

OUTPUT FACT SHEET

Pilot actions (including investment, if applicable)

Version 2

Project index number and acronym	CE906 BOOSTEE-CE
Lead partner	Bruno Kessler Foundation
Output number and title	O.T3.1 Pilot actions for EE upgrade in public buildings
Investment number and title (if applicable)	PA3 - PA3 with zero-energy public buildings in Zlin Region (CZ)
Responsible partner (PP name and number)	Energy Agency of Zlin Region (PP3)
Project website	https://www.interreg-central.eu/Content.Node/BOOSTEE-CE.html
Delivery date	10.2019

Summary description of the pilot action (including investment, if applicable) explaining its experimental nature and demonstration character

The pilot action in the Czech Republic involved high school and special primary school buildings. They are very specific historical objects built in early 20th century and now are under the historical protection. Indoor climate measurements have been installed, which means CO₂, humidity and temperature are measured. The buildings underwent thermal modernization, replacing mainly windows with a heat transfer coefficient $U = 0.9 \text{ W/m}^2\text{K}$, replacing doors with a heat transfer coefficient $U = 1.2 \text{ W/m}^2\text{K}$ and a thermally insulated roof made of mineral wool or EPS ($\lambda = 0.039 \text{ W/mK}$) in the minimum thickness of 22 cm. In some schools were possible to insulate walls that are not historical with EPS $\lambda = 0.039 \text{ W/mK}$ and 16 cm thickness. All these actions led to the energy savings from 15 % to 30 % depends on the possible solutions. Energy management was established in 2009 and allows accurate estimation of results. Schools are heated by the natural gas boiler and hospital has its own district heating system powered by natural gas boiler and waste incinerator.

EAZK provided technical support at all stages of its implementation, including the preparatory, construction and operational stages. He helped in the selection of external experts assessing the optimization of the functioning of the building. EAZK supported and managed the implementation of energy management in accordance with EN ISO 50001; development of a programming tool necessary for regular evaluation of data results, financial analysis and investment management. In addition, EAZK will train building staff in energy management skills.

NUTS region(s) concerned by the pilot action (relevant NUTS level)

NUTS 3 - Zlin Region

Investment costs (EUR), if applicable

Expected impact and benefits of the pilot action for the concerned territory and target groups and leverage of additional funds (if applicable)

Improving energy efficiency in Zlin Region.
Increasing public energy awareness.
Staff training in buildings of the pilot action.
Building users will gain experience in how smart metering works and how it should be monitored.
Change in people's behavior.
953 919 kWh annual reduction of energy consumption.
55 060 € annual cost savings.
190,695 tons annual reduction of CO2 emission.

Investment costs (total) - 16 092 920 EUR. The costs do not come from the BOOSTEE-CE project, they were issued before BOOSTEE-CE.

Sustainability of the pilot action results and transferability to other territories and stakeholders.

The schools and hospital are owned by the Zlín Region. Zlín Region administrates the maintenance and financing of all schools. Hospital is economical subject and maintenance and financing of all actions goes from the hospital budget. Sustainability of all investments is necessary for the operation in the buildings.
The activities can be transferable and replicated in other cases and regions. Apart from hospital Uherské Hradiště the Zlín Region owns and operates other 3 hospitals. Hospital Uherske Hradiste is the crucial part of medical system in the South part of the Zlín Region. Reconstruction of old parts of the hospital and building new building of intern medicine were necessary to be able to provide professional medical care. Reconstructions as well as construction need to be wisely carried out and can be further replicated to other hospitals in the Zlín Region. Furthermore, the hospital plans to upgrade its waste incinerator. Zlín Region is planning to build a new hospital near Zlín and hospital Uherske Hradiste can be the pattern for the overall operating of the hospital.
Outputs from WP4 and studies in this project brought possibilities of financing and improve the management knowledge. Reconstruction of 5 school buildings led to improving of the energy consumption. Furthermore installations of CO2, temperature and humidity meters improved indoor climate. Data from the meters are used for the decreasing of natural gas consumption in boiler for heating the buildings. This experience can be replicated in other school buildings of the Zlín Region and provide more information for the janitors and management.

Lessons learned and added value of transnational cooperation of the pilot action implementation (including investment, if applicable)

The effect of investments and the added value in the transnational dimension is the exchange of experiences and practices of carrying out similar investments in various political, social and technical conditions. In addition, the pilot action in the Czech Republic was carried out earlier, which was a model and example for other actions. It will be best practice solution which can be shared by partners, and partner can learn from this example. The goal is starting with buildings insulation and smart metering to get detailed data, data analyses and auditing, excavation of measures for energy saving, cost saving and CO₂-saving, tendering and implementation of measures.

Contribution to/ compliance with:

- relevant regulatory requirements
- sustainable development - environmental effects. In case of risk of negative effects, mitigation measures introduced
- horizontal principles such as equal opportunities and non-discrimination

The school buildings (protected by a special law) are needed to be operated in a special mode because of their specific and by law protected character, which means that outer wall can't be insulated and more rules for windows. All legal requirements have been kept.

The investment will have a positive impact on the environment and climate due to the reduction of energy consumption and reduction of CO₂ emission. There is also the potential to increase this impact through staff training that raises environmental awareness and can change society's bad energy habits. EAZK actively increase the knowledge of school staff through one to one meetings with headmasters and janitors.

All these institutions are equally used by both genders and doesn't discriminate any social group.

The activities implemented in the project equalize the chances of the region in the country by implementing energy efficiency improvement measures affecting the quality of the climate and the environment, and Zlin position as the region increases, where the energy monitoring and management system has been installed as a modern area and following European trends.

References to relevant deliverables (e.g. pilot action report, studies), investment factsheet and web-links

If applicable, additional documentation, pictures or images to be provided as annex

Deliverables: D.T3.3.1 Pilot actions preparation, D.T3.3.2 Pilot actions guidelines, D.T3.1.4 PA3 with zero-energy public buildings in Zlin Region, D.T3.2.1 Evaluation report on pilot actions implementation, D.T3.2.2 Pilot action reports, PA3 fact sheet

Web-link: <https://www.interreg-central.eu/Content.Node/PA/PA3.html>