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# Power the Future Program (PtF) and Central Asia Regional Electricity Market Project (CAREM)

Central Asia Regional Economic Cooperation  
Energy Sector Coordinating Committee  
April 10, 2019  
Tashkent, Uzbekistan

# Power the Future Program



## Project Background

- Regional Project – C5+I Initiative
- Kazakhstan, Uzbekistan, Tajikistan, Kyrgyzstan, Turkmenistan  
August 2017 – August 2021



# Power the Future Program

## Kazakhstan

1. RE Auctions support
2. Development of the Least Cost Generation Plan (LCGP)
3. RE Integration Analysis
4. RE interconnection requirements and equipment standards
5. CHP Energy Efficiency

# Power the Future Program

## Kazakhstan (RE Auctions Results)

1. Out of proposed for auction 1000 MW of RE, 857 MW are awarded
2. The lowest price for solar was 4.8 US Cents, 48% price reduction
3. The lowest price for wind was 4.6 US Cents, 23% price reduction
4. Local and international investors (France, Italy, Netherlands, UAE, Bulgaria, Turkey, Russia, China and Kazakhstan)
5. PPAs are in the process of signing



# Power the Future Program

## Activities in other CA countries

### Tajikistan

- 200 kW Solar PV Pilot Project in Pamir
- Support to RE fund

### Uzbekistan

- Ministry of Energy established
- Government is negotiating an establishment of RE agency
- Procurement of RE laboratory equipment
- Development of RE Road Map

### Kyrgyzstan

- Technical analyses, RE regulations

### Turkmenistan

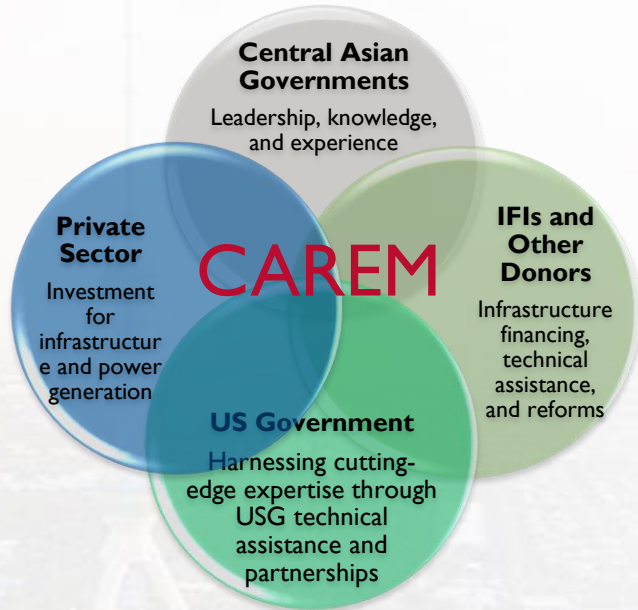
- Action plan submitted – under review by the Government



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# Central Asia Regional Energy Market

## Accelerating Electricity Security and Economic Growth



### Goals

- Reliable electricity market with a modernized infrastructure
- Lower costs for the consumer
- Financially secure and sustainable power sector
- Regional system coordinator established and operational
- Transparent trading platform established and fully functioning
- Legal and regulatory standards for governing an integrated regional power market
- Improved regulations, governance, and transparency

### Results

- Energy Security
- Greater Economic Growth
- Open markets
- Diversified power generation
- Increased electricity trading
- Significant jobs created
- Improved regional connectivity between CA and SA countries

**CAREM  
Assistance**

Technical  
Assistance

Institutional  
Strengthening

IFI Financing

Infrastructure  
Development

Knowledge  
Management

Policy and  
Regulatory  
Reform



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# Central Asia Regional Energy Market

## Existing Central Asia Electric Grid

- Central Asia's integrated electric grid was developed in the 1970s under the Soviet Union
- Designed to optimize fossil fuels and water resources
- Balance between power generation and irrigation water needs
- Cross border trading is 10% of the Soviet Union era



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# Central Asia Regional Energy Market

## Why CAREM?

- Highly concentrated and diverse energy resources
- National power systems are aging (e.g. generation and transmission)
- Open market trading can allow for lower electricity prices
- Increased revenues by selling surplus electricity
- Export of electricity is a valuable source of foreign currency
- More efficient utilization of power generation and increased energy efficiency
- Increasing export opportunities will help increase of RE projects



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# Central Asia Regional Energy Market

## USAID Assistance

- Establish a fully transparent market-based regional power system
- Help implement sector reforms
- Support the adoption of regional policies, laws, regulations, rules and standards
- Support development of a regional trading platform
- Support rehabilitation and modernization of transmission infrastructure focusing on interconnections



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# Central Asia Regional Energy Market

## Planned Activities

- Assistance in establishment of an Inter-Governmental Council and Technical and Market Working Groups
- Examine current conditions of national transmission systems
- Develop agreements between National Transmission System Operators
- Develop the concept of Regional Power Market
- Assistance of CDC “Energia”



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# Central Asia Regional Energy Market

## Planned Activities (cont.)

- Improvement of electricity sector regulation and financial sustainability
- Support capacity, efficiency and accountability of market stakeholders
- Establishment of effective safety net programs
- Improve conditions that facilitate increased trade
- Propose solutions to resolve customs and tax issues
- And much more



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# Central Asia Regional Energy Market

## Next Steps

- Signing of MOUs with all 5 Central Asian countries
- Review of the legal and regulatory framework of each CA state and definition of obstacles for the Regional Electricity Market
- Data collection for technical analysis and review of the technical conditions of transmission system of CA countries
- Critical review of Kazakhstan's electricity market, including RE market and development of recommendations to support the regional integration



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