

## 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>   |  | Latvia   |  |  |
| <b>Name of regulation, directive, certification scheme</b>   |  | Directive 2010/31/EU   |  |  |
| <b>Editor of regulation, directive, certification scheme</b>   |  | European Commission and Parliament   |  |  |
| <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>   |  | considered   |  |  |
| 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><br><ul style="list-style-type: none"> <li>▪ <b>single-family houses</b></li> <li>▪ <b>apartment blocks</b></li> <li>▪ <b>offices</b></li> <li>▪ <b>educational buildings</b></li> <li>▪ <b>hospitals</b></li> <li>▪ <b>hotels and restaurants</b></li> <li>▪ <b>sports facilities</b></li> <li>▪ <b>wholesale and retail trade service buildings</b></li> <li>▪ <b>other types of energy-consuming buildings</b></li> </ul> | <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<br><br><br><br><br><br><br><br><br><br><br>EPBD annex I          | residential/non-residential                  | The Cabinet regulations (No 383 from 09/07/2013) prescribe one approach for NZEB without any building category exceptions.   |
|  |  |  | 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><br><br><i>Member States shall furthermore [...] stimulate the transformation of buildings that are refurbished into nearly zero-energy buildings.</i> | EPBD preamble recital 15<br><br><br><br><br><br><br><br><br><br><br>EPBD article 9.2 | new and retrofit                             | The construction of low energy buildings in Latvia started in 2012, when the Ministry of Environmental Protection and Regional Development started a project called Low Energy Buildings (LEB) within the Latvian governmental program of Climate Change Financial Instrument (CCFI). The CCFI is funded |

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| 2.3 private/public buildings  | 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.   | EPBD article 9.1a/b                       | private/public   | Within the LEB, 31 different projects were realised for different building types. The results can be discussed after the first full heating season, in 2013. The next steps at national level will be planned taking into account the    |
| 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  | [...] 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<br>Energy performance of a building means the calculated or measured amount of energy needed to meet the energy demand [...] | EPBD article 2.2<br><br>EPBD article 2.4  | select and describe right  | The EP calculation methodology is based on the corresponding CEN Technical Report CEN/TR 15615 (Umbrella Document) and standard EN ISO 13790:2008 'Conditions', and includes references to the 15 other standards. There are no national |
| 3.2 physical boundary   | This directive lays down requirements as regards the common general framework for [...] buildings and building units.<br>[...] building' means a roofed construction having walls, for which energy is used to condition the indoor climate.  | EPBD article 1.2a<br><br>EPBD article 2.1 | building site  |  |
| 3.3 system boundary demand / energy uses included   |   |   |  |  |
| <ul style="list-style-type: none"> <li>▪ <u>space heating, domestic hot water</u></li> <li>▪ <u>ventilation, cooling, air conditioning</u></li> <li>▪ <u>auxiliary energy</u></li> <li>▪ <u>lighting</u></li> <li>▪ <u>plud loads, appliances, IT</u></li> <li>▪ <u>central services</u></li> <li>▪ <u>electric vehicles</u></li> <li>▪ <u>embodied energy</u></li> </ul> | [...] 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.                                       | EPBD article 2.4                          | considered<br>considered<br>considered<br>considered<br>considered<br>not considered<br>not considered<br>not considered |  |

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| <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>not considered</p> <p>not 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>yearly</p>   |  |
| <b>3.6 monthly accounting limitation</b>   |  |  | <p>select and describe right</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>conditioned area</p>   |  |

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| <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.<br/>[...] including a numerical indicator of primary energy use expressed in kWh/m<sup>2</sup> per year.<br/>[...] primary energy' means energy from renewable and non-renewable sources which has not undergone any conversion or transformation process</i> | EPBD Annex 1<br><br>EPBD 9.3a<br><br>EPBD article 2.5 | energy use  | Two indicators 1) energy use for heating, 2) total energy use. Primary energy factors for energy carriers and district heating are set equally to DIN V 18599-1:2011-12. Primary energy factors for electricity are based on national conditions (electricity from grid 1.5, electricity from fossil fuels 2.0, electricity from renewables 0.0) |
| <b>4.3 secondary metric</b>                  |   |   | primary / source energy (renewable part included) |  |
| <b>4.4 symmetric or asymmetric weighting</b> |   |   | select and describe right                         | The expected energy are not considered by national level   |
| <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   | 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 [...]<br/>[...] 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<br><br>EPBD article 2.2              | defined   | Building is classified as a near-zero-energy building if:<br>1) building use renewable energy;<br>2) ventilation systems of building recover at least 75% of the ventilation heat loss during the heating season.  |
| <b>5.2 temporal performance</b>              |   |   |   |  |

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|--|---|---|--|---|
| ▪ 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  |   |
| ▪ 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  | final energy for heating use <30 kWh/m2 per year |   |
| ▪ numeric indicator of primary energy use  |   |   | total primary energy use <95 kWh/m2 per year     |   |
| <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 in other regulation                      | All buildings have requirements for building envelope in building regulations. There are not special conditions for NZEB. Taking into account that NZEB have energy performance rating requirements the prescriptive requirements are secondary. Building is classified as a near-zero-energy building if ventilation systems of building recover at least 75% of the ventilation heat loss |
| <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><br><i>The methodology shall [...] take into consideration: [...] indoor climatic conditions [...]</i><br><i>That includes [...] indoor air-quality, adequate natural light [...].</i>  | EPBD article 1.1<br>EPBD Annex 1<br>EPBD preamble recital 9 | defined in other regulation                      | All buildings have certain requirements in building regulations. The requirements are developed having regard to the CEN standards. Building is classified as a near-zero-energy building if ventilation systems of building recover at least 75% of the ventilation heat loss during the heating season.   |

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| <b>5.6 monitoring procedure</b> | <i>[...] energy performance of a building means the calculated or measured amount of energy needed [...]<br/>Member States shall encourage the introduction of intelligent metering systems [...] and the installation of automation, control and monitoring systems [...]</i> | EPBD article 2.4<br><br>EPBD article 8.2 | not defined |  |
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