

U-CERT

User-Centred Energy Performance Assessment and Certification

Supported by U-CERT's WP5 Deliverables U-CERT Tool 1 Comparison and Calculation Toolkit for National Annexes



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User-Centred Energy Performance Assessment and Certification



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U-CERT Tool 1 Comparison and Calculation Toolkit for National Annexes









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Comparison of the choices made by each Member State on the Tables selected as 'Important factor for the calculated energy performance' in Task 3.1 (Development of a converged set of national data sheets for the set of EPB standards).

		EPB Center & U-CERT-(WP3	See sheet Explanation (including disclaimer)											
282			Sort on Types (A-H) Sort on Table numbers	LINKED CHOICES (future	a	and and titles	nt factor for energy	the calculate N Performan for calculation for calculation development	ed on tool on tool ucial detail for ucial detail for policy	calculation thodology	egaitation	-processing	erencesto ott	er (EPB) star
OrderAll	OrderS	tEPB standard		optiony	- '	A	в	Č	D	E	F	G	н	
				Order of sorting types (0 = ignore; higher = more dominant)	0	9	0	0	3	0	0	0	0	0
1	(EN ISO 52000-1		,	1							-		
2	1	L EN ISO 52000-1	Table A/B.1 — References									1		
			able A/B.2 — Energy performance assessment types											
3	2	2 EN ISO 52000-1	according to building category and application						1	1				ļ
4	3	EN ISO 52000-1	able A/B.3 — Object types						1	1				ļ
5	4	EN ISO 52000-1	able A/B.4 — Building categories						1	1				ļ
6	ţ.	EN ISO 52000-1	Table A/B.5 — Which building categories are included in EPB assessment						1	1				
7	6	EN ISO 52000-1	able A/B.6 — Differentiation of space categories			1	1		1	1				ļ
8	7	EN ISO 52000-1	able A/B.7 — Space categories			1			1	1				ļ
9	8	EN ISO 52000-1	able A/B.8 — Application types						1	1				ļ
10	9	EN ISO 52000-1	able A/B.9 — EPB assessment types							1				
11	10	EN ISO 52000-1	able A/B.10 — Combination services types							1				ļ
12	11	EN ISO 52000-1	able A/B.11 — Electricity use types							1				ļ
13	12	2 EN ISO 52000-1	able A/B.12 — Electricity generation types							1				ļ
14	Ļ		able A/B.13 — Gross calorific value of some common solid					This proie	ect has rec	eived fund	ling from t	he Europe	an Union's	Horizon 20

List of Tables of EPB Standard EN ISO 52000-1 selected as 'Important factor for the calculated energy performance' in Task 3.1:

- Table A/B.6 Differentiation of space categories;
- Table A/B.7 Space categories;
- Table A/B.16 Weighting factors (based on gross or net calorific value);
- Table A/B.17 Kexp factor;
- Table A/B.18 Building services considered in the energy performance calculation;
- Table A/B.19 Principle assumed presence of systems;
- Table A/B.20 Specification of the useful floor area;
- Table A/B.21 Type or types of metric for the building size;
- Table A/B.22 Which space categories are contributing to the reference size;
- Table A/B.23 Perimeter specification;
- Table A/B.24 Perimeter choice;
- Table A/B.27 Basis for the energy performance of buildings;
- Table A/B.30 Energy flows taken into account in the building balance;
- Table A/B.31 Electrical uses not satisfied by on-site electricity production;
- Table A/B.32 Matching factor of produced and used electricity.











- EN ISO 52000-1 Simplified Spreadsheets:
 - Single-family house
 - Intermediate climate (i.e. Northern Italy)
 - Heating, cooling and DHW uses are taken into account
 - Hourly calculation procedure used for two days of the year (a winter and a summer one)
 - Table A/B.16 Weighting factors (based on gross or net calorific value);
 - Table A/B.17 Kexp factor;
 - Table A/B.24 Perimeter choice;
 - Table A/B.27 Basis for the energy performance of buildings.





5 Spreadsheets used, covering different combination of building services and technical systems

Covering space heating and DHW: Covering space heating and cooling:

- Gas boiler + Thermal solar \bullet
- Gas boiler + Thermal solar + • Photovoltaic
- Heat pump + Thermal solar
- Heat pump + Thermal solar + \bullet Photovoltaic

Heat pump + Photovoltaic





Heat pump + Thermal solar + Photovoltaic



		E	iPnren	fPren	EPnren	Epren	EPtot	RER	RER	f _{em}	kg _{co2}	f _c	€
		kWh			kWh	kWh	kWh	tot	nrb-os				
+ Delivered energy	PV	0.00	0.00	1.00	0.00	0.00	0.00			0	0	0	0
- Exported energy	PV	0.00	0.00	1.00	0.00	0.00	0.00			0	0	0	0
+ Environment heat	HP	2.39	0.00	1.00	0.00	2.39	2.39			0	0	0	0
+ Delivered energy	Grid	0.83	2.30	0.20	1.91	0.17	2.07			0.42	0.348	0	0
+ Delivered energy	TS	0.00	0.00	1.00	0.00	0.00	0.00			0	0	0	0
TOTAL STEP A					1.91	2.551	4.46	0.572	0.54		0.35		0

Кехр	1.0		Please U-CERT	select hei	re the de:	sired Ke	xp data	ı set					
TOTAL STEP A					1.91	2.551	4.46				0.348		0
+ Exported energy	PV	0.00	0.00	1.00	0.00	0.00	0.00			0	0	0	0
- Avoided grid gen	Grid	0.00	2.30	0.20	0.00	0.00	0.00	1		0.42	0	0	0
Energy performance			[1.91	2.551	4.46	0.572	0.54		0.348		0
Energy available ext. 0.0			0.00	1.00	0.00	0.00	0.00	n.a.		0	0	0	0









- Comparison of each Member State's choices:
 - Table A/B.6 Differentiation of space categories;
 - Table A/B.7 Space categories;
 - Table A/B.18 Building services considered in the energy performance calculation;
 - Table A/B.19 Principle assumed presence of systems;
 - Table A/B.20 Specification of the useful floor area;
 - Table A/B.21 Type or types of metric for the building size;
 - Table A/B.22 Which space categories are contributing to the reference size;
 - Table A/B.23 Perimeter specification;
 - Table A/B.30 Energy flows taken into account in the building balance;
 - Table A/B.31 Electrical uses not satisfied by on-site electricity production;
 - Table A/B.32 Matching factor of produced and used electricity.



Comparison of each Member state choices:

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ITALY

Table A/B. 18 – Building services considered in the energy performance calculation

Combination of services	Choice: included in the energy perfo	ormance calculation < one column	Combination of services	f services Choice: included in the energy performance calculation < one co				
type	per service mix type, see Table UU.1	0 >	type	per service mix type, see Table UU.10 >				
Building service ^a	EPB_LISTSERVICES_RES	EPB_LISTSERVICES_NRES	Building service ^a	EPB_LISTSERVICES_RES	EPB_LISTSERVICES_NRES			
Heating	Yes	Yes	Heating	Yes	Yes			
Cooling	Yes	Yes	Cooling	Yes	Yes			
Ventilation	Yes	Yes	Ventilation	Yes	Yes			
Humidification	Yes	Yes	Humidification	Yes	Yes			
Dehumidification	Yes	Yes	Dehumidification	Yes	Yes			
Domestic hot water	Yes	Yes	Domestic hot water	Yes	Yes			
Lighting	No	Yes	Lighting	No	Yes			
External lighting	No	No	External lighting	No	No			
People transport (e.g.,	No	No	People transport (e.g.,	No	Yes			
elevators, escalators)			elevators, escalators)					
Other services	No	No	Other services	No	No			
consuming electricity			consuming electricity					
(e.g., appliances)			(e.g., appliances)					
Others	No	No	Others (please specify)	No	No			
^a Add rows or edit the lines in	case of other/more differentiated services.		^a Add rows or edit the lines in case of other/more different services					









- Explanatory report:
- Introduction to the set of EPB Standards
- All tables identified as 'Important factor for the calculated energy performance' in D3.1:
 - Introduction;
 - Explanation;
 - Additional information;
 - Linked tables;
 - U-CERT's choice.







THANK YOU FOR **YOUR ATTENTION!**

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(KTH)













