

# OUTPUT FACT SHEET

## Pilot actions (including investment, if applicable)

Version 2

<b>Project index number and acronym</b>	CE906 BOOSTEE-CE
<b>Lead partner</b>	Bruno Kessler Foundation
<b>Output number and title</b>	O.T3.1 Pilot actions for EE upgrade in public buildings
<b>Investment number and title (if applicable)</b>	PA2 - PA2 in a school complex (primary, comprehensive and polytech) in Judenburg-Lindfeld (AT)
<b>Responsible partner (PP name and number)</b>	Municipality of Judenburg (PP10), Energy Agency Upper Styria (PP11)
<b>Project website</b>	<a href="https://www.interreg-central.eu/Content.Node/BOOSTEE-CE.html">https://www.interreg-central.eu/Content.Node/BOOSTEE-CE.html</a>
<b>Delivery date</b>	10.2019

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

The pilot action is implemented in the school complex Lindfeld in Judenburg which consists of four separate buildings and is supplied with district heating from one central distribution point.

As part of the investment, smart metering was installed to refine the energy monitoring.

- **Heating:** one smart meter (model SHARKY 775) was installed at the heat delivery station at the entrance of the building, before the heat exchanger. The new heat smart meter can measure and store detailed load profiles. Data can be read out and analysed at a quarterly hour basis, so detailed analysis of the consumption in short term resolution is possible. The total heat consumption is metered at the heat transmission station. The heat consumption is spread up to the different building parts by a heat load calculation of the different building parts.
- **Electricity:** Three smart meters were installed in three main part of the buildings: NMS1 (school building 1), NMS2 (school building 2) and sports hall. The data are read out by the ESCO Stadtwerke and submitted to EAO, who analyse the detailed load curves at a quarterly hour basis.

Heat and electricity data are collected and then reported to the environmental department and integrated into the municipality's energy monitoring. The data are analysed by EAO, and then discussed with the environmental department of JUD to see if the measures work. The intelligent remote energy smart meters enable automatic data transmission on energy consumption.

Staff training in energy efficiency is a complementary activity.

Other planned investments (outside the project) in the school complex of Judenburg Lindfeld:

- Replacement of lights with new efficient LED lights
- Improvement of the heating system by installation an automated heating control device
- Reconstruction of the hydraulic distribution, pumps and valves
- Partly thermal insulation of outside walls and rooftops
- Improvement of window connections to avoid draft

To put these measures into action it takes a well-coordinated approach and an overall refurbishment concept. The realization of such a large endeavour is outside the scope of the BOOSTEE-CE project and has to be financed in an alternative way, for instance by contracting. First steps to improve the most striking defects which were detected in the BOOSTEE-CE examinations include improvements in the fitting of the windows and partial insulations of the building envelope of the primary school. These works are scheduled for spring and summer 2020. The refurbishment concept will be made in the course of the year 2020 to start in 2021.

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

NUTS 3 - Westliche Obersteiermark - AT226

#### 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 Judenburg. Creation of a best practice for energy, cost and CO2-saving based on smart metering and energy auditing.

Increasing public energy awareness by publication the best practice model, and transferring to other objects.

Staff training in buildings of the pilot action.

Building users will gain experience in how smart metering works and how it should be monitored.

Reduction of energy consumption - 250.000 kWh will be achieved in 2022.

Financial savings - 30.000 € will be achieved in 2022.

Additional funds for the refurbishment of the Lindfeld school centre are 250.000 EUR. Probable way of financing: contracting. No funds are claimed yet.

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

The buildings where the energy meters were installed belong to the Municipality of Judenburg, so the guarantee of durability is maintained. The investment was carried out by the Stadtwerke and kelag, but the investment costs do not come from BOOSTEE-CE, but from ESCO funds.

The activities can be transferable and replicated in other cases and regions. The case of the pilot action in Judenburg is an example for many Austrian small and medium cities because many school buildings were built in the 1960s and '70s and have the same energy standard as in Judenburg.

Information about the pilot action is promoted and disseminated in the region and beyond.

### 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.

It will be best practice solution which can be shared by partners, and partner can learn from this example. The goal is starting with 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

With this example, JUD is improving the energy efficiency and CO2 saving. This means JUD is fulfilling international, EU and national obligations, and also the goals which JUD set up in its energy and climate strategy (SEAP, EAA).

The investment will have a positive impact on the environment and climate due to the reduction of energy consumption.

There is also the potential to increase this impact through staff training that raises environmental awareness and can change society's bad energy habits. Therefore, the best practice model set up in PA2 will be shared with other stakeholders in JUD, neighboring municipalities and transnational partners.

All of the regulatory requirements and horizontal principles were taken into consideration and was not violated. Both men and women are involved in the project. The activities implemented in the project equalize the chances of the region.

**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.T3.1.3 PA2 in a school complex (primary, comprehensive and polytech) in Judenburg-Lindfeld, D.T3.2.1 Evaluation report on pilot actions implementation, D.T3.2.2 Pilot action reports, PA2 fact sheet

Web-link: <https://www.interreg-central.eu/Content.Node/PA/PA2.html>