



Inspirational story	Increasing energy efficiency in SME through education and training	INST-01
Country	Romania	
Energy efficiency measures	Training course for becoming energy manager, and implementation of an energy efficiency action plan to reduce energy consumption and cost	
SME sector	Textile industry	
Why	SMEs are facing several barriers, including economic, informational and organisational ones which often hinder the implementation of energy efficiency measures. Besides this, the legislative framework does not motivate SMEs to implement an energy audit or to employ an energy manager. Considering this, training an internal technical staff could lead to several benefits which will be presented below.	
How	<p>Approach</p> <p>The implemented approach involved the participation of the Plant Manager from an SME activating in the textile industry, in an Education & Training (E&T) program financed under a Horizon 2020 project. The E&T program included several learning units and also practical action, to enhance the know-how of the person and also to increase practical capabilities when implementing local energy efficiency action, including both organizational and technical measures. The practical action of the course resulted in a detailed energy evaluation of a pilot site, with the aim of putting the theoretical knowledge into practice and performing a detailed energy analysis in order to further motivate the decision-maker to conduct an energy audit.</p> <p>The proposed energy efficiency action plan consisted of a “low-hanging fruits” approach and the development of a package with organizational and technical measures. The “low-hanging fruits” measures include:</p> <ul style="list-style-type: none"> - air compressor generator optimization with the scope of efficient usage of each equipment and optimized operation of the airflow line; - the replacement of the air-cooling system using a heat exchanger. <p>The following organizational measures have been proposed:</p> <ul style="list-style-type: none"> • Educating the employees by organizing workshops in which specific energy efficiency topics can be debated e.g., energy-draining habits, improvement of energy efficiency at the workplace, phantom energy, and carbon footprint; • Rewarding system for the staff who initiate energy efficiency initiatives; • Investing in energy-efficient appliances in the offices; • Conduct a one-time professional energy audit to identify tailored energy-saving solutions; • Carrying out the necessary maintenance and cleaning work on energy-consuming equipment. <p>Besides this, several renewable energy sources have been proposed along with energy-efficient sources such as:</p>	



	<ul style="list-style-type: none"> • Photovoltaic system with an installed capacity of 250 kW for the production of electricity; • Solar thermal collectors with an installed capacity of 168 kW; • Heat pump system to supply the thermal load of the facility.
	<p>Setback</p> <p>An energy analysis is not enough to fully exploit the potential and to draw the feasibility of the proposed technical systems. This should be done by a team of experts, including a certified energy auditor.</p>
Whom	The practical action has been done in a group of trainees, coordinated by a trainer (professional in the energy efficiency field), who conducted the energy analysis and established the energy efficiency action plan.
What	Through the assessment of the key performance indicators – energy saving, and CO ₂ emission reduction better technical feasibility can be deducted from the energy efficiency package reflected in the cumulative energy saving potential of 250 MWh/year electrical energy (EI) and 818 MWh/year thermal energy (Th), along with the total CO ₂ emission reduction of 263 tonnes of CO ₂ eq. per year.
Lessons learned	Education and knowledge enhancement is a key element in SMEs pathways toward energy transition and also decarbonization. This could lead to strong motivation along different staff-categories including decision maker level, technical staff and other employees.

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