

Evaluation ENERBUILD-Tool – existing buildings [OPERATION BUISSON]



1 Basic information about the building

Name of the building	Opération Buisson, 3 Logements sociaux collectifs
Address of the building	70 Impasse des Belledonnes 73000 BASSENS, Savoie, France
Owner/investor	Foncière d'Habitat et Humanisme (Social housing)
Year of construction	2010
Building type	Collective housing
Building method	Wood frame
Number of buildings	1
Number of levels above earth	R+1
Number of levels underground	
Kind of the public use	Social housing for rent
Effective area for public use in m ² (net)	
Additional private uses	
Effective area for private use in m ² (net)	
Total effective area in m ²	193,5
Source of energy for heating	Wood pellets
Heating system	Automatic boiler
Water heating system	Collective solar thermal hot water, auxiliary wood pellets
Date of the building evaluation	05/11/2010

2 Execution of the building evaluation with the ENERBUILD tool

Responsible Organisation: ASDER (Association de Développement des Energies Renouvelables),
Local energy agency

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Temperature for thermal comfort in summertime: 28 °C

Local limits for heating demand: RT 2005 130 kWh/an/m²

3 Results

Nr.		Title	Must criteria (M)	max. points	evaluated points
A		Quality of location and facilities		max. 100	58
A	1	Access to public transport network		50	20
A	2	Ecological quality of site		50	38
B		Process and planning quality		max. 200	150
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	40
B	4	Product-management - Use of low-emission products		60	10
B	5	Planning support for energetic optimization		60	30
B	6	Information for users		25	25
C		Energy & Utilities (Passive house)		max. 350	327
C	1	Specific heating demand (PHPP)	M	100	52
C	2	Specific cooling demand (PHPP)	M	100	100
C	3	Primary energy demand (PHPP)	M	125	125
C	4	CO ₂ -emissions (PHPP)		50	50
D		Health and Comfort		max. 250	150
D	1	Thermal comfort in summer		150	150
D	2	Ventilation - non energetic aspects		50	0
D	3	Daylight optimized (+ lightening optimized)		50	0
E		Building materials and construction		max. 200	140
E	1	OI ₃ _{TGH-IC} ecological index of the thermal building envelope (respectively OI ₃ of the total mass of the building)		200	140
Sum				max. 1000	825



4 Conclusions from the building evaluation with the ENERBUILD-Tool

a) Generally

The evaluation with the ENERBUILD tool and the collection of data was facilitated by the labeling process BBC-EFFINERGIE initiated by the owner. Documents necessary for the labeling and for the demands of specific financing allowed to answer criteria to which the statutory document do not give information.

b) About the planning process

The project ownership very motivated by an ambitious project at the energy, environmental and social level favoring a very good coordination with the project manager give at the end a very successful project. Initial objectives were fixed from the beginning of the project. Collective discussions between the Project owner and the team of the project manager during the building process enabled a very good final result, but without written documents of these discussions. The global follow-up of the project by the local energy agency thus allows a better appreciation and facilitate the evaluation.

c) About the building itself

The total of 685 points reflects rather well the global performance of the project, by valuing some weak points concerning the requirements on the criteria of environmental quality.

The criterion B4 was not able to be valued during the test because it is still laborious to get back index forms and data onto materials. And this building consists of ecological materials of construction and insulation, completed by a reflection on the use of local and natural materials. The use of natural materials (construction, insulation, covers) is the result of a voluntary approach, not usual habits. The penalization during the evaluation is simply due to the constraint of the data collection.

d) About the evaluation process

The most difficult part of the evaluation is the one concerning the planning process. It is not still evident to be able to get back documents necessary for this evaluation. The evaluation is facilitated when local energy agency participated in the evolution of the discussions and the decisions and if it is made while the project is in progress.

The evaluation of the energy performances: need of heating and need in primary energy from PHPP is not still adapted to the local statutory tool. Difficulties converting these data to keep a coherence in the evaluations.

Criterion B3: the economic profitability calculation was integrated into an approach of global profitability of this social project. It is so difficult to estimate over-investments connected to the energy efficiency and to the solutions of the variants.

Concerning the criterion D2: we have difficulties to estimate because of the absence of technical data on the system of ventilation.

5 Suggestions for improvement of the ENERBUILD-Tool

Criterion A1: Access to public transport network access

Proposal to extend this criterion to other infrastructures valuing friendly transport (cycling and train station in particular).

Criterion B: project management

Proposition to add an environmental criterion concerning the management of the water.

Criterion B 4: management of the products of construction

Proposition to value the local origin of materials and to find a simpler tool of evaluation.

Criterion C: energy

To value the implementation of equipments using renewable energies sources by the evaluation of a ratio according to the total consumption.

Criterion C2: need of air conditioning

In statics, proposition of 3 options without calculation:

Passive refreshment: 100 pts

Active refreshment: 60 pts

Air conditioning: 10 pts

Criterion C4

Homogenization of the ratios of conversion for CO₂ emissions.

Criterion D2: ventilation Air quality

- Proposition to decompose this criterion into 2 sub-levels:
- Preservation of the criterion on the acoustic measures by softening and by simplifying the indicator criteria.
- Addition of a line on the quality of the ventilation, according to the activity of the building.
- Proposition to insist more on the evaluation of the air quality by an analysis of the air quality on site for example.