



WORLD BANK GROUP

ENERGY EFFICIENCY REVOLVING FUNDS IN WESTERN BALKANS

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WORLD BANK EE PROJECTS IN WESTERN BALKANS

Current EE investment portfolio of €105 million

- **Bosnia and Herzegovina EE Project (BEEP), €27million.** Effective since May 2015 (RS) & December 2015 (FBiH). Potential additional financing is being considered for a similar amount.
- **Kosovo EE and Renewable Energy Project (KEEREP) (€26 million).** Effective since June 2015. Additional €10 million from IPA II funds
- **Montenegro EE Project (MEEP) (€11.5 million).** Effective since February 2009 and closing in March 2018
- **Serbia Enhancing Infrastructure Efficiency and Sustainability (SEIES) €100 million (€40 million for EE)** – Approved in November 2017. Program for Results based on milestones to renovate 234 public buildings

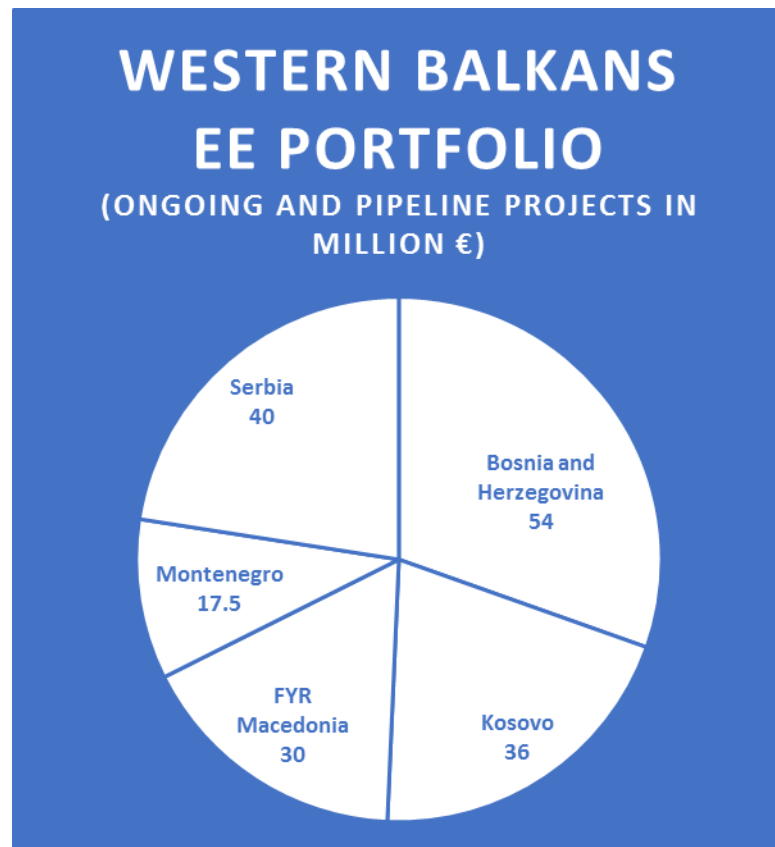
WORLD BANK EE PROJECTS IN WESTERN BALKANS

Additional funding for ongoing EE projects

- **Bosnia and Herzegovina EE Project (BEEP), potential additional financing** being considered to build on strong results and strengthen support for sustainable EE financing mechanisms
- **Kosovo EE and Renewable Energy Project (KEEREP). Additional €10 million grant funding from IPA II.** Establishment and capitalization of Revolving EE Fund.

New projects under preparation

- **Montenegro EE Project (MEEP) (€6 million) in preparation,** potential areas of support (i) developing performance-based contracting schemes and budget-capture models and (ii) development of sustainable EE financing mechanism beyond the project
- **Macedonia EE Fund for Public Buildings in preparation.** Establishment and capitalization of Revolving EE Fund



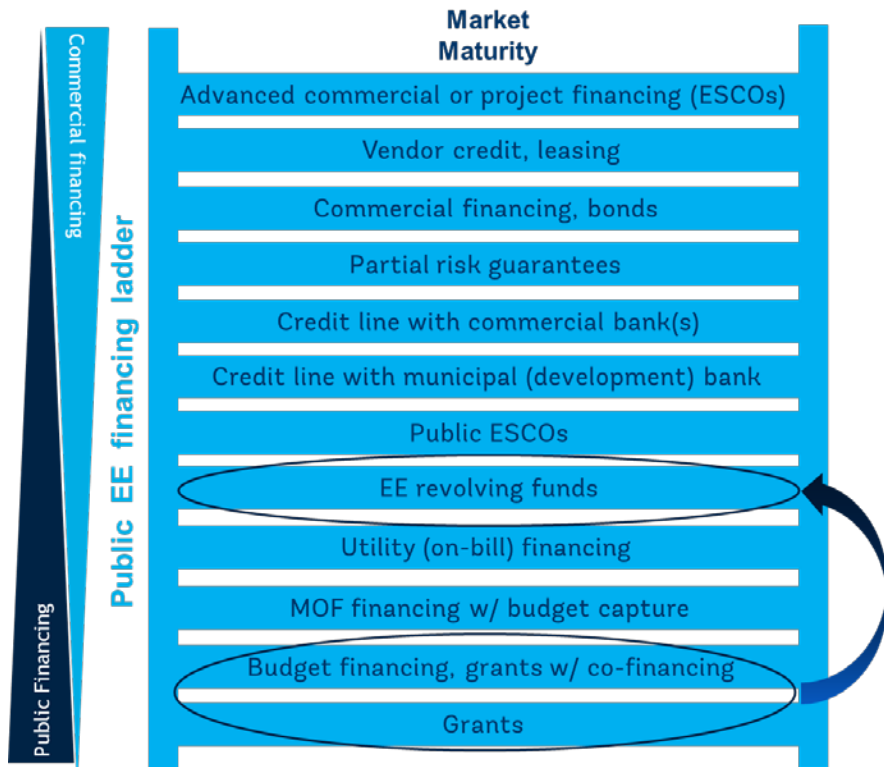
Total investment of current and pipeline projects ~ €177 m

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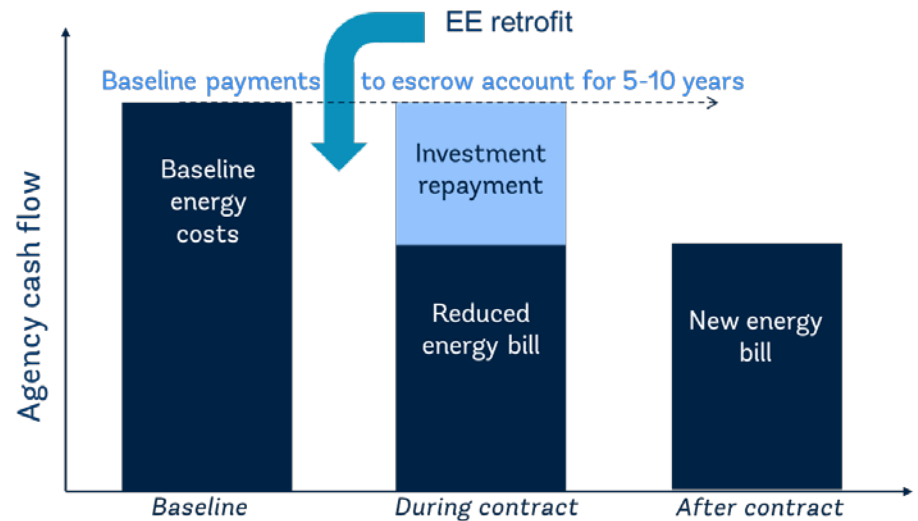
Results to date

- **Bosnia and Herzegovina EE Project (BEEP)**
 - 43 buildings retrofitted within 2 years. Average savings: 53% FBiH and 60% RS
 - 1/3 of buildings switched from fossil fuels (LFO or coal) to biomass (pellets)
 - Comfort level improved. Up to 8C in some school buildings
 - All buildings with energy certificates (18 issued) building classes A or B
- **Kosovo EE and Renewable Energy Project (KEEREP)**
 - First 11 buildings to be completed by the end of the year (56% savings)
 - 22 under renovation and 25 technical designs being finalized
 - Solar water heating in 6 of the buildings
 - DH system upgrade in all except one that is switching from fuel oil to DH
- **Montenegro EE Project (MEEP)**
 - 20 buildings retrofitted average savings 40%-50% (5 buildings close to completion)
 - End-user satisfaction levels improved by 40%
 - Support for capacity building of local service providers
- **Serbia Enhancing Infrastructure Efficiency and Sustainability (SEIES)**
 - **Project just recently approved*
 - National plan for public building renovation
 - Design and operationalization of consolidate program M&E system
 - Building renovation to meet building regulations and Class C

ENERGY EFFICIENCY REVOLVING FUNDS



Energy Service Agreements



KOSOVO ENERGY EFFICIENCY FUND (KEEF)

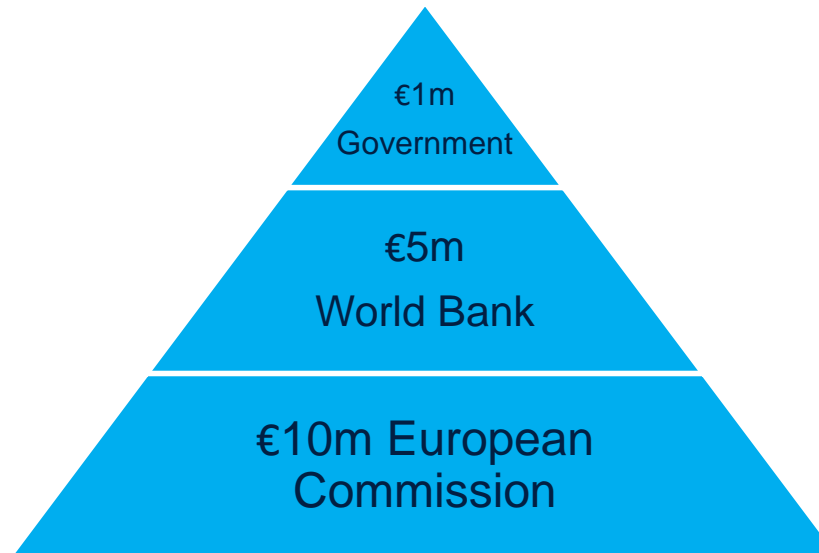
- KEEF will be set-up as an independent, autonomous and sustainable entity governed by a board of directors representing key ministries, non-governmental entities and donors
- KEEF will finance and implement EE investments to serve fulfilment of EnCT commitments (EE targets);
- The fund will focus on revolving fund for public sector (up to 15 years) and administration of grant scheme for residential sector
- The fund will seek to support private sector involvement in all aspects of implementation – audits, renovation and later on co-financing

| Building Type | Energy Consumption | Energy Costs | Energy Savings | Energy Savings | Energy Savings |
|----------------------------|--------------------|--------------|----------------|----------------|----------------|
| | ktoe | Million € | % | ktoe | Million € |
| Municipal Buildings | | | | | |
| Schools | 14.78 | 12.52 | 37% | 5.47 | 4.6 |
| Hospitals | 2.06 | 1.74 | 37% | 0.76 | 0.6 |
| Office & Other | 1.84 | 1.56 | 30% | 0.55 | 0.5 |
| Total | 18.68 | 15.82 | 36% | 6.78 | 5.7 |

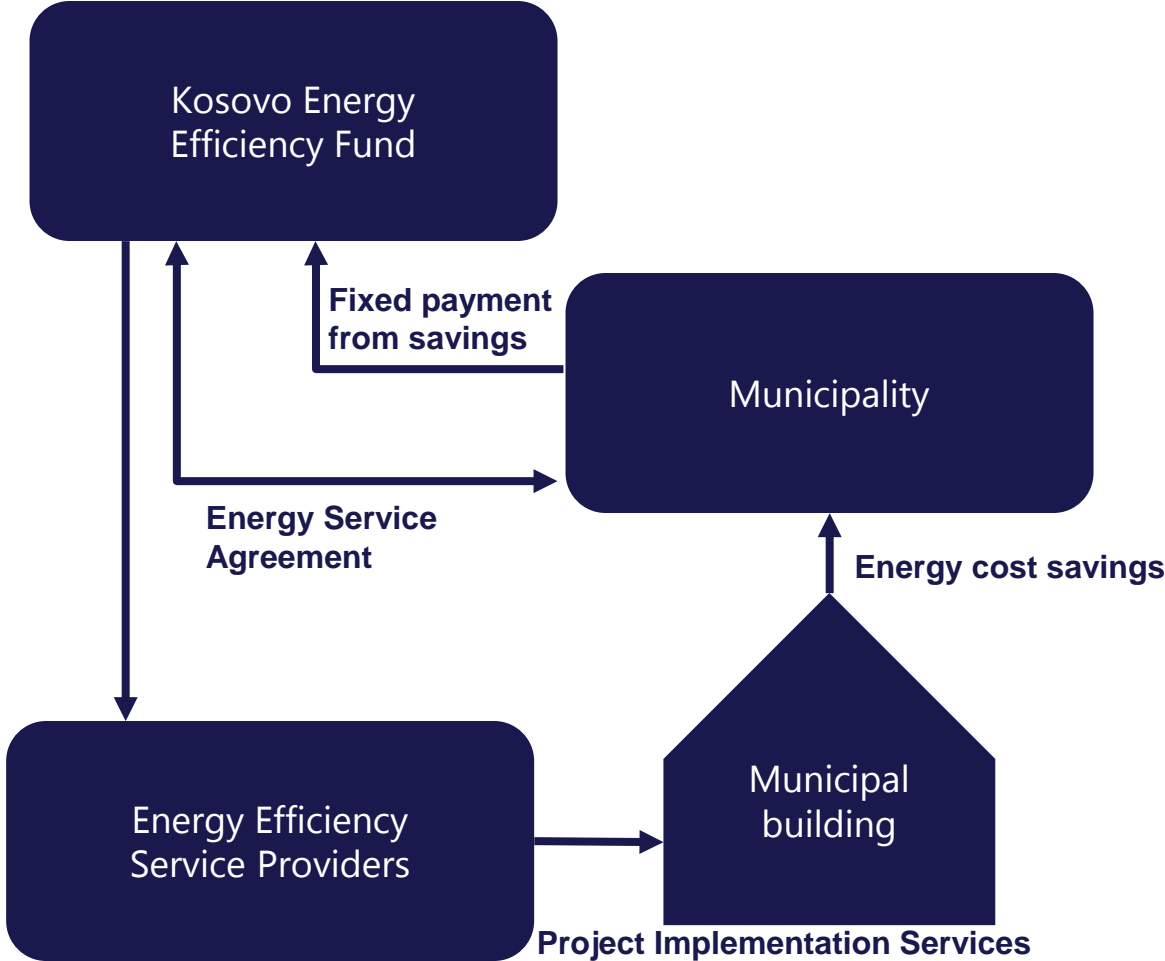
KOSOVO ENERGY EFFICIENCY FUND (KEEF)

Sources of funding for KEEF :

- Initial capital will be provided from donors (European Commission), IFIs (World Bank) and the Government of Kosovo
- Other donors also interested to provide TA and grants



Kosovo Energy Efficiency Fund

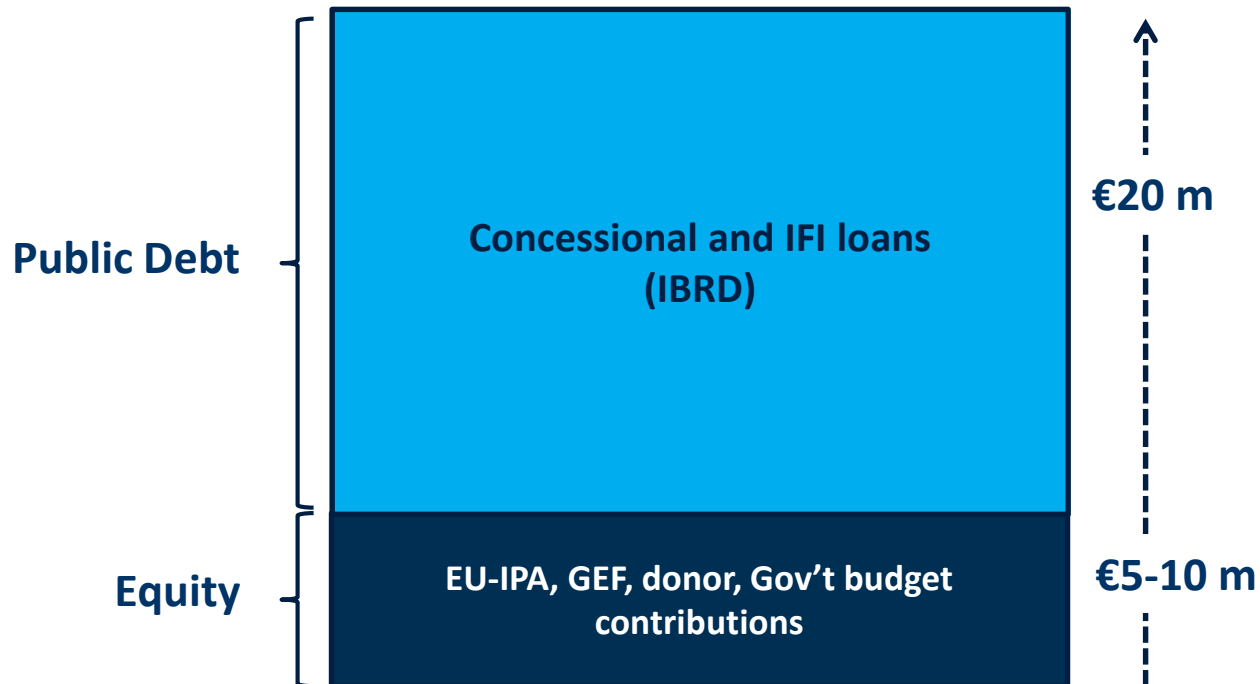


NEXT STEPS ON KEEF

- Review and draft regulations governing EE Fund and use of ESAs
- Develop governance structure for EE Fund
- Develop Operations Manual for EE Fund (procedures, standard documents, contract templates)
- Develop staffing plans, including TORs, selection of Fund Manager
- Develop financial model for EE Fund, initial capital, investment plans, operating costs, revenues
- Fund to be established by end 2018

MACEDONIA ENERGY EFFICIENCY FUND

- The proposed Energy Efficiency Revolving Fund is designed to be sustainable—i.e., no recurring Government budget needed—and operate on a revolving basis for 20+ years



Notes:

- Equity critical to cover operating costs until Fund can earn sufficient revenues, potential early defaults
- ~10-12% fee structure to cover prelim audit, procurement, financing, oversight
- After 3-5 years, Fund should be sustainable and equity can grow

MACEDONIA ENERGY EFFICIENCY FUND

| Benefits | Description |
|-----------------------------|--|
| Eligibility criteria | <ul style="list-style-type: none"> Structurally sound with no plans for closure/privatization Comfort level > 50% Minimum 20% energy savings, payback period < 10 years Clients have shown good energy bill payment discipline |
| Technical measures | <ul style="list-style-type: none"> Building envelope measures (walls, windows, roofs) Space/water heating system upgrades and fuel switching (SWH, biomass) Metering and control systems Lighting and pumping upgrades |
| Financial products | <ul style="list-style-type: none"> Municipal loans Energy service agreements (ESAs) Grants, if available |
| Other services | <ul style="list-style-type: none"> Technical support for energy audits, construction supervision, commissioning, monitoring Procurement and design support |

| Program Components | Total saved energy (in 2029) | Total monetary saving | Total investment | Simple payback |
|-----------------------------------|------------------------------|-----------------------|------------------|----------------|
| | MWh/year | € Million/yr | € Million | years |
| Municipal buildings | 83,131 | 7.04 | 51.56 | 7.3 |
| Health care buildings | 45,399 | 3.61 | 24.96 | 6.9 |
| Universities & science institutes | 22,914 | 2.64 | 14.66 | 5.6 |
| State administrative buildings | 1,355 | 0.17 | 1.20 | 7.1 |
| Social institutions | 5,119 | 0.50 | 2.89 | 5.7 |
| TOTAL | 157,918 | 13.96 | 95.26 | 6.8 |

MACEDONIA ENERGY EFFICIENCY FUND

- **Some secondary legislation may be required**
 - Amendments to existing regulations are needed to assign EE Fund management to an existing institution - Macedonian Bank for Development Promotion (MBDP)
 - Additional legislation may be needed to allow for use of ESAs, budget retention by public entities, public procurement, long-term contracts
- **Issues to be resolved**
 - Revise law on MBDP and restructure to become municipal development bank
 - Agree with MOF that ESAs should not be classified as municipal debt
 - Agree on eligibility criteria for municipalities to maximize coverage without increasing nonpayment risk

NEXT STEPS

- Review and draft/revise regulations governing EE Fund and use of ESAs
- Develop governance structure for EE Fund
- Develop Operations Manual for EE Fund (procedures, standard documents, contract templates)
- Develop staffing plans, including TORs, selection of Fund Manager
- Develop financial model for EE Fund, initial capital, investment plans, operating costs, revenues