

Public Disclosure Authorized

Public Disclosure Authorized

Public Disclosure Authorized

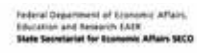
Public Disclosure Authorized

# CENTRAL ASIA WATER AND ENERGY PROGRAM

# Annual Report 2018



**CAWEP**  
CENTRAL ASIA WATER & ENERGY PROGRAM





**CENTRAL ASIA WATER  
AND ENERGY PROGRAM**

# Annual Report 2018

© 2019 The World Bank  
1818 H Street NW, Washington, DC 20433  
Telephone: +1 (202) 473-1000  
Internet: [www.worldbank.org](http://www.worldbank.org)

### **The 2018 CAWEP Team**

Christina Leb, CAWEP Program Manager  
Azad Abdulhamid, Water Security Pillar Leader  
Husam Mohamed Beides, Energy Security Pillar Leader  
Gayane Minasyan, Water-Energy Linkages Pillar Leader  
Togzhan Alibekova, Field-based Program Liaison  
Mariya Pak, Communications

### **ACKNOWLEDGMENTS**

CAWEP (formerly known as CAEWDP) is a regional knowledge and technical assistance partnership administered by the World Bank and funded by the European Union, Switzerland and the United Kingdom.

The report benefited from inputs from the teams in the Sustainable Development and Infrastructure Global Practice Groups. Led by Christina Leb who provided oversight and guidance, the CAWEP team drafted, coordinated production of the report and provided technical review. Editorial review was provided by Meriem Gray, Senior Communications Officer for the Water Global Practice, and the Europe and Central Asia External Communications team. Valuable comments were provided by David Michaud, Sascha Djumena and Sameer Shukla.

### **DISCLAIMER**

This work is a product of The World Bank with external contributions. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of The World Bank, its Board of Executive Directors or the governments they represent.

The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

### **RIGHTS AND PERMISSIONS**

The material in this work is subject to copyright. Because The World Bank encourages dissemination of its knowledge, this work may be reproduced, in whole or in part, for noncommercial purposes as long as full attribution to this work is given.

Any queries on rights and licenses, including subsidiary rights, should be addressed to the Office of the Publisher, The World Bank, 1818 H Street NW, Washington, DC 20433, USA; fax: +1 (202) 522-2422; email: [pubrights@worldbank.org](mailto:pubrights@worldbank.org).

### **PHOTO INFORMATION**

Unless otherwise noted, all photos are © World Bank  
Cover photos: © Mirzobek Ibragimov, Togzhan Alibekova, Dan Ava  
Report design: Studio Grafik, LLC

<b>EXECUTIVE SUMMARY</b> .....	1
<b>About the Program</b> .....	2
<b>Regional Context</b> .....	3
<b>Program Highlights for 2018</b> .....	4
<b>Program Administration and Disbursements</b> .....	5
<b>CHAPTER 1. REGIONAL AND COUNTRY CONTEXT</b> .....	6
<b>CHAPTER 2. PORTFOLIO AND PROGRAM ACTIVITY SUMMARY</b> .....	8
<b>CAWEP Objective and Approach</b> .....	9
<b>Program Progress in 2018</b> .....	9
<b>Summary of Activities 2018</b> .....	12
<b>CHAPTER 3. TRUST FUND MANAGEMENT AND FINANCIAL OVERVIEW</b> .....	16
<b>Program Administration</b> .....	17
<b>Partner Engagement</b> .....	17
<b>Communication, Donor Outreach and Donor Engagement</b> .....	18
<b>Financial Overview</b> .....	18
<b>Looking Forward</b> .....	19
<b>ANNEX 1. PROGRAM ACTIVITY DETAILS</b> .....	20
<b>Water Security Pillar</b> .....	20
<b>Energy Security Pillar</b> .....	22
<b>Water-Energy Linkages Pillar</b> .....	25
<b>ANNEX 2. RESULTS FRAMEWORK</b> .....	28

## ACRONYMS AND ABBREVIATIONS

ADB	Asian Development Bank
AFG	Afghanistan
ASBP-4	The fourth Aral Sea Basin Program
CA	Central Asia
CAEWDP	Central Asia Energy-Water Development Program
CAKN	Central Asia Knowledge Network
CASA-1000	Central Asia-South Asia power project
CAWEP	Central Asia Water and Energy Program
CAREC	Central Asia Regional Economic Cooperation
CAREC <sup>env</sup>	Regional Environmental Center for Central Asia
CAREM	Central Asia Regional Electricity Market
CDC Energia	Coordinating Dispatch Center Energia
DABS	Da Afghanistan Bresha Sherkat
DFID	United Kingdom Department for International Development
EC-IFAS	Executive Committee of the International Fund for Saving the Aral Sea
ESCC	Energy Sector Coordinating Committee
EU	European Union
GIZ	German Society for International Cooperation
HPP	Hydropower plant
IFAS	International Fund for Saving the Aral Sea
IWRM	Integrated water resource management
KZ	Kazakhstan
KG	Kyrgyz Republic
NDC	National Dispatch Center
PACT	Program for Asia Connectivity and Trade
SECO	State Secretariat for Economic Affairs of Switzerland
SDC	Swiss Agency for Development and Cooperation
TJ	Tajikistan
TM	Turkmenistan
TTL	Task Team Leader
TUTAP	Turkmenistan-Uzbekistan-Tajikistan-Afghanistan-Pakistan power interconnection project financed by ADB
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNRCCA	United Nations Regional Centre for Preventive Diplomacy for Central Asia
USAID	United States Agency for International Development
UZ	Uzbekistan
WSS	Water supply and sanitation

# EXECUTIVE SUMMARY

This Annual Report describes activities and management of the Central Asia Water and Energy Program for the period of January 1–December 31, 2018. It is the first Annual Report for the third phase (2018–2022) of the program.

## About the Program

The Central Asia Energy-Water Development Program (CAEWDP), initiated in 2009 and renamed to the Central Asia Water and Energy Program (CAWEP)<sup>1</sup> in 2019, is implemented by the World Bank through a multi-donor trust fund. The third phase of the program commenced with a US\$3.5 million contribution of the Swiss State Secretariat for Economic Affairs (SECO) as a single financing partner. The UK Department for International Affairs (DFID) re-joined the program in August 2018 through the Program for Asia Connectivity and Trade (PACT) contributing US\$1 million to finance energy activities in Afghanistan, Kyrgyz Republic, Tajikistan and Uzbekistan. The European Union became the third financing partner of the program in 2019 contributing €7 million to the activities in Central Asian countries.

The program design for the third phase has been influenced by the lessons learned from the prior phases. The program development objective has been adjusted to place greater emphasis on water security rather than just water productivity, to emphasize both the regional and national levels with respect to enabling environment strengthening. The program development objective for Phase III is therefore *to strengthen the enabling environment to promote water and energy security at regional level and in the beneficiary countries*, herewith aligning with the Bank's regional engagement framework that aims at strengthening connectivity and increasing the economic value of water and energy resources in the region.

The pillar structure and content are adjusted with an increased focus on facilitating water and energy security as the guiding principles of the entire program. National activities will provide important building blocks for achieving water and energy security at the regional level. An increased emphasis is placed on capacity building for, and within, institutions and on dialogue to catalyze investments, and Afghanistan is now formally included as a beneficiary country.

The long-term vision of the program is to promote sustainable development and livelihood security within the region. The program finances initiatives that support improvements in water and energy management and development, strengthen national and regional institutions and facilitate regional dialogue with a view to promoting water and energy security and helping to realize the benefits of regional cooperation to advance sustainable development and climate resilience.

By the end of December 2022, the program aims to have contributed to the following:

- Improved policy frameworks that promote achievement of water and energy security adopted at national level;
- Promotion of a regional framework supporting water and/or energy security informed by the program;
- Strengthened capacity in regional and national institutions responsible for water and/or energy resources management in beneficiary countries; and
- Leveraged/informed US\$2.5 billion (US\$0.8 billion for the third phase) of investments<sup>2</sup> contributing to water and energy security at regional level and in beneficiary countries, including regional power trade.

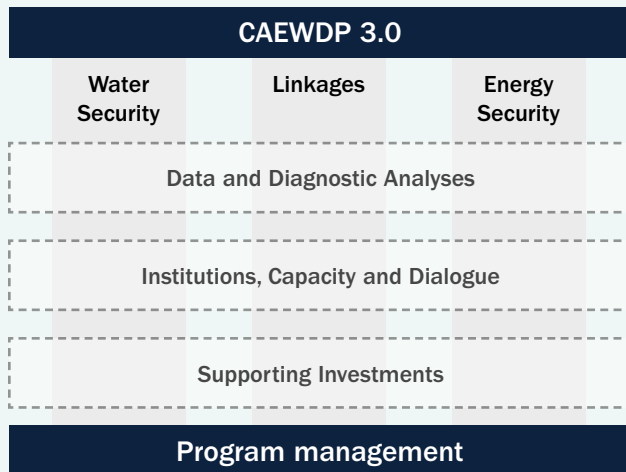
Structured along three pillars: (1) Water Security; (2) Energy Security; and (3) Water-Energy Linkages, the program pursues three components since its inception: (a) data and diagnostic analyses; (b) institutions, capacity and dialogue; and (c) supporting investments. The objective of the Water Security Pillar is to promote sustainable and efficient use of shared water resources and national integrated water resources management (IWRM) through capacity building, institutional strengthening and investment planning to achieve water security at the national, bi/multi-lateral and regional level. The Energy Security Pillar aims to improve the security and economic efficiencies of energy supply at national, bi/multi-lateral and regional level. The Water-Energy Linkages Pillar supports activities related to the water-energy nexus at the national, bi/multi-lateral and regional level, climate-change related activities linking two or more countries as well as regional and cross-border dialogue processes.

1 As per the decision of the Program Advisory Committee in March 2019 the program name changed from formerly Central Asia Energy-Water Development Program (CAEWDP) to Central Asia Water and Energy Program (CAWEP).

2 World Bank investments. Investments of other development partners are not considered for this indicator.



➤ FIGURE 1. CAWEP PILLAR AND COMPONENT STRUCTURE



## Regional Context

In Central Asia, water and energy systems are inextricably intertwined, yet insufficiently coordinated. This dichotomy poses water-energy nexus challenges in the region. Multiple transboundary rivers, including the Amu Darya and Syr Darya of the Aral Sea basin, connect the territories of the Central Asian republics and Afghanistan.

The Central Asian republics inherited complex irrigation systems which span the post-Soviet borders as well as an intricate energy-for-water trading scheme which supplied electricity generated from the downstream fossil energy riches to the upstream countries during the cold winter season, so that the latter would store and release water for summer-irrigation needs in their reservoirs. The new national borders continue to pose significant challenges to optimize asset operation. Most of the vast infrastructure assets require rehabilitation; the systems need to be modernized to increase water productivity and energy efficiency, and the collapsed Central Asian power system needs to be re-established to support intra- and inter-regional trade.

Achieving sustainable growth in Central Asia will depend to a great extent on how effectively countries will manage their natural resources, especially considering population growth projections of an additional 30 percent by 2050. Central Asia is heavily dependent on agriculture, yet its level of water productivity is one of the lowest in the Europe and Central Asia region. More efficient use of water

could significantly contribute to increased agricultural productivity, but also, renewable energy production and overall improvement of environmental assets.

Recently, a new window of opportunity has opened for engagement in regional water dialogue among development partners and countries. In March 2018, the presidents of Kazakhstan, Kyrgyz Republic, Tajikistan and Uzbekistan, and a high-level representative of Turkmenistan, had their first leaders' summit in nearly a decade. The agreement between Uzbekistan and the Kyrgyz Republic to develop hydropower on the Naryn river as well as the Uzbek President's backing of the Rogun Dam and hydropower project in Tajikistan are signs of a renewed political will for bilateral and multi-lateral engagement in the previously much disputed water and energy security agenda.

While national development shows some promising signs of reform and relations between countries are getting better and the overall climate for cross-border dialogue is improving, countries are still far away from a shared vision on how to achieve regional water and energy security. Capacity of regional institutions that are mandated on paper to deal with these issues remains very low and the institutional framework continues to be undermined by lack of trust. Despite being the only well-established regional institution with the objective to facilitate cooperation towards sustainable environment, social and economic development, the International Fund for Saving the Aral Sea (IFAS) has been unable to fulfill the interest of all member countries and risks becoming obsolete. There is a common understanding by Central Asian countries of the need for reforming the regional institutional framework; however, the countries are still cautious in changing the status quo and propose divergent approaches to solving common issues based on their respective national interests.

Under the third phase, CAWEP is exploring avenues for supporting Central Asian future economic development in areas that are of interest for all beneficiary countries (such as climate change, renewable energy, integrated water management, strengthening the capacity of national institutions in water and energy management) while promoting multi-country discussions and knowledge exchange at different levels, including youth, technical-level experts, academia and decision-makers. CAWEP's work in this direction is closely linked to the Bank's overall engagement in the region and is well aligned with the Bank's strategic vision for the water and energy sectors.

Investment opportunities leveraged by the Bank and CAWEP are critical in the evolving climate and inherent challenges in the region. Capitalizing on the Bank's ongoing policy dialogue and position as a trusted neutral development partner for national governments, CAWEP explores new opportunities for cross-border dialogue and impactful activities that could reinforce country efforts towards achieving water and energy security. In turn, analytical work and investment support under CAWEP helps the Central Asian countries prioritize needs and investment decisions. The Bank's role and experience as a facilitator helps CAWEP strengthen its coordinating role among development partners on water and energy issues.

## Program Highlights for 2018

In 2018, the CAWEP Advisory Committee endorsed the Work Plan of sixteen activities: three activities under the Water Security Pillar, seven activities under the Energy Security Pillar, four activities under the Linkages Pillar, and two activities to support overall program management and communications. In the third phase, the program is building on the experience from the previous phases and is increasing the emphasis on national activities as building blocks for regional security. At the same time, regional dialogue processes at technical and policy-making level and capacity building continue to play an important role in promoting regional cooperation and consultations among the countries.

The program focused on the following areas in 2018:

- Under the Water Security Pillar, the program continues to support national processes for modernization of the water sector, in particular, relating to introducing and implementing IWRM as part of the ongoing water reform in Tajikistan and the sub-basin development in the Vakhsh Basin, a main tributary to the Amu Darya River. CAWEP also contributes to the regional *Study for Modernization of Irrigation in Central Asia*, which analyzes the current status of the irrigation sector in Central Asia towards formulation of recommendations for enhanced sector performance. Going forward, engagement under the Water Security Pillar is expected to expand to support regional initiatives in non-controversial areas such as agricultural and irrigation modernization, disaster risk management, climate resilience, and others.
- A major part of the CAWEP work program realization for 2018 focused on the Energy Security Pillar activities. The program supported, among others, the diversification to renewable energy in Uzbekistan through the activity *Uzbekistan Small and Medium Hydropower Development Program*, assessment of hydropower development in the Kyrgyz Republic through the *Integrated Hydropower Development in the Naryn River Basin* activity, and broader measures to strengthen financial standing and institutional capacity in Tajikistan through the *Energy Sector Strengthening* activity.
- Capacity building and regional cooperation remains an integral part of the program. For example, under the Energy Security Pillar, the program is strengthening the capacity of the regional dispatch center, Coordinating Dispatch Center (CDC) Energia, and national dispatch centers of six beneficiary countries through knowledge exchange and is also laying a foundation for further professional development of technical dispatcher staff on power system planning and operations. Regional knowledge and professional capacity in the areas of water resources management, energy and climate change in the Central Asia region is supported by the Central Asia Knowledge Network (CAKN).
- Regional and development partner dialogue is promoted through the *Facilitation of Regional Dialogue and Development Partnerships on Water & Energy Security in Central Asia* activity. In the energy sector, the program continues its engagement in the *Energy Sector Coordination Committee* of the Central Asia Regional Economic Cooperation Program (CAREC) and facilitation of regional development partner dialogue to coordinate development finance support to the region. Further opportunities for regional integration and trade with neighboring countries are explored through the *Central Asia Regional Electricity Trade and Market Development* activity.
- Strong interest from Afghanistan to connect more closely with its Central Asian neighbors is supported through the *Analysis of Synchronized Operation of Afghanistan and Central Asia Power Systems and Strengthening Capacity in Afghanistan for Greater Collaboration with Tajikistan on Hydromet, Flood Risk Management and Early Warning Services* activities.

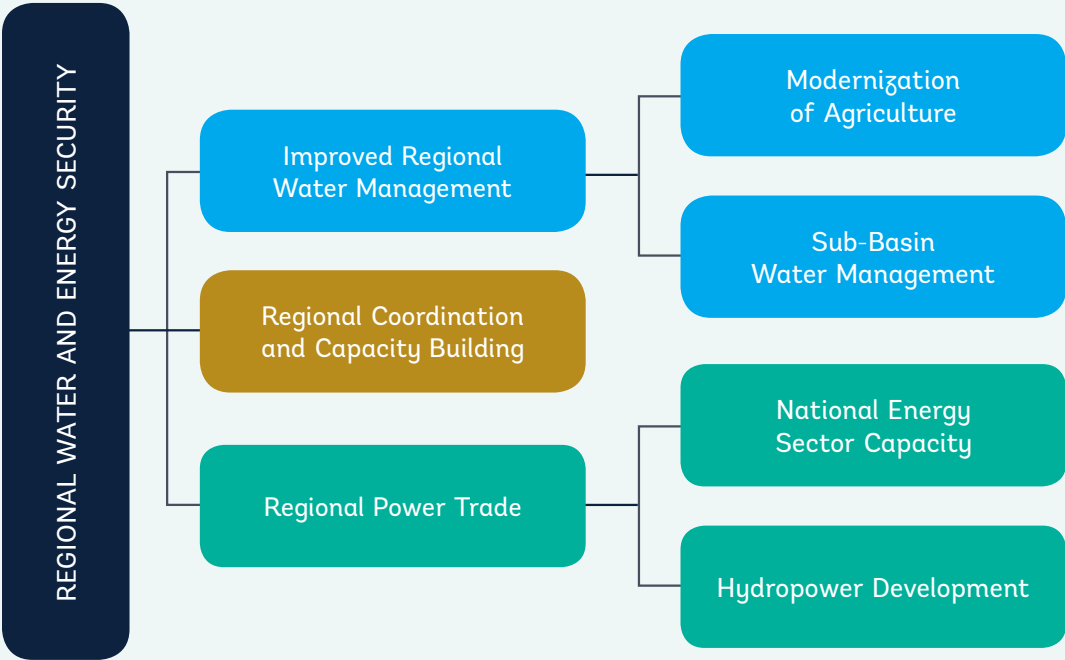
Key focus areas are shown in Figure 2.

# Program Administration and Disbursements

During the first year of implementation of the third phase of the program, good progress was made with respect to program administration and disbursements. In 2018, the program allocated US\$2.28 million to finance sixteen activities in six beneficiary countries. Thirteen of the sixteen approved activities commenced implementation by the end of the calendar year 2018. Disbursements exceeded US\$0.7 million or 32 percent of the total allocated funds.

Pillar funding allocations for 2018 were: Water Security (25 percent), Energy Security (42 percent), Water-Energy Linkages (20 percent), and program management and communications (13 percent). The relatively large share of energy activities in the program's portfolio in 2018 reflects an increasing interest among the Central Asian countries in regional power trade and development of renewable energy, including hydropower. As for the country coverage, the program initiated nine regional activities with focus on capacity building and technical dialogue and four national activities.

FIGURE 2. CAWEP KEY FOCUS AREAS IN 2018



# CHAPTER 1. REGIONAL AND COUNTRY CONTEXT



2017 showed positive signs for regional integration among the Central Asian countries, which continued in 2018. In 2018, the Heads of State of the Central Asian countries met twice, advancing dialogue on regional cooperation on economy, trade, transport, scientific, technical, cultural and humanitarian issues. The five Central Asian presidents met for the first time in Nur-Sultan (formerly Astana), Kazakhstan in March 2018, resulting in a joint statement for cooperation expressing “...desire for regional cooperation, mutual support and joint solutions to pressing issues, in order to ensure the security, stability and sustainable development of our entire region.” In August 2018, the Heads of State met for the second time under the IFAS umbrella in Ashgabat, Turkmenistan.

This high-level agenda led to practical cooperation actions, notably for ensuring security and countering cross-border challenges. New dialogue approaches and models are being experimented with, in particular in bilateral context. In November 2018, the first Uzbekistan-Kazakhstan Interregional Cooperation Forum was held in Shymkent, Kazakhstan, marking a significant milestone in bilateral relations. Bilateral trade between the two countries increased by 47 percent in 2018 reaching US\$3.02 billion. With respect to water-energy linkages, Uzbekistan and Kazakhstan have developed bilateral commissions for each of their transboundary basins to manage operational issues and further effective coordination. Tajikistan, Turkmenistan and Uzbekistan are approaching Afghanistan on a bilateral basis on similar matters, with an increased understanding that Afghanistan is an inherent part of Central Asia and a key partner for economic integration and stability.

In the energy sector, the relaxation of regional tensions in Central Asia is raising hopes and expectations for improved prospects for development of the regional electricity market in Central Asia. Uzbekistan, for example, has resumed gas supply to Tajikistan and reportedly has expressed interest in developing hydropower in Tajikistan and the Kyrgyz Republic. Uzbekistan and Tajikistan have also

agreed to reconnect their power transmission networks as the first step toward resynchronizing the Tajikistan transmission network with the Central Asian power system. Furthermore, recent progress in development of both CASA-1000 Project and TUTAP Power Interconnection has increased market interest in trade and third-party electricity supply between Central and South Asian countries as well as with neighbors including China and Eurasia.

The water-energy agenda received attention within this broader cooperation dynamic; the Heads of State in their statement for the Nowruz meeting in March 2018 noted that “...the rational development of water, energy and food potential... will contribute to the sustainable growth of the well-being of the people of Central Asia” acknowledging the role of water and energy as key drivers for economic growth and social stability.<sup>3</sup> In this context, individual countries have put forward different ideas to strengthen water and energy development in the region: Kazakhstan suggested reviving the water-energy consortium initially developed and discussed among countries in early 2000’s; Turkmenistan proposed developing a regional water strategy; Uzbekistan sought to further develop the Multi-Partner Human Security Trust-Fund for the Aral Sea Region.

While improving connectivity and regional electricity market development is becoming an important agenda for Central Asia, there is no consensus on a common way forward on transboundary water management. Existing platforms that have played an important convening role in the past such as IFAS, have so far not been able to align the interests of individual countries into a shared vision and plan for action in this fast-evolving context for cooperation. The preparation process for the fourth Aral Sea Basin Program (ASBP-4) did not involve all Central Asian countries. Further discussions, and coordination with development partners, will help to take cooperation in the water and energy sectors to the next level. This can leverage efforts at various levels (e.g., bilateral, plurilateral, regional level) and involve various sectors and stakeholders to promote an enabling environment for water and energy security.

3 While water generates about 22 percent of the region’s electricity supplies (more than 90 percent in both Tajikistan and Kyrgyz Republic), the agriculture sector contributes up to 20 percent to the GDP of some countries in the region and accounts for up to 50 percent of national labor force.

## CHAPTER 2. PORTFOLIO AND PROGRAM ACTIVITY SUMMARY

Center for  
Mediterranean  
Migration  
Addressing Regional  
Needs



## CAWEP Objective and Approach

The Central Asia Water and Energy Program is implemented by the World Bank through a multi-donor trust fund. The third phase of the program commenced in January 2018 with a US\$3.5 million contribution from the SECO as a single financing partner. In August 2018, UK DFID re-joined the program through a US\$1 million contribution channeled through PACT for activities focusing on inter-regional trade with South Asia and energy sector activities in Afghanistan, Kyrgyz Republic, Tajikistan and Uzbekistan. The European Union became the third financing partner in 2019 contributing €7 million for activities in the five Central Asian republics.

The program development objective is to strengthen the enabling environment to promote water and energy security at regional level and in the beneficiary countries. The long-term vision of the program is to promote sustainable development and livelihood security within the region. As the program entered its third funding phase in 2018, the program added Afghanistan as a sixth direct beneficiary country of CAWEP funds. This formalizes the ongoing practice of Afghanistan's participation in multiple CAWEP activities, in particularly those focused on regional consultations.

The program finances initiatives that support improvements in water and energy management and development, strengthen national and regional institutions and facilitate regional dialogue with a view to promoting water and energy security and helping to realize the benefits of regional cooperation to advance sustainable development and climate resilience.

By the end of December 2022, the program aims to have contributed to the following:

- Improved policy frameworks that promote achievement of water and energy security adopted at national level;
- Promotion of a regional framework supporting water and/or energy security informed by the program;
- Strengthened capacity in regional and national institutions responsible for water and/or energy resources management in beneficiary countries; and
- Leveraged/informed US\$2.5 billion (US\$0.8 billion for the third phase) of investments<sup>4</sup> contributing to water and energy security at regional level and in beneficiary countries, including regional power trade.

<sup>4</sup> World Bank investments. Investments of other development partners are not considered for this indicator.

The detailed Results Framework for the program, including the specific indicators and target values to measure progress towards the above planned outcomes, is provided in Annex 2. The program continues to work with development partners to deepen efforts to establish the parameters for cooperation at the technical and institutional levels, to strengthen availability of data and information, and to harmonize sectoral policies and regulations to facilitate cross-border connectivity and trade.

Structured along three pillars: (1) Water Security; (2) Energy Security, and (3) Water-Energy Linkages; the program pursues three components since its inception: (a) data and diagnostic analyses; (b) institutions, capacity and dialogue; and (c) supporting investments. The objective of the Water Security Pillar is to promote sustainable and efficient use of shared water resources and national IWRM through capacity building, institutional strengthening and investment planning to achieve water security at the national, bi/multi-lateral and regional level. The Energy Security Pillar aims to improve the security and economic efficiencies of energy supply at national, bi/multilateral and regional level. The Water-Energy Linkages Pillar supports activities related to the water-energy nexus at the national, bi/multi-lateral and regional level, climate-change related activities linking two or more countries as well as regional and cross-border dialogue processes.

## Program Progress in 2018

In 2018, CAWEP initiated thirteen activities in addition to program management and communications. The breakdown by pillars and components is in Table 1. Institutions and capacity building were a major focus area in 2018. Strong institutions, capacity and coordination among different stakeholders are an important pre-requisite for sustainable water and energy management at national and regional levels. Scoping and diagnostic studies help take stock of the current situation, analyze constraints and barriers, and determine and prioritize countries' needs in capacity building, technical assistance and investments. Based on such analysis, activities to identify investments and support their preparation are initiated.

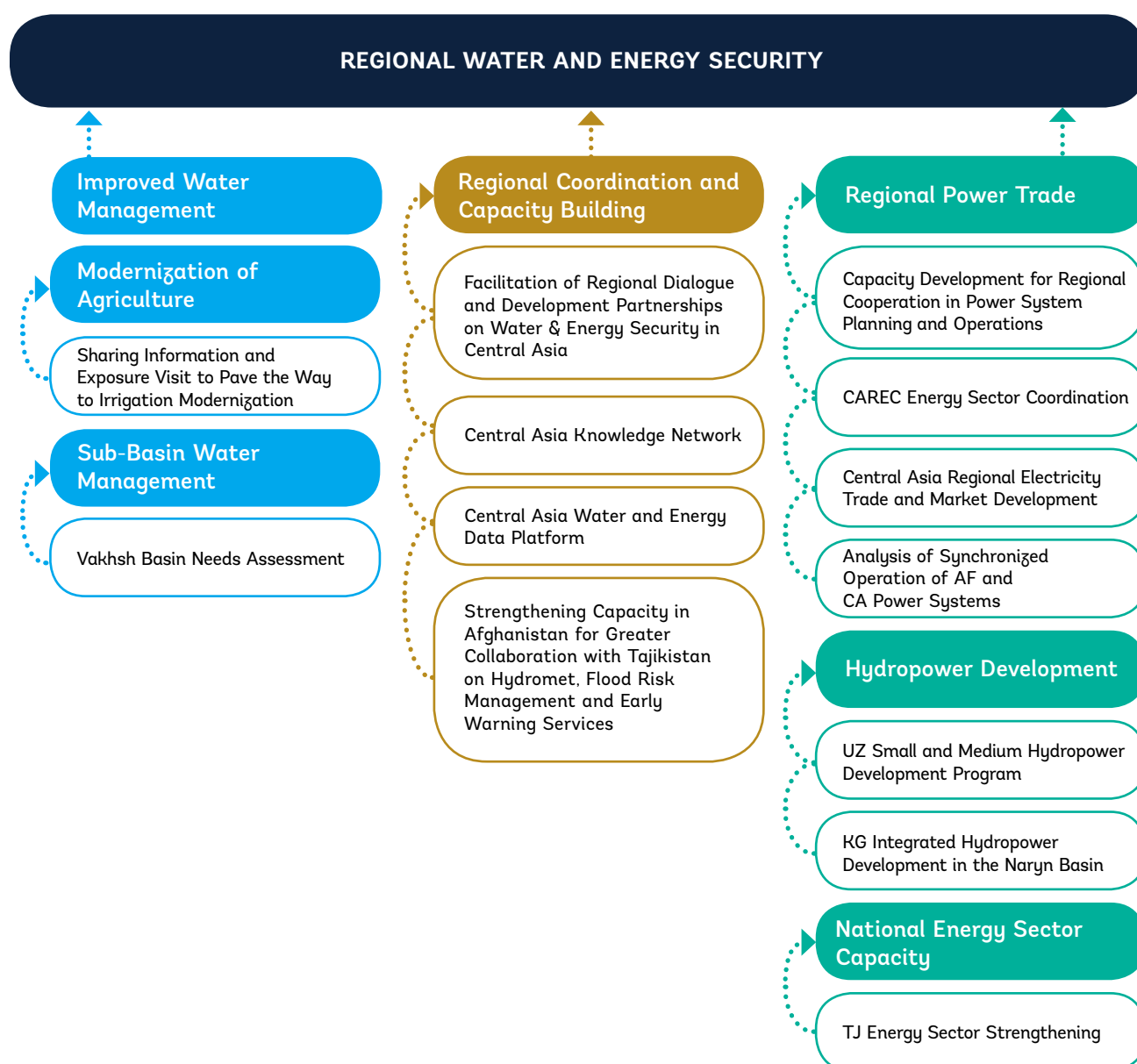
Given the far-reaching needs in the region to achieve water-energy security, CAWEP will not be able to address all needs. The program sets priorities based on client demand and taking advantage of the Bank's existing

client and partner relationships and engagements through investment projects, while keeping the objective to contributing towards regional- and national-level water and energy security. Figure 3 shows how activities under the three pillars fall under specific themes that contribute overall towards achieving regional water and energy security.

➤ **TABLE 1. CAWEP ACTIVITIES DURING 2018**

	Data and Diagnostic	Institutions, Capacity Building & Dialogue	Supporting Investments	Total
<b>Water Security Pillar</b>	2	0	0	2
<b>Energy Security Pillar</b>	2	5	0	7
<b>Water-Energy Linkages Pillar</b>	1	3	0	4
<b>Total</b>	<b>5</b>	<b>8</b>	<b>0</b>	<b>13</b>

➤ **FIGURE 3. CAWEP PATHWAYS TO REGIONAL WATER AND ENERGY SECURITY**





The program development objective is to strengthen the enabling environment to promote water and energy security at regional level and in the beneficiary countries. The long-term vision of the program is to promote sustainable development and livelihood security within the region.

## Summary of Activities 2018

### 1. Water Security Pillar

#### 1.1 Modernization of Agriculture

Agriculture is still a significant contributor to food security, poverty reduction and economic growth in Central Asian countries. The sector is heavily dependent on irrigation, which uses approximately 90 percent of all abstracted water in the Aral Sea Basin. Climate change effects, especially, higher temperatures and more frequent and longer heat waves, increase agricultural water demand during summer and increase the risk of droughts. The large stock of irrigation infrastructure in the region continues to deteriorate because of inadequate management, and insufficient operation and maintenance funding. Coupled with weak irrigation management institutions, this results in high water losses in the systems, low water use efficiency, unsustainably high electricity consumption, unsatisfactory services to farmers, and low yields.

The activity *Sharing Information and Exposure Visit to Pave the Way to Irrigation Modernization* was established late in 2018 and will commence implementation in 2019.

#### 1.2 Sub-Basin Water Management

Central Asian countries are looking to integrated water resources management as a means to increase water security. In Tajikistan, the government initiated a water sector reform in 2014 focused on introduction of IWRM by mandating the establishment of river basin management organizations along hydrologic boundaries. The Ministry of Energy and Water Resources, established in 2015, was assigned to lead the reform efforts in the sector guided by the Water Sector Reform Program 2016-2025. The Program divides the country into five major river basins - Syr-Darya, Zarafshon, Kofarnihon, Vakhsh, and Panj, and identifies the main challenges in the water sector and key reforms to address them in line with the internationally recognized principles of sustainable water resource management. Supported by donors, several activities are currently underway to develop River Basin Councils and River Basin Organizations in designated river basins across Tajikistan. Although the Government is committed to shifting towards IWRM in the Vakhsh Basin as well, there is currently limited funding available. The Vakhsh

Basin occupies around 31,200 km<sup>2</sup> and is a home to one eighth of the country's population. The *Vakhsh Integrated River Basin Management* financed by CAWEP is taking stock of the key water infrastructure assets and analyzing institutional, infrastructure and information gaps to determine and prioritize investment needs.

### 2. Energy Security Pillar

#### 2.1 Regional Power Trade

Recent improvements in geopolitical relations in Central Asia and progress in the implementation of the CASA-1000 project have increased interests of countries in expanding opportunities for inter- and intra-regional electricity trade. The study on *Enhancing Regional Power Trade in Central Asia*<sup>5</sup> financed by CAWEP in the program's second phase estimated unrealized benefits due to the limited regional power trade in Central Asia to be around US\$5.2 billion in the period 2010-2014.

In the first year of implementation of its third phase, the program continued fostering joint and coordinated approaches to regional electricity trade and market development through the *CAREC Energy Sector Coordination*. The activity provides a platform for connecting the countries with development partners in a coherent way. In addition, three energy activities were initiated under CAWEP: (i) the *Central Asia Regional Electricity Trade and Market* assessment, which is being coordinated with the USAID's regional initiative - the Central Asia Regional Electricity Market (CAREM); (ii) renewable energy development support activities in the region; and (iii) support by CAWEP to develop institutional capacity of the regional electricity dispatch center CDC Energia which is coordinated with USAID support to the same organization.

The need to coordinate the power systems goes beyond the five Central Asian republics. Afghanistan is increasingly interested in synchronization of its power system with the regional Central Asia power system. Afghanistan's power system is highly fragmented, consisting of numerous isolated grids operating in asynchronous mode, which limits the opportunities to improve security of supply, optimize dispatch, enable spinning reserve and expand the power network in a rational way. The activity *Analysis of Synchronized Operation of Afghanistan and Central Asia*

5 Myroshnychenko, Yuriy; Owen, Kirby. 2016. Enhancing regional power trade in Central Asia (English). Washington, D.C.: World Bank Group. <http://documents.worldbank.org/curated/en/672501486549955103/Enhancingregional-power-trade-in-Central-Asia>

*Power Systems* is developing key elements of a roadmap for the synchronization of both systems and helping to strengthen the capacity of Da Afghanistan Bresha Sherkat (DABS), a national power utility, to manage the grid synchronization process. This activity will also facilitate consultations between Afghanistan DABS with CDC Energia and Central Asian NDCs.

*Central Asia Regional Electricity Trade and Market* activity is assessing regional and national barriers for regional energy trade and will develop options for transitioning toward a competitive and efficient regional electricity market and trade. This will help develop a clear picture of potential and realistic opportunities for energy trade in the region.

The role of CDC Energia in the coordination of the power system planning and operational activities at the regional level is expected to increase in the coming years. The *Capacity Development for Regional Cooperation in Power System Planning and Operations* activity is strengthening the institutional capability of CDC Energia and National Dispatch Centers (NDCs) and identified a long-term capacity development plan to enhance CDC Energia's capacity. It will also directly support CDC Energia and NDCs to understand the benefits of regional coordination, develop common operational rules and procedures, and implement coordinated operations.

## 2.2. Hydropower Development

Hydropower is a vital renewable energy resource. As the world's largest affordable renewable electricity source, hydropower currently accounts for about 18 percent of the total world electricity supply. Hydropower offers potential multiple co-benefits to regional development in the face of emerging climate risks including drought preparedness, flood control, water storage for drinking and irrigation purposes, aquaculture providing economic opportunities and livelihoods for local population. If the countries operated together, they could have saved more than an estimated US\$ 80 million annually, or US\$ 400 million during the period from 2010-2014<sup>6</sup>, by sharing the regional hydro resources to provide operating reserves, instead of purchasing reserves at current market prices from outside sources. Several bilateral agreements reached by Central Asian countries over the last two years on strengthening cooperation in hydropower signal their understanding of the substantial benefits they are currently

losing out on. Following the agreement between Uzbek and Kyrgyz presidents on joint construction of hydropower plants (HPPs) and management of transboundary water resources, a memorandum on cooperation in the construction of Kambarata HPP-1 on the Naryn River, a tributary of the Syr Darya, was signed in October 2017 by the national energy companies.

In 2018, two studies were initiated under CAWEP on hydropower assessment: in the Kyrgyz Republic and Uzbekistan.

The Kyrgyz power sector is dominated by hydropower and highly susceptible to variations in hydrology. The country has abundant hydropower resources, which cater for over 90 percent of domestic energy needs with the installed capacity of HPPs of approximately 3,100 MW. The total generation of large HPPs is produced at the Naryn Cascade, with the balance provided by thermal power from Bishkek and Osh Combined Heat and Power plants. The share of generation from HPPs in the Kyrgyz Republic is greatest during summer months due to higher inflows, lower domestic demand and water releases from the Toktogul Reservoir to fulfill irrigation agreements with neighboring countries, thus enabling higher electricity output from the Naryn Cascade. The sustainable development of hydropower in the country will require establishing an enabling country framework, including policy and regulatory reform and fiscally viable financing schemes. The activity *Integrated Hydropower Development in the Naryn Basin* is supporting the government of the Kyrgyz Republic in its efforts to pursue sustainable hydropower to meet growing domestic demand as well as to increase opportunities of Kyrgyz electricity exports to Central Asia and beyond the CASA-1000 transmission corridor. The activity is assessing in more detail the options for hydropower development, a river basin-wide approach, and is developing a roadmap. The development of hydropower in the Kyrgyz Republic would help close the electricity supply gap in winter, increase export revenues and provide clean electricity to neighboring countries.

In Uzbekistan, the government has started exploring alternative sources of energy and put a priority on hydropower development adopting the "Program on Development of Hydropower Sector for 2017-2021." The program envisages the construction of 42 greenfield sites and modernization of 32 small and medium hydropower

---

6 Ibid.

plants. In May 2017, the government established Uzbekhydroenergo JSC and transferred 32 HPPs to its management. Uzbekhydroenergo was given a mandate to implement hydropower development programs aimed at maximizing the use of hydropower potential and increasing the share of hydropower in the energy mix of the country. Further on September 14, 2017, the government adopted a micro hydropower pilot program, stipulating the construction of 40 pilot micro hydropower projects of 10-590 kW. The *Uzbekistan Small and Medium Hydropower Development Program* activity will strengthen the capacity of Uzbekhydroenergo through workshops and knowledge exchange and preparation of a long-term capacity development action plan. Moreover, the activity is supporting the government's hydropower pilot development by providing the key framework documents for small and medium hydropower pilots such as the methodology of feasibility studies, pilot project concept and financial models.

### 2.3 National Energy Sector Capacity

In Tajikistan, the *Tajikistan Energy Sector Strengthening* activity is supporting broader measures of the government to strengthen the financial standing and institutional capacity of Barki Tojik, a state-owned power sector company, and contributing to increased energy trade – one of the key pillars of the Tajikistan National Development Strategy 2016-2030. The activity helps Tajikistan to reconnect to the Central Asia power system through support to the development of regulatory frameworks, including pricing of energy, and structuring of power purchase agreements required for increased power trade.

## 3. Water-Energy Linkages Pillar

### 3.1 Regional Coordination and Capacity Building

CAWEP contributes to building a regional vision for water and energy in the Central Asian region, through the *Facilitation of Regional Dialogue and Development Partnerships on Water & Energy Security in Central Asia* activity. The activity explores possibilities to strengthen the existing framework for regional cooperation, in particular through the IFAS umbrella. In this regard, a draft note for the Central Asia Water Strategy has been developed and been circulated across the five Central Asian countries. As chair of the EC-IFAS, Turkmenistan suggested this initiative, advocating a regional consensus based on accepted principles for political and diplomatic cooperation for an

effective cooperation on water, energy and environment. It was intended that the Central Asia Water Strategy should provide for the transition to integrated water resources management at the interstate and national levels, including water quality management, water conservation as the main development element, the creation of a joint water use planning mechanism, the development of preventive measures at the intersection of interstate and interdisciplinary interests to prevent the emergence of conflict situations, and measures to adapt to climate change. However, the proposal to develop a Central Asia Water Strategy under the Turkmen chairmanship of EC-IFAS was not approved by the other member countries of the institution. To review alternative inroads for engagement at the regional level, a literature review on strengthening the IFAS framework was developed based on previous and on-going works from other partners. Taking advantage of the positive dynamic for inter-state discussions, CAWEP is advocating effective development partners coordination in partnership with the Swiss Agency for Development and Cooperation (SDC). For this purpose, eight donor coordination meetings were organized and co-hosted by various development partners (e.g. GIZ, SDC, UNESCO, EU, UNRCCA) in 2018. In particular, the Water Partner Coordination group decided to undertake a review of the academia curricula for water resources management in Central Asia to be supported by CAWEP. The review consulted with universities and research institutions throughout the region and preliminary results were discussed in a meeting organized in Almaty as part of the CAKN activity.

The program is also promoting bilateral dialogue. For example, the *Strengthening Capacity in Afghanistan for Greater Collaboration with Tajikistan on Hydromet, Flood Risk Management and Early Warning Services* activity will address the need for increased and improved collaboration between Tajikistan and Afghanistan promoting bilateral dialogue on flood management and early warning. Flooding is one of the major causes of economic damage in these countries, as well as causing damage to downstream countries. Establishing accurate and timely climate and hydromet early warning information services is urgently needed to minimize human and economic losses to such disasters. This activity is identifying priority areas for cooperation between two countries to address the challenge of compatibility of data.

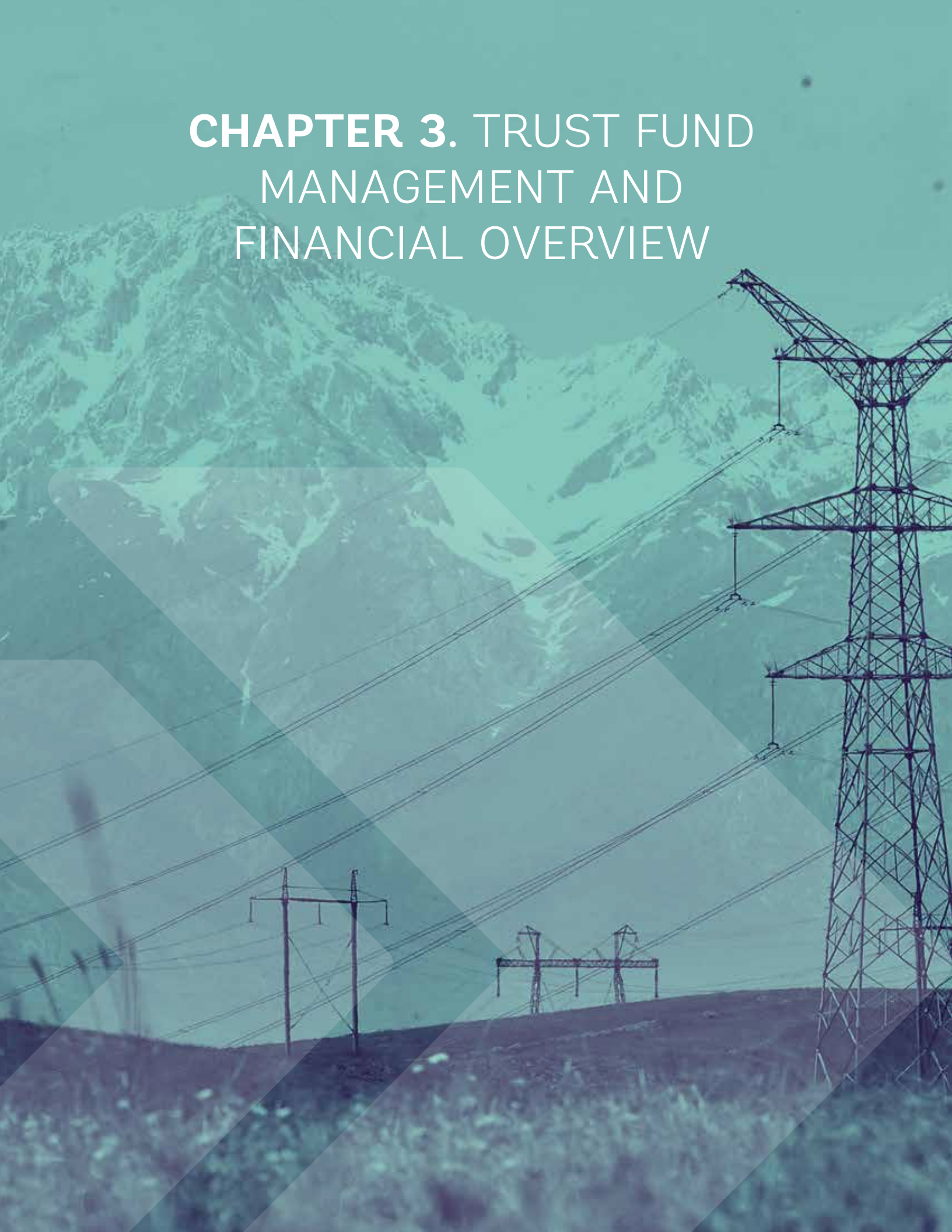
With the objective to introduce new technologies to increase awareness on accessibility, availability and

applicability of publicly available spatial data, the [Central Asia Water and Energy Data Platform](#) activity provides access to an interactive portal gathering multi-sectoral and spatial, temporal data from various national and international sources. The portal draws on existing water and energy studies focusing on Central Asia, providing an interactive way to present various project's activities and results. The Central Asia Water and Energy Data Portal is available in both English and Russian at: <http://spatialagent.org/CentralAsia/>.

Finally, the CAWEP-financed [Central Asia Knowledge Network](#) has continued its activities in 2018 through the organization of various events. On June 19, 2018, CAKN supported the organization of a side-event at the International Decade for Action in Dushanbe: Water for Sustainable Development 2018-2028, bringing together young water professionals across the region. The Center for Mediterranean Integration was convened to share experience on youth and knowledge development in the

Middle East and North Africa region. A workshop was organized in December 2018 to evaluate the results of the ongoing national assessments of water management academic curricula. The workshop brought together representatives from Kazakhstan, Kyrgyz Republic, Tajikistan, and Uzbekistan in Almaty to share lesson plans and course materials. Participants concluded that Central Asian academic institutions significantly differ in their training programs and agreed that it is necessary to increase experience, curricula, and teaching materials exchange and provide contemporary training materials for the instructors and their students. Also, national assessments of water management curricula have been undertaken in parallel with the World Bank's initiative, implemented by the Kazakh-German University, to map water, energy, and academic knowledge sharing activities. The final results of both assessments provide recommendations to enhance water management curricula in Central Asian universities.

# CHAPTER 3. TRUST FUND MANAGEMENT AND FINANCIAL OVERVIEW



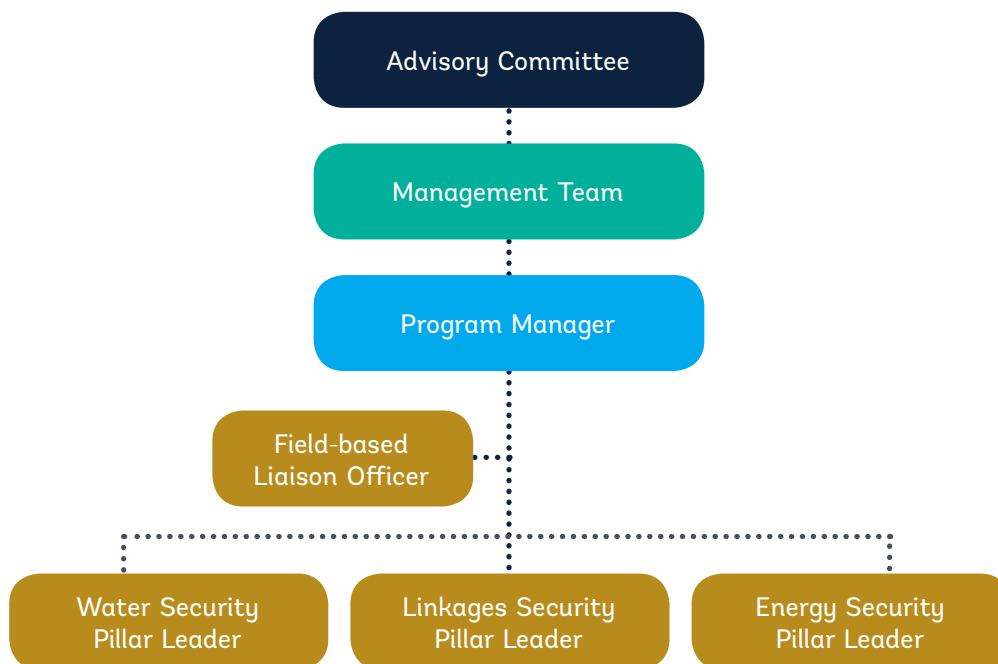
## Program Administration

The core team responsible for the management of the program includes the Program Manager, three Pillar Leaders, Field-based Liaison Officer, Communications Consultant, and Senior Program Assistant (see Figure 4). The Pillar Leaders provide advice on strategic direction for the work program, monitoring of pillar implementation progress and liaison with task team leaders to ensure timely and qualitative delivery of activities. In July 2018, the composition and regional presence of the core team was strengthened by assignment of two Pillar Leaders based in the Central Asian region. The Field-based Liaison Officer is responsible for monitoring and evaluation, program coordination with task team leaders and overall support to the program management. An operational manual was developed for the task teams and published on an internal website.

## Partner Engagement

The program held two meetings: the Advisory Committee meeting on January 19, 2018 and a mid-year check-in meeting on August 22, 2018. At the January 2018 meeting hosted by SECO in Bern, Switzerland, the first Annual Work Plan, which proposed 12 activities, was discussed and endorsed. Much of the discussion was about potential engagement of other donors, field presence and implementation of the program. The meeting also approved the Monitoring & Evaluation and Communication Strategies. The mid-year check-in meeting in August 2018 announced strengthening of field presence of the core team. The Annual Work Plan was complemented by four new activities, reaching a total of sixteen approved activities. The August meeting further confirmed the US\$1 million contribution by DFID to the Energy Security Pillar and a pro rata share to program management and communications through PACT, which covers Afghanistan, Kyrgyz Republic, Tajikistan, and Uzbekistan as beneficiary countries. The implementation period of PACT is August 1, 2018-March 31, 2022.

➤ FIGURE 4. CAWEP GOVERNANCE STRUCTURE

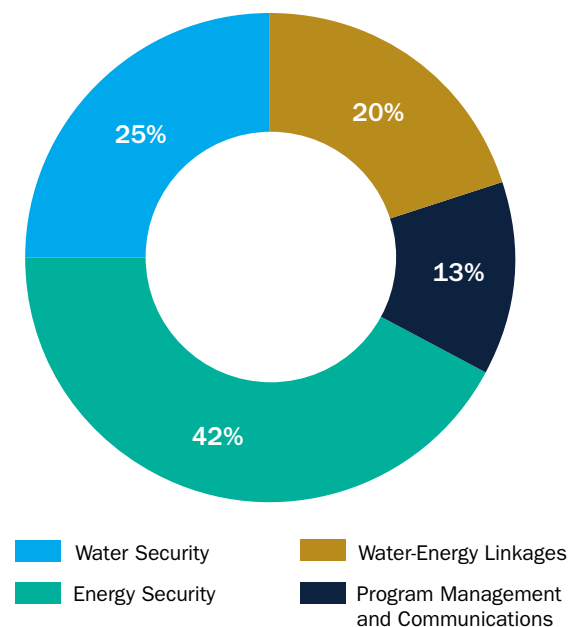


## Communication, Donor Outreach and Donor Engagement

The Communication Strategy for the new phase of the program was developed in 2017 and submitted to the Advisory Committee in January 2018. The Communication Strategy determined the objective and target audience of the program and its communication activities, a proposed list of outputs including communication and dissemination tools to be used.

The 2017 Annual Report was published, translated into Russian, and uploaded on the program external website<sup>7</sup>. The team produced four quarterly newsletters highlighting events and achievements of the program. The quarterly newsletters are distributed to CAWEP development partners. The team carried out media monitoring on water and energy developments in the regions and circulated bi-monthly digests among the task team leaders and all CAWEP development partners.

► FIGURE 5. PROPORTION OF PROGRAM ALLOCATION BY PILLAR IN 2018



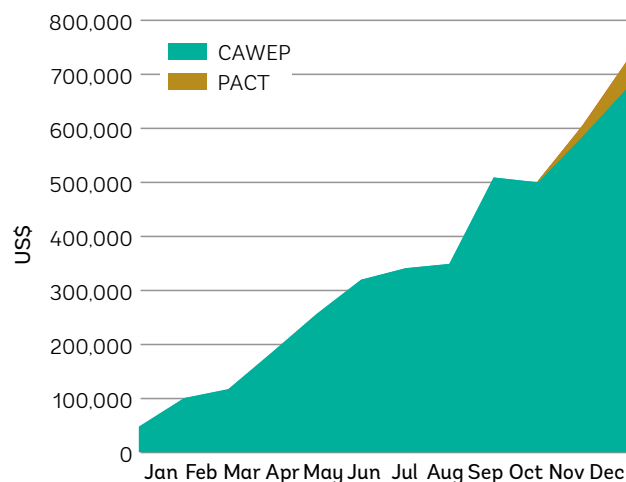
## Financial Overview

The total program funding in 2018 was around US\$4.8 million<sup>8</sup>. By November 30, 2018, SECO had transferred US\$3.5 million into the CAWEP multi-donor trust fund. US\$1 million has been reserved in a dedicated window under the program for PACT for financing of the energy activities. By the end of December 2018, around US\$2.28 million or 47 percent of total funds were allocated to sixteen activities, including program administration and communications.

Pillar funding allocations for 2018 were: Water Security (25 percent), Energy Security (42 percent), Water-Energy Linkages (20 percent), and program management and communications (13 percent). (See Figure 5). A higher share of energy activities in the overall program structure reflects an increased interest of Central Asian countries and Afghanistan in regional connectivity and power trade.

Disbursements exceeded US\$0.7 million or 32 percent of the total allocated funds. Higher disbursements are expected for 2019 when proposed activities will be implemented at faster speed; the first half of 2018 was spent primarily on identification and design of activities initiated during the calendar year. This is illustrated in Figure 6, which shows monthly disbursements in 2018.

► FIGURE 6. CAWEP DISBURSEMENTS (US\$) IN 2018



<sup>7</sup> <http://documents.worldbank.org/curated/en/994621542395781844/Central-Asia-Energy-Water-Development-Program-Annual-Report-2017>

<sup>8</sup> This includes SECO (US\$3.5 million) and PACT (US\$1 million) contributions, remaining funds under the second phase of the Program (US\$245,682) and investment income in 2018 (US\$50,218).



## Looking Forward

With the EU joining as financing partner in 2019, the third phase of CAWEP will move forward the realization of the latest endorsed work program. The first tranche of the EU contribution of €7million will become available in 2019. This increase in available funds will enable the program to initiate additional confidence-building and non-controversial engagements at regional level under the Water Security Pillar. It is expected that the overall regional engagement will expand. Concerted efforts of the program development partners will be undertaken to coordinate with the ongoing programs in the region (e.g. Nexus, Blue

Peace) as well as with other development partners in order to identify development opportunities in consultation with the beneficiary countries. The aim is to identify the most relevant and beneficial cooperation opportunities for long-term water and energy security.

The scope of each of the currently planned activities and their broad forward plans are provided in Annex 1. In 2019, some changes are anticipated to Trust Fund management and the composition of the core team, with a transition to a new Program Manager and in response to an internal realignment of the Global Practices within the World Bank.





# ANNEX 1.

## PROGRAM ACTIVITY DETAILS

### WATER SECURITY PILLAR

#### Modernization of Agriculture

##### **Sharing Information and Exposure Visit to Pave the Way to Irrigation Modernization**





-  **Activity Status:** Ongoing
-  **CAWEP grant:** US\$100,000
-  **TTL:** Kazuhiro Yoshida
-  **Implementation period:** January 2019 – June 2020

The development objective of this activity is to support governments in Central Asia on modernization, through early exposure, learning and adoption of sub-system and on-farm modernization concepts in irrigation. This will contribute to strengthening the enabling environment for promotion of water security. The activity complements the Bank-financed analytical work *Exposure and Practical In-Roads to Modernizing Irrigation in Central Asia*, which focuses on stocktaking of current irrigation development in Central Asia.

The findings and recommendations of the analysis and international experience in irrigation will be shared with the governments at a regional workshop in 2019 with CAWEP support. The workshop will include presentation and discussion of current irrigation development in Central Asia and recommendations on the way forward, a field trip and training on the use of diagnostic tools. The target audience is senior decision-makers of Central Asian countries. It is expected that the regional workshop will agree on priority actions for each country to facilitate improvements of service delivery. The need of national workshops is to be confirmed with the governments.

#### Sub-Basin Water Management

##### **Vakhsh Integrated River Basin Management**





-  **Activity Status:** Ongoing
-  **CAWEP grant:** US\$375,000
-  **TTL:** Farzona Mukhitdinova
-  **Implementation period:** February 2018 – July 2019 (potentially to be extended to cover the Upper Vakhsh River Basin)

The objective of this activity is to provide a basin needs assessment and inventory of key water infrastructure assets to determine the investment and technical assistance needed for integrated basin management in the Lower Vakhsh River Basin. The study will establish a minimum systematic infrastructural and institutional assessment platform from which the institutionalizing of IWRM and the furthering of water sector development in the basin can be advanced. The needs assessment will lead to preparation of the first strategic action plan in consultation with the government that will contribute to formulation of an effective institutional framework for IWRM and define preliminary scope and priorities of needed investments (institutional, technical and infrastructural), to support IWRM and sector strengthening in the Lower Vakhsh Basin. The activity will help the Ministry of Energy and Water Resources of Tajikistan in their dialogue with development partners to mobilize development funding for identified priority development investments. At the same time, this activity will start systematic and comprehensive identification, quantification and characterization of the Lower Vakhsh Basin water sector infrastructure systems and institutional entities, for eventual incorporation of findings into basin-wide inventory databases and geospatial reference systems. It is likely that the needs assessment will extend to the Upper Vakhsh River Basin as development partners are increasingly interested in financing development in the basin.

➤ FIGURE 7. AMU DARYA RIVER BASIN AND VAKHSH RIVER BASIN



### North Aral Sea Engagement

-  **Activity Status:** Proposed
-  **CAWEP grant:** US\$100,000
-  **TTL:** Bakyt Arystanov, Azad Abdulhamid, Gayane Minasyan
-  **Implementation period:** October 2019 – December 2020

The objective of this activity is to carry out technical studies on North Aral Sea water management options to inform an integrated development plan that optimizes water resource use sustainably for regional investment planning and broader regional dialogue. The studies will include detailed hydrological study of Syr Darya River Basin in Kazakhstan, involving historical and current information on river flows;

abstractions for irrigation, domestic, industrial and other water users, including environmental flow requirements; water losses and spills (particularly to Arnasai system in Uzbekistan); drainage return flows; river conveyance capacities at different sections; catchments area characteristics; precipitation intensity, ice formation and flood discharges; water intake/level/release of reservoirs, lakes systems and the North Aral Sea.

The team is discussing the specific scope of work with the Committee for Water Resources under the Ministry of Agriculture of Kazakhstan. Technical studies will contribute to the preparation of the Aral Sea Development and Revitalization Project, which aims to restore ecosystems of the Aral Sea and its delta and associated rural livelihoods.

## ENERGY SECURITY PILLAR

### Regional Power Trade

#### CAREC Energy Sector Coordination

 **Activity status:** Ongoing

 **CAWEP grant:** US\$100,000

 **TTL:** Mitsunori Motohashi

 **Implementation period:** March 2018 – December 2020

This activity was launched in 2014 in the second phase of the program. It undertook analytical studies and discussed countries' demand for investment and capacity building. Its objective is to enhance energy sector dialogue among Central Asian countries and neighboring countries and to ensure coordination of donor assistance to the energy sector in Central Asia through participation in the CAREC meetings. CAREC Energy Sector Coordinating Committee (ESCC) meetings are an important platform to share international best practices, discuss challenges, present new ideas and initiate regional activities in consultation with energy sector policy-makers and technical experts from Central Asian countries and Afghanistan.

In 2018, this activity resulted in collaborative initiatives with development partners, including (i) the *Central Asia Regional Electricity Trade and Market*, a regional energy advisory services and analytics activity partly financed by PACT, coordinated with the USAID regional initiative - CAREM; (ii) joint support<sup>9</sup> to develop institutional capacity of the CDC Energja, the regional electricity dispatch center, which is being implemented in close coordination with development partners and the Central Asian countries; and (iii) coordinated approach to renewable energy development support in the Central Asia region<sup>10</sup>. These activities are expected to help strengthen the capacity in regional and national energy management in beneficiary institutions.

In 2018, the activity contributed to: (i) the inauguration on February 23, 2018 of the Turkmenistan-Afghanistan-Pakistan-India (TAPI) gas pipeline and other cross-border regional infrastructure projects in Turkmenistan; and (ii) the CAREC ESCC meetings in Ashgabat in March and September 2018.

#### Capacity Development for Regional Cooperation in Power System Planning and Operations

 **Activity status:** Ongoing

 **CAWEP grant:** US\$150,000

 **TTL:** Koji Nishida

 **Implementation period:** April 2018 – November 2019

The objective of this activity is to improve the organizational capacity of CDC Energja to conduct its planning and operational functions for the regional transmission system in Central Asia. The activity will also support NDCs to understand the benefits of regional coordination and develop common operational rules/procedures. NDCs targeted in this activity include KEGOC (KZ), NESK (KG), Barki Tojik (TJ), Kuvvat (TM), Uzbekenergo<sup>11</sup> (UZ), and DABS (AFG). Specifically, the activity is developing a long-term capacity development plan and providing training opportunities to the personnel in CDC Energja and in its affiliated NDCs.

CDC plays a critical role in Central Asia for regional coordination on the planning and operational activities, while NDCs implement coordinated operations. CDC was founded in 1998 in Tashkent, Uzbekistan, by five Central Asian countries following signing of the "Agreement on Parallel (Joint) Operations of the Power Systems of the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Tajikistan, Turkmenistan, and Republic of Uzbekistan." Financing of CDC Energja is on cost sharing basis.

By the end of December 2018, the technical assistance assessed organizational needs of CDC Energja for capacity development and trainings, identified potential areas for improvements and developed an initial plan. The plan includes: (i) analysis of CDC Energja's main functions and responsibilities; (ii) assessment of CDC Energja's training needs; (iii) summary and feedback of the first training workshop and study tour; (iv) lessons learned for organization of next training workshops; (v) preliminary agenda for the second training workshop; and (vi) general assessment on training facility/equipment.

The activity is implemented in parallel with technical assistance from USAID, which provides training equipment

9 Financed by CAWEP and USAID

10 CAWEP is supporting hydropower development assessments in the Kyrgyz Republic and Uzbekistan.

11 In 2019, Uzbekenergo was restructured into three organizations.

and software tools for power system analysis. Based on the needs, USAID has procured the required training equipment.

The assessment helped the team design tailored training programs to improve planning and day-to-day operations of the regional power system. The first training workshop (September 17-19, 2018 in Tashkent, Uzbekistan) was attended by key dispatch center experts. The CDC Energia proposal to establish a power system operations training hub within CDC Energia was unanimously supported by all dispatch center directors. The training was followed by a study tour to SO/UPS JSC's training and dispatch centers in Moscow. In 2019, the activity will continue implementing training programs and development of a long-term capacity development plan for CDC Energia.

### **Central Asia Regional Electricity Trade and Market**

 **Activity status:** ongoing

 **CAWEP grant through PACT:** US\$150,000

 **TTL:** Husam Mohamed Beides

 **Implementation period:** October 2018 – July 2020

The objective of the activity is to assess the opportunities for regional energy integration and trade in Central Asia region and with neighboring countries (in particular South Asian countries) and to develop options for enhancing regional electricity market integration.

The activity is being implemented in a phased approach. In the first phase, the focus is on assessment of the potential of electricity trade within Central Asian countries and with Pakistan and Afghanistan and other neighboring countries. The assessment will use the Electricity Planning Model (EPM)<sup>12</sup> developed in FY18 by the World Bank. The activity will revise and update the EPM with energy demand/supply projections and generation expansion for the region to 2030. It will also carry out economic and benefit analyses of identified potential of electricity trade; identify transmission interconnection upgrades and potential new cross-border transmission projects and undertake technical and strategic consultation with energy stakeholders in the region.

In the second phase, the legal and institutional framework for the electricity sectors of targeted countries will be reviewed, potential barriers for the expansion of cross-border trade and regional electricity market development will be identified, recommendations for progressive harmonization of electricity trade regulations will be provided.


Activity missions were conducted in Uzbekistan (November 2018), Kazakhstan (December 2018) and Tajikistan (January 2019) to launch the activity. In the first months of implementation, considerable progress was made on data collection and verification. System planning model simulations will assess opportunities for regional electricity trade and consequential economic benefits. These analyses will be shared with countries and will inform any new development financing for transmission cross-border interconnection and network transmission upgrades that support higher level of regional electricity trade.

The team is coordinating its efforts with the USAID team managing the CAREM initiative on regional system modelling for CAPS and regional electricity market design.

### **Analysis of Synchronized Operation of Afghanistan and Central Asia Power Systems**

 **Activity Status:** Ongoing

 **CAWEP grant:** US\$100,000

 **TTL:** Hung Tan Tran

 **Implementation period:** March 2019 – December 2020



This activity was requested by the Ministry of Energy and Water of the Islamic Republic of Afghanistan in January 2018. Afghanistan's power system is highly fragmented, consisting of numerous isolated grids supplied by different power system (including the 80 percent of electricity Afghanistan receives from abroad). These islands are operated in asynchronous mode, which limits the opportunities to improve security of supply, optimize dispatch, enable spinning reserve and expand the power network in a rational way. The objective of this activity is to develop key elements of a roadmap for the synchronization of the Afghan Power System with CAPS. The activity will help strengthen the capacity of Afghanistan DABS to manage grid synchronization process.

<sup>12</sup> The model optimizes generation capacity expansion over 2017-2030 for the interconnected system of seven countries (five countries in Central Asia and Afghanistan and Pakistan in South Asia) to find the least-cost generation capacity and dispatch options over this period, for a range of scenarios.

The activity is structured around two components: (i) development of a draft grid integration roadmap; and (ii) facilitation of synchronization dialogue between Afghanistan and Central Asia. Under the first component, the technical, operational, and legal requirements for Afghanistan's integration in the CAPS will be explored. Requirements for synchronous operation of systems including investments, legal and institutional changes will be identified and costed. A timetable for implementation will be prepared. Under the second component, two regional workshops will be held as well as discussions with the Central Asia Dispatching Center. Synergies with the CAWEP-financed *Capacity Development for Regional Cooperation in Power System Planning and Operations* activity will be used to minimize cost and potential overlap.

## Hydropower Development





### **Uzbekistan Small and Medium Hydropower Development Program**

-  **Activity Status:** Ongoing
-  **CAWEP grant:** US\$200,000
-  **TTL:** Mitsunori Motohashi
-  **Implementation period:** May 2018 – December 2019

The activity aims to strengthen the capacity of Uzbekhydroenergo on hydropower development and provide training and knowledge sharing opportunities on international good practices in hydropower sector. The activity targets Uzbekhydroenergo as its primary beneficiary as well as sectorial design institutes. The technical assistance will: (i) develop an action plan for Uzbekhydroenergo's capacity development, as well as its regulatory and financing framework; (ii) develop a methodology for designing feasibility studies for hydropower projects; (iii) develop project concepts and financial models for small and medium hydropower pilots; (iv) conduct knowledge sharing workshops and study tours on regional hydropower development, modern practice in design, construction, maintenance, and operation of hydropower facilities, as well as introduction of advanced technologies in the sector.

The activity is progressing well but faced initial delays because of lengthy and comprehensive discussions on the terms of reference for the assignment with Uzbekhydroenergo, and subsequent consultant selection.

### **Integrated Hydropower Development in the Naryn Basin**

-  **Activity Status:** Ongoing
-  **CAWEP grant:** US\$200,000
-  **TTL:** Husam Mohamed Beides
-  **Implementation period:** October 2018 – May 2020

This activity aims to support the government of the Kyrgyz Republic in its efforts to pursue sustainable hydropower development. The objective is to develop a well sequenced roadmap for hydropower development in the Naryn River Basin aligned with national development goals and international best practice.





The activity will be implemented in two phases:

- Phase I: desk review of Naryn River Basin development opportunities to identify project preparation and regulatory framework gaps; and
- Phase II: development of a roadmap for an integrated hydropower in the Naryn River Basin including required energy sector regulatory, institutional and pricing reforms to facilitate public and private financing of hydropower projects. Phase II will assess options for construction of hydropower plants in the Naryn Basin, using a river basin-wide approach with an in-depth evaluation of both previously and newly identified development sites. The main purpose of Phase II will be to identify technically, financially and economically viable sites for construction of new HPPs that will complement the power plants currently in operation, while enabling optimal multi-use of water resources.

The analysis of hydropower development opportunities in the upper Naryn Basin is coordinated with other development partners of the Kyrgyz government, in particular, the Asian Development Bank. Regular meetings with ADB will ensure alignment between activities and ensure the Naryn River Basin study provides input into the ADB-led sector master plan.

## National Energy Sector Capacity

### Tajikistan Energy Sector Strengthening

-  **Activity Status:** Ongoing
-  **CAWEP grant:** US\$100,000
-  **TTL:** Arthur Kochnakyan
-  **Implementation period:** November 2018 – December 2019

The objective of this activity is to inform the design of measures that improve financial and operational performance of Barki Tojik (BT) and remove obstacles to expanded regional power trade. It supports broader measures of the government to strengthen the financial standing and institutional capacity of BT, a state-owned power sector company. The activity has helped: (i) advance diagnostic analysis on the needed energy investment to improve the sector financial viability, (ii) directly contribute to the design and preparation of the results-based investment operation *Power Utility Financial Recovery Project* (Program for Results), and (iii) leverage development partners co-financing to support strengthening financial standing and institutional capacity.

The following activities have been conducted in close cooperation with relevant government stakeholders: a diagnostic financial analysis of BT; development of recommendations to improve operational efficiency of BT; development of a financial model of BT; social impact analyses of proposed operational and financial recovery improvements. An expenditure program for maintenance of assets for a Program for Results and a report with recommendations on improvement of power purchase agreements have also been prepared.





Ongoing are a review of corporate governance structures, legal and regulatory barriers to expanding power trade with neighboring countries; support for drafting regulatory documents required for implementation of financial and operational reforms and expansion of regional power trade within Central Asia.

The activity will strengthen the legal and governance capacity of BT and inform the Program for Results. The proposed program will have disbursement-linked indicators structured around the key policy and institutional reforms and will incentivize sector reforms. This operation will improve operational efficiency, financial sustainability, and corporate governance of BT to foster deeper regional cooperation.

## WATER-ENERGY LINKAGES PILLAR

### Regional Coordination and Capacity Building

#### Facilitation of Regional Dialogue and Development Partnerships on Water & Energy Security in Central Asia

-  **Activity Status:** Ongoing
-  **CAWEP grant:** US\$150,000
-  **TTL:** Christina Leb
-  **Implementation period:** March 2018 – May 2022

The objective of this activity is to strengthen institutional capacity for the development of a long-term vision for regional water and energy security in Central Asia, and to enhance development partnerships supporting investments in this area. The activity consists of two complementary components that contribute to building a regional vision for water and energy in the Central Asian region focusing on (1) the regional institutions and (2) coordination among partners.

Under the first component, work has mainly focused on producing draft papers on shared long-term vision. At the initiative and request of the EC-IFAS chairmanship in Turkmenistan and closely working with their technical staff, a draft concept note for the Central Asia Water Strategy has been developed in cooperation with EC-IFAS delegates. While the activity provided support to EC-IFAS to develop a common vision for regional water in Central Asia and the Aral Sea Basin Plan 4 and the Regional Environmental Action Plan with the facilitation of working group meetings, it became clear that alternative ways to bring countries together need to be pursued going forward due to legacy trust issues. The activity also provided support to other IFAS institutions by facilitating video-conferences for the Interstate Commission for Sustainable Development as part of the development of the Regional Environment Action Plan for Sustainable Development which helped in outlining national priorities to be included in the action plan. Similar events will be organized in 2019, in support of the Aral Sea Basin Development Plan 4.


As for coordination among development partners, regular partner coordination meetings are an important step towards fostering a common understanding on regional water management and required interventions among partners, to have clarity of donor support, avoid duplication

and ensure complementarity. These meetings are evolving towards increasing coordination on substance as the discussions go along and partners are getting better acquainted with their respective portfolios. The activity significantly contributed to increased donor coordination on regional water at the operational level (five meetings) as well as at higher management level (one High-level Donor Meeting). The donor coordination helps ensure effective use of available development partner resources - to avoid duplication and promote complementarity in funding initiatives, and to speak with a common voice or reinforce each other's advice to countries on regional and national water and energy development for a water and energy secure Central Asia 2050.

### Central Asia Knowledge Network

 **Activity Status:** Ongoing

 **CAWEP grant:** US\$150,000

 **TTL:** Julia Komagaeva

 **Implementation period:** July 2019 – December 2020

This activity is a continuation of the CA Knowledge Network launched under the previous phase of CAWEP in 2012. The CAKN and its regional and country-specific activities in the first and second phases, were highly appreciated by country governments and the academic community. Demand has been expressed by country practitioners, academic and university community and young water professionals to further strengthen country ownership. This should build on past CAKN activities to support communities of practices, local youth and academic initiatives, to create new state-of-art curricula in Central Asian universities, and strengthen regional research potential to ensure sustainability and scalability of project results. In the third phase of the program, the CAKN will further build on, support and promote increasing cooperation and analytical capacity in the area of water management among practitioners, academics and young professionals from five Central Asian countries and Afghanistan.

The development objective is to enhance regional knowledge and professional capacity and to foster cooperation, cross-country dialogue and experience exchange among local and regional institutions and practitioners in the areas of water resource management, energy and climate change in the Central Asia region and Afghanistan. The activity will undertake a needs assessment for investments in

education, training and research sector among major stakeholders from water, energy and academic communities. This assessment will guide development of state-of-art new curricula in IWRM, and support research, students/trainers exchanges, joint programs, and regional Master of Arts program development.

The activity is structured around the following levels.

- *National*, focused on strengthening national sectoral and cross-sectoral capabilities with the focus on preparation of regular analytics and Cross-Sectoral Working Groups practical involvement in Bank-financed project implementation activities, development of practical outputs (databases, methodologies, practical guides), support in creating new national Cross-Sectoral Working Groups in Uzbekistan, Tajikistan/ Afghanistan, cross-country knowledge exchange workshop on Cross-Sectoral Working Group best practices;
- *Regional*, focused on enabling deeper regional cooperation aimed at attracting CAKN members to participate in national and regional policy dialogue and Bank-financed programs implementation;
- *Cross-Cutting*, focused on academic and research potential development, strengthening youth linkages with practitioners and dialogue aimed at promoting youth involvement in practical work and creating new generation of water management professionals; promoting gender aspects in IWRM.





CAKN held a Youth side-event at the High-Level International Conference “Water for Sustainable Development” 2018-2028 on June 19 in Dushanbe to foster youth inclusion in decision-making and give youth a stronger voice. The exchange between the youth networks from Central Asia and Middle East and North Africa region served as a platform for young participants to share their vision, knowledge, and ideas on current water-related issues.

A workshop held on December 5-6, 2018 evaluated the results of the ongoing national assessments of water management academic curricula. The workshop brought together representatives from Kazakhstan, Kyrgyz Republic, Tajikistan, and Uzbekistan to share lesson plans and course materials. Participants concluded that Central Asian academic institutions significantly differ in their training programs and agreed that it is necessary to increase experience, curricula, and teaching materials exchange and provide contemporary training materials for the instructors



and their students. The national assessments of water management curricula are undertaken in parallel with the World Bank's initiative, implemented by the Kazakh-German University, to map water, energy, and academic knowledge sharing activities. The final results of both assessments will provide recommendations to enhance water management curricula in Central Asian universities.

### Central Asia Water and Energy Data Platform





-  **Activity Status:** Ongoing
-  **CAWEP grant:** US\$50,000
-  **TTL:** Verena Schaidreiter
-  **Implementation period:** July 2019 – December 2020

The development objective of this activity is to increase awareness on accessibility, availability, and applicability of publicly available spatial data. The activity will create an interactive data portal in Russian and English. The link to the portal was published on the [CAWEP website](#)<sup>13</sup>. The need for development of an online portal to improve access to publicly available information was identified during a CAWEP-funded stakeholder forum on Strengthening Analysis for IWRM in July 2012.

The Central Asia Water and Energy Portal is a convenient tool to support decision-making and research in water resource management, agriculture, hydrometeorology, environment, climate and disaster risk management. The portal is built on existing publicly available spatial data (such as World Bank's Spatial Agent application, UNEP database, Kyrgyz and Tajik Hydromet websites, U.S. Department of Agriculture and others) and integrate existing water and energy studies that focus on Central Asia. The portal provides synthesized interactive data on the Central Asia Hydrometeorology Modernization Project and Climate Adaptation and Mitigation Program for Aral Sea Basin and useful links to open databases.

The Central Asia Water and Energy Portal will benefit a wide variety of stakeholders: water and energy resource managers, policy makers, students, researchers, and other end users across multiple levels across countries in the region. To raise awareness of the portal among students in Central Asia, a student competition is planned for 2019 under the CAWEP Central Asia Knowledge Network.

### Strengthening Capacity in Afghanistan for Greater Collaboration with Tajikistan on Hydromet, Flood Risk Management and Early Warning Services

-  **Activity Status:** Ongoing
-  **CAWEP grant:** US\$100,000
-  **TTL:** Arati Belle
-  **Implementation period:** November 2018 – April 2019

Over 80 percent of the water in the Amu Darya Basin is generated in Tajikistan and Afghanistan and flooding is one of the major causes of economic damage in these and downstream countries. The activity addresses the need for increased and improved collaboration between Tajikistan and Afghanistan on flood management and early warning. Specifically, it is identifying priority areas for cooperation to address the challenge of data compatibility. Consultative meetings will be arranged to advance hydro-meteorological data exchange and national capacity building for water resources management, flood control, and early warning.

The activity will complement the ongoing Bank-financed technical assistance, which aims at strengthening capacity of Afghanistan's Hydromet and user agencies and contribute to early efforts for developing and delivering hydromet, early warning and climate services for improved resilience in Afghanistan. Establishing accurate and timely climate and hydromet early warning information services is urgently needed in Afghanistan to minimize human and economic losses to such disasters. The capacity of Afghanistan hydromet institutions has substantially degraded over the last three decades. A Hydromet Modernization Roadmap was developed to strengthen Hydromet and last mile early warning systems and services. Support for addressing some key priorities of the Roadmap is also provided by the Global Facility for Disaster Reduction and Recovery with focus on strengthening inter-agency coordination mechanism and community-based disaster risks management.

<sup>13</sup> <https://www.worldbank.org/en/region/eca/brief/cawep>

## ANNEX 2. RESULTS FRAMEWORK

PILLAR	COMPONENT	BASELINE	OUTCOME INDICATORS (tracked annually – quantitative; target values are for CAWEP 3.0)	Cumulative Values							Expected Outputs <sup>14</sup>		
				planned /actual	2018	2019	2020	2021	2022 <sup>15</sup>	TARGET <sup>16</sup>			
OVERALL PROGRAM LEVEL	Strengthen the enabling environment to promote water and energy at regional level and in beneficiary countries	Disparate national-level investments and fragmented regional cooperation. Weak regional institutions cannot/are not fulfilling mandates to promote regional cooperation. HEP investment plans negatively impact on already tense neighborly relationships.  <b>CAWEP Achievements (Status February 2017):</b> Two regional projects (Central Asia Hydrometeorology Modernization Program and Climate Adaptation and Mitigation Program for Aral Sea Basin) informed, approved and regional components implemented through regional organizations and closely linked to national components. CAREC <sup>env</sup> strengthened as regional entity facilitating regional dialogue. Energy trade talks are shifting towards considering strengthening of intra-regional connectivity.	Number of policies, sector strategies, regional institutional frameworks being developed that are based on recommendations of CAWEP funded analytical work (target: at least 7)	planned		1	4	4	6	7	<ul style="list-style-type: none"> <li>Roadmap for integrated hydropower development in the Naryn River Basin (plan: May 2020)</li> <li>Revision of IFAS institutional framework (plan: December 2022)</li> <li>Regional vision on water development (plan: December 2022)</li> <li>Roadmap for development of regional electricity markets in Central Asia (plan: July 2020)</li> <li>Program for Financial Recovery of Barqi Tojik (plan: December 2019)</li> <li>Roadmap for synchronization of Afghan Power System with the Central Asia power system (plan: December 2020)</li> </ul>		
				actual	0								
			Number of institutions demonstrating improved management performance (Target: at least 7; of which 3 regional)	planned		3	6	6	7	7		<ul style="list-style-type: none"> <li>Uzbekhydroenergo JSC (plan: December 2019)</li> <li>CDC Energia (plan: November 2019)</li> <li>HG National Energy Holding Company (plan: May 2020)</li> <li>HG State Committee for Industry, Energy and Subsoil Use (plan: May 2020)</li> <li>TJ Barki Tojik (plan: November 2019)</li> <li>EC-IFAS (plan: December 2022)</li> <li>AFG DABS (plan: December 2020)</li> </ul>	
				of which regional		1	1	1	2	3			<ul style="list-style-type: none"> <li>CDC Energia (plan: November 2019)</li> <li>EC-IFAS (plan: December 2022)</li> </ul>
				actual									
				of which regional									
			Number of joint decisions (or agreements) to move forward reached (Target: at least 4)	planned		0	0	0	1	4		<ul style="list-style-type: none"> <li>ASBP-4 (plan: December 2022)</li> </ul>	
				actual									
			Amount of investments that reflect transboundary consideration that are based on/include recommendations from CAWEP funded activities (Target: at least USD 0.8 billion)	planned			\$0.15 bln	\$0.65 bln	\$0.65 bln	\$0.8 bln		<ul style="list-style-type: none"> <li>Potential Naryn Cascade development (tbd \$0.5 bln)</li> <li>Tajikistan Power Sector Recovery Project (plan tbc: \$ 0.15 bln)</li> </ul>	
				actual									

14. Outputs listed in this column include those planned under ongoing (and in future also of completed) activities (status December 2018). The number of outputs reflected in this column may be lower or higher than overall targets listed in the previous column, because these targets were set at Concept Note approval (July 2017) based on best estimates based on the full program funding amount. The number of outputs may be lower than expected targets because it is expected that additional activities will be undertaken with future incoming funds to meet overall targets. Outputs may exceed the planned target where estimates were set too low in July 2017. The target values will be reviewed at the program mid-term review planned in 2020; based on the mid-term review adjustments may be put forward for discussion and agreement by the Advisory Committee.

15. Expected targets as per currently planned activities.

16. Target defined as in CAEWDP 3.0 Concept Note as adopted in July 2017. Target values are set as 'at least' values.

PILLAR	COMPONENT	BASELINE	OUTCOME INDICATORS (tracked annually – quantitative; target values are for CAWEP 3.0)	Cumulative Values							Expected Outputs
				planned/ actual	2018	2019	2020	2021	2022	TARGET	
WATER SECURITY PILLAR	Data and Diagnostic Analyses	Opportunities and constraints to improve water productivity and use efficiency are not systematically analyzed, are not identified at the cross-country level and not owned by riparian governments. National action plans to improve agricultural water productivity do not exist. CAWEP Achievements (Status February 2017): New WSS strategy in Uzbekistan informed: multiple studies developed as basis for carrying forward the policy dialogue: Promoting Irrigation Efficiency, Social Impact Assessment on WSS, Analysis of WSS Services, Strengthening Irrigation Governance, Assessment of Agricultural Water Use Efficiency in Tajikistan.	Number of analytical outputs related to water use efficiency, water balance or topics related to integrated water resources management (Target: at least 5)	planned		2	2	2	2	5	· Needs assessment report for integrated basin management (plan: June 2019) · Inventory of assets with GIS-mapping (plan: June 2019)
				actual							
	Institutions, Capacity and Dialogue	Institutional capacity varies between countries. Limited institutional linkages between riparian states on agricultural water management. Active donors in the region and in countries have disparate coordination.  CAWEP Achievements (Status February 2017): Water User Associations in Uzbekistan strengthened.	Number of learning activities that strengthen capacity of institutions in the water sector (Target: at least 5)	planned		1	1	1	1	5	· Regional workshop on irrigation modernization (November 2019)
				actual							
			Number of participants in learning activities (% of which female) (Target: at least TBD)	planned		50	50	50	50	TBD	
				% of which female							
				actual							
				% of which female							
			Percentage of participants (% of which women) who consider outcomes of training events as relevant and have integrated them in their work. (Target: at least 70 (30))	planned		80	80	80	80	70	
				% of which women						30	
	actual										
	% of which women										
	Supporting Investments	Few current investment decisions take into account transboundary implications of water use and/or quality impacts.  CAWEP Achievements (Status February 2017): No outcome yet.	Number of national-level water investments identified based on CAWEP diagnostic analysis (Target: at least 1)	planned		1	1	1	1	1	· Potential Vakhsh Basin development (plan: end 2019)
				actual							
			Number of water investments under preparation (Target: at least 1)	planned						1	
actual											
Number of potential beneficiaries of investments supported (% of which female) (Target: at least TBD)			planned						TBD		
			% of which female								
			actual								
			% of which female								

PILLAR	COMPONENT	BASELINE	OUTCOME INDICATORS (tracked annually – quantitative; target values are for CAWEP 3.0)	Cumulative Values							Expected Outputs <sup>17</sup>
				planned/ actual	2018	2019	2020	2021	2022 <sup>18</sup>	TARGET <sup>19</sup>	
ENERGY SECURITY PILLAR	Data and Diagnostic Analyses	<p>Opportunities and constraints to improve energy sector efficiency are not systematically analyzed and/or are not owned by riparian governments. National energy sector plans do not exist in all countries.</p> <p><b>CAWEP Achievements (Status February 2017):</b> Informed Tajikistan Energy Sector Plan 2015-2017 and heating sector policy reform in the Kyrgyz Republic</p>	<p>Number of quality and relevant analytical outputs related to energy sector efficiency improvement and system planning, service reliability, harmonization of trade regulations or similar topics aiming to promote energy security and regional trade (Target: at least 6)</p>	planned		3	8	8	8	6	<ul style="list-style-type: none"> <li>Recommendations for Naryn River Basin hydropower development and for power systems expansion trajectories (plan: Nov 2020)</li> <li>Assessment of Options for Regional Electricity Trade and Electricity Market Integration (plan: Nov 2020)</li> <li>Regional Power System Model for Central Asia (plan: Nov 2020)</li> <li>Report on Potential Electricity Trade and Interconnections (plan: Nov 2020)</li> <li>Report on legal, institutional, regulatory and pricing framework of the electricity sectors of Central Asia countries (plan: Nov 2020)</li> <li>Program for Financial Recovery of Barqi Tojik (plan: 2019)</li> <li>Expenditure Program for Maintenance of Assets in Tajikistan (plan: 2019)</li> <li>Report with Recommendations on Improvement of Power Purchase Agreements in Tajikistan (plan: 2019)</li> </ul>
				actual	3						Updated Program for Financial Recovery of Barqi Tojik with Financial Model and Expenditure Program for Maintenance of Assets and Report with Recommendations on Improvement of Power Purchase Agreements in Tajikistan
ENERGY SECURITY PILLAR	Institutions, Capacity and Dialogue	<p>Institutional capacity in countries varies; in some countries institutions are weak with poor financial performance.</p> <p>Coordination among countries in the energy sector initiated. CAREC has mandate as a regional energy institution (CAREC Energy Action Plan was approved in 2009). Active donors in the region and in countries have disparate coordination.</p> <p><b>CAWEP Achievements (Status February 2017):</b> Barki Tojik strengthened, and CAREC Energy Sector Coordination Committee, Donor Coordination Council in Tajikistan, CASA-1000 Master Agreement, PPAs and Coordination Agreement agreed, Tajikistan Energy Sector Dialogue, Energy Donor Coordinating Committee (DCC) convened and coordination enhanced and CAREC ESCC, established in 2012, supported</p>	<p>Number of energy sector institutions supported through capacity strengthening activities (of which regional) (Target: at least 6; of which 1 regional)</p>	planned		8	8	8	8	6	<ul style="list-style-type: none"> <li>Uzbekhydroenergo JSC</li> <li>Hydroproject Design Institute</li> <li>CDC Energia</li> <li>KZ KEGOC</li> <li>KG NESK</li> <li>TJ Barki Tojik</li> <li>TM Kuvvat</li> <li>AFG Da Afghanistan Breshna Sherkat</li> <li>(all planned in 2019)</li> </ul>
				of which regional	1	1	1	1	1	1	CDC Energia (2019)
				actual	7						All above planned except for TM Kuvvat
				of which regional	1						CDC Energia
			Number of regional frameworks supporting energy security that are being formulated with support from CAWEP (Target: at least 1)	planned						1	
				actual							
Number of learning or dialogue activities that strengthen capacity of institutions in the energy sector (Target: at least 8)	planned		5	7	7	7	8	<ul style="list-style-type: none"> <li>Study tour for CDC Energia on regional power system planning and operations (plan: 2019)</li> <li>2 trainings for national energy sector institutions (plan: 2019)</li> <li>2 capacity building activities for Uzbekhydroenergo and Hydroproject design institute (plan: 2019)</li> <li>2 regional dialogue workshops between Afghanistan and Central Asia (plan: 2020)</li> </ul>			

17. Outputs listed in this column include those planned under ongoing (and in future also of completed) activities (status December 2018). The number of outputs reflected in this column may be lower or higher than overall targets listed in the previous column, because these targets were set at Concept Note approval (July 2017) based on best estimates based on the full program funding amount. The number of outputs may be lower than expected targets because it is expected that additional activities will be undertaken with future incoming funds to meet overall targets. Outputs may exceed the planned target where estimates were set too low in July 2017. The target values will be reviewed at the program mid-term review planned in 2020; based on the mid-term review adjustments may be put forward for discussion and agreement by the AC.

18. Expected targets as per currently planned activities

19. Target defined as in CAEWDP 3.0 Concept Note as adopted in July 2017. Target values are set as 'at least' values.

PILLAR	COMPONENT	BASELINE	OUTCOME INDICATORS (tracked annually – quantitative; target values are for CAWEP 3.0)		Cumulative Values						Expected Outputs <sup>17</sup>	
					planned/ actual	2018	2019	2020	2021	2022 <sup>18</sup>		TARGET <sup>19</sup>
	<b>Institutions, Capacity and Dialogue</b> (continued)				actual	2						<ul style="list-style-type: none"> <li>Study tour for CDC Energia on regional power system planning and operations</li> <li>Training for national energy sector institutions</li> </ul>
			Number of participants in learning or dialogue activities (% of which female) (Target: at least 120 (40))	planned		160	180	180	180	120	Includes participants in above workshops and CAREC Energy Sector Coordinating Committee meetings	
				% of which female		5	8	8	8	40		
				actual	149							
				% of which female	11							
			Percentage of participants (% of which women) who consider learning contents as relevant and have integrated them in their work. (Target: at least 70 (30))	planned		75	75	75	75	70		
	% of which women							30				
	actual	83										
	% of which women											
	<b>Supporting Investments</b>	<p>The Central Asia Power Systems (CAPS) is weak and has started to disintegrate since 2009. Countries occur financial loss due to the disintegrated trading system. Few current investment decisions on water and energy take into account the transboundary implication. Tajikistan and Kyrgyz Republic have winter energy deficit; new investments would have to consider how to alleviate this deficit considering downstream summer irrigation water needs and the regional water allocation system.</p> <p><b>CAWEP Achievements (Status February 2017):</b> CASA-1000, Tajikistan Winter Energy Program, Kyrgyz Republic Heat Supply Improvement Project and Nurek Hydropower Rehabilitation Project informed.</p>	Number of energy investments identified based on CAWEP diagnostic analysis (of which regional) (Target: at least 2, of which 1 regional)	planned			1	1	1	2	<ul style="list-style-type: none"> <li>Potential Naryn Cascade development (plan: 2020)</li> </ul>	
				of which regional						1		
				actual								
of which regional												
Number of energy investments under preparation (of which regional) (Target: at least 4, of which 2 regional)			planned		1	1	1	1	4	<ul style="list-style-type: none"> <li>TJ Power Sector Financial Recovery Project (plan: 2019)</li> </ul>		
			of which regional						1			
			actual									
			of which regional									
Number of potential beneficiaries of investments supported (% of which female) (Target: at least TBD)			planned		23,000	23,000	23,000	23,000	TBD			
			% of which female		49	49	49	49				
			actual									
			% of which female									

PILLAR	COMPONENT	BASELINE	OUTCOME INDICATORS (tracked annually – quantitative; target values are for CAWEP 3.0)	Cumulative Target Values							Expected outputs
				planned/ actual	2018	2019	2020	2021	2022	TARGET	
LINKAGES PILLAR	Data and Diagnostic Analyses	No robust recent analysis of links between water and energy. Climate change implications for water and energy resources management are poorly understood at both national and regional levels.  <b>CAWEP Achievements (Status February 2017):</b> Public data made accessible through Spatial Agent App; Central Asia Atlas; diagnostic studies (e.g. Strengthening Analysis for IWRM in Central Asia, Turn Down Heat III, Role of Glaciers in the Hydrologic Regime of the Amu and Syr Darya Basins).	Number of analytical outputs related to water-energy linkages, climate change, integrated water resources management at regional level or related topic (Target: at least 3)	planned		1	4	4	4	3	<ul style="list-style-type: none"> <li>Report on the needs assessment in IWRM training (plan: June 2020)</li> <li>IWRM-related methodology/guidelines (plan: June 2020)</li> <li>Stocktaking assessment of gender issues in IWRM (plan: June 2020)</li> <li>Report on status of cooperation between Afghanistan and Tajikistan on hydromet data exchange, flood control and early warning (plan: December 2019)</li> </ul>
				actual							
			Number of platforms for data access, analysis or sharing established at regional level (Target: at least 1)	planned		1	1	1	1	1	<ul style="list-style-type: none"> <li>Web-based CA nexus data platform (plan: June 2019)</li> </ul>
				actual							
			Number of platform users (% of which female) (Target: at least TBD)	planned		400	400	400	400	TBD	
				% of which female							
				actual							
				% of which female							
	Percentage of platform users indicating being satisfied with access to and contents of platform information. (Target: at least 90)	planned		90	90	90	90	90			
		actual									
	Institutions, Capacity and Dialogue	Regional institutions are weak: national institutions lack physical and human resource capacity to consider water-energy linkages and work across borders. Systems for data sharing and capacity to access publicly available data sets is weak.	Number of regional institutions supported through capacity strengthening activities (Target: at least 2)	planned					2	2	<ul style="list-style-type: none"> <li>EC-IFAS (plan: 2022)</li> <li>Central Asia Regional Environmental Center (plan: 2022)</li> </ul>
				actual							
	Institutions, Capacity and Dialogue	Regional Dialogue continues to falter because of political tensions and weak regional institutions. CAREC and CAREC <sup>env</sup> and IFAS have potentially important roles to play. Regular communication among technical institutes is not happening. Active donors in the region have disparate coordination.  <b>CAWEP Achievements (Status February 2017):</b> Capacity development for CAREC <sup>env</sup> , EC-IFAS, Interstate Commission for Water Coordination of Central Asia and for youth and young professionals with Kazakh German University.	Number of regional frameworks that are being formulated with support from CAWEP (Target: at least 1)	planned					2	1	<ul style="list-style-type: none"> <li>ASBP-4 (plan: 2022)</li> <li>Regional vision on water development (plan: 2022)</li> </ul>
				actual							
			Number of multi-country learning activities (Target: at least 5)	planned	1	2	4	4	4	5	<ul style="list-style-type: none"> <li>Cross-country knowledge exchanges (plan: 2018, 2020)</li> <li>2 consultative meetings on hydromet information exchange (plan: April and September 2019)</li> </ul>
				actual	1						
Number of participants in multi-country learning activities (% of which female) (Target: at least TBD)			planned		20	20	20	20	TBD		
			% of which female		10	10	10	10			
			actual	5	5	5	5	5			
			% of which female								
Percentage of participants (% of which female) who consider outcomes of training events as relevant and have integrated them in their work. (Target: at least 75 (20))	planned							75			
	% of which female							20			
	actual										

PILLAR	COMPONENT	BASELINE	OUTCOME INDICATORS (tracked annually – quantitative; target values are for CAWEP 3.0)	Cumulative Target Values							Expected outputs	
				planned/ actual	2018	2019	2020	2021	2022	TARGET		
LINKAGES PILLAR	Institutions, Capacity and Dialogue (continued)		Number of dialogue events promoting regional cooperation (of which regional) (Target: at least 10)	planned	2	7	8	9	11	10	<ul style="list-style-type: none"> <li>• CAY4Water and Gender Water Forum activities (plan: fall 2019)</li> <li>• Youth to Youth IWRM Initiatives in the context of CAY4Water (plan: 2018, 2019)</li> <li>• Annual CA (plus Afghanistan) Scientific-Practical Conference on special IWRM issues with participation of academia and youth (plan: April 2019)</li> <li>• CA Women in Water – issues and opportunities” – regional conference (plan: fall 2019)</li> <li>• 6 donor coordination meetings (plan: cumulative up to 2022)</li> </ul>	
				of which regional	2	7	8	9	11			
				actual	8							<ul style="list-style-type: none"> <li>• 5 water partners coordination meetings at operational level + 1 at senior management level (2018)</li> <li>• 1 pre-conference event for high level conference in Tajikistan (June 2018)</li> <li>• 2 Youth to Youth IWRM Initiatives in the context of CAY4Water (June 2018, March 2019)</li> <li>• Pre-conference academic event (April 2019)</li> </ul>
				of which regional	7							
			Number of participants in dialogue events (% of which female) (Target: at least TBD)	planned	10	20	30	40	50	TBD	Participants in above mentioned events	
				% of which female								
				actual	164							
				% of which female	74							
			Percentage of participants (of which female) who consider outcomes of dialogue events as relevant and have integrated them in their work. (Target: at least 75 (20))	planned						75	Note: not all activities (e.g. donor coordination meetings) track this indicator	
				of which female						20		
				actual	30							
				of which female	10							
			Earlier regional nexus projects have not been successful in achieving regional outcomes and cooperation. Few current investment decisions on water and energy take into account transboundary implications and the nexus.  <b>CAWEP Achievements (Status February 2017):</b> Assessment Studies for Rogun; Central Asia Hydrometeorology Modernization Project; Climate Adaptation and Mitigation Project for Aral Sea Basin Series of Projects preparation informed.	Number of regional investments identified based on CAWEP supported dialogue or diagnostic work (Target: at least 1)	planned						1	
					actual							
				Number of regional investments under preparation (Target: at least 1)	planned							1
					actual							
Number of potential beneficiaries of investments supported (% of which female) (Target: at least TBD)	planned								TBD			
	% of which female											
	actual											
	% of which female											







© Dan Ava

# CAWEP

CENTRAL ASIA WATER & ENERGY PROGRAM

