



CONCERTED ACTION
ENERGY PERFORMANCE OF BUILDINGS

EPBD Key Implementation Decisions in Belgium - Flemish Region

Status in December 2016

AUTHORS

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NATIONAL WEBSITES

www.energiesparen.be; www.omgevingvlaanderen.be

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)	Office buildings of public organisations	There is a definition of 'public organisation'. In the decree itself is stated that only office buildings of these organisations have to comply in 2019 with the same requirements of other new buildings in 2021.	The definition lists which organisations are considered as 'public'.
1.2	Definition of public buildings used by the public (according to article 13)	Building frequently visited by the public because there is a public organisation established in.	There is no definition adopted for the public display of a certificate for public buildings used by the public. The obligation of public display is set in the text of the decree, not in the definitions.	
1.3	Number of residential buildings	<p>Total number of residential buildings: 2,220,608 (apartments included)</p> <ul style="list-style-type: none"> - Floor area smaller than 45 m²: 31,593 (apartments not included) - Floor area between 45 m² and 64 m²: 148,361 (apartments not included) - Floor area between 65 m² and 104 m²: 607,775 (apartments not included) - Floor area larger than 104 m²: 1,317,163 (apartments not included) 	Source: Land register	
1.4	Number of non-residential buildings	416,898	Source: Land register	
1.5	If possible, share of public buildings included in the number given in 1.4	Data not available		

1.6	If possible, share of commercial buildings included in the number given in 1.4	83,297	Source: Land register	
1.7	Number of buildings constructed per year (estimate)	± 28,000 building units	Source: database of final declarations (EPB)	Mean value of last years. Based on new building units rather than on building level.
1.8	If possible, share of residential buildings constructed per year (estimate, included in the number given in 1.7)	95%	Source: database of final declarations (EPB)	Analysis of the data in de EPB-database
1.9	If possible, share of non-residential buildings constructed per year (estimate, included in the number given in 1.7)	4%	Source: database of final declarations (EPB)	Analysis of the data in de EPB-database
1.10	Useful floor area of buildings constructed per year in million square meters (estimate)	4.2 million m ² /year	Estimated by multiplying the mean gross floor area (± 158 m ²) of residential buildings with the number of residential building units (95% of 28,000)	Only residential building units + gross floor area instead of useful floor area

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	Since 2016: E-level E50	E-level = primary energy use (kWh/m ²), divided by a reference value.	Includes: heating, cooling, hot water, auxiliaries, local production																																		
2.2	Requirements for energy performance of non-residential buildings in current building code	Since 2017: E-level set on building level, but based on the relevant functions in the building: <table border="1" data-bbox="674 627 1070 1444"> <thead> <tr> <th>$E_{eis, fct}$</th> <th>2017</th> </tr> </thead> <tbody> <tr><td>Lodging</td><td>80</td></tr> <tr><td>Office</td><td>55</td></tr> <tr><td>School</td><td>55</td></tr> <tr><td>Health with stay</td><td>80</td></tr> <tr><td>Health without stay</td><td>80</td></tr> <tr><td>Health operating rooms</td><td>60</td></tr> <tr><td>Gathering high occupation</td><td>80</td></tr> <tr><td>Gathering low occupation</td><td>80</td></tr> <tr><td>Gathering refectory</td><td>70</td></tr> <tr><td>Kitchen</td><td>70</td></tr> <tr><td>Commerce</td><td>70</td></tr> <tr><td>Sport: hall</td><td>65</td></tr> <tr><td>Sport: fitness, gym</td><td>65</td></tr> <tr><td>Sport: sauna, pool</td><td>65</td></tr> <tr><td>Technical function</td><td>55</td></tr> <tr><td>Common function</td><td>55</td></tr> </tbody> </table>	$E_{eis, fct}$	2017	Lodging	80	Office	55	School	55	Health with stay	80	Health without stay	80	Health operating rooms	60	Gathering high occupation	80	Gathering low occupation	80	Gathering refectory	70	Kitchen	70	Commerce	70	Sport: hall	65	Sport: fitness, gym	65	Sport: sauna, pool	65	Technical function	55	Common function	55	E-level = primary energy use (kWh/m ²), divided by the primary energy use of the same building with a reference set of measures.	Includes: heating, cooling, hot water, auxiliaries, lighting, local production Requirement for a building with multiple functions is calculated, based on the share of gross floor area: $E_{eis} = \frac{\sum_f A_{gross, fct} \cdot E_{eis, fct}}{A_{gross}}$
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		Other	85																																						
		Unknown	85																																						
2.3	Is the performance level of nearby zero energy (NZEB) for new buildings set in national legislation?	Yes, but only implicit. There is a path towards NZEB in 2021, but there is no explicit mentioning of 'NZEB'.		The Energy decree of the Flemish government sets the requirements of 2021 (E-level)	Yes + only in regional (Flemish) legislation																																				
2.4	Nearly zero energy (NZEB) level for residential buildings (if set)	E30 (+ all other requirements)		Other requirements also apply: <ul style="list-style-type: none"> • Maximal U-values • Ventilation requirements • Minimal share of RES • ... 																																					
2.5	Nearly zero energy (NZEB) level for non- residential buildings (if set)	<table border="1"> <tr> <td>$E_{eis, fct}$</td> <td>2021</td> </tr> <tr> <td>Lodging</td> <td>70</td> </tr> <tr> <td>Office</td> <td>50</td> </tr> <tr> <td>School</td> <td>55</td> </tr> <tr> <td>Health with stay</td> <td>70</td> </tr> <tr> <td>Health without stay</td> <td>65</td> </tr> <tr> <td>Health operating rooms</td> <td>50</td> </tr> <tr> <td>Gathering high occupation</td> <td>65</td> </tr> <tr> <td>Gathering low occupation</td> <td>65</td> </tr> <tr> <td>Gathering refectory</td> <td>60</td> </tr> <tr> <td>Kitchen</td> <td>55</td> </tr> <tr> <td>Commerce</td> <td>60</td> </tr> <tr> <td>Sport: hall</td> <td>50</td> </tr> <tr> <td>Sport: fitness, gym</td> <td>40</td> </tr> <tr> <td>Sport: sauna, pool</td> <td>50</td> </tr> <tr> <td>Technical function</td> <td>45</td> </tr> <tr> <td>Common function</td> <td>50</td> </tr> <tr> <td>Other</td> <td>80</td> </tr> </table>		$E_{eis, fct}$	2021	Lodging	70	Office	50	School	55	Health with stay	70	Health without stay	65	Health operating rooms	50	Gathering high occupation	65	Gathering low occupation	65	Gathering refectory	60	Kitchen	55	Commerce	60	Sport: hall	50	Sport: fitness, gym	40	Sport: sauna, pool	50	Technical function	45	Common function	50	Other	80	Other requirements also apply: <ul style="list-style-type: none"> • Maximal U-values • Ventilation requirements • Minimal share of RES • ... 	
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		Unknown	80		
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	2021		Building permit application in 2021	
2.8	Year for nearly zero energy (NZEB) to be implemented for non-residential buildings	2021		Building permit application in 2021	
2.9	Is renewable energy a part of the overall or an additional requirement	Additional requirement + influence on the E-level			
2.10	Specific comfort criteria for new buildings, provide specific parameters for instance for airtightness, minimum ventilation rates	There are ventilation requirements (as additional requirements) + influence on the E-level (airtightness and quality of the ventilation system). For new residential buildings there is also an additional requirement considering overheating (with a maximal value)			

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?	Partly: only for deep renovations that are considered equivalent to new buildings	Deep renovations (in this context): large new or rebuilt building volumes > 800 m ³ or containing a new residential unit. Maximal U-values for all renovations correspond with the requirements for new buildings.	
3.2	Is the level of nearly zero energy (NZEB) for existing buildings similar to the levels for new buildings?	Partly: only for deep renovations that are considered equivalent to new buildings	Deep renovations (in this context): large new or rebuilt building volumes > 800 m ³ . Maximal U-values for all renovations correspond with the requirements for new buildings.	
3.3	Definition of nearly zero energy (NZEB) for existing residential buildings (if different from new buildings)	In 2050 existing residential buildings should be as efficient as a new building in 2016 Two possibilities: <ul style="list-style-type: none"> - Package of measures (U-values and heating) - Energy performance score 	1) Package of measure: maximal U-values for the components of the building envelope (roof, walls and floors $U_{max}=0.24$ W/m ² .K, doors $U_{max}=2$ W/m ² .K, windows 1.5 W/m ² .K, and glass $U_{max}=1.1$ W/m ² .K) + minimal standards for heating installations (highly energy efficient installation, cogeneration, heat pump, district heating or electrical heating of max 15 kW) + in communication attention to ventilation, airtightness and solar protection 2) Energy performance score: E60 of 100 kWh/m ² and information on the performance of the envelope (S-level)	
3.4	Definition of nearly zero energy (NZEB) for existing non-residential buildings (if different from new buildings)	No specific definition		

3.5	Overall minimum requirements in case of major-renovation	<p>Major renovation (as in EPBD) can in Flanders be a:</p> <ul style="list-style-type: none"> • Renovation equivalent to new buildings: see above • Major energetic renovation (75% of the envelope + replacement of the installations): E-level E90 • Renovation: no E-level, but requirements on renovated building parts and renovated systems 																			
3.6	Minimum requirements for individual building parts in case of renovation	<p>Maximal U-values for all renovations correspond with the requirements for new buildings.</p> <p>The requirements only apply to building parts that are renovated or insulated</p>	<table border="1"> <thead> <tr> <th data-bbox="1205 544 1576 624">Building parts</th> <th data-bbox="1576 544 1731 624">U_{max} (W/m²K)</th> </tr> </thead> <tbody> <tr> <td data-bbox="1205 624 1576 671">New building parts</td> <td data-bbox="1576 624 1731 671"></td> </tr> <tr> <td data-bbox="1205 671 1576 719">Transparent constructions</td> <td data-bbox="1576 671 1731 719">1.5, $U_g=1.1$</td> </tr> <tr> <td data-bbox="1205 719 1576 807">Opaque constructions (walls, ceilings, floors)</td> <td data-bbox="1576 719 1731 807">0.24</td> </tr> <tr> <td data-bbox="1205 807 1576 927">Doors, curtain facades, glass bricks, transparent other than glass</td> <td data-bbox="1576 807 1731 927">2.0, $U_g=1.1$, $U_{tp}=1.4$</td> </tr> <tr> <td data-bbox="1205 927 1576 1078">Existing building parts in contact with the outdoor environment that are insulated</td> <td data-bbox="1576 927 1731 1078"></td> </tr> <tr> <td data-bbox="1205 1078 1576 1126">On the outside</td> <td data-bbox="1576 1078 1731 1126">0.24</td> </tr> <tr> <td data-bbox="1205 1126 1576 1174">By filling the existing cavity</td> <td data-bbox="1576 1126 1731 1174">0.55</td> </tr> </tbody> </table>		Building parts	U_{max} (W/m ² K)	New building parts		Transparent constructions	1.5, $U_g=1.1$	Opaque constructions (walls, ceilings, floors)	0.24	Doors, curtain facades, glass bricks, transparent other than glass	2.0, $U_g=1.1$, $U_{tp}=1.4$	Existing building parts in contact with the outdoor environment that are insulated		On the outside	0.24	By filling the existing cavity	0.55	<p>Table contains requirements for 2016.</p> <p>The table is simplified.</p> <p>Other maximal U-values are applied for certain types of internal walls and walls to adjacent parcels.</p>
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4. KIDs for Energy Performance Certificates, EPCs

no	Key Implementation Decision - Energy Performance Certificates	Description / value / response	Comments	Description
4.1	National database for EPCs	Regional	EPC-database for the Flemish region. This database contains EPC's for residential, non-residential and public buildings.	
4.2	Number of energy performance certificates per year (for instance average of 3 years)	<p>EPC residential buildings:</p> <ul style="list-style-type: none"> - 2014: 135,378 - 2015: 104,962 - 2016: 103,499 <p>EPC Public buildings:</p> <ul style="list-style-type: none"> - 2014: 699 - 2015: 687 - 2016: 272 <p>EPC new buildings:</p> <p>Residential:</p> <ul style="list-style-type: none"> - 2014: 27,544 - 2015: 26,127 - 2016: 27,774 <p>Non-residential:</p> <ul style="list-style-type: none"> - 2014: 426 - 2015: 430 - 2016: 425 <p>EPC after major energetic renovation:</p> <ul style="list-style-type: none"> - 2015: 4 - 2016: 99 		

4.3	Number of EPCs since start of scheme	<p>EPC residential buildings:</p> <ul style="list-style-type: none"> - Total: 1,254,741 - Valid: 927,806 <p>EPC public buildings:</p> <ul style="list-style-type: none"> - Total: 9,921 - Valid: 9,048 <p>EPC new buildings:</p> <ul style="list-style-type: none"> - Total: 205,505 - Valid: 205,505 <p>EPC after major energetic renovation:</p> <ul style="list-style-type: none"> - Total: 103 - Valid: 103 	<p>EPC residential buildings: from September 2008 until December 2016</p> <p>EPC public buildings: from December 2008 until December 2016</p> <p>EPC new buildings: from January 2007 until December 2016.</p>	
4.4	Number of assessors	<p>EPC residential buildings:</p> <ul style="list-style-type: none"> - 6,381 registered qualified experts - 1,979 active qualified experts <p>EPC public buildings:</p> <ul style="list-style-type: none"> - 1,375 registered qualified experts - 922 internal qualified experts <p>EPC new buildings:</p> <ul style="list-style-type: none"> - 1,554 registered qualified experts - 1,154 active qualified experts 	<p>Registration is mandatory for each type of qualified expert.</p> <p>Active qualified expert for residential buildings: A qualified expert is considered active when he has issued at least one EPC in the past year and has issued over all the years at least 10 EPC's.</p> <p>The internal experts are employees of the public organisation with two years of experience with energy efficiency. No exam is needed for internal experts.</p> <p>Active qualified expert for new buildings: A qualified expert is considered active when he has issued at least one initial declaration or one final declaration in the past years.</p>	
4.5	Basic education requirements for assessors	<p>EPC residential buildings:</p> <p>No predefined qualifications are needed for qualified experts.</p> <p>EPC public buildings:</p> <p>No predefined qualifications are needed</p>	<p>There is no practice experience needed before the approval as assessor.</p>	

		<p>for qualified experts.</p> <p>EPC new buildings:</p> <p>A degree in architecture or engineering is needed.</p>		
4.5	Additional training demands for assessors	<p>EPC residential buildings: Yes</p> <p>A candidate qualified expert should follow a recognised training programme and pass the centralised exam.</p> <p>A mandatory scheme of permanent training must be followed each year.</p> <p>EPC public buildings: Yes</p> <p>A candidate qualified expert should follow a recognised training course and pass a centralised exam.</p> <p>EPC new buildings: Yes</p> <p>A candidate qualified expert should follow a recognised training course and pass a centralised exam.</p> <p>A mandatory scheme of permanent training must be followed each year.</p>		
4.6	Quality assurance system	<p>EPC residential buildings:</p> <p>Sample tests on availability and advertisements:</p> <ul style="list-style-type: none"> - Desk controls - Sanction: Fine <p>Quality checks:</p> <ul style="list-style-type: none"> - Desk controls - Site visits - Sanction <ul style="list-style-type: none"> o Fine o Suspension 		

		<p>EPC public buildings:</p> <p>Sample tests on availability</p> <ul style="list-style-type: none">- Desk controls- Sanctions: fine <p>Quality checks</p> <ul style="list-style-type: none">- Desk controls- Sanction<ul style="list-style-type: none">o Fineo Suspension <p>EPC new buildings:</p> <p>Sample tests on availability of initial and final declarations</p> <ul style="list-style-type: none">- Desk controls- Site visits- Sanctions: fine <p>Quality checks:</p> <ul style="list-style-type: none">- Desk controls- Site visits- Sanction<ul style="list-style-type: none">o Fineo Suspension <p>Requirements:</p> <ul style="list-style-type: none">- Automatic control of final declarations in database- Sanction<ul style="list-style-type: none">o Fine		
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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	A new application feeding a database will be released in 2017 (first on a voluntary basis, in a later stage mandatory)	
5.2	Is there a national database for cooling inspections / AC	Yes (Flanders)		
5.3	Are inspection databases combined with EPC database for registration of EPCs and inspection reports	No		
5.4	Chosen option A or B for heating systems (inspection or other measures)	A		
5.5	Number of heating inspections; reports per year (if option A)	Unknown	With the implementation of the new application, statistics will become available.	
5.5	Chosen option A or B for heating systems (inspection or other measures)	A		
5.6	Number of air-condition / cooling system inspections; reports per year (if option A)	679	Exact amount, derived from the central database.	



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