

Case study n°4

Implementation of the Energy Management System (EnMS) in accordance to the UNIDO Methodology and ISO 50001 at large industry companies

Country: The former Yugoslav Republic of Macedonia

Level: National

SDG Addressed: SDG7 – Affordable and Clean Energy



Summary

The objective of this case study is to demonstrate the benefits of proper implementation of an energy management system for industry, by training representatives of the energy teams of several companies in essential implementation of the energy standards in accordance to ISO 50001.

This training contributes to the building of national capacities by boosting the awareness of industries that require energy efficiency improvements through structured approaches with clear defined standards. By adhering to already defined international standards the companies have a guarantee that the service received is of sufficient quality and it ensures accurate performance indicators for their processes. This will support the achievement of SDG 7.3 “By 2030, double the global rate of improvement in energy efficiency.”

Background

The Macedonian industrial sector is an energy intensive sector, taking more than 40% of the energy consumption in the country. None of the established policy measures in the country have addressed energy consumption of the industrial sector, especially the large companies.

With implementation of the ISO 50001 Energy Management System certification standard in the country, there is a framework for establishing energy

management best practice to help the industry to improve their energy efficiency and make a return on investment. The standard enables organisations to establish the systems and processes necessary to improve energy performance, including energy efficiency, use, and consumption. Subsequently, this helps to bridge the gap that was present by the lack of policy measures.

Strategy

ISO 50001 is based on the management system model of continual improvement also used for other well-known standards such as ISO 9001 or ISO 14001. This makes it easier for organizations to integrate energy management into their overall efforts to improve quality and environmental management.

ISO 50001 provides a framework of requirements for organizations to develop a policy for more efficient use of energy and data to better understand and make decisions about energy use and measure the results.

Results and Impact

The results of trainings have increased the national capacities and the implementation of ISO 50001 Energy Management System in the industry in the former Yugoslav Republic of Macedonia has resulted in:

- 12 Partner enterprises (70% success rate);

- 23 Natational Consultants / Expert Trainees;
- Full cost/value of National Consultants;
- Include progressive development and implementation;
- Energy Savings 1 Yr: 13.19 GWh (67% no cost);
- Energy Savings 5 Yr: 165 GWh;
- Money savings 1 Yr: 862,700 USD (55% no cost);
- Money savings 5 Yr: 10,792,000 USD;
- Cost of the pilot project so far: 290,000 USD.

Challenges and Lessons Learned

The biggest challenge was to inform companies that proper monitoring tools provide a practical and affordable way of reducing energy consumption, in addition to optimizing the production and efficiency of their processes.

Developing the pilot project for the implementation of ISO 50001 with established companies, has demonstrated how the application of international standards strengthens trust between companies and improves the quality of services. Accordingly, when an international standard provides clear guidance for implementation, measurable indicators of performance and a proper benchmark for comparison between companies, then the conversation is redirected from “does this work?” to “how to make this work for my company?”.

Potential for Replication

This pilot project was used as a starting point in developing the energy management system in the industry. The main objective is for this to be replicated across the entire industrial sector. This kind of projects are easily replicated in developing countries with similar industrial sectors.

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