



## Semi-detached nearly zero energy building in wood

by Gianpaolo Gritti / 2016-06-23 16:41:53 / Italie / 10800 / IT





Primary energy need :

## 11.52 kWhpe/m<sup>2</sup>.anno

(Calculation method : Other)

**ENERGY CONSUMPTION**

*Economical building* *Building*

< 50	<b>A</b>
51 à 90	<b>B</b>
91 à 150	<b>C</b>
151 à 230	<b>D</b>
231 à 330	<b>E</b>
331 à 450	<b>F</b>
> 450	<b>G</b>

*Energy-intensive building*

**Building Type** : Terraced Individual housing  
**Construction Year** : 2014  
**Delivery year** : 2015  
**Address 1 - street** : 22070 ROVELLO PORRO , Italia  
**Climate zone** : [Cfa] Humid Subtropical - Mild with no dry season, hot summer.

**Net Floor Area** : 350 m<sup>2</sup>  
**Construction/refurbishment cost** : 495 000 €  
**Number of Dwelling** : 2 Dwelling  
**Cost/m2** : 1414.29 €/m<sup>2</sup>

### General information

The building is located in an area of residential expansion of Rovello Porro (CO) and is made of wood frame construction. To express request of the customer has opted for the use of this constructive system for presenting various advantages such as: the speed of the timing of putting in work (with the consequent decrease of the problems generated by the traditional construction site), the high energy performance (also taken place by means of dedicated plant design it), the high cost control (given the increased emphasis in the design phase, the typical practice of prefabrication).

### Data reliability

Self-declared

### Stakeholders

### Stakeholders

Function : Designer

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## Contracting method

Build and sell construction

## Owner approach of sustainability

To push the client to opt for a house of this type it has been the high energy efficiency, low invasiveness of the site and the use of renewable building materials.

## Architectural description

The building consists of two levels which correspond, respectively, two apartments of equal size. The apartment on the first floor is served by an external staircase. This latter is protected by a cover projecting. The entire building rests on a basement used as a garage and storage made of concrete structure.

## Energy

### Energy consumption

Primary energy need : 11,52 kWhpe/m<sup>2</sup>.anno

Primary energy need for standard building : 87,00 kWhpe/m<sup>2</sup>.anno

Calculation method : Other

CEEB : 0.0002

### Envelope performance

Envelope U-Value : 0,11 W/m<sup>2</sup>K

## Renewables & systems

### Systems

Heating system :

- Heat pump
- Aerotherm Heater

Hot water system :

- Heat pump

Cooling system :

- Reversible heat pump

Ventilation system :

- Nocturnal Over ventilation
- compensated Air Handling Unit

Renewable systems :

- Heat pump

## Products

### Product

Structural precast wood panels

ILLE - Case in Legno

ILLE Prefabbricati S.R.L. - località Strada I-38085 Pieve di Bono - Trento

<http://www.illecasinlegno.it/lang/IT/homepage>

Product category :

The panels used for the walls are made up of a solid wood frame structural and closed on both sides by wood-based panels. The outer surface of the panels, such as the crawl space

The particular ease and speed of implementation of the system described, together with the high capacity energy performance have easily guided to the choice towards the use of this technology.



## Costs

### Construction and exploitation costs

Global cost : 495 000,00 €

Reference global cost : 390 000,00 €

Renewable energy systems cost : 23 000,00 €

Global cost/Dwelling : 247500

Reference global cost/Dwelling : 390000

Cost of studies : 42 000 €

Total cost of the building : 495 000 €

### Energy bill

Forecasted energy bill/year : 600,00 €

Real energy cost/m2 : 1.71

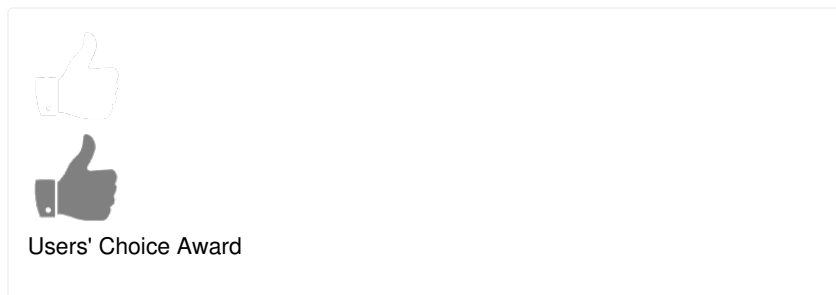
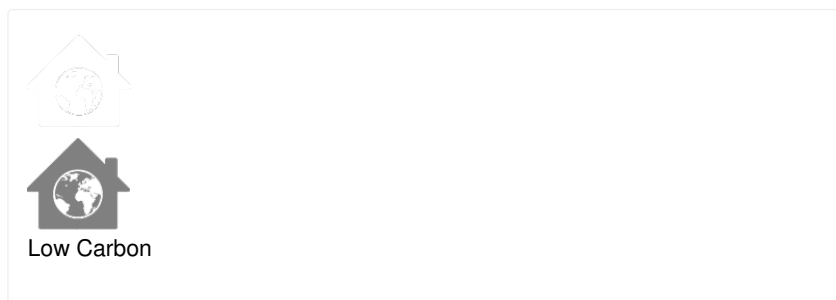
Real energy cost/Dwelling : 300

## Urban environment

The building is located in a residential expansion area near the old urban core. Here are available the main commercial neighborhood businesses, offices of public administration and the nodes of the connecting networks such as bus stops, railway station TRENORD. In the immediate vicinity of the municipal boundary, but still in the municipal district of Turate territory, there is the toll for access to the A9 motorway (Autostrada dei Laghi).

## Contest

### Building candidate in the category





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