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USAID: Better Energy Serbia

Multi-family Apartment Building (MAB) Energy Efficiency (EE) Improvements

Technical Assistance and Financing Schemes

Better Energy Investment Accelerator

November 2024

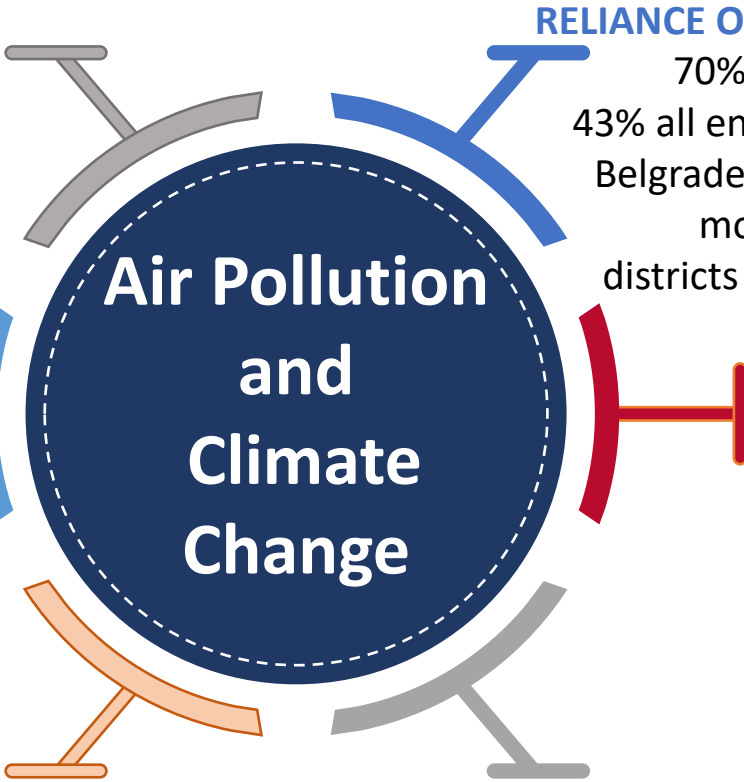
Environmental Dimension

! PM2.5
x4.1

PARTICULATE MATTER 2.5
2023 average PM2.5 concentration in Serbia: 4.1 times the WHO annual air quality guideline value

PM 2.5 BURDEN OF DISEASE

Stroke	19.4%
Ischemic heart disease (IHD)	27.2%
Chronic obstructive pulmonary disease	15.3%
Lung cancer	9.0%



RELIANCE ON FOSSIL FUELS

70% electricity & 43% all energy is coal-based. Belgrade hosts 5 of the 15 most polluted districts on the continent



COST OF HUMAN LIFE

Attributable annual deaths to:
PM 2.5 – 14,850 | NO₂ – 1,620
E.g. City of Belgrade tendered for 11,500 air purifiers for schools & kindergartens

Top 10- PM10 Polluted cities (days above 50micrograms)

Popovac	137
Novi Pazar	118
Valjevo	118
Uzice	91
Kosjerić	75
Smederevo	71
Niš	67
Pirot	56
Obrenovac	49
Kragujevac	49

COST OF CLIMATE CHANGE

2000-2015 : EUR 5.0 billion
2015-2020: EUR 1.8 billion

Committed to align with EU climate acquis

GLOBAL CLIMATE CHALLENGE

Share of global GHG emissions: 0.13%
emission reduction target: 13.2% (of 2010 levels), or 33.3% compared to 1990 levels, by 2030.





Economic Dimension

ENERGY SECURITY: IMPORT DEPENDENCE

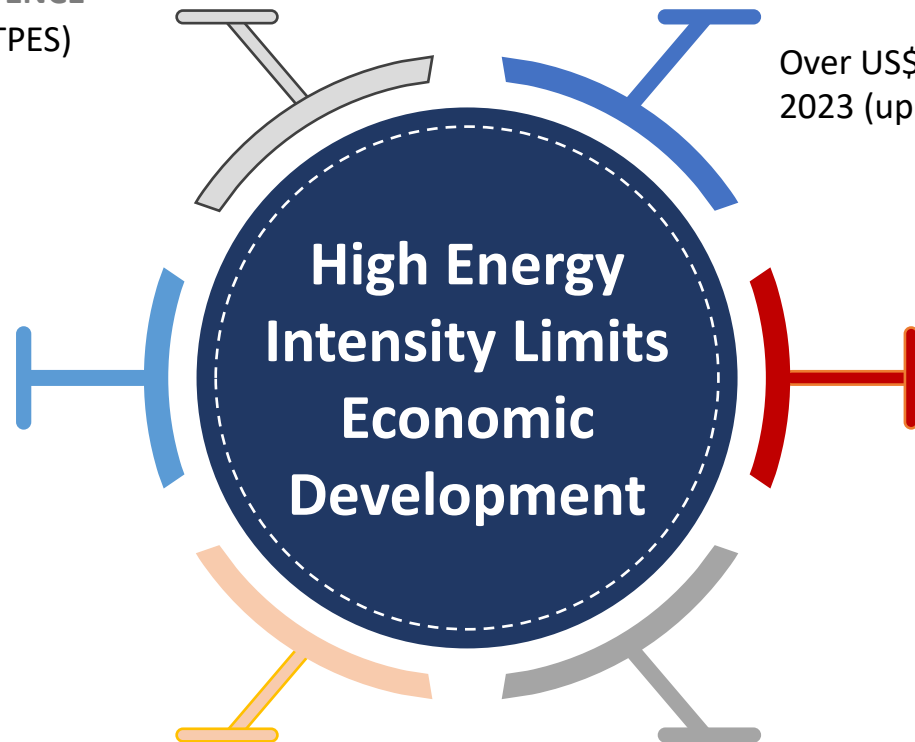
Net energy imports: 45.3% (2022 TPES)
Energy imports grew by 308%
Over 2000-2022

BUDGET PRESSURE

Over US\$ 2.65 bn spent on energy imports in 2023 (up 80% compared to 2022)

HIGH ENERGY INTENSITY

3 times higher than EU average
6th highest energy intensity in Europe



LEGALLY OBLIGATED TO IMPROVE EE

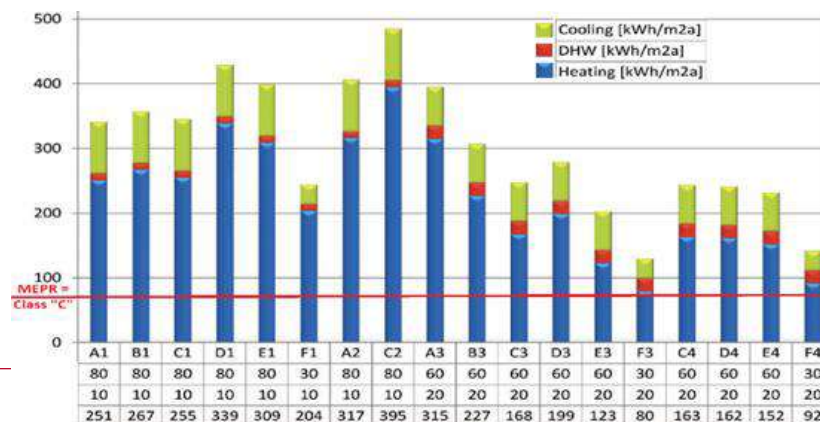
As a candidate for EU membership, Serbia is legally obligated to improve energy efficiency by 11.7%, while country's primary energy consumption is expected to grow by 1.3% annually

BUILDINGS

Average building has 30-40% energy efficiency potential
Building renovation market estimated > US\$20bn

ENERGY PRICES INCREASED

Industrial +26% (2022), +20% (2023)





Social Dimension

LOW BORROWING CAPACITY

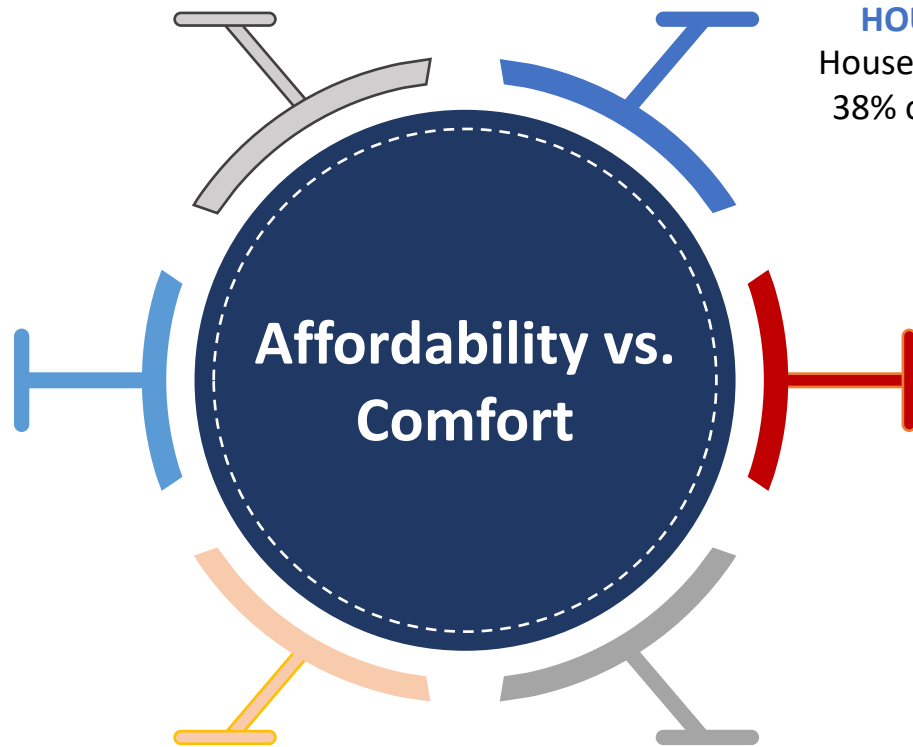
At-risk-of-poverty or social exclusion rate = 27.2% (2023)
Low-income households lack creditworthiness

LACK OF THERMAL COMFORT

22% (DH) and 37% (non-DH) below 18°C.
Without insulation, the heating systems and budgets lack capacity to ensure 20-22°C

EU SUPPORT USED FOR SUBSIDY

In 2023 190,000+ households (compared to 68,000 before) received 50% gas or heating subsidy benefits from EU.
Overall: EUR 34.1 million. Total EU grant: is EUR 165 million



HOUSEHOLDS THE LARGEST CONSUMER

Households consume nearly 50% of all electricity
38% of primary energy consumed in residential sector

ENERGY PRICES INCREASED

Residential by +21% (2023), Even with all price hikes, energy prices still remain among the lowest in Europe

SUBSIDY BURDEN

Serbia borrowed a EUR 2.4 billion Stand-by Arrangement from the IMF for tariff support.

Rast cena električne energije u Srbiji*



Ukupan rast cena od 1. septembra 2022. sa poskupljenjem od 1. novembra 2023. - 34,17 odsto
*U dinarima, po kWh, bez taksi i poreza.

Why Energy Efficiency?

- Serbia has 98,000 multi-apartment buildings (MABs)
- 61% fail to get grade C or better in Energy Performance;
- Average building has 30-40% energy efficiency (EE) potential
- Average Serbian household can save 40% on heating bills if their building is brought in compliance with building energy performance codes – Class “C”
- Total building renovation market size: EUR 20-80bn

WHAT GOVERNMENT WANTS

Boost energy security
Phase out subsidies,
Improve environment
Reduce public health expenses
Reduce pressure on infrastructure

WHAT INDUSTRY WANTS

Create jobs
Offer energy services
Increase revenues

WHAT BANKS WANT

Expand residential lending market;
Secure risks for lending to MABs/HOAs

WHAT RESIDENTS WANT

Have affordable, nicer, more comfortable homes.
Minimize utility bills
Improve condition and price of their assets



BUT

Implementation of energy efficiency to reduce the cost of living in multi-apartment buildings in Serbia is still slow

Why renovate?

Age and Lack of regular maintenance and renovation

- Cuts building life expectancy
- Undermines their resilience

Buildings have high thermal losses

- Large thermal losses, difficult to maintain thermal comfort, high heating bills
- Difficult to cool in the summer

Buildings have signs of wear and tear, “secondary” real estate

- Old and “ugly” facades
- Leaking roofs, etc.

Energy Efficiency: Upgrades can significantly reduce utility costs and energy consumption.

Property Value: Modern renovations increase building value and tenant appeal.

Comfort and Health: Enhanced heating, cooling, and ventilation improve comfort and health.



Safety and Compliance: Bringing buildings up to current codes reduces accident risks.

Lower Maintenance Costs: Modern systems require less frequent and costly maintenance.

Environmental Impact: Renovations minimize waste and lower the building's carbon footprint.

STARTING CONDITIONS (2021)

GAPS IN BUILDING ENERGY EFFICIENCY



Legal-Regulatory Gaps

- **Lack of enforcement of EE and Housing Laws**—e.g., homeowners did not collect investment reserve fees
- **Low energy tariffs/price subsidies** discourage energy saving, make EE investments less viable
- **Gaps in multi-apartment housing policy** for facilitating group decision-making and investments



Financial Gaps

- **No credit lines for HOA/MABs**—bankers gave up in 2019;
- **No functional investment programs** for multi-apartment buildings (MABs) due to limited creditworthiness
- *EBRD Public ESCo project addressing only 1% of MABs*
- **No guarantees** support/funds focused on single-family homes



Market Gaps & Failures

- **No MAB/HOA financing market** due to lack of citizen awareness and home-owners' associations low capacity, creditworthiness, and lack of collateral
- **Municipal/state grants delay market maturity** but needed as catalysts if properly targeted
- **Limited utilization of ESCo services**
- Energy price subsidies pose a **drain on public funds, and cause market distortion**



Technical Barriers

- **Failure to integrated district heating and residential building EE or EPS (electricity) and building EE**
- **Limited commercialization** of heat supply: metering, consumption-based billing, control
- **Need for associated non-EE investments** in repairs due to poor building conditions (e.g. elevators, roofs)



Capacity Gaps

- **Lack of citizen awareness** of EE benefits and limited institutional capacities on state level—need cross-ministry support
- **Lack of people and skill** in municipal EE
- **Limited technical capacities** of building managers and local self-governments; lack of nationally integrated software tools

USAID Better Energy Approach



CREATE ENABLING ENVIRONMENT

Policy Reform to improve management and maintenance of residential housing



PROJECT DESIGN & FACILITATION

Technical Assistance to develop high-quality investment projects:

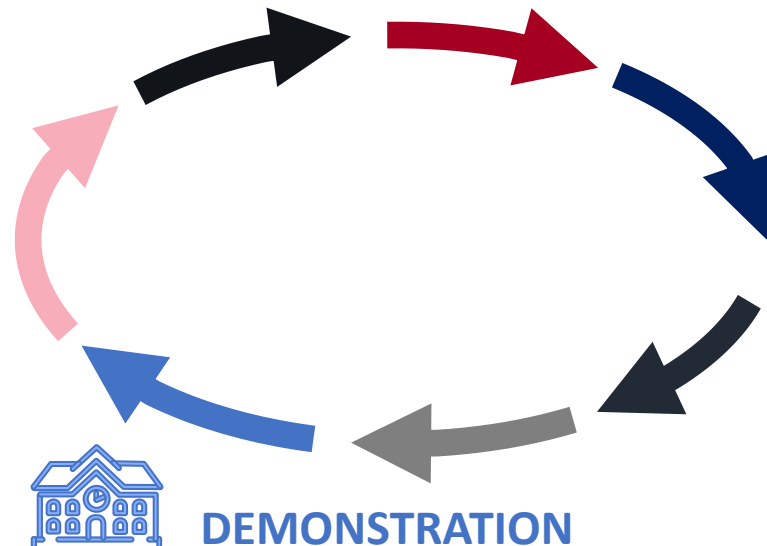
Supply side: increase efficiencies of district heating and integrate renewable energy systems

Demand side: building insulation, window/door replacement, heat demand management



OUTREACH & COMMUNICATION

Public awareness campaigns on costs and benefits of building EE and integrated renewable energy



DEMONSTRATION

Proof of concept: Develop and implement bankable EE and RE projects, leverage bank financing, facilitate

execution



INNOVATIVE FINANCING: LEVERAGE PRIVATE CAPITAL

Blended financing: loans with grants; Manage lending risk; Correct market failures



LASTING SKILLS FOR KEY PLAYERS

Capacity building programs for: Homeowners', building managers, municipalities, banks



DIGITALIZATION: AUTOMATE PROJECT DEVELOPMENT

Low-cost digital solutions for project preparation, analytics and appraisal

Detailed Energy Audit

Building Software Modeling
Identification of Cost-effective measures
Assessment of Investment Needs

Facilitated decision-making

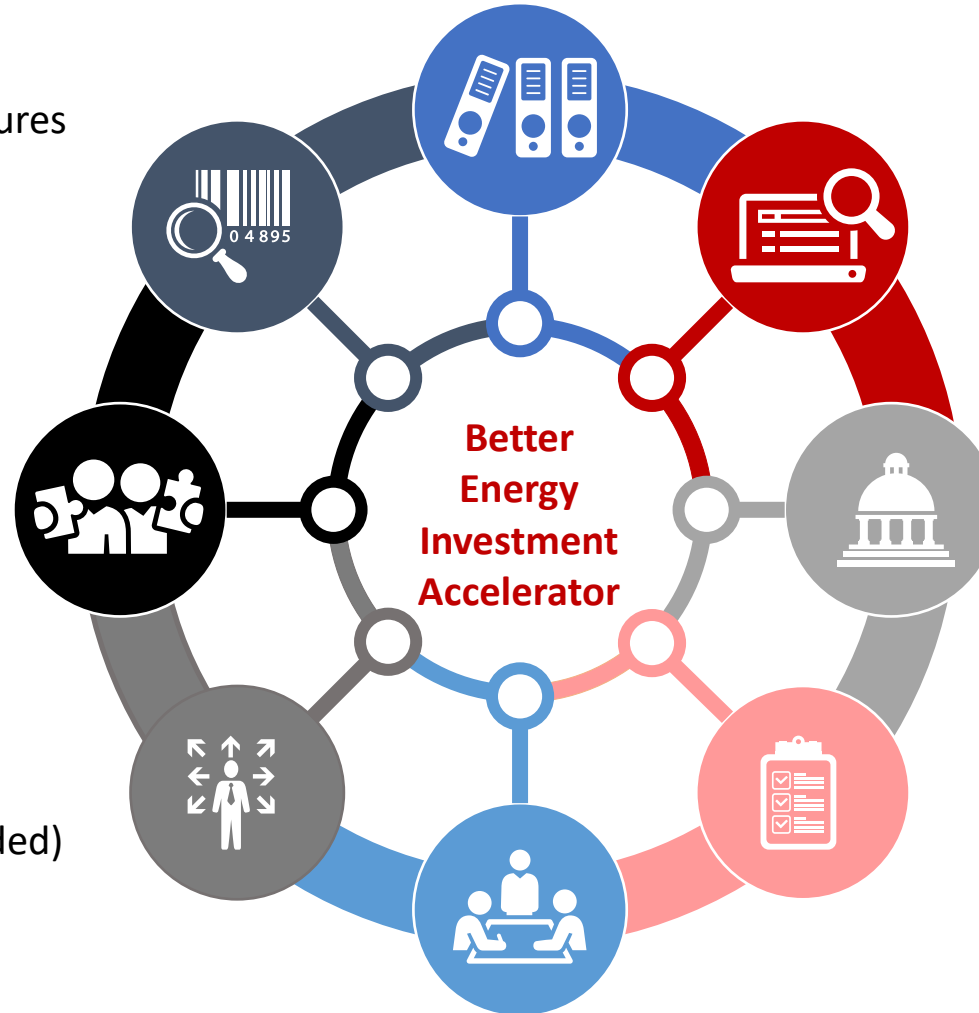
General Assembly
Individual Consultations
Endorsement of Consent

Project Application Support

Building Documents
Authorization Letter
Proof of Cofinancing Accessibility

Financing Identification

Loan (with possible guarantee provided)
MOME Grant
Municipal Support
USAID Better Energy Grant
Own Co-financing



Procurement Support

Tender Documentation
Technical Specifications
Evaluation

Technical design

Resilience Assessment
Documentation on Technical Solutions and Materials

Site Supervision

Construction Surveillance and Quality Assurance

Monitoring, Reporting and Verification

Energy Savings
Generated Renewable Energy
Reduced Emissions

Financing Sources



Government of Serbia

- Ministry of Mining and Energy: EE&RE grants
- Ministry of Finance: Guarantee and/or Fund



Local/Regional Authorities

- Local budget allocations
- Municipal/regional guarantees



Financial Institutions

- IFI loans/grant instruments (e.g., EBRD GEFF, VDF, other)
- Commercial lending (local banks)



USAID Better Energy

- Technical Assistance / Capacity Building
- CapEx Co-financing
- USDFC Guarantee (MSME for HOAs)

Potential Promoters



Local Authority



HOA Chairperson



Private BMC



ESCO



DH Company

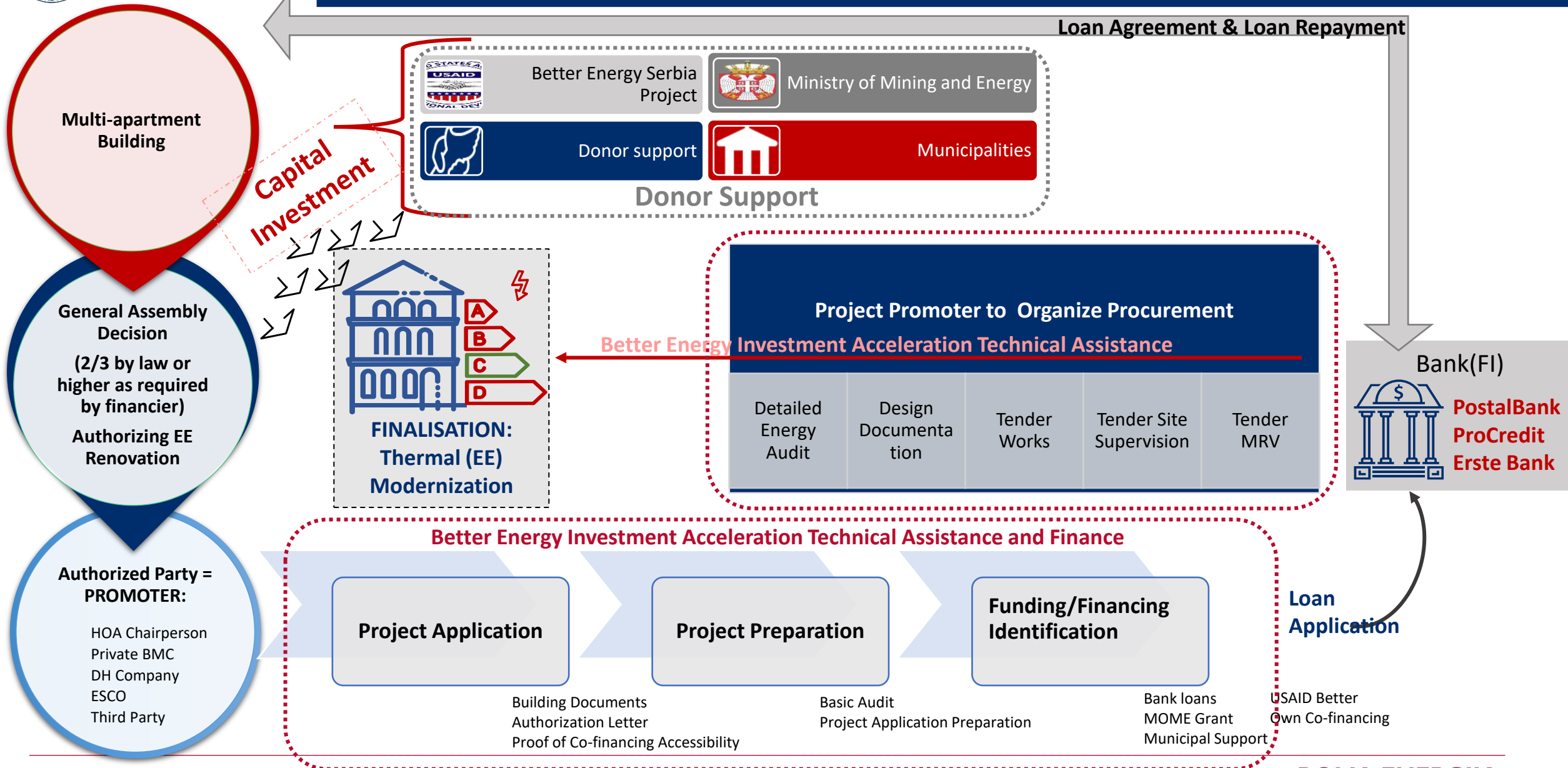


Third Party



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BE MAB INVESTMENT ACCELERATOR and FINANCE



Variations of Promoters and Intermediaries

DIRECT BANK LENDING

Borrowing directly by MAB/HOA, repayment to be made to the bank



MUNICIPAL REVOLVING FUND

Municipal fund or a foundation finance the retrofits, expecting repayments, which will be reinvested



LOCAL GOVERNMENT

LDG funds channeled through a financial institution, as blending of bank loan with municipal grant



EPS ESCO WITH GUARANTEED FEED-IN TARIFF

Utilizing long-term power purchase agreements as financial security for lending for broader EE retrofits



PUBLIC ESCO


Third party (e.g. DH Company or ESCO) acts as intermediary for channeling financing and benefitting from shared savings/renewable energy sales revenues






Actions Necessary for Scaling up to Tap an Investment Gap of ~20 billion USD


LEGAL-REGULATORY REFORM—SUPPORT FROM PRIME MINISTER'S OFFICE AND MINISTRIES

- 
- Synchronize state, municipal and development assistance in residential EE and RE
 - Establish long-term, predictable financing and institutions: EE funds, housing / EE agencies, or others for scale up
 - Amend Housing legislation: Cadaster registration of HOA loan agreements, institutionalization of loan repayments, waiver of collection agency fees, etc.
 - Establish/recruit advisory institutions for supporting HOAs & banks: community groups, municipalities, NGOs, energy auditing / consulting groups
 - Plan for long-term transformation of social assistance: targeted subsidies; low-income EE programs

COORDINATION AMONG GOVERNMENT, DONORS, AND IFIs

- 
- Inter-agency Task Force necessary for cross-sectoral coordination: Energy, finance, environment, housing and local governance
 - Pooling investment loans and grant, together with technical assistance: power up the renovation wave (e.g. multi-donor EE Fund)
 - Strategical use of grants to support to cover market gaps: awareness, capacities, technical assistance, loans/grants, etc.

GUARANTEE SCHEME FOR MAB EE/HOA LENDING AND RELATED CATALYTIC SUPPORTS

- 
- Help secure HOA credit lines offered by local and international financial institutions: support on-lending to HOAs
 - Partially secure bank loans to HOAs by government grants: cover economically vulnerable groups
 - Provide technical assistance: programming, project development, and implementation
 - Bring in catalytic public grant co-financing to de-risk investments and scale-up the bank investments



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THANK YOU!

Unlocking Serbia's \$20 Billion Building Energy Retrofit Potential

BEFORE



AFTER



PROJECT

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