

Evaluation ENERBUILD-Tool – Existing Building [Enlargement of Liceo “Peano” Tortona (AI)]



1 Basic information about the building

Name of the building	Liceo Peano
Address of the building	Via Vittorio Veneto 3 Tortona (Alessandria)
Owner/investor	Provincia di Alessandria
Year of construction	2006
Building type	Concrete structure
Building method	Traditional
Number of buildings	1 (school campus expansion, with 6 classrooms on three floors, 2 rooms per floor)
Number of levels above earth	3
Number of levels underground	0
Kind of the public use	High School
Effective area for public use in m ² (net)	313
Additional private uses	-
Effective area for private use in m ² (net)	-
Total effective area in m ²	313
Source of energy for heating	Methane
Heating system	Traditional with radiators
Water heating system	Methane boiler
Date of the building evaluation	20 th July 2011

2 Execution of the building evaluation with the ENERBUILD tool

Responsible Organisation: Collegio Costruttori ANCE Alessandria

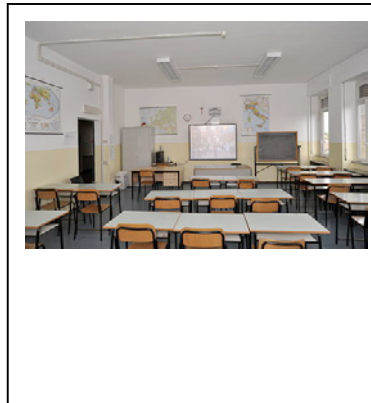
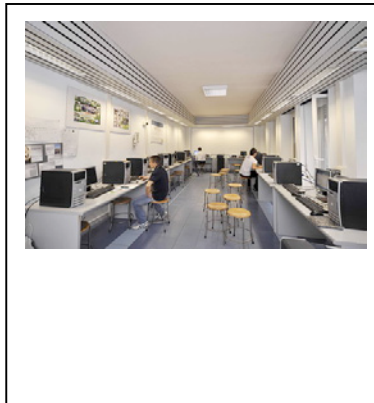
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3 Results

Nr.	Title	Must criteria (M)	max. points	evaluated points
A	Quality of location and facilities		max. 100	87.5
A 1	Access to public transport network		50	50
A 2	Ecological quality of site		50	37.5
B	Process and planning quality		max. 200	104
B 1	Decision making and determination of goals		25	14
B 2	Formulation of verifiable objectives for energetic and ecological measures	M	20	20
B 3	Standardized calculation of the economic efficiency	M	40	0
B 4	Product-management - Use of low-emission products		60	20
B 5	Planning support for energetic optimization		60	25
B 6	Information for users		25	25
C	Energy & Utilities (Passive house)		max. 350	82
C 1	Specific heating demand (PHPP)	M	100	0
C 2	Specific cooling demand (PHPP)	M	100	82
C 3	Primary energy demand (PHPP)	M	125	0
C 4	CO ₂ -emissions (PHPP)		50	0
D	Health and Comfort		max. 250	132
D 1	Thermal comfort in summer		150	52
D 2	Ventilation - non energetic aspects		50	50
D 3	Daylight optimized (+ lightening optimized)		50	30
E	Building materials and construction		max. 200	191.65
E 1	OI ₃ _{TGH-ic} ecological index of the thermal building envelope (respectively OI ₃ of the total mass of the building)		200	191.65
Sum			max. 1000	597.10



4 Conclusions from the building evaluation with the ENERBUILD-Tool

Generally

ENERBUILD-Tool has been one interesting trans-national system for knowing many energy technicians and experts from other Countries, and also from different Italian Areas, and so for comparing the level of designing and working in Provincia di Alessandria.

Provincia di Alessandria has been involved in ENERBUILD-Tool / WP6 for 7 samples, 3 of which are about new public buildings. For these 3 buildings the planning process required by ENERBUILD-Tool is similar to that one used in common administration process in Italy.

ENERBUILD-Tool use has not been simple for Provincia di Alessandria, because technicians are involved in calculations with PHPP which has not known in our design and working studios.

In particular we have noticed strong differences between common Italian evaluations and C2, C3, C4 and E1 values provided by ENERBUILD-Tool.

ENERBUILD-Tool can't be generally used in our regions, with particular references to materials and ecological index catalogue by IBO BOOK which provides only for Austrian or German areas.

In particular LCA – Life Circle Assessment-, about which OI3 is evaluated, is only based over Austrian data basis.

5 Suggestions for improvement of the ENERBUILD-Tool

ENERBUILD-Tool could be an additional tool / not unique/ in evaluating public building – offices, schools, gymnasiums – towards local tools.

ENERBUILD-Tool / Version 1.7 – 25 November 2010 – has already been studied for transnational uses, in each case with all limits before explained.