

BEST PRACTICE IN AUSTRIA – SMART METERING

BASIC INFORMATION

Title of the Best Practice:

Smart Metering at SZF Schulungszentrum Fohnsdorf (office building)

Energy efficiency measures implemented in the building:

Installing smart metering system: controlling heating system and the electrical network

Location:

City: Fohnsdorf

Region: Province of Styria

Country: Austria

GoogleMaps link:

<https://www.google.de/maps/place/Schulungszentrum+Fohnsdorf/@47.2051779,14.6627515,17z/data=!3m1!4b1!4m5!3m4!1s0x4771ca1755a27015:0xadf7df13fc20a3f8!8m2!3d47.2051779!4d14.6649402>

Partners involved:

Owner

Verein Schulungszentrum Fohnsdorf

Operator and contact

Verein Schulungszentrum Fohnsdorf

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Planner and Architect

Own staff of facility management of SZF, assisted by EAO (www.eao.st)

Implementation year: 2018

Photos:



Source: SZF Schulungszentrum Fohnsdorf [www.sfz.at]



Source: SZF Schulungszentrum Fohnsdorf [www.sfz.at]



Source: SZF Smart Meter Installation [www.sfz.at]

SYSTEM CHARACTERISTICS

Brief Description:

The SZF Schulungszentrum Fohnsdorf has been an active partner of the Public Employment Service and industry since 1975. With innovations, the development of new forms of teaching and learning and ongoing investments in machinery and equipment, we prepare participants for the demands of a modern working environment.

The graduates should be able to use and implement their qualification concretely in the workplace. Therefore, competence-oriented learning processes are designed in which learners are supported and instructed in the acquisition of skills and abilities in a certain occupational field and thereby develop into independent, capable specialists for the economy. Professional, social, personal and digital competences are promoted in an integrated way, i.e. always in connection with the professional activity. This requires interdisciplinary learning as well as learning at work tasks from practice and promotes the CANNES of the participants.

Smart metering

The building complex consists of an office block, laboratories, kitchen, seminar rooms and living tower for pupils. Due to the complex building and usage structure, measures to increase energy efficiency are difficult to identify and evaluate. Therefore, smart meters were installed in both the heating system and the electrical network in order to assign energy consumption and load profiles to individual usage units.

Installation of Smart Meters

Smart meters are installed for different parts and organizational units of the building complex in the electrical system and in heating hydraulics.

The smart meters in the electrical system allow to analyze load curves on 15 min basis, and consumptions. This allows to identify optimization potential for energy saving.

The same was done in the heating hydraulics, but this is more complex than in the electrical system, since the flow rate and the temperature difference between the flow and return lines must be measured on the lines in order to calculate the power or consumption.

These smart meters are linked to a control unit in the office of the facility management. The facility manager is doing analyses of load curves and consumptions, based on this, energy saving projects will be planned. Measures can be organizational or investment based.

Energy Efficiency

Energy efficiency will be raised up by measures implemented based on analyses and planning after smart metering. Smart metering is also an important tool for monitoring and controlling the quality of implemented measures.

FINANCIAL SOURCES AND FINANCING DETAILS

Total investment value: 20.000 € for smart metering

Sources of financing:

Smart metering was financed by own resources; funds will be used for financing of additional investments in future for energy saving.

Electricity savings (MWh/year): analyses of saving measures ongoing

Or fuel savings (kg or m³ or kWh or GJ): analyses of saving measures ongoing

Cost savings (EUR/year): analyses of saving measures ongoing

CO₂-saving analyses of saving measures ongoing

PROJECT IMPLEMENTATION BENEFITS

The facility manager is doing analyses of load curves and consumptions, based on this, energy saving projects will be planned. Measures can be organizational or investment based.

Energy efficiency will be raised up by measures implemented based on analyses and planning after smart metering. Smart metering is also an important tool for monitoring and controlling the quality of implemented measures by using of energy performance indicators.