



USAID

FROM THE AMERICAN PEOPLE

USAID CENTRAL ASIA

REGIONAL ENERGY PROGRAM

USAID CENTRAL ASIA ENERGY VISION FOR 2032



2022

Government owned energy companies

Hi dependance on coal, oil and gas

Vulnerable to climate change

Over-reliance on public financing

Limited regional cooperation

Limited regional energy trade

2032

Market-oriented and transparent

Diverse private sector participation

Highly-diverse energy sources utilized

Diverse national and international investors

Lower greenhouse gas emissions

Inclusive of women, marginalized groups,
and youth



CROSS CUTTING PRIORITIES

Train, Educate, and Build Capacity

Facilitate Private Sector Investment

Utilize Local Partners

Include Women, Girls, and Marginalized Groups

STRATEGIC PRIORITIES

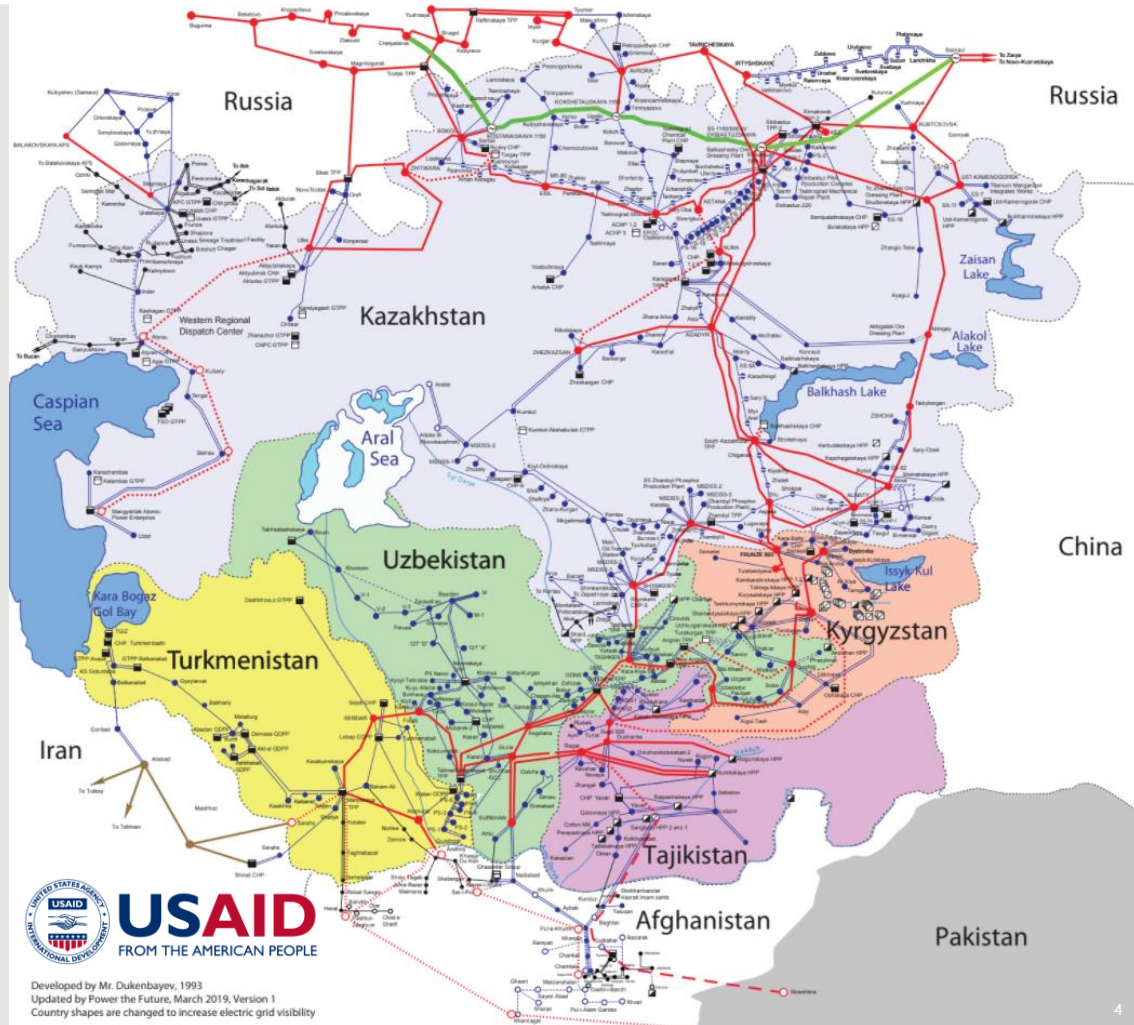
REGIONAL CONNECTIVITY

Current Grid Snapshot:

Aging: Developed in the 1970s under the Soviet Union

Fossil fuel optimized: Designed to optimize fossil fuels and water resources

Limited trade: Cross-border trading is only 10 -20 percent of what it was during the Soviet era



REGIONAL CONNECTIVITY

CASA-1000

- Financed by World Bank, IsDB, and EBRD
- USAID funds the CASA Secretariat
- \$1.2 billion, 1,300 MW, 1,330 km High Voltage Transmission System
- Two converter stations in Tajikistan and Pakistan
- Summertime hydroelectricity from Kyrgyz Republic and Tajikistan to Pakistan
- 4.6 billion kWh/yr



REGIONAL CONNECTIVITY

CASA-1000 Benefits to Partner Countries

Tajikistan & Kyrgyz Republic

- Major new source of revenue
- Builds new economic/diplomatic ties to South Asia

Afghanistan

- Receives revenue from transit fee
- Establishes Afghanistan as a reliable transit country

Pakistan

- Alleviates critical electricity shortages
- A new source of clean, reliable energy for millions of people



POWER CENTRAL ASIA

1	National Market Liberalization	<ul style="list-style-type: none">• National Energy Strategies updated• Optimal market design and frameworks developed• Cost reflective tariff methodologies established• Utilities modernized
2	Clean Energy	<ul style="list-style-type: none">• Strategies for scaling up clean energy developed• Renewable energy and energy efficiency integrated into energy decision making• Renewable energy and energy efficiency investment promoted
3	Regional Power Market	<ul style="list-style-type: none">• Cross-border commercial trade enabled due to open access to generation and transmission networks• Regional electricity market model developed• Harmonized technical and market frameworks developed

REGIONAL ELECTRICITY MARKET

Central Asia Governments

Providing consistent leadership and knowledge management

Private Sector

Investing and introducing advanced technology and knowledge

Central Asia Regional Electricity Market (CAREM)

Introducing a reliable electricity market built on modern, efficient, and secure infrastructure

Lowering costs for the consumer through open market trading

Increasing electricity trade and revenue

Leveraging a diversity of energy sources to ensure least cost electricity

Improving regulations, governance, and transparency

International Financial Institutions

Providing financing to rehabilitate and modernize infrastructure; focus on interconnections

United States Government

Harnessing and applying U.S. expertise in sector reforms, regulatory environment, and electricity trade

RENEWABLE ENERGY AUCTIONS

- Since 2017, USAID has assisted in Kazakhstan to conduct renewable energy auctions:
 - Introduced rules and methodologies
 - Built an IT platform
 - Assisted in analysis for integration to the grid
- Status on RE deployment by 2022:
 - 43 wind, 54 solar, 40 small hydro, 5 biogas
 - Total installed capacity of 2332 MW
 - Generation of 4220 mln kWh in 2021
- Resulting in substantial ceiling price
 - Solar power prices decreased by 57%
 - Wind prices decreased by 29%
 - Hydro prices decreased by 22%
- Benefits: transparency, lower cost, reduced GHG emissions



Kazakhstan

- Improve electricity market functioning and regulation
- Improve the operational performance of utilities and power system resilience
- Advance RE development, procurement, and grid integration
- RE courses for University
- Expand Demand Response Programs and Roof Top Solar
- Support low carbon transition strategies and climate change mitigation



RENEWABLE ENERGY

Tajikistan

- 200 kW solar plant paired with a battery energy storage
- Assisted Sebzor hydropower plant
- Renewable energy zones

Uzbekistan

- Conducted renewable energy system impact studies
- Procured renewable energy laboratory equipment
- Conducted pre-feasibility study on small hydro

Kyrgyzstan

- Supported Kyrgyz Electricity Settlement Center with legal and regulatory guidance

Turkmenistan

- Proposed a Renewable Energy Action Plan
- Proposed improved RE legislation
- Proposed RE pilots



ENERGY EFFICIENCY

Combined Heat and Power

- Conducted energy efficiency assessments for 8 CHPs in Kazakhstan
- Identified 25 efficiency measures and business plans for bankable projects
- Produced detailed technical and economic analysis



United States Energy Association USEA

MEETING ENERGY SECURITY PRIORITIES & RENEWABLE ENERGY TARGETS

- Grid Integration of Renewable Energy
- Power Sector Modeling & Planning
- Energy Sector Digitization & Cyber-Security
- Improvement of Transmission Networks
- National Electricity Markets



National Association of Regulatory Utility Commissioners NARUC

Energy Regulatory Partnership Program

- Capacity building and the sharing of experience
- Attract investment while protecting consumers' interests
- Transparent and cost-reflective energy pricing
- Regional engagement and developing common regulatory best practices



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