UNIDO
Industrial Energy Efficiency Programme
UNIDO’s Mandate:
Inclusive & Sustainable Industrial Development (ISID)

Thematic Areas:

- Creating shared prosperity
- Advancing economic competitiveness
- Safeguarding the environment

Achieving equitable & sustainable social, economic and environmental growth while mainstreaming women and youth.
Industry, SE4ALL and SDGs

- Jobs Creation
- Business Models
- Women’s Empowerment
- Nexus Co-benefits
- Promoting innovation
- Sustainable Energy and Climate Agreement
Industry, Energy and Climate Change

Industry accounts for 1/3 of global energy use:
- 40% of electricity
- 77% of coal & derivatives
- 37% of natural gas

Global Primary Energy Demand by 2030:
- 50% increase expected
- 87% from non-OECD countries (industry biggest user)

Single largest source of GHG emissions:
- 32% of global emissions

Source: IEA, Technology Transitions for Industry, 2009
Industry, Energy and Carbon Footprint

- Industry is responsible for 40% of global final energy consumption (IEA, 2015)
- Industry is the single largest source of GHG emissions, accounting for about 32% of global emissions
- Over last two decades industry emissions have largely grown in Lower and Upper Mid Income Countries

Source: IPPC Working Group III – Mitigation of CC, 2014
Industrial Energy Efficiency – What can we do?

Different Barriers and Goals require Different Measures!

IEA Energy Efficiency Policy Recommendations

Industry

21. Energy management
22. High-efficiency industrial equipment and systems
23. Energy efficiency services for SMEs
24. Complementary policies to support industrial energy efficiency

Source: IEA 2011
Objectives of the UNIDO IEE Programme

Work together with counterparts, stakeholders and partners to:

- **Strengthen policy** and regulatory frameworks for better & sustainable EE performance in industry
- **Accelerate adoption** and wide dissemination of IEE best-available practices and technologies
- **Save energy** and reduce GHG emission of the industrial sector
- **Integrate EE** in industry daily business practices for increased productivity and competitiveness
UNIDO IEE Programme – Thematic Areas

**POLICIES**
- Co-operative measures
- Financial/fiscal/TA incentives
- New Market-based Instruments
- Information/Education/Training
- Legislative
- Recognition

**TECHNOLOGIES**
- E-transport
- Cross-cutting
- Process technologies
- Energy Efficient Design
- Energy Systems Optimization
- Energy Management Systems

**STANDARDS**
- ISO 50001 - EnMS
- Minimum Energy Performance
- Conformity Assessment
- EN/ISO - Energy Audits
- EN - Benchmarking

**HUMAN CAPITAL**
- Supply Chain
- EE business models
- Financing mechanisms
- EE Knowledge Networks
- Equipment vendors/suppliers
- National Energy Eff. Agencies

**DELIVERY MECHANISMS**
UNIDO Industrial Energy Efficiency Portfolio

As of May 2016

30 Countries

Armenia
Belarus
Burkina Faso
Chad
Chile
China
Colombia
Ecuador
Egypt
Georgia
Kazakhstan
India
Indonesia
Iran
Macedonia
Malaysia
Maldives
Mexico
Moldova
Myanmar
Pakistan
Philippines
Russia
South Africa
Thailand
Tunisia
Turkish
UAE
Ukraine
Viet Nam

Ongoing projects

Planned activities
Summary of Achievements (9 countries)

- **303** UNIDO Qualified EnMS Experts
- **271** Enterprises with EnMS implemented
- **5,183** energy efficiency practitioners and enterprise personnel received training in EnMS
- Average annual energy savings of **7mil** MWh
- Annual CO2 emission reductions of **4 mil** tCO2
- Annual savings of **$132 mil** without considering non-energy benefits

**NOTE**: Please do not quote these numbers because analysis has not been completed yet
How much energy is 7,000 GWh?

- Annual energy consumption of 1,150,000 EU households
- Annual energy production of 2,000 MW of installed wind power
- CO2 emissions of 1,750,000 middle class cars (running 12,500 km per year)

- Annual cost savings of **USD 80mil** without considering non-energy benefits
- Annual CO2 emission reductions of **4.3 million tCO2**
SE4ALL: Industrial Energy Efficiency Accelerator

The IEE Accelerator is a global collaborative platform and network of businesses, international organizations and NGOs that will provide tools, expertise, technical capabilities and financial capacity to partners to contribute and make commitments for accelerating the improvement rate of energy efficiency in Industry.

**Goal:**
To facilitate the implementation of Energy Management Systems, technologies and practices in global industrial energy use.

- **25%**
  - Targeted implementation by 2020

- **50%**
  - Targeted implementation by 2030
SE4ALL: Industrial Energy Efficiency Accelerator Structure and Building Blocks

Key Stakeholders:
Ministries of environment / energy, engineering firms, Industry associations, Banks, NGOs, etc.

Leading Partners:
UNIDO, IIP, TERI, and

Supporting Organizations:
GSEP, DOE, EEP, IPEEC, Carbon Trust, DOW Chemicals, etc.
## IEE Accelerator: Differentiated Responsibilities

<table>
<thead>
<tr>
<th><strong>Governments</strong></th>
<th>• Government encouragement, through energy management programs, of adoption of Energy Management Systems (EnMS) for energy-intensive companies and promotion energy efficiency in energy-intensive SMEs</th>
</tr>
</thead>
</table>
| **Public Utilities**                 | • Incentivize EnMS through demand-side energy management programmes  
• Target the most energy-intensive sectors  

| **Financial Institutions**           | • Mainstream energy efficiency financing in loan operations  
• Provide technical and EnMS implementation assistance based on best practices |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| **Industrial Companies**             | • Implement energy management approaches (*e.g.* ISO 50001) in the most energy-intensive facilities  
• Share success stories, tools, and training to spread EnMS across their supply chain |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| **Industry Associations**            | • Support roll-out of sector-specific collaborative frameworks  
• Foster company leadership and action around common energy management goals |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Target</strong></td>
<td>• SE4ALL Goal #3: Double the rate of energy efficiency in the industrial sector by 2030</td>
</tr>
</tbody>
</table>

---

**SE4ALL Goal #3**: Double the rate of energy efficiency in the industrial sector by 2030
Principal Offerings of the Industry EE Accelerator:

Support for development and formulation of EE policies

- Integrated policy and investment roadmap that provides innovative tools and instruments to promote successful policies under local circumstances at regional, national, and subnational levels

Capacity building for adoption of EnMS

- Training of public and private officials via “train the trainer” approaches, and on-the-ground region and sector-specific pilots

Financing solutions for the development and implementation of Accelerator goals

- Financial institutions mainstream EE financing into standard loan operations, coupled with technical and EnMS implementation assistance

Knowledge-sharing and information dissemination

- Platform for knowledge exchange for best practices in policy design and implementation, fostering south-south collaboration to address information barriers
Thank you for your attention

For more information:

Pradeep Monga
Director
Energy Department
UNIDO
Vienna International Centre
P.O. Box 300
A-1400 Vienna, Austria
E-mail: P.Monga@unido.org