BEST PRACTICE IN AUSTRIA – ENERGY EFFICIENT CITIES

BASIC INFORMATION

Title of the Best Practice

Renovation of the townhall Neumarkt

Energy efficiency measures implemented in the building: thermal energetic renovation of the building, connection to district heating

Location:

City: Neumarkt in Styria

Region: Province of Styria

Country: Austria

GoogleMaps link:

https://goo.gl/maps/ZsR1CTZYzg92

Partners involved:

- Owner and Operator Municipality Neumarkt in Styria; Mayor J. Maier; BM Ing. E.Loecker; Hauptplatz 1,4, 8820 Neumarkt, Austria; gde@neumarkt-steiermark.gv.at
- Planner and Architect: Architekt Gerfried Ogris, St. Veiter Straße 103, 9020 Klagenfurt, Austria; ogris@arch-ogris.at; https://mustersanierung.at/projekte/oeffentliche-gebaeude/gemeindezentrum-neumarkt/

Implementation year: March 2017 – Dec 2018

Photos:

Source: *https://mustersanierung.at/projekte/oeffentliche-gebaeude/gemeindezentrum-neumarkt/#fotogalerie&slider1=4*

SYSTEM CHARACTERISTICS

Brief Description*:*

The original building was erected around 1700 and has been adapted to various uses over time. After the merging of the municipalities, the ground floor of the building was to house the sovereign administration with registration office, citizen service, staff area, meeting room, an office for general consultation days and public toilets. On the upper floor the rooms for the office management, the mayor incl. secretariat, the finance department and the archive were to be accommodated. The newly constructed attic was to be used for additional archive space and a meeting room.

The additional use of the attic increased the gross floor area from 1,581m² to 1,933m².

The space heating and hot water preparation took place so far electrically. In future, space heating and hot water preparation will be provided by district heating (renewable).

In the course of the thermal energetic building renovation the exterior walls (partly also with interior insulation), the roofs and the floors will be newly insulated. The existing box windows are either renovated (glass replacement and optimisation of the connection joints) or renewed. The renovation will reduce the average U-value of the building from 1.83 to 0.55 W/m²K.

FINANCIAL SOURCES AND FINANCING DETAILS

Total investment value: 3.200.000 €

Investment scale
Thermal reconstruction of the building envelope:

- Internal insulation of the exterior walls with 12 cm perlite insulation reduces the U-value to 0.31 W/m²K;
- Insulation of the exterior wall DG with 18 cm mineral wool reduces the U-value to 0.16 W/m²K;
- Insulation of the flat roof with 25 cm mineral wool reduces the U-value to 0.19 W/m²K;
- Insulation of the roof with 20-24 cm thick mineral wool provides a U-value of 0.18 W/m²K;
- Insulation of the floor with 20cm XPS gives a U-value of 0.12 W/m²K;

In total, the measures reduce the average U-value of the building from 1.83 W/m²K to 0.55 W/m²K.

Windows:

- Either renovation of the existing box windows (glass replacement, optimisation of connection joints) or new installation of box windows U-values between 0.85-1.1 W/m²K

Building technology:

- Heating and hot water: replacement of electrical heaters by biomass district heating
- Cooling: no requirement for cooling
- Ventilation system: controlled aeration and ventilation to achieve optimum indoor air quality and to significantly reduce ventilation heat losses

Sources of financing: This project is financed by funding of the Austrian Climate and Energy Fund (Mustersanierung), the Province of Styria and the Municipality of Neumarkt

Electricity savings (MWh/year):

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Or fuel savings (kg or m3 or kWh or GJ): reduction of HWB from 110,0 to 13,7 kWh/m².y, this means a reduction of 87,5 %

Cost savings (EUR/year): NA
CO2-savings: of 197,86 tons per year

PROJECT IMPLEMENTATION BENEFITS

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ADDITIONAL INFORMATION

Vision of the mayor of Neumarkt:
The sample refurbishment is intended to significantly increase the thermal standard of the building envelope; the building is intended to serve as a showcase project for the population in the areas of building insulation and the use of renewable energies.

The refurbishment should modernise the building, adapt it to the increased space requirements of the large municipality and to modern standards, and improve the working climate of the municipal employees.