



European Bank
for Reconstruction and Development

Financing renewable and efficient district energy systems: Opportunities and challenges

Energy Solutions for Cities of the Future

May 2020

EBRD

Who we are



European Bank
for Reconstruction and Development

An international financial institution supporting the development of sustainable well-functioning market economies

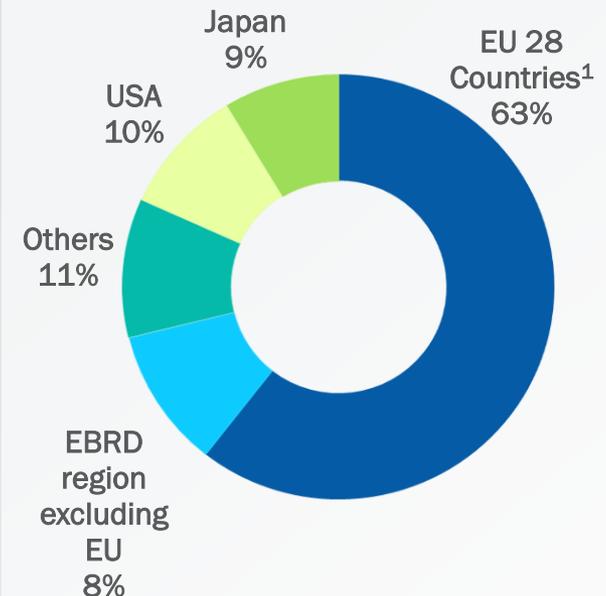
Highest credit rating
(AAA/Aaa)

Owned by 66 countries and 2 inter-governmental institutions
(the EU and EIB)

€30 billion authorised capital

- 1991** Established
- 1992** Russia and 11 other members of the former Soviet Union join
- 2007** The Czech Republic becomes the first country to “graduate” from the EBRD
- 2012** Starts investing in Egypt, Jordan, Morocco and Tunisia
- 2016** 25th anniversary; China becomes 67th member
- 2017** Lebanon became a country of operation and the Bank also commenced operations in West Bank and Gaza

Shareholding structure



1. Includes European Community and European Investment Bank (EIB) each at 3%. Among other EU countries: France, Germany, Italy, and the UK each holds 8.6%

Where we invest

Increasing footprint



European Bank
for Reconstruction and Development

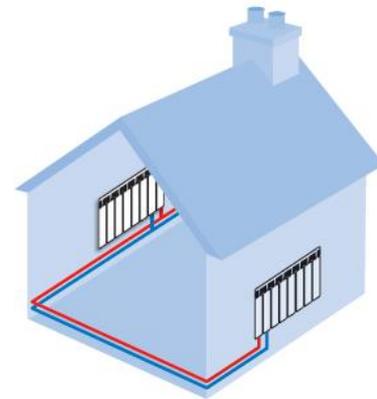
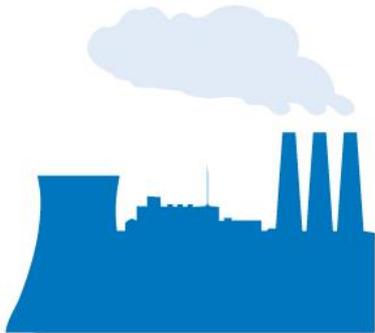


The Challenge



European Bank
for Reconstruction and Development

District energy operators in 'Economies in Transition' require significant investment to upgrade aging network and consumer infrastructure and make greater use of renewable or waste energy sources. They face different challenges than those seen in Western Europe and may have contrasting investment needs or policy priorities.



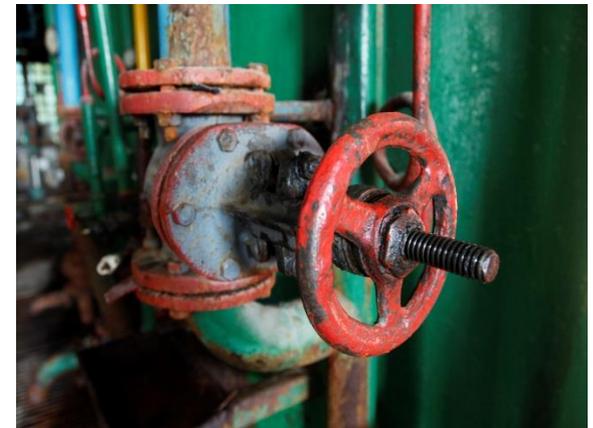
DE Company Level

- Sub-Sovereign loans often co-funded by donor grants
- PPPs, private loans and equity investments
- Heat generation (excl. coal), network and demand side improvements
- Assistance with feasibility through to implementation



Country or Sector Level

- National framework agreements
- Policy paper series “Making District Heating Happen”
- Technical cooperation projects with Government agencies



EBRD DE Financing Approach



European Bank
for Reconstruction and Development

Financing Options



Investment Size

€ 5 million to € 150 million



Renewable District Energy in the Western Balkans



Aim to enable renewable DE investment in:

- Albania
- Bosnia and Herzegovina
- Kosovo
- Montenegro
- North Macedonia
- Serbia

Funding is available for:

- Policy support for renewable DE
- Project preparation and feasibility
- Capacity building and networking

Special focus on solar DH

ReDEWeB@EBRD.com

EBRD Green Cities Framework



European Bank
for Reconstruction and Development

€1 billion framework to support cities to identify, benchmark, prioritise and invest in Green City measures to improve urban environmental performance through:



Delivery of strategy and policy support

Green City Action Plans (GCAP)
Policy dialogue



Building capacity of city administrators
and key stakeholders



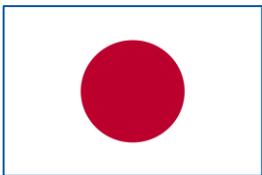
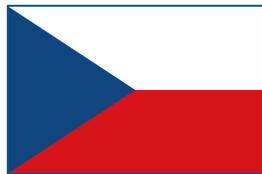
Facilitating and stimulating Green City infrastructure investments

Urban Transport	Water & Wastewater
District Energy	Building Energy Efficiency
Solid Waste	Street Lighting
Renewable Energy	Climate Change Resilience



Donor Support

GCAP development and Green City projects have received donor support from:



**GREEN
CLIMATE
FUND**

Green Climate Fund – approved €87m of funding for EBRD Green Cities – funding is available to 9 countries:

- Albania
- Armenia
- North Macedonia
- Georgia
- Jordan
- Moldova
- Mongolia
- Serbia
- Tunisia

Banja Luka District Heating Bosnia and Herzegovina



European Bank
for Reconstruction and Development

EBRD Finance	€ 8.35 million
GHG Reduced	45,750 tonnes of CO ₂ eq / yr

Supporting the City of Banja Luka for the purchase of an equity stake in a new district heating Company 'Eko Toplane'.

- New 49 MW biomass boiler plant replacing heavy fuel oil based capacity
- Green City Action Plan preparation
- City adopted a new tariff structure



Abdali District Heating & Cooling Project

Jordan



European Bank
for Reconstruction and Development



EBRD Finance

€ 26.6 million

GHG Reduced

~15,000
tonnes of CO₂ eq / yr

New system for a major commercial, leisure and residential redevelopment in Central Amman operated by the part-private Jordan District Energy Company.

- New 110 MW (31,000 TR) ammonia cooling plant
- ~40% energy savings
- Reduced peak electrical demand
- Minimal water consumption (air cooled plant)



In Conclusion



European Bank
for Reconstruction and Development

The Bank will continue to support technical innovation in the sector and enhanced private sector participation.

- Renewable heat generation (biomass, solar and geothermal), EfW and waste heat utilisation
- Thermal storage and integration with renewable electricity generation
- Support for PPPs
- Equity stakes or direct investment



Questions



European Bank
for Reconstruction and Development

For all further enquiries, please contact:

Greg Gebrail

Sector Specialist – District Energy

Tel: +44 20 7338 7480

Email: gebrailg@ebrd.com

EBRD

One Exchange Square

London, EC2A 2JN, UK,

www.ebrd.com



In order to become a part of EBRD Green Cities, cities must meet the following criteria:

(1) Located in EBRD's Countries of Operation

(2) Population \geq 100,000

(3) Conduct a Green City Action Plan

(4) Initiate 'Trigger' Infrastructure Project

In one of the following sectors:

- Solid Waste
- Water & Wastewater
- Urban Transport
- District Energy
- Public Building Energy Efficiency
- Renewable Energy
- Climate Change Resilience
- Street Lighting

(5) Projects must target a 20% reduction in GHG emissions, energy or resource consumption, or pollution or help city adapt to climate change