BEST PRACTICE IN POLAND – ENERGY EFFICIENT CITIES

BASIC INFORMATION

Title of the Best Practice

Reconstruction of district heating system in Warka

Energy efficiency measures implemented in the building:
reducing heating demand: selecting efficient heating system;
reducing energy used for heating water;
installing smart metering system: controlling heat consumption, gas consumption

Location:

City: Warka

Region: Mazovia Region

Country: Poland

GoogleMaps link

https://www.google.pl/maps/place/Zakład+Usług+Komunalnych+w+Warce+Sp.+z+o.o./@51.7827251,21.1866149,17z/data=!3m1!4b1!4m5!3m4!1s0x4718e749d3ffffd3:0x856aa38417d71fd2!8m2!3d51.7827218!4d21.1888036

Partners involved:

- Zakład Usług Komunalnych w Warce Sp. z o.o. (Municipal Services in Warka Limited Liability Company)
  Farna 4 Street, 05-660 Warka
  http://zukwarka.pl/
  Role in the action: The Project Organizer (Representative)

Implementation year: 2013-2014

Photo:

Source: Zakład Usług Komunalnych w Warce Sp. z o.o. (Municipal Services in Warka Limited Liability Company)

SYSTEM CHARACTERISTICS

Brief Description*:*

The project scope comprises construction of double-duct heat distribution network built of D=50 - 200 pre insulated pipes (total length ca. 2400 m), reconstruction of existing 32 heat distribution units and construction of 6 new units, replacement of existing boilers with green boilers fitted with condensation economizers with efficiency 95-98%, construction of a solar system for domestic hot water purposes: 4 solar panels with absorber surface of 2,32 m^2, construction of a monitoring system.

FINANCIAL SOURCES AND FINANCING DETAILS

Total investment value: 1 459 212,52 EUR

Sources of financing: internal funds, commercial banks

Electricity savings *(MWh/year):* 108,6 MWh/year

Or fuel savings *(kg or m3 or kWh or GJ):* 380 000 m^3/year

Cost savings *(EUR/year):* no information

PROJECT IMPLEMENTATION BENEFITS

Increasing the energy efficiency of the heating system

Reduction of primary energy consumption – 11 000 GJ/year

Reduction of CO_2, NO_2 and other pollutants by 619 Mg/year (about 15%)

Optimization of heat supply equipment service

ADDITIONAL INFORMATION

The installed system is also characterized by low thermal conductivity coefficient ≤ 0,024 W/m·K for pre-insulated pipes, high performance boiler station and heat distribution unit controls and monitoring system with wireless data transmission for unit and boilers performance data (temperature, pressure, flow, heat intake and gas consumption).