



*Empowered lives.  
Resilient nations.*

***EU4ENERGY HIGH-LEVEL CONFERENCE  
UNLOCKING ENERGY EFFICIENCY POTENTIAL IN  
ARMENIA***

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# GAPs and BARRIERS

## Multi Apartment Buildings

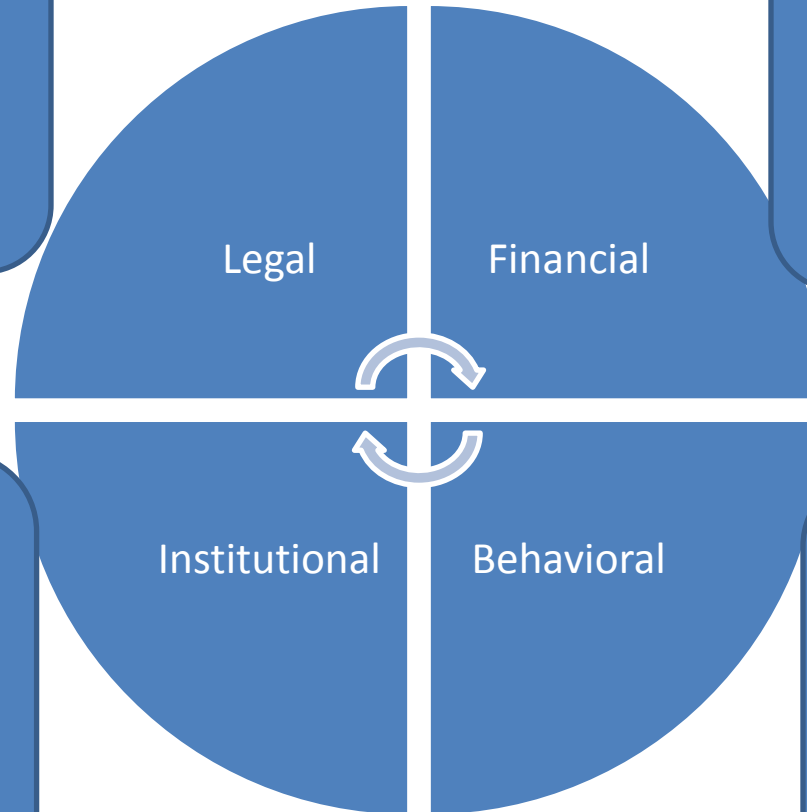
**National ownership towards MAB?!**  
lack of clarity on which governmental institution should lead

Law on Multi Apartment Buildings and law on condominium does not provide clarity and incentives to participate and invest in EE

Great potential for investments and impact  
However no to very limited resources available for MABs. Risk intensive for investor

Asymmetric information and hidden cost

- Seismic/Damage level:
- LED technology can lead to changing not only the bulbs but also light fixtures



Risk transfer possibilities are limited - ESCOs  
Institutions with organizational and mediation functions

Missing database of buildings; Imperfect information 3-8% of investment costs.

Capacity gap at design, construction, quality control stages

Inability to absorb information, form of information

# PRIVATE INVESTOR

## Cascade hills construction



living space of the residential complex was expanded by 900m<sup>2</sup> – market price USD 1,700/m<sup>2</sup>. (USD 1.5 mln).

- wall structure was changed,
- external layer of thermal insulation was added
- overall wall thickness was decreased from 45 to 30 cm for 8 six-floor buildings

# “ENERGY PARADOX” OR “ENERGY-EFFICIENCY GAP”



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The *apparent reality* that energy-efficiency technologies that would pay off for adopters (in terms of energy cost savings) and have great social impact are nevertheless *not adopted*

## **Market-Failure**

Legal and Institutional constrains

Lack of information, asymmetric information

### **Tenant/landlord**

landlord would not invest in EE as he is not living in the apartment and the tenant would not do so as a temporary resident

Externalities – additional impact on Environment, Energy Security

Lack of trust in the modern technology/materials

## **Behavioral**

Inability to absorb information

Do consumers make choices on basis of Net present value ?! Rules-of-thumb

Electricity billing- e.g. bill can be used to inform/message end users on the energy efficiency potential

Culture

Trust?!

Inertia?!

## **Model and Measurement**

Asymmetric information and hidden cost  
Seismic/Damage level:

LED technology can lead to changing not only the bulbs but also light fixtures

Fail in modeling/measuring the results, comfort level shifts, different climatic conditions over years

Uncertainty (real, not informational)  
Future energy prices

# RECCOMENDATIONS

## Legislative

- National ownership towards MAB: The roles should be clearly defined within new law- which body should be in charge for the MAB related issues ?! New law on MAB management is currently under development. UNDP is supporting the process with introduction of best international practice
- Update EE building codes, standards (Minimum Energy Performance Standards ...)
- Energy Tariff reforms!?
- ESCO promotion reforms

## Institutional

- Introduce integrated Building management practices - including EE
- Institutional de risking - Development of risk transfer institutions and institutions with organizational and mediatory functions;
- Data on Buildings: Building passportization process needs to be re-vitalized (MRV at large), introduction of Energy Management Information system (EMIS)

## Financial

- Financial de risking –
  - Access to public money, private, concessional loans, grants
  - Direct subsidies to building owners (vulnerable population). Direct subsidies to ESCOs and other service providers.
- Credit lines and guarantees for commercial banks

**THANK YOU!**

