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# **Obstacles and Barriers In Energy Efficiency Project Financing and Twelve Lessons Learned**

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**Climate Technology and Energy  
Efficiency – the Engine for Economic  
Growth and Innovation**

7. CTI Capacity Building Seminar

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**Four partners - ARCE, UNOPS, UNDP and GEF...**

- **Romanian Agency for Energy Conservation** - Governmental partner
- **UNOPS** - Executing agency
- **UNDP** - Implementing agency
- **GEF** - Main financier (\$2 million)

**... built a new Energy Efficiency Financing Team in 2003\***

- **Recruited a Project Manager, who recruited a team of six experienced local experts**  
for core tasks of outreach, banking, finance, engineering, administration and logistics

**... so the Team became fully operational from January 2004**

**... and is scheduled to disband when the Project ends (this month)**

\* Re-launch of an earlier initiative that had stalled in 2001 and re-designed in 2002

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## **UNDP/GEF has applied a simple formula to leverage investment in energy efficiency...**

**A small, non-reimbursable investment by UNDP/GEF...**

- Typically a Pre-/Feasibility Study or a small Equipment Grant

**... should help leverage a large investment by someone else!**

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**And this simple formula works!**

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**UNDP/GEF has supported an eclectic selection of investment projects**

**Lighting**

**Public buildings**

**Community heating**

**Water systems**

**Blocks**

**Industry**

**Renewable Energy Projects**

**Cogeneration/CHP**

**Some \$55+ million of investments (36 projects) are now 'definite'...and other 'cookies' are in the 'stove'**

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**300+ investment proposals were considered by UNDP/GEF, of which 68 receive substantive support\*, of which:**

**36** - led to investments taking place

- \$55+ million has been invested or committed so far

**21** - may or may not lead to investments taking place

- as work-in-progress, or finalized and awaiting a financing decision

**11** - will not lead to an investment

- as poor economics, or change of decision-maker, or financing issues

\* Meaning a profile study and/or an equipment grant

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**UNDP/GEF found the following barriers/obstacles to investment:**

- Lighting** – few barriers, as the economics are great and financing is easy to find
- Public buildings** – compete for limited municipal financing; no real ESCOs in RO
- Community heating** - well-managed systems are creditworthy; but many are not
- Water systems** – economics usually good (particularly for pumping/controls)
- Blocks** – huge barriers and low-income households block investment
- Industry** – if financial decision-makers understand EE benefits, they invest
- Renewable energies** – economics improving (biomass), policy barriers
- Cogeneration/CHP** – financing barriers, as most require structured finance (whereas many other types of energy efficiency investments borrow only on the basis of the balance sheet)

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**Simple conclusion:**

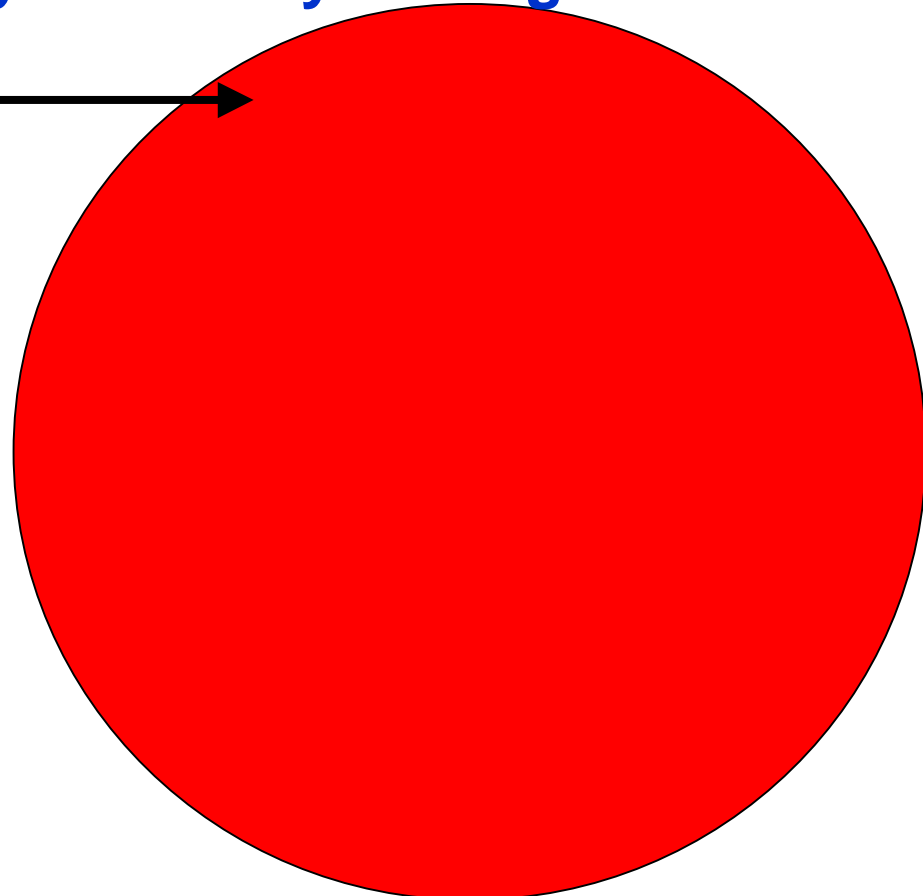
**Leveraging investment in  
energy efficiency is  
tough!**

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## Leveraging investment in energy efficiency is tough!

Energy efficiency investment proposals 



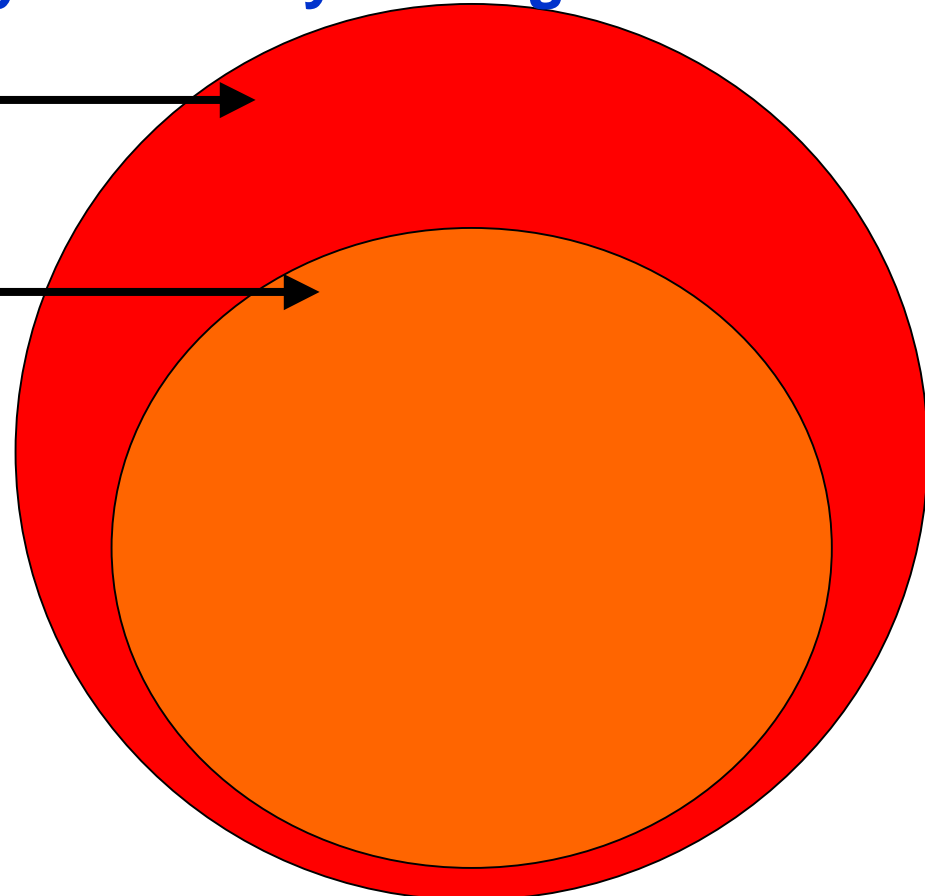
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## Leveraging investment in energy efficiency is tough!

Energy efficiency investment proposals →

... that are technically robust with good internal economics →



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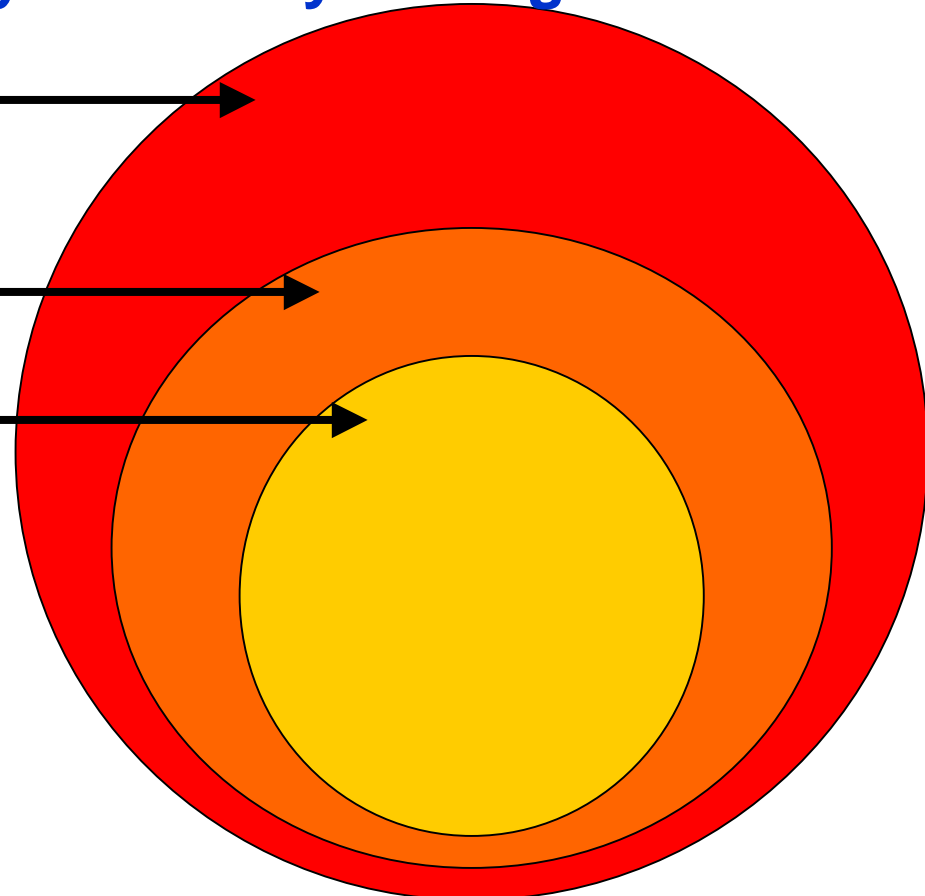


## Leveraging investment in energy efficiency is tough!

Energy efficiency investment proposals →

... that are technically robust with good internal economics →

... by creditworthy project developers →



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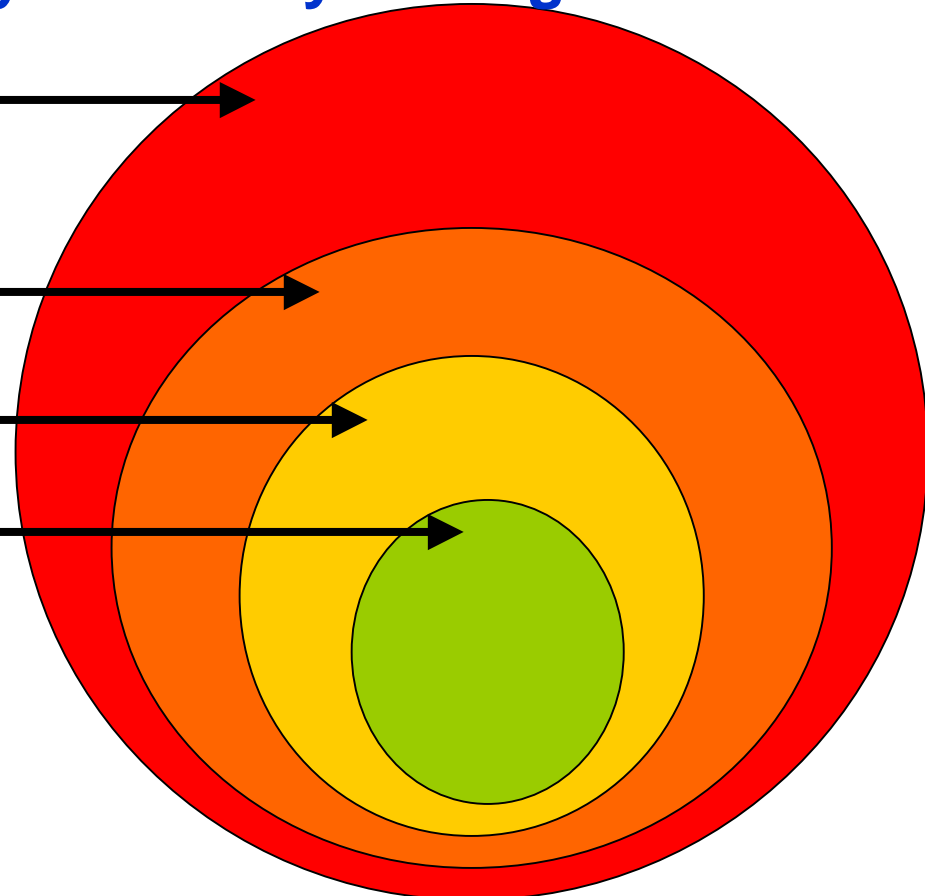
## Leveraging investment in energy efficiency is tough!

**Energy efficiency investment proposals** →

**... that are technically robust with good internal economics** →

**... by creditworthy project developers** →

**... who are willing to borrow** →



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## Leveraging investment in energy efficiency is tough!

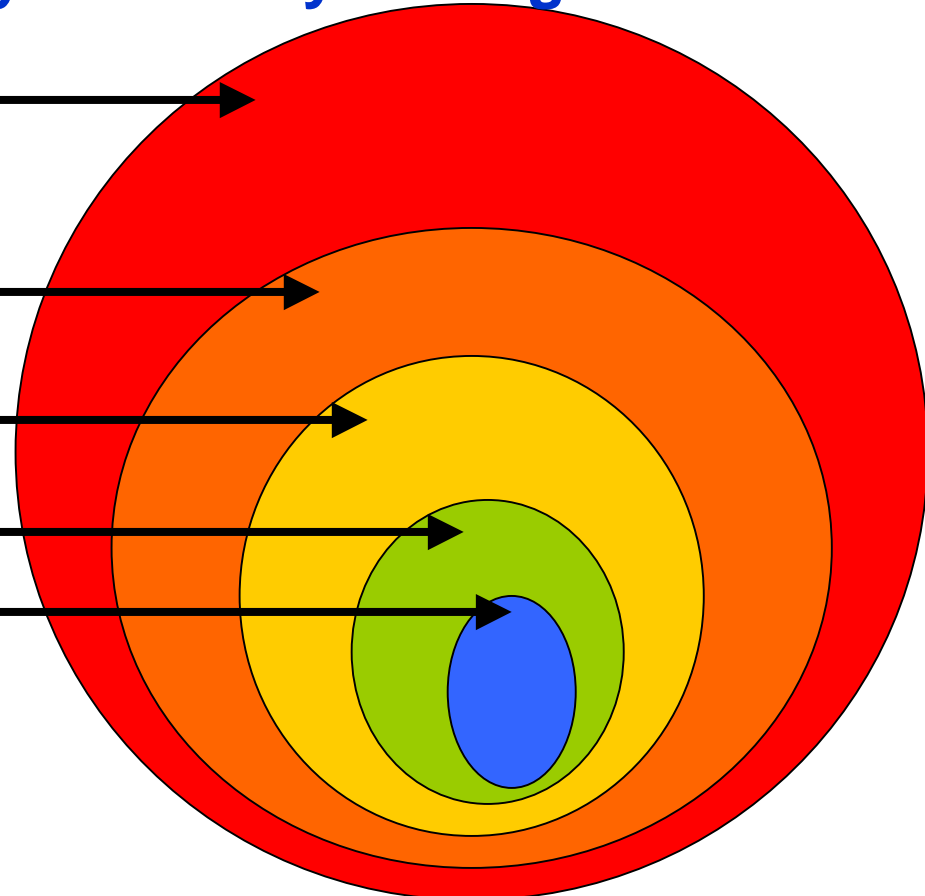
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... willing to prioritize Energy Efficiency →



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## Leveraging investment in energy efficiency is tough!

**Energy efficiency investment proposals** →

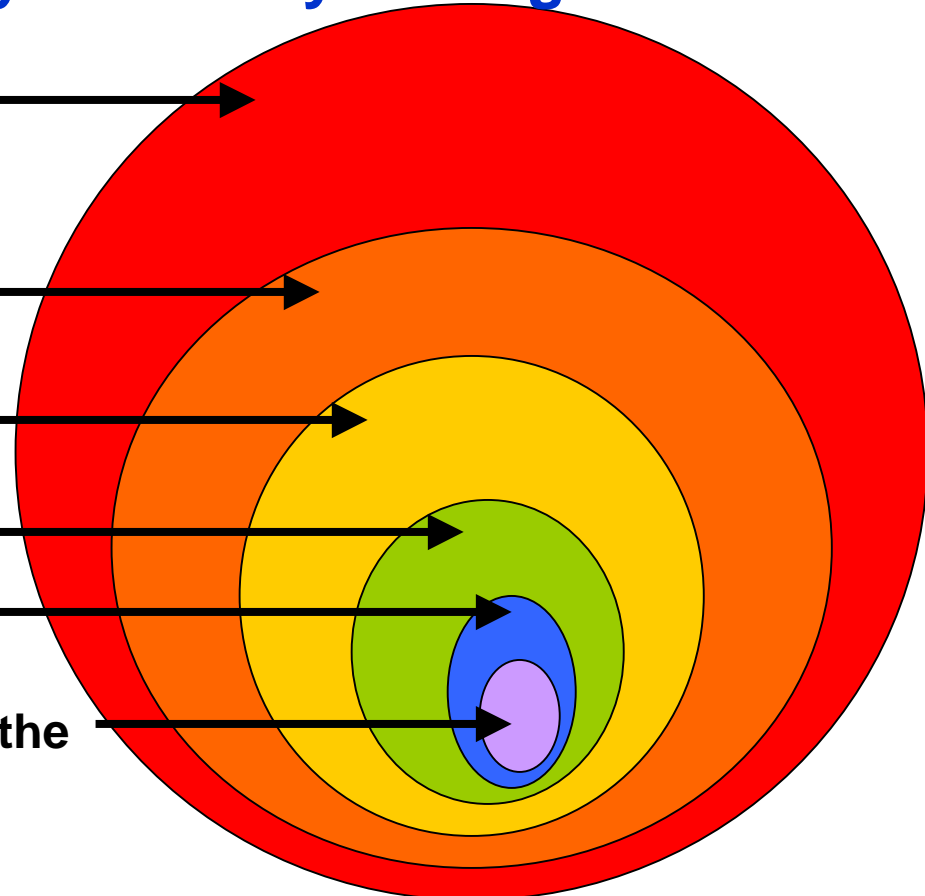
**... that are technically robust with good internal economics** →

**... by creditworthy project developers** →

**... who are willing to borrow** →

**... willing to prioritize Energy Efficiency** →

**... and who don't change their minds after the Feasibility Study has been carried out** →



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## **Twelve lessons learned...**

**Considerations for the international community and governments  
to take into account when designing projects to promote investment  
in energy efficiency**

**(Presented in no particular order)**

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## Twelve lessons learned...

### 1. An enthusiastic, empowered financial decision-maker is the key success factor!

- Managing Director... with the support of the Board; or
- Mayor... with the support of the local council

### 2. Beware of the Mega-project

- e.g. an engineer proposed CHP when there was too little real heat demand
- financial decision-makers lose confidence in (their own) engineers
- the simple, low-cost investment – change the burners – is overlooked

### 3. Involve a commercial financier (e.g. bank) from Day 1

- Hesitation to involve a bank implies a lack of commitment (creditworthiness)
- The banks have 'loan pipelines', so enter the project early

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## Twelve lessons learned...

### 4. Most energy efficiency loans involve balance sheet financing

- Only the largest projects tend to involve structured financing; or
- The banks want to know that an investment can be repaid – even if the energy efficiency gains do not materialize

### 5. Creditworthy project developers usually have a preferred lender

- or like to 'shop around', or must tender for financing
- so don't make use of a specified lender a condition of (grant-funded) T.A.

### 6. A team that leverages investment needs banking, finance and outreach skills

- Engineering skills are essential, but not sufficient
- We used a multidisciplinary team with mixed backgrounds and local knowledge

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## Twelve lessons learned...

### **7. Municipalities tend to invest in buildings on a piecemeal basis**

- e.g., three schools this year, four schools next year
- The use of ESCOs for multiple investments is not happening (yet), in Romania

### **8. UNDP credentials are a huge asset when offering 'free' Technical Assistance**

- Beneficiaries know that UNDP has a development role, and no hidden agenda
- We found the doors of financial decision-makers open to UNDP
- So projects that set up a separate 'project identity' can make their work harder!

### **9. Local consultants can do high quality work at low cost**

- UNDP/GEF contracted 57 studies for \$238,749 (avg. \$4,189 each!)
- Key: publish the value of winning offers to stimulate (fierce) competition

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## Twelve lessons learned...

### **10. A broad geographical outreach is essential to source potential investments**

- Energy efficiency investments are not found from an office in the capital
- The UNDP/GEF team travelled extensively in Romania to source proposals

### **11. Present energy efficiency at a wide-range of third party events**

- There is no homogeneous 'energy consumer' community
- Industrial groups, municipal groups, business leaders, buildings specialists, financiers, equipment suppliers, etc. are all target groups for energy efficiency

### **12. Large-scale investment in Blocks will require both subsidies and thought!**

- Even a 67% grant (34% government, 33% municipal) may not be enough!
- I may expand on this point...

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**For further details of the UNDP/GEF project in Romania,  
please visit**

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**Thank you!**