Improving Energy-Efficiency in Buildings – Efficiency Standards & Labelling – Lessons Learned

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Presentation Structure

1. General Observations – Potential for EE

2. UNDP Portfolio on Energy-Efficiency

3. Removing Barriers to Energy-Efficiency

4. Lessons Learned from UNDP Projects

Everybody says energy-efficiency is critically important and yet overall one has to conclude that a lot more needs to be done …
Energy Efficiency represents the largest potential reduction in energy-related CO₂ emissions, in particular in this region...

While technological progress is needed to achieve some emissions reductions, efficiency gains and deployment of existing low-carbon energy accounts for most of the savings.

Source: IEA World Energy Outlook 2008
Energy-Efficiency in Buildings remains the most common project type for UNDP – 70% of the Portfolio

September 2010 - Breakdown of UNDP Climate Change Projects by Type in RBEC Region – (23)

- EE Buildings (15)
- Renewable Energy (6)
- Sustainable Transport (1)
- Coal Mine Methane (1)
Ten new Climate Change Mitigation Projects in the last 12 months totaling over $35m include the following projects …

<table>
<thead>
<tr>
<th>Country</th>
<th>Project</th>
<th>Prodoc Signed</th>
<th>Amount USD M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Armenia</td>
<td>EE Buildings</td>
<td>July 2010</td>
<td>$1.00</td>
</tr>
<tr>
<td>Kyrgyzstan</td>
<td>Small Hydro</td>
<td>February 2010</td>
<td>$1.00</td>
</tr>
<tr>
<td>Russia</td>
<td>EE Lighting</td>
<td>April 2010</td>
<td>$7.00</td>
</tr>
<tr>
<td>Russia</td>
<td>EE Standards &amp; Labels</td>
<td>August 2010</td>
<td>$7.80</td>
</tr>
<tr>
<td>Russia</td>
<td>EE North-West Buildings</td>
<td>September 2010</td>
<td>$5.60</td>
</tr>
<tr>
<td>Russia</td>
<td>Greening Sochi Olympics</td>
<td>Dec 2010</td>
<td>$1.00</td>
</tr>
<tr>
<td>Serbia</td>
<td>Sustainable Transport</td>
<td>May 2010</td>
<td>$1.00</td>
</tr>
<tr>
<td>Tajikistan</td>
<td>Sustainable Transport</td>
<td>April 2010</td>
<td>$1.00</td>
</tr>
<tr>
<td>Turkey</td>
<td>EE Buildings</td>
<td>August 2010</td>
<td>$2.62</td>
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<tr>
<td>Turkey</td>
<td>EE Standards &amp; Labeling</td>
<td>March 2010</td>
<td>$2.70</td>
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<tr>
<td>Ukraine</td>
<td>EE Lighting</td>
<td>March 2011</td>
<td>$6.50</td>
</tr>
</tbody>
</table>
Energy-Efficiency in Buildings has more potential than any other sector for emission reductions …
How to reduce emissions – EE Buildings

- Passive Solar Design,
- Solar heating & cooling
- Improved building envelop through insulation
- Efficient lighting;
- Efficient appliances & airconditioning
Barriers to Energy-Efficiency – Lots of Barriers

- Information and Awareness Barriers
- Legislative & Policy Barriers
- Opportunity Cost Barriers
- Institutional & Market Barriers
- Technical & Skill Base Barriers
- Financial Barriers
Even when we are aware we will make significant savings, very little is often done …

Lugansk example
2. Legislative & Policy Barriers

- New Energy Legislation
- New Building Codes
- Standards & Labelling
- New Policies which promote EE (audits etc …)

**Significant Issue:**
- Enforcement of Legislation

**Significant Issues**
Construction companies make more money by reducing building costs and this often means at the expense of energy-efficiency.
3. Opportunity Cost Barriers

✓ Management focuses on making money, not saving energy costs

✓ Energy often treated as a fixed cost

✓ Liquidity – Many businesses prefer to keep day-to-day liquidity instead of embarking on an investment leading to net savings in the future

✓ EE Not a priority for most companies

*How do we change this?*

*One answer – speak financial language to companies*

*UK experience – ESCOs can work*
3. Institutional Barriers

✓ Governments and private sector with limited capacity to identify and implement EE measures / Weak capacity at regional/local level

✓ Top officials working in other sectors (EE not ‘sexy’)

✓ Creating favorable investment conditions requires reforms to institutions

✓ Weak ability of Housing & Condominium Associations

✓ Lack of trained architects, engineers, skilled personnel

✓ Lack of incentive to overcome institutional barriers when energy prices are low institutions simply DO NOT CARE that much
4. Technical Barriers & Skill Base Barriers

- Insufficient capacity to design/implement EE products
- Inability to deploy EE technologies
- Technical standards not in place in many countries
- Lack of training and skills development for EE, esp. at university level
5. Financial Barriers

- Inability of households (in particular) to obtain credit
- EE not ‘sexy’ for financial institutions due to small project size
- Debt/Equity not easily available in many countries and if it was available most consumers would prefer to buy a new car
- Carbon Finance Barriers – small size vs high transaction costs

Financing has to be accompanied by an enabling policy environment, capacity building, awareness building and technology innovation.

- Political leadership
- Revise sector policies and economic and fiscal policies to take climate risks into account
- Strengthen institutions
UNDP and Energy-Efficiency

- Focus is on EE in Buildings (public & private) (not industry)

- Support to approx 30 projects on EE in Buildings in public and residential sectors in all regions of the globe (mainly through GEF)

- 15 EE projects and over US$40 million dollars in Europe & CIS region

- Projects target barrier removal activities and often have a demonstration component

- Lessons Learned Exercise is Currently Underway
Thank You!

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