

Asian Development Bank's Operations in Climate Change and Water Sector Development in Central Asia

EU-Central Asia Strategy for a New Partnership Platform for
Environment and Water Cooperation

7th EU-CA WG Meeting, Brussels 6-7 February 2018



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1. Economics of Climate Change Mitigation in Central Asia

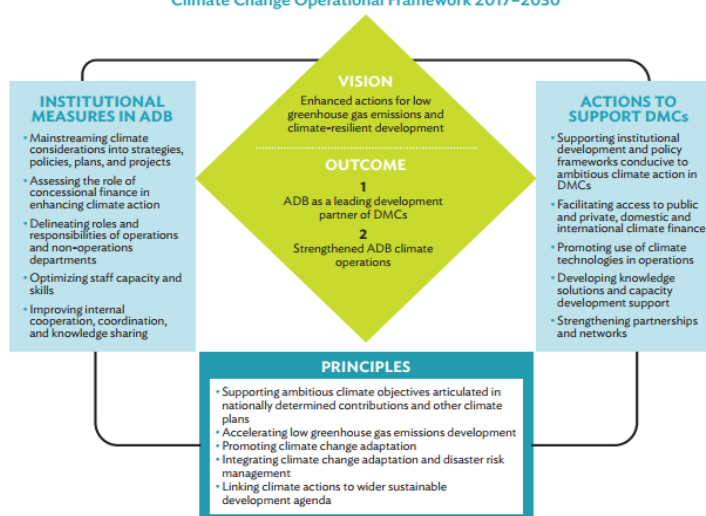
Cost and benefits analysis and Investment opportunities for green house gas (GHG) emissions abatement

- Carbon-intensive Central Asian economies need GHG mitigation
- Varied impacts of climate change across countries
- Energy production and use dominated by fossil fuels (99% of total primary energy supply) => high carbon intensity
- Need to develop cost-effective, clean energy technologies and low-carbon growth strategies (of countries, cities)
- Introduce policies promoting investment in renewable energy and in energy efficiency technologies
- Adopt National Appropriate Mitigation Actions—MAPA



2. ADB Climate Change Operational Framework 2017-2030

Climate Change Operational Framework 2017–2030

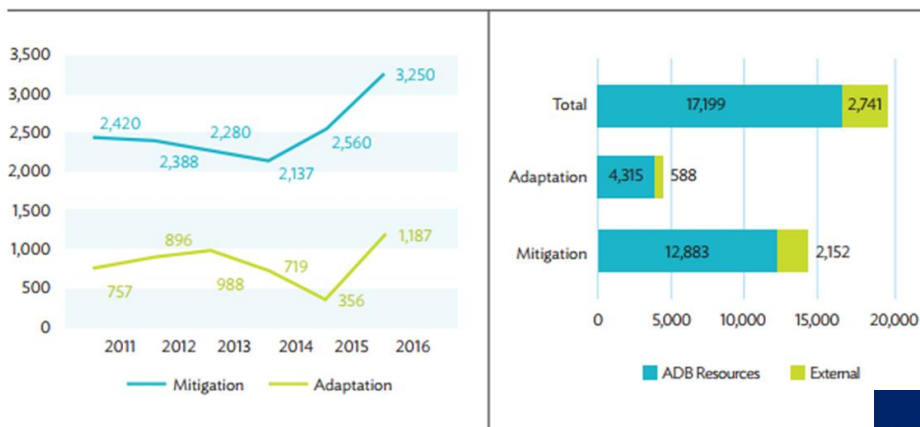


ADB = Asian Development Bank, DMC = developing member country.
Source: ADB.



3. ADB Climate Change Resources 2011-2016

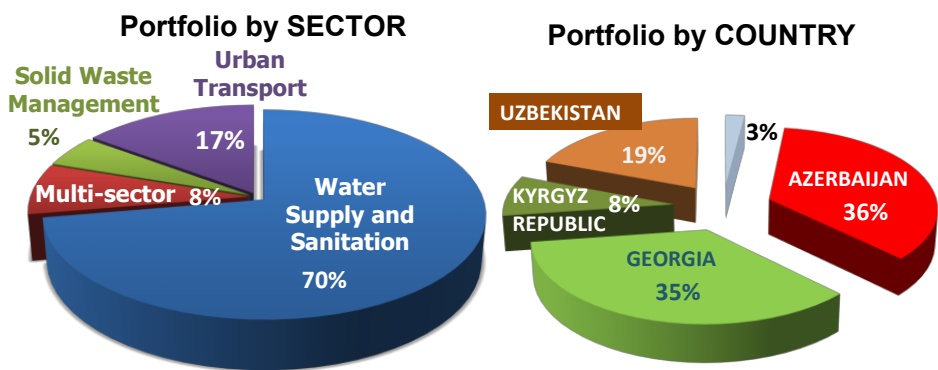
Figure 1: ADB Climate Finance, including External Resources, 2011-2016 (\$ million)



ADB = Asian Development Bank.
Source: ADB estimates.



4. ADB Urban/Water Sector Portfolio in Central Asia



Note: Projects are indicative, pending ADB Management and Board approval, and approval timelines are subject to change.



5. Knowledge Needs on Integrated Water Resources Management in Central Asia-I

1. Integrated Water Resource Management (IWRM)

- Wealth of resources dedicated to knowledge on water resource management during Soviet Union
- Areas: (i) hydropower generation, (ii) flood management, (iii) drainage & irrigation, (iv) water supply & sanitation, (v) wastewater management
- Good irrigation infrastructures were built in support of agriculture development and efficient water-related services were provided to urban and rural population Universal metering

2. Situation Today

- Water-related data and information scattered and highly fragmented knowledge institutions
- Low quality of services provided

3. Need for improving IWRM systems

- Making progress on climate change mitigation efforts (COP21, SDGs)
- Enhancing Kazakhstan's agriculture productivity
- improving the quality of water-related services



5. Knowledge Needs on Integrated Water Resources Management in Central Asia-II

AIM:

- (i) Introduce sustainable water management systems and technologies;
- (ii) Consolidate information on surface water and groundwater;
- (iii) Promote adoption of water applications advanced technologies;
- (iv) Improve water resource planning and governance;
- (v) Plan water infra development and adaptation to climate change and DRM;
- (vi) Adopt regulations to deal with water scarcity and reduce inequalities

OBJECTIVE:

Generate research, capacity building, and policy dialogue to inform water sector operations and help implement infrastructure projects in Central Asia (use efficient water resource monitoring and quality management; promote use of best practices for water resource allocation, groundwater protection, water quality assurance)

PARTNERSHIP:

- (Confirmed) ADB, UNESCO, Government of Kazakhstan
- (Envisaged) EBRD, EU, FAO, IsDB, UNDP, WB, others



6. Improving Water Resource Management in Kazakhstan

1. **System Rehabilitation and Modernization**
 - A. Water intake facilities, Transmission and distribution networks
 - B. Wastewater pumping stations and network
 - C. Universal metering
2. **Sustainable Operations and Maintenance Efficiency**
 - A. Water sector reforms – institutional, regulatory and legal frameworks
 - B. Non-revenue Water management
 - C. Energy Efficiency
 - D. Asset Management
 - E. Tariffs and sustainability – resource management, cost recovery
3. **Performance Benchmarking and Monitoring**
 - A. Key Performance Indicators and monitoring system
 - B. Environmental Standards, Water Safety Plan
 - C. Smart meters, Cloud computing, GIS, Satellite imagery



7. Strengthening Water Management Systems in Georgia

Multitranches financing facility (MFF) - 6 projects - Total **\$500 million**

- Approved on 30 March 2011. Closes on 30 September 2019.

Impact, Outcomes, and Outputs

Improved health of approximately 335,000 residents through improved water supply and sanitation services in secondary towns.

Infrastructure Investments

- Water Supply and Sanitation services in Anaklia, Kutaisi, Mestia, Poti, and Ureki (additional towns: Abasha and Bakuriani) – 3 projects (total \$218 million)
- Water Supply and Sanitation services in Zugdidi and Poti (additional towns: Jvari and Gudauri) - 1 Project (\$108 million)
- Sewerage and sanitation system in Zugdidi and Mestia – 1 Project (\$75 million)
- Water Supply and Sanitation services in Marneuli, Bolnisi, and Chiatura – 1 Project (\$99 million)



8. Making Water Supply Operations Sustainable in Armenia

- Water Sector Reforms – Legal and Institutional Issues
- Tariff Policy
- Water Metering and Non-revenue Water
- Energy Efficiency
- Management Contract

Progress of Key Performance Indicators of Armenian Water and Sewerage Company

Main Performance Indicators	Unit	2004 Base Year	2016
Water Supply Duration	Hours/day	4-6	18.7
Water Quality	%	94.0	98.6
Collection Efficiency	%	48.0	90.8
Energy Consumption	Million kWh	64.4	32.0



ENERGY EFFICIENT PUMPS

ADB

Thank you!

ADB