Rana Ghoneim

Industrial Development Officer, UNIDO

Rana Ghoneim leads the global industrial energy efficiency accelerator as part of the SEforALL’s global accelerator platform. She also leads the development of programmes promoting sustainable energy use in industry in the MENA and Africa regions at the United Nations Industrial Development Organization.

She has over 15 years of international experience on the development and implementation of programmes responding to a number of multilateral environmental agreements such as Montreal protocol, Stockholm convention and the UNFCCC. She holds a Master of science in environmental economics from imperial college London.
EE appliances – UNIDO programmes and initiatives

Rana Ghoneim
Outline

• Relevance of EE to climate change and sustainable development agenda
• Potential for EE in appliances
• Building blocks of programmes promoting EE appliances
• Example of UNIDO programme in Southern African Region
• Global initiatives supporting the deployment of EE appliances
• Conclusions
Relevance of Energy Efficiency

- Energy and economic savings
- Multiple benefits: Improved productivity, job creation, enhanced competitiveness
- Promoting innovation
- Sustainable Energy and Climate Agreement

SDGs:
- SDG 7: Sustainable Energy
- SDG 9: Industry, Innovation and Infrastructure
- SDG 13: Climate Action
Global CO2 emission reductions by technology area: RTS to 2DS

Source: IEA - Energy Technology Perspectives 2017
Cumulative CO2 emission reductions by sector and technology: RTS to 2DS

Source: IEA - Energy Technology Perspectives 2017
Sustainable energy for all goals

- Ensure universal energy access
- Double the global rate of improvement in energy efficiency
- Double the share of renewables in the energy mix
Why EE in appliances?

• Increasing stock of appliances and equipment as a result of economic growth
• Electricity demand is expected to more than double
• Increased GHG emissions and accelerate climate change
• Crucial to promote EE appliances to achieve the below 2 degrees scenario
• What is the potential for savings?
# Share of RAC in country’s total savings in 2030

<table>
<thead>
<tr>
<th>Country name</th>
<th>Residential Refrigerators</th>
<th>Room Air conditioners</th>
<th>Annual energy savings</th>
<th>Electricity savings (US$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>36%</td>
<td>25%</td>
<td>15 TWh/35 powerplants</td>
<td>1 billion</td>
</tr>
<tr>
<td>Egypt</td>
<td>23%</td>
<td>8%</td>
<td>17 TWh/39 powerplants</td>
<td>830 million</td>
</tr>
<tr>
<td>Kuwait</td>
<td>10%</td>
<td>3%</td>
<td>3 TWh / 7 powerplants</td>
<td>40 million</td>
</tr>
<tr>
<td>Cameroon</td>
<td>25%</td>
<td>6%</td>
<td>1 TWh / 3 powerplants</td>
<td>120 million</td>
</tr>
<tr>
<td>Bosnia Herzegovina</td>
<td>24%</td>
<td>2%</td>
<td>668 GWh /2 powerplants</td>
<td>60 million</td>
</tr>
<tr>
<td>Albania</td>
<td>54%</td>
<td>5%</td>
<td>567 GWh/1 powerplant</td>
<td>70 million</td>
</tr>
<tr>
<td>Brazil</td>
<td>36%</td>
<td>32%</td>
<td>69 TWh /160 powerplants</td>
<td>10 billion</td>
</tr>
</tbody>
</table>

Source: [http://united4efficiency.org/countries/country-assessments/](http://united4efficiency.org/countries/country-assessments/)
Barriers for the deployment of EE appliances

• Absence of minimum energy standards
• Lack of awareness of the consumer on the energy consumption of appliances
• Inefficient supply chain for sales, after-sale and maintenance
• High upfront cost of equipment and absence of low cost finance
## Building blocks for EE appliances programme

<table>
<thead>
<tr>
<th>Standards and regulations</th>
<th>• requirements defining which products can be sold and those that should be blocked from the market</th>
</tr>
</thead>
</table>
| Supporting policies       | • labelling schemes and other market based instruments  
                            • information and communication campaigns to change end user behavior |
| Finance and delivery mechanisms | • ESCOs, incentive packages  
                                • Supplier driven models |
| Monitoring, verification and enforcement | • effective monitoring of product efficiency |
Promote the market transformation for EELA

- Sub-regional cooperation across SADC, EAC and ECOWAS
- Promote South-South collaboration and sharing of best practices
- Achieve harmonization at regional level
- Establish sub-regional capacities for testing

Objective: Stimulate the demand for EELA in SADC and EAC

Policy support
- Adopt regional policy and strategy for EELA
- Develop Minimum Energy Performance (MEPs)
- Suggest incentives for local production

Strengthening the testing capacities
- Provide testing equipment & Establish testing procedures
- Build the capacity of lab personnel & key institutions

Awareness raising
- Develop the tools and various media for a national programme
- Encourage sub-regional and regional coordination
- Design EE label and requirements

Delivery mechanisms
- Forge partnerships with international/national appliance manufacturers
- Create credit guarantee facilities to support integration of local private sector & ESCOs
Global Initiatives

SEforALL Appliances Energy Efficiency Accelerator: Multi-stakeholder platform to accelerate the deployment of EE appliances: Lighting, Refrigerators, ACs, industrial motors and ICTs (coming soon)!

Clean Energy Ministerial - Advanced Cooling Challenge
Conclusions

• Large potential for energy saving in appliances
• Many ongoing efforts and initiatives

Let’s work together on creating synergies and maximizing impact!

THANK YOU