

EU Taxonomy Alignment Methodology Document for Sustainable Residential Buildings in Belgium

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Argenta Bank- en Verzekeringsgroep (Argenta Group) provides retail financial services for families in Belgium and the Netherlands, through Argenta Spaarbank (banking) and Argenta Assuranties (insurance).

Founded in 1956, Argenta is today Belgian's fifth largest banking institution by customer deposits, with over 1.7 million customers. Its product offering that focusses on simplicity and long-term relationships of trust with the clients builds on four pillars:

- Savings
- Lending
- Insurance
- Investments

The group operates in Belgium through an extensive network of local self-employed, tied agents.

Mission & Vision

Argenta wants to assist families and individuals in living financially healthy lives in a simple, honest and close-at-hand way. Additionally, this mission takes into account the company values, that have marked Argenta's strategy and corporate culture from the outset:

- Simple, 'no frills'
- Honest
- Close-at-Hand
- Enterprising and Independent
- Future-oriented and Safe

Argenta is an independent bank-insurer with an excellent customer service and long-term relationships with all its stakeholders.

It is a solid and stable institution with strong capital and liquidity ratios and sound risk and investment policies. The rapid digital evolution goes hand-in-hand with special attention to cyber security and data protection.

In Belgium, Argenta wants to be easily accessible through its self-employed distribution partners but also digitally with a range of retail banking and insurance products tailored to individuals and families.

In the Netherlands, distribution takes place digitally and through independent distribution channels, with a focus on mortgage loans.

In Luxembourg, Argenta manages investment funds.

Intent of this document

Annex I (Climate Change Mitigation) of the EU Taxonomy Delegated Regulation from June 2020, chapter 7.7., supplementing Regulation (EU) 2020/852 of the European Parliament and the Council formulates the Technical Screening Criteria (TSC) for sustainable buildings for "Substantial contribution to climate change mitigation" as follows: *For buildings built before 31 December 2020, the building has at least an Energy Performance Certificate (EPC) class A. As an alternative, the building is within the top 15% of the national or regional building stock expressed as operational Primary Energy Demand (PED) and demonstrated by adequate evidence, which at least compares the performance of the relevant asset to the performance of the national or regional stock built before 31 December 2020 and at least distinguishes between residential and non-residential buildings.*

Primary Energy Demand (PED) refers to the quantity to obtain the total amount of energy that a dwelling demands from fossil fuels such as gas and electricity. The higher the number of residents or the bigger the living space, the greater the primary energy demand. To achieve the required primary energy demand of a residential building, sustainability and retrofiting strategies are essential to reduce primary energy consumption and improve the energy rating.

The metric to express the calculated energy demand is an E-level in Flanders and an Espec-level in Wallonia and varies per size of the building and number of residents.

CFP has been asked to provide consulting services to develop a methodology and adequate evidence to define the top 15% sustainable residential buildings in Belgium, following the Delegated Regulation. CFP was not asked to investigate the DNSH criteria, such as climate change adaptation.

Executive Summary

Sustainable existing residential buildings within the top 15% of the national or regional building stock expressed as operational Primary Energy Demand (PED) in the Belgian context have been determined as follows:

- Residential buildings with Energy Performance Certificates (EPC)¹ rating A belong to the top 15% in Belgium.
- Newly built residential buildings constructed after 2012 belong to the top 15% in Flanders (<200 kWh/m²/year).
- Newly built residential buildings constructed after 2010 belong to the top 15% in Wallonia (<170 kWh/m²/year).
- As the building stock evolves over time, and more energy-efficient buildings are constructed, it is recommended to redefine the top 15% regularly.

¹ In this study, the term EPC is used as definition of the energy certificate ('energielabel' in Dutch)

Flanders

EPC labels in Flanders

Energy Performance Certificates are important instruments that should contribute to enhancing the energy performance of buildings. The certificate can potentially influence builders and real estate owners to increase energy efficiency and implement energy-saving measures in renovation projects.

As a consequence of the 2002 European Energy Performance of Buildings Directive (2002/91/EC), EU Member States have to implement Energy Performance Certificates. EPCs play a central role in the context of Article 20 (2) EPBD, which asks the Member States to provide information on the energy performance of buildings to the owner(s) or tenant(s). The information must include the EPC and the inspection report on

which the EPC is based. The importance of EPCs and the attention to the corresponding policies increased due to the recast of the EPBD (Directive 2010/31/EU) in 2010.

An EPC label aims to indicate how energy-efficient a home is and which energy-saving measures can be implemented. The assigned letter of an energy label is determined based on fossil energy consumption, expressed in kilowatt-hours per square meter per year (kWh/m²/yr). The label classes for homes run from A to F. Homes with the label A are the most energy-efficient, and houses labelled F are the least energy efficient. The label also provides an overview of housing characteristics, such as the housing type, insulation, glazing, and heating. The current situation of EPC (Energieprestatiecertificaat) ratings in Flanders is described in the table below.

EPC rating	EPC requirements (kWh/m ² /year)	Number of registered certificates	% of total certificates
A,A+	< 100	17,978	1,89%
B	100 - 200	208,649	21,94%
C	200 - 300	218,079	22,93%
D	300 - 400	156,042	16,41%
E	400 - 500	113,986	11,99%
F	> 500	236,330	24,85%
Total		951,064	100%

Table 1. Distribution of energy performance certificates in Flanders²

² Source for EPC labels: <https://apps.energiesparen.be/energiekaart/vlaanderen/EPC-label-verdeling>

On the 1st of January 2021, there were 3,288.816 residential buildings in Flanders³. The Flemish EPC database contains all 951.064 registered EPC certificates for existing residential buildings. This database covers around 29% of the total residential building stock. Of all buildings with a registered EPC certificate, 1,89% have an EPC Rating A, which indicates a maximum energy demand of 100 kWh/m²/year. Certified energy advisors and audited organisations calculate or validate energy performance certificates⁴. Based on Table 1, residential buildings with an EPC certificate A (that have a maximum energy performance/PED of 100 kWh/m²/year) would be selected for the top 15% most energy-efficient residential buildings.

Flemish building regulation requirements

Of all buildings with a registered Energy Performance Certificate in Flanders, 1,89% have an EPC rating A. This means that 0,55% of the total residential building stock has a registered EPC rating A. However, since we are determining the top 15% of the residential buildings in Flanders, additional criteria are required.

² Source for EPC labels: <https://apps.energiesparen.be/energiekaart/vlaanderen/EPC-label-verdeling>

³ Source for number of residential buildings: Statbel

⁴ Certified energy advisors are an "energiesdeskundige type A".

For more information: <https://www.vlaanderen.be/erkenning-tot-energiesdeskundige-type-a>

Development of the EPB-regulation

In 2006, Flanders introduced the "Energieprestatie en Binnenklimaat", also known as the EPB-regulation. This Building Code sets permitting requirements for energy and indoor climate for all new and significantly renovated residential buildings within Flanders. In Flanders, the energy performance requirements that buildings must meet are expressed in E-levels. An E-level has no unit of measurement. The maximum E-level varies per building persona due to required energy consumption⁵.

For example, the Flemish Building Code 2020 requires a maximum E-level of E35. Moreover, residential buildings with an E-level E60 or lower correspond to an EPC certificate A (maximum PED of 100 kWh/m²/year)⁶. Nearly zero-energy buildings (NZEB) have an E-level of E30 or lower, while buildings with an EPC certificate B (maximum PED of 200 kWh/m²/year) would have an E-level between E70 and E100.

The link between the Building Codes and the E-level is shown in the figure on the right.

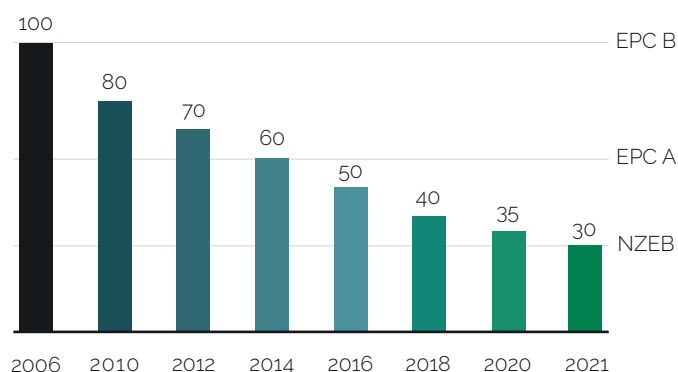


Figure 1. Maximum allowed E-level per year (starting on the first day of the year in Flanders).⁷

As shown, the Flemish Building Regulation has become more stringent over the years regarding energy efficiency and sustainability requirements for new buildings. This has resulted in a decreased primary energy demand. This is reflected in the maximum E-level allowed by the EPB-regulations, which has been lowered over the years, ultimately leading to Nearly Zero-Energy Buildings in 2021. Therefore, new buildings built according to the most recent regulation are likely to have improved efficiency levels compared to older buildings complying with older regulations.

⁵ The E-level is also called the level of primary energy consumption. For more information: <https://www.energiesparen.be/epb-pedia/rekenmethode/e-peil/epw>

⁶ <https://www.energiesparen.be/bouwen-en-verbouwen/epb-pedia/overzicht-epb-wijzigingen/epb-wijzigingen-vanaf-2020/epc-bouw-met-energielabel>

⁷ <https://www.energiesparen.be/bouwen-en-verbouwen/epb-pedia/epb-plichtig-toepassing-en-eisen/epb-eisentabellen-per-aanvraagjaar>

Determining the top 15% of the regional residential building stock

Residential buildings with an EPC rating A are proven to be more energy-efficient, thus have a lower PED than buildings without an EPC rating A. Therefore, in the case of Flanders, it can be confirmed that all buildings with an EPC rating A, 0,55% of the building stock, belong to the top 15%. As this is only a small percentage, the construction year will also be used as a proxy to determine the remaining top 15% most energy-efficient residential buildings. As justified in the section above, new buildings are sustainable as per this requirement as they are more energy-efficient than other residential buildings due to the most recent regulations.

The table on the right shows the newly built buildings from 2009 to 2024, based on the statistiekvlaanderen.be database.

At the time of writing, 439.572 buildings meet one of both criteria: EPC label A or year of construction later or equal to 2010. Considering

Year	Flemish new build residential buildings
2009	30.377
2010	35.940
2011	30.264
2012	33.847
2013	35.495
2014	40.147
2015	33.272
2016	39.541
2017	37.385
2018	49.490
2019	42.887
2020	43.326
2021	50.000
2022	50.000
2023	50.000
2024	50.000

Table 2: New build residential buildings per year of construction (year-end data)

the building stock growth of the following years, we can assume that the criterion for the building year will shift to 2012 in 2022 and 2023. Table 3 shows the development of the year of construction as a criterion.

Assessment year	Residential building stock	Buildings with energylabel A ¹	Year of construction	Amount of buildings constructed	Total amount of buildings in scope	% of building stock
2020	3.288.816	17.978	2010	421.594	439.572	13,37%
2021	3.382.218	30.000	2010	471.594	501.594	14,83%
2022	3.478.273	30.000	2012	455.390	485.390	13,95%
2023	3.577.056	30.000	2012	505.390	535.390	14,97%
2024	3.678.645	30.000	2014	486.048	516.048	14,03%

Table 3: Evolution of the top 15% sustainable residential buildings in Flanders (2020-2024)²

¹ Data about amount of Energy Labels origins from 16-11-2021.

² Calculations are performed using real or estimated year end data.

Conclusion top 15% PED of the residential buildings stock in Flanders

Existing sustainable residential buildings in Flanders must have a PED that belongs to the top 15% of sustainable residential buildings. We recommend 2012 as the building year criterion for the top 15% expressed as operational PED. Residential buildings built after 2012 have an E-level of E70 and therefore correspond to

the most energy-efficient EPC certificates B (maximum PED of 200 kWh/m²/year). The top 15% is evolving due to new buildings being constructed and the growth in EPC certificates A. Therefore, it is recommended to redefine the top 15% regularly.

Wallonia

PEB labels in Wallonia

Energy Performance Certificates are important instruments that should contribute to enhancing the energy performance of buildings. The certificate can potentially influence builders and real estate owners to increase energy efficiency and implement energy-saving measures in renovation projects.

As a consequence of the 2002 European Energy Performance of Buildings Directive (2002/91/EC), EU Member States have to implement Energy Performance Certificates. EPCs play a central role in the context of Article 20 (2) EPBD, which asks the Member States to provide information on the energy performance of buildings to the owner(s) or tenant(s). The information must include the EPC and the inspection report on which the EPC is based. The importance of EPCs and the attention to the corresponding

policies increased due to the recast of the EPBD (Directive 2010/31/EU) in 2010.

The purpose of an EPC label is to indicate how energy-efficient a home is and which energy-saving measures can be implemented. The assigned letter of an energy label is determined based on fossil energy consumption, expressed in kilowatt-hours per square meter per year (kWh/m²/yr). The label classes for homes run from A to G. Homes with the label A are the most energy-efficient, and houses labelled G are the least energy efficient. The label also provides an overview of housing characteristics, such as the housing type, insulation, glazing and heating. In Wallonia the EPC ratings are expressed as Certificats de Performance Énergétique Bâtiment résidentiel existant (PEB certificates). The current situation of PEB ratings in Wallonia is described in the table below.

EPC rating	Espec (kWh/m ² /year)	Number of registered certificates	% of total certificates
A, A+ A++	< 85	4.726	0,95%
B	85 - 170	46.350	9,32%
C	170 - 225	69.830	14,04%
D	225 - 340	77.198	15,53%
E	340 - 425	78.194	15,73%
F	425 - 510	72.058	14,49%
G	> 510	148.880	29,94%
Total		497.236	100%

Table 3. Distribution of energy performance certificates in Wallonia.

On the 1st of January 2021, there were 1.749.879 residential buildings in Wallonia¹. The Walloon PEB database contains all registered PEB certificates for existing residential buildings and covers around 28% of the total residential building stock. Certified energy advisors and audited organisations calculate or validate energy performance certificates.

The most recent statistics from 2018 state that there are 497.236 existing residential Energy Performance Certificates within the Walloon database². Of all buildings with a registered PEB certificate, 0,95% have a rating A, which indicate a maximum primary energy demand of 85 kWh/m²/year. Therefore, A-rated residential buildings correspond to the top 15% most energy-efficient buildings in Wallonia.

Walloon building regulation requirements

Of all buildings with a registered EPC certificate in Wallonia, 0,95% have an EPC rating A. This also means that 0,27% of the total residential building stock have a EPC rating A. However, since we are determining the top 15% of the residential buildings in Wallonia, additional criteria are required.

¹ Source for number of residential buildings: Statbet

² Performance énergétique du parc de bâtiments résidentiels en Wallonie – Edition 2019, CEHD, November 2019 which is available on https://cehd.be/media/1233/19_09_23_rapport_peb.pdf

Development of the PEB-regulation

From 1985 until 2008, there was a thermal regulation in place for new residential buildings, setting minimum requirements on the insulation of newly built residential buildings. From 2008 until 2010, the Walloon region had requirements focussing on thermal insulation, ventilation and other aspects of energy efficiency. In 2010, Wallonia introduced the "Performance Energétique Bâtiments", also known as the PEB-regulation. This Building Code sets permitting requirements for the energy performance of all new and significantly renovated residential buildings within Wallonia. The PEB-regulation expresses a maximum Espec-level for energy consumption in kWh/m²/year. Each Espec-level then represents the maximum allowed PED in kWh/m²/year for dwellings. The maximum Espec-level varies per building persona as a result of required energy consumptions. For example, the Walloon Building Code 2021 requires a maximum Espec-level of 85.

The correspondence between the Building Codes and the Espec-level is shown in Figure 2. As shown, the Walloon Building Regulation has become more stringent in energy efficiency and

sustainability requirements for new buildings, resulting in reduced primary energy demand. This is reflected in the maximum Espec-level allowed by the PEB regulations, which has been lowered over the years, ultimately leading to Nearly Zero-Energy Buildings in 2021. Therefore, new buildings built according to the most recent regulation are likely to have improved efficiency levels compared to older buildings complying with older regulations.

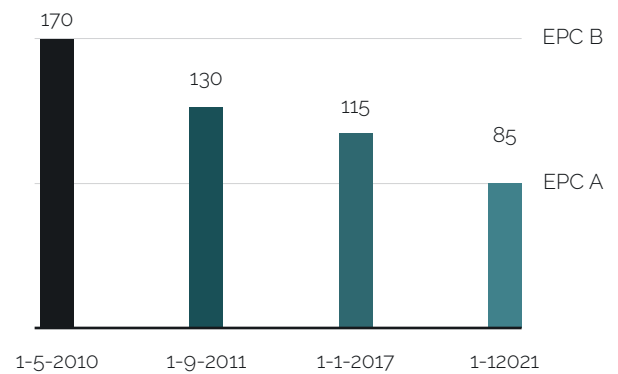


Figure 2. Maximum allowed Espec-level per year according to the PEB-regulation (in kWh/m²/year).

Determining the top 15% of the regional residential building stock

Similar to Flanders, residential buildings in Wallonia with a PEB rating of A are proven to be more energy-efficient than buildings without an energy rating A. Therefore, it can be confirmed that all buildings with an A rating, 0,27% of the building stock, belong to the top 15%. As this is only a small percentage, the construction year will also be used as a proxy to determine the remaining top 15% of the most energy-efficient residential buildings in Wallonia. As justified in the section above, new buildings are sustainable as per this requirement as they are more energy-efficient than other residential buildings due to the most recent regulations. However, since the first regulations remained the same for 23 years (between 1985 – 2008), it is arguable if buildings built during the end of this regulation are more energy-efficient than those built at the start of this regulation. For that reason, buildings constructed before 2008 are not included in the top 15%.

Therefore, residential buildings constructed under the building regulation in force after September 2008 are more energy-efficient due to compliance with the most recent regulations. Taking a time lag of 1 year and 4 months between the introduction of the building permit and the date the loan is fully drawn into account, residential buildings with the year of construction after 2010 can be seen as more energy efficient.

The table below shows the newly built buildings from 2010 to 2024, based on the statistiekvlaanderen.be database.

Year	Walloon new build residential buildings (year-end data)
2010	12.944
2011	11.928
2012	11.634
2013	11.202
2014	12.137
2015	11.326
2016	10.320
2017	11.184
2018	11.681
2019	11.670
2020	11.320
2021	12.000
2022	12.000
2023	12.000
2024	12.000

Table 2: New build residential buildings per year of construction (year-end data)

At the time of writing, 132.072 buildings meet one of both criteria: EPC label A or year of construction later or equal to 2010. Considering the building stock growth of the following

years, we can assume that the criterion for the construction year will still be 2010 in 2023. Table 3 below shows the development of the year of construction as a criterion.

Assessment year	Residential building stock	Buildings with energylabel A	Year of construction	Amount of buildings constructed	Total amount of buildings in scope	% of building stock
2020	1.749.879	4.726	2010	127.346	132.072	7,55%
2021	1.770.003	10.000	2010	139.346	149.346	8,44%
2022	1.790.358	10.000	2010	151.346	161.346	9,01%
2023	1.810.947	10.000	2010	163.346	173.346	9,57%
2024	1.831.773	10.000	2010	175.346	185.346	10,12%

Table 3: Evolution of the top 15% sustainable residential buildings in Wallonia (2020-2024) ¹

Conclusion top 15% of the residential buildings stock in Wallonia

Existing sustainable residential buildings in Wallonia must have a PED that belongs to the top 15% sustainable residential buildings. We recommend 2010 as the building year criterion for the top 15% expressed as operational PED. Residential buildings built after 2010 have a PED

of less than 170 kWh/m²/year and therefore correspond to EPC certificates B. The top 15% is evolving due to new buildings being constructed and the growth in A-rated buildings. Therefore, it is recommended to redefine the top 15% regularly.

¹ Calculations are performed using real or estimated year end data.



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