

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		Netherlands		
Name of regulation, directive, certification scheme		National Plan to promote nearly zero-energy buildings		
Editor of regulation, directive, certification scheme				
Year of introduction of current version		2011		
Energy benchmark of current version		nearly zero energy buildings		
Integration and consideration in national directive		is current directive		
2. Field of application	EPBD / RED requirement	EPBD / RED reference	Content in Member States national definition	Explanation, comment, source
2.1 building category <ul style="list-style-type: none"> ▪ single-family houses ▪ apartment blocks ▪ offices ▪ educational buildings ▪ hospitals ▪ hotels and restaurants ▪ sports facilities ▪ wholesale and retail trade service buildings ▪ other types of energy-consuming buildings 	<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	Distinction made between residential/non-residential buildings but no further category is provided. In the Netherlands, the energy performance of a nearly zero-energy building is determined based on the NEN 7120 standard: Energy performance of buildings - Determination Method (EPB). The preliminary standard NVN 7125 District Energy Performance Measures (DEPM) may also be used.
			included in directive	
			included in directive	
			included in directive	
			included in directive	
			included in directive	
			included in directive	
			included in directive	
			not defined	
2.2 new/retrofit buildings	<i>New, and existing buildings that are subject to major renovation, should meet minimum energy performance requirements adapted to the local climate. 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 and retrofit	Excellent areas, and Energy Leap involve experiments with building energyefficient structures. The Energy & Built Environment working programme promotes and facilitates the transfer of knowledge and

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	The target is to have a near-zero EPC for government buildings as of 31 December 2018 and for all other buildings as of 31 December 2020. This level is defined as nearly zero-energy
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	<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	not specified	Net energy consumption is determined over the course of a year.
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	single building	Only building-specific energy consumption receives a specific value in the building's energy performance: district measures – if any – can be assessed using the EMG.
3.3 system boundary demand / energy uses included				
▪ <u>space heating, domestic hot water</u>	<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	
▪ <u>ventilation, cooling, air conditioning</u>			considered	
▪ <u>auxiliary energy</u>			considered	
▪ <u>lighting</u>			considered	
▪ <u>plud loads, appliances, IT</u>			considered	
▪ <u>central services</u>			considered	
▪ <u>electric vehicles</u>			considered	
▪ <u>embodied energy</u>			not defined	

3.4 system boundary generation / renewable energy sources included				
<ul style="list-style-type: none"> ▪ generation on-site 	<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>EPBD article 2.2</p> <p>EPBD article 2.6</p>	<p>considered</p>	<p>Energy generation may take place inside and outside the building. Energy from renewable sources is defined in accordance with the Renewable Energy Directive (2009/28/EC). The principle of the EPB is that builders are free to choose measures that reduce the demand for energy, use energy from renewable sources, and make effective use of fossil fuels, in order to achieve the required EPC. This principle will</p>
<ul style="list-style-type: none"> ▪ generation near by 	<p><i>[...] minimum levels of energy from renewable</i></p>	<p>EPBD article 13.4</p>	<p>considered</p>	
<ul style="list-style-type: none"> ▪ generation external 	<p><i>sources [...] to be fulfilled, inter alia, through district</i></p>		<p>considered</p>	
<ul style="list-style-type: none"> ▪ crediting 	<p><i>heating and cooling [...].</i></p>		<p>not defined</p>	
3.5 balance period / calculation step	<p><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 [...]</i></p> <p><i>[...] 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></p>	<p>EPBD preamble recital 9</p> <p>EPBD preamble recital 10</p>	<p>other</p>	<p>Net energy consumption is determined over the course of a year.</p>
3.6 monthly accounting limitation			<p>select and describe right</p>	
4. Accounting System				
4.1 normalization	<p><i>[...] including a numerical indicator of primary energy use expressed in kWh/m² per year</i></p>	<p>EPBD article 9.3a</p>	<p>other</p>	<p>A non-dimensional number is used as an indicator of the building's energy</p>

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	A non-dimensional number is used as an indicator of the building's energy performance, depending on how the building is used: the Energy Performance Coefficient, EPC. Assuming that a completely zero-energy building has an EPC = 0, the aim is to institute a requirement close to EPC = 0
4.3 secondary metric			select and describe right	Assuming that a completely zero-energy building has an EPC = 0, the aim is to
4.4 symmetric or asymmetric weighting			select and describe right	requirement close to EPC = 0
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	
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	Renewable energy sources are assessed. The principle of the EPB is that builders are free to choose measures that reduce the demand for energy, use energy from renewable sources, and make effective use of fossil fuels, in order to achieve the required EPC. This principle will also be maintained for nearly zero-energy buildings. As the requirements for the EPC become stricter and stricter, the percentage of renewable energy will automatically become increasingly important in order
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 EPBD Annex 1	defined EPC=0,1 no	The revised Spring Agreement on Energy-Efficient New Buildings of 28 June 2012, the agreement between market parties A non-dimensional number is used as an indicator of the building's energy performance.
<ul style="list-style-type: none"> ▪ energy performance indicator 				
<ul style="list-style-type: none"> ▪ numeric indicator of primary energy use 				

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 other regulation	it will still be compulsory to fulfil the requirements for thermal insulation of the building envelope of new buildings, as stipulated in the Building Decree. In setting requirements for energy performance, builders can choose which measures they will institute to meet a requirement. In order to guarantee the minimum
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	not defined	
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	not defined	

