



Tajikistan: Wholesale Metering and Transmission Reinforcement Project

Project Name	Wholesale Metering and Transmission Reinforcement Project	
Project Number	47017-003	
Country	Tajikistan	
Project Status	Active	
Project Type / Modality of Assistance	Grant	
Source of Funding / Amount	Grant 0417-TAJ: Wholesale Metering and Transmission Reinforcement Project	
	concessional ordinary capital resources lending / Asian Development Fund	US\$ 54.00 million
Strategic Agendas	Inclusive economic growth	
Drivers of Change	Governance and capacity development Knowledge solutions	
Sector / Subsector	Energy - Electricity transmission and distribution - Energy efficiency and conservation	
Gender Equity and Mainstreaming	No gender elements	
Description	The proposed project will improve: (i) electricity wholesale metering and billing all over the Republic of Tajikistan; and (ii) electricity supply in Panjakent region through reinforcement of high voltage transmission network. The outcome of the project will be an expanded and metered transmission system. The outputs of the project include: (i) installation of 2,700 wholesale meters and billing system; and (ii) 90 km of new 220kV transmission line interconnecting the Panjakent and Ayni regions. In 2001 the government initiated a three phase (commercialization, separation, privatization) restructuring process of Barki Tojik. The first phase, commercialization, is extensively supported by ADB through Sector Operational Performance Improvement Program (SOP). The program addresses the issues of governance, financial management, control and audit, legal and regulatory frameworks, management systems, organizational structure and technical operations. On 11 June 2013, the government approved the restructuring action plan and new structure of Barki Tojik, with three departments under the same legal entity; generation, transmission, and distribution. Heads of these departments have already been appointed and formation of new structure, based on international practices of modern power utility, is ongoing. Restructuring of Barki Tojik, requires capital investments. The government undertook steps in this direction as well. The turnkey contract for installation of supervisory control and data acquisition system (SCADA) and associated telecommunication system, financed by ADB, is expected to be awarded in the first quarter of 2014. The World Bank and EBRD are financing the installation of the retail (end-user) meters in the two biggest load centers, Dushanbe and Khujand. The remaining gap is the bulk electricity metering from generation, through transmission and up to retail meters. There is a need of installation of wholesale meters and associated billing system, which will enable the management of Barki Tojik to: (i) account all electricity flows and associated costs; (ii) quantify technical and non-technical losses at the wholesale level of the entire grid, and plan actions for their reduction; and (iii) support the restructuring through definition of clear borders between generation, transmission and distribution. At the same time, certain parts the Tajikistan transmission grid of still suffer from disconnection from the Central Asian Power System in November 2009. Prior to the disconnection, the Penjikent region of Tajikistan, with population of 261,000 (39,122 customers), was supplied from two 220 kilovolt (kV) lines from Uzbekistan. From Panjakent electricity was further transmitted to Ayni region with population of 75,000 (2,100 customers). Peak demands of Panjakent and Ayni are 75 MW and 20 MW, respectively. From Panjakent to Ayni electricity was transmitted over 102 kilometers through 110 kV line built in 1965 and with maximum rating of 67 MW. After 2009, these two regions became isolated from the main transmission grid of Tajikistan. Barki Tojik addressed the issue and in 2011 energized new _Sugd-Ayni_ 220 kV line which interconnected Ayni with main transmission grid. From Ayni electricity is currently supplied further to Panjakent using old 110 kV line. However, since the demand in Panjakent is higher than the capacity of the line, households and industry in the region suffer from load shedding even in summer time, which is energy surplus period in Tajikistan. Additional transmission capacity is, urgently needed to satisfy current and future power demand, which is expected to grow to 100 MW in next 3-5 years primarily caused by industrial development.	

Project Rationale and Linkage to Country/Regional Strategy	The total installed generation capacity of Tajikistan is 5,055 megawatts (MW). In 2012 it generated 16.9 terra-watt hours (TWh) of which only 13.2 TWh was billed. The difference is a sum of the power system's own consumption and losses. Total transmission and distribution system losses in Tajikistan, as in any power system, are a combination of technical and non-technical (or commercial losses). Both types of loss are a cost to the state power utility, Barki Tojik, as they reduce the amount of electricity for which payment is received from the customers. Total transmission/distribution system losses in Tajikistan are currently estimated at around 22%, of which transmission system technical losses accounted for 5% in 2012. Distribution system losses are 17% and have remained virtually unchanged since 2006. Barki Tojik does not recognize commercial losses and therefore applies technical losses _norms_ to the amount of energy received into the distribution networks from transmission. These are unreliable figures and probably understated due to absence of proper methodology and relevant metering system. Actions are needed to reduce the losses. Reduction of technical losses requires capital investment. However, the actions needed to reduce non-technical losses, representing a financial loss to the company, are different and require capital investment as well as effective/efficient management of the utility's commercial activities, such as metering, billing, and collections. Reduction of non-technical losses is a priority for the government and number of steps has already been initiated. The financing of the project was requested by the Government of Tajikistan. The proposed project is in line with ADB's country partnership strategy, 2010 _2014. The project is included in the country operations business plan, 2013_2014 for Tajikistan. It will be the seventh project intervention in the power sector of Tajikistan.
Impact	Improved electricity supply to households and industry in Tajikistan

Project Outcome

Description of Outcome	Expanded and metered transmission network
Progress Toward Outcome	Project outcome will be achieved as envisaged. Project progress is satisfactory.
Implementation Progress	
Description of Project Outputs	Rudaki-Ayni transmission line operational Wholesale metering and settlement system functional
Status of Implementation Progress (Outputs, Activities, and Issues)	Lot 1 Wholesale metering and settlement system contract - Huawei-TBEA Consortium: Site preparatory works and hand over is ongoing. _ Lot 2 Rudaki-Ayni transmission line construction contract - TBEA Company Limited: The overall physical progress is 6%. Works are ongoing as scheduled.
Geographical Location	Tajikistan

Safeguard Categories

Environment	B
Involuntary Resettlement	B
Indigenous Peoples	C

Summary of Environmental and Social Aspects

Environmental Aspects	Classified as category B under ADB's Special Safeguards Policy (SPS). The Project will entail permanent and temporary land acquisition, including impacts to crops and trees. The initial environmental examination and environmental management plan (EMP) were prepared by Barki Tojik in accordance with ADB's Safeguard Policy Statement (2009). There are two legally protected areas and one important bird area located in the project area or its proximity. An approximately 1.5 km section of the transmission line passes outside the northern boundary of the Say Vota Botanical Reserve (International Union for Conservation of Nature category 4) conserving juniper. The environmental field survey found that no significant impacts on the reserve are expected. 20 The Rudaki substation and the power line in Panjakent are located in close proximity to the Sarazm Important Bird Area. The mitigation measures proposed in the project design include bird diverters to prevent collision of birds with conductors, and bird spikes that have been effective on other transmission lines in Tajikistan. The Zarafshan Complex Reserve (International Union for Conservation of Nature category 4) is 3 km from the project area and is not impacted by the project. Other anticipated adverse environmental impacts of the project are 19 World Bank. 2005. Energy Loss Reduction Project, 2005_2014. Tajikistan. The International Union for Conservation of Nature is an international organization dedicated to finding pragmatic solutions to our most pressing environment and development challenges related to soil erosion, noise and dust generation during construction, and electromagnetic fields during operation. Adequate mitigation measures were designed and will be implemented through the EMP. The safeguard capacity of the PMU is limited; therefore, the EMP includes training of PMU personnel in environmental management. Public consultations were conducted in the project area from 25 to 28 July 2014. The initial environmental examination and the EMP were disclosed on the ADB website on 16 September 2014.
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Involuntary Resettlement	Classified as category B under ADB's Special Safeguards Policy (SPS). The Project will entail permanent and temporary land acquisition, including impacts to crops and trees. Based on the project's preliminary design, approximately 0.70 hectares of farmland will be permanently acquired, and approximately 20 hectares will be temporarily acquired for various activities such as stringing towers and building access roads. The temporary land acquisition will have an impact on crops and trees. Entitlements for the various impacts, such as permanent land acquisition, crop and tree loss, and allowances for vulnerable and severely affected persons, have already been defined in the draft land acquisition and resettlement plan (LARP), which was disclosed on the ADB website on 16 September 2014. Once the final design is available, a more detailed survey of impacts will be undertaken to determine the extent of actual involuntary resettlement impacts. Public consultation with the potential affected persons and the general public has been undertaken for purposes of the draft LARP. Another round of public consultations will be done during the finalization of the LARP.
Indigenous Peoples	The project is classified as category C for indigenous peoples safeguards. The project will not impact indigenous people or any similar groups during construction and operation.

Stakeholder Communication, Participation, and Consultation

During Project Design	Stakeholder consultation will be carried out.
During Project Implementation	Stakeholder consultation will be carried out if necessary.

Responsible Staff

Responsible ADB Officer	Chansavat, Bouadokpheng
Responsible ADB Department	Central and West Asia Department
Responsible ADB Division	Tajikistan Resident Mission
Executing Agencies	<i>Barki Tajik 64 Somoni Street Dushanbe 734026 Tajikistan Barki Tojik Joint Stock Holding Company Mr. Ismoilzoda Mirzo Ibrohim, Chairman barki_tojik@tajn.t._m 734026, Dushanbe I. Somoni Str., 64</i>

Timetable

Concept Clearance	10 Dec 2013
Fact Finding	01 Sep 2014 to 17 Sep 2014
MRM	08 Oct 2014
Approval	02 Dec 2014
Last Review Mission	-
Last PDS Update	15 Mar 2017

Grant 0417-TAJ

Milestones					
Approval	Signing Date	Effectivity Date	Closing		
			Original	Revised	Actual
02 Dec 2014	27 Jan 2015	24 Apr 2015	31 Mar 2020	-	-

Financing Plan		Grant Utilization			
	Total (Amount in US\$ million)	Date	ADB	Others	Net Percentage
Project Cost	67.00	Cumulative Contract Awards			
ADB	54.00	02 Dec 2014	37.84	0.00	70%
Counterpart	13.00	Cumulative Disbursements			
Cofinancing	0.00	02 Dec 2014	12.46	0.00	23%

Project Page	https://www.adb.org/projects/47017-003/main
Request for Information	http://www.adb.org/forms/request-information-form?subject=47017-003
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