

## EPOurban, Italy: Retrofitting with user participation

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### Summary of the project

In the EU funded EPOurban project the City of Bolzano participated together with cities in Germany, Poland, Czech Republic, Slovenia, Slovakia, and Voitsberg region of Austria, aims to **enable the private owners in the energy efficiency retrofitting of their residential buildings**. A particular emphasis was placed on neighbourhoods that could be considered vulnerable for a variety of reasons, e.g. low income general population, or a mixed ownership structure where the organisation of larger scale renovation would be quite complicated, and would require the deployment of innovative organisational and technical solutions.

The project, lasting three years (ending November 2014), moves in the broader context of the issue strongly current urban regeneration. As more parts emerges with ever greater insistence, only a renewed attention to the recovery of existing buildings can produce concrete and immediate results in this situation of crisis, which for some time is occurring even in our province. The City of Bolzano, having acceded to the Covenant of Mayors, which led to the approval of the plan to reduce CO<sub>2</sub> emissions, is moving precisely in this direction.

Within the framework of the experimental initiative, the Municipality of Bolzano established a supervision group called Yard EPOurban, formed by trade associations, labour unions, local research institutions, as well as banks and credit institutes.

### Actors and organization

EPOurban was a research project funded by EU under the Central Europe programme, accomplished by November 2014, with the aim to activate private households in taking action in retrofitting process of the existing building stock. The 20 cases were selected based on the voluntary application of **home owners and building administrators**, which also helped to present the diversity of retrofitting options in different building types. The **municipality of Bolzano** set up a **multidisciplinary task force** of planners, architects, economists and sociologists for the assessment of the selected buildings, and the elaboration of adequate energy efficient interventions.

It is important to note while the 20 buildings to be renovated in Bolzano are already selected, and detailed plans to their retrofitting, complete with thorough cost calculations, are in place; however, the interventions themselves were not yet launched. At the end of the consulting process, a bilingual paper (Italian and German) was prepared for each building. The paper analyses the status quo of the building, simulates 2 or 3 intervention scenarios and elaborates the costs and benefits in terms of grants, subsidies, bonuses and energy saving. In addition, the consultants evaluate which intervention solution allows maximum savings from a financial point of view. Furthermore, specific interventions for the elimination of architectural barriers in the event of restructuring are suggested for each building.

### Financing and implementation: plans and possibilities

The project, supported by ERDF funds within the CENTRAL EUROPE program, attracted 45 applicants in Bolzano, more than twice then permitted by project plans and funding. As per plan, the project consortium selected 20 buildings in Bolzano in two blocks: 10 would be renovated in the first phase of the project, and 10 more in the second phase.

The procedure followed to present the activities and the aims of the project has been the following:

1. presentation of the project and tasks to the building administrators member of ANACI, a municipal association of building administrators (Associazione Nazionale Amministratori di Condominio ed Immobili);
2. pre-application to the project to be thereafter discussed with the owners of the apartments of each building;
3. formal application of the building.

First, the Municipality produced data sheet based on a survey with owners and condominium managers on main building.

The data requested were the following:

- data of the building administrator (name and contacts)
- data related to the building
- year of construction
- quantities (volume / number of floors)
- heating (typology and age of equipment)
- list of possible energy efficient interventions occurred and their descriptions
- incentives and modalities to access to them
- location

Once the list of buildings was completed, a task of professionals started to work on the development of retrofitting intervention scenarios for the minimum, medium, or maximum level of intervention and investment required. They have evaluated the payback period of investments and benefits in a 25-years term; the sustainability of the different intervention costs.

### Key challenges

Owners appear interested essentially because the initiative was held by the municipality instead of private enterprises, as they have a higher confidence on their impartiality and efficient operation.

The analyses and scenarios developed in phase 1 showed a wide margin for upgrading the building stock's energy performance and for the financing of redevelopment. As regards to historical heritage buildings, they generally were in a good state, and external insulation was deemed unnecessary. The focus should rather be on efficient and modern cooling and heating solutions as well as on the replacement of older windows. Economically and financially, these interventions are less demanding than those on the envelope, with shorter payback period and access to local economic and national financial incentives or to third-party financing and energy performance contracts.

Houses built after World War II show greater need for intervention and require a more integrated approach to reach energy category C. However, refurbishment is often hindered by limited economic and financial resources. The density bonus seems to be one of the most remunerating financing opportunities, but it has so far been limited by constraints imposed by the real estate industry.