

# EBRD: Financing opportunities for Renewable Energy Sources projects in Central Asia

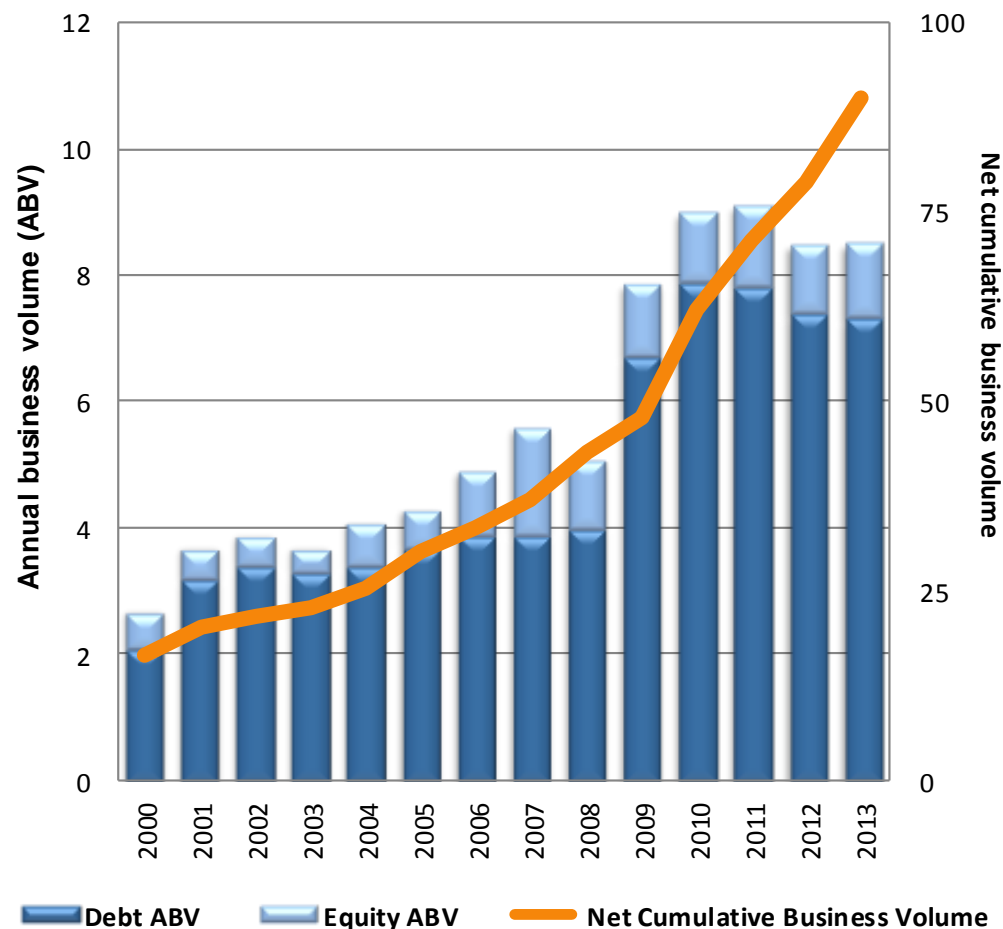
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**European Bank**  
for Reconstruction and Development

## Key figures

- **€90bn** invested since 1991
- **3,944** projects to date in 2013
- **€38bn** portfolio in 2013
- **86%** debt and **14%** equity in 2013
- **79%** of portfolio in the private sector in 2013
- **€8.5bn** invested in 2013
- **392** projects signed in 2013
- **AAA/Aaa** rated institution

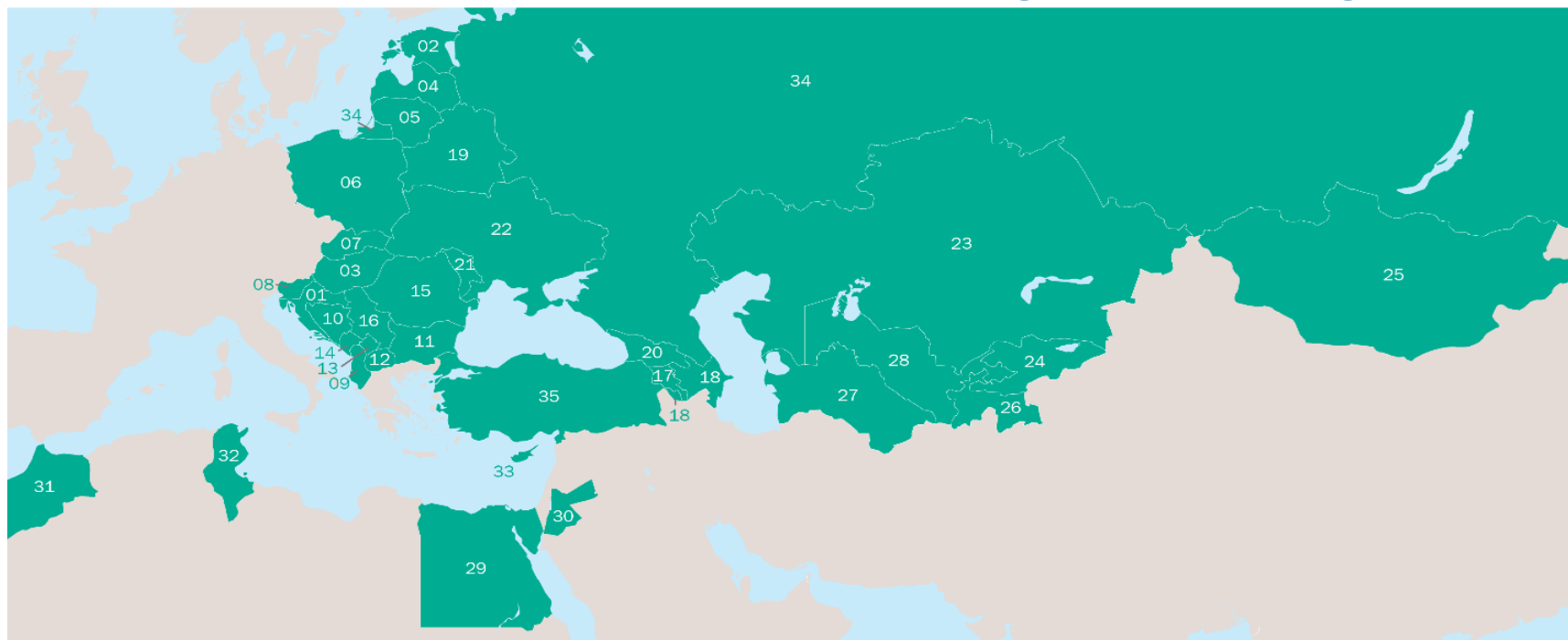


# Where do we operate?



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**38 offices and 34 countries. Half of banking team in the region.**



## WHERE WE INVEST

### Central Europe and the Baltic states

- 01 Croatia
- 02 Estonia
- 03 Hungary
- 04 Latvia
- 05 Lithuania
- 06 Poland
- 07 Slovak Republic
- 08 Slovenia

### South-eastern Europe

- 09 Albania
- 10 Bosnia and Herzegovina
- 11 Bulgaria
- 12 FYR Macedonia
- 13 Kosovo
- 14 Montenegro
- 15 Romania
- 16 Serbia

### Eastern Europe and the Caucasus

- 17 Armenia
- 18 Azerbaijan
- 19 Belarus
- 20 Georgia
- 21 Moldova
- 22 Ukraine

### Central Asia

- 23 Kazakhstan
- 24 Kyrgyz Republic
- 25 Mongolia
- 26 Tajikistan
- 27 Turkmenistan
- 28 Uzbekistan

### Southern and eastern Mediterranean

- 29 Egypt
- 30 Jordan
- 31 Morocco
- 32 Tunisia

### 33 Cyprus

### 34 Russia

### 35 Turkey

## Loans

- Project-based financing to public or privately-owned companies and concessionaries
- Senior, subordinated, convertible
- LT (up to 10 years or more) or ST revolving
- Floating / Fixed rates.
- Choice of currencies (€, \$, KZT, RUB)
- Possibility to structure A/B financings and syndicate to market

## Equity

- Common stock or preferred
- Minority position only (up to 35%)
- Mezzanine

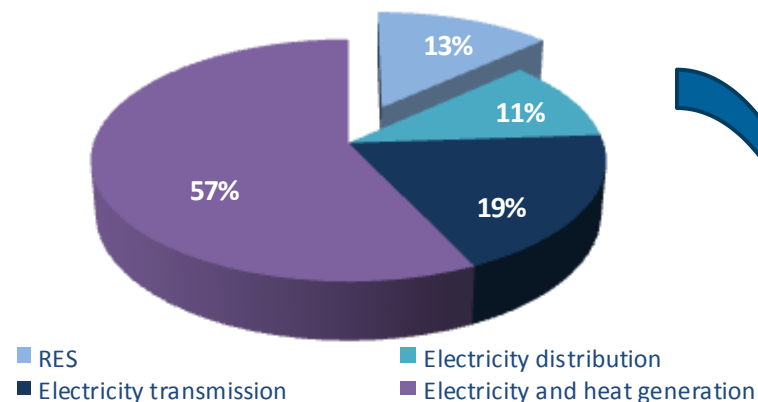
## Other

- Partial guarantees
- Currency swaps
- Bonds
- TCs and facilities

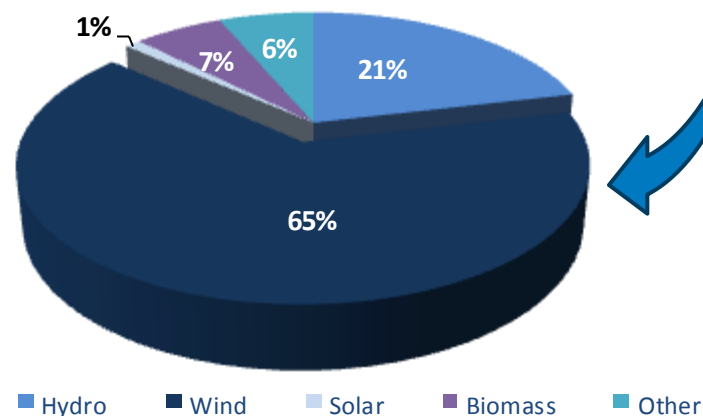
# EBRD exposure to Renewables

- Since 1992, EBRD has financed 44 RES projects for the total amount of about €1 bn or 13% of all investments in power sector
- Regional focus (top-3):
  - Romania – 14.8%
  - Bulgaria – 14.4%
  - Turkey – 13.5%
- Syndication: Total amount of syndicated loans for RES projects – €228 million

## Investments in power sector



## Investments in RES projects



Source: EBRD

- Long-term agenda to reduce GHG emissions through market based mechanisms
- Environmental and Social Policy plays a crucial role (IED, BAT)
- Supporting EITI (Extractive Industries Transparency Initiative)
- Laying the foundations for Carbon Capture Storage (CCS)
- Regulatory best practices
- Gas Flaring Reduction
- Demand side management

## Our Regional Focus

- Dedicated sector approach and multidisciplinary teams
- 11 professional bankers focused on Russia and Central Asia with permanent presence in: Almaty, Astana, London, Moscow

# Global Energy Sector Challenges



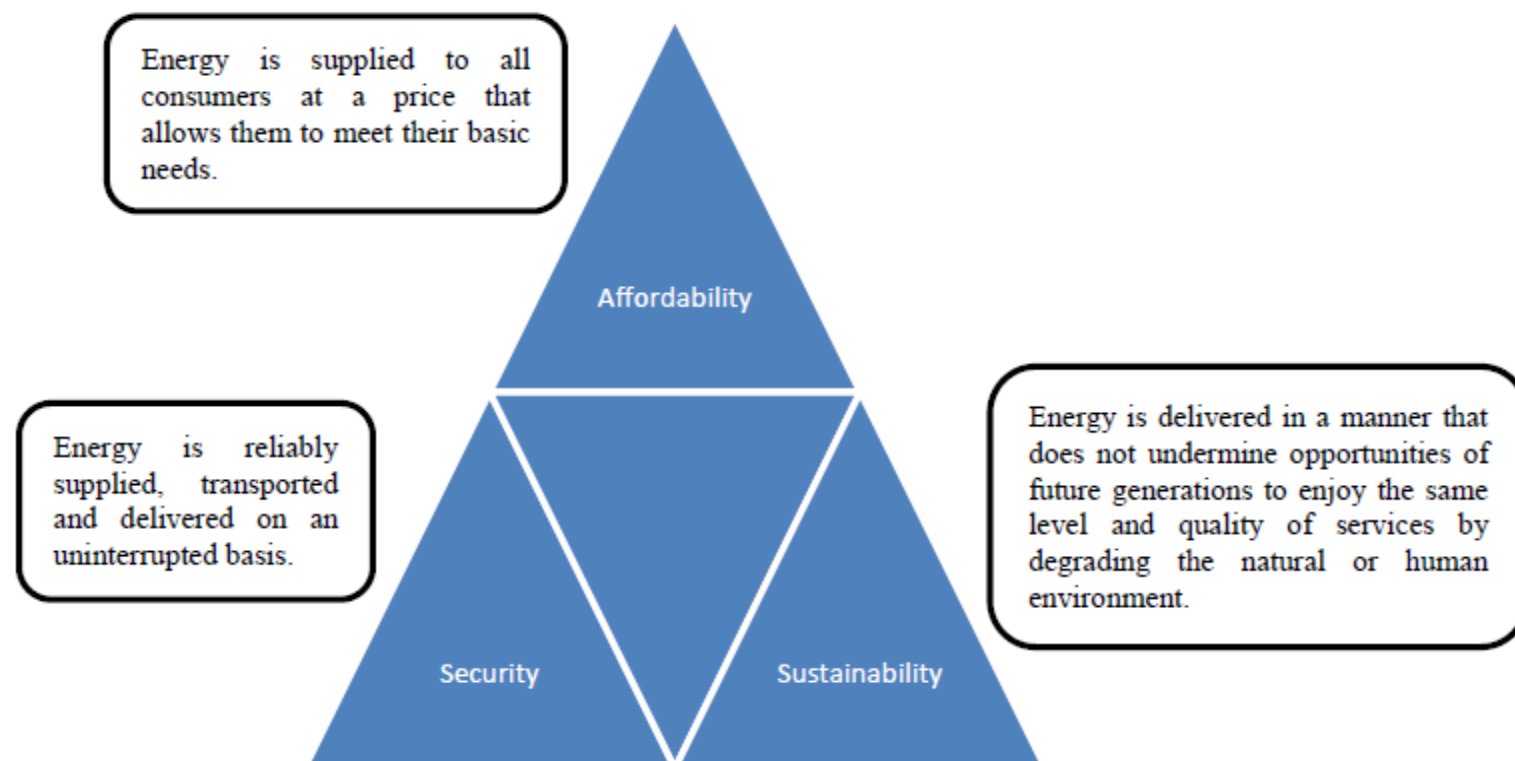
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- Rapidly changing environment
  - Global financial and economic crises
  - Climate change agenda
  - Dramatic growth in renewable energy generation
  - Smart infrastructure and decentralized energy systems
  - Unanticipated revolution of unconventional reserves
- Persistent challenges
  - Small markets, not cost-reflective prices and limited private participation, damaging explicit and implicit subsidies
- Security, affordability and sustainability
- Operational approach

# Striking a Balance “TRILEMMA”



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# Renewables in Kazakhstan

## *General framework*

- Significant renewable energy resources
  - **Mostly hydropower** plants
  - Wind potential estimated at 18 TWh per year\*
- A new strategic initiative launched – “**Green Economy**”
- **Renewable Energy Law** passed in June 2013 accompanied with a number of other acts in 2014, which set:
  - **Priority of dispatch** for electricity generated by RES
  - **Specific rules for RES’ connection** to grid supplementing the Grid Code
  - **15 year feed-in-tariffs** indexed at CPI
  - **The unified off-taker** – the Cost Settlement Centre (“CSC”) within the National Grid operator
  - The Ministry of Energy (“ME”) as **a policy making body** for RES

# Renewables in Kazakhstan

## *Opportunities and Challenges*



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### Starting point

- Exceptional resource potential (especially wind, solar, hydro) for developing renewables
- Strong but pragmatic political will – Green Energy Strategy in Kazakhstan
- Existing legal framework, support mechanisms (FIT, CSA)
- Untested market

### Challenges

- The costs of renewables remain significantly above conventional power
- Intermittent and unpredictable nature of wind and solar power, seasonality of hydro
- Growing competitiveness of technologies
- Impact of large power volumes interfering with system stability because of priority of dispatch (no balancing market).

### Opportunities

- Attracting reputable foreign and local investors
- Attracting “know-how” and the best available technology on the market
- Diversification of the economy relevant for the energy sector dominated by aged coal-fired CHP
- Carbon footprint and emission reduction
- Supply of carbon credits to the carbon credit market currently being launched

# Renewables financing

## *Project requirements*

- Reliable, financially stable shareholders (sponsors) of the project, preferably with successful experience in implementing similar projects
- The use of advanced technologies for renewable source facilities
- Adequate cost of equipment, construction, and the total project cost
- Confirmation of renewable energy resources potential
- For the wholesale market:
  - Projects successfully passed competitive selection (CSA for RES)
  - A project should comply with the requirements for "qualification of renewable energy generation facility"
- For retail:
  - Confirmed tariff level providing for reasonable project returns
  - Long-term contract(s) for the supply of electricity with reliable consumer / customer in the contract with a fixed minimum level of price / price formula

# EBRD and Renewables

## *What role can we play?*

- 'Bankable' transactions attracting other lenders + third party finance
- Promoting dialogue amongst Sponsors, Governments, Civil Society
- Help organise independent due diligence and in introducing international public procurement principles
- Experience in transactions with complicated environmental aspects
- Addressing project problems through technical design improvements
- Assisting in preparation of feasibility studies (e.g. wind and solar reports)
- Project implementation assistance
- Technical co-operation: policy dialogue & finance

### **CLIENT**

Shardarinskaya GES, fully owned by Samruk-Energo, a state-owned power subsidiary of the National Welfare Fund, Samruk-Kazyna

### **PROJECT**

The first modernisation of a Kazakh hydropower plant since Soviet times

Involves full replacement of all major mechanical and electrical equipment and control systems with state of the art equipment

### **FINANCIAL STRUCTURE**

EBRD loan (*all SEI*) € 46 million



### **EXPECTED IMPACT**

Energy produced: 700,000 MWh per year

Increase in capacity by 24%  
(final capacity of 124 MW)

Emission reductions: 875,000 tCO<sub>2</sub> per year

# Energy efficiency (2009)

## *The first equity investment in Kazakh power sector*



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### CLIENT

CAEPCO, the largest private power and district heating company in Kazakhstan.

### PROJECT

Equity and debt investment for the upgrade and rehabilitation of the company's generation and distribution assets.

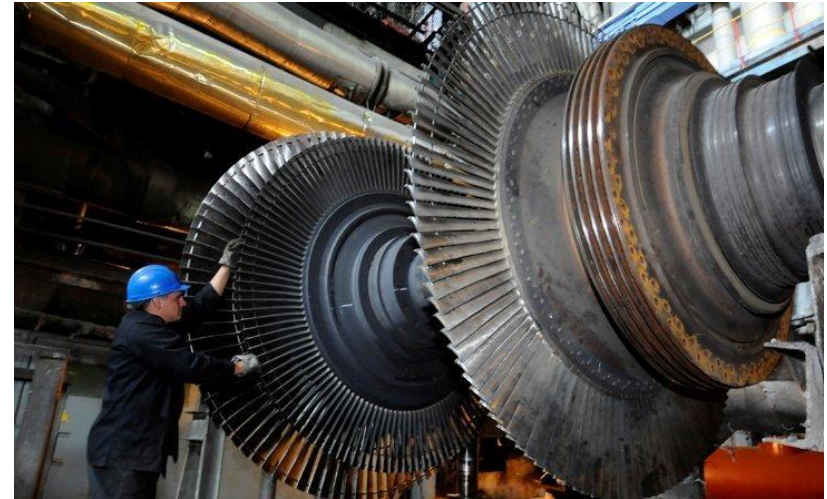
### TECHNICAL ASSISTANCE

Identifying priority rehabilitation and efficiency improvement projects; and assisting in the improvement of distribution tariffs benchmarking.

### FINANCIAL STRUCTURE

EBRD equity (all SEI): € 43 million

EBRD loans: € 93 million (USD-denominated)



### EXPECTED IMPACT

Improvement of overall cogeneration efficiency: from 45% to more than 60%

Emission reductions (based on current operation): around 1.3 million tCO<sub>2</sub> per year

# Qairokkum Rehabilitation (Tajikistan, 2014)



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## CLIENT

OSHC Barki Tojik

## STATUS

On-going

## FUNDING

USD 75 m

## PROJECT

The project involves rehabilitation of hydro-mechanical and electro-mechanical equipment of two units out of six at the Qairokkum hydro power plant.

For this project, the EBRD acted as a catalyst to attract co-financing from the Pilot Program for Climate Resilience of the Climate Investment Funds.

## EXPECTED IMPACT

Rehabilitation will increase current installed capacity of the plant from 126MW to 142MW by installing two new turbines with increased rated capacity, which shall prevent unnecessary discharge of water through spillways and generate more electricity with the same flow of water. The project shall also raise the safety level of the power plant and strengthen its resilience against projected impacts of climate change.

## TECHNICAL COOPERATION

€800,000 was provided by the Austrian Technical Cooperation Trust Fund to prepare the feasibility study for the plant rehabilitation. In addition, the following technical assistance is envisaged: international assistance to the Project Implementation Unit; climate resilience and energy sector regulation cooperation programs.

# Transmission (1999 - 2011)

## 5 loans to National Power Transmission Operator



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### CLIENT

Kazakhstan Electricity Grid Operating Company  
KEGOC JSC

### PROJECTS

5 loans progressing from sovereign-guaranteed  
to project finance structure

- KEGOC Transmission and Rehabilitation
- KEGOC: North-South Power Transmission
- KEGOC: Ekibastuz-YukGres power transmission
- KEGOC Modernization II
- KEGOC Ossakarovka

### FINANCIAL STRUCTURE

5 loans progressing from Sovereign-Guaranteed  
to Project Finance structure



### EXPECTED IMPACT

Improved reliability of supply, reduction of  
transmission losses and development of the  
regional electricity trade

# Contacts



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