RES integration in buildings
Moldova

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Energy sector of Moldova

- Import of necessary energy is around 90%

Energy consumption in Moldova:
- Total consumption 2318 ktoe
- Electricity 290 ktoe (13%)
- NG 834 ktoe (36%)
- Diesel+Gasoline 776 ktoe (33%)
- Coal 150 ktoe (7%)
- Biofuel and waste 268 ktoe (11%)
Energy consumption by sectors

• Distribution of energy for 2015

   - Residential Sector: 47.97%
   - Transport: 25.28%
   - Industry: 11.09%
   - Others: 12.90%
   - Agriculture: 2.76%
### Characteristic of buildings (1)

#### Buildings in Chisinau

<table>
<thead>
<tr>
<th>Residential buildings</th>
<th>3521</th>
<th>Nonresidential buildings</th>
<th>5092</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-2 floors</td>
<td>2207</td>
<td>General education school</td>
<td>168</td>
</tr>
<tr>
<td>3-4 floors</td>
<td>250</td>
<td>Preschool institutions</td>
<td>152</td>
</tr>
<tr>
<td>5 floors</td>
<td>713</td>
<td>Other education institutions</td>
<td>65</td>
</tr>
<tr>
<td>9 floors</td>
<td>248</td>
<td>Cultural institutions</td>
<td>99</td>
</tr>
<tr>
<td>6,7,8,10, 15 floors</td>
<td>55</td>
<td>Medical institutions</td>
<td>436</td>
</tr>
<tr>
<td>12-14 floors</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16 and higher floors</td>
<td>39</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- 20% of total consumption
Characteristic of buildings (2)

- Characteristic of buildings by age

- 10-20 years: 54.3%
- From 20 to 40 years: 29.9%
- 40-50 years: 11.2%
- > 50 years: 4.7%
Energy save potential

• Through shape of buildings the energy losses can be up 40%
• Energy losses through main distribution pipes are above 20% (district heat system is running)
• The efficiency of CHPs is around 75%
Project idea

• Integration of RES in energy consumption circuit of building or quarter
  - This point should address next points: how many electricity from RES?; how many heat from RES? Is possible to integrate waste energy of building/buildings?; is possible to integrate heat pump?
• Building rehabilitation
• Heating and cooling from RES?
Thank you for your attention!

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