



Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 21-Dec-2020 | Report No: PIDA30866



BASIC INFORMATION

A. Basic Project Data

Country Tajikistan	Project ID P175456	Project Name Additional Financing to Rural Electrification Project	Parent Project ID (if any) P170132
Parent Project Name Rural Electrification Project	Region EUROPE AND CENTRAL ASIA	Estimated Appraisal Date 08-Dec-2020	Estimated Board Date 28-Jan-2021
Practice Area (Lead) Energy & Extractives	Financing Instrument Investment Project Financing	Borrower(s) Ministry of Energy and Water Resources, Ministry of Finance	Implementing Agency Pamir Energy Company, Barqi Tojik

Proposed Development Objective(s) Parent

The project development objective is to provide electricity access to target settlements in GBAO and Khatlon regions.

Proposed Development Objective(s) Additional Financing

The objectives of the Project are to (i) provide electricity access to target settlements in GBAO and Khatlon regions of Tajikistan and (ii) improve the reliability of electricity supply for grid-connected customers in GBAO region

Components

Component 1: Provision of electricity access to target settlements and improvement of reliability of electricity supply in GBAO region

Component 2: Provision of electricity access to target settlements in Khatlon region

PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

Total Project Cost	10.00
Total Financing	10.00
of which IBRD/IDA	10.00
Financing Gap	0.00

DETAILS



World Bank Group Financing

International Development Association (IDA)	10.00
IDA Grant	10.00

Environmental and Social Risk Classification
Substantial

Other Decision (as needed)

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\$1,010 (2018).**¹ In 2016-2019, Tajikistan’s real Gross Domestic Product (GDP) exhibited healthy growth rates. According to official statistics, GDP growth was 6.9 percent in 2016 and accelerated to 7.5 percent in 2019, supported by robust year-on-year growth in industry, agriculture, and retail trade. On the demand side, consumption and net exports drove growth. Growth was largely supported by heightened public investment in infrastructure projects.
- The current account deficit narrowed in 2019 due to larger growth in exports and slow increase of imports.** A jump in exports and a recovery in remittances helped narrow the current account deficit to an estimated 4.3 percent of GDP in 2019. Merchandise imports increased by 6.3 percent in U.S. dollar terms. Export earnings rose by 9.4 percent in 2019, supported by higher shipments abroad of precious metals and electricity.
- The fiscal stance remained cautious in 2019 and 2020.** The fiscal deficit of 2.7 percent of GDP was little unchanged from 2018. Cuts in non-energy capital spending accompanied with lower-than-projected revenue collection helped to contain the deficit. Spending on the Rogun Hydropower Plant (HPP) comprised the largest share of public investment in 2019, facilitating the launch of the second of the six generating units in 2019.
- Poverty rate reduced.** The poverty rate - using Tajikistan’s official poverty line - fell to 27.4 percent in 2018, reflecting acceleration of economic growth and recovery in inflows of remittance. The rural poverty rate declined markedly from 36.1 percent in 2014 to 30.2 in 2018, reflecting rising household consumption.
- COVID-19 poses significant economic and social challenges for 2020-2022.** The outbreak of the COVID-19 disease may deteriorate the macro-fiscal framework of the country, reflecting the implications of the COVID-19 outbreak and the slowdown in Russia and China. These implications include the sharp decline of

¹ In current US\$, Atlas Method, World Development Indicators, The World Bank. Source: <https://data.worldbank.org/indicator/NY.GNP.PCAP.CD?locations=TJ>



trade and lower commodity prices, a likely large drop in remittances, and worsened prospects for transport and tourism industries.

Sectoral and Institutional Context

6. **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 (GBAO) combining power generation and distribution.** BT is a state-owned company. It 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 and supplies electricity to BT under a PPA. Pamir Energy Company (PEC) generates and supplies electricity to around 245,000 people in GBAO under a 25-year concession agreement.

7. **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 2019,² 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 will operate all state-owned electricity generation plants except for Rogun HPP. Currently, the Government does not have any plans to privatize BT, SIB, or STB.

Pressing Challenges in the Power Sector

8. 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.

9. **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; and (f) depreciation of TJS vs US\$. This has led to significant deterioration of financial standing of BT. Specifically, BT has a sizeable cash deficit because tariffs are below cost recovery levels and there are operational inefficiencies.

10. **Challenge #2: Reduction of electricity supply reliability due to dilapidation of electricity generation, transmission and distribution (T&D) assets.** The financial distress of BT impacted the reliability of electricity supply, which deteriorated due to obsolescence and under-maintenance of main power generating plants and T&D networks. Specifically, only 77 percent of the generation capacity of Nurek HPP is operational because generating units require refurbishment given the age and technical condition.

11. **Challenge #3. 43,126 people (0.5 percent of population) in GBAO and Khatlon regions do not have access to electricity service.** In parts of Khatlon, bordering Afghanistan, there are 74 settlements with total population of 31,460 without access to electricity. Those settlements could not be connected to the grid due to severe financial difficulties of BT. In GBAO, 61 settlements with total population of 11,666 are not

² The Government Decision No. 330, dated June 22, 2019.



connected to electricity service. Those settlements are in remote mountainous areas in the region, which is also the service area of PEC, where access has historically been a challenge. Most of the settlements are scattered over a vast territory in the eastern part of GBAO, while a few of the settlements are in the western part, close to existing PEC grid. Before Tajikistan's independence, those areas were primarily supplied with diesel-based portable generator sets. This approach became prohibitively expensive given the increase in unit costs of diesel-based electricity generation once the generous fuel subsidies provided under the Soviet Union disappeared.

Measures Undertaken by the Government to Address the Power Sector Challenges

12. **The US\$1.5 billion Government Program for Financial Recovery of BT for 2019-2025³ (the Program) aims at improving the financial viability of BT and contribute to electricity supply reliability.** The Program includes policy, financial, and operational measures aimed at improving financial viability of BT and increasing reliability of electricity supply. The Program will be financed from: (a) BT's additional cash flows and cost savings due to implementation of operational and financial efficiency improvements; (b) development financiers' operations.

13. The main measures include: (a) gradual increase of tariffs, to be computed as per recently-approved new tariff methodology, to achieve cost-recovery by 2026; (b) strengthening of the capacity of Anti-Monopoly Committee (AMC) to review the tariff requests to be submitted by power companies; (c) revision of Subsidiary Agreements 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; (d) conversion into equity of BT's fines and penalties for overdue principal repayments and interest on funds received from MOF under Subsidiary Agreements; (e) timely rehabilitation and upgrade of key electricity T&D assets; (f) use of technically, economically, and financially sound principles for investment decision-making in generation, transmission, and distribution; (g) implementation of good-practice corporate governance principles at BT and newly-established companies; and (h) improved operational and financial transparency of BT through disclosure of key operational and financial information.

14. **Construction of Rogun HPP and ongoing projects to rehabilitate the largest state-owned HPPs will improve the reliability of electricity supply.** The 3,600 MW Rogun HPP, when completed and with the reservoir reaching the full supply level, is expected to provide up to 3,000 GWh and 11,400 GWh of winter and summer supply respectively. Therefore, it would play an important role in meeting the domestic electricity demand and supplying electricity for exports. Additionally, BT is currently implementing:

a. **US\$325.7 million Nurek Hydropower Rehabilitation Project, Phase 1.** The project has the following financing structure: US\$225.7 million of IDA grants and credits, US\$60 million from Asian Infrastructure Investment Bank (AIIB), and US\$40 million from Eurasian Development Bank (EaDB).⁴ The Phase 1 supports rehabilitation of three of the nine generating units, the key infrastructural components of the plant, replacement of autotransformers, and enhancement of dam safety.

b. **US\$196 million Qairokkum Hydropower Rehabilitation Project.** The project is **financed by EBRD, European Investment Bank (EIB), Green Climate Fund and Climate Investment Funds.** It supports rehabilitation of generating units, repair of the damaged concrete surfaces, installation of additional safety surveillance equipment, balance of plant and control system and power transformers, together with implementation of improved operational procedures to promote resilience to climatic variability and climate

³ Adopted on April 15, 2019.

⁴ Parallel financing for autotransformers only.



change. The project will also increase the generation capacity from 126 MW to 174 MW and improve the operational efficiency.

c. **US\$136 million Golovnaya Hydropower Plant Rehabilitation Project.** The project is financed by ADB and supports refurbishment of electric and mechanical equipment at the power plant. The project will also increase the generation capacity from 240 MW to 270 MW and improve the operational efficiency.

15. **The ongoing Rural Electrification Program of the Government would provide electricity access to settlements in Khatlon and GBAO region.** Several development partners – Kreditanstalt für Wiederaufbau (KfW), European Union (EU), Swiss State Secretariat for Economic Affairs (SECO), United States Agency for International Development (USAID), and the Bank – have structured their projects and programs to help the Government address the identified challenges. Specifically, a financing envelope of about US\$85.8 million was designed, including US\$31.7 million Bank-financed Rural Electrification Project, to bring electricity supply to 31,460 people in Khatlon region and 11,666 people in GBAO. The electrification program includes support for: (a) connection of target settlements to the distribution networks of BT and PEC; (b) construction of 11 MW Sebzor HPP in GBAO; (c) construction of solar PV, wind, micro hydro, and battery energy storage systems based micro-grids in GBAO; (d) construction of Sebzor HPP – Khorog substation 18 km overhead power transmission lines (OHLs) to connect Sebzor HPP to the network and 60 km 110 kV Khorog-Qozideh OHL to improve reliability of supply to domestic consumers in GBAO and increase electricity exports to Afghanistan

C. Proposed Development Objective

Original PDO

16. The project development objective is to provide electricity access to target settlements in GBAO and Khatlon regions.

Current PDO

17. The project development objectives are to provide electricity access to target settlements in GBAO and Khatlon regions of Tajikistan, and improve electricity supply reliability for grid-connected customers in GBAO.

Key Results

18. The achievement of the PDO will be measured using the following indicators.

- Result Indicator 1 (CRI): People provided with new or improved electricity service (Number).
- Result Indicator 2 (Custom): Average annual daily duration of electricity supply for target settlements in GBAO connected to micro-grids (Hours).
- Result Indicator 3 (Custom): Reduction of annual emergency electricity outages for consumers supplied by Khorog substation connected to Sebzor – Khorog electricity lines (Number).

D. Project Description

19. The updated components of the project, inclusive of AF, are presented hereunder.

20. **Component 1 (Revised): Provision of Electricity Access to Target Settlements and Improvement of Reliability of Electricity Supply in the GBAO Region (US\$35.2 million IDA grant).** This component will have the following sub-components.



21. **Sub-component 1.1 (No change): Construction of micro-grids, and connection of consumers to micro-grids and centralized distribution network of PEC (US\$23.8 million IDA grant).** This sub-component will finance the provision of electricity supply to 61 settlements in GBAO region. The investments will cover: (a) construction of micro-grids comprised of solar PV, small hydro, wind, and battery energy storage systems; (b) electricity distribution infrastructure; and (c) connections and internal wiring for households to alleviate consumer affordability barriers.

22. **Sub-component 1.2 (No change): Project implementation support to PEC, technical assistance for additional geological site investigation works for Sebzor HPP, and promotion of energy efficiency (US\$1.4 million IDA grant).** This will include financing of: (a) Project Management Consultant (PMC) costs to support PEC with procurement of contractors for construction of micro-grids and connection of the target settlements to the distribution grid of PEC and technical supervision of works; (b) geotechnical site investigation works for Sebzor HPP; (c) awareness raising program on EE; (d) technical assistance to PEC for the development of a financing mechanisms to support the local communities to purchase efficient appliances; (e) piloting EE measures in selected public buildings; (f) monitoring and evaluation costs related to efficiency of citizen engagement and addressing gender gaps under the Project; and (g) incremental operating costs of PEC.

23. **Sub-component 1.3 (New): Construction of a selected portion of 110 Kilovolt (kV) Khorog-Qozideh OHL and related consultancy services (US\$10 million IDA grant).** This sub-component will finance: (a) construction of 63 km 110 kV Khorog-Qozideh single circuit OHL⁵ with optical ground wire (OPGW) for communication, which will substitute the unreliable and obsolete 35 kV distribution lines⁶ and be essential for reliable electricity supply and capacity increase for grid-connected consumers in GBAO through the 110/35 kV Qozideh substation; (b) consultancy costs for preparation of bidding documents for procurement of the contractor to design and construct the OHL; and (c) consultancy costs for preparation of biodiversity assessment and management plan for the target OHL. The target OHL will be designed to account for climate vulnerabilities (e.g. large fluctuations of temperature, wind speeds, etc.), and is associated with enabling reliable supply of electricity from clean hydropower – Sebzor HPP – into PEC’s network with geotechnical studies required for construction of Sebzor HPP supported under this Project.

24. **Component 2 (No change): Provision of electricity access to target settlements in Khatlon region (US\$6.5 million IDA grant).** This component will have the following sub-components.

25. **Sub-component 2.1 (No change): Connection of target settlements to the centralized distribution network of BT (US\$6 million IDA grant).** This sub-component will finance connection to the electricity distribution network of 74 settlements, bordering Afghanistan, in the Khatlon region. The investments will cover the cost of distribution infrastructure, including construction of 35/10/0.4 kV distribution lines, installation of additional distribution transformers in existing substations, and connection of households and public facilities.

26. **Sub-component 2.2 (No change): Project implementation support to BT (US\$0.5 million IDA grant).** This sub-component will finance the cost of: (a) PMC to help BT with procurement of contractor for connection of target settlements to its distribution grid and technical supervision of works; and (b) monitoring and evaluation costs related to measuring availability of electricity service, efficiency of citizen engagement and addressing gender gaps under the Project.

⁵ 5 km from Khorog substation to tower No.17 tower has already been constructed. After the completion of this project, the total length of 110 kV Khorog-Qozideh OHL will be 68km.

⁶ From 2015 to 2019, on average, there were 20 emergency shut-downs for 210 hours, and repair related shut-downs for 161 hours on Bizmich – Andarob line and Andarob-Ishkashim line.



Legal Operational Policies

Triggered?

Projects on International Waterways OP 7.50

Yes

Projects in Disputed Areas OP 7.60

No

Summary of Assessment of Environmental and Social Risks and Impacts

27. The environmental and social risks are rated Substantial. On the social front, the project is expected to result in positive impacts due to increasing the number of people with access to power resulting in enhanced employment and livelihood opportunities. However, a variety of risks are evident, most of which are rather contextual and external to the project. But these do will have a bearing on the project as it manifests in risks related to security and safety. Apart from this, involuntary resettlement issues too compounds the situation. On securing lands, the implementation of the RPF and RAPs will need to be monitored closely to ensure full compliance with the standard in the remote areas being targeted by the project. Reaching out to remote and poorer households will depend upon the provision of appropriate technologies and outreach capacity of the client which currently is quite inadequate.

28. The project environmental risk is rated Substantial because of the 63 kilometer OHL and its proximity to the Panj River, a Ramsar site. The limited capacity of Pamir Energy in the understanding and application of Bank's ESF and relevant Standards was also considered.

E. Implementation

Institutional and Implementation Arrangements

29. The implementation arrangements of the parent project will not change. Construction of the proposed new OHL would be carried out by the same implementing entity – PEC – thus enabling to realize economies of scales in implementation costs.

CONTACT POINT

World Bank

Artur Kochnakyan
Senior Energy Specialist

Borrower/Client/Recipient

Ministry of Energy and Water Resources
Usmonali Usmonzoda



Minister
uusmonov@gmail.com

Ministry of Finance
Faiziddin Qahhorzoda
Minister
minister@minfin.tj

Implementing Agencies

Pamir Energy Company
Daler Jumaev
General Director
daler.jumaev@pamirenergy.com

Barqi Tojik
Mirzo Ismoilzoda
Chairman
barki_tojik@tajnet.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>

APPROVAL

Task Team Leader(s):	Artur Kochnakyan
----------------------	------------------

Approved By

Practice Manager/Manager:		
Country Director:	Jan-Peter Olters	21-Dec-2020