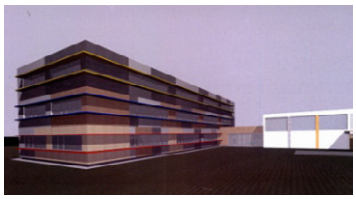
Evaluation ENERBUILD-Tool – planning/building phase

Secondary School Weißkirchen

old building



new building

1 Basic information about the building

Name of the building	Hauptschule Weißkirchen, Secondary School
Address of the building	Kärntnerstraße 20, A-8741 Weißkirchen
Owner/investor	Gemeinde Weißkirchen, municipality Weißkirchen
Year of construction	Construction 1967, extensive reconstruction 2012
Building type	School
Building method	Lightweight reconstruction on concrete massive construction
Number of buildings	2 : Main building, gym wing
Number of levels above earth	3
Number of levels underground	0
Kind of the public use	Education
Effective area for public use in m ² (net)	1999 (BGF 2352)
Additional private uses	no
Effective area for private use in m ² (net)	0
Total effective area in m ²	1999 (BGF 2352)
Source of energy for heating	Industrial waste heat (District Heating)
Heating system	District Heating Connection, Radiators
Water heating system	Decentral Electric Water Heating
Date of the building evaluation	01.12.2011

2 Execution of the building evaluation with the ENERBBUILD tool

Responsible Organisation: Energieagentur Obersteiermark

Contact person: Josef Bärnthaler

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Temperature for thermal comfort in summertime: 26°C

Local limits for heating demand: 65 kWh/m^2 (at the year of construction)

3 Results

Nr.		Title	Must criteria (M)	max. points	evaluated points
A		Quality of location and facilities		max. 100	86
A	1	Access to public transport network		50	36
A	2	Ecological quality of site		50	50
B		Process and planning quality		max. 200	180
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	60
B	6	Information for users		25	25
C		Energy & Utilities (Passive house)		max. 350	316
C	1	Specific heating demand (PHPP)	M	100	100
C	2	Specific cooling demand (PHPP)	M	100	64
C	3	Primary energy demand (PHPP)	M	125	125
C	4	CO2-emissions (PHPP)		50	27
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	164
E	1	$OI3_{TGH-lc}$ ecological index of the thermal building envelope (respectively OI3 of the total mass of the building)		200	164
Sum				max. 1000	996

Evaluation ENERBUILD-Tool – existing buildings

Festival Room Eppenstein

1 Basic information about the building

Name of the building	Dorfsaal Eppenstein
Address of the building	Eppenstein 6, A-8741 Eppenstein
Owner/investor	Gemeinde Eppenstein
Year of construction	2004
Building type	Multipurpose Hall
Building method	Main Building: Wood Construction, Wings: Massive
Number of buildings	3, Main Building, Cross Wing and Intermediate Wing
Number of levels above earth	1
Number of levels underground	1 for Wings
Kind of the public use	Meetings, Seminars, Events
Effective area for public use in m ² (net)	861,47
Additional private uses	can be hired,cooperation with local inn keeper
Effective area for private use in m ² (net)	861,47
Total effective area in m ²	1147
Source of energy for heating	Wooden Biomass
Heating system	District Heating
Water heating system	Decentral Water Heating
Date of the building evaluation	01.12.2011

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Temperature for thermal comfort in summertime: 26°C

Local limits for heating demand: 65 kWh/m^2 (at the year of construction)

3 Results

Nr.		Title	Must criteria (M)	max. points	evaluated points
A		Quality of location and facilities		max. 100	62
A	1	Access to public transport network		50	12
A	2	Ecological quality of site		50	50
B		Process and planning quality		max. 200	168
B	1	Decision making and determination of goals		25	23
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	60
B	5	Planning support for energetic optimization		60	40
B	6	Information for users		25	25
C		Energy & Utilities (Passive house)		max. 350	193
C	1	Specific heating demand (PHPP)	M	100	10
C	2	Specific cooling demand (PHPP)	M	100	37
C	3	Primary energy demand (PHPP)	M	125	101
C	4	CO2-emissions (PHPP)		50	45
D		Health and Comfort		max. 250	235
D	1	Thermal comfort in summer		150	150
D	2	Ventilation - non energetic aspects		50	50
D	3	Daylight optimized (+ lightening optimized)		50	35
E		Building materials and construction		max. 200	181
E	1	$OI3_{TGH-lc}$ ecological index of the thermal building envelope (respectively OI3 of the total mass of the building)		200	181
Sum				max. 1000	839

Evaluation ENERBUILD-Tool – existing buildings

Elementary School Scheifling

1 Basic information about the building

Name of the building	Volksschule Scheifling, Elementary School
Address of the building	Schulgasse 3, A-8811 Scheifling
Owner/investor	Marktgemeinde Scheifling, municipality Scheifling
Year of construction	Construction 1957, extensive reconstruction 2012
Building type	School
Building method	Concrete Massive Construction
Number of buildings	1
Number of levels above earth	3
Number of levels underground	1
Kind of the public use	Education
Effective area for public use in m ² (net)	999
Additional private uses	No
Effective area for private use in m ² (net)	0
Total effective area in m ²	999
Source of energy for heating	Wood Chips (from Biomass District Heating)
Heating system	District Heating Connection, Radiators
Water heating system	Decentral Electric Water Heating
Date of the building evaluation	01.12.2011

2 Execution of the building evaluation with the ENERBBUILD tool

Responsible Organisation: Energieagentur Obersteiermark

Contact person: Josef Bärnthaler

Telephone: +43 3577 26664 Email: office@eao.st

Temperature for thermal comfort in summertime: 26°C

Local limits for heating demand: 65 kWh/m^{2} (at the year of construction)

3 Results

Nr.		Title	Must criteria (M)	max. points	evaluated points
A		Quality of location and facilities		max. 100	100
A	1	Access to public transport network		50	50
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	40
B	5	Planning support for energetic optimization		60	50
B	6	Information for users		25	25
C		Energy & Utilities (Passive house)		max. 350	209
C	1	Specific heating demand (PHPP)	M	100	91
C	2	Specific cooling demand (PHPP)	M	100	28
C	3	Primary energy demand (PHPP)	M	125	76
C	4	CO2-emissions (PHPP)		50	14
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	156
E	1	$OI3_{TGH-Ic}$ ecological index of the thermal building envelope (respectively OI3 of the total mass of the building)		200	156
Sum				max. 1000	875

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

Responsible Organisation: Energieagentur Obersteiermark

Contact person: Josef Bärnthaler

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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

Evaluation ENERBUILD-Tool – existing buildings

School Centre Neumarkt

1 Basic information about the building

Name of the building	Schulzentrum Naturpark Zirbitzkogel-Grebenzen
Address of the building	Europaplatz 1, A-8820 Neumarkt
Owner/investor	Marktgemeinde Neumarkt in Steiermark Schulerrichtungs- u. Sanierungs KG
Year of construction	Construction: 1970's , reconstruction: 2010
Building type	Secondary School
Building method	Stock: Skeleton Structure, Reconstruction: Wood, light
Number of buildings	4 total, 2 are reconstructed, C: secondary school 2, D: gym floor /multipurpose hall
Number of levels above earth	C: 3, D: 2
Number of levels underground	C: 1, D 1
Kind of the public use	Education
Effective area for public use in m ² (net)	2422,5 (BGF 2850)
Additional private uses	no
Effective area for private use in m ² (net)	0
Total effective area in m ²	2422,5
Source of energy for heating	Biomass
Heating system	Biomass district heating, Ventilation system with heat recovery
Water heating system	Decentral Electric Water Heating
Date of the building evaluation	01.12.2011

2 Execution of the building evaluation with the ENERBBUILD tool

Responsible Organisation: Energieagentur Obersteiermark

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Temperature for thermal comfort in summertime: 26°C

Local limits for heating demand: 65 kWh/m^{2} (at the year of construction)

3 Results

Nr.		Title	Must criteria (M)	max. points	evaluated points
A		Quality of location and facilities		max. 100	100
A	1	Access to public transport network		50	50
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	30
B	5	Planning support for energetic optimization		60	60
B	6	Information for users		25	25
C		Energy & Utilities (Passive house)		max. 350	314
C	1	Specific heating demand (PHPP)	M	100	100
C	2	Specific cooling demand (PHPP)	M	100	55
C	3	Primary energy demand (PHPP)	M	125	125
C	4	CO2-emissions (PHPP)		50	34
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	175
E	1	$OI3_{TGH-lc}$ ecological index of the thermal building envelope (respectively OI3 of the total mass of the building)		200	175
Sum				max. 1000	999