Social Housing Refurbishment in Bolzano

Smart and Sustainable Planning for Cities and Regions 2015
Bolzano, 19/11/2015

This project has received funding from the European Union’s Seventh Programme for research, technological development and demonstration under grant agreement No 609019.
Overall SINFONIA goals

The long term goal is a completely renewed city, where energy consumption will be reduced by 40 to 50% and the share of RES production will increase by 20% at least. These objectives will be achieved in the demo district (6 group of buildings for about 36,000 m²).

Within the SINFONIA activity, replicability and scalability of the measures will be evaluated for the whole city of Bolzano.
The Municipality of Bolzano in SINFONIA

The Municipality of Bolzano will contribute to the general objectives of the project by different actions. Among them a huge effort for the rehabilitation of social housing estates:
- three construction sites: Passeggiata dei Castani, via Aslago, via Parma;
- about 18,000 m$^2$ of gross floor area;
- 219 dwellings;
- more than 500 tenants interested by the refurbishment;
Energy Bonus: THE ITALIAN STRATEGY FOR THE PROMOTION OF GREEN BUILDING REFURBISHMENT

It was introduced:
Firstly, in the national planning system by the 2008 Annual Financial Act.
Then, in extraordinary and temporary (2 years) measures of the National Housing Plan
In Bolzano, introduced in 2013 and then modified

OBJECTIVE: to stimulate private initiatives
To promote (energy) refurbishment of buildings
Energy Bonus – Application conditions

The bonus applies to new or existing buildings under different conditions.

How it works for existing buildings:

<table>
<thead>
<tr>
<th>ACTION</th>
<th>BUILDING USE</th>
<th>BUILDING TYPOLOGY</th>
<th>DENSITY BONUS</th>
<th>REQUIREMENTS</th>
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</thead>
<tbody>
<tr>
<td>REFURBISHMENT WITH EXTENSION</td>
<td>Housing sector (with some regional exceptions)</td>
<td>Generally single-family and multifamily housing</td>
<td>Up to 20% of existing building’s volume</td>
<td>Energy efficiency requirements as CasaClima C (70 kWh/m²y)</td>
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<tr>
<td>DEMOLITION WITH REPLACEMENT AND EXTENSION</td>
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Energy Bonus in SINFONIA Project

The exploitation of the energy bonus will permit to realize about 30 new dwellings.
It is expected that the consequential selling of an equal number of apartments*, will generate a financial income that should cover up to the 40% of the cost for the energy retrofit to be sustained for all the buildings.

*:owned by the Municipality in several different buildings
General constraints for the projects

- carry out the interventions with the tenants inside the dwellings (SINFONIA condition);
- contain the additional burden for the existing structures;
- use of multifunctional facades (only for Passeggiata dei Castani);
- reduce the time of the construction phase;
- chose the materials and technical solutions aiming to maximize durability and reducing maintenance costs;
- ensure the safety of the tenants (different level of safety);
Via Parma

Actual situation:
Energy efficiency Casaclima class G (186 kWh/m²y)
- 77 apartments;
- 5200 m² of gross floor area;

After the renovation
- Energy efficiency Casaclima class A (18 kWh/m²y);
- 16 new apartments (3 types);
Via Parma

- The additional floor will be realized with the Xlam construction system
- Connection with District Heating grid

Credits: M7 Architecture – Marco Sette architect
Via Aslago

**Actual situation:**
- Energy efficiency Casaclima class G (228 kWh/m²y)
- 70 apartments;
- 5500 m² of gross floor area (1375 m² per floor);

**After the renovation**
- Energy efficiency Casaclima class A (21 kWh/m²y);
- 14 new apartments;
Via Aslago

- The additional storey will be realized with a prefabricated wooden structure
- Biomass boiler (woodchips)
Passeggiata dei Castani

**Actual situation:**
- Energy efficiency Casaclima class G (201 kWh/m²y)
- 72 apartments;
- 7090 m² of gross floor area (1560 m² per floor);

**After the renovation**
- Energy efficiency Casaclima class A (XX kWh/m²y);
- a new hall for common activities for the inhabitants;
Passeggiata dei Castani

- New facade with wooden prefabricated panels (insulated with cellulose)
- Geothermal heat pump
- Mechanical ventilation for every apartment

Credits: Studio Mellano with ARCH + MORE
Thank you for your attention!

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