Setting the scene for industrial energy efficiency and UNIDO’s experience

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Promoting Industrial Energy Efficiency in Ukraine and Neighbouring Countries
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2018 – a remarkable year for energy

Annual change in global primary energy demand, 2011-18

Global energy demand last year grew by 2.3%, the fastest pace this decade, an exceptional performance driven by a robust global economy, weather conditions and moderate energy prices.

Source: Hugo Salamanca, IEA, @ UNIDO Industry Working Group Workshop, 7-8 May 2019, Vienna
Efficiency improvements slowed again in 2018

Average annual change in primary energy intensity, 2010-18

In 2018 energy intensity improved by 1.3%, half the rate of the period 2014-2017. Weaker energy efficiency policy implementation and strong demand growth in more energy intensive economies contributed to this slowdown.

Source: Hugo Salamanca, IEA, @ UNIDO Industry Working Group Workshop, 7-8 May 2019, Vienna
Policy coverage varies across sectors

Share of global final energy consumption covered by mandatory policies, by sector

Across all end-use sectors, the majority of global energy use is not covered by mandatory energy efficiency policy

Source: Hugo Salamanca, IEA, @ UNIDO Industry Working Group Workshop, 7-8 May 2019, Vienna
Investment payback

For 1 dollar invested

- $1 \rightarrow \text{equipment} \rightarrow x2$
- $1 \rightarrow \text{energy efficiency} \rightarrow x2.4$
- $1 \rightarrow \text{average} \rightarrow x7$
- $1 \rightarrow \text{payback} \rightarrow x3$

Over the lifetime of the equipment

On average, one dollar invested in energy efficiency will payback three times in energy saved over the lifetime of the equipment.

Source: Hugo Salamanca, IEA, @ UNIDO Industry Working Group Workshop, 7-8 May 2019, Vienna
Energy consumption in Industry

**DRIVING FACTORS**
- **PEOPLE**
  - Behaviour
  - Leadership
  - Competence
- **DATA**
  - Reaction
  - Analysis
- **TECHNOLOGY**
  - Best Available Technology
  - EE Investment
  - Production
  - Product Mix
  - Weather

Source: W. McLaughlin for UNIDO
UNIDO Global IEE-EnMS-ISO50001 Programme

Operational in 18 countries
Planned activities in 10+ countries

Projects ongoing

South Africa  Moldova  Russia  Turkey  Ecuador  Malaysia  Thailand  Viet Nam  Philippines
Indonesia  Egypt  Iran  Ukraine  Colombia  Macedonia  Myanmar  India  Georgia

Planned activities

Other donors
✓ Swiss State Secretariat for Economic Affairs
✓ UK Department for International Development
✓ Government of South Africa
✓ Government of Italy
✓ Government of Austria
UNIDO Global IEE-EnMS-ISO 50001 Programme

Operational in 18 countries (as of Dec 2018)
- 12 Countries at the end of 2012

- Enterprises with EnMS
- Consultants trained in ESO
- Consultants trained in EnMS
- Enterprises trained in EnMS
- Decision-makers reached
- Cumulative direct final energy savings (TWh)

EnMS = Energy Management System
ESO = Energy System Optimization
Impact of UNIDO IEE-EnMS-ISO 50001 Programme

- 12.5 TWh of final energy savings = Annual energy consumption of 2,000,000 EU households = 5 years energy production of 800 MW wind power

- CO2 emissions of 3,000,000 middle class cars (running 12,500 km per year)

- Organization-wide energy savings in first 1-2 years range from 4% to 15%, with little or no capital investments

- Cumulative cost savings of beneficiaries companies estimated to exceed USD 350 mio without considering non-energy benefits

- GHG emission reductions of more than 7 million tCO2

- Sustainable pipeline of IEE investments generated
# Introduction of Energy Management System Standard in Ukrainian Industry

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<th>Project Components</th>
<th>Planned Outputs</th>
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| 1. Policy and institutional support for the introduction of a national energy management system (EnMS) standard corresponding to ISO 50001 | 1.1 ISO50001 ‘Energy Management Systems Standard’ is adopted as a national standard.  
1.2 Policy establishing a voluntary scheme to accelerate the introduction of EnMS is developed.  
1.3 Accreditation scheme for EnMS service providers and Certification scheme for industries is established.  
1.4 National monitoring, reporting & verification methodology and structure to track energy performance at enterprise/sectoral/national level is set up.  
1.5 National award scheme for outstanding energy management performance is created. |
| 2. Building the national capacity on the planning, implementation & certification of EnMS and system optimization | 2.1 National training program on energy management systems is implemented.  
2.2 National training program on System Optimization is implemented. |
| 3. Technology diffusion and deployment to promote implementation of energy management systems in selected industrial sectors | 3.1 Extensive awareness programme to improve the awareness of enterprise management and personnel on EnMS, EE and SO programmes, funding opportunities & best practices developed and implemented.  
3.2 Network group to support peer to peer sharing set-up.  
3.3 At least 18 companies in selected industrial sectors implement EnMS and are certified to ISO50001.  
3.4 Revolving fund supporting technical assistance for the development of EnMS, EE and SO projects established. |
THANK YOU!

For more information:

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