EIB support to
Energy Efficiency Investments

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EIB Energy Lending

- Signatures 2012-2016: EUR 62.7 billion
- Evolution over the last 5 years

**EIB Energy Lending 2012-2016**

**COP objectives**

- Security of Supply
- Energy Networks
- Energy Efficiency
- Renewable Energy

![Pie chart showing energy breakdown:]

- Fossil Fuels: 5%
- Gas Networks: 14%
- Electricity Networks: 24%
- Energy Efficiency: 20%
- Renewable Energy: 37%

![Bar chart showing lending over years:]

- 2012: 0.58 billion
- 2013: 3.97 billion
- 2014: 5.27 billion
- 2015: 3.97 billion
- 2016: 0.13 billion
EIB Energy Lending Criteria (2013)

- EIB’s energy lending policy approved in 2013 after public consultation
- Prioritise EE, RE, Energy Networks & RDI
- EE: “mainstreaming”, TA & tailored instruments
- Support to RE mature & emerging technologies
- EPS for fossil fuel power generation
- Energy lending criteria aligned with 5 dimensions of Energy Union
EIB lending to Energy Efficiency

EE Lending Breakdown per year

- Overall EE-lending increased by 3x since 2012
- 75% of EE-lending volume to Buildings
Why Energy Efficiency?

- Energy trilemma

- Role in decarbonization scenarios

- Potential of EE investments

*EUR 1.1 trillion of EE investments needed to comply with new 2030 framework of 40% GHG target (75% in buildings)*
The EIB has an **extensive range of instruments** to finance public and private sectors at investment and sub-investment grades of risk to its disposal.
EIB examples of climate action financing

- **Investment Loans (direct)**
  - Examples: Social Housing, Public/Private buildings

- **Framework Loans**
  - Examples: Private Finance 4 Energy Efficiency (PF4EE)

- **Investment Funds**
  - Examples: IMPAX, Lithuania example...

- **Technical Assistance**
  - Examples: Municipal Project Support Facility (MPSF) and European Local Energy Assistance (ELENA)
Investment Loan – NZEB project

NZEB social housing

Objective: Promote new building standards (EPBD)

- 524 units with consumption of 20 Kwh/m², (EPC of A, passivehouse)
- Expected energy savings of 2,298.3 MWh/y (75% reduction versus the baseline), corresponding to 748.8 ton/y CO2 savings
- Levelized cost of the final energy saved (LCOE) by the NZEB buildings is between 64 and 128 €/MWh
### Objective: Aggregation of Fragmentation

<table>
<thead>
<tr>
<th>Building</th>
<th>CAPEX</th>
<th>Energy Savings</th>
<th>Cost Savings</th>
<th>Simple Payback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Athletic Centre</td>
<td>175000 EUR</td>
<td>140 MWh/y</td>
<td>5000 EUR/y</td>
<td>24 years of payback without RE</td>
</tr>
<tr>
<td>Children’s Polyclinic</td>
<td>198000 EUR</td>
<td>90 MWh/y</td>
<td>8100 EUR/y</td>
<td>15 years of payback with RE</td>
</tr>
</tbody>
</table>
# Investment Loan – Private Buildings

## Croatia

### Objective: Aggregation of Fragmentation

### Residential building (Private)

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPEX</td>
<td>131720 EUR</td>
</tr>
<tr>
<td>Energy Savings</td>
<td>342 MWh/y</td>
</tr>
<tr>
<td>Cost Savings</td>
<td>24800 EUR/y</td>
</tr>
<tr>
<td>Simple Payback</td>
<td>6/7 years</td>
</tr>
</tbody>
</table>

### Office building (Private)

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAPEX</td>
<td>157000 EUR</td>
</tr>
<tr>
<td>Energy Savings</td>
<td>155 MWh/y</td>
</tr>
<tr>
<td>Cost Savings</td>
<td>7500 EUR/y</td>
</tr>
<tr>
<td>Simple Payback</td>
<td>21 years</td>
</tr>
</tbody>
</table>
Framework Loan (+Risk sharing+TA)

**Private Finance 4 Energy Efficiency (PF4EE)**

Objective: Increase private lending to EE

PF4EE comprises three components:

1. **EE Loan**
   - A loan to the financial intermediary to be on-lent for EE investments ("EE Loan")

2. **Risk Sharing Facility**
   - A risk mitigation mechanism, covering losses incurred in the portfolio of EE loans granted by the financial intermediary ("Risk Sharing Facility")

3. **Expert Support Facility**
   - Technical assistance aiming at supporting the financial intermediary to develop the EE portfolio ("Expert Support Facility")

03/07/2017
Impax Climate Property (UK)

Barrier: Split incentives

Solution: Aggregation

• Infrastructure fund targeting the refurbishment of UK commercial buildings

• Renovation of 8 to 12 properties, increasing EPC ratings in at least 2 levels (30-50% energy reduction)

• Total project cost (renovation) GBP 150m

• EIB investment 25m, under EFSI
Technical Assistance - MPSF

Geographical coverage: Ukraine, Moldova, Belarus, Georgia, Azerbaijan, Armenia

Sectors:

- EE Public Buildings
- Water and Wastewater
- Renewable Energy Sources
- District Heating
- Urban Transport
- Solid Waste

• Beneficiaries: Municipalities (CoM, SEAP)
• Budget: EUR 12m for TA services
• Commencement 31/03/2015, 92 months
• Implementing IFIs: EIB, KfW, EBRD
MPSF: Current Status

• 12 PROJECTS APPROVED [EIB] - EUR 10.2m
  Armenia (2), Moldova (1), Ukraine (8), Georgia (1)

  out of which:

• 2 CONTRACTED [EIB] - EUR 455k
  • Yerevan EE in Buildings
  • Chisinau EE in Buildings

  for: project preparation and implementation support
  Progress: satisfactory

• PIPELINE:
  • EBRD Batumi Bus Project – EUR 580k
  • EBRD Solid waste Georgia – EUR 1m
Technical Assistance – ELENA
European Local Energy Assistance

ELENA Technical Assistance

Support for Project developers (public or private) for e.g.:
- Additional personnel
- Technical studies
- Preparation, evaluation of calls for tender
- Financial structuring

INVESTMENT PROGRAMME
Energy efficiency and distributed renewable energy in public and private buildings,
public lighting and traffic light network
roof top photovoltaics,
heating/cooling systems (e.g. biomass);

Efficient urban transport and mobility
clean and energy - efficient road transport vehicles,
trams, trolleybuses, metros, and trains;
investments to improve public transport;

Local energy facilities that support EE/RE
smart grids, district heating and cooling
infrastructure for recharging electrically powered vehicles,
information and communications technologies,

Provided over 100m in grants supporting ~5 bn in CAPEX
EE tool: energy performance contracting

- Mobilising EE potentials in buildings and industry by using the know-how of specialised energy service companies (ESCO) through energy performance contracting (EPC)
- Access to private financing means for EE investment (EUROSTAT Note)
- Obtaining a guarantee from the ESCO, that the energy savings will be achieved, leaving the implementation risk to them

### EPC: advantages and limits?

#### Croatia

<table>
<thead>
<tr>
<th>CAPEX:</th>
<th>20 MEUR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy Savings:</td>
<td>9,500 MWh/y</td>
</tr>
<tr>
<td>ELENA Assistance</td>
<td>711,000 EUR</td>
</tr>
</tbody>
</table>
Conclusion: Unlocking EE investments

Huge investment needs and real potential to consume energy more efficiently

But...

- Fragmentation (small projects and high transaction cost)
- Split incentives (landlords vs tenants)
- Capital constraints
- Limited technical expertise

**EIB’s response**

- Aggregation (intermediated lending, investment Funds, etc.)
- Broad range of instruments: direct and intermediated operations
- Provision of TA: PF4EE, ELENA, MPSF
- However, some barriers non-addressable by EIB (e.g. regulatory barriers, public sector limitations, subsidized energy costs)
Current projects – future pipeline EE

UKRAINE MUNICIPAL INFRASTRUCTURE PROGRAMME
  EE in Public Buildings, DH, SL (EUR 800m)

UKRAINE HIGHER EDUCATION
  EE in Universities (EUR 160m)

CHISINAU ENERGY EFFICIENCY → ROLL-OUT
  EE in Public Buildings (EUR 25m - Pilot)

MOLDOVA ENERGY EFFICIENCY
  EE in public and residential buildings (EUR 130m)

YEREVAN ENERGY EFFICIENCY → ROLL-OUT
  EE in Public Buildings (EUR 20m – Pilot)

Economic Resilience Initiative
Thank you!

Any questions?

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