



CONCERTED ACTION
ENERGY PERFORMANCE OF BUILDINGS

EPBD Key Implementation Decisions in The Netherlands

Status in December 2016

AUTHORS

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NATIONAL WEBSITES

www.rvo.nl, www.rvo.nl/BENG,

www.rvo.nl/onderwerpen/duurzaamondernemen/gebouwen/energielabelinstallatiekeuringen/storingenonderhoud,

www.rvo.nl/initiatieven/overzicht/27008,

www.rvo.nl/onderwerpen/duurzaamondernemen/gebouwen/energieneutraalbouwen/publicaties,

www.energielabelvoorwoningen.nl, www.zoekuwenergielabel.nl, www.energielabel.nl,

www.rijksoverheid.nl/onderwerpen/energielabelwoningenengebouwen, www.ilent.nl/, www.cbs.nl,

www.bouwendnederland.nl, www.ep-online.nl, www.ok-cv.nl, www.scios.nl

1. Key Implementation Decisions, KIDs

no	Key Implementation Decisions - General Background	Description / value / response	Comments	Description
1.1	Definition of public buildings (according to article 9 b)	In the application of the guidelines relating to nearly zero-energy new buildings, a public building is defined as a building owned by the state, province, municipality, or water board and that is used by the state, province, municipality, water board, or independent administrative authority or advisory council established by law.	<p>The amendment to the Building Decree 2012, Government Gazette 2015, 425 states that new buildings owned by the government and which house government agencies shall be nearly zero-energy after 31 December 2018. A building is a public building in the sense of nearly zero-energy new buildings if it meets the following two requirements:</p> <ol style="list-style-type: none"> 1. Ownership: The building is owned by the government, e.g. owned by the state, a province, a municipality or a water board 2. Purpose: The building is used by a public authority or government agency. <p>This is self-evident in the case of the state, a municipality or water board. This shall extend to public administrative authorities; these organisations typically have been established by law and the bulk of their budget typically is dependent on tax revenue.</p>	
1.2	Definition of public buildings used by the general public (according to article 13)	<p>Definition:</p> <ol style="list-style-type: none"> a) A building of which a floor area of more than 250 m² is used by a public authority or government agency and that is frequently visited by the general public, or b) A building that has a floor area of more than 250 m² and that is frequently visited by the general public. 	<p>Regulations: Article 4 of the Regulation on Energy Performance of Buildings (visible energy labelling) and Article 2.4 of the Energy Performance of Buildings Decree (definition of public buildings to which the requirement applies.)</p> <p>All government buildings and buildings of the department of defence covered by this obligation have their energy label visibly posted.</p>	

1.3	Number of residential buildings	7,688,065 (as of February 2017)	Statistics Netherlands (www.cbs.nl)	7,688,065																						
1.4	Number of non-residential buildings	1,123,876	Statistics Netherlands (www.cbs.nl)	1,123,876																						
1.5	If possible, share of public buildings included in the number given in 1.4	Approximately 62,000 buildings of municipalities (including schools) and approximately 3 million m ² gross floor area.	Municipal real estate comprises approximately 62,000 buildings (including schools). Municipal real estate excluding schools comprises approximately 55,400 buildings. (sources: RVO, RVB)																							
1.6	If possible, share of commercial buildings included in the number given in 1.4	<table border="1"> <tr> <td>Non-residential building, function: meetings</td> <td>60,568</td> </tr> <tr> <td>Non-residential building, function: cell (detention)</td> <td>62</td> </tr> <tr> <td>Non-residential building, function: health care</td> <td>22,217</td> </tr> <tr> <td>Non-residential building, function: industry</td> <td>190,961</td> </tr> <tr> <td>Non-residential building, function: office</td> <td>97,879</td> </tr> <tr> <td>Non-residential building, function: accommodation</td> <td>118,330</td> </tr> <tr> <td>Non-residential building, function: education</td> <td>14,449</td> </tr> <tr> <td>Non-residential building, function: sports</td> <td>9,581</td> </tr> <tr> <td>Non-residential building, function: commercial</td> <td>130,311</td> </tr> <tr> <td>Non-residential building with other function</td> <td>435,090</td> </tr> <tr> <td>Non-residential building with multiple functions</td> <td>44,428</td> </tr> </table>	Non-residential building, function: meetings	60,568	Non-residential building, function: cell (detention)	62	Non-residential building, function: health care	22,217	Non-residential building, function: industry	190,961	Non-residential building, function: office	97,879	Non-residential building, function: accommodation	118,330	Non-residential building, function: education	14,449	Non-residential building, function: sports	9,581	Non-residential building, function: commercial	130,311	Non-residential building with other function	435,090	Non-residential building with multiple functions	44,428	Statistics Netherlands (www.cbs.nl)	
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1.7	Number of buildings constructed per year (estimate)	58,000	Statistics Netherlands (www.cbs.nl) Bouwend Nederland (www.bouwendnederland.nl)	58,000																						
1.8	If possible, share of residential buildings constructed per year	88% In 2015, there were 53,000 applications for permits for new residential buildings;	Statistics Netherlands (www.cbs.nl)	51k van 58k = 88%																						

	(estimate, included in the number given in 1.7)	<p>approximately 48,400 were completed.</p> <p>In 2016, there were 51,000 applications for permits for new residential buildings; approximately 53,900 were completed.</p> <p>At present, 2017 so far has shown an increase.</p>		
1.9	If possible, share of non-residential buildings constructed per year (estimate, included in the number given in 1.7)	<p>11,3%</p> <p>In 2015, there were 2,500 applications for permits for new non-residential buildings, approximately 6,300 were completed. A permit may apply to multiple buildings.</p> <p>In 2016, there were 2,600 applications for permits for new non-residential buildings, approximately 6,800 were completed.</p>	Statistics Netherlands (www.cbs.nl)	6,550 van 58k = 11.3%
1.10	Useful floor area of buildings constructed per year in million square meters (estimate)	Residential buildings have an average floor area of 119 m ² .		

2. KIDs for New Buildings

no	Key Implementation Decision - New Buildings	Description / value / response	Comments	Description																																				
2.1	Requirements for energy performance of residential buildings in current building code	EPC \leq 0.4	Included in the Buildings Decree as of 1-1-2015																																					
2.2	Requirements for energy performance of non-residential buildings in current building code	Dependent on function / use: <table border="1" data-bbox="1037 635 1256 1474"> <thead> <tr> <th data-bbox="1037 635 1256 699"></th> <th colspan="2" data-bbox="1037 635 1256 699">EPC requirement</th> </tr> <tr> <th data-bbox="1037 699 1256 762"></th> <th data-bbox="1037 699 1120 762">2014</th> <th data-bbox="1037 699 1256 762">2015</th> </tr> </thead> <tbody> <tr> <td data-bbox="633 762 1037 826">Meeting purposes</td> <td data-bbox="1037 762 1120 826">2.0</td> <td data-bbox="1037 762 1256 826">1.1</td> </tr> <tr> <td data-bbox="633 826 1037 890">Detention purposes</td> <td data-bbox="1037 826 1120 890">1.8</td> <td data-bbox="1037 826 1256 890">1.0</td> </tr> <tr> <td data-bbox="633 890 1037 986">Health care purposes with bed area(s)</td> <td data-bbox="1037 890 1120 986">2.6</td> <td data-bbox="1037 890 1256 986">1.8</td> </tr> <tr> <td data-bbox="633 986 1037 1082">Health care purposes other than with bed area(s)</td> <td data-bbox="1037 986 1120 1082">1.0</td> <td data-bbox="1037 986 1256 1082">0.8</td> </tr> <tr> <td data-bbox="633 1082 1037 1145">Office purposes</td> <td data-bbox="1037 1082 1120 1145">1.1</td> <td data-bbox="1037 1082 1256 1145">0.8</td> </tr> <tr> <td data-bbox="633 1145 1037 1241">Accommodation purposes in accommodation building</td> <td data-bbox="1037 1145 1120 1241">1.8</td> <td data-bbox="1037 1145 1256 1241">1.0</td> </tr> <tr> <td data-bbox="633 1241 1037 1305">Education purposes</td> <td data-bbox="1037 1241 1120 1305">1.3</td> <td data-bbox="1037 1241 1256 1305">0.7</td> </tr> <tr> <td data-bbox="633 1305 1037 1369">Sports purposes</td> <td data-bbox="1037 1305 1120 1369">1.8</td> <td data-bbox="1037 1305 1256 1369">0.9</td> </tr> <tr> <td data-bbox="633 1369 1037 1433">Commercial purposes</td> <td data-bbox="1037 1369 1120 1433">2.6</td> <td data-bbox="1037 1369 1256 1433">1.7</td> </tr> <tr> <td data-bbox="633 1433 1037 1474">Homes and residential buildings</td> <td data-bbox="1037 1433 1120 1474">0.6</td> <td data-bbox="1037 1433 1256 1474">0.4</td> </tr> </tbody> </table>		EPC requirement			2014	2015	Meeting purposes	2.0	1.1	Detention purposes	1.8	1.0	Health care purposes with bed area(s)	2.6	1.8	Health care purposes other than with bed area(s)	1.0	0.8	Office purposes	1.1	0.8	Accommodation purposes in accommodation building	1.8	1.0	Education purposes	1.3	0.7	Sports purposes	1.8	0.9	Commercial purposes	2.6	1.7	Homes and residential buildings	0.6	0.4	Included in the Buildings Decree as of 1-1-2015	
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2.3	Is the performance level of nearly zero energy (NZEB) for new buildings set in national legislation?	Yes	<p>Certain components of the Buildings Decree 2012 (Bb) were amended on 24 November 2015. The following amendments were made to the Building Decree.</p> <p>The following definition was added to Article 1.1: <i>“Nearly zero energy building: building with a very high energy performance, where the very low or near zero energy consumption required is delivered from renewable sources to a very significant extent and which is produced on site or close by”</i></p> <p>The following new paragraphs were added to Article 5.2:</p> <p>Article 5.2, paragraph five stipulates that new buildings owned by the government and which house government agencies shall be nearly zero energy. This paragraph shall enter into force on 1 January 2019.</p> <p>Article 5.2, paragraph six stipulates that new buildings different from the buildings referred to in paragraph five shall be nearly zero energy. This paragraph shall enter into force on 31 December 2020.</p> <p>Article 5.2, paragraph seven: Guidelines may be issued by ministerial decree on that which is stipulated in paragraphs four to six.</p> <p>As such, Article 9, paragraph 1, sub a and b of the EPBD have been transposed into legislation.</p> <p>The requirements have not yet been established definitively. In 2018, a review will be conducted to assess whether the requirements are at cost-optimal level. It is expected that the requirements will be financially viable for the largest share of the buildings in 2021. High-rise buildings higher than five floors, studios and commercial buildings are to be given special attention in this endeavour.</p>	
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2.4	Nearly zero energy (NZEB) level for residential buildings (if set)	<p>Intended levels from 2021:</p> <p>Energy need ≤ 25 kWh/m².yr</p> <p>Primary fossil energy use ≤ 25 kWh/m².yr</p> <p>Share of renewables $\geq 50\%$</p>	<p>Intended levels from 2021 (public buildings from 2019)</p> <table border="1" data-bbox="1285 220 1998 743"> <thead> <tr> <th data-bbox="1285 252 1480 316">Function of building</th> <th data-bbox="1525 236 1659 331">1- Energy needs kWh/m².yr</th> <th data-bbox="1693 225 1827 343">2- Primary fossil energy use kWh/m².yr</th> <th data-bbox="1854 236 1989 331">3- Share of renewable energy %</th> </tr> </thead> <tbody> <tr> <td data-bbox="1285 395 1420 491">Homes and residential buildings</td> <td data-bbox="1525 395 1559 419">25</td> <td data-bbox="1693 395 1727 419">25</td> <td data-bbox="1854 395 1888 419">50</td> </tr> <tr> <td data-bbox="1285 523 1480 547">Utility buildings</td> <td data-bbox="1525 523 1559 547">50</td> <td data-bbox="1693 523 1727 547">25</td> <td data-bbox="1854 523 1888 547">50</td> </tr> <tr> <td data-bbox="1285 587 1435 643">Educational buildings</td> <td data-bbox="1525 587 1559 611">50</td> <td data-bbox="1693 587 1727 611">60</td> <td data-bbox="1854 587 1888 611">50</td> </tr> <tr> <td data-bbox="1285 683 1435 738">Health care buildings</td> <td data-bbox="1525 683 1559 707">65</td> <td data-bbox="1693 683 1749 707">120</td> <td data-bbox="1854 683 1888 707">50</td> </tr> </tbody> </table>	Function of building	1- Energy needs kWh/m ² .yr	2- Primary fossil energy use kWh/m ² .yr	3- Share of renewable energy %	Homes and residential buildings	25	25	50	Utility buildings	50	25	50	Educational buildings	50	60	50	Health care buildings	65	120	50	
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2.5	Nearly zero energy (NZEB) level for non-residential buildings (if set)	<p>Depending on the function of the building utilities/education/healthcare the intended levels (from 2021) are:</p> <p>Energy needs $\leq 50/50/65$ kWh/m². yr</p> <p>Primary fossil energy use $\leq 25/60/120$ kWh/m².yr</p> <p>Share of renewable energy $\geq 50\%$</p>	See 2.4																					
2.6	Are nearly zero energy buildings (NZEB) defined using a carbon or environment indicator	no																						
2.7	Year for nearly zero energy (NZEB) to be implemented for residential buildings	January 2021																						
2.8	Year for nearly zero energy (NZEB) to be implemented for non-residential buildings	January 2021 for commercial and 2019 for public buildings.																						

2.9	Is renewable energy a part of the overall or an additional requirement	Renewables are included in the indicator for Primary fossil energy use and there is a separate indicator for Renewable energy		
2.10	Specific comfort criteria for new buildings, provide specific parameters for instance for airtightness, minimum ventilation rates	No comfort indicator, but in the Energy need and Primary fossil energy use, 'summer comfort' is counted. Ventilation rates are a part of the building code.		

3. KIDs for Existing Buildings

no	Key Implementation Decision - Existing Buildings	Description / value / response	Comments	Description
3.1	Is the level of nearly zero energy (NZEB) for existing buildings set in national legislation?	no		
3.2	Is the level of nearly zero energy (NZEB) for existing buildings similar to the levels for new buildings?	Currently, a study is being conducted of the technical feasibility and costs of renovating residential buildings to NEZB standards.		
3.3	Definition of nearly zero energy (NZEB) for existing residential buildings (if different from new buildings)	Currently, a study is being conducted of the technical feasibility and costs of renovating residential buildings to NEZB standards.		
3.4	Definition of nearly zero energy (NZEB) for existing non-residential buildings (if different from new buildings)	Study ongoing, see 3.2 and 3.3		
3.5	Overall minimum requirements in case of major-renovation	Yes	<p>Four categories/situations can be differentiated in regard to renovation:</p> <ol style="list-style-type: none"> 1. Renovation: this shall refer to the partial renovation, renewal, or alteration, or expansion of a building. <ul style="list-style-type: none"> • Article 5.6 Building Code, paragraph 1: The legally obtained level shall apply to thermal insulation with $R_c = 1.3 \text{ m}^2\text{K/W}$ as the lower bound. The legally obtained level also applies to the airflow rate. 2. Renovation by renewing or replacing insulation layers. <ul style="list-style-type: none"> • Article 5.6 Building code, paragraph 2: Thermal insulation R_c at least 2.5 floor / 1.3 façade / $\text{m}^2\text{K/W}$ roof / U max. $2.2 \text{ W/m}^2\text{K}$ for the average regarding windows, doors, etc. or the legally obtained level if this provides better energy performance. 	

			<p>3. Major renovation and/or the total construction or entire renovation of a dormer or of a corresponding construction as referred to in Annex II of the Environmental Law Decree.</p> <ul style="list-style-type: none"> • Article 5.6, paragraph 3 Thermal insulation (see table 5.1 Bb: Rc at least 3.5 floor / 4.5 façade) <p>4. Renovation with modifications to the technical building system: a (partial) renovation, modification or expansion of the technical building system (read: the technical equipment).</p> <ul style="list-style-type: none"> • Article 6.55 Building code, table 6.55, system efficiencies: <ul style="list-style-type: none"> ○ Heating system for residential purposes, not local: 0.71 ○ Heating system for other purposes, not local: 0.65 ○ Local heating system: 0.63 ○ Water heating system: 0.29 ○ Cooling system: 0.75 ○ Ventilation system with fan capacity > 5,000 m³/h. <p>The renovation guidelines for thermal insulation were also made more stringent on 24 November 2015. The second paragraph of Article 5.6 Building Code was amended to that end as described under 2. This article saw the third paragraph of Article 7 of the Directive transposed into legislation.</p>	
3.6	Minimum requirements for individual building parts in case of renovation	yes	See 3.5	

4. KIDs for Energy Performance Certificates, EPCs

no	Key Implementation Decision - Energy Performance Certificates	Description / value / response	Comments (replace text)	Description
4.1	National database for EPCs	EPCs are registered.	In the Netherlands, the letters of energy labels for buildings are registered on www.ep-online.nl and are retrievable per address on that site. The energy labels themselves, including the underlying information to those label letters and the recommendations of energy-saving measures, in principle, are only available to building owners.	
4.2	Number of energy performance certificates per year (for instance average of 3 years)	502,000 on average per year.	Total number of residential buildings with a valid, definitively registered energy label in VEL (Simplified energy label application) from 1-1-2015: 581,290 (as of 1-4-2017) Total number of residential buildings with a valid, definitively registered energy label via the EI route from 1-1-2015: 548,371 (as of 1-4-2017)	
4.3	Number of EPCs since start of scheme	1,129,661	Total number of registered energy labels as of April 2017: 1,129,661	
4.4	Number of assessors	As of 9-3-2017 there were 952 Recognised Experts.	In order to qualify as a Recognised Expert, applicants must take an exam (if they are not already a certified EPA advisor or EPA assessor) and attend an instruction course at the Netherlands Enterprise Agency. If an applicant does not have an EPA diploma, he or she may take the 'Recognised expert for energy labels in residential construction' exam at the SVM-NIVO. This is a simpler exam than the EPA advisor (or EPA assessor) exam. There are no differences regarding the simplified energy label. Only certified EPA advisors are permitted to conduct EI recordings and registrations. Should the relevant EPA advisor also have attended the foregoing instruction course and have access to VEL, then he or she may also assess and register simplified energy labels.	

4.5	Basic education requirements for assessors		<p>There are no basic education requirements for candidates to take part in the SVM-NIVO exam 'Recognised expert for energy labels in residential construction'. Any preparation is based on independent study. In addition, it has been shown that a large majority of people active as recognised experts have an EPA advisor/EPA assessor background. As such, they are in possession of an EPA diploma, for which they have been educated. The basic requirements to be admitted to the EPA advisor course are: 'good professional and intellectual abilities and education or experience in the field of construction or building systems' (source:http://buildinglabel.com/licentiehouder/aan-de-slag/?gclid=CK24_sTX0NMCFYoQ0wod5moJSQ)</p>	
4.5	Additional training demands for assessors		<p>Experts must attend an instruction course at the RVO before they are recognised as Recognised Experts.</p>	
4.6	Quality assurance system		<p>The Human Environment and Transport Inspectorate is charged with verifying the quality of the recognised experts (based on samples of registered labels).</p> <p>Penalties: The Human Environment and Transport Inspectorate may impose a fine; the RVO may block the account on the web application if a Recognised Expert is shown not to comply with the rules warranting his or her activity on the web application, e.g. if the Recognised Expert is in contravention of the Unfair Trade Practices Act.</p>	

5. KIDs for Inspection Systems

no	Key Implementation Decision - Inspection Systems	Description / value / response	Comments	Description
5.1	Is there a national database for heating inspections	No	<p>The industry associations collect the data of the inspections they have carried out themselves.</p> <p>For gas-fired systems from 20 to 100 kW there is no national database (these systems are not subject to mandatory inspections under the Environmental law. Here we have OK CV for which the OVI Foundation maintains a database.</p> <p>OK CV is the quality label for safe and energy efficient heating practices. An installation company with the OK CV logo meets stringent requirements regarding the inspection and maintenance of central heating boilers.</p> <p>https://ok-cv.nl/</p> <p>For non-gas-fired heating systems and gas-fired heating systems above 100 kW there is a mandatory inspection according to the Environmental law. Here the SCIOS is the executor / administrator who maintains a database.</p> <p>http://www.scios.nl/</p>	
5.2	Is there a national database for cooling inspections / AC	No	<p>The industry associations collect the data of the inspections they have carried out themselves.</p> <p>http://www.rvo.nl/onderwerpen/duurzaam-ondernemen/gebouwen/wetten-en-regels-gebouwen/installatiekeuringen</p>	
5.3	Are inspection databases combined with EPC database for registration of EPCs and inspection reports	No	The databases that are maintained by the market participants are not linked to the EPC database.	

5.4	Choose option A or B for heating systems (inspection or other measures)	Option A + B	Inspections and other measures (energy saving advice), thus A + B.	
5.5	Number of heating inspections; reports per year (if option A)	In total, 7,123 OK CV inspection reports have been registered between March 2015 and October 2016. The number of SCIOS inspections is not yet available at this time.	Source: RVO	
5.5	Choose option A or B for airconditioning systems (inspection or other measures)	Option A		
5.6	Number of air-condition / cooling system inspections; reports per year (if option A)	Not available		



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