



# Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 03-May-2022 | Report No: PIDC33863

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

Country Tajikistan	Project ID P178819	Parent Project ID (if any)	Project Name Technical Assistance for Financing Framework for Rogun Hydropower Project (P178819)
Region EUROPE AND CENTRAL ASIA	Estimated Appraisal Date Jun 22, 2022	Estimated Board Date Jul 05, 2022	Practice Area (Lead) Energy & Extractives
Financing Instrument Investment Project Financing	Borrower(s) Ministry of Finance	Implementing Agency Project Management Group for Energy Facilities Construction	

**Proposed Development Objective(s)**

The development objectives are to improve the readiness of the Rogun Hydropower Project to mobilize financing, improve the dam safety, and strengthen the environmental and social aspects.

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

<b>Total Project Cost</b>	15.00
<b>Total Financing</b>	15.00
<b>of which IBRD/IDA</b>	15.00
<b>Financing Gap</b>	0.00

**DETAILS****World Bank Group Financing**

International Development Association (IDA)	15.00
IDA Grant	15.00

Environmental and Social Risk Classification

Concept Review Decision



High

Track II-The review did authorize the preparation to continue

Other Decision (as needed)

## B. Introduction and Context

### Country Context

- 1. Background and key challenges.** Tajikistan is a land-locked country in southeast Central Asia. It has a population of about 9.5 million and 2021 per capita income (Gross National Income, Atlas method) of about US\$1,100 - slightly above the lower-middle-income threshold. The poverty rate fell from 17.8 percent in 2015 to about 13.9 percent in 2021. Tajikistan's economy relies heavily on primary commodity production and exports, with limited economic diversification. Domestic investment and consumption depend on migrant remittances, which are about a third of Gross Domestic Product (GDP), thus leaving the economy highly vulnerable to external shocks.
- 2. Recent developments.** Real GDP growth rebounded to about 9.2 percent in 2021, after slowing to 4.5 percent in 2020 due to COVID-19. A sharp increase in precious metal exports, recovery in remittance inflows, and a pickup in private investment and consumption supported this rebound. Tajikistan's external position improved considerably from higher export prices for metals and mineral products and remittance inflows. The current account was in surplus of about 1 percent of GDP in 2021, compared to a surplus of 4.1 percent in 2020.
- 3. The National Bank of Tajikistan is undertaking efforts to reduce inflationary pressure.** In response to rising food and fuel price inflation, the National Bank of Tajikistan increased its policy rate four times from 10.75 at end-2020 to 13.25 percent by the end-2021. Nevertheless, average annual inflation rose from 8.6 percent in 2020 to 9 percent in 2021. Amidst lower remittances and a weakening ruble following Russia's invasion of Ukraine, the authorities allowed the somoni to depreciate by 13 percent against the US dollar in March 2022. Financial sector performance improved in 2021 - primarily due to liquidation being initiated for four insolvent banks (including two state-owned banks).
- 4. Economic outlook.** Russia's invasion of Ukraine is expected to lead to a contraction of Tajikistan's economy. The main driver of this contraction is a projected fall in remittances, which is expected to lead to lower private consumption and investment. Other factors, including high prices and disruptions to trade, are also expected to contribute to the contraction. High global food and fuel prices are projected to lead to increase in inflation in 2022. The contraction of economic activity due to the war in Ukraine and a new tax code introduced at the beginning of the year are expected to lower tax revenues in 2022. This, along with an anticipated anti-crisis spending increase, is projected to increase the fiscal deficit to about 3.4 percent in 2022.
- 5. Macroeconomic difficulties impacted construction of Rogun Hydropower Plant (HPP) Project.** The total project cost of Rogun HPP completion, as per current construction schedule, is estimated at US\$4.8 billion.<sup>1</sup> In 2007-2020, the Government spent about US\$3 billion on the project, which was entirely financed by the government budget. However, starting from 2020, the Government has been struggling to finance the construction of the project from the state budget given the macroeconomic impacts of COVID-19 and the economic implications from Russia-Ukraine conflict given significant reliance of Tajikistan on Russian economy.

<sup>1</sup> Updated by the World Bank as part of the Rogun Financing Options Study (November 2021).



## Sectoral and Institutional Context

6. **The power sector is comprised of two state-owned electricity generation companies, two independent power producers (IPPs), electricity transmission and distribution companies, and a concession in Gorno-Badakhshan Autonomous Oblast (GBAO) combining electricity generation and distribution.** Barqi Tojik Open Joint Stock Company (BT) is the state-owned generation company which owns and operates all utility-scale generation plants in the country except for GBAO. Rogun Joint Stock Company (JSC) is responsible for construction and operation of the 3,780 MW Rogun HPP project. Two Independent Power Producers (IPPs) – Sangtuda-1 and Sangtuda-2 HPPs – were commissioned in 2006 and 2011 respectively to help the country address the issue electricity supply shortages. Both IPPs have 20-year Power Purchase Agreements (PPAs) with BT. In June of 2019, the Government established 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. Pamir Energy Company (PEC) generates and supplies electricity to around 245,000 people as well as public and commercial sector consumers in GBAO under a 25-year concession agreement, which expires in 2027.

7. **Electricity supply mix is dominated by hydropower.** The total installed generation capacity of Tajikistan is 6,058 MW and HPPs account for 88 percent. The 3,000 MW Nurek HPP, with a seasonal reservoir and average annual generation of about 11,000 GWh, is the largest operating plant and accounts for about 50 percent of the total annual electricity supply. The 3,780 MW Rogun HPP is the largest project under construction and, once its completed and the reservoir reaches the fully supply level in 2035, its annual average generation is expected to be around 14,400 GWh, which would be about 50 percent of total projected electricity demand.

### Main Challenges in the Electricity Sector

8. **The electricity sector in Tajikistan will continue playing a major role as an important pillar of an export-oriented economy.** It is not only a service essential for social development and economic activity in the country but also an important building block of the Government's objectives to develop an export-oriented economy consistent with the National Development Strategy 2030. In particular, the power sector is well-positioned to further expand exports of clean and affordable electricity to the broader Central Asia region where several countries are substantially dependent on fossil fuels for their electricity generation. Thus, the Government of Tajikistan would need to continue its efforts to address the main challenges facing the 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\$ in 2015-2021. This has led to significant deterioration of financial standing of BT.

10. **Challenge #2: Reduction of electricity supply reliability due to dilapidation of electricity generation, transmission and distribution (T&D) assets.** The financial distress of electricity sector 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: Lack of electricity access for about 43,000 people (0.5 percent of population) in GBAO and Khatlon regions.** In parts of Khatlon, bordering Afghanistan, there are 74 settlements with total population of 31,500 without access to electricity. Those settlements could not be connected to the grid due to severe financial difficulties of BT. There are 61 settlements with 11,600 people in GBAO region without access to electricity. This was due to prohibitively high cost of connection to PEC network because the settlements are small and scattered over large geographical territory.



12. **Challenge #4: Financing completion of the Rogun HPP project.** The Government has increasingly been struggling to finance the project, which has significant financing needs relative to the size of the economy. While the Government has been spending around US\$300-US\$600 million per since 2016, the macro-fiscal implications of COVID-19 and the ongoing conflict between Russia and Ukraine conflict would most likely require the Government to limit the annual capital expenditures on the project at US\$375 million in 2022-2028. This was confirmed by the joint International Monetary Fund (IMF) – World Bank debt sustainability analysis (DSA) from end-2021. There have been no other sources of financing for the project thus far.

### Project Snapshot and Background

13. **The Project is located on the Vakhsh River upstream of the Nurek HPP.** It is a Project with a large reservoir capable of providing seasonal regulation (the details are presented in Annex 1). Therefore, it can supply firm energy during winter months when demand for electricity is the highest and allow for exports of clean and affordable electricity to the Central Asia region and beyond. The project, together with Nurek HPP, could play the role of a balancing plant for Tajikistan and broader Central Asia region to help reliably integrate into network significant new solar PV and wind generation capacity, which are intermittent sources. The generation from the project will also provide a significant source of export revenues for many years to come, as it would allow for exports of clean firm energy both during peak and off-peak hours and facilitate easier integration of intermittent renewable sources (solar photovoltaic and wind) into the electricity networks of all Central Asian countries.

14. **The Government proceeded with construction without the Bank or other development partners' support.** Rogun JSC used the technical specifications developed as part of TEAS and relied on standard terms and conditions of EPC contracts of the International Federation of Engineering Consultants (FIDIC) – the industry standard. Three out of four main Engineering, Procurement, and Construction (EPC) contracts for the Project have already been signed. There is an experienced international consultant (Tractebel-ELC/France-Italy) supporting Rogun JSC with technical supervision of works under some of the contracts as well as management of the interface among the various contractors.

### Estimated Project Completion Cost and Financing Scenarios

15. **At the request of the Government, the Bank prepared the Rogun Financing Options Study (Study), which was completed in November 2021, and which estimated the project completion cost at US\$4.8 billion.**<sup>2</sup> This estimation was derived assuming the current construction schedule that envisages the construction to be completed by 2029 and the reservoir to be filled to fully supply level by 2036.<sup>3</sup> Out of this amount, a total of US\$3.8 billion would be required up to 2025 with annual needs ranging between US\$500 million and US\$1 billion driven by the construction schedule. The current construction schedule requires substantial parts of the civil works, related to the main dam as well as right bank and left bank structures, to be carried out in 2022-2025 and therefore the annual financing requirements are quite large in those years. The annual financing requirement reduces starting from 2026 due to lower remaining volumes of civil works and equipment contracts.

16. **While the Study concluded that the project could provide significant economic and social benefits to Tajikistan and Central Asia, the current construction schedule is not macroeconomically sustainable and therefore the Government will need to prepare an updated schedule considering a realistic macro-fiscal scenario.** The Bank Study prepared a preliminary revised schedule, which assumes an overall 3-year extension of the project completion date to 2032 and the reservoir would be filled to the full supply level by 2039.<sup>4</sup> The timeline would be possible with the following in place: grants

<sup>2</sup> All Project completion cost estimates are as of June 30, 2021 and do not include the costs incurred prior to this date. This number excludes the financing cost.

<sup>3</sup> It should be noted that even after completion of construction, about seven years would be required to fill the reservoir consistent with the water-sharing arrangements in place between the riparians.

<sup>4</sup> Additional water withdrawals from Vakhsh by Tajikistan are expected within the limits of Tajikistan's allocation consistent with the water sharing agreements with riparian countries. However, as these withdrawals would be above and beyond current usage, an assessment to evaluate impacts



and concessional loans from development partners as well as commercial financing once the public debt is sustainable. As agreed between the Government and development partners, more detailed update of the schedule will need to be prepared to ensure it reflects the macro-fiscal of the countries while ensuring the project is not exposed to excessive safety risks.

**17. The projection completion could possibly be financed with sequenced public and private financing, consisting of combination of state budget spending, grants, concessional loans, and commercial debt.** This scenario seeks to coalesce a broad range of resources and stakeholders considering debt sustainability. This scenario would result in a revised construction completion schedule of 2032 to match financing flows with expected revenues (which is an extension of three years from the current schedule), which increases the project construction completion cost from US\$4.8 billion to US\$4.9 billion exclusive of financing costs. The estimated annual concessional borrowing amounts under this scenario would pass the concessionality test with the grant element of 56 percent.<sup>5</sup> Under this scenario, revenues would come from secured PPAs from domestic anchor customers as well as exports, which would represent about 62 percent of the total energy generated in 2022-2040.

#### Current Discussions on Financing of the Project Completion

**18. Development partners expressed their interest in the project during a high-level roundtable organized by the Government on December 7, 2022.** The Government and the Bank team presented the findings from the Study. The outcomes and conclusions were endorsed by the potential financiers including the list of issues that need to be addressed to increase the likelihood of the project to secure financing. There was a general consensus that the project: (a) remains economically viable as an export-oriented project with 62 percent of energy generated by 2040 to be exported; (b) holds significant potential for contributing to decarbonization of power systems of Central Asia countries given the cost-competitiveness of electricity it would generate and significant reliance on gas and coal in those systems; (c) should be completed in a macroeconomically sustainable manner without creating macro-fiscal risks; (d) operated under a sustainable commercial framework; and (e) should ensure that environmental and social performance is consistent with international good practice.

**19. The development partners highlighted the importance of having a coordination mechanism** and a common approach to conduct a joint assessment of the project to understand its technical, environmental and commercial aspects. This would enable an agreement on further steps and actions needed to finalize the required assessments so that each development partner can process its financing package. The Government proposed that the Bank take lead in coordination of the activities aimed at addressing the identified challenges outlined in the Study, and this proposal was supported by the development partners.

#### Relationship to CPF

**20. The proposed Project is fully aligned with World Bank Group's Country Partnership Framework (CPF) for Tajikistan for FY2019-23 (Report No. 135875-TJ).** Specifically, the Project will contribute directly to the achievement of objectives under the following CPF Focus Areas:

- *Focus Area I (Human Capital and Resilience).* Reliable electricity supply is an essential prerequisite for enhanced educational, social and healthcare 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.

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would be needed during update of ESIA, and subsequent discussions with riparian countries may be required to resolve any issues that may arise.

<sup>5</sup> Typically, debt with grant element of at least 35 percent is considered to be concessional.



- *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 Project would also contribute to the expansion of electricity export opportunities.

21. **The Project is also aligned with the World 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. Provision of technical assistance to Rogun project would also contribute to the World Bank's twin goals of reducing the extreme poverty and increasing shared prosperity.

### C. Proposed Development Objective

22. The development objective is to improve the readiness of the Rogun hydropower project to raise a financing package required for completion of construction.

#### Key Results (From PCN)

- **Indicator One (Custom)**: Construction of Rogun HPP Project is continued in a macroeconomically sustainable manner (Yes/No).
- **Indicator Two (Custom)**: Quality standards in design and construction of Rogun HPP Project are robust (Yes/No).
- **Indicator Three (Custom)**: Environmental and social performance of the Rogun HPP Project is compliant with the E&S instruments under the project (Yes/No).
- **Indicator Four (Custom)**: Number of people which benefited from Rogun HPP Project's community benefit sharing program (Number).

### D. Concept Description

23. **Component 1: Development of macroeconomically sustainable financing plan and a commercial framework for Rogun HPP project.** This component will finance: (a) preparation of a macroeconomically sustainable Project construction completion schedule taking into account the existing and projected macro-fiscal framework of the country; (b) prepare a Project financing plan taking into account the updated Project construction completion schedule; (c) transaction advisory service to help the Government draft, negotiate, and sign long-term PPAs for sale of Rogun electricity; and (d) additional technical and engineering studies that may be required to address technical issues that may arise during implementation.

24. **Component 2: Improvement of the dam safety.** This component will finance: (a) the panel of experts (POE) for the dam safety, which will carry out due diligence of existing design and project solutions; provide high level and professional independent advice and guidance to support objectivity and credibility in the development and implementation of designs and in the construction of the project; share technical expertise and knowledge and so contribute to dialogue amongst the various stakeholders; and (b) additional technical and engineering studies that may be required for improvement of technical aspects of the Project.

25. **Component 3: Strengthening of environmental and social (E&S) performance of Rogun HPP Project.** This component will finance the following: (a) update of E&S instruments for Rogun HPP Project to align them with the requirements of the World Bank's Environmental and Social Framework (ESF); assistance to Rogun PMG in developing a Contractor Management Plan that will include the details of how Rogun PMG will supervise the E&S performance of its contractors; recommendations on modification of existing contracts, to include relevant E&S requirements to comply with the applicable E&S standards and requirements; (d) E&S panel of experts; and (e) design of community benefit-sharing program that would contribute to equitable development and sustainable socio-economic growth at the local and national levels.





26. **Component 4: Strengthening of institutional capacity of Rogun PMG and other technical assistance.** This component will finance: (a) strengthening of PMG team to implement the TA Project; (b) capacity building for the Rogun PMG and Rogun JSC staff in dam safety, operation and management of hydro facilities, and project management; (c) Purchase of Information and Communication Technologies and office equipment for the Rogun PMG; (d) TA Project audits; and (e) incremental operating costs of the Rogun PMG.

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	Yes
Projects in Disputed Areas OP 7.60	No
Summary of Screening of Environmental and Social Risks and Impacts	

27. The environmental and social risk ratings are both High making the overall ESF risk rating High as well. ESSs 1, 2, 3, 4, 5, 6, 8, and 10 are considered relevant and will be applied to identify mitigation measures required for the overall Rogun HPP.

28. The TA will update or, where necessary, prepare environmental and social instruments for Rogun HPP Project to align the project with the requirements of the World Bank’s Environmental and Social Framework (ESF). These instruments will include, but not be limited to, the update of the 2014 Environmental and Social Impact Assessment/Environmental and Social Management Plan (ESIA/ESMP); the preparation of Labor Management Procedures; the preparation of a Resettlement Management Framework (RPF); the update of the 2014 Resettlement Action Plan (RAP) and related documents; the preparation of a Biodiversity Management Plan to be included in the ESIA; and the preparation of the Stakeholder Engagement Plan (SEP).

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**APPROVAL**

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