

# ENERGY EFFICIENCY and ENERGY PERFORMANCE CONTRACTING (EPC) IN BULGARIA: THE WAY FORWARD

## How can the public sector further facilitate EPC?

**Dr. George Georgiev**  
Associate Professor

# Energy quality of Bulgarian housing stock:

65% of the housing stock built 1950-1990

Average energy consumption 150-300 kWh/m<sup>2</sup>

Large amount (12 000) of prefabricated multi-story buildings in deteriorated condition containing 800000 dwellings in 120 residential estates

Insufficient housing stock maintenance

Urgent need for renovation and upgrade of energy efficiency status

Current renovation rate under 1% of existing stock



[www.fresh-project.eu](http://www.fresh-project.eu)

**Financing energy Refurbishment for Social Housing** – is a European co-operation project that aimed to investigate the possible use of Energy Performance Contracting for low energy refurbishment on a large scale in mass housing

Investigations were made in four European countries including Bulgaria

**The FRESH project outlined three basic implementation models for EPC based energy efficient housing renovation projects.**

**The most feasible/applicable model for implementing comprehensive energy efficient refurbishment for condominiums in Bulgaria is so called:**

**Comprehensive Refurbishment “Light”-EPC Model (CR “Light”-EPC).**

# Obstacles preventing applying of EPC in housing refurbishment in Bulgaria:

- **Fragmented ownership in multistory apartment buildings**
- **Lack of adequate management system in condominium housing**
- **Low level and differentiation of incomes of apartment owners**

# Obstacles preventing applying of EPC in housing refurbishment in Bulgaria:

Potential EPC partner is ready to get involved in covering only a part of the total renovation costs of a comprehensive refurbishment program based on EPC (building systems plus insulation of building envelope). Companies would like to cover the building systems cost up to 1/3 of the total costs.

**In order to get feasible financial scheme the rest of costs are to be covered by:**

- A. Own resources/loans available for homeowners**
  - in majority of cases it is hard to expect that homeowners will secure the needed own funds/loans due to a great diversity of income level of residents in condominiums**
  - non realistic assumption**
  
- B. Subsidy – several subsidy programs are targeted for refurbishment of condominiums up to the extent of 75% of costs**
  - the only working option**

**Opportunities for subsidised co-financing sources from European institutions that can be used in combination with EPC in renovation schemes in Bulgaria:**

- **EU Structural Funds (OPRD – Measure 1.2.Housing)**

[www.mrrb.government.bg/?controller=category&catid=5](http://www.mrrb.government.bg/?controller=category&catid=5)

- **REECL 2 Housing Refurbishment Credit Facility offered by EBRD**

[www.reecl.org](http://www.reecl.org)



**These investigations were based on:**

**A. The results of testing of sample EPC layouts that were identified under FRESH project**

**B. The results of pilot projects in Baltic States (Latvia etc.) with use of EU Structural Funds in combination with ESCO model**

**C. The results from consultations with national stakeholders and international experts.**

# EU Structural Funds Subsidy



Operational Program “Regional Development”  
Priority Axe 1: „Sustainable Integrated Urban  
Development”  
Operation 1.2: „Housing Policy”

BG161PO001/1.2-01/2011

„Support for Energy Efficiency in Condominium  
Buildings”

Started in July 2012





**Ruling authority – Ministry for Regional Development**

**25 mln EUR subsidy**

**6.5 mln EUR loans/guarantees**

**Housing Policy Department**

**Guarantee Fund**

**Up to 75% subsidy**

**25% guarantees/housing loans**

**Housing Renovation**

**50% renovation financing by HOA through loans/equity**

**HOA**

**Loan repayment**

**The major obstacle:**

**There is no sound institution behind the apartment building**

**This is the first activity, subsidized by EU Structural Funds that has to deal with a big amount of beneficiaries – apartment owners. There is no tradition of existence of HOA that are supposed to be targeted beneficiaries**

**Newly introduced Condominium Law does not give yet a sound basis for establishing of HOA as a legal body at building level capable to manage refurbishment activity**

## The possible solution:

**ESCO companies could act as beneficiaries for condominium housing refurbishment projects, subsidized by Structural Funds (OPRD) as follows:**

- a. ESCO is signing EPC contract with HOA of the building to be refurbished provided that a subsidy is granted
- b. ESCO is covering renovation expenses by bank loan
- c. ESCO is implementing the renovation and is further managing the building until the EPC contract expiration
- d. Refurbishment subsidy is disbursed to ESCO after the renovation has been implemented and approved by the OPRD authority

# Advantages of participation of ESCO-s:

**A. Well established legal body capable to manage all stages of multistory housing refurbishment project**

**B. Natural interest in control over the quality of executed renovation works**

**C. Ability to raise in advance the necessary funds for refurbishment activities - credibility for lending/granting institutions and capable to collect own money back through EPC contract**

# Conclusion:

- The problem with long payback period and problematic feasibility of comprehensive refurbishment under EPC can only be solved by subsidy support offered by EU Structural funds/other subsidies
- EPC could channel the utilization of Structural funds dedicated to refurbishment of existing housing in a simplified way allowing better control over efficiency of subsidy spending; actually the homeowners are remaining the final beneficiary of the renovation subsidy disbursed through ESCO without being involved directly (which should be difficult for a condominium owners association)

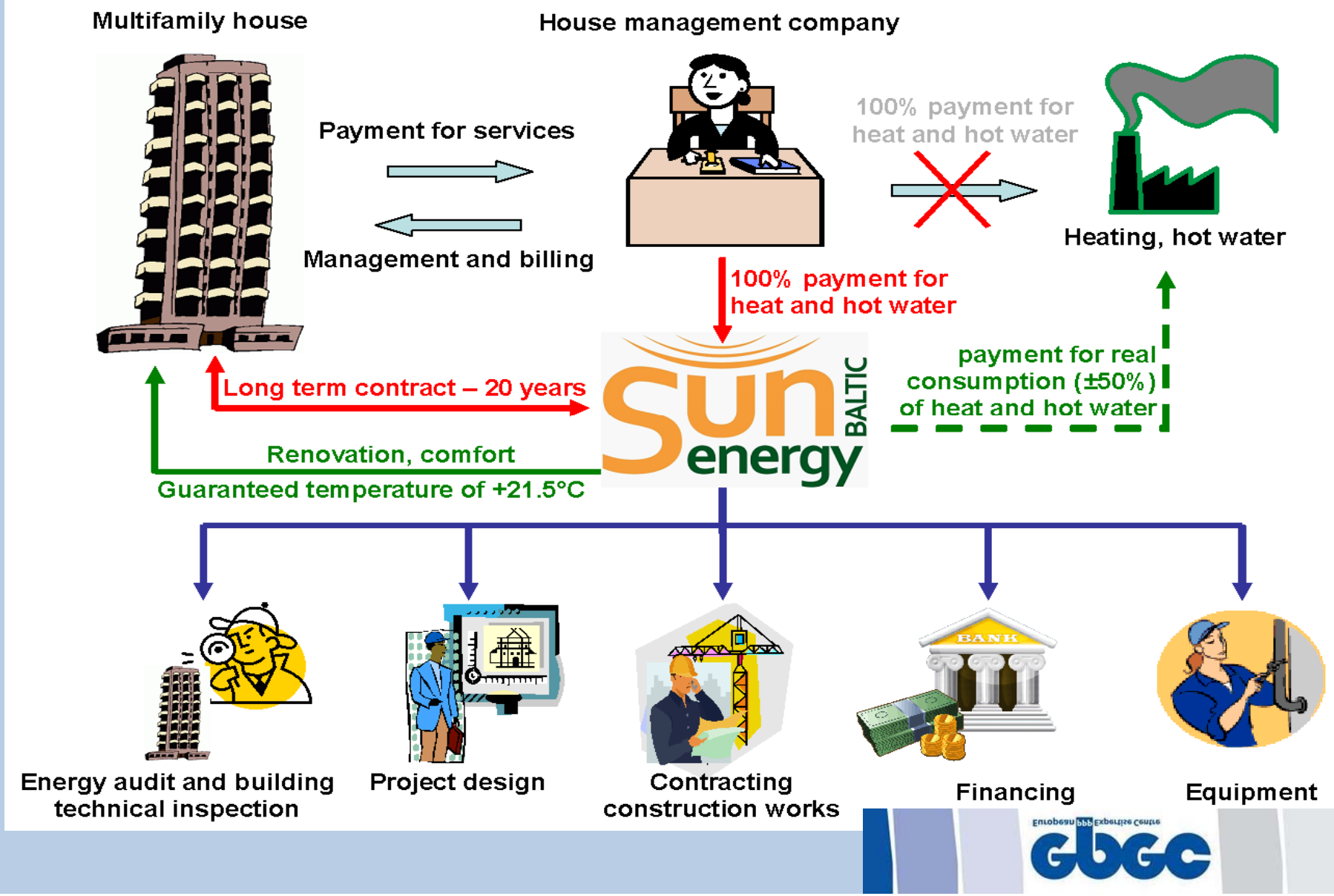


**Applying of the above mentioned model should be accustomed with the experience that was achieved in implementation of EPC based models for refurbishment of condominium buildings in Eastern Europe. Such experience can be observed in the practice that exists in subsidy supported housing renovation activities in Baltic states.**

**EBRD has introduced a scheme supporting development of EPC based condominium housing refurbishment activities in Baltic states. The scheme acts as follows:**

- A. ESCO is signing EPC contract with HOA of the building to be refurbished**
- B. ESCO is receiving a renovation loan by EBRD (via credit line managed by local banks)**
- C. ESCO is implementing the renovation financed by EBRD loan and is further managing the building until the contract expiration**
- D. ESCO is receiving a subsidy provided by EU Structural Funds through the Government after the renovation has been executed**

# ESCO model for Latvia



## Prerequisites for implementation of the scheme:

- Homeowners associations exist in renovated buildings
- House Management company (for Bulgarian case its duties may be handed over to ESCO)
- Relevant rules for utilization of EU Structural fund are adopted by the Government, allowing inclusion of ESCO as a contracting party



# Thank you!

**George Georgiev**

7 Paris Str.,  
1000 Sofia, Bulgaria  
Phone: +359 (0) 888452688  
E-mail: [gngeorgiev@nbu.bg](mailto:gngeorgiev@nbu.bg)  
[bha@bha-bg.org](mailto:bha@bha-bg.org)  
Web: [www.nbu.bg](http://www.nbu.bg)  
[www.bha-bg.org](http://www.bha-bg.org)