

## AUSTRIA – ON THE ROAD TO DECARBONIZE THE BUILDING SECTOR

### Innovative Energy Sources for Historical Buildings

The EXCITE workshops feature existing best practice examples of climate-friendly building restorations. This particular instalment of the series focused on the innovative geothermal-based renovation of the Geblergasse ‘Smart Block’ in the City of Vienna.

#### Background

Approximately 10% of Austria’s total greenhouse gas emissions originate from energy consumption in the building sector. This workshop highlights an example of how the introduction of climate-friendly renewable energy sources can increase the share of renewable energy sources in final energy consumption in the building sector.

#### ‘Smart Block’ Geblergasse

Architecturally, the residential building located on Geblergasse in the Municipality of Vienna was constructed in the turn of the twentieth century. These historical buildings are notorious for their high final energy consumption. During the renovation process, the residential building was expanded to encompass an attic extension, as well an annex and new residential buildings, thus establishing the ‘Smart Block’.

The renovation of the existing historical building in combination with the new extensions lays the foundation for a visually appealing and energy-efficient residential complex. This represents a milestone in the Austrian building sector, namely the implementation of a geothermal system for heating and cooling in a historical building.

Through integrating innovative geothermal energy technologies and photovoltaics to produce electricity, the infrastructure for the usage and storage of renewable energy is incorporated into the architectural structure, providing a constant source for heating and cooling, while contributing to the residential buildings’ energy supply.

The system has been designed to integrate buildings that may be added to the block in the future.

