



Program Information Document (PID)

Concept Stage | Date Prepared/Updated: 30-Jan-2019 | Report No: PIDC178815



BASIC INFORMATION

A. Basic Program Data

Country Tajikistan	Project ID P168211	Parent Project ID (if any)	Program Name Tajikistan Power Sector Financial Recovery
Region EUROPE AND CENTRAL ASIA	Estimated Appraisal Date 18-Mar-2019	Estimated Board Date 20-Jun-2019	Does this operation have an IPF component? No
Financing Instrument Program-for-Results Financing	Borrower(s) Ministry of Finance	Implementing Agency Barqi Tojik, Ministry of Energy and Water Resources	Practice Area (Lead) Energy & Extractives

Proposed Program Development Objective(s)

The program development objectives are to improve the financial viability of the power sector and increase the reliability of electricity supply

COST & FINANCING

SUMMARY (USD Millions)

Government program Cost	608.00
Total Operation Cost	258.04
Total Program Cost	258.04
Total Financing	258.04
Financing Gap	0.00

FINANCING (USD Millions)

Total World Bank Group Financing	116.00
World Bank Lending	116.00
Total Government Contribution	67.04
Total Non-World Bank Group and Non-Client Government Financing	75.00



Multilateral and Bilateral Financing (Concessional)

75.00

B. Introduction and Context

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 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.
- The balance of payments situation has marginally improved.** The current account deficit narrowed to 0.7 percent of GDP in the first quarter of 2018 (from 1.1 percent a year earlier) as rising aluminum and cotton prices—together with a further increase in remittance inflows—partially offset a rising import bill (mainly the result of higher imports of machinery). The current account deficit was financed by foreign direct investment (FDI) inflows which remained low, at only around 1 percent of GDP, reflecting Tajikistan's challenging business environment.
- Fiscal deficit remains high.** Although narrowing from the year-earlier period, the fiscal deficit remained relatively large at 4 percent of GDP in the first half of 2018. Capital spending of US\$3.9 billion for the Rogun HPP, largely financed by the remaining balance of an Eurobond issued in 2017, continued to drive the government's expansionary fiscal policy. Annual consumer price inflation stood at a record low of 1.6 percent in June 2018 (down from 9 percent a year earlier), pulled down by strong domestic agricultural production and imports from Uzbekistan.
- Pressure on local currency exchange rate subsided.** The foreign exchange market remains highly regulated by the central bank, which constrains access to hard currency, indirectly limits imports, and stimulates the informal market. In mid-July of 2018 the Central Bank made a one-off adjustment by devaluing the somoni by 2.6 percent against the U.S. dollar thus reducing the pressure on the exchange rate.
- Poverty has followed a declining trend, but still remains a challenge.** Poverty measured at the internationally comparable line (\$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 29.5 percent in 2017 with urban poverty declining at a faster pace.
- 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.
- Loss-making SOEs are a drag on the government budget and the private sector activity.** Barqi Tojik (BT) accounts for over 80 percent of total SOE debt to Ministry of Finance (MOF). BT's debt to MOF is comprised of: (a) TJS7.9 billion of 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 billion¹ of current portion of long-term debt; and (c) TJS2.2 billion of interest payable for loans from MOF.

Sectoral and Institutional Context of the Program

8. **The power sector is comprised of the vertically integrated energy company, Barqi Tojik (BT), three independent power producers (IPPs), and a concession in Gorno-Badakhshan Autonomous Oblast (GBO) combining power generation and distribution.** BT is fully owned by the Government. It owns and operates most of the electricity generating plants and is also responsible for electricity transmission, dispatch, and distribution services to around 8 million people in all regions of the country except for GBO. 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). Third IPP – Rogun HPP – is under construction. Pamir Energy Company (PEC) generates and supplies electricity to around 200,000 people in GBO under 25-year concession agreement.

9. **The electricity supply mix is comprised of hydropower and thermal generation.** The total installed generation capacity 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.

10. **The 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 DH network.

11. **Tajik power system was operating in isolation from Central Asia since 2009.** Following independence in 1991, Tajikistan continued to be a member of the Integrated Central Asia Power System (CAPS). The coordinated system operated successfully in the initial years of independence. However, differences in national priorities and outdated relay protection system in Tajikistan, which did not allow to localize the impacts from technical failures on Tajik network and avoid wide-scale blackouts in CAPS, put pressure on these arrangements. As a result, Tajikistan had to desynchronize its system from CAPS. Parts of the transmission interconnections were dismantled both on Tajik and Uzbek sides.

12. **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 1,000 MW Central Asia South Asia (CASA-1000) Project in 2022. BT is currently implementing important projects aimed at improving regional connectivity and increasing its participation in regional electricity trade:

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

14. **Challenge #1: Financial distress of BT with consequences for electricity supply reliability.** 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) limited opportunities for electricity exports; (f) non-competitive

¹ 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; 1₽ = TJS0.15; and 1XDR = TJS12.53.



procurement of portion of heavy fuel oil (HFO) required for CHPs; and (h) depreciation of TJS vs US\$. This has led to significant deterioration of financial standing of BT with severe cash flow shortages.

15. BT has a sizeable cash deficit because tariffs are below cost recover 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 deficit of BT, which is estimated TJS2.2 billion (US\$246 million) as 2018. This cash deficit can be eliminated only in case the Government implements gradual tariff increases coupled with financial measures and operational efficiency improvements on BT side.

16. **Challenge #2: Lack of institutional capacity at BT in planning, accounting and financial reporting of BT.** The financial distress of BT is also caused by lack of planning of investments and expenditures and gaps in accounting and financial reporting. BT also 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 transmission and distribution investment program, which draws upon the planned generation investments, and takes into account the need for replacement of ageing and unreliable assets.

17. **Challenge #3: Reduction of electricity supply reliability.** The financial distress of BT impacted the reliability of electricity supply, which deteriorated due to:

- a. *Dilapidation of the largest generation plants in the country.* BT was not able to carry out timely rehabilitation of key power generation assets, which resulted in increased frequency of outages, including largest 3,000 MW Nurek HPP. As a result, about 20-25 percent of installed capacity at some power plants was not available for electricity generation given the age and technical condition. This issue is now being addressed with number of ongoing rehabilitation projects financed by development partners, including Nurek Hydropower Rehabilitation Project, which is financed by the Bank, AIIB and Eurasian Development Bank (EDB).
- b. *Obsolescence and under-maintenance of power transmission and distribution networks.* BT has 450 transmission and distribution substations, which require urgent rehabilitation of key equipment. Most of those substations were constructed in 1960-70s and have not undergone any major capital upgrade. This has resulted in increased number of outages, which, often times, resulted in black-outs for consumers.

18. **Challenge #4: Surplus energy in summer and limited regional connectivity.** After several years of complete isolation from the CAPS and only one 220 kV interconnection with Afghanistan, the country has been struggling to ensure sufficient electricity supply in winter and export all surplus energy from HPPs. This has resulted in significant foregone export revenues given that there is an estimated average summer surplus of 3.5 billion kWh per year exclusive of additional supply from Rogun HPP.

19. **Challenge #5: 200,000 people without access to electricity.** About 2.5 percent of population does not have access to electricity. The number of people without access to electricity are currently being confirmed by the Bank in cooperation with the Government counterparts and technical experts. Most of the settlements without access are relatively new given rapid growth of population and in the service area of BT (primarily Khatlon region). The remaining settlements are in remote mountainous areas in GBAO, which is the service area of PEC, where access has historically been a challenge. Before Tajikistan's independence, those areas were primarily supplied with diesel-based portable generator sets.

Relationship to CAS/CPF

20. **The proposed Program is fully aligned with Tajikistan FY2019-23 Country Partnership Strategy (CPS).** Specifically, the Program contributes to achievement of objectives under:

- Focus Area I (Investing in People and Strengthening Social Cohesion). 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 service 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 II (Fostering Investments and Exports). Reliable electricity supply is an important precondition for improved economic opportunities and, thus, private sector led economic growth. The Program would also contribute to 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 financially distressed entity not capable of honoring its contractual obligations.

Rationale for Bank Engagement and Choice of Financing Instrument

21. The PforR instrument is well suited for the proposed operation because it will be supporting certain parts of the Government's program for Financial Recovery of BT. The PforR instrument would allow ensuring comprehensive improvement across all operational, financial, and governance aspects of BT by creating right set of incentives for the Government to implement all those measures during 5-year period. It will be structured in a way to have a specific set of policy, operational, and financial efficiency related set of disbursement linked indicators (DLIs) that are essential from perspective of achieving financial sustainability of BT.

C. Program Development Objective(s) (PDO) and PDO Level Results Indicators

Program Development Objective(s)

22. The program development objectives are to improve the financial viability of the power sector and increase the reliability of electricity supply.

PDO Level Results Indicators

PDO Level Outcome Indicator 1: Cash deficit of BT.

PDO Level Outcome Indicator 2: Number of equipment failures at electricity transmission and distribution level.

PDO Level Outcome Indicator 3: Economically and technically justified investments by BT.

D. Program Description

23. **The Government program includes policy, financial, and operational measures aimed at improving financial viability of BT and increasing reliability of electricity supply.** In order to ensure reliable electricity supply through restoring the financial viability of BT, the Government intends to undertake a number of critical steps, which are reflected in the current Government Program, which was approved on April 5, 2017. The Government program is currently being updated.

Group 1: Tariff policy measures:

- Adoption and 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;
- Average annual 15 percent increase of end-user tariffs in 2017-2021 and 8 percent annual increase in 2022-2025;
- Optimization of the end-user electricity tariff structure through elimination of cross-subsidies.

Group 2: Financial measures:



- Restructuring of BT debt liabilities towards MOF;
- Repayment of payables to Sangtuda-1 and Sangtuda-2 IPPs;
- Gradual repayment of expensive commercial debt of BT to a local commercial bank;
- Recovery of old receivables and write-off of past-due receivables with low probability of recovery;
- Reducing and maintaining level of inventory that is justified from the perspective of business operations and needs of BT.

Group 3: Operational measures:

- Timely implementation of critical rehabilitation and upgrade works at electricity distribution networks of BT;
- Expansion of billing and metering system to cover all service areas of BT, which would help to increase the billed electricity and collection rates for billed sales.
- Reduction of electricity losses.

PforR Program Boundary

24. The part of the Government Program supported under the proposed PforR (the Program) would cover the key measures across all three groups. The Program would support all measures under Group 1, first two measures under Group 2, and all measures under Group 3. The Program would cover the period of 2019-2025. The measures to be supported under the proposed PforR are grouped into two Results Areas.

Results Area 1: Achieving Financial Sustainability

- Implementation of the cost-recovery tariff methodology and further optimization of end-user tariff structure would increase BT's operating cash flows.* The existing tariff-setting methodology does not allow for inclusion into the tariff of economically justified and reasonable costs incurred by BT to supply electricity to consumers.
- Restructuring of BT debts to MOF would materially reduce liabilities.* The restructuring of BT's subloan agreements with MOF would help to significantly improve the solvency of BT through reduction of the outstanding long- and short-term debt of BT.
- Improvement of collection rates for billed energy would increase operating cash flow of BT.* The average collection rate increased during 2015-2017 due to increased collections from industrial (exclusive of TALCO) consumers, TALCO, and state budget financed organizations.
- Maintaining economically efficient level of inventory.* Reducing and maintaining level of inventory that is justified from the perspective of business operations and needs of BT. High level of inventory would mean that BT has too much capital tied up and not generating any cash flows.
- Reduction of electricity losses.* This would help reduce the costs and increase operating cash flows. Currently, there is no precise estimate of technical and commercial losses given shortcomings with metering and billing systems of BT. The total technical losses in electricity transmission and distribution are estimated at 16 percent based on the difference between total generation from power plants and billed sales to consumers. The commercial losses are estimated at additional 8 percent given that BT has not been able to provide supporting documentation for about 8 percent of the electricity sales during the audit reports.

Results Area 2: Maintaining Electricity Supply Adequacy and Improving Electricity Supply Reliability

- Repayment of payables to Sangtuda-1 IPP would help to avoid shortage of electricity.* Sangtuda-1 IPP accounts for 11 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 electricity supply to consumers would have to be curtailed during the months of October – April because there is not enough



generation capacity to fill in this gap. The other HPPs cannot substitute the supply from Sangtuda-1 because their output cannot be increased due to unfavorable hydrology conditions during winter period.

- b. *Timely implementation of the rehabilitation and upgrade of electricity distribution 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 works given the shortage of cash revenues. There are number of projects underway that are supporting rehabilitation and upgrade of key hydropower plants as well as some transmission substations and lines.

Result Area 3: Strengthening Governance and Transparency

- a. *Strengthening sector governance and improving transparency and accountability* are the foundations for the successful implementation of the financial recovery program and sustainability of financial and operational improvements. The strengthening of governance and accountability should help to increase operational efficiency. Therefore, the PforR supports strengthened corporate governance of BT and improved transparency.
- b. *Improvement of the transparency of BT and strengthening of the accountability.* Currently, BT publishes the audited annual financial statements on its website to comply with the requirements of the various donor-financed projects. Going forward, when unbundling is completed, BT should also ensure that financial statements of unbundled companies are also published on its website. Additionally, BT should ensure disclosure of key operational data for the power sector on a quarterly basis, including data on outages. These measures will improve the credibility of the sector, as well as the investment environment.

25. The following expenditures would be supported under the Program.

Expenditure	Cost in TJS	Cost in US\$	% of Total
Settlement of accounts payable to Sangtuda-1 IPP	1,280,000,000	135,739,888	53%
Scale-up of metering and billing	518,639,000	55,000,000	21%
Rehabilitation and upgrade of transmission and distribution assets	615,769,318	65,300,358	25%
Consultancy services	18,859,600	2,000,000	1%
Total Cost	2,433,267,918	258,040,247	100%

E. Initial Environmental and Social Screening

26. **Environmental.** An environmental initial screening has been carried out for the proposed PforR Program. Results of the screening show that large part of the select activities that the PforR Program will support from Government’s Financial Sector Recovery Program (2017-24) will have little environmental effects. Some rehabilitation/construction works to be supported under the Result Area 2 could generate adverse environmental effects which will be low to moderate in intensity, reversible in nature and mainly construction related. The environmental risks are therefore attributable to system adequacy in the country for the assessment and mitigation of such type of environmental effects. Tajikistan has a comprehensive legislation on environmental protection requiring environmental screening and assessments for infrastructure development and rehabilitation works. BT, the implementing agency for the PforR Program, has limited capacity for environmental management. Adequacy of legislation for the type of proposed rehabilitation works, availability of a human resource (in terms of its capacity, number and technical knowledge) and financial resources proportionate to the scale of the PforR Program will be assessed in a more detailed environmental and social system assessment (ESSA). In consultation with BT, preparation of ESSA will be started, and a draft report will be publicly consulted and disclosed prior to project appraisal.



27. **Social.** The Program is expected to have overall positive social impacts as the interventions will improve the reliability and quantity of power supplies. These improvements are also expected to be pro-poor as those not connected, or facing low-quality supply, are overwhelmingly the poorer and more vulnerable households in the country. Access to modern energy in general and electricity in particular, contributes to health, livelihood, and 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, electricity facilitates increasing economic and empowerment opportunities for women, better education outcomes for girls, as well as overall better safety and health. However, an increase in tariffs is inevitable, which could impact significantly the poor households as they will have to devote an increasingly larger share of their household budget to electricity bills. This warrants a diagnostic poverty and social impact assessment (PSIA) to enable drawing adequate pro-poor measures to contain electricity poverty. Other adverse impacts related to construction activities are likely to be negligible as no new constructions are envisaged nor are any transmission lines, warranting lands.

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	
Projects in Disputed Areas OP 7.60	
Summary of Screening of Environmental and Social Risks and Impacts of the IPF Component	
<p>Note To view the Environmental and Social Risks and Impacts, please refer to the Concept Stage ESRS Document.</p>	

CONTACT POINT

World Bank

Name :	Artur Kochnakyan		
Designation :	Senior Energy Specialist	Role :	Team Leader(ADM Responsible)
Telephone No :	202-473-6302	Email :	akochnakyan@worldbank.org
Name :	Takhmina Mukhamedova		
Designation :	Senior Energy Specialist	Role :	Team Leader
Telephone No :	5210+15821	Email :	tmukhamedova@worldbank.org

Borrower/Client/Recipient

Borrower :	Ministry of Finance		
Contact :	Faiziddin Qahhorzoda	Title :	Minister



Telephone No :	992907777771	Email :	minister@minfin.tj
----------------	--------------	---------	--------------------

Implementing Agencies

Implementing Agency :	Barqi Tojik		
Contact :	Mirzo Ismoilzoda	Title :	Chairman
Telephone No :	992372358666	Email :	barki_tojik@tajnet.com

Implementing Agency :	Ministry of Energy and Water Resources		
Contact :	Usmonali Usmonzoda	Title :	Minister of Energy and Water Resources
Telephone No :	992372353566	Email :	uusmonov@gmail.com

FOR MORE INFORMATION CONTACT

The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 473-1000
Web: <http://www.worldbank.org/projects>