Policy Guidelines for Centralised Energy Efficiency Financing Mechanisms

EECG workshop

12 March 2020

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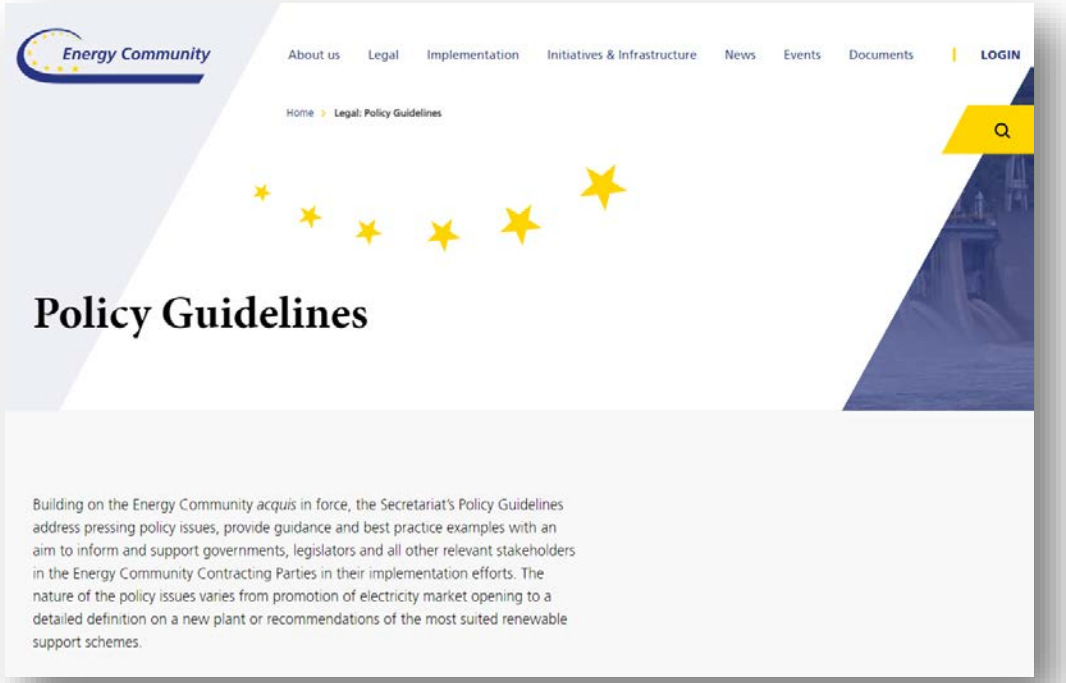
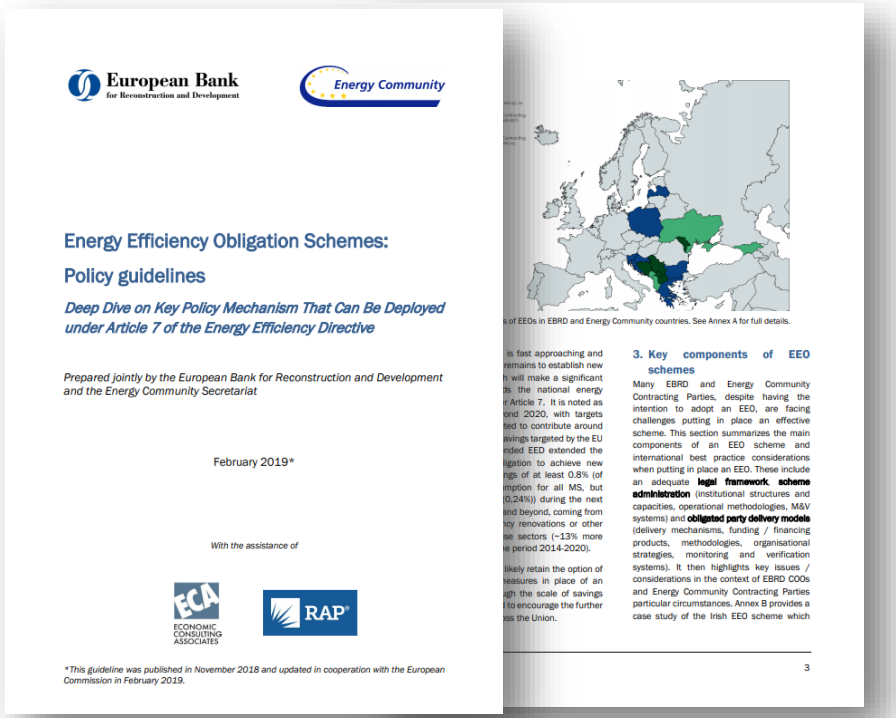
Introduction and welcome (EnCS & EBRD)





https://www.energy-community.org/legal/policy-guidelines.html

Agenda

Context and Introduction to Policy Guidelines

- Context and relationship with EED
- EU approaches and activity in Energy Community
- Scope and structure of Policy Guidelines

Case Studies from Croatia

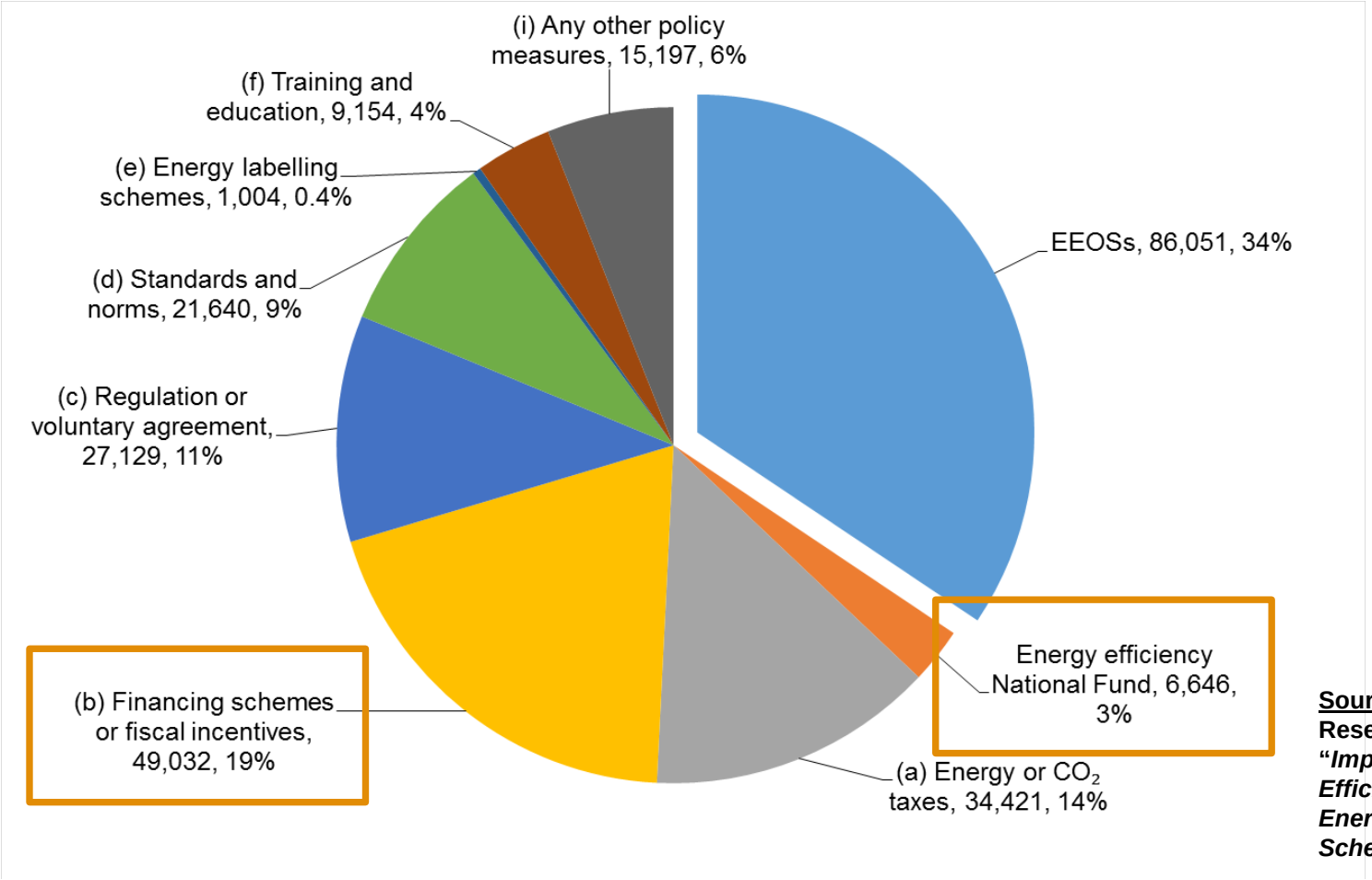
- Case Study 1: Public Buildings Refurbishment Programme
- Case Study 2: Energy Efficiency Fund

Questions

Policy Guidelines for Centralised Energy Efficiency Financing Mechanisms

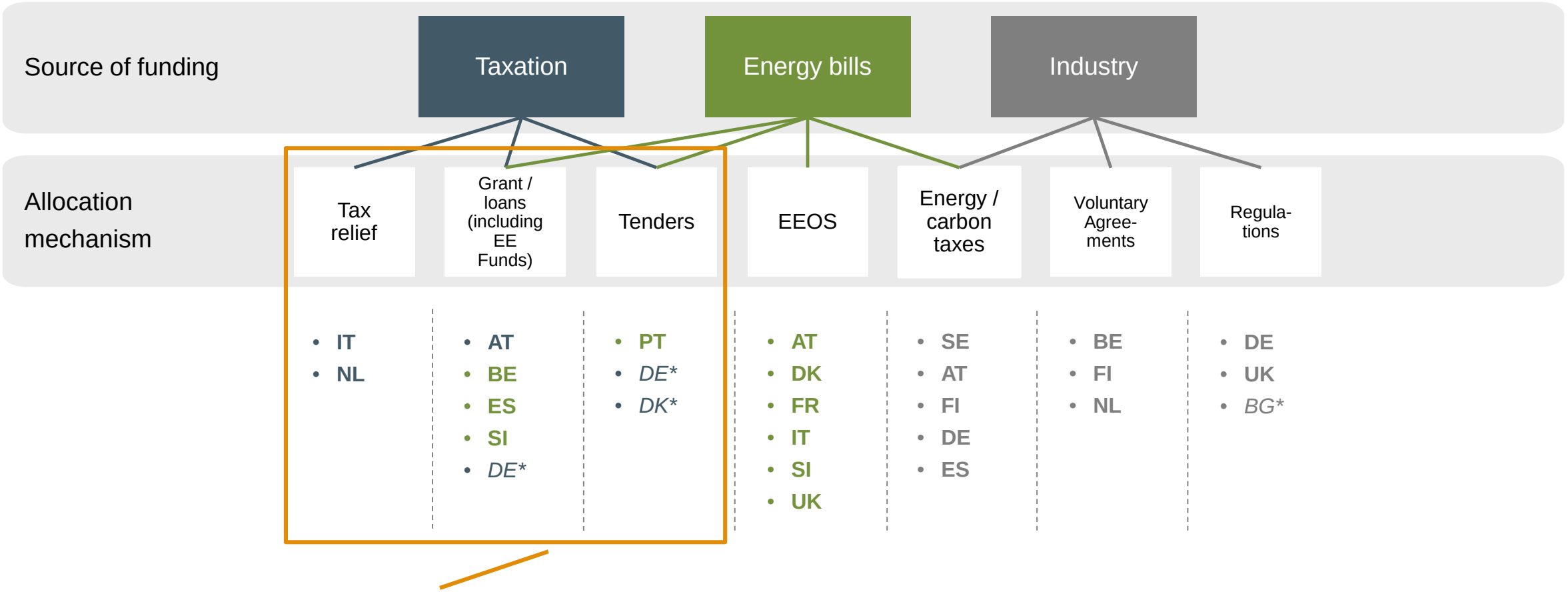
Context

Article 7 EU Member States – contribution of energy savings



Source: **European Parliamentary Research Service (2016)** ***"Implementation of the Energy Efficiency Directive (2012/27/EU): Energy Efficiency Obligation Schemes"***

Use of finance mechanisms in 2014-2020 period by EU Member States

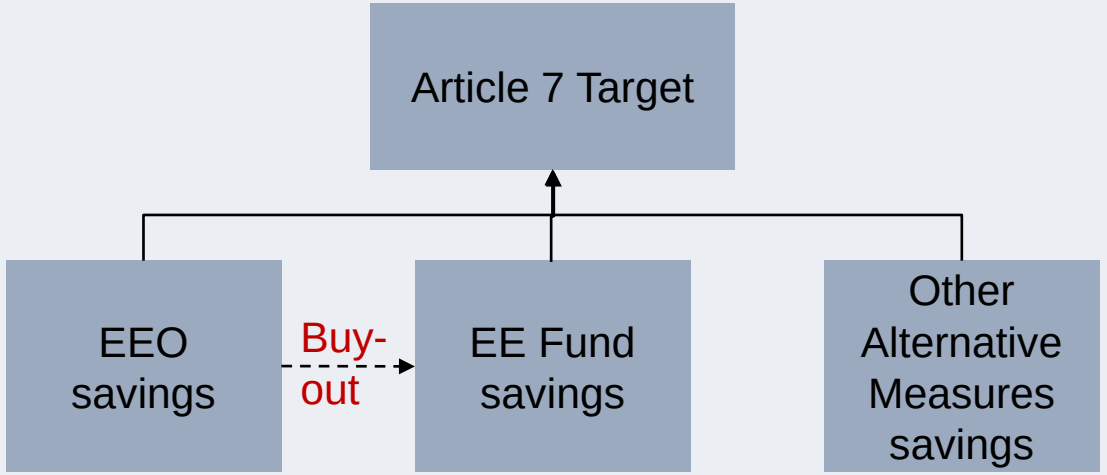


- **Scope of Policy Guidelines**

EED Article 20 as a component of Article 7

- **Contracting Parties encouraged to set up**
  - Financing facilities for Energy Efficiency
  - Facilitating institutions
- **Aim is to**
  - “maximise the benefits of multiple streams of financing” [Para. 1]
  - “increasing energy efficiency in different sectors” [Para. 2]
- **To do this Contracting Parties may**
  - Set up a National Energy Efficiency Fund [Para. 4] – but alternative mechanisms are also admissible
  - Use these mechanisms for achieving Article 5 and Article 7 obligations [Paras. 5 and 6]

- **Interplay with Article 7**
  - Many EEO schemes allow a “buy-out” to a National Energy Efficiency Fund
  - Cost can be fixed on a €/kWh-saved basis relative to
  - Must be able to enforce payment or penalty



Revised EED – reconfiguration for 2021-2030

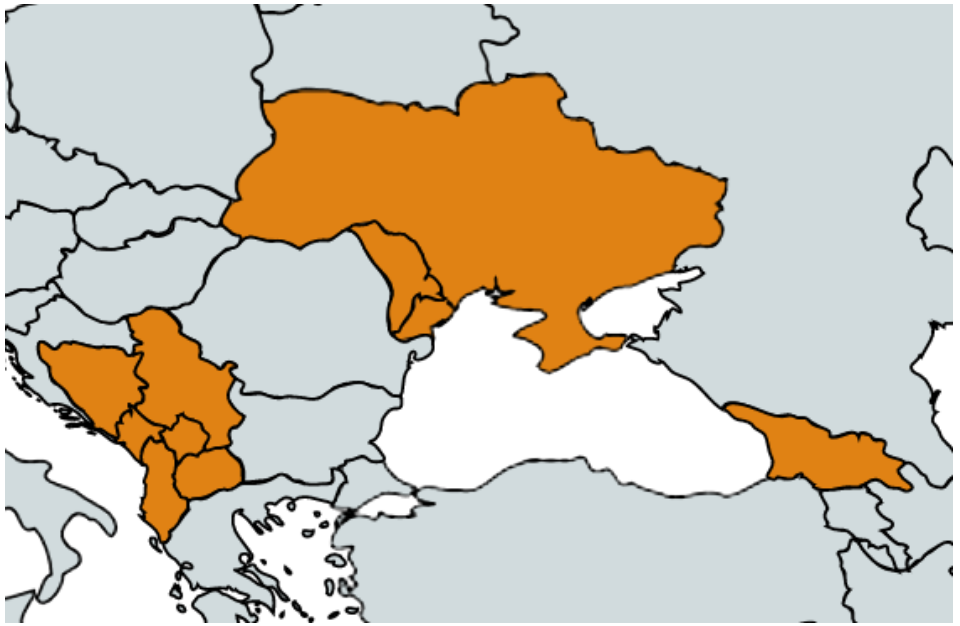
- **The revised Article 7 target is:**
  - Longer in duration (2021 – 2030)
  - Deeper in ambition (no exclusions can be applied to reference value)
- Within EU set to 0.8% of annual average final consumption during 3 years to 1 January 2019
  - This results in real terms savings higher than 2014-2020 requirement of 1.5% annual savings but with substantial reductions allowed
  - Major increase from 0.7% with reductions set for Contracting Parties (2017-2020)
- Must consider need to alleviate energy poverty and report thereon

Active centralised finance mechanisms in Energy Community – country-specific schemes

Bosnia and Herz.		
Name of mechanism	**Type / sector**	**Provider**
Revolving Fund	Loans / municipalities	UNDP / Swedish Gov.
The Environment Fund	Grants & loans / municipalities	UNDP / GCF
Bosnia EE project (due 2020)	Grants & loans / municipalities	World Bank / KfW / others

Montenegro		
Name of mechanism	**Type / sector**	**Provider**
Environmental Protection Fund	Various	UNDP / Gov. / Others
Energy Efficiency Home	Loans / residential	Government & banks

Albania		
Name of mechanism	**Type / sector**	**Provider**
Energy efficiency in public buildings	Loans / public buildings	Word Bank



Serbia		
Name of mechanism	**Type / sector**	**Provider**
State Energy Efficiency Fund	Loans & grants / municipalities	EU and Gov. of Serbia

Kosovo		
Name of mechanism	**Type / sector**	**Provider**
Kosovo Energy Efficiency Fund	Loans & grants / municipalities	EU and Government of Serbia

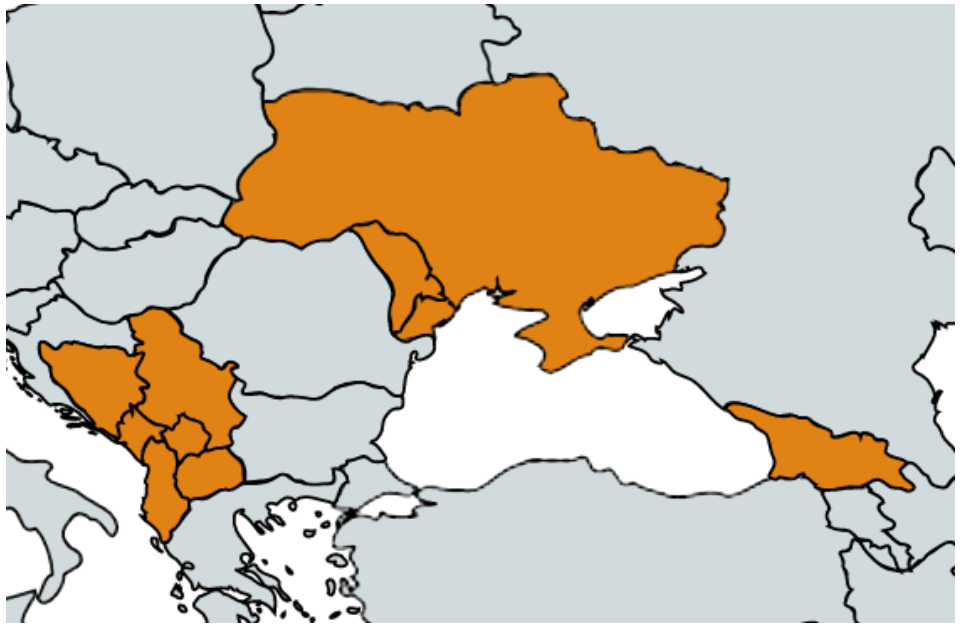
North Macedonia		
Name of mechanism	**Type / sector**	**Provider**
Public sector energy efficiency	Grants & loans / public	World Bank
Energy Efficiency Fund	Various / public	World Bank / others

Ukraine		
Name of mechanism	**Type / sector**	**Provider**
Energy Efficiency Fund	Loans and rebates / residential	EU, IFC, Others
Warm loans	Loans and rebates / residential	Government

Moldova		
Name of mechanism	**Type / sector**	**Provider**
MoREEFF and MoSEFF	Credit lines / commercial and residential	EBRD, EU, SIDA

Georgia		
Name of mechanism	**Type / sector**	**Provider**
Energy Efficiency Fund (planned)	TBD	Government

Active finance mechanisms in Energy Community – regional schemes



Regional		
Name of mechanism	**Type / sector**	**Provider**
Green for Growth Fund	Loans / public, commercial and residential	EIB, EBRD, KfW and others
Green Energy Financing Facility (GEFF)	Loans and grants / Residential and commercial	EBRD and European Union

Policy Guidelines for Centralised Energy Efficiency Financing Mechanisms

Policy Guidelines

Scope and structure of Guidelines

EED Role

- How centralised financing mechanisms can contribute towards Energy Efficiency Directive obligations

Funding sources

- The potential sources of funds: eg taxation, energy bills, fees, emissions allowance sales

Mechanism options

- Routes for provision and what market failure they address: grants, loans, credit lines, on-bill, tax rebates etc

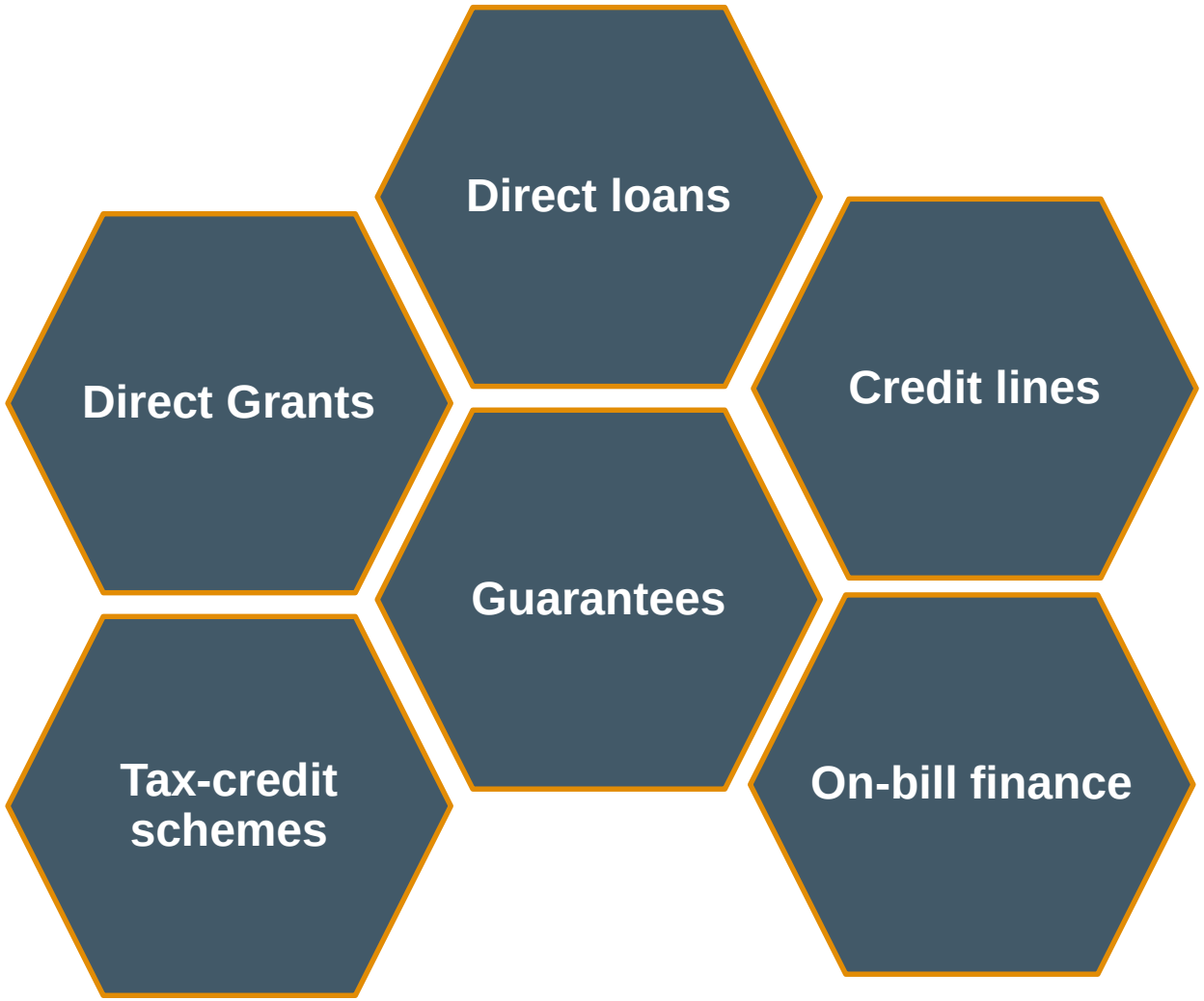
Allocation approaches

- How money is allocated: eg tenders, first-come-first-serve, bilateral contracting etc

Recommendations for design

- Key lessons learnt on successfully designing and establishing a scheme within a coherent policy mix

Form of support - options

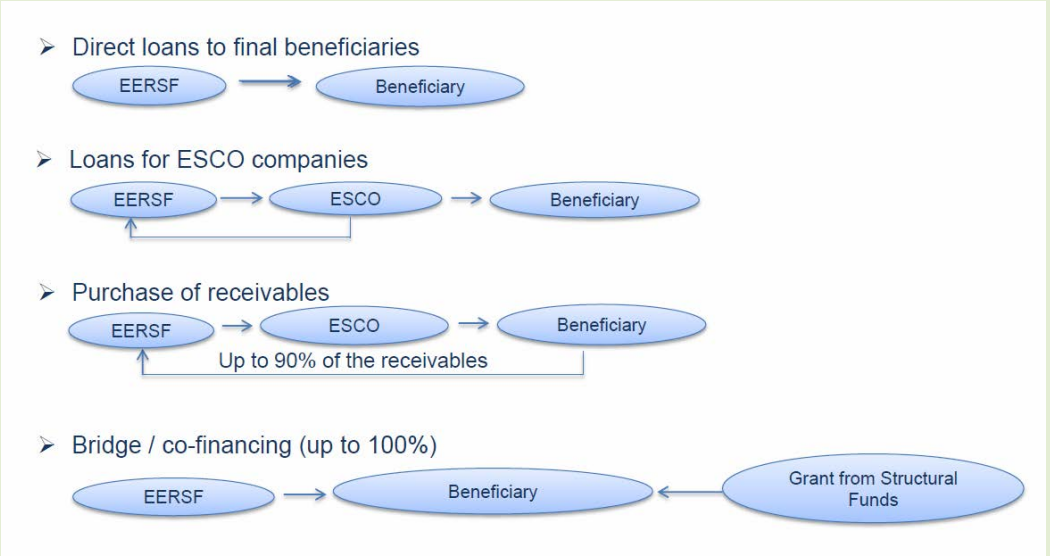


- **What is the market failure being addressed?**
  - E.g. Lack of information, split incentives, access to capital → different mechanism address different issues
- **What is the end use sector being targeted?**
  - Public, transport, industrial & commercial, residential? Different groups face different challenges
- **What measures are being supported?**
  - Complex or simple measures?
  - High or low volume?
  - Expensive or cheap?

Structure of financing mechanism – Energy Efficiency Fund

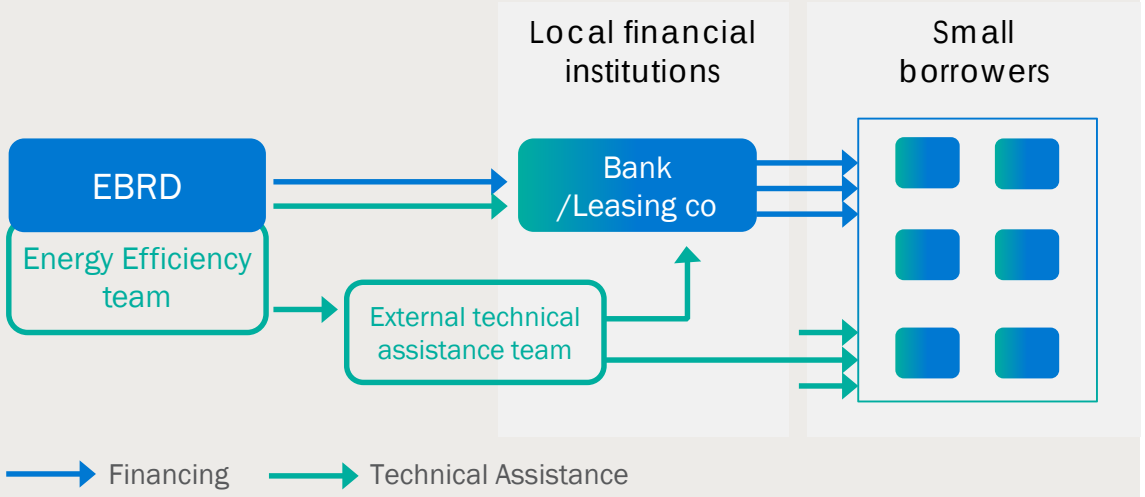
- **Funding source varies:**
  - Government budget, energy levies, donors, fees, loan repayments
- **Benefits to approach:**
  - Can be relatively simple to set up
  - Good at accelerating take-up of new technologies and building markets
  - Easy to tailor to non-cost objectives
- **Potential issues:**
  - Potential to distort commercial markets
  - Scale hard to achieve
  - Grant-based systems can be expensive and of questionable cost-effectiveness
  - Loan-based schemes have struggled in residential sector

- **Bulgarian example:**
  - Soft loans & partial credit guarantees
  - Focuses on non-residential sectors
  - Combines with technical assistance / energy audits
  - Management board – 6 private and 5 ministerial



Structure of financing mechanism - loans

- **EBRD GEFF example:**
  - Offers capital for on-lending by local financial institutions otherwise unavailable
  - Backed by technical assistance to build market and raise awareness
  - Combined with incentives to stimulate market



- **Delivery body varies**
  - Can be public body, energy firms, banks, donors etc
- **Benefits**
  - Good at targeting access to capital issues
  - Can be tailored to specific objectives→ eg deep retrofit
  - Good at accelerating take-up of new technologies
- **Potential issues**
  - Difficult to scale-up
  - Needs strong support from information campaigns
  - Offering must be attractive

Structure of financing mechanism – tax schemes

- **Multiple forms:**
  - Credits, reductions, rebates, accelerated depreciation
- **Benefits of tax measures:**
  - Can be cost effective (to public purse)
  - Can deliver at substantial scale
  - Help embed energy efficiency within enterprise investment decisions
  - Overlap with initiatives to tackle grey economy
- **Potential issues:**
  - Can be complex to avail
  - Access to value may be difficult for individuals
  - Free-rider concerns

- **Italian example:**
  - 39% of Italian Article 7 target as of 2017
  - Applies to EE refurb / renovation to buildings
  - Reduction in income tax (personal or corporate)
  - Granted to private citizens and entities

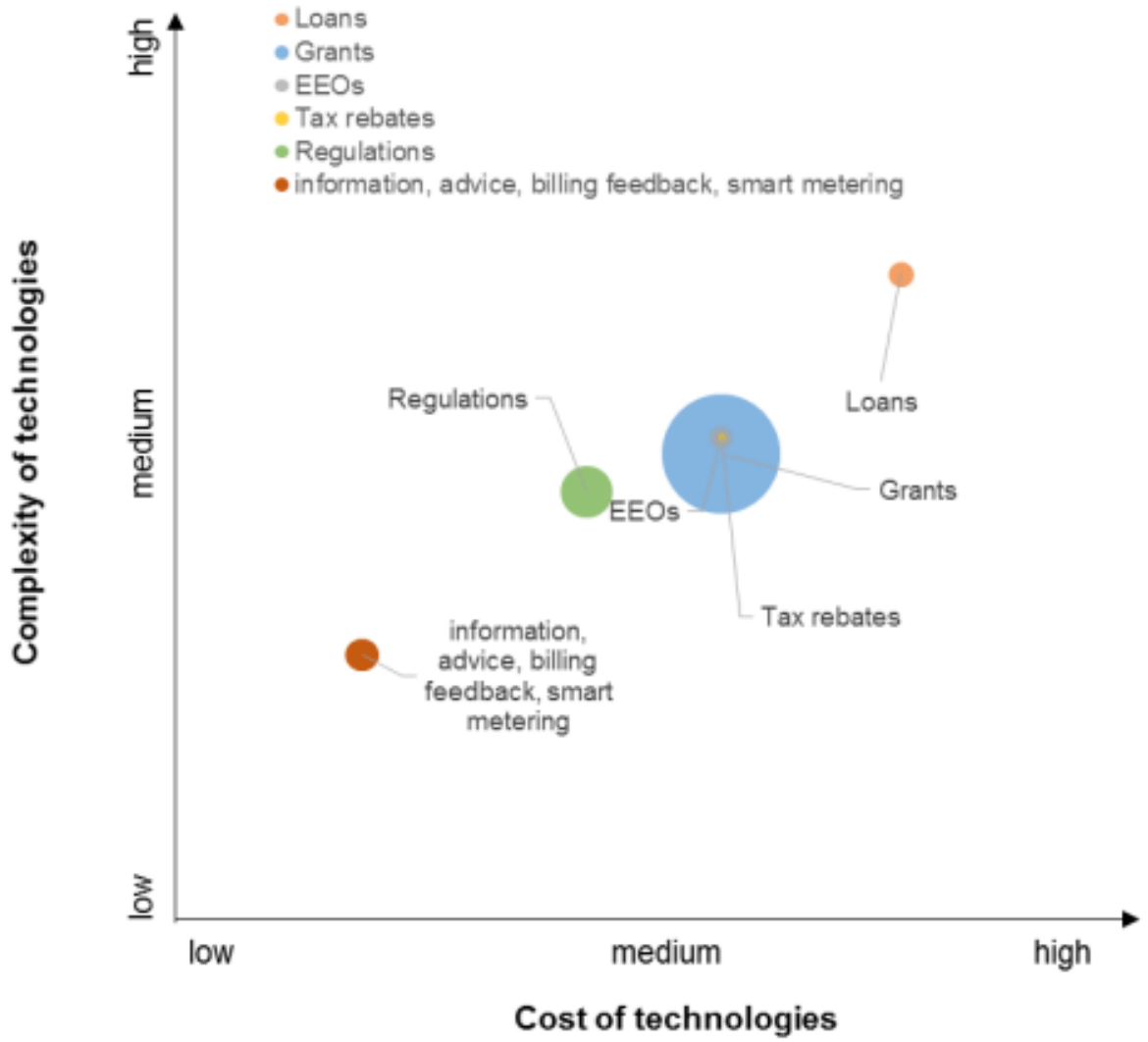
Allocation mechanism - tenders

- **Delivery body can vary**
  - Public agency, regulator, 3rd party
- **Funding source also varies**
  - Taxation, energy bills, carbon allowances
- **Benefits**
  - Evidence suggests good cost efficiency
  - Easy to tailor to specific objectives
  - Easier route to market for ESCOs
- **Potential issues**
  - May have unstable budget
  - Dealing with “winner’s curse”
  - Issues of State Aid

- **Portuguese example:**
  - 34% of Article 7 target as of 2017
  - Funded through energy tariff levies (~ 0.2% in 2017)
  - Two separated bidding groups: electricity sector firms and non-electricity sector firms
  - Multi-criteria: economic, social, quality
  - Minimum 20% co-financing

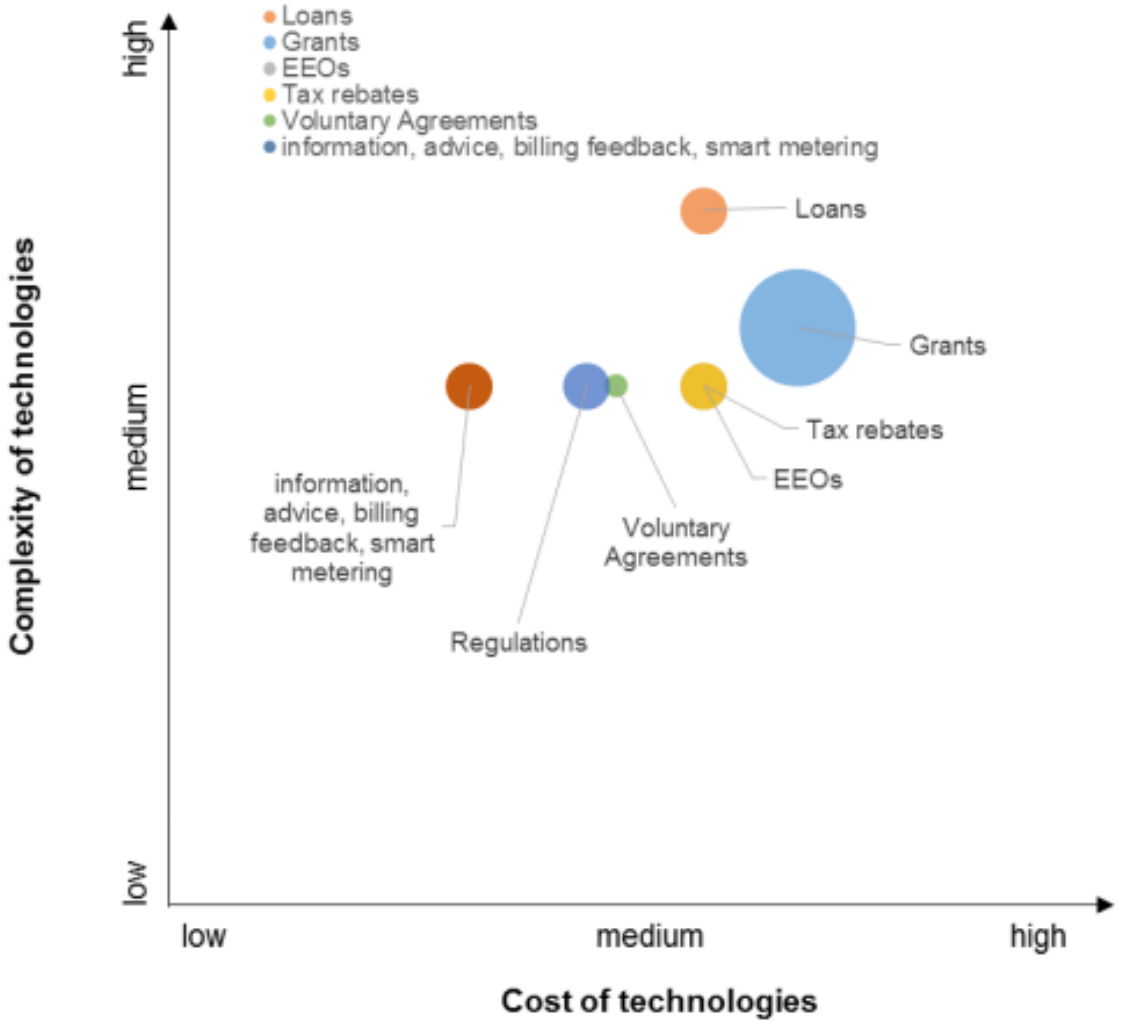
Results	
All eligible bidders	**Excluding electricity sector firms**
€7 Million - Industry	€3 Million “tangible” (industry, services, households)
€4 Million - Services	
€3 Million - Households	€4 Million “intangible”
€2 Million – “intangible”	

Policy categories – cost and complexity (Residential sector)



Source: *ENSPOL (2015) Energy Saving Policies and Energy Efficiency Obligation schemes - D5.1 Combining of EEOs and alternative policies*

Policy categories – cost and complexity (industrial sector)



Source: *ENSPOL (2015) Energy Saving Policies and Energy Efficiency Obligation schemes - D5.1 Combining of EEOs and alternative policies*

Policy categories – comparison of selected finance mechanism types

Public grants (inc. through EE Funds)	Direct loans (inc. through EE Funds)	Supported 3rd Party loans	On-bill finance	Tax rebates/relief
• Good for demonstration projects • Have additional "emotional impact" for consumers • Relatively straight-forward to operate • Struggle to achieve scale • At whim of budget considerations • Often have poor cost-efficiency • Limited leverage can be achieved	• Necessary for more costly, complex projects • Can achieve greater leverage • Best combined with technical assistance • Consumer still bears cost and risk • Favours better-off consumers with good credit ratings • Can be complex to set up • "Soft" means subsidised	• Leverages existing relationships • Helps develop capacities in commercial sector • Helps ignite market • Requires suitable partner banks • Selection process should be transparent and fair	• Ties energy savings directly to bill reductions • Can be attached to house rather than individual • Can be very complex to set up – consumer lending legislation • Keeping repayments below savings can mean long repayment periods • Issues at sale of property	• Can achieve scale • Embeds energy efficiency in investment decisions • Overlap with initiatives to tackle grey economy • Can be regressive if no avenue for low income consumer to avail value • Significant free rider concerns

Policy Guidelines for Centralised Energy Efficiency Financing Mechanisms

Case Studies from Croatia

Policy Guidelines for Energy Efficiency Funds and Centralised Financing Mechanisms

Case Study 1: Public Buildings Refurbishment Programme

Drivers for establishment and sectoral focus

- To achieve goals set forth in the EED, **government funds are insufficient**
- The mechanism therefore aimed to bring forward **private sector investment** via **ESCos** and EU funds via grant schemes
- The building renovation mechanism significantly increased activity in construction, and **established a competitive ESCo market in Croatia**

- **Sectoral focus**
  - ESCo focus is on large buildings with higher energy consumption per unit surface area
  - Grants aim at buildings with less energy consumption (i.e. Museums, theatres), unreliable energy consumption forecast (i.e. Schools) and/or other barriers for renovation (i.e. Cultural heritage)

Design of mechanism – Tenders for ESCOs

Authorisation/Program to APN

Energy audit, technical input data

RFP published by APN

Standard EnPC

Monitoring and verification defined

Tender

- APN launches public procurement for ESCO in public buildings
- ESCO assumes risks of design, construction and O&M
- ESCO financing 100% on its balance sheet
- Minimum savings: 50%
- No procurement for construction or financing
- Bids evaluated only on assumption of results to be achieved in refurbishment
- Technical data for building published

ESCO

- Financing
- Subcontractors
- Design
- Operating&Maintenance
- Guarantees

ESCO regulatory framework

Energy efficency law

- Definition of energy service and Energy Performance Contract
- Defines risk assumptions for ESCO (Energy Service Provider), article 26.
- Defines Energy Perfomance Contract clauses and princiles Article 26 a)
- Defines roles and obligations in contracting (procurement) for public buildings

Ordinance on Measurement and verification

- Defines a public web based software for measurement and verfication of „deemed" energy savings
- Provides methodology to calculate and determine savings for a list of measures
- Authorisation and responsibility for data input, dispute settlement

Ordinance on Energy Management

- Mandatory collection of data about real energy consumption, for public buildings
- Contains data for normalisation of consumption – relevant building characteristics, type, use, climatic data
- Mandatory for public buildings – energy data provided from energy suppliers
- Delivers calculation of „measured savings" – real consumption vs reference consumption

Decree on Energy Performace Contracts

- Defines details for public procurement
- Defines mandatory clauses and priciples for Energy Performance Contracts
- Definitions for budgetary implementation of payments for energy service

Model contract

- Mandatory for public sector
- Provides details of implementation
- Defined according to regulatory framework
- Publicly available

Program for Energy Renovation

- Provides details for participants – public authorities
- Ensures transparency
- Interpretation of contractual relations in Energy Performance Contract
- Rules for verification of design

Execution of ESCO model

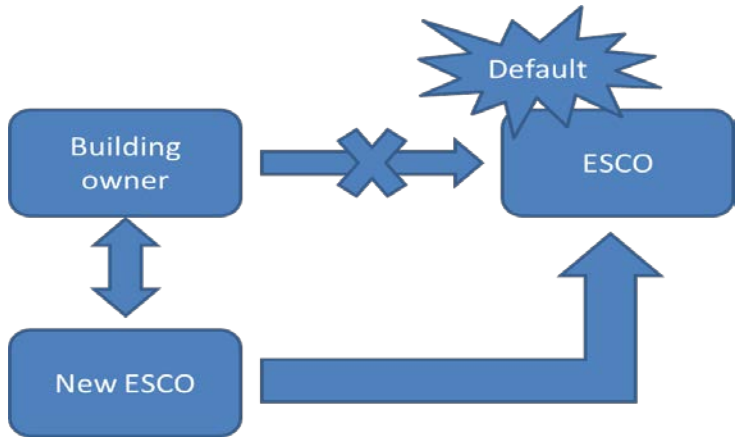
Tender
- Open procurement
- ESCO's bid for guaranteed savings
- Design not defined

Design
- ESCO makes the design
- Independent experts audit the design
- If ESCO does not provide design to achieve guaranteed savings, contract is terminated

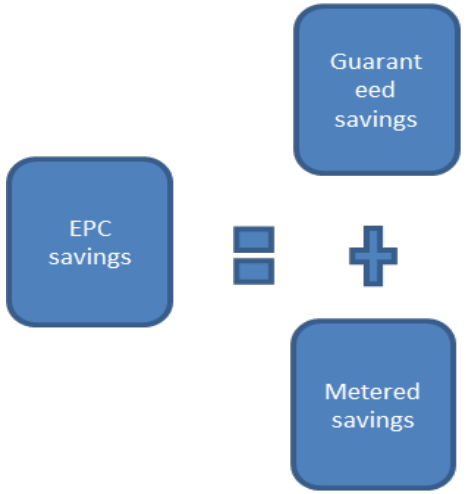
Renovation
- ESCO executes renovation on its own cost and organisation
- Public beneficiary audits works executed
- Renovation completed upon positive report by an independent engineer

Operation
- ESCO liable for O&M of its investment
- Guaranteed saviings audited once a year
- Additional savings determined from actual energy bill
- ESCO can choose to deliver energy

Termination of EPC:



Payment mechanism:



- From elements permanently attached to a building (i.e. Insulation of walls, windows, roof etc.)
- Calculated from the design verified by independent experts
- Deemed achieved if characteristics of EPC asset is as designed
- If EPC assets at any time do not have the ability to perform in all designed elements - no payments are made to ESCO

- Calculated from energy consumption data in national system (ISGE) and normalised according to regulation
- Normalisation includes minimum degree/days for the building
- No other evidence is necessary – savings not attributed to a precise source
- Payments made as monthly payments with one year delay

Challenges faced: non technical barriers for EnPC

Business model	Financial	Legal	Accounting	Information
• Low rates of return or insignificant investment • ESCO risks inproportionate to rewards	• No new assets for collateral • Uncertain cash flow	• Settlement of disputes • Liabilities • Quid pro quo?	• Taxes for EnPC – OPEX or CAPEX? • Ownership of assets • Debt assumptions	• Lack of practice • Understanding of roles in EnPC • Experience

- **EnPC –** a highly complex area, unlikely that spontanious development can resolve fundamental issues, however:

- **Non technical barriers** can be dealt with through a set of **interrelated regulatory and policy instruments!**

Lessons learnt and areas for improvement

- **Key successes:**
  - Renovations implemented quickly and with high quality
  - ESCo market developed at an unexpected pace
- **Lessons learnt:**
  - Detailed regulatory framework necessary to create ESCo market
  - Transparency and simplicity of the process key to raising interest of private investors
  - Allowing ESCo the right to design measures enable competitive market
  - Large project attract more interest

- **Areas for improvement:**
  - Stop and go
  - Use of EU funds
  - Introduction of FI's
  - Competitive process for grants to ESCos
- **Follow on initiatives:**
  - Support schemes for EU funds under development (grants and FI's)
  - Further development of national EMIS for measured savings

Policy Guidelines for Energy Efficiency Funds and Centralised Financing Mechanisms

Case Study 2: Energy Efficiency Fund

Drivers for establishment and sectoral focus

- **Funds from OPCC planned as grants for building owners**
- **Multiapartment buildings have the highest potential for energy savings**
- **Article 7 EED alternative approach includes renovation of public buildings, multiapartment buildings and family homes**
- **At the time of planning for OPCC no significant experience with ESCO**

- **Sectoral focus**
  - Public buildings
  - Multiapartment buildings
  - Family homes

  For public buildings focus is on buildings with lower energy consumption, and/or expected decrease of energy consumption (schools, due to demographic trends; museums, cultural heritage buildings etc.)

Grant support mehanism

Public buildings	Multiapartment buildings
Subsidies 40% from EPEEF defined in RFP	Subsidies 60% from ESIF in a call for MA buildings
ESCO paid in construction phase	Awarded up to available funds
Subsidies contracted from EPEEF to public authority	Subsidies contracted with MA building owners (50%)

Call for proposals for renovation of multi-apartment buildings

10/16	10/16 - 01/17	01/17 – 05/17	05/16 - 06/17	07/17 - 12/18
CFP PUBLISHED	**CFP DURATION: 90 DAYS**	**EVALUATION PERIOD: max 120 DAYS**	**CONTRACT SIGH OFF: 45 DAYS**	**IMPLEMENTATIO N PERIOD**
• Published on 17.10.2016. • Closed on 31.1.2017.	• Info campaign • Q&A • Workshops	• Evaluation of project proposals • Grant awards	• Tripartiy agreement – MA1, MA2 and Benerficiary	• 18 months • Payments on each 3 months • Reporting to MA1 and MA2

MANAGING AUTHORITY

MINISTRY OF REGIONAL DEVELOPMENT AND EU FUNDS

MANAGES IMPLEMENTATION OF THE OPERATIONAL PROGRAMME

INTERMEDIATE BODY LEVEL 1

MINISTRY OF CONSTRUCTION AND PHYSICAL PLANNING

STRATEGIC PLANNING OF AVAILABLE RESOURCES

PLANNING AND ANNOUNCEMENT OF CALLS FOR GRANTS

INTERMEDIATE BODY LEVEL 2

ENERGY EFFICIENCY AND ENVIRONMENTAL PROTECTION FUND

EVALUATION OF PROJECT PROPOSALS

COOPERATES WITH THE BENEFICIARIES AND MONITORS THE PROGRESS OF PROJECTS

AUDIT AUTHORITY
AGENCY FOR THE AUDIT OF EUROPEAN UNION PROGRAMMES IMPLEMENTATION SYSTEM

CERTIFYING AUTHORITY

MINISTRY OF FINANCE

ENERGY RENOVATION OF RESIDENTAL BUILDINGS

ERDF CALL FOR MULTI APARTMENT BUILDINGS 2016

72 mil €	60%	584	900.000 m²	49
TOTAL GRANT	GRANT RATE	BUILDINGS CONTRACTED	TOTAL HEATED FLOOR AREA RENOVATED	AVERAGE BUILDING AGE

Options for subsidies

Competitive process

- Easily applicable
- Low administration burdain
- Tailored for individual buildings
- No experience available

Subsidies for individual measures

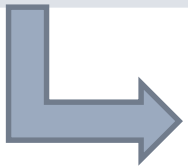
- Easily applicable
- Does not iclude interplay of measures
- Does not reflect individual conditions of a building

Subsidies for „deep renovation”

- Can include tailored solutions for deep renovation
- High administrative burdain
- Not compliant to tendering process

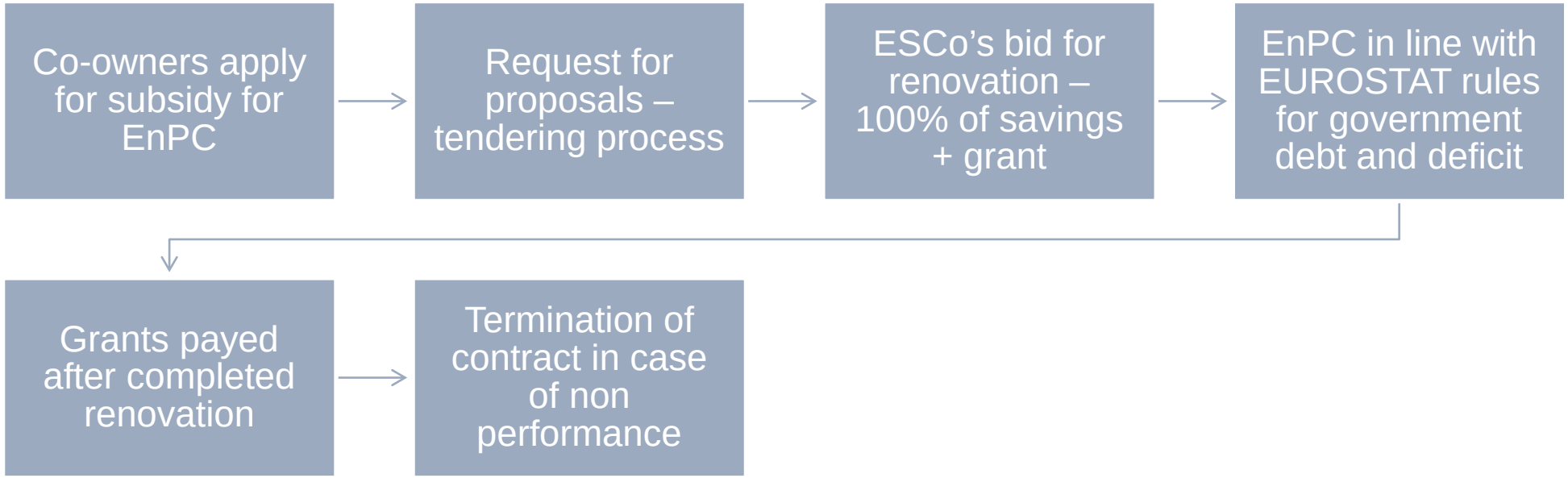
Flat rate for „deep renovation”

- **Easily applicable**
- **Subsidies too high or too low**



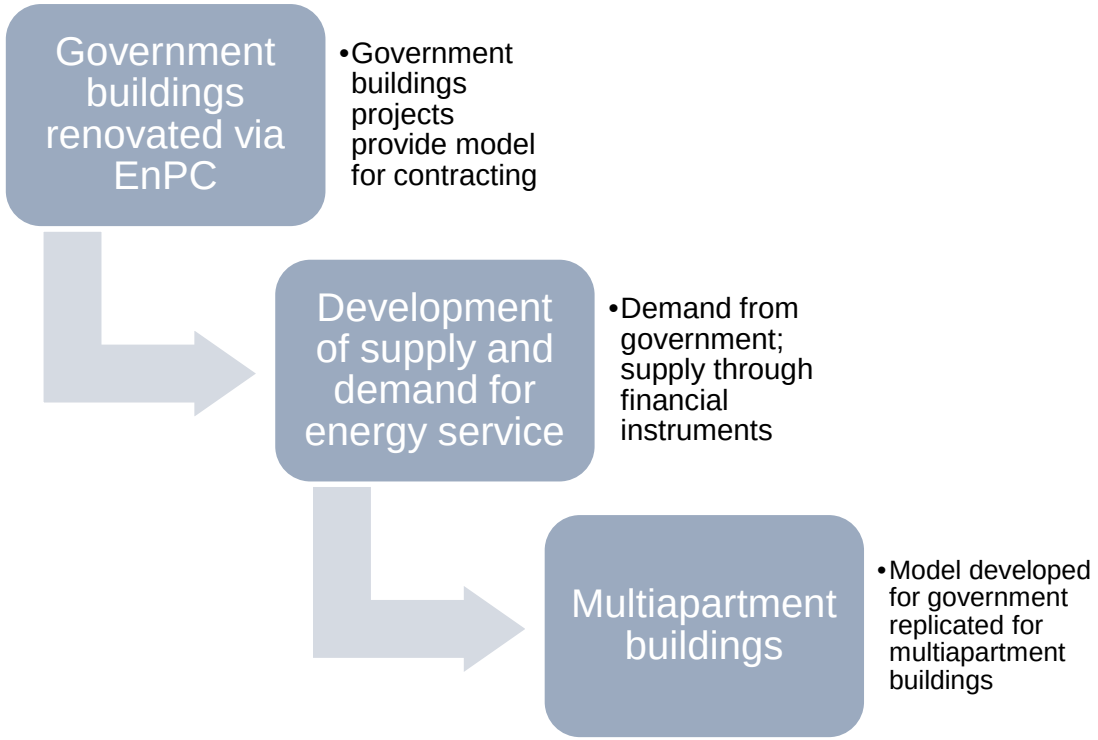
With ESCo as the investor, energy service can be applied and subsidised for multi apartment buildings, unlocking enormous renovation potential!

Competitive process – proposal for public and multi apartment buildings



- **Basic rules for competitive process:**
  - ESCo's apply for grants
  - ESCo's can ask for grants above savings guaranteed
  - Grants considered to be a price in a tendering process
  - Stardardised contracts used to protect co-owners
  - Full application of EUROSTAT rules – ESCo an economic owner of invesment!

Development of energy service market



- Energy service market must be developed to apply competitive process
- Stringent rules and processes for government buildings can provide framework for renovation of multi apartment buildings – unlocking potential
- Not possible if ESO's are not economical owners of investment – EUROSTAT rules!

Challenges faced - ESCo

- **Challenges:**
  - Tax treatment of EPC
  - Public debt assumption and difference from PPP
  - No general strategy for public building management
  - Lack of information/confidence
  - Collateral for ESCo's
  - Verification of savings for „soft" measures

- **Mitigation:**
  - Accounting standards interpretation proposed
  - Model contract in line with EUROSTAT guidance note
  - Not mitigated
  - Public perception improved due to results
  - Planned introduction of FI's
  - Improvement of government EMIS

Major obstacle for implementation of ESCo is inability to use EU grants for ESCo as a beneficiary!

Challenges faced – grants for building owners

Challenges:

- Lack of own resources of public building owners to participate in project
- Lack of administrative capacity
- Lack of resources for grants
- Stop and go

Mitigation:

- Use of special fond for EU projects
- Staffing, more focus on larger projects
- Programming for the next period

Lessons learnt and areas for improvement

- Both models implemented successfully
- ESCo depends on detailed and stringent regulation
- Grants not sufficient to achieve all objectives
- For grants – high administrative burdain
- For ESCo – no experience for creating a constant deal flow supported with grants and FI’s

- For ESCo – development of appropriate grant and FI scheme for ESCo as a beneficiary is underway
- For grants – making procedures as simple and standardised as possible
- Both areas adressed simultaniously to avoid canibalism and deal with stop and go problems

Policy Guidelines for Energy Efficiency Funds and Centralised Financing Mechanisms

Q&A

Key questions – for group discussion

Discussion points

1. Regarding operating or proposed schemes in your countries - what has been the main driver for their establishment? (eg legal obligation, identified market failures, donor support)

2. What has been successful and why from these schemes?

3. What have been the main challenges both in establishment and operation?

4. What ideas do you have for how the schemes could have been improved?

Feedback on the proposed Policy Guidelines

- Do you feel the objective of the Policy Guidelines is the right one?
- Does the scope cover the most important issues when developing such policies?
- Is there anything you feel is missing from the proposed scope?
- Should any adjustments be made to the structure?
- What form do you feel is most useful for the Case Studies?
- Do you have any other comments on the proposed document?

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