. **Contract administration.** There is as minimal level of contract management arrangements and practices in BT. After the contract is awarded, the BT signs the contract with the selected bidder and transfers responsibility for contract execution to its sub-structure TajikEnergoSnab. The table below shows contracts selected for the review by the Bank team to analyze if they were implemented according to the original time schedule, within the estimated budget and payments made timely. Normally, the terms in the BT's contracts provide for payment to be made within 60 days after the acceptance certificate is issued. Based on the reviewed sample, no instances of significant time and cost overrun were noticed. Although the contracts were implemented according to the original time schedule, in 30 percent of cases payments were significantly delayed. Review of the sampled contracts also revealed that in one case the contract was extended two days after the intended completion date.

34. **Complaints handling mechanism.** The PPL applicable to the Program does not provide for independent procurement complaint review mechanism. The Government of Tajikistan is still looking into the feasible options where to host function of independent Board of Grievances. The PPL provides the rights for bidders to complaint following the certain rules. Public procurement participants have the right to file a complaint with the procuring entity and / or the SAPP (as the Authorized Body). The actual practice in the BT is that the participants must submit complaint in a form of a letter to the Chairman with a copy to the SAPP. BT's records show that no complaints have been received Data from the module for online complaints in current e-Portal also confirms that no complaints on tenders conducted by BT were filed.

35. A survey on assessment of level of corruption in public procurement conducted by the SAPP in 2018 revealed that only 21 percent of 62 respondents from the private sector supported establishing the independent complaint review body, while 51.6 percent did not see such a need and 27.4 percent did not provide an answer. Analysis of these results highlights little trust of the bidders in the existing mechanisms, and absence of clear, efficient and comprehensive mechanisms. In these regards the manner of conduct of the complaint review process should be set forth in greater detail. It is necessary to strengthen the capacity of staff handling complaints and make reporting on outcomes of complaint reviews open to public, for instance, through tracking on the BT website. BT shall create a dedicated section in its public Web site to post the information on: (a) any procurement related complaint received; (b) date, time and place of the complaint review; (c) status of handling of this complaint (accepted or rejected with indication of the related reasons); (d) decision of complaint handling. To mitigate the risks and weaknesses noted, an action was included into PAP seeking to address these challenges.

36. **Debarment and blacklisting of vendors.** The PPL has provisions for the SAPP to include poor performing suppliers and contractors to the Register of unreliable suppliers and contractors. Based on the data from the e-Portal, the only case registered in the database was for non-fulfilment of contractual obligations by supplier in health sector that was made as a result of complaint from the procuring entity. No sanction cases were registered in the e-Portal for the energy sector. The Recipient will use the Bank's List of Debarred and Cross-Debarred firms and individuals to ensure that persons or entities debarred or suspended by the Bank are not awarded contracts

⁴⁸ Source: test.zakupki.gov.tj



under the Program during the period of such debarment or suspension. The list can be accessed on the World Bank's website (www.worldbank.org/debarr). The compliance with this requirement would be checked by the Program auditor.

Internal Control Systems

37. **Internal controls and internal audit.** The public internal controls system in Tajikistan is regulated by a number of laws and legal documents referenced in the FSA report. The Law "On Accounting and Financial Reporting" (2011) establishes the responsibilities of the head and the chief accountant of an organization for the implementation of economic operations. Standard job description of the chief accountant for organizations and business entities, (regardless of the form of ownership and organizational affiliation) is approved by the government. The "Law on Financial Control and Internal audit" provides for proper segregation of duties relating to authorization, execution, reporting and audit or control functions. The chief accountant cannot be responsible for custody of assets or be in charge of receiving of goods for the organization. In general, there is overall adequate segregation of duties at BT. Meanwhile it was observed that except for payments for operating expenditures, the authorization control of payments under contracts is assigned to the BT's Supervisory Board, which though assures additional layer of controls over payments, but also makes the payment process inflexible as even non-material amounts to be paid require the board approval.

38. PEFA-2017 indicates improvements since the previous assessment in internal control over non-salary expenditure (PI-25 scored "B+"), though it also indicates a need for making further improvements due to the lack of any formal risk management process, the fact that commitment controls are not fully implemented and the absence of independent audit reports on the internal controls. There is no centralized fixed assets database in the MOF to maintain up to date additions, losses and disposals. The lack of control over fixed assets is noted under PI-12, which only scores a C+, particularly due to problems of maintaining and updating a register of fixed assets, and weak control over disposals of fixed assets.

39. The functions of payroll calculation and personnel records are decentralized. PEFA-2017 also indicates improvements since the previous assessment in payroll controls (PI-23), however this only score "C+" due to a need in a central control integrating payroll and HR records as well as lack of qualified staff and problems with retaining such a staff. Meanwhile there are overall adequate payroll controls at BT, and the sample payroll review conducted during the fiduciary assessment did not identify issues. Payroll is calculated by the use accounting software. And the wage payment to employees is done through the bank electronic cards system. Payroll is supported by necessary documentation, and the changes to personnel records are checked on a monthly basis. The reliance on the country's internal control system at BT is partial, as it does not use the central treasury system for its funds flow arrangements.

40. The major issue relating to internal control system at BT relates to revenue management system. The external auditor issued a repetitive qualified audit opinion on the company's financial statements for FY2014-2017, mostly due to shortcomings and undeveloped state of the company's records and systems of revenue and related receivable recognition for electricity supplied to its customers. The auditor's assessment of the level of provisions for doubtful trade receivables differed from the company's assessment.⁴⁹

41. The issue is due to lack of automated software for revenue recognition at several subdivisions and subsidiaries of the company, and receivables recording is done manually, which is prone to misstatements and manipulation in records.

⁴⁹ Source: FY2014-17 audited financial statements and management letters.



42. Under loss reduction program in the Sughd region with financing provided by EBRD/EIB/EU, the Company established AMI for 80,000 customers. A Metering Control Center (MCC) was created to monitor performance of the AMI and detect theft and other abnormal conditions in consumption. This, together with the incorporation of the billing software and rehabilitation works of network and metering infrastructure, made possible to achieve significant improvements in billing and collection rates for industrial, residential and government customers. Amounts of energy (kWh) billed to industrial customers in 2017 were 27 percent higher than in 2015; for residential consumers the increase was 4.7 percent. Remote disconnection functionality of the AMI helped to achieve overall collection rate of 93.6 percent in 2017, with 97.5 percent in the residential category.⁵⁰

43. Under the Program, BT will extend the use of AMI to cities of Istaravshan, Isfara, and Konibodom city, which will contribute to further reductions in energy loss rates and increase in collection rates for billed electricity, thus substantially contributing also into the improvement of company's overall revenue recognition.

44. The Company's debt accounting records are automated with overall adequate controls over them. In the meantime, BT is prone to significant foreign exchange risks due to the fact that the funds for donor-funded investment projects are on-lent to BT by MOF in the same currency as the government receives it from the financiers. The key mitigation measure for this risk will be enforced through DLI No. 1 whereby regular adjustments to electricity tariffs would compensate the BT for any FX fluctuation related losses that may occur.

45. **Internal Audit.** The MOF is responsible for implementation of internal audit policy. The MOF also provides methodological support to public sector entities. Each budget entity employing more than 800 staff must have an internal audit unit. The internal auditor reports to the head of organization. PFEA-2017 indicates some progress made with developing an internal audit function, however there are still significant challenges to be addressed (PI-26 scored "C"). Internal audits conducted are not risk-based and are mainly focused on compliance with budget commitments. No systemic review and analysis of systems is conducted. Also, the Independence of internal auditors is not properly addressed by legislation. Regular reports are submitted to the management and the majority of planned audits take place with almost all responses taking place within a year of the report.

46. The internal audit (IA) function at BT is weak and needs substantial improvement in terms of staffing (currently it has only 3 staff with technical and economic background), and professional capacity. The audit work plans of the BT's IA unit are developed on annual basis and approved by the BT Chairman and the IA unit directly reports to the BT Chairman. Approved plans cover audits of 10-12 departments and branches of BT annually, and mostly are reviews of economic/technical performance of the branches and departments with less attention to systems performance. In practice each auditor spends around 15 person-day for each audit. The analysis indicates a need for BT to increase the IA unit's staffing capacity by hiring at least an additional two staff, by organizing specific professional training and introducing a mandatory local certification for the IA staff.

47. There is a national certification program facilitated by the MOF for public internal auditors, while the program does not capture the SOEs. Currently the MOF is in the process of amending the respective legislation to include the SOEs internal audit function also under the MOF certification program. Meanwhile the importance of the BT IA staff certification was discussed with the Department of Accounting Policy, Financial Reporting and Audit (DAPFR) of the MOF, which facilitates the national certification process of the IAs. It has been agreed that the MOF will provide opportunity for the BT IA unit's staff to pass the necessary certification stages and obtain the certificates. Considering the identified weaknesses, the PAP requires BT to hire two additional internal auditors and provide the required training to ensure that all internal audit staff pass the IA Certification.

⁵⁰ Technical assessment by the Bank team.



48. The risk associated with Internal Controls and Internal Audits is assessed to be High.

49. **Program audit.** The audit of the entity (BT) and the Program annual financial statements will be conducted: (i) by independent private auditors acceptable to the Bank, on terms of reference (TOR) acceptable to the Bank, and (ii) according to the International Standards on Auditing (ISA) issued by the International Auditing and Assurance Standards Board (IAASB) of the International Federation of Accountants (IFAC). The audit of the entity's annual financial statements should be conducted by auditors who have relevant experience in energy sector. The same auditor will be appointed to conduct the audit of the Program annual financial statements.

50. The annual audits of the entity and the Program financial statements will be provided to the Bank within six months since the end of each fiscal year; and for the Program also at the Program closing. The Recipient has agreed to disclose the audit reports for the Program and the entity within one month of their receipt from the auditors and acceptance by the Bank, by posting the reports on BT or the MEWR's web sites. Following the Bank's formal receipt of these reports from the Recipient, the Bank will make them publicly available according to World Bank Policy on Access to Information.

51. The entity annual financial statements will include: (a) a statement of financial position as at the end of the year; (b) a statement of comprehensive income for the year; (c) a statement of changes in equity for the year; (d) a statement of cash flows for the year; and (e) notes, comprising a summary of significant accounting policies and other explanatory information.

52. The Program annual financial statements will include: (i) a summary of Funds received under each DLIs and a summary of Expenditures shown separately under the main program headings and by main categories of expenditures, both for the current fiscal year and accumulated to-date; and (ii) a statement of segregated account; and (iii) Notes, comprising a summary of significant accounting policies and other explanatory notes.

53. By the time of the assessment there were no due audits under the World-Bank financed ongoing projects implemented by BT, while some delays were observed with submission of audit reports to the Bank due to non-timely appointment of auditors. The auditors provided unmodified opinions on the latest financial statements of the ongoing projects implemented by BT. Meanwhile the auditors' issued qualified opinions the entity (BT) financial statements for the FY 2014-2017, while before FY 2014 the auditors issued disclaimer of opinion on the company's IFRS compliant annual financial statements.

54. The risk associated with external audit is assessed as Substantial.

Governance and Anti-Corruption

55. The corporate governance is in infancy with some elements of corporate governance in its charter. However, additional measures will be required to align BT's governance mechanisms with the principles of good corporate governance. As per its charter, BT is governed by General Shareholders Meeting⁵¹, its Supervisory Board (SB) and its Chairman. The nomination of state representatives to the SB is established by the Government Resolution,⁵² which appoints the following civil servants to the BT Supervisory Board: Prime Minister (Chair of the Supervisory Board), First Deputy Prime Minister, Advisor to the President on Economic Matters, Minister of Energy and Water, Minister of Industry and Technology, Minister of Economic Development and Trade, Minister of Finance, Minister of Justice, Chairman of the State Committee for Investment and Management of State Property, and Chairman of BT. The Company does not have independent board members or a code of conduct. The Company's

⁵¹ There is only one shareholder, which is the state, and which is represented by State Committee for Investment and Management of State Property.

⁵² Resolution of the Government of the Republic of Tajikistan "on Supervisory Board Members of the Open Joint Stock Company Barqi Tojik", #718, November 29, 2014.



charter also assumes for the existence of audit committee, which however does not exist in practice.

56. The competences of the SB are identification of the priority directions of the Company's activity; approval of the annual financial and commercial plans, reports on their implementation, as well as approval of annual estimates. In practice, the SB meets regularly to discuss operational and performance matters of BT, focusing on routine management decisions rather than on setting business strategies. Except for those relating to operating expenses, all other payments are made after the approval of the SB.

57. The Government started a reorganization process of the Company with an ultimate purpose to separate generation, transmission and distribution functions. According to the government decree # 234 of April 28, 2018 "On the reorganization of joint-stock companies", ten power grid OJSCs from the above list, will be merged into OJSC "Transmission electrical grids" and OJSC "Distribution electric grids". The generation function will remain with BT, and transmission and distribution functions become separate legal entities with separate boards. The power transmission and distribution companies will also remain state-owned and would be privately operated under management contracts to be awarded by 2020.

58. The reorganization process is supported by Asian development Bank's (ADB) Sectoral Development Program (ADB Draft Policy Matrix, which was communicated to the Government in ADB mission aide-memoire dated Feb. 15, 2019), which includes recommendations on further improvement of corporate governance. This would include establishment of new SBs for BT generation, transmission, and distribution companies, and introduction of good corporate governance practices into the sector. Good practices suggest that decision making on day to day operations, including procurement (except for major contracts), and implementation of the strategy, should be delegated to the management to allow the SB focus on strategic issues. Management must be given tools to implement the strategy set by the SB and be held accountable for its implementation and company operations. Through DLI No. 9, the Bank will monitor and enforce that BT consistently maintains good governance practice to be established under the ADB Sectoral Development Program.

59. **Program anti-corruption arrangements.** The Government adopted a National Anti-Corruption Strategy for 2013-2020 to institutionalize the fight against corruption in the country. In accordance with the Paragraph 3 of the Decree of the President of the Republic of Tajikistan "On the Anti-Corruption Strategy in the Republic of Tajikistan for 2013-2020" and clause 2 of the Action Plan on Implementation of the Strategy, all ministries, departments, executive bodies of the local government, organizations and institutions developed and approved departmental (sectoral) anti-corruption Programs and Plans for their implementation. Such an Action Plan also exists in BT as well. In particular, to meet requirement of the Plan for BT employees to perform at the highest professional ethics level, BT has issued Code of Ethics on December 31, 2018.

60. There are number of agencies in the country that have anti-corruption mandate. The National Anticorruption Council of the Republic of Tajikistan was established in 2010 by the Decree of the President of the Republic. The Council consists of 28 members including representatives of legislative power, courts, civil society, executive authorities and law enforcement bodies, who comprise the main part of the National Anticorruption Council. It is headed by the Prime Minister and reports to the President of the Republic. In practice, the National Anticorruption Council is a nation-wide consultative body with limited opportunities for its members for NGO sector to influence on decisions and activities of the Council.

61. The country's Agency for State Financial Control and Combating Corruption (ASFCCC), established in 2007, is a specialized agency to fight corruption. The Agency reports directly to the President of the Republic of Tajikistan and submits reports on results of investigations and financial audits to the President twice a year.

62. In order to strengthen the prevention of corruption function in the Agency, the General Corruption



Prevention Directorate (GCPD) was created in 2014. Additionally, internal control units or operational units were established for the prevention of corruption in the ministries, departments and local executive state power bodies. The ongoing task of the internal control unit is to analyze corruption risks, monitor the internal program and anti-corruption action plans, conflicts of interest, to initiate appropriate measures to fight against corruption within the state authority and to propose measures to eliminate the causes and conditions conducive to the emergence of corruption situations, as well as to ensure their implementation. After the establishment of these units, the Agency's cooperation with the state authorities in the field of combating corruption became closer. The Agency has Directorate on Oversight of State Bodies, Investments and State Debt in its structure. In 2019 the Directorate is overseeing 25 projects under BT. Another institution with anti-corruption agenda is the Chamber of Accounts. As the data on number of corruption cases filed with relevant anti-corruption agencies and investigation results is confidential, the above agencies do not provide much publicly available information, thus making it difficult to conclude on the effectiveness of their activities in fighting the corruption.

63. In accordance with the schedule of audits approved by the President of the Republic of Tajikistan ASFCCC and CoA conduct audit every other year alternately. To address the possible cases of fraud and corruption associated with the Program implementation, the Program will rely on the respective country systems. It was agreed that the ASFCCC will oversee and control the Program on anti-corruption issues.

64. Investigations or criminal cases could be initiated based on the operational information collected by law enforcement agencies, including examination of media communications, information obtained from other jurisdictions, information from tax inspectors, auditors, as well as complaints received through government websites and hotlines, electronic appeals, reports from embassies and information received through other channels of complaints.

65. The Program implementation will be aligned to the Anti-Corruption Guidelines (ACG) applicable to PforR operations, and will include the below measures:

66. *Sharing of debarment list of firms and individuals.* The Recipient will use the Bank's List of Debarred and Cross-Debarred firms and individuals to ensure that persons or entities debarred or suspended by the Bank are not awarded contracts under the Program during the period of such debarment or suspension. The list can be accessed on the Bank's website (www.worldbank.org/debarr). The compliance with this requirement would be checked by the Program auditor.

67. *Sharing of information on fraud and corruption allegations.* The Recipient will share with the Bank information on all complaints and actions taken or being taken on complaints and grievances received on fraud and corruption under the Program. The Bank will be also informed about the actions and decisions taken by the relevant institutions to address the matter raised in the complaint. The ASFCCC will handle and report to the Bank allegations occurring under the Program through annual reports during the Program implementation.

68. *Investigation of fraud and corruption allegations.* The implementing agencies will provide full support to the country's anti-corruption agencies and the Bank when carrying out investigations related to fraud and corruption allegations made during the Program implementation. The Bank will be informed on all credible and material allegations or other indications together with the investigative and other actions that the Recipient proposed to take with respect thereto. The Bank will retain a right to investigate allegations, and the Recipient will provide the Bank the necessary access to needed persons and information applicable to the Program.

69. Other pillars of the Program Anti-Corruption system include use of independent auditors/verifiers for the audit/verification of the Program. The auditors will be appointed from the list of auditors acceptable to the Bank.

70. The risk of governance, fraud and corruption under the Program is High.



Financial Management and Procurement Capacity

71. Financial management capacity of the BT needs to be improved. In particular, there is a need to improve the staff skills and knowledge in long-term investment planning, international accounting/ financial reporting standards, as well as internal audit capacities. The specific measures taken should ensure sustainability of the staff capacity in place. The capacity building and training plan, agreed with the Bank, to be developed and approved by the BT no later than 6 months after the Program effectiveness, as per PAP.

72. The PPL provides for decentralization of the procurement function to procuring entities at all levels, provided the entities have obtained a status of “Qualified procuring entity” by the Government Qualification Committee.” There is an established formal process for determining qualification of procurement entity to carry out procurement funded with budgetary funds. Currently three entities from the energy sector, including BT, are accredited, and included to the roster of qualified procuring entities. The status was granted due to the established specialized unit responsible for conduct of procurement and availability of staff certified as public procurement specialist. Specialists belong to different departments that are directly involved into the procurement process. The total number of certified procurement specialists in the sector is 11, which is adequate for managing the Program procurement activities.



ANNEX 5. SUMMARY ENVIRONMENTAL AND SOCIAL SYSTEMS ASSESSMENT

COUNTRY: Republic of Tajikistan

Tajikistan Power Utility Financial Recovery Program for Results

Environmental Systems Assessment

- 1. Program impacts.** The Program supports key priorities of Tajikistan's INDC to reduce GHG emissions by addressing adequacy and reliability of electricity supply. Specifically, the INDC for Tajikistan specifies a flexible target, not exceeding 80-90 percent of the 1990 level by 2030, which amounts to 1.7-2.2 tons of CO₂ equivalent per capita, as the country contribution to anthropogenic GHG emission reductions. The Program will help to avoid increased reliance on alternative energy consumption, which includes back-up diesel generators, candles for lighting, firewood and coal for cooking in low-income households, in case financial condition of BT deteriorates to an extent when reliable operation and supply of hydropower, which currently accounts for 94 percent of totally supply, becomes unfeasible. Therefore, the Program would help to avoid increase in GHG emissions over the life of the Program (2019-2025).
2. The proposed Program also plans to improve the technical condition of the existing power network, which is dilapidated in all of the regions, including rural areas, thus creating social benefits. The reliability of electricity supply is an essential prerequisite for enhanced educational, social and health services.
3. The results of the ongoing environmental screening suggest that majority of activities, which will be supported under the PforR, will have limited environmental impacts. Some rehabilitation/construction works to be supported under the Results Area 2 could generate adverse environmental impacts, which will be low to moderate in intensity, reversible in nature, and mainly construction related. However, disposal of used oil from old transformers and circuit breakers could pollute soil and water with hazardous waste and harm human health, if implemented inadequately. Further, construction of new power distributions lines or possible reconstruction of different facilities at substations (e.g. control equipment buildings) could potentially create noise pollution. There is probability of encountering materials and equipment, which contain asbestos, when implementing the construction works. The environmental risks are therefore reviewed with the framework of adequacy of country systems for assessment and mitigation of such type of environmental effects.
- 4. Adequacy of legislative framework related to environmental aspects of the Program.** Developed and comprehensive system of environmental legislation and regulations provides an adequate enabling framework for implementing the key activities to be supported under the PforR. This system governs the procedure for conducting EIAs and state environmental expertise of Program activities as well as current environmental monitoring of activities, including rehabilitation and upgrade of power transmission and distribution (T&D) assets. Developed network of environmental monitoring by the CEP and municipalities based on existing environmental norms, technical guidelines and standards, with the right approach at the district and local level can successfully monitor environmental requirements during implementation of rehabilitation and upgrade of T&D assets under the Program. The country has made progress in recent years, including update of guidelines for EIA and SEE, and classification and ranking of potentially hazardous activities.
- 5. Institutional capacity of responsible government agencies.** The functionality of the Committee for Environmental Protection is adjusted to the administrative two-layer territorial structure. The first layer is made up of the Dushanbe City and four Oblasts/Regional Territorial Units. The second layer is made up of 67 units and offices on environmental protection at district or town level. All territorial bodies of the CEP are formally subordinated to the CEP only. However, in fact, they work very closely with the local executive authorities - both



at oblast level and at district and town levels. Most of the staff at the subnational level are dedicated to inspection activities.

6. The vertical remapping of permit issuance responsibility in 2015 resulted in a system that puts considerable administrative burden on the central level where experienced staff is scarce. Four units of the CEP dealing with state control of environmental legislation (air, water, flora and fauna, and soil and waste) have 17 full-time staff plus a few persons employed based on short-term contracts. The State Ecological Expertise Body employs 20 staff who deal with environmental assessments, audits and authorization of project and facility- level activities (except for the low risk projects, which are addressed at the oblast level).

7. At subnational level, skills of the CEP personnel are generally weak and many of inspectors do not have relevant education or experience, especially in assessing environmental risks in the energy sector. The staff turnover is also very high.

8. The institutional capacity assessment relevant to the Program shows that national institutions and implementing entities have basic capacities to perform their duties regarding environmental management there is therefore a need for additional capacities and strengthening of existing resources.

9. **Institutional capacity of BT.** BT, as the main Program implementing agency, has limited in-house capacity for environmental due diligence, and has a few regulations on environmental mitigation when implementing physical works. The results of the Bank review suggest that BT has general and regional plans for planting trees, recycling fluorescent lamps, etc, but there are no plans or guidelines for handling of PCB-containing oils.

10. In 2017, the environmental specialist position was created at the Energy Generation Department of BT. Even though the job description for this position includes a wide range of duties, however, the specialist mainly deals with issues of permits for land use, collecting statistical information on environmental violations in the divisions of BT and compiles annual environmental reports. Because of very broad job description, the specialist is unable to support preparation and monitoring of EIAs for the projects.

11. Each of BT's regional subdivisions has a specially appointed staff responsible for fulfillment of environmental requirements. Preparation of environmental impact assessment and obtaining permits from CEP is the responsibility of BT's Capital Construction Department. This department monitors the need for compliance with environmental regulations (preparation of EIAs) and is responsible for obtaining permits from CEP. According to the information received, in the past 5 years, design and contractor companies under the state budget financed operations have completed about 35 projects. For each project, a permit was issued by the regional CEP as issuance of such permits has been delegated to regions by the CEP. This procedure does not contradict the national legislation since the works performed mainly included reconstruction of power distribution lines up to 10 kV, and such works, according to the current regulations, do not require environmental impact assessment.

12. In case of larger projects, all of which were funded by international development partners, a full-fledged EIA was carried out with the involvement of international and local consultants, and the activities were coordinated with CEP. As a rule, ESPMU engaged such specialists/consultants, which prepared relevant EIAs.

13. In summary, BT generally complies with the national laws and procedures required for project level environmental management. However, practices to comply with the national laws vary between self-financed projects and projects funded by donors. Established procedures for EIAs under substantial or high-risk projects, such as preparation by independent consultants, is ensured for donor funded projects. For public sector projects, cases have been witnessed where umbrella EIA/SEE were prepared and later project was divided into subprojects without further environmental assessments despite the fact that these were required under the national procedures. In terms of institutional capacity, BT has limited capacity (one environmental expert) at central level



to help prepare and implement the environmental safeguards instruments. Under the projects implemented by ESPMU, technical supervision consultants are typically responsible for the preparation and implementation of environmental instruments. In the absence of adequate in-house capacity, BT is unable to prepare Terms of Reference (ToR) for the EIAs, and to review EIAs prepared by the consultants, and oversee their implementation.

14. **Hazardous waste management in BT.** The country or BT-level regulations and practices for PCB management are not adequate. Specifically, BT does not have any standard procedures to manage hazardous waste, including used transformer oils, in an environment friendly manner. Thus, BT stores the used oil from transformers at specially-equipped warehouses at various locations within the substations.

15. BT has many oil storage facilities at existing substations, where both new and used oil is stored. These oil storage facilities, mostly built during the Soviet time are still fairly reliable with proper management and provide protection against the infiltration of oil into the soil and water. Specifically, those warehouses are equipped with special above-ground storage spaces with concrete ground and a ditch to allow for leaked oil to accumulate at a safe area in case a leak occurs. In warehouses without concrete ground, in case of accidental oil spill, BT staff ensures that contaminated soil is removed to a safe place.

16. BT has not developed guidelines for the management of hazardous waste including contaminated oil. There are no guidelines for testing of oil for PCB content, oil replacement and handling, and packing for its transportation and storage. It should be noted that there is adequate storage space available to store the used oil at substations throughout the country for very extended period of time, i.e. more than 10 years. There were no records documenting the accidents with oil spillage and the actions by the staff, therefore, we could verify what actions were implemented in case of such accidents.

17. BT staff is currently following the requirements of outdated technical manuals of Soviet origin that were developed before Tajikistan ratified the Stockholm Convention. These manuals are at regional subdivisions of BT or at hydropower plants. BT does not have any data or records on the quantities of transformer oils which contain PCB. It is assumed that the transformer oils used in the country do not contain dangerous concentrations of PCBs and can be reused for various purposes after filtration. Additionally, there is no regular laboratory testing of transformer oils for PCB content. BT therefore has no records on the concentrations and quantities of toxic substances.

18. The only facility in the country with capability of carrying out PCB content tests, CEP laboratory, has never been approached by BT to carry out hazardous waste analysis in the samples of transformer oils. Oils have been tested for PCB content only under projects financed by development partners. For example, within the Nurek HPP Substation Rehabilitation project funded by ADB, the samples of transformers oil were sent to laboratories in Germany to check for PCB. The analysis of oil samples did not reveal the presence of toxic concentration of PCBs in transformers of Nurek HPP, however, these statistics is not representative enough to draw general conclusion. There is little data available in the country on the soil and water contamination resulting from the PCB-containing oil and its harmful impact on human health. Ministry of Health also has no monitoring capacity and guidelines on PCB control.

19. The performance of BT in management of asbestos-containing materials (ACM) is overall satisfactory. BT's contractors know the basic techniques for handling ACM, including handling, transportation and disposal although there are no specific rules and regulations. The country has two landfills for hazardous waste (in Konibodom and Vakhsh), where ACM is transported and buried, and the procedure is officially registered by protocols of transfer.



20. Therefore, there is a need to develop special corporate guidelines and regulations for handling hazardous materials, including oil with PCB content, decontamination requirements, temporary storage, transportation and disposal, and cleanup in case of spillage requirements.

21. Going forward, the issue will need to be addressed by each of the unbundled companies – power generation, transmission, and distribution. In the medium-term, BT will remain as the owner of all newly-created companies. Therefore, BT Generation will retain the environmental service at least as team of one environmentalist and a few environmental positions in the territorial divisions. To increase their potential in this situation, it may be sufficient only to conduct the necessary number of professional trainings and develop appropriate technical guidelines on environmental procedures and management. It is planned that by 2022 the electricity distribution company will have a private management contract. Thus, the management contractor will need to ensure that it has effective institutional set-up and staff to carry out the required environmental functions.

22. The draft of the management contract for electricity distribution, which was reviewed by the Bank, indicates that the company will ensure the environmental safety of industrial facilities, the organization of work to ensure labor protection, the effective implementation of practical measures, related to environmental protection; effective activity in the collection, use, disposal, storage, disposal, movement, transportation and disposal of industrial waste; effective use of water bodies and other natural resources; hazardous waste management activities. In draft management contract for power distribution company it is also stated that the Employer may require the Contractor to remove from the Facilities or the performance of the Services, any Contractor's Personnel, who persists in any conduct which is prejudicial to safety, health, or the protection of the environment.

23. The environmental management system analysis presented in the sections above leads to the following conclusions:

24. **Strengths:** The strengths of the environmental management system for the proposed PforR activities are:

- Adequate environmental legislation and regulations at the national level for conducting environmental impact assessments relevant to the Program.
- Adequate network for environmental protection offices at district level. There is adequate interaction between CEP district representatives and municipalities, which can provide necessary environmental due diligence required for the Program.
- Experience of PMU ES of MEWR from the implementation of international projects in the energy sector. This has contributed to creation of some capacity for project level environmental management for energy sector projects even at BT.

25. **Gaps:** The main gaps in the environmental management system relevant to the Program are:

- Weak environmental management capacity at BT.
- Absence of necessary guidelines and standard operating procedures (SOPs) for hazardous waste management including PCBs at BT.

26. **Improvement of environmental systems.** To mitigate environmental risks associated with the implementation of Program, the following key actions, which are also part of the PAP, will be implemented:

- *Strengthen E&S capacity at BT generation, transmission, and distribution companies to provide necessary guidance and compliance with environmental management under the national laws.*



- *Ensure BT generation, transmission, and distribution companies are adequately staffed to carry out the environmental management and monitoring functions under the Program.* MEWR should formally assign ESPMU to be responsible for E&S aspects of the Program until ESSG is created in BT generation, transmission, and distribution companies. The ESPMU should also be responsible for capacity development program for BT generation and transmission companies in managing E&S aspects of the Program. MEWR should also ensure that the management contractor for electricity distribution company has in-house capacity to comply with the requirements of local legislation related to key aspects of their operations through inclusion of relevant requirements in the draft management contract.
- *Adopt environmental policies and corporate level guidelines, including SOPs for hazardous waste management.* BT generation and transmission companies will hire a consultant to prepare Environmental Policy and corporate level environmental guidelines and SOPs (including emergency plans for oil spills), including for hazardous waste management, which would also cover PCBs. The management contractor for electricity distribution company will also be required to develop environmental policies and corporate guidelines.

Social Systems Assessment

27. **Impacts.** The Program is expected to have overall positive social impacts as the interventions will improve the reliability of electricity supply. Specifically, rehabilitation and upgrade of T&D assets and scale up of AMI to cover the city of Dushanbe is expected to lead to increased reliability of supply. These improvements are also expected to be pro-poor as those facing unreliable electricity supply are overwhelmingly the poor and vulnerable households in the country's rural areas. Access to reliable electricity supply contributes to improved health, livelihood, and creates gender benefits. Women and girls are often primarily responsible for household activities that become substantially easier and less time-consuming when reliable electricity is available. Moreover, reliable electricity supply creates increased economic opportunities for all residential consumers, including FHHs. The Program would also contribute to the effectiveness of Incidence Recording and Management Systems to be introduced together with AMI. This would include effective processing of customer claims and complaints related to reliability of electricity supply.

28. The Program would also contribute to adequacy of electricity supply through improvement of financial viability of BT. The energy company would not be financially viable in the long-term without electricity tariff increases to cover the economically justified costs and implementation of other measures in the Program. However, tariff increases would impact the poor households as they will have to devote an increasingly larger share of their household budget to electricity. Other adverse impacts related to construction activities are likely to be negligible given that the Program primarily includes rehabilitation and upgrade of existing power transmission and distribution assets, which mainly include existing substations.

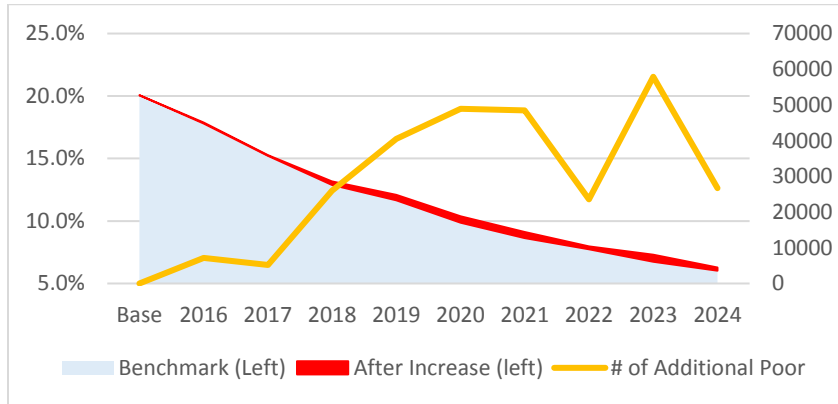
29. **Impacts of electricity tariff increases.** The Government plans to gradually increase electricity tariffs to full cost-recovery levels by 2025. While the tariff increase impacts all categories of consumers, potential mitigation of tariff increases for the poor households assumes significance, as electricity is becoming increasingly unaffordable for many residential consumers. Poor households, specially, in urban areas are likely to be impacted much more than their rural counterparts.

30. Annual increases in tariffs of 15 percent (in nominal terms) would be expected in 2019-2021 with subsequent increases of 8 percent (in nominal terms) in 2022-2024. The poverty impact of rising electricity tariffs was estimated using simulation approaches based on GDP growth projections and assumptions about future progress in poverty reduction. It is likely that rising electricity tariffs would increase the poverty rate by 0.6



percentage points in 2024. The number of people falling below the poverty line due to the cost increases would reach approximately 58,000 in that year.

Figure 1: Annex 5: Impact of Tariff Increases on Poverty Rates.



Source: Bank team estimate.

31. Analysis was carried out to estimate the cost of mitigation to avoid net increase in poverty from tariff increases. The analysis is based on the high-level assumptions regarding the real GDP growth and inflation in the long-term as well as poverty levels across various consumption groups. The analysis suggests that additional US\$15.7 million would be required to fully mitigate the impact of tariff increases by 2025 when tariffs are projected to achieve cost recover levels.

Table 1: Annex 5: Estimated Cost of Mitigation of Tariff Increase Impacts.⁵³

Year	GDP Growth	Tariff	Inflation	Pop	Dynamic Simulated Budget		
					Million US\$	US\$/consumer/year	US\$/HH/year
		<i>Real Increase</i>	<i>Estimate</i>	<i>Estimate</i>			
2015	6.0%	9.2%	5.8%	8,548,700	\$7.01	5.5	43.2
2016	6.9%	9.1%	5.9%	8,735,000	\$7.88	6.0	47.5
2017	7.1%	7.7%	7.3%	8,921,300	\$8.86	6.6	52.3
2018	5.0%	9.2%	5.8%	9,113,647	\$9.80	7.2	56.6
2019	5.0%	9.5%	5.5%	9,310,140	\$11.03	7.9	62.4
2020	5.0%	9.0%	6.0%	9,510,871	\$12.34	8.6	68.3
2021	5.0%	9.0%	6.0%	9,715,929	\$12.97	8.9	70.3
2022	5.0%	2.0%	6.0%	9,925,408	\$14.44	9.7	76.6
2023	5.0%	2.0%	6.0%	10,139,404	\$15.05	9.9	78.2
2024	5.0%	2.0%	6.0%	10,358,013	\$15.69	10.1	79.8

Source: Bank team estimate.

32. **Adequacy of legislative framework related to social aspects of the Program.** The legal and regulatory framework at the national and regional levels provides an adequate and appropriate enabling framework for

⁵³ Calculations in 2019 US\$ at the exchange rate of 1US\$=TJS9.41. Budget derived from dynamic model using projected poverty (.87 GDP growth pass-through) and trend population growth. Phase in amounts assume the number of beneficiaries increase proportionally with population. Gray signifies own projections. The orange area are effects in the past that were not offset.



implementing the key activities to be supported under the Program. Social protection, responsiveness to consumer inquiries/questions, and public accountability are adequately covered by the legal framework at different levels. The legislation highlights the importance of state's commitment to serving and ensuring protection of the public, in general, and the poor and vulnerable in particular. The laws on consumer rights; targeted social assistance; grievance redress; and energy stipulate rules governing setting of tariffs; and adjustments to public salaries, pensions, and other benefits due to growth of price for consumer goods and services.

33. **TSA.** A pilot TSA program was launched in Yovon and Istaravshan districts in January 2011 to deliver a consolidated social assistance benefit to households in the poorest 20 percent of households with primary focusing on extreme poverty. The European Union and the Bank jointly supported the pilot. Given that it yielded good results, the TSA has been extended considerably and it currently covers about 100,000 households in 40 districts of Tajikistan. The remaining 28 districts are expected to be covered in 2019-2020 to bring the number of beneficiary households to 200,000 or about 15 percent of the total number of households in the country.

34. Several important modifications in the TSA program are being discussed with the Government. The key agreement has been to link the TSA benefit to a measurable value that gets indexed annually. It has been proposed that starting from 2019, the base level of the annual benefit (TJS400) would be linked to a "budget accounting unit", which as of January 2019 will constitute TJS55. It is proposed that the annual benefit be equal to 8 such notional units. Based on this agreement, the average benefit has been increased in 2019 by 10 percent, which is the first benefit increase since the program launch in 2011.

35. The main obstacles to accessing social assistance include: (a) a widely held perception that an application for social assistance requires substantial documentation and time; (b) limited access to information on existing social assistance programs and little awareness of their existence among the population; and (c) a perception that the social assistance system operates in an unfair and corrupt manner. As a result, the motivation to apply for social assistance is low.

36. **Impacts on customer orientation and responsiveness.** The Incidence Recording and Management System (IRMS) will be integrated with the AMI, and support better network operations, in particular aimed at ensuring good quality in power supply to customers. Specifically, the IRMS will allow to better respond to client claims and complaints related to outages and other anomalies in electricity supply, and ensure better quality of power supply by automating the detection of distribution faults. Setting up of the IRMS will be accompanied by the establishment of a network assets and supply database, which will include data on medium and low voltage networks and on each customer's connection to the corresponding transformer station. The system will allow a centralized, reliable, continued (24 hours a day, 7 days a week), transparent and accountable management of customers' claims. It will enable centralizing reception and collection of all existing information on each claim, linking claims with network installations and grouping complains by affected area, ensuring targeted dispatch of field workers to the incident area, and keeping customers updated on the status of each incident, including the estimated repair time. Accordingly, the IRMS will help to minimize the response time between reception of a customer claim and restoration of regular supply, that is, the duration of each interruption, which is a critical dimension of power supply quality. The IRMS will also allow compiling statistics of outages (by hourly interval, duration, affected people), and therefore identifying equipment requiring specific repair, maintenance or replacement due to high rate of failure. This will enable effective monitoring and controlling of the overall quality in power supply.

37. The social management system analysis presented above leads to the following conclusions



38. **Strengths:** The strengths of the social management system for the proposed PforR activities are:

- Adequate legislation at national level for mitigating the impacts of tariff increases on the poor through indexation of compensation and benefits to be paid to eligible vulnerable consumers.
- Availability of solid foundation to expand the TSA program, which currently covers 40 districts and 100,000 households. A rigorous impact evaluation documented the success of the pilot TSA program in Yevon and Istaravshan districts. The evaluation report shows that the pilot project improved targeting (a greater share of benefits accrues to the poor), generated positive satisfaction about the program by the population in pilot districts, increased the perceived financial situation, improved food security perception and raised actual food consumption by 16-25 percent.
- The average benefit under TSA program has been increased in 2019 by 10 percent, which is the first benefit increase since the program launch in 2011.
- Adequate legislation at national level to protect the rights of consumers.
- Successful experience in Sughd region with improvement of consumer responsiveness and accountability of BT's regional power distribution network.

39. **Gaps.** The main gaps in the social management system relevant to the Program are:

- The existing TSA program does not cover all vulnerable households in order to allow for mitigation of the impact from increasing electricity tariffs. The increases may have larger impact on FHHs given lack of income sources and limited coping mechanisms.
- TSA program requires further improvement of targeting and differentiation of the benefits based on family size and composition.
- Implementation of the requirements of the legislation for protection of the rights of electricity consumers is substandard. The existing system at BT for recording, processing, and resolving the customer complaints is inefficient.
- Access to data and information can be expensive for socially vulnerable consumers given high fees stipulated in the legislation requiring sharing of information and data by relevant government bodies and agencies, including BT.

40. **Improvement of social systems.** The following key actions will be implemented, as reflected in the PAP, to mitigate social risks associated with the Program.

41. **Expansion of TSA program coverage and further improvements in TSA structure.** The Government should complete the long overdue expansion of TSA program coverage to include the remaining 40 districts of the country and increase the coverage to 200,000 households or 15 percent of the total. In addition, these benefits should be increased to offset the increase in the poverty rate expected from higher tariffs. The fiscal costs for mitigation specifically resulting from tariff increases can be covered from:

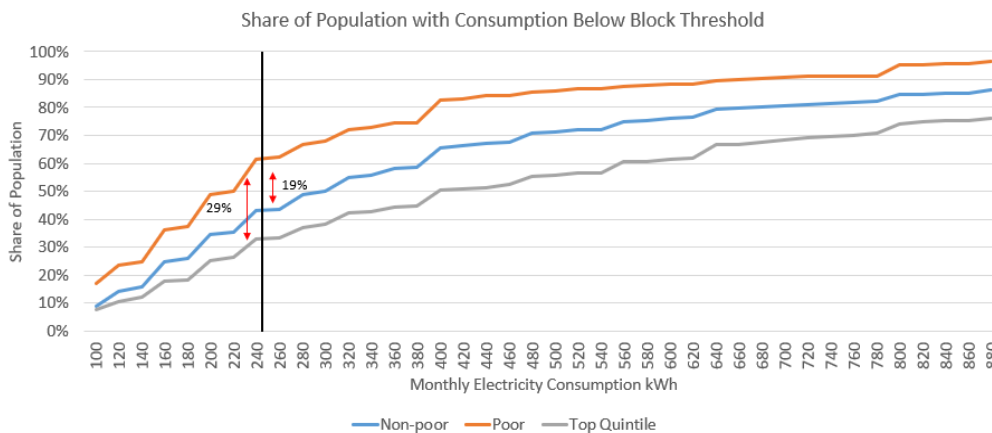
- i. Savings in debt service costs under sovereign-guaranteed loans and credits. Currently, BT pays only negligible amount of debt service to MOF under subsidiary agreements, which were used to on-lend the international financiers' resources to BT. With improvement in financial standing of BT, it will be able to make timely payments, which will free up some resources at the state budget.
- ii. Increased tax revenues from BT given larger revenues due to tariff increases.



42. The following aspects of TSA program require attention: (a) indexing on an annual basis to account for inflation; (b) Improving the targeting, i.e. bottom most should receive the assistance on a priority basis relative to the top 20 percent; (c) Differentiation to the benefit level, depending on the family composition; (d) Dynamic adjustments in TSA program formula threshold to ensure full utilization of all budget funds; (e) Differentiation of the types of the benefits (in cash vs in kind, etc) depending on a score generated by the TSA program formula; (f) implement separate/ supplementary budget allocation for addressing energy poverty. This work is in progress under the ongoing policy dialogue of the Bank, including the ESMAP financed activity on Improvement of Electricity Tariff Setting and Mitigation of Impacts on the Poor.

43. **Introduction of lifeline tariff mechanism alongside expanded TSA program benefits.** Introduction of lifeline tariff would allow to ensure that larger number of vulnerable consumers are protected from impacts of tariff increases given that TSA benefits are relatively small, and coverage is limited as of now. The recommendations of the Bank on lifeline tariff structure would be finalized in discussions with key stakeholders under the ongoing ESMAP financed activity on Improvement of Electricity Tariff Setting and Mitigation of Impacts on the Poor by March 2020. The preliminary results of the analysis suggest that introducing a lifeline tariff at 250 kWh/month would cover the entire electricity consumption of 60 percent of poor households, but only 43 percent of non-poor households, and 33 percent of households in the top quintile.

Figure 1: Annex 5: Estimated Share of Population Covered by 250 kWh/month Lifeline Tariff.



Source: Bank team based on data from BT, surveys, and data from NSS.

44. **Strengthening of the system for responsiveness and client orientation of BT.** It is recommended to include into the AMI, to be supported under the Program, a new IRMS. It will support better network operations and would allow to better respond to client claims and complaints related to outages and other issues with electricity supply.

45. **Increased disclosure of operational and financial data related to BT.** As part of the broader agenda for improvement of corporate governance of BT and improving the access to information by consumers, the Program should promote increased disclosure of data related to power sector balance (from generation all the way down to consumption), outages, as well as tariffs and other financial information.

46. **Strengthening of the evidence base on particular vulnerabilities of FHHs towards increasing electricity prices in Tajikistan.** The Program will complement the existing quantitative data with qualitative data to understand whether the rising electricity prices will negatively impact FHHs' ability to continue meeting their



energy needs and to afford basic household expenses on food, health, education, etc. Based on the results of this assessment, the Program will contribute to the dialogue on designing of social assistance mechanisms to mitigate negative impacts of electricity subsidy and tariff reforms by ensuring that such mechanisms address particular vulnerabilities of FHHs and support them in affording electricity costs.



ANNEX 6. PROGRAM ACTION PLAN
COUNTRY : Republic of Tajikistan
Tajikistan Power Utility Financial Recovery Program for Results

Issue	Mitigation Measure	DLI#	Responsibility	Timing	Completion Measurement
Regulatory					
Establishment of adequately staffed Tariff Unit under AMC.	The Government approves establishment of adequately staffed Tariff Unit under AMC with responsibility and functions related to review and provision of recommendation to the Cabinet on revision of tariffs in accordance with new tariff methodology.	DLI 1	The Government.	June 30, 2020	MEWR submits to the Bank the IVA report with confirmation whether: (a) new legislation and other legal amendments adopted for establishment of the Tariff Unit are in compliance with requirements of Tajikistan’s laws and regulations; and (b) Tariff Unit is adequately staffed, i.e. includes at least one engineer; one economist; one financial analysts; and one lawyer.
Financial Management					
Hire two additional internal audit staff for BT	Constraints on effective implementation of effective internal audit	-	BT.	No later than 6-months after the project effectiveness.	BT hires the additional staff and submit to the Bank the signed contracts.
Internal audit staff does not have the required certification	The internal audit staff to pass the national Internal Auditor Certification	-	BT.	Within one year after the Program effectiveness.	The internal audit staff receives the required certification and the evidence is submitted to the Bank.
Cost of BT debt from MOF is not reflective of the cost of funds for the Republic of Tajikistan.	Revision of specified subsidiary agreements between MOF and BT to mirror the original terms reflected in international agreements between MOF and financiers.	DLI 2	Government and BT.	Dec. 31, 2022.	The MOF and BT to revise subsidiary agreements as recommended and share the copies of the revised agreements with the Bank.



Issue	Mitigation Measure	DLI#	Responsibility	Timing	Completion Measurement
Inefficient corporate governance of BT.	Corporate governance of BT generation, transmission, and distribution companies is strengthened.	DLI 8	The Government.	Supervisory Boards and the specialized committees are in place by June 30, 2020 and continue to be functional during the whole period of the Program implementation.	<ul style="list-style-type: none"> • Procedures for selection of members of SBs at BT, appointment procedures, and respective qualification requirements are developed and approved. • Selection of SB members, including independent members, is completed. Appointees have diverse set of skills and backgrounds, including international professionals from electricity sector, finance or law. • SBs form specialized committees, comprising solely of the board members and chaired by independent members. At least the following committees are required to be in place: Audit Committee, Compensation Committee. <p>The action will be monitored via Authorizations for the appointments of directors (resolution or decree) and minutes of the SB meeting to be shared with the Bank.</p>
Weak capacity of financial management, accounting and internal audit staff.	Prepare a capacity building and training plan, acceptable to the Bank, for improving the BT staff capacity in longer term institutional capital budget planning, international accounting/financial reporting standards/auditing standards and internal control procedures.	-	BT.	The capacity building and training plan, agreed with the Bank, to be developed and approved by the BT no later than 6 months after the effectiveness of IDA financing agreement.	A fiduciary staff capacity building and training plan, with specifying concrete activities, resources and deadlines, is developed, agreed with the Bank and approved by the BT. This should include specific training activities focused on accounting, reporting, internal audit as well as capital budget planning areas, with syllabus and resources as well as timing agreed with the Bank. The plan should also provide for increase of internal audit function staffing. The Bank will monitor the



Issue	Mitigation Measure	DLI#	Responsibility	Timing	Completion Measurement
					implementation of the planned activities by their deadlines. The plan should have specific measures to address the certification of the staff knowledge and measures to retain the trained staff at the company.
Procurement					
General conditions of contracts are not part of the bidding documents.	The Public Procurement Agency would continue working on improvement of standard bidding documents taking into account the recommendations from the Bank.	-	State Procurement Agency and BT	Continuous during program implementation.	Standard Bidding documents with adequate General Condition of Contract are available and ready for use under the Program.
No publicly available information on the procurement complaints received by BT and how they are addressed.	Create a dedicated section in BT public Web site to post the information on procurement complaints handling.	-	BT.	Continuous during program implementation.	Procurement complaints handling section of BT web site publishing information on: (i) any procurement related complaint received; (ii) date, time and place of the complaint review; (iii) status of handling of this complaint (accepted or rejected with indication of the related reasons); (iii) decision of complaint handling.
Competitive procurement of critical services required for successful implementation of the Program.	Outsourcing critical specialized services such as capacity development support, IVA and audit to the market on a competitive basis.	-	BT.	Continuous during program implementation.	Necessary advisory services in a timely and quality manner to support Program implementation and achievement of its results.
Environmental					
Gaps in environmental management policies and guidelines, including on PCB-containing oils.	Develop corporate environmental policy and key guidelines, regulations and norms for BT generation, transmission, and distribution companies to facilitate adequate environmental performance in	-	BT with the assistance of ESPMU.	June 30, 2020.	BT generation, transmission, and distribution companies adopt corporate environmental policy and key environmental management guidelines and regulations for implementation of rehabilitation and upgrade of key assets.



Issue	Mitigation Measure	DLI#	Responsibility	Timing	Completion Measurement
	implementing rehabilitation, replacement, and upgrade of key assets.				
The only existing BT environmental specialist cannot ensure compliance of Program activities (due to large workload) with requirements of applicable environmental legislation and regulations.	Hire additional environmental specialists/consultants at BT generation and transmission companies and ensure that the newly formed generation, transmission and distribution companies also have adequate in-house environmental capacity.	-	BT.	June 30, 2020.	Adequately qualified environmental staff at BT generation, transmission, and distribution companies ensuring adequate environmental performance of activities under the Program.
Lack of in-house environmental management capacity at BT generation, transmission, and distribution companies, and limited knowledge among local contractors with the CEP requirements.	Develop relevant educational modules and organize regular trainings on environmental management for BT generation and transmission companies, and for their contractors.	-	<ul style="list-style-type: none"> - Until Dec. 31, 2021: BT with the assistance of ESPMU and in cooperation with CEP. - From Jan. 1, 2022 till Dec. 31, 2025: BT generation and transmission companies in cooperation with CEP. 	June 30, 2020 and once per year afterwards.	Fully integrated environmental team of skilled personnel providing due environmental performance in three newly formed companies.
Inadequate reporting on compliance of self-financed infrastructure investment and rehabilitation activities	Annual evaluation, monitoring and reporting of progress on environmental and social issues, especially regarding the compliance of the Program activities with the environmental legislation and	-	<ul style="list-style-type: none"> - Until Dec. 31, 2020: BT with the assistance of ESPMU. - From Jan. 1, 	June 30, 2020 and once per year afterwards.	Annual evaluation, monitoring and reporting of progress on environmental and social issues, especially regarding the compliance of the Program activities with the extant environmental legislation and regulations.



Issue	Mitigation Measure	DLI#	Responsibility	Timing	Completion Measurement
with requirements of environmental legislation and regulations.	regulations.		2021 till Dec. 31, 2025: BT generation, transmission, and distribution companies.		
Social					
No analysis of poverty impacts before tariff increase decisions are made and implemented	MOHSP or the designated government agency will carry out analysis of poverty impacts of planned annual tariff increases, based on trajectory of increases to be approved through adoption of Tariff Paper, and estimate the fiscal cost of protection through TSA and adjustments required to lifeline tariffs.	-	MOHSP and BT.	Not later than July of each year (starting from 2020) to allow for timely inputs into budgeting process.	The results of poverty impact analysis and estimates of the fiscal cost of ensuring that there is no net increase in the poverty rate due to electricity tariff increases are annually reviewed and adopted by the Government when finalizing the state budget.
Existing TSA program does not reach all socially vulnerable consumers and is not adequately funded to protect against electricity tariff increases.	- TSA rolled out nationally and the refined design of TSA incorporates a mechanism to mitigate the impact of increasing electricity prices, including corresponding budget allocation.	-	MOHSP, MOF.	Oct. 31, 2020.	- Refined design of TSA incorporates a mechanism to mitigate the impact of increasing electricity prices, including corresponding budget allocation.
	- Development of a lifeline tariff mechanism to mitigate the impact of increasing electricity prices on the poor and vulnerable.		BT, MEWR, and AMC.	Oct. 31, 2020.	- Lifeline tariff mechanism was developed.
	- Implementation of a lifeline tariff mechanism for residential consumers		BT, MEWR, and AMC.	July 31, 2021 and onwards	- Lifeline tariff mechanism is implemented considering technical constraints that exist in various regions/cities related to



Issue	Mitigation Measure	DLI#	Responsibility	Timing	Completion Measurement
					metering



ANNEX 7. IMPLEMENTATION SUPPORT PLAN

COUNTRY : Republic of Tajikistan

Tajikistan Power Utility Financial Recovery Program for Results

1. This Implementation Support Plan is in line with the Program-for-Results operational guidelines. The Recipient is responsible for implementation of all Program activities in support of achievement of the agreed DLIs, as well as of elimination of inefficiencies/bottlenecks identified in the social, environment and fiduciary assessments. The Bank's implementation support will cover, but not limited to the below key areas:

- Implementation of Program Action Plan.
- Review of program implementation progress, including review of program progress reports, audit reports, IVA reports, and other relevant data and information.
- Monitoring of the financial performance of the power sector.
- Monitoring of changes in the Program risks.
- Review of compliance with legal agreements, and proposing remedy actions to improve program performance, if and as needed;
- Support in resolving any operational issues pertaining to the project.

2. In particular, the Bank team will be actively engaged with BT, Government counterparts, and other key stakeholders in the following main areas:

- Technical: Review of implementation progress and advice to BT related to: (a) rehabilitation and upgrade of T&D assets; and (b) introduction of AMI in the city of Dushanbe.
- Power Sector Regulatory: Review of implementation progress and advice to BT, AMC, and MEWR related to implementation of new tariff methodology and strengthening of new Tariff Unit under AMC.
- Corporate Financial Analysis: Review of implementation of key measures under the Results Area 1 related to corporate-level financial measures, which would require regular updates of the corporate financial model of BT and detailed review of revenues and key costs that are used as inputs into computation of the cash deficit of BT generation, transmission, and distribution companies. There will be a need to review of all subsidiary agreements that need to be revised as part of the Program.
- Corporate Governance: Review of implementation progress and advice on key measured related to improvements of corporate governance at BT generation, transmission, and distribution companies, including status of establishment of SBs, selection of directors, establishment of specialized committees and other related activities.
- Financial Management: Review of financial management aspects of the Program implementation. The Bank team will pay particular attention to: (i) progress in the implementation of the PAP, and (ii) quality and timeliness of the Program semiannual and annual financial statements, as well as on BT annual financial statements. In addition, the Bank fiduciary team will also work with the Borrower to monitor overall implementation progress and address areas which need improvement as identified above, as well as it will have a continued involvement as follows:
 - (i) Reviewing implementation progress, Program expenditures and achievement of program results.



(ii) Providing support for implementation issues and institutional capacity building, as relevant.

(iii) Monitoring the performance of the fiduciary systems, regular reports and audits, as well as compliance with fiduciary provisions of the legal covenants.

- Energy Economics and System Planning: Review of progress and advice on preparation of LCP for generation and T&D network expansion plans, including institutional mechanisms required for implementation of requirements of LCP and T&D network expansion plans.
- Procurement: Review of procurement arrangements of the Program and advice to BT when drafting the TORs for selection of IVAs to ensure there are well-defined, non-restrictive and in line with the existing needs. The Bank team will also provide the needed guidance and advice to BT when preparing the contracts for procurement of rehabilitation works for T&D assets with focus on precision of technical specifications.
- Legal: Review of the charters and bylaws of the new generation, transmission, and distribution companies to be created and other relevant legislation to confirm compliance of the sector restructuring/reform with commitments assumed by the Republic of Tajikistan under the PforR.
- Environmental: Review of the status of compliance of activities under the Program with requirements of local legislation; review of the progress with improvement of corporate-level policies on environmental management and strengthening of in-house environmental management capacity of BT generation, transmission, and distribution companies; and support to BT, transmission, and generation companies to strengthen their environmental management systems.
- Social Development: Review of the Program compliance with the requirements of the local legislation related to social impacts of physical works to be undertaken during rehabilitation and upgrade of T&D assets.
- Poverty and Social Protection: Review of progress with changes to the existing TSA program to increase funding, coverage, and targeting; advice on improvements to TSA program and development of alternative mechanisms for mitigating the impact on the poor; and regular review of performance of TSA program during life of the Program supported under the PforR.
- External Communications: The Bank team will also provide support to BT and MEWR to strengthen their capacity on public outreach and communication on overall Government program related issues.

3. Key members of the Bank's implementation support team (technical, fiduciary, M&E and social), are either based in the Country Office or in the Region. This will help to ensure timely, efficient, and effective implementation support to BT.

**Task Team Skills Mix Requirements for Implementation Support**

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task team leader	40	12	HQ based
Power engineer	20	6	HQ based
Regulatory consultant	40	8	ECA based
Financial analyst	30	10	ECA based
Corporate governance specialist	10	5	HQ based
Financial management	20	10	ECA based
Energy economist/system planning specialist	15	3	HQ based
Procurement	20	5	CO based
Legal	10	Upon necessity	HQ based
Environmental	20	5	HQ based
Social development	10	5	ECA based
Poverty and social protection	25	5	HQ based
Communications	20	2	HQ based

Role of Partners in Program Implementation

Name	Institution/Country	Role
A potential financier	Multilateral/bilateral	Financing of the Program and DLIs related to improvement in metering and billing, and reduction of equipment failures in T&D.
Asian Development Bank	Multilateral	Support with introduction of good-practice corporate governance measures and restructuring of BT.
IMF	Multilateral	Policy Dialogue on macroeconomic stability, including improved management of SOEs and reduction of their burden on the state budget.