Byggnaders energiprestanda – Övergripande standard om Direktivet om Byggnaders Energiprestanda, EPBD (ISO 52000-1:2017)

Energy performance of buildings – Overarching EPB assessment – Part 1: General framework and procedures (ISO 52000-1:2017)

Annex A
(normative)

Input and method selection data sheet — Template

NDS.1 General

The template in Annex A of this document shall be used to specify the choices between methods, the required input data and references to other documents.

NOTE 1 Following this template is not enough to guarantee consistency of datNDS.

NOTE 2 Informative default choices are provided in Annex B. Alternative values and choices can be imposed by national/regional regulations. If the default values and choices of Annex B are not adopted because of the national/regional regulations, policies or national traditions, it is expected that:

— national or regional authorities prepare data sheets containing the national or regional values and choices, in line with the template in Annex A; or

— by default, the national standards body will add or include a national annex (Annex NA) to this document, in line with the template in Annex A, giving national or regional values and choices in accordance with their legal documents.

NOTE 3 The template in Annex A is applicable to different applications (e.g., the design of a new building, certification of a new building, renovation of an existing building and certification of an existing building) and for different types of buildings (e.g., small or simple buildings and large or complex buildings). A distinction in values and choices for different applications or building types could be made:

— by adding columns or rows (one for each application), if the template allows;

— by including more than one version of a table (one for each application), numbered consecutively as a, b, c, … For example: Table NNDS.3a, Table NNDS.3b;

— by developing different national/regional data sheets for the same standard. In case of a national annex to the standard these will be consecutively numbered (Annex NA, Annex NB, Annex NC, …).

NOTE 4 In the section “Introduction” of a national/regional data sheet information can be added, for example about the applicable national/regional regulations.

NOTE 5 For certain input values to be acquired by the user, a data sheet following the template of Annex A, could contain a reference to national procedures for assessing the needed input datNDS. For instance, reference to a national assessment protocol comprising decision trees, tables and pre-calculations.

The shaded fields in the tables are part of the template and consequently not open for input.

NDS.2 References

The references, identified by the module code number, are given in a table complying with the format given in Table NDS.1 (a template).

Table NDS.1 — References (See Clause 2)

Reference	Reference document	
	Number	**Title**
M1–1	ISO 52000-1	This document
M1–2		See M1–1
M1–3		See M1–1
M1–4	ISO 52003-1	*Energy performance of buildings – Indicators, requirements, ratings and certificates – Part 1: General aspects and application to the overall energy performance*
M1–5, M1–7		See M1–1
M1–8, M1–9		See M1–1
M1–10		
M1–6, M2–7	ISO 17772-1	*Energy performance of buildings – Indoor environmental quality – Part 1: Indoor environmental input parameters for the design and assessment of energy performance of buildings*
	EN 16798–1 (Under preparation)	*Energy performance of buildings – Ventilation of buildings – Part 1: Indoor environmental input parameters for design and assessment of energy performance of buildings addressing indoor air quality, thermal environment, lighting and acoustics* (Module M1–6)
M1–11		See M1–6
M1–13	ISO 52010-1	*Energy performance of buildings – External climatic conditions – Part 1: Conversion of climatic data for energy calculations*
M1–14	EN 15459-1	*Energy performance of buildings – Economic evaluation procedure for energy systems in buildings – Part 1: Calculation procedures, Module M1–14*
M2–2	ISO 52016-1	*Energy performance of buildings – Energy needs for heating and cooling, internal temperatures and sensible and latent heat loads – Part 1: Calculation procedures*
M2–3	ISO 52017-1	*Energy performance of buildings – Sensible and latent heat loads and internal temperatures – Part 1: Generic calculation procedures*
M2–4	ISO 52018-1	*Energy performance of buildings – Indicators for partial EPB requirements related to thermal energy balance and fabric features – Part 1: Overview of options*
M2–5.1	ISO 13789	*Thermal performance of buildings – Transmission and ventilation heat transfer coefficients – Calculation method*
M2–5.2	ISO 13370	*Thermal performance of buildings – Heat transfer via the ground – Calculation methods*
M2–5.3	ISO 6946	*Building components and building elements – Thermal resistance and thermal transmittance – Calculation methods*
M2–5.4	ISO 10211	*Thermal bridges in building construction – Heat flows and surface temperatures – Detailed calculations*

M2–5.5	ISO 14683	*Thermal bridges in building construction – Linear thermal transmittance – Simplified methods and default values*
M2–5.6	ISO 10077-1	*Thermal performance of windows, doors and shutters – Calculation of thermal transmittance – Part 1: General*
M2–5.7	ISO 10077-2	*Thermal performance of windows, doors and shutters – Calculation of thermal transmittance – Part 2: Numerical method for frames*
M2–5.8	ISO 12631	*Thermal performance of curtain walling – Calculation of thermal transmittance*
M2–9	ISO 13786	*Thermal performance of building components – Dynamic thermal characteristics – Calculation methods*
M2–7		See M2–5

Table NDS.1 *(continued)*

Reference	**Reference document**	
	Number	**Title**
M2–8	ISO 52022-3	*Energy performance of buildings – Thermal, solar and daylight properties of building components and elements – Part 3: Detailed calculation method of the solar and daylight characteristics for solar protection devices combined with glazing*
	ISO 52022-1	*Energy performance of buildings – Thermal, solar and daylight properties of building components and elements – Part 1: Simplified calculation method of the solar and daylight characteristics for solar protection devices combined with glazing*
M3–1	EN 15316–1	*Energy performance of buildings – Method for calculation of system energy requirements and system efficiencies – Part 1: General and Energy performance expression, Module M3–1, M3–4, M3–9, M8–1, M8–4*
M3–2		
M3–3	EN 12831–1	*Energy performance of buildings – Method for calculation of the design heat load – Part 1: Space heating load, Module M3–3*
M3–4	EN 15316–1	See M3–1
M3–5	EN 15316–2	*Energy performance of buildings – Method for calculation of system energy requirements and system efficiencies – Part 2: Space emission systems (heating and cooling), Module M3–5, M4–5*
M3–6	EN 15316–3	*Energy performance of buildings – Method for calculation of system energy requirements and system efficiencies – Part 3: Space distribution systems (DHW, heating and cooling), Module M3–6, M4–6, M8–6*
M3–7	EN 15316–5	*Energy performance of buildings – Method for calculation of system energy requirements and system efficiencies – Part 5: Space heating and DHW storage systems (not cooling), Module M3–7, M8–7*

M3–8	EN 15316–4-1	*Energy performance of buildings – Method for calculation of system energy requirements and system efficiencies – Part 4–1: Space heating and DHW generation systems, combustion systems (boilers, biomass), Module M3–8-1 and M 8–8-1*
	EN 15316–4-2	*Energy performance of buildings – Method for calculation of system energy requirements and system efficiencies – Part 4–2: Space heating generation systems, heat pump systems, Module M3–8-2, M8–8-2*
	EN 15316–4-3	*Energy performance of buildings – Method for calculation of system energy requirements and system efficiencies – Part 4–3: Heat generation systems, thermal solar and photovoltaic systems, Module M3–83, M8–8-3, M11–8-3*
	EN 15316–4-4	*Energy performance of buildings – Method for calculation of system energy requirements and system efficiencies – Part 4–4: Heat generation systems, building-integrated cogeneration systems, Module M8–3-4, M8–8-4, M8–11-4*
	EN 15316–4-5	*Energy performance of buildings – Method for calculation of system energy requirements and system efficiencies – Part 4–5: District heating and cooling, Module M3–8-5, M4–8-5, M8–8-5, M11–8-5*
	EN 15316–4-8	*Energy performance of buildings – Method for calculation of system energy requirements and system efficiencies – Part 4–8: Space heating generation systems, air heating and overhead radiant heating systems, including stoves (local), Module M3–8-8*
M3–9		
M3–10	EN 15378–3	*Energy performance of buildings –Heating and DHW systems in buildings – Part 3: Measured energy performance, Module M3–10 and M8–10*

Table NDS.1

Reference	**Reference document**	
	Number	**Title**
M3–11	EN 15378–1	*Energy performance of buildings – Heating systems and DHW in buildings – Inspection of boilers, heating systems and DHW, Module M3–11, M8–11*
M3–12		
M4–1	EN 16798–9	*Energy performance of buildings –Ventilation for buildings – Part 9: Calculation methods for energy requirements of cooling systems (Modules M4-1, M4-4, M4-9) – General*
M4–2		
M4–3	ISO 52016–1	See M2-2
M4–4	EN 16798–9	See M4–1
M4–5	EN 15316–2	See M3–5
M4–6	EN 15316–3	See M3–6
M4–7	EN 16798–15	*Energy performance of buildings – Ventilation for buildings – Part 15: Calculation of cooling systems (Module M4–7) – Storage*

M4–8	EN 16798–13	*Energy performance of buildings – Ventilation for buildings – Part 13: Calculation of cooling systems (Module M4–8) – Generation*
	EN 15316–4-5	See M3–8
M4–9		
M4–10		
M4–11	EN 16798–17	*Energy performance of buildings – Ventilation for buildings – Part 17: Guidelines for inspection of ventilation and air conditioning systems (Module M4–11, M5–11, M6–11, M7–11)*
M4–12		
M5–1	EN 16798–3	*Energy performance of buildings – Ventilation for buildings – Part 3: For non-residential buildings – Performance requirements for ventilation and room-conditioning systems (Modules M5–1, M5–4)*
M5–2		
M5–3		
M5–4	EN 16798–3	See M5–1
M5–5	EN 16798–7	*Energy performance of buildings – Ventilation for buildings – Part 7: Calculation methods for the determination of air flow rates in buildings including infiltration (Module M5–5)*
M5–6	EN 16798–5–1 and EN 16798–5–2	*Energy performance of buildings – Ventilation for buildings – Part 5–1: Calculation methods for energy requirements of ventilation and air conditioning systems (Modules M5–6, M5–8, M6–5, M6–8, M7–5, M7–8) – Method 1: Distribution and generation* *Energy performance of buildings – Ventilation for buildings – Part 5–2: Calculation methods for energy requirements of ventilation and air conditioning systems (Modules M5–6, M5–8, M6–5, M6–8, M7–5, M7–8) – Method 2: Distribution and generation*
M5–7		
M5–8	EN 16798–5–1 and EN 16798–5–2	See M5–6
M5–9		
M5–10		
M5–11	EN 16798–17	See M4–11
M6–1		See M5–1
M6–2		See M5–2

Table NDS.1 *(continued)*

Reference	**Reference document**	
	Number	**Title**

M6–3		See M5–3
M6–4		See M5–4
M6–5	EN 16798–5–1 and EN 16798–5–2	See M5–6
M6–6		See M5–6
M6–7		See M5–7
M6–8	EN 16798–5–1 and EN 16798–5–2	See M5–6
M6–9		See M5–9
M6–10		See M5–10
M6–11	EN 16798–17	See M5–11
M7–1		See M5–1
M7–2		See M5–2
M7–3		See M5–3
M7–4		See M5–4
M7–5	EN 16798–5–1 and EN 16798–5–2	See M5–6
M7–6		See M5–6
M7–7		See M5–7
M7–8	EN 16798–5–1 and EN 16798–5–2	See M5–6
M7–9		See M5–9
M7–10		See M5–10
M7–11	EN 16798–17	See M5–11
M8–1	EN 15316–1	See M3–1
M8–2	EN 12831–3	*Energy performance of buildings – Method for calculation of the design heat load – Domestic hot water systems heat load and characterization of needs, Module M8–2, M8–3*
M8–3	EN 12831–3	See M8–2
M8–4	EN 15316–1	See M8–1
M8–5		
M8–6	EN 15316–3	See M3–6
M8–7	EN 15316–5	See M3–7
M8–8	EN 15316–4-1	See M3–8

	EN 15316–4-3	See M3–8
	EN 15316–4-4	See M3–8
	EN 15316–4-5	See M3–8
	EN 15316–4-8	See M3–8
M8–9		
M8–10	EN 15378–3	See M3–10
M8–11	EN 15378–1	See M3–11
M9–1	EN 15193–1	*Energy performance of buildings – Energy requirements for lighting – Part 1: Specifications, Module M9*
M9–2	EN 15193–1	See M9–1
M9–3		

Table NDS.1

Reference	Reference document	
	Number	**Title**
M9–4	EN 15193–1	See M9–1
M9–5		
M9–6		
M9–8		
M9–10	EN 15193–1	See M9–1
M9–11	EN 15193–1	See M9–1
M10–1	EN 15232–1	*Energy performance of buildings – Part 1: Impact of Building Automation, Controls and Building Management – Modules M10–4,5,6,7,8,9,10*
M10–2		
M10–3		
M10–4		
M10–5	EN 15232–1	See M10–1
M10–6	EN 15232–1	See M10–1
M10–7	EN 15232–1	See M10–1
M10–8	EN 15232–1	See M10–1
M10–11	EN 16946-1	*Energy Performance of Buildings – Inspection of Automation, Controls and Technical Building Management – Part 1: Module M10–11*
M10–12	EN 16947-1	*Energy Performance of Buildings – Building Management System – Part 1: Module M10–12*

M11–1		
M11–4		
M11–8	EN 15316–4-3	See M3–8
	EN 15316–4-4	See M3–8
	EN 15316–4-5	See M3–8
	EN 15316–4-10	*Energy performance of buildings – Method for calculation of system energy requirements and system efficiencies – Part 4–10: Wind power generation systems, Module M11–8-3*

NDS.3 Overarching preparation steps

Table NDS.2 — Energy performance assessment types according to building category and application (See 5.3)

Application	Building category	Assessment type	Conditions
Building permit	All categories	Design	-
Permit to use	All categories	As built	-
Energy performance certificate	All categories	As built	-
NOTE Add rows in case of more assessment purposes.			

Table NDS.3 — Object types (See Clause 6 and 10.1)

EPB_OBJECT_TYPE			
Type [a]	**Description**	**Subset** [b]	**Comments**
EPB_OBJECT_BLDNG_TOT	Whole building	1	Compliance with energy performance requirements and energy performance certificates.
EPB_OBJECT_BLDNG_PART	Part of a building	1	Added part to an existing building

NOTE The type of object may have an effect on the choices in this overarching document and in the other EPB standards. This property is therefore inherited by the other EPB standards, where relevant.

[a] One choice is possible per subset.

[b] Definition of the calculation case, one selection shall be done for each subset.

Table NDS.4 — Building categories (See Clauses 6 and 9)

BLDNGCAT_TYPE		
Type	**Description**	**Comments**
BLDNGCAT_RES_SINGLE	Single-family houses	

BLDNGCAT_RES_APPBLOCK	Multi-family buildings	
BLDNGCAT_RES_APPBLOCK_SMALL	Multi-family buildings with small apartments	[a] alt. see Note x
BLDNGCAT_NRES	Non-residential buildings	
BLDNGCAT_SMALL	All small buildings	Floor area <50 m²

NOTE The building category may have an effect on the choices in this overarching document and in the other EPB standards. This property is therefore inherited by the other EPB standards, where relevant.

[a] Multi-family buildings/multi-dwelling blocks where the floor area A_{temp} is 50 m² or greater and that predominantly (>50 % A_{temp}) contain apartments with a living area of no more than 35 m² each and q_{medel} the outdoor air flow in temperature-regulated spaces exceeds 0.35 l/s per m². The addition can only be used due to requirements for ventilation in special spaces, such as bathrooms, toilets and kitchens and may as maximum be included up to 0.6 l/s per m².

Table NDS.5 — Which building categories are included in EPB assessment (See 6.2.2)

Building categories (see Table NDS.3)	**Identifier**	**Included in EPB assessment[a] Yes/No**
Single-family houses	*BLDNGCAT_RES_SINGLE*	Yes
Multi-family buildings	*BLDNGCAT_RES_APPBLOCK*	Yes
Multi-family buildings with small apartments	*BLDNGCAT_RES_APPBLOCK_SMALL*	Yes
Non-residential buildings	*BLDNGCAT_NRES*	Yes
All small buildings, useful floor area less than 50 m²	*BLDNGCAT_SMALL*	Yes[b]

[a] Building category for which this document applies, e.g., because there is an EPB requirement for this building category.
[b] Se bilaga till ISO 52018-1:2017

Table NDS.6 — Differentiation of space categories (See Clauses 6, 9 and 10.1)

Choice		
Type	**Choice**	**Comments**
Differentiation of space categories in a building	Yes	

In case of differentiation Table NDS.7 has to be completed. Otherwise the list of space categories is equal to the list of building categories: (SPACECAT_X = BLDNGCAT_X).

Table NDS.7 — Space categories (See Clauses 6 and 9)

SPACECAT_TYPE		
Type	**Description**	**Comments**
SPACECAT_RES	Residential spaces	
SPACECAT_NRES	Non-residential spaces	
SPACECAT_LT10	Spaces with temperature less than 10C	
SPACECAT_GARAGE	Garage space, car parking	

NOTE 1 Each space category requires a set of conditions of use (temperature settings, ventilation, and lighting requirements, domestic hot water needs, etc.). NOTE 2 The space category may have an effect on the choices in this overarching document and in the other EPB standards. This property is therefore inherited by the other EPB standards, where relevant.

Table NDS.8 — Application types (See Clauses 6 and 9)

EPB_APPLIC_TYPE		
Type	**Description**	**Comments**
EPB_APPLIC_REQ	Compliance check, energy performance requirements	
EPB_APPLIC_CERTIF	Energy performance certification	
EPB_APPLIC_PERMIT_BLD	To obtain building permit	
NOTE The type of application may have an effect on the choices in this overarching document and in the other EPB standards. This property is therefore inherited by the other EPB standards, where relevant.		

Table NDS.9 — EPB assessment types (See Clauses 6 and 9)

EPB_ASSESS_TYPE (see Table 3)		
Type	**Description**	**Comments**
EPB_ASSESS_CALC_DESIGN	Calculated, design	Recommended to obtain building permit
EPB_ASSESS_CALC_ASBUILT	Calculated, as built	Used for compliance check in new buildings (calculated energy performance) and in energy performance certificate
EPB_ASSESS_MEAS_CORR_USE	Measured, corrected for climate and use	Used for compliance check in new buildings (measurements) and in energy performance certificate
NOTE 1 The type may be different for different object types, building or space categories. NOTE 2 The type of assessment may have an effect on the choices in this overarching document and in the other EPB standards. This property is therefore inherited by the other EPB standards, where relevant.		

Table NDS.10 — Combination of services types (See Clauses 6 and 9)

EPB_LISTSERVICES_**TYPE**		
Type	**Description**	**Comments**
EPB_LISTSERVICES_RES	Services included in the EPB assessment of residential buildings	
EPB_LISTSERVICES_NRES	Services included in the EPB assessment of non-residential buildings	

NOTE 1 The combination may be different for different building or space categories.

NOTE 2 The type of service mix may have an effect on the choices in this overarching document and in the other EPB standards. This property is therefore inherited by the other EPB standards, where relevant.

NDS.4 Method

Table NDS.11 — Electricity use types (See 7.3.3.4.)

Electric energy use type	Identifier
Input to heating	*EL_USE_HEAT*
Input to air conditioning	*EL_USE_COOL*
Input to hot tap water	*EL_USE_DHW*
Input to building property	*EL_USE_PROPERTY*
Input to household or activity	*EL_USE_HOUSEHOLD*
Input to non EPB uses	*EL_USE_NEPD*

Table NDS.12 — Electricity generation types (See 7.3.3.6 and 9.6.6.2.4)

Electric energy generation type	Identifier
Photovoltaic	*EL_PROD_PV*
Wind turbine	*EL_PROD_WIND*
Cogeneration	*EL_PROD_CHP*

Table NDS.13 — Gross calorific value of some common solid fuels (See7.3.4 and 9.6.2)

Fuel	Gross calorific value kWh/kg
Ved	4,32[a]
Förädlat trädbränsle, träpellets	5,08[a]
Torvbriketter	5,51[a]
Recalculated from NCV using conversion factors in table NDS.25 [a] http://www.energimyndigheten.se/statistik/den-officiella-statistiken/statistikprodukter/varmevarden-och-densiteter/	

NDS.14—Gross calorific value of some common liquid fuels (See7.3.4 and 9.6.2)

Fuel	Density kg/l	Gross calorific value kWh/kg
Oil, light	0.88–0.93	11.99
Oil, heavy	0.90-0.98	12.17-12.48

[a] Add the rows of the energy carriers.
Recalculated from NCV using conversion factors in table NDS.25
https://www.energimyndigheten.se/statistik/den-officiella-statistiken/statistikprodukter/varmevarden-och-densiteter/

Table NDS.15—Gross calorific values of some gaseous energy carriers (See7.3.4 and 9.6.2)

Fuel	Density kg/m³ [a, b, c]	Gross calorific value kWh/m³ [b, c]
Natural gas[d]	0.805	11.95
Biogas[e], upgraded to Natural gas H quality, 98 % CH_4	0.743	10.82
City gas[f] (natural gas 54-59%/air 41-46 % mixture)	1.01	6.4
Biogas[g] 40 % CH_4, 60 % CO_2	1.474	4.42
Biogas[g] 60 % CH_4, 40 % CO_2	1.222	6.62
LPG[h] (>95 % propane)	2.01-2.03	28.1-28.2
Hydrogen[i]	0.09	3.54

[a] Probably wrong density values in appendix B. Seems to be relative density, not density
[b] Reference state is 0°C, 1013 mbar, composition in vol-%
[c] Recalculated from NCV using conversion factors in table 25
[d] Swedegas 2020, www.swedegas.se
[e] egna beräkningar
[f] Gasnätet Stockholm, www.gasnatetstockholm.se/app/uploads/2016/10/Produktblad_Stadsgas_dat20161007.pdf
[g] Beräknad ur angiven gassammansättning
[h] Data från några leverantörer,
Flogas, https://flogas.se/wp-content/uploads/2019/10/propan_95.pdf
Kosan Gas, https://www.kosangas.se/media/3500/sikkerhedsdata_se_dec2017.pdf
Eon Gasol, https://www.eon.se/content/dam/eon-se/swe-documents/swe-specifikation-propan95-svenska.pdf
[i] sdf

Table NDS.16—Weighting factors (based on gross or net calorific value) (See 7.3.5, 9.5.1, 9.6.2, 9.6.5 and 9.6.6.3)

Energy carrier	f_{Pnren}	f_{Pren}	f_{Ptot}	a
Delivered from distant				
Electricity	-	-	1.6	-
Gas	-	-	1.0	-
Oil	-	-	1.0	-
Bio fuels	-	-	1.0	-
District heating	-	-	1.0	-
District cooling	-	-	1.0	

Delivered from nearby				
-	-	-	-	-
Delivered from on-site				
Electricity [b]	-	-	0.0	-
Thermal Energy [b]	-	-	0.0	-
Exported				
Exported energy is not included in the energy performance calculation if it is produced using renewable sources on-site.	-	-	-	

a Add a column in case of other requirements, e.g., CO_2 requirement.
b Only if the electricity and the thermal energy is produced using renewables source on-site.

Värden avser gällande regler i början av 2020.

Table NDS.16a—Weighting factors (based on gross or net calorific value) (See 7.3.5, 9.5.1, 9.6.2, 9.6.5 and 9.6.6.3) Föreslagna faktorer från 1 juli 2020

Energy carrier	f_{Pnren}	f_{Pren}	f_{Ptot}	a
Delivered from distant				
Electricity	-	-	1.8	-
Gas	-	-	1.8	-
Oil	-	-	1.8	-
Bio fuels (solid, liquid, gaseous)	-	-	0.6	-
District heating	-	-	0.7	-
District cooling	-	-	0.6	
Delivered from nearby				
	-	-	-	-
Delivered from on-site				
Electricity [b]	-	-	0.0	-
Thermal Energy [b]	-	-	0.0	-
Exported				
Exported energy is not included in the energy performance calculation if it is produced using renewable sources on-site.	-	-	-	

c Add a column in case of other requirements, e.g., CO_2 requirement.
d Only if the electricity and the thermal energy is produced using renewables source on-site.

Värden avser regler som föreslås börja gälla 1 juli 2020.

Table NDS.17 — k_{exp}-factor (See 7.3.5 and 11.6.2.1)

Description	Value
k_{exp} factor that is used to control which part of the exported energy is included in the energy performance of the building	0

Table NDS.18 — Building services considered in the energy performance calculation (See 8.2 and 8.5)

Combination of services type	**Choice: included in the energy performance calculation** ***< one column per listservices type, see Table NDS.10 >***	
Building service	***EPB***_LISTSERVICES_***RES***	***EPB***_LISTSERVICES_***NRES***
Heating	Yes	Yes
Cooling	Yes	Yes
Ventilation	Yes	Yes
Humidification	Yes	Yes
Dehumidification	Yes	Yes
Domestic hot water	Yes	Yes
Lighting	Yes	Yes
External lighting	No	No
People transport (e.g., elevators, escalators)	Yes	Yes
Other services consuming *electricity* (e.g., appliances)	No	No
Others (Household and activity using energy carriers other than electricity)	No	No

From BBR section 9:12 *Definitions*

The *buildings energy use* (base for energy performance) - The energy that in normal use during a standard year needs to be supplied to a building (most often called purchased energy) for space heating (E_{uppv}), air conditioning (E_{kyl}), hot tap water (E_{tvv}) and the building's property energy (E_f). If underfloor heating, towel dryers or other devices for space heating are installed, their energy use is also included. Energy from the sun, wind, ground, air or water that is produced in the building or on its site and is used for the building's space heating, air conditioning, hot water and property energy is not included in the building's energy use.

Household energy (residential buildings) - The electricity or other energy used for household purposes. Examples are the electricity used for dishwashers, washing machines, dryers (including in a shared laundry room), stoves, refrigerators, freezers and other household appliances as well as lighting, computers, TV and other home electronics and the like

Activity energy (non-residential buildings) - The electricity or other energy used for activities in the premises. Examples are process energy, lighting, computers, copying machines, TV, refrigerated/frozen food displays/counters, appliances and other devices for the activities, as well as

ovens, refrigerators, freezers, dishwashers, washing machines, dryers, other household appliances and the like.

The *buildings property energy* (all buildings) - The part of the building's energy use that is related to the building's needs where the energy-intensive device is within, below or placed on the outside of the building. Property energy includes fixed lighting in public spaces and operating spaces. Energy used in heating cables, pumps, fans, engines, control and monitoring equipment and the like is also included. Externally locally placed devices that supply the building, such as pumps and fans for free cooling, are included. Devices intended for other use than for the building, such as engine and cab heaters for vehicles, battery chargers for external users, lighting in the garden and on walkways, are not included. Property electricity refers to the part of the property energy that is electricity-based.

Table NDS.19 — Principle assumed presence of systems (See 9.2)

Method		**Choice Yes/No** [a]
1	Principle "Assumed system"	No
2	Principle "Presence of system"	Yes
3	Other principle	No
In case of method 3:		
	Reference to procedure:	-

[a] Only one choice possible; choice may be differentiated per service. NOTE Consistency with the conditions of use (module M1–6) is required.

Table NDS.20—Specification of the useful floor area (See9.3)

Specification and/or reference to document with more information
Hänvisning till definition av A_{temp} i BBR engelsk version https://www.boverket.se/en/start/publications/publications/2019/boverkets-building-regulations--mandatory-provisions-and-general-recommendations-bbr/ A_{temp} – The area enclosed by the inside of the building envelope of all storeys including cellars and attics for temperature-controlled spaces are intended to be heated to more than 10 ºC. The area occupied by interior walls, openings for stairs, shafts, etc., are included. The area for garages, within residential buildings or other building premises other than garages, are not included.

Table NDS.21 — Type or types of metric for the building size (See 9.3 and 9.4)

Quantity	**Unit**	**Specification and/or reference to document with more information**
Floor area (A_{temp})	m^2	See table NDS.20
NOTE Add rows for each metric.		

NDS.22 — Which space categories are contributing to the reference size (See 9.4)

Space categories	**Contributing?**	**If YES:** **(Optional) fraction of size contributing to ref. size ($f_{ref;cat,}$)**

		Default value = 1 [a]
Floor area (A_{temp})	Yes	1
Area heated to less than 10°C	No	-
Garage/parking space (regardless of temperature)	No	-

[a] The choices in this table are choices that actually cannot be made without the holistic view on all EPB standards. The categorization of spaces is directly related to the assumed conditions of use for each space category and to the specific rules for combining spaces into zones. For instance, a fine subdivision into different space categories, with for each space category different conditions of use (such as temperature settings, ventilation rates, lighting levels, etc.) could easily lead to unwanted complexities in the assessment.

Table NDS.23 — Perimeter specification (9.5.1 and 9.6.1)

Energy carrier		Specification of nearby perimeter (see 3.4.24)
Bio fuels	Solid	-
	Liquid	-
	Gaseous	-
Electricity		-
District heating		-
District cooling		-

Table NDS.24 — Perimeter choice (See 9.5.1 and 9.7)

Perimeter choice	Choice – RER calculation (renewable energy)	Choice – RER calculation (total energy)	Choice – EPB calculation (delivered energy)
On-site	No	No	No
Nearby	No	No	No
Distant	No	No	Yes

Table NDS.25—Conversion factors for net to gross calorific values for energy carriers (See 9.6.2)

Energy carrier	Conversion factor $f_{GCV/NCV}$
Oil	1.06
Bio fuels	1.08
Natural Gas	1.11
City Gas, Stockholm[a]	1,10
LPG[b]	1.09
Hydrogen	1.18

[a] Gasnätet Stockholm, www.gasnatetstockholm.se/app/uploads/2016/10/Produktblad_Stadsgas_dat20161007.pdf
[b] Datablad från leverantörer, 95 % propan
Schablonvärden från bilaga B används då det inte finns värden på Energimyndighetens webbplats eller annan plats

Table NDS.26 — Overheads included in the primary energy and CO_2 emission factors (See 9.6.2 and 9.6.3) Idag gällande faktorer

	Primary energy factors	CO_2 emission coefficients
Included overheads		
— Energy to extract the primary energy carrier	No	-
— Energy to refine and/or to transform the primary energy carrier	No	-
— Energy to transport the primary energy carrier	No	-
— Energy used for any other operations necessary for the delivery to the building (e.g., storage)	No	-

Table NDS.26 *(continued)*

	Primary energy factors	CO_2 emission coefficients
— Energy to build, operate and dismantle the refinery units and/or the transformation units	No	-
— Energy to build, operate and dismantle the transportation system	No	-
— Energy to clean up or dispose the wastes	No	-
— Energy embedded in materials	No	-
Other greenhouse gases than CO_2 included [a]	n.a.	No
Applicable for ratings based on	net calorific value	net calorific value
[a] It is possible to list the other greenhouse gases.		

Table NDS.26a — Overheads included in the primary energy and CO_2 emission factors (See 9.6.2 and 9.6.3) Faktorer som är föreslagna att träda i kraft 1 juli 2020 – Fjärrvärme

	Primary energy factors	CO_2 emission coefficients
Included overheads		
— Energy to extract the primary energy carrier	-	-
— Energy to refine and/or to transform the primary energy carrier	Yes	-
— Energy to transport the primary energy carrier	Yes	-
— Energy used for any other operations necessary for the delivery to the building (e.g., storage)	Yes	-

Table NDS.26a *(continued)*

	Primary energy factors	CO_2 emission coefficients
— Energy to build, operate and dismantle the refinery units and/or the transformation units	No	-
— Energy to build, operate and dismantle the transportation system	No	-
— Energy to clean up or dispose the wastes	No	-
— Energy embedded in materials	No	-
Other greenhouse gases than CO_2 included [a]	n.a.	-
Applicable for ratings based on	net calorific value	net calorific value
[a] It is possible to list the other greenhouse gases.		

Table NDS.26b — Overheads included in the primary energy and CO_2 emission factors (See 9.6.2 and 9.6.3) Faktorer som är föreslagna att träda i kraft 1 juli 2020 – Alla energibärare exklusive fjärrvärme

	Primary energy factors	CO_2 emission coefficients
Included overheads		
— Energy to extract the primary energy carrier	-	-
— Energy to refine and/or to transform the primary energy carrier	-	-
— Energy to transport the primary energy carrier	-	-
— Energy used for any other operations necessary for the delivery to the building (e.g., storage)	-	-

Table NDS.26a *(continued)*

	Primary energy factors	CO_2 emission coefficients
— Energy to build, operate and dismantle the refinery units and/or the transformation units	No	-
— Energy to build, operate and dismantle the transportation system	No	-
— Energy to clean up or dispose the wastes	No	-
— Energy embedded in materials	No	-
Other greenhouse gases than CO_2 included [a]	n.a.	-
Applicable for ratings based on	net calorific value	net calorific value
[a] It is possible to list the other greenhouse gases.		

Table NDS.27 — Basis for energy performance of buildings (See 9.6.2)

Basis for the building energy performance	Choice	Application type (see Table NDS.8/B.8)
Total energy performance ($E_P = E_{Ptot}$) or non-renewable energy performance ($E_P = E_{Pnren}$)	$E_P = E_{Ptot}$	Energy performance certificate Building permit Permit to use
NOTE Add lines in case of more assessment purposes.		

Table NDS.28 — Priority for generation system, export (See 9.6.6.2.4)

Priority level to export	Priority identifier	Generation type identifier
NONE		EL_PROD_PV EL_PROD_WIND EL_PROD_CHP

Table NDS.29 — Subdivision rules (see 10.5.1)

Type of zone or service area [a]	General rule	Specific rules (if any)
Thermal zone	Useful floor area weighted	
Heating system service area	Useful floor area weighted	
Cooling system service area	Useful floor area weighted	
Ventilation service area	Useful floor area weighted	
DHW service area	Useful floor area weighted	
Lighting service area	Useful floor area weighted	
[a] Add lines in case of more service areas.		

NDS.30—Energy flows taken into account in the building balance (See 11.6.2.1)

System or component	Counted as delivered energy? (Yes/No) [a]	Exported energy taken into account under Step B of the energy performance assessment (11.6.2.1) [b] (Yes/No)
Needs		
Passive renewable energy	No	Not applicable
On-site		
Technical building systems located on-site and producing energy from renewable sources		
Solar energy captured by thermal solar panels	No	Not applicable

Free cooling as renewable energy	No	Not applicable
Free heating as renewable heating	No	Not applicable
Heat from environment captured by heat pumps	No	Not applicable
Electricity produced by wind power	No	Not applicable
District heating	Yes	No
District cooling	Yes	No
Nearby	[c]	
-	-	-
Distant	[d]	
Electricity production from renewable sources	Yes	No
(One row per additional category)		

[a] A "No" in the second column implies "not applicable" in the third column.

[b] Only relevant if $k_{exp} > 0$, see Table NDS.29/B.29.

[c] If choice of perimeter is "nearby" (see Table NDS.19).

[d] If choice of perimeter is "distant" (see Table NDS.19).

NOTE Rows may be deleted or added.

Table NDS.31—Electrical uses not satisfied by on-site electricity production (See11.6.2.4)

On-site electricity production type	Not allowed uses	Comment
All	None	Any EPB use of electricity can be satisfied by any type of on-site electricity production.

Table NDS.32 — Matching factor of produced and used electricity (See 11.6.2.4)

Calculation interval	Case	Matching factor function and parameters
1 hour	All building categories	$f_{match} = 1.0$
1 month	All building categories	f_{match} not defined