Evaluation ENERBUILD-Tool – Building in planning phase

[Maison du territoire du Vercors]

1 Basic information about the building

Name of the building	Maison du territoire du Vercors
Address of the building	150, impasse Meillarot 38250 Villard de Lans, France
Owner/investor	Conseil général de l'isère
Year of construction	2011
Building type	Tertiary
Building method	Wood frame
Number of buildings	1
Number of levels above earth	2
Number of levels underground	1
Kind of the public use	offices
Effective area for public use in m ² (net)	911
Additional private uses	1 dwelling
Effective area for private use in m ² (net)	72
Total effective area in m ²	983
Source of energy for heating	Pellets
Heating system	Hydraulic
Water heating system	Solar thermal and wood
Date of the building evaluation	December 2010

2 Execution of the building evaluation with the ENERBBUILD tool

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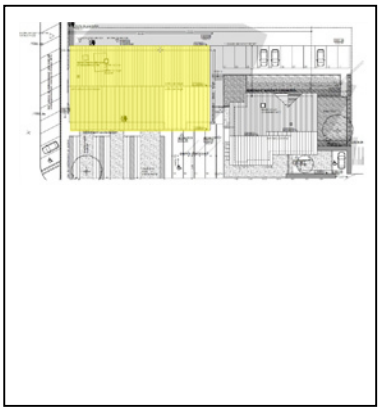
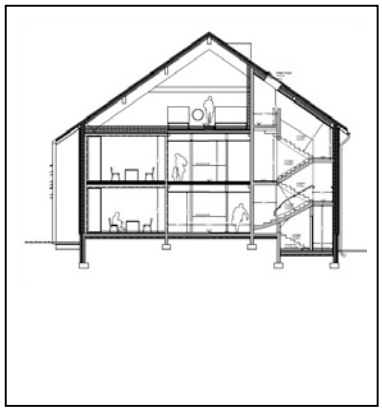
Temperature for thermal comfort in summertime: 27°C

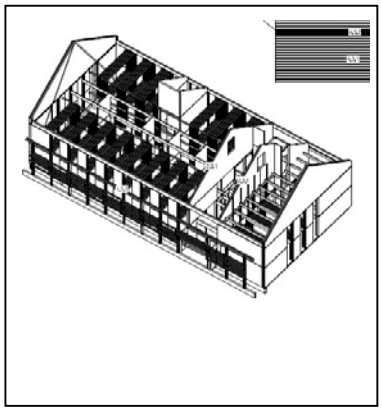
Local limits for heating demand: PHPP 15 kWh/m2.an

3 Results

Nr.		Title	Must criteria (M)	max. points	evaluated points
A		Quality of location and facilities		max. 100	80
A	1	Access to public transport network		50	30
A	2	Ecological quality of site		50	50
B		Process and planning quality		max. 200	174
B	1	Decision making and determination of goals		25	24
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	60
B	5	Planning support for energetic optimization		60	30
B	6	Information for users		25	0
C		Energy & Utilities (Passive house)		max. 350	350
C	1	Specific heating demand (PHPP)	M	100	100
C	2	Specific cooling demand (PHPP)	M	100	100
C	3	Primary energy demand (PHPP)	M	125	125
C	4	CO2-emissions (PHPP)		50	50
D		Health and Comfort		max. 250	200
D	1	Thermal comfort in summer		150	150
D	2	Ventilation - non energetic aspects		50	0
D	3	Daylight optimized (+ lightening optimized)		50	50
E		Building materials and construction		max. 200	177
E	1	$OI3_{TGH-lc}$ ecological index of the thermal building envelope (respectively OI3 of the total mass of the building)		200	177
Sum				max. 1000	981







4 Conclusions from the building evaluation with the ENERBUILD-Tool

a) Generally

The time spent to the evaluation is essentially based on the search for information and the adaptation of the criteria to the project. Once the data collected, the evaluation is rather simple and seems good to report the quality of the project.
However, if this tool is interesting, it remains essentially adapted to the projects having turned to the passive approach by PHPP. In an approach other one than PHPP, the adaptations are sources of estimates to suit to the local context and so makes the comparison between European projects delicate even not relevant.

b) About the planning process

The evaluation of the process of planning is not evident because the main criteria is based on the presence or not of "documents" of planning without estimating really the relevance of their contents in the decision-making support and which do not necessarily report "continuous-flow" exchanges realized during the first phases of the project. The presence of an environmental “dashboard” gives a large number of information but is not always realized.

c) About the building itself

The difficulty of the evaluation of the building lies in the necessity of collecting the maximum of information and studies. For this project, the objective of deposit of a file of the Regional Tool facilitated the collection of data. The global number of points represents well the good quality of project.

d) About the evaluation process

Some data are complicated to obtain even unsuitable for local different contexts as the indicator D2 on the acoustics of the ventilation. It is not evident to connect the acoustic quality of the ventilation with the quality of internal air. Other difficulties can appear by a cultural approach different from the building as for the indicator E1 because the grey energy is a new notion in France contrary to the other European countries.

A1: data difficult to evaluate and taking a lot of time, to list all the lines, to find schedules for the frequencies, etc.

B1: not very clear

B2 to B5: need to define more exactly the expected documents

C1: conversion from local thermal regulation to PHPP difficult

C3: estimation by ratio of the specific electricity is source of error

D2 and E1: data difficult to obtain

5 Suggestions for improvement of the ENERBUILD-Tool

To improve the ENERBUILD-Tool, it would be good to base on figures common to the European level as the conversion primary energy/ final energy, eqCO2 energies, etc. It is also necessary to first list documents and studies and their specifications indispensable to realize to facilitate the evaluation a posterior