



Armenia: Power Transmission Rehabilitation Project

Project Name	Power Transmission Rehabilitation Project
Project Number	46416-002
Country	Armenia
Project Status	Active
Project Type / Modality of Assistance	Loan
Source of Funding / Amount	Loan 3150-ARM: Power Transmission Rehabilitation Project concessional ordinary capital resources lending / Asian Development Fund US\$ 37.00 million
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth
Drivers of Change	Governance and capacity development Partnerships
Sector / Subsector	Energy - Electricity transmission and distribution - Energy efficiency and conservation
Gender Equity and Mainstreaming	No gender elements
Description	<p>The project will upgrade the national power system operation's reliability and efficiency, and enhance transmission capacity. The project will include three main components: (i) expansion of supervisory control and data acquisition (SCADA) system; (ii) rehabilitation of four existing 220/110-kilovolt (kV) substation; and (iii) support for institutional development, capacity building, and project management. The project will help increase the electricity supply to urban and rural consumers to support inclusive and sustainable economic development.</p>
Project Rationale and Linkage to Country/Regional Strategy	<p>Armenia has no proven oil or natural gas reserves and imports most of its fossil fuel resources from Russia (through Georgia) and has begun importing gas from Iran. Imports account for about 77% of total primary energy supply and natural gas imports from Russia account for 81% of total energy imports. Strengthening energy security and improving energy efficiency are the country's top priorities. Development of indigenous energy resources and rehabilitation of old and inefficient generation, transmission, and distribution infrastructure are critical to the country's energy security. The core problem in Armenia's energy sector focuses on the low efficiency of energy resources utilization. This has been evidenced by very limited utilization of substantial renewable energy resources, low efficiency of thermal and hydro power plants, relatively large electricity transmission and generation losses, and incomplete realization of the electricity export potential.</p> <p>Much of the sector's infrastructure was built during the Soviet-era and has deteriorated significantly because of the lack of sufficient funding for rehabilitation and maintenance. Roughly 70% of the installed equipment at power generation plants has been in operation for more than 30 years, and 50% for more than 40 years. The average age of power transmission assets including substations is 45 years and, distribution assets 32 years. Much of the existing transmission infrastructure has reached the end of its useful life and requires major rehabilitation or replacement to continue reliable operation. Nearly 90% of 220-kV overhead lines require rehabilitation, and about 42% of low-voltage substations are in deficient technical condition. ADB's Interim Operational Strategy for Armenia, which was approved in 2006, identified the energy sector as one of the priority sectors for ADB's intervention. The Country Partnership Strategy for Armenia is currently under preparation, and is expected to be finalized in 2014. ADB will continue assisting Armenia in improving the utilization of energy resources. The key areas of ADB's operations in the energy sector have been selected on the basis of the government's priorities in the sector, are aligned with ADB's Strategy 2020 and Energy Policy 2009, and include (i) rehabilitation of large hydropower generating assets, (ii) rehabilitation of aging transmission and distribution assets, (iii) improvement of cross-border interconnection of power systems, (iv) development of renewable energy, and (v) policy and institutional development. The project is included in ADB's country operations business plan for 2014 to 2016.</p> <p>The expected impact will be improved reliability and efficient power supply in Armenia.</p>
Impact	Improved reliability and efficient power supply in Armenia

Project Outcome

Description of Outcome	Increased operating efficiency of domestic transmission network
Progress Toward Outcome	The Project, amounting to \$37 million, was approved by ADB on 31 July 2014 and signed on 5 September 2014. The Project became effective on 12 February 2015. Project supervision and management consultant (PSMC) for EPSO and HVEN are engaged to assist in project implementation. EPC contract for the substation rehabilitation is ongoing with contract awarded in May 2016 while procurement of EPC contract for SCADA/EMS installation is ongoing with contract award expected by Q1 2017. As of 27 March 2017, total contract award is at \$16.906 million (or 52% of total project amount) while total disbursement is at \$3.75 million (or 11% of total project amount).

Implementation Progress

Description of Project Outputs	Expansion of SCADA system and EMS fully implemented. Rehabilitation of two 220 kV substations at Agarak 2 and Shinuhayr Institutional development, capacity building, and project management successfully completed
Status of Implementation Progress (Outputs, Activities, and Issues)	EPC contract for substation rehabilitation was awarded in May 2016. Design is being finalized for HVEN clearance. Contractors are expected to commence activities on site, including environmental and social safeguards compliance. EPSO and HVEN staff are actively involved on procurement- and safeguards-related activities. Capacity development plan is yet to be prepared. PSMC for EPSO and HVEN are engaged to assist in project implementation. SCADA/EMS procurement is ongoing with contract award expected by Q2 2017.
Geographical Location	Yerevan

Safeguard Categories

Environment	B
Involuntary Resettlement	C
Indigenous Peoples	C

Summary of Environmental and Social Aspects

Environmental Aspects	The Initial Environmental Examination study revealed that only some low negative impacts occur (after having implemented the mitigation measures) mainly during the construction phase. During the operational phase, the positive impacts are obvious and consist in a much more reliable power supply in Armenia. The Initial Environmental Examination has been disclosed.
Involuntary Resettlement	There is no Involuntary Resettlement.
Indigenous Peoples	No Indigenous Peoples will be affected.

Stakeholder Communication, Participation, and Consultation

During Project Design	Public consultation was carried out in conjunction with the preparation of the Initial Environmental Examination.
During Project Implementation	Stakeholder consultation, together with donor partner coordination, will be conducted to ensure efficiency and effectiveness in project implementation.

Business Opportunities

Consulting Services	EPSO and HVEN each engages a project supervision and management consulting firm. The two firms are providing technical, financial, and administrative support to the PIUs during project implementation. Consultant recruitment followed ADB's Guidelines on the Use of Consultants (2013, as amended from time to time) and the procurement plan developed for the project. Quality- and cost-based selection with a quality- cost ratio of 90:10 was applied considering the complexity of the assignment and the application of modern technologies.
Procurement	Procurement of goods and works from ADB loan proceeds are undertaken following ADBs Procurement Guidelines (2013, as amended from time to time) and a procurement plan developed for the project. The procurement applied international competitive bidding procedures using standard bidding documents for plants (single-stage, single envelope). Bidding process for substation rehabilitation has been concluded with contract awarded in May 2016 while that of SCADA system expansion is ongoing with contract award expected by Q2 2017.

Responsible Staff

Responsible ADB Officer	Luo, Tianhua
Responsible ADB Department	Central and West Asia Department

Responsible ADB Division	Energy Division, CWRD
Executing Agencies	Ministry of Energy and Natural Resources of the Republic of Armenia MINENERGY@MINENERGY.AM Government Building 2, Republic Square 375010 Yerevan, Republic of Armenia

Timetable

Concept Clearance	22 Oct 2012
Fact Finding	10 Feb 2014 to 21 Feb 2014
MRM	21 May 2014
Approval	31 Jul 2014
Last Review Mission	-
Last PDS Update	31 Mar 2017

Loan 3150-ARM

Milestones					
Approval	Signing Date	Effectivity Date	Closing		
			Original	Revised	Actual
31 Jul 2014	05 Sep 2014	12 Feb 2015	30 Jun 2020	-	-

Financing Plan		Loan Utilization			
	Total (Amount in US\$ million)	Date	ADB	Others	Net Percentage
Project Cost	50.00	Cumulative Contract Awards			
ADB	37.00	31 Jul 2014	16.91	0.00	51%
Counterpart	13.00	Cumulative Disbursements			
Cofinancing	0.00	31 Jul 2014	3.97	0.00	12%

Project Page	https://www.adb.org/projects/46416-002/main
Request for Information	http://www.adb.org/forms/request-information-form?subject=46416-002
Date Generated	06 July 2017

ADB provides the information contained in this project data sheet (PDS) solely as a resource for its users without any form of assurance. Whilst ADB tries to provide high quality content, the information are provided "as is" without warranty of any kind, either express or implied, including without limitation warranties of merchantability, fitness for a particular purpose, and non-infringement. ADB specifically does not make any warranties or representations as to the accuracy or completeness of any such information.