

Reporting template of the European Union on the Member States application of national definitions of Nearly Zero Energy Buildings

Items and assessment categories which are mandatory due to the EPBD or RED are explained or referenced by an example in the column "EPBD / RED requirement". The source is given in the column to its left. Additional typical definition categories that are not mandatory EPBD requirements are included to give the possibility to explain what is defined beside and beyond the EPBD and RED. These categories are differentiated by colour (dark grey letters). For each aspect a number of possible choices is given in a combo box. Explanatory texts and figures are shown by a click in the according cells. Comments and explanations should be entered in the cells on the right.

1. General information					
Country Name of regulation, directive, certification scheme Editor of regulation, directive, certification scheme Year of introduction of current version Energy benchmark of current version Integration and consideration in national directive		Belgium			
		Co-ZEB study			
		under development			
		nearly zero energy buildings			
		will be considered	Co-ZEB study aims determining requirements relative to nearly zero energy buildings; - determining the optimum level of energy performance in relation to costs. At the present time, only the first task of the study has been completed. As the second task in the study, aimed at determining the reference level in kWh/m ² per year, was not able to be completed, this reference will be set based on the other results available from the study.		
2. Field of application		EPBD / RED requirement	EPBD / RED reference	Content in Member States national definition	Explanation, comment, source
2.1 building category		<i>Member States shall ensure that all new buildings are nearly zero- energy buildings by 31 December 2020 respectively after 31 December 2018 (occupied and owned by public authorities). For the purpose of the calculation buildings should be adequately classified into the [...] categories.</i>	EPBD article 9.1a/b EPBD annex I	residential/non-residential	Level K35 will be used as the benchmark in specifications and funding decrees for all types of public buildings, i.e. residential buildings, including collective accommodation buildings, office and services buildings and buildings intended for education, as well as all other non-residential buildings, such as hospitals, retail
<ul style="list-style-type: none"> ▪ single-family houses 				included in directive	
<ul style="list-style-type: none"> ▪ apartment blocks 				included in directive	
<ul style="list-style-type: none"> ▪ offices 				included in directive	
<ul style="list-style-type: none"> ▪ educational buildings 				included in directive	
<ul style="list-style-type: none"> ▪ hospitals 				included in directive	
<ul style="list-style-type: none"> ▪ hotels and restaurants 				included in directive	
<ul style="list-style-type: none"> ▪ sports facilities 		included in directive			

<ul style="list-style-type: none"> ▪ wholesale and retail trade service buildings ▪ other types of energy-consuming buildings 			included in directive	such as hospitals, retail, hospitality, sports infrastructure, etc.
			included in directive	(with the exception of industrial buildings and exceptions provided for
2.2 new/retrofit buildings	<p><i>New, and existing buildings that are subject to major renovation, should meet minimum energy performance requirements adapted to the local climate.</i></p> <p><i>Member States shall furthermore [...] stimulate the transformation of buildings that are refurbished into nearly zero-energy buildings.</i></p>	<p>EPBD preamble recital 15</p> <p>EPBD article 9.2</p>	new and retrofit	Quantification of the level of performance is based on development zones and the type of buildings, as well as whether they are new or renovated.
2.3 private/public buildings	<p><i>Member States shall ensure that by 31 December 2020, all new buildings are nearly zero- energy buildings and after 31 December 2018, new buildings occupied and owned by public authorities are nearly zero-energy buildings.</i></p>	EPBD article 9.1a/b	private/public	
2.4 In case that a additional or separate definiton(s) exists (e.g. for different building types), please add a new sheet by using the button on the right (to use this option Excel macros need to be activated).			click to add new sheet	
3. Energy Balance / Calculation				
3.1 balance type	<p><i>[...] The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources</i></p> <p><i>Energy performance of a building means the calculated or measured amount of energy needed to meet the energy demand [...]</i></p>	<p>EPBD article 2.2</p> <p>EPBD article 2.4</p>	energy demand vs. energy generation	
3.2 physical boundary	<p><i>This directive lays down requirements as regards the common general framework for [...] buildings and building units.</i></p> <p><i>[...] building' means a roofed construction having walls, for which energy is used to condition the indoor climate.</i></p>	<p>EPBD article 1.2a</p> <p>EPBD article 2.1</p>	building site	
3.3 system boundary demand / energy uses included				

<ul style="list-style-type: none"> ▪ space heating, domestic hot water ▪ ventilation, cooling, air conditioning ▪ auxiliary energy ▪ lighting ▪ plud loads, appliances, IT ▪ central services ▪ electric vehicles ▪ embodied energy 	<p><i>[...] energy performance of a building means the calculated or measured amount of energy needed to meet the energy demand associated with a typical use of the building, which includes, inter alia, energy used for heating, cooling, ventilation, hot water and lighting.</i></p>	<p>EPBD article 2.4</p>	<p>considered</p> <p>considered</p> <p>considered</p> <p>considered</p> <p>not considered</p> <p>not considered</p> <p>not considered</p> <p>not considered</p>	<p></p> <p></p> <p>The NZEB calculation will be based on the walloon EPB regulation wich considers the auxiliary energy</p> <p>The NZEB calculation will be based on the walloon EPB regulation wich considers the lighting for non-residential buildings</p> <p></p> <p></p> <p></p> <p></p>
<p>3.4 system boundary generation / renewable energy sources included</p>				
<ul style="list-style-type: none"> ▪ generation on-site ▪ generation near by ▪ generation external ▪ crediting 	<p><i>[...] The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby.</i></p> <p><i>[...] energy from renewable sources means energy from renewable non-fossil sources, namely wind, solar, aerothermal, geothermal, hydrothermal and ocean energy, hydropower, biomass, landfill gas, sewage treatment plant gas and biogases.</i></p> <p><i>[...] minimum levels of energy from renewable sources [...] to be fulfilled, inter alia, through district heating and cooling [...].</i></p>	<p>EPBD article 2.2</p> <p>EPBD article 2.6</p> <p>EPBD article 13.4</p>	<p>considered</p> <p>considered</p> <p>considered</p> <p>considered</p> <p>not considered</p>	<p></p> <p></p> <p></p> <p></p> <p></p>

3.5 balance period / calculation step	<i>[...] The methodology for calculating energy performance should be based not only on the season in which heating is required, but should cover the annual energy performance of a building [...] [...] requirements should be set with a view to [...] the cost-optimal balance between the investments involved and the energy costs saved throughout the lifecycle of the building [...]</i>	EPBD preamble recital 9 EPBD preamble recital 10	yearly	
3.6 monthly accounting limitation			select and describe right	
4. Accounting System				
4.1 normalization	<i>[...] including a numerical indicator of primary energy use expressed in kWh/m² per year</i>	EPBD article 9.3a	other	Heated or conditioned floor area "Ach" as defined in the wallon EPB
4.2 primary metric	<i>The energy performance of a building shall be expressed in a transparent manner and shall include an energy performance indicator and a numeric indicator of primary energy use, based on primary energy factors per energy carrier, which may be based on national or regional annual weighted averages or a specific value for on-site production. [...] including a numerical indicator of primary energy use expressed in kWh/m² per year. [...] primary energy' means energy from renewable and non-renewable sources which has not undergone any conversion or transformation process</i>	EPBD Annex 1 EPBD 9.3a EPBD article 2.5	other	Ew : expresses the primary energy consumption of the project, compared to primary energy demand of a reference building
4.3 secondary metric			primary / source energy (renewable part included)	Espec (kWh per m ² per year)
4.4 symmetric or asymmetric weighting			select and describe right	
4.5 time dependent weighting	<i>Primary energy factors [...] may be based on national or regional yearly average values and may take into account [...] European standards</i>	EPBD 9.3a	static conversion factors	annual static weighting factors
5. Further requirements				

5.1 fraction of renewables	<i>Member States shall introduce [...] appropriate measures [...] to increase the share of all kinds of energy from renewable sources in the building sector [...]. By 31 December 2014, Member States shall [...] require the use of minimum levels of energy from renewable sources in new buildings and in existing buildings [...]</i> <i>[...] The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources [...]</i>	RED article 13.4 EPBD article 2.2	not defined	In addition to the energy performance level of the building envelope, part of the residual consumption of heat/cold and electricity may be covered by sources of production of renewable energies, with the whole characterising all NZEB
5.2 temporal performance <ul style="list-style-type: none"> ▪ load match 			select and describe right	
<ul style="list-style-type: none"> ▪ grid interaction 			select and describe right	
5.3 energy performance or rating requirements	<i>nearly zero-energy building means a building that has a very high energy performance [...]. The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources [...]</i> <i>The energy performance [...] shall [...] include an energy performance indicator and a numeric indicator of primary energy use [...]</i>	EPBD article 2.2	defined	
<ul style="list-style-type: none"> ▪ energy performance indicator 			yes	In the spirit of the Regional Policy Statement (RPS), any new building will tend towards the 'very low energy'
<ul style="list-style-type: none"> ▪ numeric indicator of primary energy use 		EPBD Annex 1	Espec	kWh/m ² .an (primary energy)

5.4 general framework / prescriptive requirements	<i>The methodology shall [...] take into consideration: thermal characteristics (thermal capacity, insulation, passive heating, cooling elements, and thermal bridges), heating installation and hot water supply, air-conditioning installations, natural and mechanical ventilation, built-in lighting, the design, positioning and orientation of the building, outdoor climate, passive solar systems and solar protection, [...], internal loads</i>	EPBD Annex 1	defined	In the context of “passive” houses, the dimension of the impact on the health of the inhabitants will be taken into account and assessed, in particular for everything relating to ventilation systems ¹⁹ . In addition to these indicators and in accordance with EPB regulations, the requirements in terms of insulating walls, ventilation and overheating
5.5 definition of comfort level & IAQ requirements (for winter and summer season, beside other national directives)	<i>This Directive [...] takes into account [...] indoor climate requirements [...] The methodology shall [...] take into consideration: [...] indoor climatic conditions [...] That includes [...] indoor air-quality, adequate natural light [...]</i>	EPBD article 1.1 EPBD Annex 1 EPBD preamble recital 9	defined	The NZEB calculation will be based on the Walloon EPB regulation which determines requirements concerning ventilation and a maximum value for overheating rating. The Walloon Housing Code (regulation) determines
5.6 monitoring procedure	<i>[...] energy performance of a building means the calculated or measured amount of energy needed [...] Member States shall encourage the introduction of intelligent metering systems [...] and the installation of automation, control and monitoring systems [...]</i>	EPBD article 2.4 EPBD article 8.2	defined	Policy includes actions on Monitoring of EPB regulations + energy certification; Monitoring the proper implementation of the the First Employment-Environment Alliance (EEA)

