Financing Renewable Energy: EBRD Experience in Ukraine

Sergiy Maslichenko, Associate Director
Energy Efficiency and Climate Change, EBRD
EBRD – a largest financial investor and facilitator of energy efficiency

- Portfolio of €12 bln in 370 projects (€1 bln annually)
- Sustainable energy - 25% of all financing

Sustainable energy investments in Ukraine, 2006-2016

<table>
<thead>
<tr>
<th></th>
<th>Number of projects</th>
<th>Amount (EUR million)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE in corporate sector</td>
<td>64</td>
<td>910</td>
</tr>
<tr>
<td>EE credit lines (UKEEP)</td>
<td>13</td>
<td>232</td>
</tr>
<tr>
<td>Cleaner energy production</td>
<td>9</td>
<td>397</td>
</tr>
<tr>
<td>Renewable energy</td>
<td>16</td>
<td>293</td>
</tr>
<tr>
<td>EE in municipal sector</td>
<td>27</td>
<td>463</td>
</tr>
<tr>
<td>TOTAL</td>
<td>126</td>
<td>2,295</td>
</tr>
</tbody>
</table>
Biofuel projects in corporate sector

- **Agri biogas:**
  - Astarta – 14.4 mcm/y, € 10m, 2013
  - MHP – 18 mcm, 5 MWel, € 12m, 2013
  - Danosha – 3.5 mcm/y, 1.5 MWel, €3.9m, 2014

- **Agri biomass:**
  - Slavuta – 6 MWt, € 3.8 m, 2014
  - Nyva (straw) – 4 MWt, 2015
Biofuel projects in municipal sector

- **NEW** - Lviv Sludge Biogas – 15 mcm/y, 4.5 MW, € 22 m, 2016

- **DH biomass:**
  - Cherkasy (2MW) operational
  - Ivano-Frankivsk (10MW),
  - Zhytomyr (15MW)
  - Ternopil (10MW)
  - Lutsk (5MW)
  - **NEW** – Chernivtsi (10 MW)
USELF is implementing Phase II – €70 million (€50m of EBRD and €20m of Clean Technology Fund)

Three new projects – Karpatsky Wind (10 MW), Aquanova small hydro (1.7 MW), and Shargorod solar (9 MW)

Overall, EBRD financed 11 projects – 4 solar, 2 wind, 2 small hydro, 2 biogas and 1 biomass in 2011-2016
Lessons learned

- Projects complexities are underestimated especially in biomass and biogas – deadlines are often missed
- Resource analysis is important:
  - Volumes and availability, contracts etc
  - Chemical analysis for biogas resources (labs)
- A low interest in obtaining FIT by agribusiness due to its complexity and different line of business
- A need for DH sector reform (tariff setting, market entrance for private business, subsidies reform) to tap a huge potential
Thank you!

Sergiy Maslichenko
Associate Director, PhD
Energy Efficiency and Climate Change
Ukraine, Poland, Armenia, Azerbaijan
Email: MaslichS@ebrd.com

EBRD
46, Antonovskyha Street,
Kyiv, Ukraine 03150
Tel: +380 (44) 277 1100
Fax: +380 (44) 277 1160