

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			Italy	
Name of regulation, directive, certification scheme			1. Decreto legge 4 giugno 2013, n. 63 recante disposizioni urgenti per	
Editor of regulation, directive, certification scheme			Government	
Year of introduction of current version			2013	
Energy benchmark of current version			efficient buildings	
Integration and consideration in national directive			considered	2010/31/UE
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).</i> <i>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 included in directive included in directive included in directive included in directive included in directive included in directive included in directive included in directive included in directive	Industrial buildings, factories and rural buildings are not included.
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.</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 and retrofit	

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	
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	energy import vs. energy export	The energy from on-site energy generation systems (defined as system inside building site) crosses the assessment boundary and compensates the energy needs of building (thermal compensates thermal needs and electricity compensates electrical needs). Surplus (only electricity is
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	building unit	The assessment can be done for a single building unit (e.g. an apartment) or for a whole building (if energy generation system is centralized)
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			considered	Lifts and escalators are considered
▪ electric vehicles			not considered	
▪ embodied energy			not considered	

3.4 system boundary generation / renewable energy sources included				
▪ generation on-site	<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>	EPBD article 2.2	considered	For renewable energy ratio are considered on site energy generation systems (e.g PV), nearby generation systems (e.g. district heating if use renewable) and the renewable part of energy flows and vector from distant (e.g. pellet).
	<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>	EPBD article 2.6		
▪ generation near by	<i>[...] minimum levels of energy from renewable sources [...] to be fulfilled, inter alia, through district heating and cooling [...].</i>	EPBD article 13.4	considered	
▪ generation external			considered	
▪ crediting			not considered	
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 [...]</i> <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>	EPBD preamble recital 9 EPBD preamble recital 10	other	The indicators of energy performance of buildings are annual (kWh/m ² per year) but the calculations of energy needs are the energy balance are monthly based. So calculation period is the year but calculation step is the month.
3.6 monthly accounting limitation			monthly source based end energy crediting	For electrical energy part of monthly surplus (which is exported) can be
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	net floor area	

4.2 primary metric	<p><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.</i></p> <p><i>[...] including a numerical indicator of primary energy use expressed in kWh/m² per year.</i></p> <p><i>[...] primary energy' means energy from renewable and non- renewable sources which has not undergone any conversion or transformation process</i></p>	<p>EPBD Annex 1</p> <p>EPBD 9.3a</p> <p>EPBD article 2.5</p>	primary / source energy (renewable part not included)	In the decrees under development both total primary energy and non renewable primary energy will be indicated.
4.3 secondary metric			delivered / site energy	The delivered energy will be added
4.4 symmetric or asymmetric weighting			symmetrical weighting	Exported energy is evaluated on the basis of the energy used of its
4.5 time dependent weighting	<p><i>Primary energy factors [...] may be based on national or regional yearly average values and may take into account [...] European standards</i></p>	EPBD 9.3a	static conversion factors	
5. Further requirements				
5.1 fraction of renewables	<p><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></p> <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 [...]</i></p>	<p>RED article 13.4</p> <p>EPBD article 2.2</p>	defined in other regulation	<p>RER requirements are actually defined in DLGS 28/2011. RER is the ratio between EP ren and EP tot.</p> <p>RER requirements will be re-defined in the decrees under development in the field of energy efficiency and nZEB</p>
5.2 temporal performance				

▪ load match			defined	
▪ grid interaction			defined	
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>	EPBD article 2.2	defined	nZEB will be defined in the decree under development
▪ 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		
▪ 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	All these features are considered in UNI EN technical standards
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 [...]</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	Standard comfort level is defined by legislation and technical specifications

5.6 monitoring procedure	<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>defined</p>	<p>BACS will be encouraged by legislation for new buildings and relevant refurbishment</p>