

## 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					
<b>Country</b>		Czechia			
<b>Name of regulation, directive, certification scheme</b>		The Energy Management Act n. 406/2000 Coll.			
<b>Editor of regulation, directive, certification scheme</b>		Ministry of Industry and Trade			
<b>Year of introduction of current version</b>		2012			
<b>Energy benchmark of current version</b>		nearly zero energy buildings			
<b>Integration and consideration in national directive</b>		is current directive			
2. Field of application		EPBD / RED requirement	EPBD / RED reference	Content in Member States national definition	Explanation, comment, source
<b>2.1 building category</b>		<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	select and describe right	Current legislation does not distinguish between types of buildings. Take only into account total energy reference area of the building. Each building consists of various tones of different type. Nevertheless in the EPC itself is filled in the type of building.
▪ <b>single-family houses</b>				possible	
▪ <b>apartment blocks</b>				select	
▪ <b>offices</b>				possible	
▪ <b>educational buildings</b>				possible	
▪ <b>hospitals</b>				possible	
▪ <b>hotels and restaurants</b>				possible	
▪ <b>sports facilities</b>				possible	
▪ <b>wholesale and retail trade service buildings</b>		possible			
▪ <b>other types of energy-consuming buildings</b>		possible			
<b>2.2 new/retrofit buildings</b>		<i>New, and existing buildings that are subject to major renovation, should meet minimum energy performance requirements adapted to the local climate.</i>  <i>Member States shall furthermore [...] stimulate the transformation of buildings that are refurbished into nearly zero-energy buildings.</i>	EPBD preamble recital 15  EPBD article 9.2	new	For buildings under major renovation legislation requires reaching cost-optimum level of building or for changed elements of the building envelope and changed technical systems of the building.

2.3 private/public buildings	<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>	EPBD article 9.1a/b	private/public	Explained in the word document
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	
<b>3. Energy Balance / Calculation</b>				
3.1 balance type	<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 Energy performance of a building means the calculated or measured amount of energy needed to meet the energy demand [...]</i>	EPBD article 2.2  EPBD article 2.4	select and describe right	Renewable energy is calculated through a low non-renewable primary energy factor. Use of local renewable energy sources doesn't reduce amount of delivered energy but reduces only non-renewable primary energy use.
3.2 physical boundary	<i>This directive lays down requirements as regards the common general framework for [...] buildings and building units. [...] building' means a roofed construction having walls, for which energy is used to condition the indoor climate.</i>	EPBD article 1.2a  EPBD article 2.1	select and describe right	<ul style="list-style-type: none"> <li>• Building</li> <li>• Building Unit/part of building</li> <li>• Zone</li> </ul>
3.3 system boundary demand / energy uses included				
▪ space heating, domestic hot water	<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>	EPBD article 2.4	considered	
▪ ventilation, cooling, air conditioning			considered	
▪ auxiliary energy			considered	
▪ lighting			considered	
▪ plud loads, appliances, IT			not considered	
▪ central services			not considered	
▪ electric vehicles			not considered	
▪ embodied energy			not considered	

<b>3.4 system boundary generation / renewable energy sources included</b>				
<ul style="list-style-type: none"> <li>▪ <b>generation on-site</b></li>   <li>▪ <b>generation near by</b></li> <li>▪ <b>generation external</b></li> <li>▪ <b>crediting</b></li> </ul>	<p>[...] 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.</p> <p>[...] 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.</p> <p>[...] minimum levels of energy from renewable sources [...] to be fulfilled, inter alia, through district heating and cooling [...].</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>not considered</p>	
<b>3.5 balance period / calculation step</b>	<p>[...] 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 [...]</p> <p>[...] 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 [...]</p>	<p>EPBD preamble recital 9</p> <p>EPBD preamble recital 10</p>	<p>other</p>	<p>At least month period or shorter</p>
<b>3.6 monthly accounting limitation</b>			<p>monthly primary energy crediting</p>	<p>The renewable energy production calculation is monthly limited on</p>
<b>4. Accounting System</b>				
<b>4.1 normalization</b>	<p>[...] including a numerical indicator of primary energy use expressed in kWh/m<sup>2</sup> per year</p>	<p>EPBD article 9.3a</p>	<p>gross floor area</p>	<p>So called energy reference area roughly equals to total outer floor area.</p>

<b>4.2 primary metric</b>	<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/m<sup>2</sup> 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	delivered / site energy	Delivered energy is the main feature for expressing energy performance of building but non-renewable primary energy use is displayed as well.
<b>4.3 secondary metric</b>			primary / source energy (renewable part included)	
<b>4.4 symmetric or asymmetric weighting</b>			select and describe right	Unfortunately what is meant by Symmetric or asymmetric weighting is
<b>4.5 time dependent weighting</b>	<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	quasi static conversion factors	
<b>5. Further requirements</b>				
<b>5.1 fraction of renewables</b>	<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 [...] [...] 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	defined	Defined by reduction of non-renewable primary energy requirement compared to reference building
<b>5.2 temporal performance</b>				

▪ load match			not defined	
▪ grid interaction			not defined	
<b>5.3 energy performance or rating requirements</b>	<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>	EPBD article 2.2	defined	Certain coefficients compared to reference building
▪ energy performance indicator	<i>The energy performance [...] shall [...] include an energy performance indicator and a numeric indicator of primary energy use [...]</i>	EPBD Annex 1	defined	Yes, indicators are defined in decree 78/2013 Coll.a) Non-renewable primary energy per year; b) Total delivered
▪ numeric indicator of primary energy use				Certain coefficients compared to reference building
<b>5.4 general framework / prescriptive requirements</b>	<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	See the Annex I (table I - parameters and values of the reference building) of the decree 78/2013 Coll. which is attached.
<b>5.5 definition of comfort level &amp; IAQ requirements (for winter and summer season, beside other national directives)</b>	<i>This Directive [...] takes into account [...] indoor climate requirements [...]</i> <i>The methodology shall [...] take into consideration: [...] indoor climatic conditions [...]</i> <i>That includes [...] indoor air-quality, adequate natural light [...].</i>	EPBD article 1.1 EPBD Annex 1 EPBD preamble recital 9	defined	

<b>5.6 monitoring procedure</b>	<p><i>[...] energy performance of a building means the calculated or measured amount of energy needed [...]</i></p> <p><i>Member States shall encourage the introduction of intelligent metering systems [...] and the installation of automation, control and monitoring systems [...]</i></p>	<p>EPBD article 2.4</p> <p>EPBD article 8.2</p>	<p>not defined</p>	<p>Established by the Energy Management Act 406/2000 Coll. only calculated energy is considered. Unlike EPC energy audits consider measured energy used.</p>
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