REEP EVOLUTION: PROPOSED CONCEPT

EECG Meeting in Vienna, 19th March 2018

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Energy Efficiency and Climate Change
# CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
</tr>
<tr>
<td>EE in Buildings</td>
</tr>
<tr>
<td>Case Studies</td>
</tr>
<tr>
<td>Proposed Public Buildings EE Programme</td>
</tr>
</tbody>
</table>

February 2018
## EBRD REEP Extension Proposal

<table>
<thead>
<tr>
<th>WINDOW</th>
<th>DONOR FUNDING NEED (EUR million)</th>
<th>RELATED EBRD INVESTMENT (EUR million)</th>
<th>TIMING OF DONOR FUNDING</th>
</tr>
</thead>
<tbody>
<tr>
<td>WINDOW 1: POLICY DIALOGUE (EBRD)</td>
<td>1</td>
<td>N/A</td>
<td>2019: 1m</td>
</tr>
<tr>
<td>WINDOW 2: INTERMEDIATED FINANCE (EBRD)</td>
<td>Incentives 20</td>
<td>100</td>
<td>2019: 15m; 2020: 10m</td>
</tr>
<tr>
<td>WINDOW 4: LENDING FOR PUBLIC BUILDINGS EE (EBRD)</td>
<td>Grants 25</td>
<td>100</td>
<td>2019: 23m; 2020: 10m</td>
</tr>
<tr>
<td>TOTAL</td>
<td>59</td>
<td>200</td>
<td></td>
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**February 2018**
There are many reasons for targeting EE in the building sector:

- **High Energy Demand**
  - 33% of World’s Energy and 55% of electricity
  - 40% of energy consumption in EU

- **High GHG Impact**
  - 19% of World’s GHG emission

- **Large Impact on growth & employment**
  - 5 jobs created per housing unit built

Around **11% of energy consumed** in buildings are publicly owned in the EU.
## Benefits for Stakeholders

### EE in Public Buildings

<table>
<thead>
<tr>
<th>Government/Municipality</th>
<th>Society/Users</th>
<th>Donors</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Modern infrastructure, visibility of Gov. initiative</td>
<td>- More efficient use of public funds</td>
<td>- Compliance with agreements and directives (NDCs, EED)</td>
</tr>
<tr>
<td>- Energy cost saving, reduced budget subsidies</td>
<td>- Improved comfort level</td>
<td>- Leveraging impact</td>
</tr>
<tr>
<td>- Awareness raising</td>
<td>- Improved health and safety level</td>
<td>- Energy/GHG emission savings</td>
</tr>
<tr>
<td>- Improved energy accounting and facility management</td>
<td>- Employment/business opportunities</td>
<td>- Social benefits (health, safety, comfort, service, environment)</td>
</tr>
<tr>
<td>- Investment, job creation, tax revenue</td>
<td>- Renewed availability of public services</td>
<td>- Economic development and employment</td>
</tr>
<tr>
<td>- Regulatory compliance (health and safety), energy saving target</td>
<td></td>
<td>- Capacity building</td>
</tr>
<tr>
<td>- Extending building lifetime and sustainability</td>
<td></td>
<td>- Transition towards market approach (financing, technology, development)</td>
</tr>
<tr>
<td>- Higher user/society satisfaction</td>
<td></td>
<td>- High visibility (large number of visitors)</td>
</tr>
<tr>
<td>- Increased productivity (equipment and process)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>- Ability to attracting co-financing</td>
<td></td>
<td></td>
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February 2018
MARKET POTENTIAL – WESTERN BALKANS

Total approx. public building floor area and total estimated investment needs for refurbishment

**Total Public building floor area in Western Balkans:**

56 million square meter

**Total stock expected to be refurbished***:

39 million square meter

**Total investment needs***:

- **Light Renovation:** €1.6 billion
- **Deep Renovation:** €5.9 billion

**Potential energy savings**

- **Light Renovation:** 1,408 GWh/a
- **Deep Renovation:** 2,815 GWh/a

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*Assumption – 70% of public building stock to be refurbished

**Light Renovation at 40 €/m²; Energy saving 20%;

**Deep Renovation at 150 €/m²; Energy saving 40%
BRAINSTORMING: SUCCESS AND CHALLENGES

• What are examples of financing public building retrofits in your country and which ones were the most successful?

• What is the potential for public buildings EE investments in your Country?

• What are the key challenges hindering the scaling up of investment in public buildings EE?
Chisinau Public Buildings

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**Background:**
Support Municipality of Chisinau to conduct energy efficiency retrofit of up to 119 buildings (kindergardens, schools and hospitals).

**Scope of the investment:**
- Energy efficiency improvements to building envelope (wall, roof, windows and doors)
- EE enhancement of HVAC systems (heating, ventilation, air-conditioning).
- Individual measures targeting lighting systems and heat distribution systems.

**Expected results:** significant energy savings for the municipality (37,000 MWh/annum).

**Additional benefits:** strengthening the structure of the building, ventilation works and removal of asbestos, increasing the health safety and comfort.

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<table>
<thead>
<tr>
<th></th>
<th>€ 10 M</th>
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<tbody>
<tr>
<td>EBRD Loan</td>
<td></td>
</tr>
<tr>
<td>Total Project</td>
<td>€ 25 M</td>
</tr>
<tr>
<td>Technical Assistance</td>
<td>€ 1.1 M</td>
</tr>
</tbody>
</table>
Kremenchuk Municipal Buildings, Ukraine

**Background:**

Finance energy efficiency refurbishment of **66 public buildings** in City of Kremenchuk (kindergartens, schools and hospitals).

**Scope of the investment:**

- a selection of energy efficiency measures with short-medium payback periods will be implemented in 34 buildings (non-capital repairs, level 1)
- full energy conservation measures (ECM) with longer paybacks will be implemented in 32 selected buildings without major need for structural repairs (capital repairs, level 2).

**Expected results:** energy savings of 19,500 MWh per annum.

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBRD Loan</td>
<td>€6 M</td>
</tr>
<tr>
<td>Total Project</td>
<td>€10.7 M</td>
</tr>
<tr>
<td>Technical Assistance</td>
<td>€0.7 M</td>
</tr>
</tbody>
</table>
Zenica Hospital, BiH

**Background:** finance energy efficiency refurbishment of Zenica Regional Hospital (6 buildings);

**Scope of the investment:**

- rehabilitation and insulation of building envelope (walls, roofs and external fittings)
- EE refurbishment of HVAC system and introduction of central ventilation and cooling system;
- Construction of energy efficient building extension of ca. 2,800 m2;
- Replacement of a lignite heat boiler with a more energy efficient gas boilers and the rehabilitation of the heat distribution system;
- Introduction of anti-flooding measures (waste and storm water drainage rehab)

**Expected results:** annual energy savings of 62% of the hospital’s consumption (13,831 MWh/year)

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<thead>
<tr>
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<tbody>
<tr>
<td>EBRD Loan</td>
<td>10 M</td>
</tr>
<tr>
<td>Total Project</td>
<td>13.6 M</td>
</tr>
<tr>
<td>REEP grant</td>
<td>1 M</td>
</tr>
<tr>
<td>REEP TA</td>
<td>0.7 M</td>
</tr>
</tbody>
</table>

EBRD Loan € 10 M
Total Project € 13.6 M
REEP grant € 1 M
REEP TA € 0.7 M
MARKET POTENTIAL
ESTIMATED ANNUAL INVESTMENT IN WB

- EU annual renovation target is 3%
- Annual renovation for EU neighbourhood countries is 1.5%
- To refurbish building stock within its lifetime a renovation rate of 2.8% is required

*Indicative annual investments based on multiple assumptions
PROPOSED PROGRAMME STRUCTURE

Ministry of Finance

Sovereign loan +
green incentives

∼ 20-50% repayment from EE savings where appropriate

Public Entity
(e.g. Municipality,
National Health Fund,
Ministry of Education)

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(e.g. Municipality,
National Health Fund,
Ministry of Education)

Programme Development and Implementation Support

Technical Expertise
(Donor Funded)

Procurement,
Management & Quality assurance

EE Investment: EBRD + Donor Funds

Loan Repayment of which ∼ 20-50% from EE savings where appropriate

Sub-Sovereign loan + green incentives

∼ 20-50% repayment from EE savings where appropriate
Thank you!

For further enquiries, please contact:

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