

# EBRD GREEN BUILDINGS ACTIVITIES

Climate smart cooling solutions for sustainable buildings in Eastern Europe -  
regional technical expert meeting on climate mitigation

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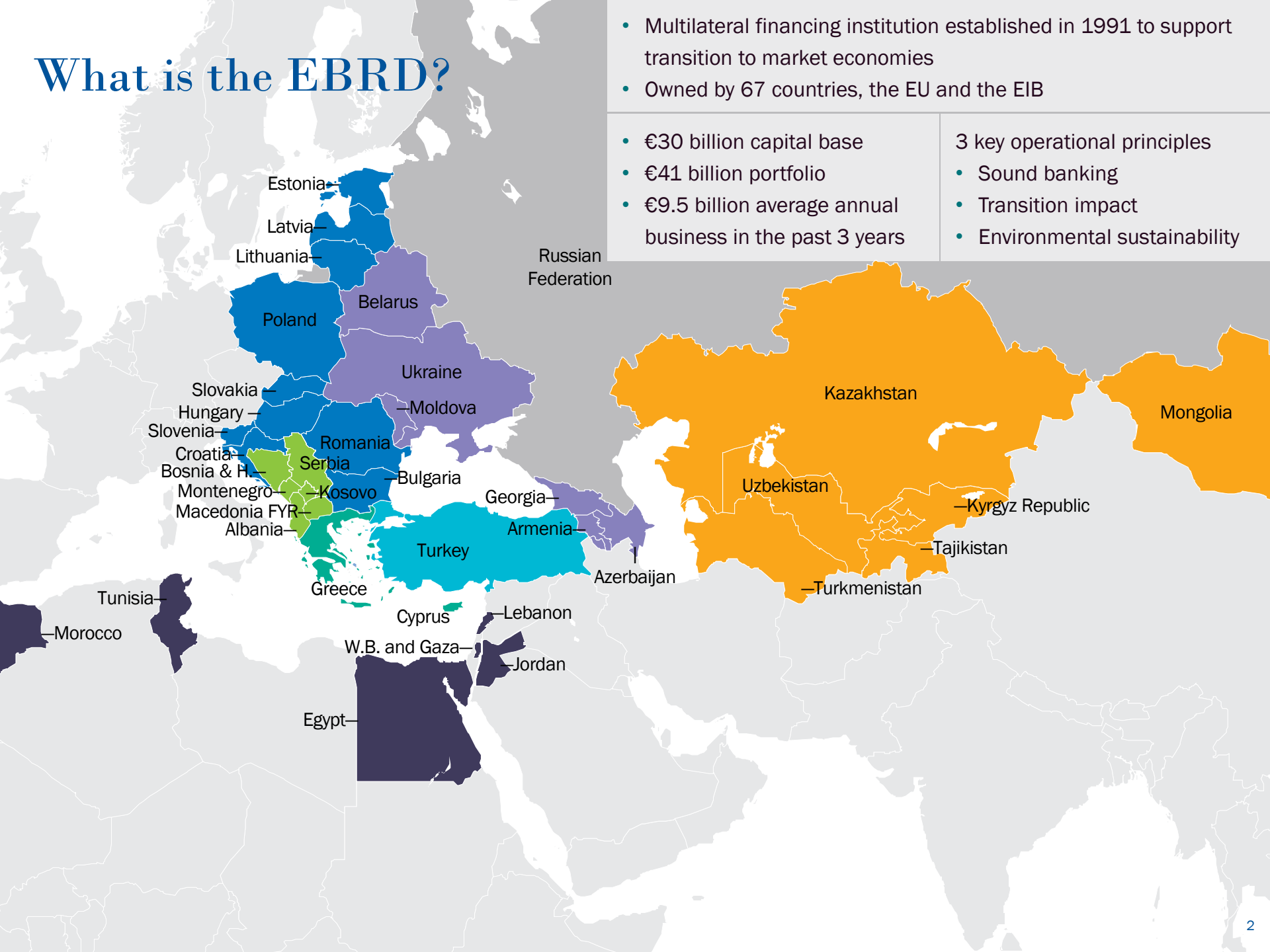
**European Bank**  
for Reconstruction and Development

# What is the EBRD?

- Multilateral financing institution established in 1991 to support transition to market economies
- Owned by 67 countries, the EU and the EIB

- €30 billion capital base
- €41 billion portfolio
- €9.5 billion average annual business in the past 3 years

- 3 key operational principles
- Sound banking
  - Transition impact
  - Environmental sustainability



## Context

The EBRD's engagement in the context of its countries of operations:

- High share of heavy industry
- Ageing infrastructure
- Lack of market-based pricing for energy
- High energy intensity

## Response: Green Economy Transition (GET) Initiative

As part of GET, the EBRD invests heavily in:

- Climate Change Mitigation
- Climate Change Adaptation
- Resource Efficiency
- Environmental Improvements
- Innovation in 'green' sectors

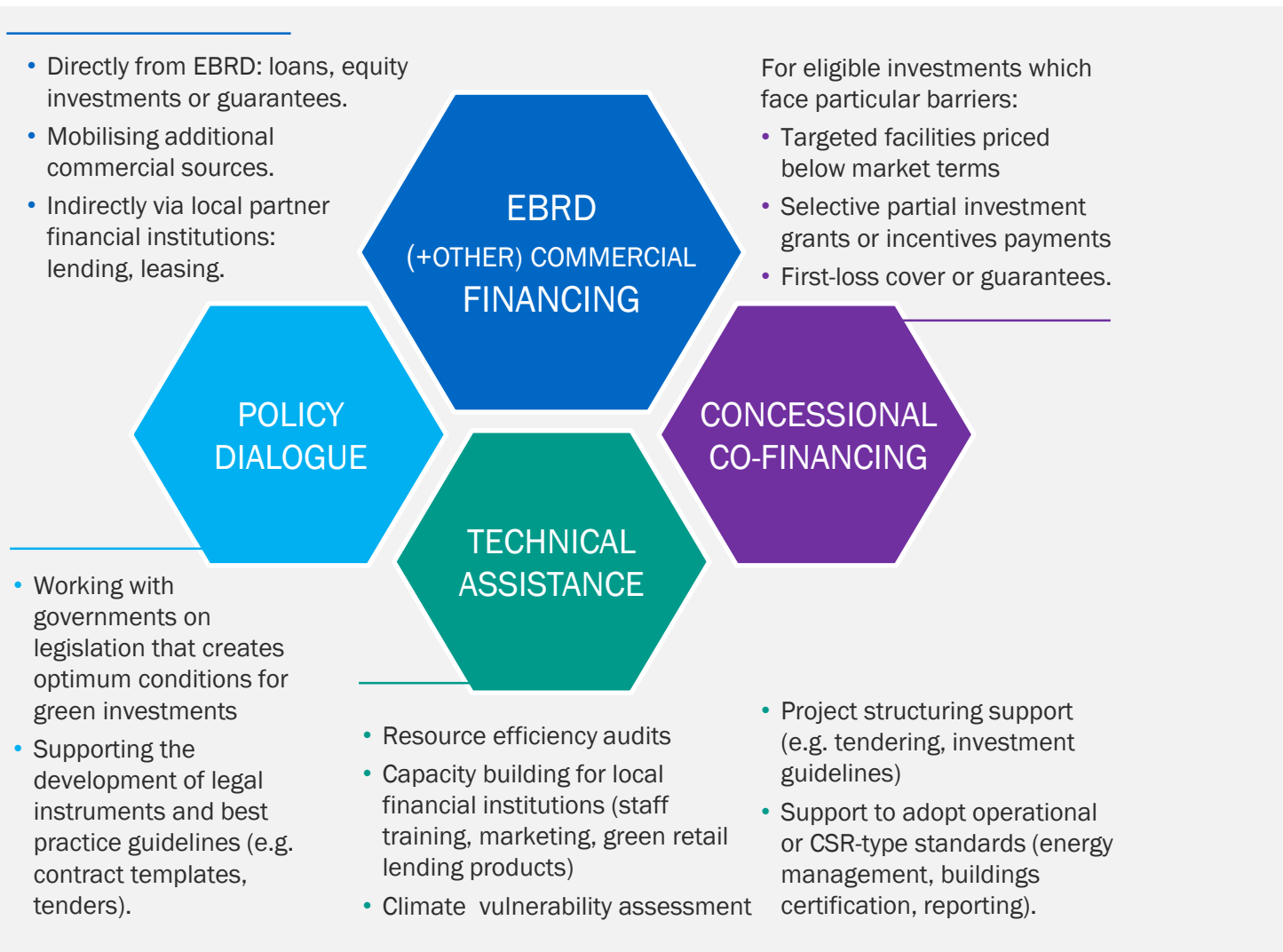
## Relevance of the building sector

- The Building sector is the largest energy consumer in the EBRD region (around 40% of the final energy consumption)
- The Building sector has been one of the key priority areas for EBRD's climate actions since 2012
- Over EUR 3.8 billion resource efficiency and green building investments since 2008 in 260+ larger size transactions
- Including up-grade or green construction of over 63,000 building assets
- GBA of about 30 million m<sup>2</sup> of up-graded or green buildings

# Green financing - EBRD business model



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# Dedicated green building financing products

## Specific financing products:

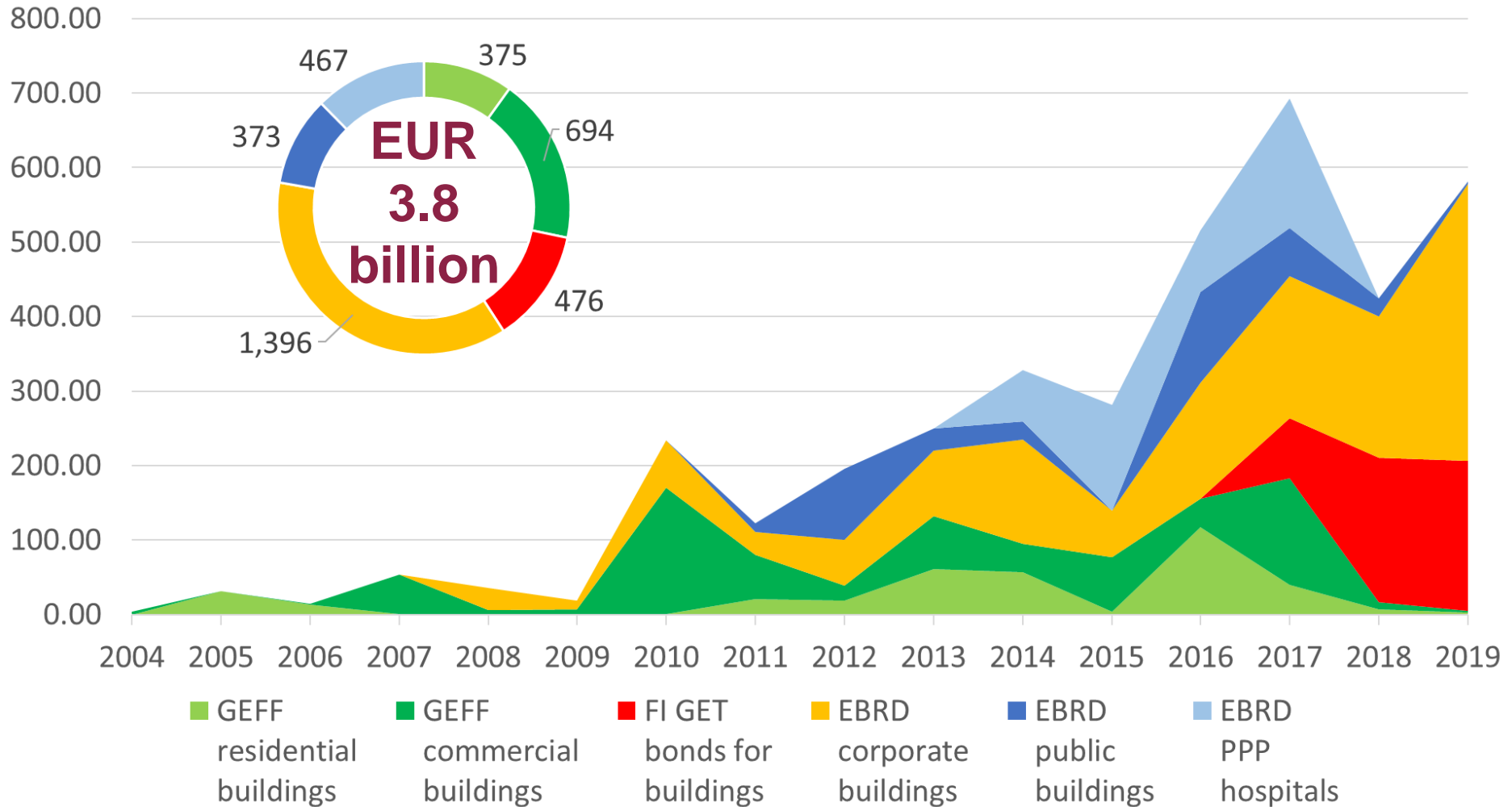
1. Dedicated credit lines (Financing Facilities) through local financial intermediaries (*any buildings*)
2. Structured financing: EPC/ESCOs/ Forfeiting (*residential, public buildings*)
3. Larger scale PPP framework programs (*greenfield and brownfield public buildings*)
4. Labelled green property bonds (*commercial/public buildings*)
5. Urban regeneration projects / Green City action Plans (*public and residential buildings*)
6. Sustainable retail (*commercial buildings*)
7. Sustainable property funds (*commercial and private residential buildings*)

### Notes:

- a) Tailor-made products reflecting specifics of the EBRD region
- b) Specific products to tap on opportunities in market segments commercial, public and private residential buildings
- c) “Green” buildings are understood in the meaning of both greening existing buildings in a cost-effective way as well as greenfield developments built in a low-energy/carbon way, and compliant with the best industry standards

# EBRD financing to date

## EBRD investment into buildings (million Euro)



# Case study 1: Urban Regeneration: Integrating resource efficiency and climate resilience in buildings in Jordan

## CLIENT

A Jordanian shareholding company, majority owned by a leading private real estate developer in the MENA region, and partially by a state-owned corporation established to drive urban regeneration projects.

## PROJECT

Support for the construction of a retail and entertainment centre as part of the larger Abdali Urban Regeneration Project in Amman. This is the largest mixed-use development undertaken in Jordan.

EBRD involvement contributed with special emphasis on climate resilience and efficient building services:

- Energy efficient design: highly efficient heating and cooling system design, use of natural light.
- Materials efficiency: use of GGBS concrete (ground-granulated blast furnace slag, a metallurgical by-product), recyclable polyester roofing;
- Water efficiency: rain water harvesting, grey water recycling.

## INVESTMENT PLAN

EBRD loan	US\$ 80 million
of which environmental financing	US\$ 52 million
External	US\$ 239million
Total project value	US\$ 319million



## IMPACT OF PROJECT

- Advanced efficiency measures in electrical systems and district heating and cooling design will lead to 6,000 tCO<sub>2</sub> emission reductions annually.
- The mix of materials used will result in an overall carbon footprint 10% lower than common practice.
- Water efficiency measures enhance regional resilience to increasing water stress. Water savings amount to 2,400 m<sup>3</sup>/year
- Energy savings amount to 19,200 MWh/year



# Case study 2: Urban regeneration – DOWNTOWN CARIO (Phase 1), Egypt

## 1. CLIENT

**Al Ismaelia** for Real Estate Investment S.A.E., a joint stock company organised in Egypt for the purposes of acquiring, refurbishing, leasing out and managing historic buildings in Downtown Cairo. After the introduction of new property laws, building owners gave little attention to the upkeep of their buildings. This caused a major deterioration of the area's urban conditions.

- Objective: Refurbishment and commercialisation of a number of historical buildings (Phase 1 of Downtown Cairo Urban Regeneration)

## 2. Financial Structure

- 2012 EBRD Loan € 3.1 million
- GET Investment € 2.1 million
- **Total Project Value(TPV)** € 7.6million

## 3. TECHNICAL ASSISTANCE

- Develop a strategic implementation plan for the regeneration of the area, maintaining its cultural and historical heritage, and conducting energy and resource audits of major buildings in the area

## 4. EXPECTED ENVIRONMENTAL IMPACT

- Water Savings: 11,853 (m3/y)
- Primary Energy Savings: 5,581 (GJ/y)

## 5. EBRD Contribution

- Taking stock of many urban regeneration schemes proposed: analyse, salvage, and integrate
- State of the art techniques (including LED lighting, high efficiency AC, up-grade of the building fabric preserving historical outlook, use of renewables – solar thermal in a non-intrusive way
- Recommendations aligned with existing policies and stakeholder roles (all tasks), taking particular note of emergent initiatives
  - Urban regeneration policy platform that distils our policy recommendations into a series of concise, discrete, and focused directives.

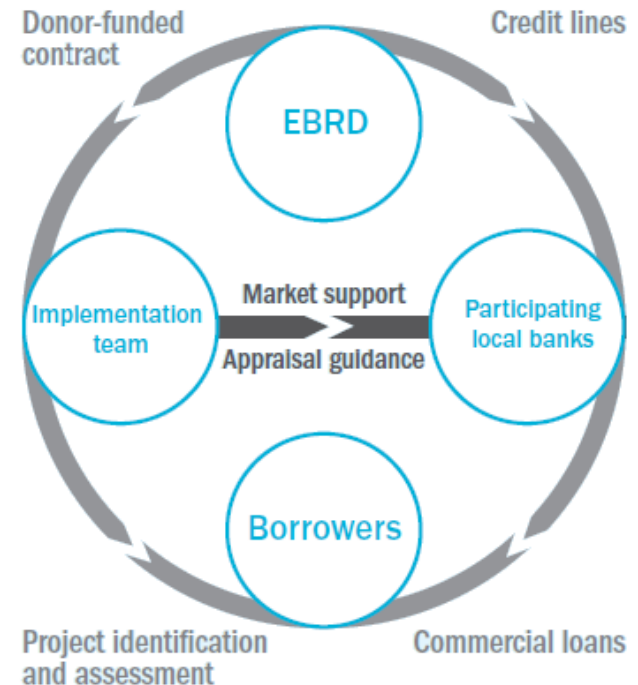




# Case study 3: Green Economy Financing Facility (GEFF) and EBRD's Technology Selector



- GEFFs are a good example of products that blend both public and private finance.
- Through GEFFs the EBRD extends credit lines to local financial institutions seeking to develop sustainable energy and resource financing as a permanent area of business.
- Local financial institutions on-lend funds to small and medium-sized businesses, corporate and residential borrowers.
- Finance is provided for energy efficiency and small-scale renewable energy, water and waste efficiency projects.
- GEFFs establish project implementation teams who support local financial institutions and their clients.
- GEFFs are effective in reaching a wide range of small and medium-sized business and residential clients.



# GEFFs in residential building sector

## MunSEFF: Slovakia, Hungary

(2012-2015)

EBRD financing: EUR 90 M

Total of 402 sub-projects

- 219 residential
- 114 municipal building EE
- 69 municipal infrastructure EE

Out of 183 municipal projects, 46 implemented by ESCOs

Delivered energy savings (heat and electricity) of 58.1 GWh/year

Portfolio-wide primary energy saving cost of EUR 54/ MWh

## SlovSEFF: Slovakia

(2007-2012)

EBRD financing: EUR 190 M

500 sub-projects

Grant Incentives – 10-15% of loan amount

Average Savings – 34%

Total Share of CO<sub>2</sub> Emissions Reduction – 23%

Eligible Sub-projects:

- Financing Housing Associations and Housing Management Companies for retrofit of apartment buildings
- Small-size renewable energy projects
- EE improvements in SMEs

## REECL: Bulgaria

(2005-2017)

EBRD financing: EUR 110 M

53,300+ sub-projects

Grant Incentives – 10-20% of loan amount

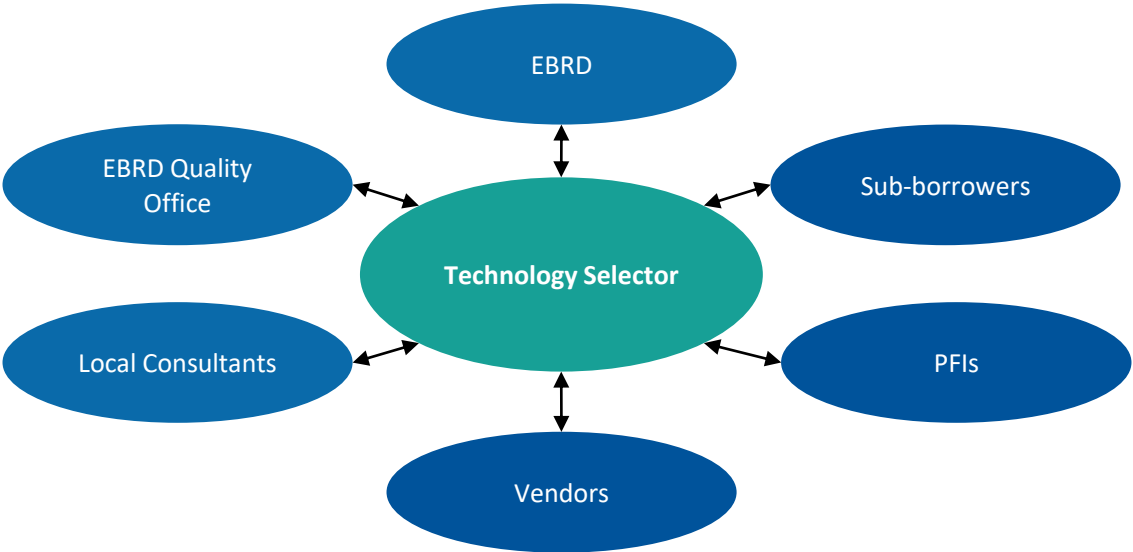
Eligible Sub-projects:

- Products, materials and technologies from a pre-approved list of products, compliant with requirements beyond national regulations
- Individual dwellings (family houses and apartments)
- EE techniques in green-field residential developments (EPC of B+, A, A+)
- EE improvements in SMEs

# GEFF's Global Technology Selector: Definition

- ✓ Technology Selector is a web-based tool.
- ✓ Technology Selector is a tool that helps in identifying technologies eligible for GEFF financing.
- ✓ Technology Selector is a list of available and eligible technologies which met the minimum performance requirements thus guarantee energy savings in comparison to the common used technologies.
- ✓ New products are continuously verified by the experienced engineers.
- ✓ EBRD various tools: Technology Selector, FinTECC, and Innovation Vouchers

# GEFF's Technology Selector: Business case and Stakeholders



# GEFF's Technology selector: Business case

## Financial benefits

- Scaling up - the standardisation leading to streamlining of fund utilization
- Optimized budget
- Optimized resources

## Availability

- Web-based
- Clear procedures and simple rules
- Non-stop access to the list
- Non-stop access to reporting

## Technical advisory

- One central Quality Office
- Easy eligibility check
- Product quality increase
- One brand
- Knowledge hub

## Market benefits

- Competitiveness of GEFF vs. other programmes
- Product quality increase
- Easier negotiations with the Donors
- Easy to sell the idea to the PFIs
- One brand – easier marketing, optimization of resources
- One big data base – stronger brand, PFIs, vendors
- Easy GEFF start-up
- Audit trail
- Transparent methodologies

# GEFF's Technology Selector: Categorisation

- Windows
- Glazing
- Doors

**Windows & Doors**




- Thermal conductivity
- Thickness
- Fire resistance and other

**Insulation**



- Biomass boilers
- Gas boilers
- Oil boilers
- Solar thermal collectors

**Boilers**




- Air/Water/Ground source heat pumps

**Heat Pumps**




- CHP Combustion engine
- CHP Gas turbine
- Photovoltaics
- Battery storage

**Power & Generation**



- Air/Water-cooled chillers
- Absorption chillers
- Passive cooling

**Cooling**



- Compressed Air
- Electric Motors
- Circulators
- Water pumps

- Injection moulding
- Extruder machines
- Stone crushers

- Forklifts
- Tractors
- Combine Harvester
- Elevators

- Fridges & Freezers
- Hot water cylinder
- Air Conditioners

- High pressure sodium lamps
- LED Lighting

**Motors & Pumps**



**Process Technologies**



**Product Transport**



**Domestic Appliance**

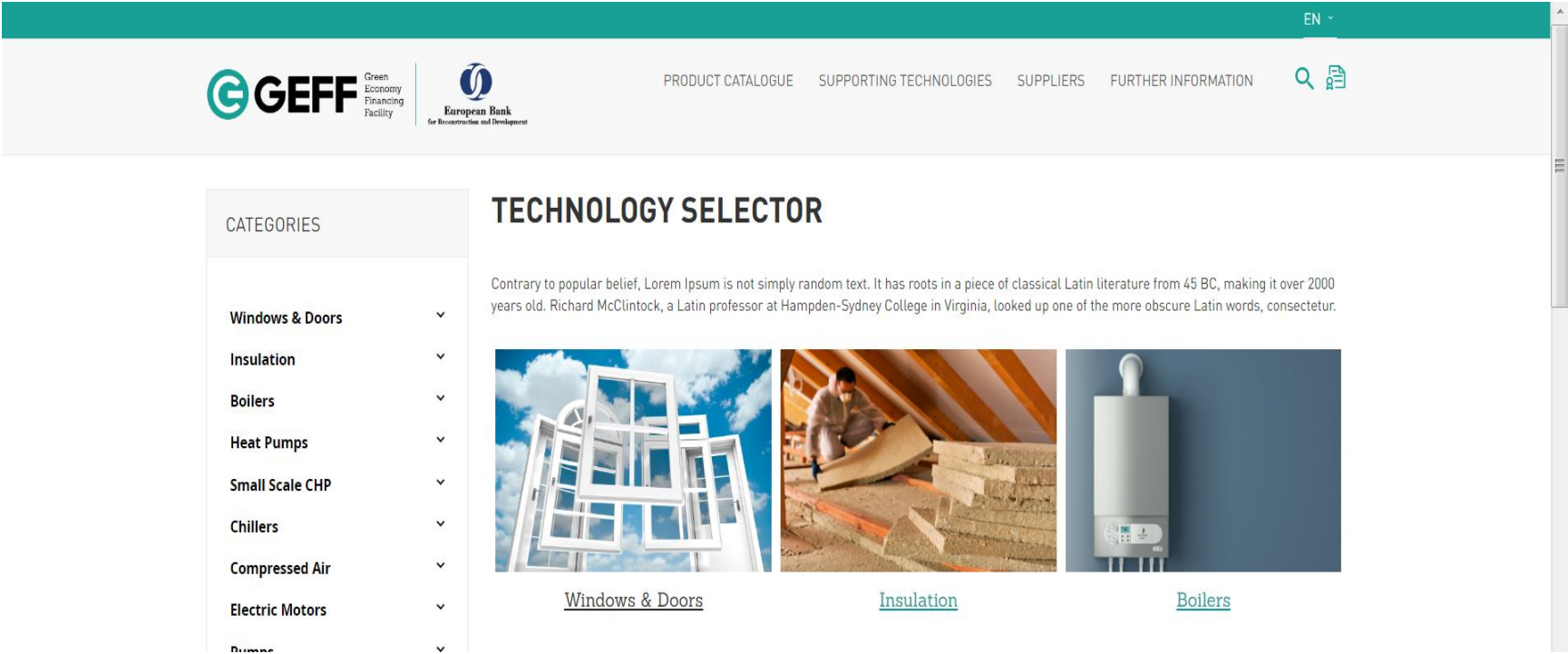


**Lighting**



# GEFF Global Technology Selector Functionality

**More information available at:**  
<https://ebrdgeff.com/ba/technologys/technology-selector-about/>




The screenshot shows the GEFF Technology Selector website. At the top, there is a teal navigation bar with 'EN' on the right. Below it is a white header with the GEFF logo (Green Economy Financing Facility) and the European Bank for Reconstruction and Development logo. Navigation links include 'PRODUCT CATALOGUE', 'SUPPORTING TECHNOLOGIES', 'SUPPLIERS', and 'FURTHER INFORMATION'. A search icon is also present.

**CATEGORIES**


- Windows & Doors
- Insulation
- Boilers
- Heat Pumps
- Small Scale CHP
- Chillers
- Compressed Air
- Electric Motors
- ...

## TECHNOLOGY SELECTOR


Contrary to popular belief, Lorem Ipsum is not simply random text. It has roots in a piece of classical Latin literature from 45 BC, making it over 2000 years old. Richard McClintock, a Latin professor at Hampden-Sydney College in Virginia, looked up one of the more obscure Latin words, consectetur.



[Windows & Doors](#)



[Insulation](#)



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THANK YOU!



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