

USAID Municipal Energy Reform Project in Ukraine

Practices of Implementation of EU Directive 2012/27 Regarding Energy Management Systems and Energy Audit

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Background

- **Developed on the request of the State Agency of Energy Efficiency under the USAID Municipal Energy Reform Project in Ukraine**
- **Review of the implementation of EU Directive 2012/27 on energy efficiency (EED) in EU Member States, regarding introduction of energy audits and energy management systems (Article 8)**
- **Example cases of 5 countries - Bulgaria, Germany, Slovakia, Sweden and the Czech Republic**
- **Objective: developing recommendations as to the use of relevant practices and approaches in Ukraine**

❖ **Energy Efficiency Directive 2012/27/EU is to be transposed by Energy Community Contracting Parties by 15 October 2017**

EU Directive 2012/27 (Energy Efficiency Directive)

Article 8: Energy audits and energy management systems

➤ Horizontal EED provisions:

Services

availability of qualification, accreditation and certification schemes for providers of energy services, energy audits, energy managers and installers of energy-related building elements

Information

transparent and widely disseminated information on available energy efficiency mechanisms and financial and legal frameworks

Promotion

promotion for the energy services market and support for its proper functioning

Financing

establishment of national financing facilities, or use of existing ones, for energy efficiency improvement measures

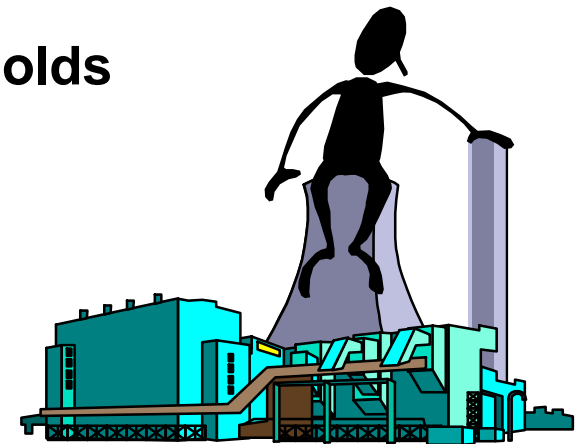
Article 8 Obligations of Member States

- i. Promote the **availability of high quality and cost-effective energy audits** to all final customers
- ii. Establish transparent and non-discriminatory **minimum criteria for energy audits**, based on Annex VI of the Directive
- iii. Establish in national legislation **requirements for energy auditors**, and for supervision by national authorities
- iv. Ensure the development of programmes to **encourage small and medium enterprises (SMEs)** to undergo energy audits and to implement the recommendations from these audits
- v. Ensure **mandatory and regular audits for large enterprises** carried out in an independent and cost-effective manner
- vi. Raise **awareness among households** about the benefits of energy audits,
- vii. Energy audits can stand alone or be part of a broader environmental audit
- viii. Member States can implement **incentives or support schemes** for the implementation of audit recommendations



Overview of EED Implementation – Major Topics

- **Transposition into Member States national legislation**
- **Implementation for large enterprises**
- **Minimum criteria for energy audits**
- **Requirements for energy auditors**
- **Energy management**
- **Instruments used for SMEs**
- **Programmes to raise awareness among households**



Transposition into Member States national legislation

Usually, the general set-up of the implementation of the EED, and the requirements of Article 8 specifically, are transposed into national legislation of Member States with a fundamental or primary document that deals with energy efficiency

- **Energy Efficiency Act or similar: Austria, Bulgaria, Czech Republic, Finland, Germany, Hungary, Romania, Slovenia**
- **Specific primary legislative document devoted to energy audits: France, Italy, Slovakia, and Sweden**
- **Secondary documents with further implementation details: national legal documents or official guidelines**

Implementation for large enterprises: Inclusions

Enterprises having at least 250 employees and an annual turnover of more than EUR 50 million and/or an annual balance sheet total of more than EUR 43 million (non-SMEs)

- **All entities, regardless of their legal form, engaging in economic activity that exceeds these thresholds, are considered large enterprises. These may include public institutions, facilities and enterprises**
- **Emissions Trading Systems (ETS) sectors or Integrated Pollution Prevention and Control (IPPC) licence holders are included**



Additional inclusions in some countries

- Entities with average **annual energy consumption/production above certain level:**
 - Bulgaria - industrial systems exceeding 3,000 MWh/year
 - Czech Republic - physical and juridical persons above 35,000 GJ/year;
 - Slovakia - heat producers over 10 MW output
- In case of **major changes** to the technological equipment or production systems:
 - Bulgaria - all large enterprises in such case
 - Slovakia - electricity producers for new or renewed electricity facility with a certain minimum output
- **Public organisations** and publicly funded organisations:
 - Czech Republic - state and county administration units and municipalities with above 1,500 GJ/year
 - Sweden - government and municipally controlled organisations and companies providing goods and services
 - Slovakia - all organisations that request public funding for energy projects

Implementation for large enterprises: Exemptions

Large enterprises with an existing and certified system of energy management or environmental management including an energy audit are exempt from the requirement of energy audits

- **All Member States have included this exemption in their national regulations concerning mandatory energy audits in large enterprises, through:**
 - **Requirement for certification according to concrete standards, like ISO 50001/EN 16001 for energy management or ISO 14001/EMAS for broader environmental management (Germany, Slovakia, Sweden, the Czech Republic)**
 - **Referring in general terms to European and international standards (Bulgaria)**
- **Specific exemptions in Germany:**
 - **Public institutions and entities in which public authorities own a share and predominantly provide public services**
 - **Economic activity with sovereign character: security, police and judiciary; public water supply, sewerage or waste disposal (as far as these activities are not performed by private third parties)**

Implementation for large enterprises: Non-compliance penalties

Member States are required to lay down rules on penalties, applicable in case of noncompliance:

- 'effective, proportionate and dissuasive'
- to exceed the costs of actually conducting an energy audit

- Each Member State defined a specific system of non-compliance penalties depending on the national road map
- Common case: A fine for not complying with the requirements of the law related to mandatory energy audits for large enterprises in monetary terms within a defined range: normally between EUR 30,000 (Bulgaria and Slovakia) and EUR 50,000 (Germany). High penalties in the Czech Republic (EUR 185,000) and Romania (EUR 200,000)
- Penalties decided on case by case basis: Denmark, Finland, France, Netherlands and Sweden (calculated on the basis of company's total turnover)



Minimum criteria for energy audits

The minimum criteria in Annex VI include guidelines on the data to be used, the depth and scope of the audit, the recommended life-cycle cost analysis and the quality requirements in terms of representativeness of the energy audits

- All requirements to energy audits, incl. the minimum criteria as set out in Annex VI of the EED, are covered by secondary legislative acts on energy audits
- Standard EN 16247 covers the general requirements common to all energy audits - requirement for this standard to be met is clearly set only in Germany and France
- Approaches to representativeness - possibility to cover less than 100% of the total energy consumption of the company by the energy audits (Germany 90%, UK 90%, Finland 95%)

Requirements for energy auditors

EED requires energy audit to be carried out in an independent and cost-effective manner by qualified and/or accredited experts or implemented and supervised by independent authorities

Common case

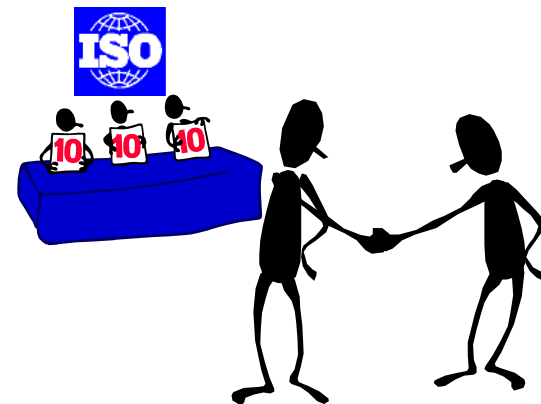
- Certification of energy auditors is granted on the basis of education level and work experience in relevant field and after passing an exam
- Certification scheme is managed by state energy/EE agency, incl. the exam
- The certification of energy auditors is valid for a certain period of time (3 to 5 years)
- Certified auditors are registered in a public register by the state energy/EE agency (e.g. Bulgaria, Germany, Slovakia, Czech Republic)
- Internal auditors allowed if not directly involved in the activity that is to be audited



Energy management

The exemption from the audit obligation for large enterprises refers specifically to formalised energy management systems complying with relevant European and International Standards

- ISO 50001:2011 Energy management standard - Energy Management System for efficient energy use - recommended
- Efforts for introducing energy management system underway in most countries. Instruments used include:
 - dissemination of handbooks and examples of different steps in the implementation process of an EnMS
 - conferences and seminars on national and regional levels
 - tax exemptions or tax discounts for a certain period of time if a company introduces EnMS
- Germany – world leader in energy management systems
~ 65% of worldwide ISO 50001 certifications



Instruments used for SMEs

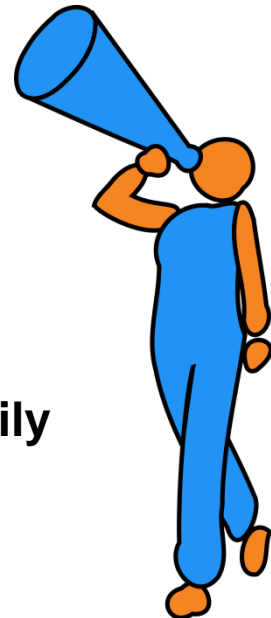
- **Demonstration projects, network activities, seminars and information by the state energy/EE agency (Germany, Sweden, Bulgaria)**
- **Energy efficiency networks for exchange of experience - national, regional and local networks, networks of different industries (Germany, Sweden)**
- **State funding support - energy audit support schemes:**
 - **German programme 'Energy Consulting for SMEs' - funding of 80% of the consultation costs + subsidies for technical support for implementation**
 - **Energy audit checks in Sweden – funding of 50% of the energy audit cost**
- **Energy Efficiency and Renewable Sources Fund (Bulgaria)**
- **Support funding for energy audits to SMEs by EU Operational Programmes (Bulgaria, Czech Republic, Slovakia)**

A success factor: involving representative intermediary organisations (industry associations, business organisations, etc.) for promoting energy audits and management systems

Programmes to raise awareness among households

Programmes exist, but not specifically and explicitly focused on audits

- Consulting and information dissemination by the state energy/EE agency - good examples from all reviewed countries
- Consulting / Advice centres:
 - 670 consumer centres in Germany
 - energy advisors in all 290 Swedish municipalities
 - advice centres in Slovakia
- National EE Programmes for the residential sector:
 - Czech programme 'Green Savings'
 - Bulgarian National Energy Efficiency Programme for Multi-Family Residential Buildings



Thank you for your attention!

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