

# Evaluation ENERBUILD-Tool – Building in planning phase

## Polo Scolastico a Piazza



### 1 Basic information about the building

Name of the building	Polo Scolastico a Piazza
Address of the building	Piazza d'Armi – Mondovì
Owner/investor	Comune di Mondovì
Year of construction	2012
Building type	School
Building method	Concrete structure
Number of buildings	1
Number of levels above earth	2
Number of levels underground	1
Kind of the public use	School
Effective area for public use in m <sup>2</sup> (net)	3397
Additional private uses	-
Effective area for private use in m <sup>2</sup> (net)	-
Total effective area in m <sup>2</sup>	3397
Source of energy for heating	Micro cogeneration and heat pumps
Heating system	Radiant floors and ceilings
Water heating system	Condensation boiler and solar panels
Date of the building evaluation	2011

## 2 Execution of the building evaluation with the ENERBUILD tool

Responsible Organisation: Environment Park

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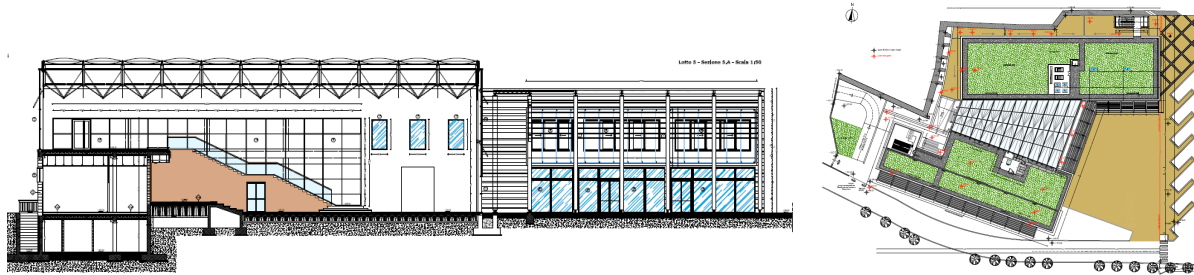
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Temperature for thermal comfort in summertime: 26 °C

Local limits for heating demand: 72 kWh/m<sup>2</sup>

## 3 Results

Nr.		Title	Must criteria (M)	max. points	evaluated points
<b>A</b>					
A		Quality of location and facilities		max. 100	70
A	1	Access to public transport network		50	20
A	2	Ecological quality of site		50	50
<b>B</b>					
B		Process and planning quality		max. 200	190
B	1	Decision making and determination of goals		25	25
B	2	Formulation of verifiable objectives for energetic and ecological measures	M	20	20
B	3	Standardized calculation of the economic efficiency	M	40	20
B	4	Product-management - Use of low-emission products		60	40
B	5	Planning support for energetic optimization		60	60
B	6	Information for users		25	25
<b>C</b>					
C		Energy & Utilities (Passive house)		max. 350	185
C	1	Specific heating demand (PHPP)	M	100	10
C	2	Specific cooling demand (PHPP)	M	100	0
C	3	Primary energy demand (PHPP)	M	125	125
C	4	CO <sub>2</sub> -emissions (PHPP)		50	50
<b>D</b>					
D		Health and Comfort		max. 250	150
D	1	Thermal comfort in summer		150	75
D	2	Ventilation - non energetic aspects		50	25
D	3	Daylight optimized (+ lightening optimized)		50	50
<b>E</b>					
E		Building materials and construction		max. 200	150
E	1	OI <sub>3</sub> <sup>TGH-ic</sup> ecological index of the thermal building envelope (respectively OI <sub>3</sub> of the total mass of the building)		200	150
Sum				max. 1000	745



## 4 Conclusions from the building evaluation with the ENERBUILD-Tool

### a) Generally

The main strong points of this building are the minimization of energy consumptions and CO<sub>2</sub> emissions and a high indoor environmental quality.

### b) About the planning process

This building has been funded through a specific public program for low energy buildings. During the design process both ENERBUILD Tool and Protocollo ITACA have been taken as reference standards. This means that since the early stage of the design process all the environmental performance targets have been fixed and then monitored. A particular attention has been paid to contain the management costs, in particular the energy related ones.

### c) About the building itself

A primary objective has been the minimization of energy consumptions and the maximization of renewable energies. For this reason a PV plant combined with a micro-co generator have been installed. An high indoor quality has been reached through the use of radiant floors and ceilings and the maximization of day lighting. Parts of the construction materials are recycled.

### d) About the evaluation process

The strong points of the construction have been appropriately valorized in ENERBUILD Tool.

## 5 Suggestions for improvement of the ENERBUILD-Tool

The criteria performance scales should reflect in a more appropriate way the use of the building. Also, some criteria should be more coherent with the use. For a school, for instance, the availability of public transportation is important only in specific period of the day.