Evaluation ENERBUILD-Tool – existing buildings

ITZ Zeltweg

1 Basic information about the building

Name of the building	Impuls- und Technologiezentrum, ITZ (Impulse and technology center)
Address of the building	Holzinnovationszentrum 1a, A-8740 Zeltweg
Owner/investor	Innofinanz- Research and Development Aid of Styria
Year of construction	2007
Building type	Office Building
Building method	Lightweight Construction; Wood, Glass, Steel, Concrete
Number of buildings	1
Number of levels above earth	2
Number of levels underground	1
Kind of the public use	Aggregation of Wood-Related Organizations for the Creation of Regional Added-Value and Promotion of Wood
Effective area for public use in m ² (net)	782
Additional private uses	Seminar Rooms for Rent
Effective area for private use in m ² (net)	282
Total effective area in m ²	1064
Source of energy for heating	Wood Chips (from Biomass CHP nearby)
Heating system	District Heating Connection; Radiators
Water heating system	Decentral Electric Water Heating
Date of the building evaluation	30.11.2011

2 Execution of the building evaluation with the ENERBBUILD tool

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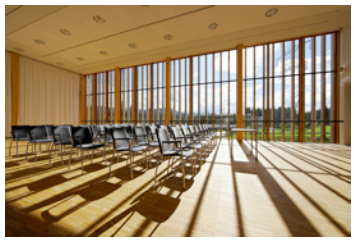
3 Results

Nr.		Title	Must criteria (M)	max. points	evaluated points
A		Quality of location and facilities		max. 100	50
A	1	Access to public transport network		50	0
A	2	Ecological quality of site		50	50
B		Process and planning quality		max. 200	160
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	0
B	4	Product-management - Use of low-emission products		60	50
B	5	Planning support for energetic optimization		60	40
B	6	Information for users		25	25
C		Energy & Utilities (Passive house)		max. 350	50
C	1	Specific heating demand (PHPP)	M	100	
C	2	Specific cooling demand (PHPP)	M	100	
C	3	Primary energy demand (PHPP)	M	125	
C	4	CO2-emissions (PHPP)		50	50
D		Health and Comfort		max. 250	250
D	1	Thermal comfort in summer		150	150
D	2	Ventilation - non energetic aspects		50	50
D	3	Daylight optimized (+ lightening optimized)		50	50
E		Building materials and construction		max. 200	185
E	1	$OI3_{TGH-lc}$ ecological index of the thermal building envelope (respectively OI3 of the total mass of the building)		200	185
Sum				max. 1000	695



4 Conclusions from the building evaluation with the ENERBUILD-Tool

a) Generally

The building Impuls- und Technologiezentrum, ITZ (Impulse and Technology Centre) is part of the location Holzinnovationszentrum, HIZ (Wood Innovation Centre). While most buildings at the cluster are reserved for one specific company, the ITZ is the host of a great variety of organizations and activities.

b) About the planning process

The aspects considered in the planning process focused on the multifunctionality of the building for its use as an impulse centre. The rooms were designed to be used for meetings, seminars and office routine requirements. The timber construction puts the emphasis on the focus on the use of regional available resources as fitting to the location, the Holzinnovationszentrum (Wood Innovation Centre), HIZ.

c) About the building itself

The ITZ building was originally not designed according to passive house principles. However, the construction met the requirements for a low energy building in the year of its erection. The improvements according to ESAP-building technology were added later on behalf of the initiatives of the renting companies, particularly the EAO. As a result of these efforts, the building is connected to the district heating grid of the neighbouring biomass CHP, features a solar cooling facility and an improved shading system.

d) About the evaluation process

In terms of energy efficiency and use of renewable resources, the ITZ has been greatly improved in the few years since its erection. However, these improvements couldn't be incorporated in the evaluation equivalent to measures planned from the start.

5 Suggestions for improvement of the ENERBUILD-Tool

For the application of a district heating connection there are only the options of fossil fuelled heat sources in the PHPP, but no consideration for a biomass CHP, as in case of the ITZ. However, biomass district heating is in some regions a rather popular technology and should be incorporated in the ENERBUILD evaluation procedure.

Even though there is plenty of consideration on the planning process, the possibility for improvements during the use of the building has been completely neglected. There should be at least an option for the recording of later added technology, even in regards to the focus being on new constructions.