



## Regional: Regional Cooperation on Increasing Cross-Border Energy Trading within the Central Asian Power System

Project Name	Regional Cooperation on Increasing Cross-Border Energy Trading within the Central Asian Power System	
Project Number	52112-001	
Country	RegionalAfghanistanKazakhstanKyrgyz RepublicTajikistanUzbekistan	
Project Status	Active	
Project Type / Modality of Assistance	Technical Assistance	
Source of Funding / Amount	<b>TA: Regional Cooperation on Increasing Cross Border Energy Trading within Central Asian Power System</b>	
	Technical Assistance Special Fund	US\$ 1.50 million
	High Level Technology Fund	US\$ 1.00 million
	Regional Cooperation and Integration Fund	US\$ 1.00 million
	Asian Clean Energy Fund under the Clean Energy Financing Partnership Facility	US\$ 1.00 million
Strategic Agendas	Environmentally sustainable growth Inclusive economic growth Regional integration	
Drivers of Change	Governance and capacity development Knowledge solutions Partnerships	
Sector / Subsector	<b>Energy</b> - Electricity transmission and distribution - Energy sector development and institutional reform	
Gender Equity and Mainstreaming	Some gender elements	
Description	<p>The regional knowledge and support technical assistance (TA) cluster will support an increase in regional power trade among Afghanistan, Kazakhstan, the Kyrgyz Republic, Tajikistan, Uzbekistan, and Turkmenistan by (i) modernizing the coordinating dispatch center (CDC) Energiya, which coordinates power flow between the national electricity grids of the Central Asian power system (CAPS), to enhance its technical capacity; (ii) identifying the technical obstacles to power trade for CAPS, and proposing and coordinating solutions to overcome them for each country; and (iii) supporting the expansion of CAPS membership and seeking new markets.</p> <p>2. In March 2018, countries at the Energy Sector Coordinating Committee meeting under the Central Asia Regional Economic Cooperation (CAREC) program agreed to request TA from the Asian Development Bank (ADB) to bridge the gap between energy supply and demand by facilitating cross-border trading. The TA is fully aligned with the CAREC 2030 strategy for (i) promoting energy trade and further integrating energy markets in the CAREC region and (ii) connecting Afghanistan with CAPS. The TA also directly supports the CAREC Energy Work Plan, 2016 2020, especially element 2 on promoting regional electricity trade and harmonization. However, it is not included in any of ADB's country operations business plans.</p> <p>The cluster will include three subprojects that will aim to support the increase in power trade within CAPS by (i) introducing an energy data management (EDM) system to CDC to enable a safe increase of energy flow within CAPS; (ii) identifying and offering solutions to any technical bottlenecks to regional power trade that may occur in any of the CAPS countries; and (iii) facilitating power trade within CAPS, expanding CAPS membership, and exploring additional potential energy markets to increase potential for power trade.</p> <p>The TA cluster modality is appropriate as each subproject has individually identifiable outputs that contribute to a single outcome. Since the subprojects are strategically linked with the common overall objective, the TA cluster modality will allow them to be flexibly designed and implemented, leading to better sequencing of TA activities than with a stand-alone TA. The cluster TA modality also allows ADB to sequentially commit funds based on the actual progress.</p>	

Project Rationale and Linkage to Country/Regional Strategy

Diminished power trade in the region. Power trade among Central Asian countries has been declining since the collapse of the Soviet Union in 1991. In 1990, 25,413 million kilowatt-hours (kWh) were traded among Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan. By 2010, the energy trade had decreased to 2,256 million kWh following the disconnection of Tajikistan from CAPS in 2009; it bottomed out in 2016 at 2,080 million kWh.

4. Technical constraints on capacity to trade power. During the time of the Soviet Union, the Central Asian energy flow between the electricity grids of southern Kazakhstan, the Kyrgyz Republic, Tajikistan, Turkmenistan, and Uzbekistan was regulated by the United Dispatch Administration of Central Asia (based in Tashkent, Uzbekistan), subordinated to the central dispatch and planning institution in Moscow. Following the collapse of the Soviet Union, United Dispatch Administration became nongovernment organization in 1993 and was renamed to CDC. The governance was assigned to the Central Asia United Power System Council (CAUPS), comprising the heads of the national power systems. The council was responsible for the administration and coordination of the parallel operations of CAPS. In 2004, Kazakhstan, Tajikistan, the Kyrgyz Republic, and Uzbekistan concluded an intergovernmental agreement on the coordination of electricity grids of Central Asia. CDC was given the status of international organization working under the guidance of the CAUPS. Turkmenistan withdrew from CAPS in 2003 and switched to parallel operations with Iran. The signatories provide the financing for CDC.

5. Unlike the national dispatch centers in the Kazakhstan, Kyrgyz Republic, and Tajikistan, no significant technological modernizations were made at CDC since it was established in the 1960s and conversion to a non-governmental organization. CDC relies on outdated technologies to perform its functions, including (i) coordination of the operations of power systems and energy entities within CAPS, (ii) determination of the conditions for the parallel operation of CAPS, (iii) coordination of operation personnel's actions during intersystem emergencies and elimination of intersystem accidents, (iv) coordination of relay protection and automation of circuits and settings, (v) coordination of operation of dispatch data acquisition and transmission systems, and (vi) control over measurements and metering of international power flows within CAPS.

6. CDC's technological limitations, which constrain regional power trade, include the following: (i) power flows within CAPS are forecast 6 months in advance using historical data and cannot be adjusted using real-time figures; accordingly, power flow planning is not optimized because of unnecessarily high safety factors; (ii) in the event of an accident on the grid, the site of the fault can take a day or longer to locate; (iii) the settlement of power flows between countries is unnecessarily long as the actual metered flows and reported flows do not match up because of the quality of CDC's telemetry; and (iv) newly constructed assets cannot be monitored without taking out something else; thus, CDC does not have a full picture of all important sites at once.

Impact CAREC 2030 Program Results Framework. Countries' emissions reductions target achieved, regional cooperation framework accomplished and energy security in selected CAREC countries enhanced

**Project Outcome**

Description of Outcome Cross-border clean energy trade increased using high-level technology by CDC Energiya

Progress Toward Outcome

**Implementation Progress**

Description of Project Outputs CDC Energiya modernized, capacitated, and engendered Solutions to the bottlenecks to regional power trade provided Membership in CAPS expanded

Status of Implementation Progress (Outputs, Activities, and Issues)

Geographical Location Regional

**Summary of Environmental and Social Aspects**

Environmental Aspects

Involuntary Resettlement

Indigenous Peoples

**Stakeholder Communication, Participation, and Consultation**

During Project Design

During Project Implementation

Responsible ADB Officer Chansavat, Bouadokpheng

Responsible ADB Department Central and West Asia Department

Responsible ADB Division Energy Division, CWRD

Executing Agencies

Asian Development Bank  
6 ADB Avenue,  
Mandaluyong City 1550, Philippines

---

**Timetable**

Concept Clearance	-
Fact Finding	-
MRM	-
Approval	26 Nov 2018
Last Review Mission	-
Last PDS Update	28 Nov 2018

---

Project Page	<a href="https://www.adb.org/projects/52112-001/main">https://www.adb.org/projects/52112-001/main</a>
Request for Information	<a href="http://www.adb.org/forms/request-information-form?subject=52112-001">http://www.adb.org/forms/request-information-form?subject=52112-001</a>
Date Generated	05 December 2018

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.