

Operational delivery of EPCs in Europe – case study

Orla Doherty, Beth Sloan and Fraser Macleod

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Area of interest	Belgium
Overview of governance model	EPCs are governed by authorities at the regional level. This is the Flemish Energy and Climate Energy Agency (VEKA) in Flanders, the Department of Energy and Sustainable Buildings in Wallonia and The Brussels Environment Office (BEO) in Brussels.
Affordability	In Wallonia, EPC prices have been actively controlled by designing a short certification process to reduce costs. This reduced costs from €480 to €240 for single-family houses from the early stages of the scheme to 2020. In Flanders, the price of EPCs is regulated by the market. Prices range from €195 for a small apartment to €345 for a 5-bedroom house. No evidence was identified for Brussels.
Minimum qualifications, training and accreditation for EPC assessors	In Flanders, education pre-requisites are needed to assess certain building types. All assessors undergo training which varies based on the type of buildings they will assess. Assessors sit a central exam, and annual re-training is mandatory. Wallonia has a flexible pathway to eligibility and accept either education or professional experience. Assessors attend a five and a half day training course and complete both an oral and written exam. There are no requirements for continuous professional development. Brussels has subject-specific education requirements for all assessors, who must also sit a 5-day training course and complete an exam. There are no requirements for continuous professional development.
Auditing, verification and quality assurance	Flanders use a combination of random sampling and targeted audits, which include on-site audits on a less frequent basis. A citizen complaints system can trigger a targeted review. Wallonia has a digital 'control web' which automatically screens all EPCs submitted and flags inconsistent data or values. Audits are conducted on a randomly selected statistically significant sample of the total number of EPCs submitted. Brussels conducts audits on a yearly basis and reviews 1.5% of total EPCs issued. Refresher training is mandatory for accredited experts who make frequent mistakes.

Area of interest	Belgium
Enforcement	<p>In Flanders, the responsibility for enforcing the requirement to display an EPC at the point of sale lies with VEKA, although notaries are required to check the existence of an EPC. An administrative fine exists for notaries is possible in the case that a sale or rental is made without the existence of an EPC, but these have not been administered to date. A fine of minimum €500 can be administered to building owners for not displaying an EPC at the point of sale.</p> <p>In Wallonia, minimum fines of €500 can be issued to building owners who do not present an EPC at the point of rent or sale.</p> <p>In Brussels, the BEO are responsible for enforcement. Estate agencies repeatedly reported as non-compliant face fines or potential imprisonment.</p>

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Glossary and abbreviations table

BEO	Brussels Environment Office
Control web	Digital system that automatically screens all EPCs submitted and flags inconsistent data or values
EPBD	Energy Performance of Buildings Directive
EPC	Energy Performance Certificate
EU	European Union
ICS	Independent Control System - EPBD requirement that Member states must allocate responsibility for upholding the quality of EPCs and their associated QA procedures. This can be allocated to a government department or to an external organisation.
MS	Member state
QA	Quality assurance
VEKA	Flemish Energy and Climate Energy Agency

1 Introduction

As per the Energy Performance of Buildings Directive (EPBD), Belgium has implemented an Energy Performance Certificate (EPC) scheme. The responsibility of implementing the EPBD lies with the regional governments in Belgium, who each take their own approach to transposing and implementing the EPBD in practice (European Commission, 2021). Annex IV of the EPBD outlines the requirement set in Article 27 for Member States (MSs) to ensure that an Independent Control System (ICS) for EPCs is implemented. The objective of the ICS is to guarantee the quality of the EPC and of the associated QA procedures. MSs are free to delegate the responsibility for implementing the ICSs as they deem fit (European Commission, 2015). This is also determined regionally in Belgium.

Case study limitations

The objective for delivering this case study was to conduct at least two one-hour interviews with EPC experts from different Belgian regions. The research team conducted an interview with an EPC expert in the Flanders region. Information on the Walloon region was obtained by email correspondence with an EPC expert in the region. The research team was not able to arrange an interview with an EPC expert from the Brussels region. This has resulted in limited information on the effectiveness adopted approaches in the Walloon and Brussels regions.

1.1 Flanders region

In the Flanders region, the responsibility implementing EPCs lies with the Flemish Energy and Climate Energy Agency (VEKA). These responsibilities include the implementation of the ICS (De Meulenaer et al., 2020).

Price regulation

The price of EPCs in the Flanders region is regulated by the market. Multiple factors such as methodology and building type result in the price fluctuating (De Meulenaer et al., 2020). Prices range from €195 for a small apartment to €345 for a 5-bedroom house (Certnergie, n.d.b).

1.2 Walloon region

The EPBD energy performance requirements are transposed through the performance énergétique des bâtiments et électromobilité, adopted in March 2021 (Wallonie energie, 2017). In Wallonia, responsibility of implementing the EPBD and the ICS lies with the Department of Energy and Sustainable Buildings (Fourez et al., 2020).

The prices for an EPC in Wallonia have reduced from €480 (VAT included) to €240 (VAT included) for single-family houses from the early stages of certification to 2020. (Fourez et al., 2020). A representative from Wallonia reported that this is because they have adopted an approach to shorten the certification process, specifically to keep prices low. They did not elaborate on what has been done to shorten the process.

1.3 Brussels region

The Ordinance for the Brussels Air, Climate and Energy Code (COBRACE), adopted in 2015 transposes the EPBD (Danlois et al., 2020). The EPBD is under the authority of the Minister responsible for Climate Change, Environment, Energy and Participatory Democracy (Danlois

et al., 2020). The Brussels Environment Office (BEO) is the Regional Energy Department in Brussels. They are responsible for the implementation of the EPBD and the ICS. Their responsibilities include checking compliance with energy performance requirements and assessor accreditation (Danlois et al., 2020).

No information was identified on whether the price of EPCs is regulated in Brussels.

2 Approach to assessor accreditation and recertification

2.1 Flanders region

In Flanders, VEKA is responsible for training EPC practitioners. There are three different types of Flemish EPC expert, each with different requirements:

Type of assessor	Responsibility	Necessary pre-requisites
Type A energy expert	EPCs for existing residential buildings and small non-residential buildings	No education requirements, but must complete a training course
Type D energy expert ¹	EPCs for existing large non-residential buildings and public buildings	
EPB experts (or EPB assessors) ²	EPCs for new buildings	Must hold a diploma in engineering or architecture and complete a more advanced training course ²

VEKA is responsible for developing tailored training courses for each assessor type. They set the requirements and contents for the courses and approve specific institutions to deliver them. All EPC experts are also required take a central exam. This exam was originally administered by VEKA, then was conducted by external accredited organizations, but will now be administered again by VEKA and the Flemish government.² Further information on why this change was made was not obtained in the duration of this study. An EPC expert in the Flanders region expressed that they believed the accreditation requirements and training programmes adopted by the Flanders region were comprehensive and maintained a high-quality of standards in EPC assessors in Flanders².

Each year, all EPC experts must undertake mandatory re-training for a set number of training hours. The content and length of these courses are decided annually and includes mandatory and optional modules. VEKA approves external organisations to deliver these courses, and professionals can choose from the available options to fulfil the required hours determined by the Minister² (Kranzl, 2020). A Flanders EPC expert interviewee explained that this mandatory retraining enables VEKA to ensure a high level of consistency and accuracy across all EPC assessments is maintained.²

¹ Type B and C energy experts no longer exist in the Flanders region.

² Information obtained in an interview with an EPC expert in the Flanders region

2.2 Walloon region

The Regional Energy Department is responsible for accrediting EPC assessors. Assessors are required to either have one of the following:

- a Master's degree in architecture or engineering
- a Bachelor's degree in construction
- a diploma with a clear link to energy aspects of buildings
- two years or relevant experience.³

EPC assessors must also attend a training course of five and a half days (44 hours). Upon completion of the course, they must pass both a written and an oral exam. The content of the training course is different depending on whether assessors are training to assess residential buildings or non-residential buildings.

The oral exam consists of a presentation lasting one hour on an EPC performed by the candidate to a jury of a minimum two trainers. Assessor applicants must achieve an overall rating of greater than or equal to 60/100.³ Information on who delivers the training course and examinations for accreditation were not obtained in the duration of this study. No requirements for re-certification or continuous improvement in Wallonia were identified during the study.

2.3 Brussels region

The BEO is responsible for accrediting EPC assessors (Ruggieri et al., 2023). Assessors are required to have an architecture, architectural engineering, civil engineering, bioengineering or industrial engineering degree.

EPC assessors must complete a 5-day training course recognised by the BEO and pass a centralised examination (Environnement Bruxelles, 2023). Five training operators are recognised by the BEO, including Certienergie and Mezure (Environnement Bruxelles, 2023). Upon completion of the training and the centralised examination, assessors must receive approval from the BEO (Bruxelles Environnement, 2023). No requirements for recertification or continuous improvement in Brussels were identified during the study.

3 Auditing, verification and quality assurance in the production of EPCs

3.1 Flanders region

VEKA manages a regional database of registered EPC assessors (De Meulenaer et al., 2020). The system is used to issue assessor licenses and provides online tools for EPC assessors to use when issuing EPCs (Kranzl, 2020).

A sample of EPCs issued in the previous month are reviewed monthly to check for consistency and accuracy. This ongoing review process helps identify any discrepancies and

³ Information obtained by asking questions, via email exchange, to an EPC expert in the Wallonia region

ensures that all EPCs meet the required standards. The exact number of desk-based reviews changes each year, but it typically involves a substantial number of EPCs to provide a representative assessment of the overall quality (De Meulenaer et al., 2020). An interviewee estimated that approximately 300-400 random checks are conducted annually. The majority of these are desk-based, but some on-site visits are required. On-site audits are always conducted in the case of a citizen complaint⁴.

According to an EPC expert in the Flanders region interviewed for this study, VEKA conducts a rigorous auditing and quality assurance (QA) process. The multi-tiered approach (including random checks, desk-based reviews and site visits conducted by VEKA employees), as well as the early implementation of the EPC database in the EPC adoption process, are perceived to have helped maintain the integrity and reliability of the EPC system in Flanders⁴. The interviewee didn't believe the same level of rigour was being adopted in some other European Union (EU) MSs as in the Flanders region. They stated that the comprehensive nature of Flanders' QA procedures them apart from many other EU member states. The interviewee believed however, that the number of checks could be higher to be fully representative⁴.

Citizen complaints

Citizens can report suspected non-compliance via an email helpdesk on the Flemish Government EPC software, and the Flemish Energy Agency is responsible for handling them. The systemised mailbox receives the complaints. When an initial desk-based review of the complaint corroborates the complaint, on-site audits are then conducted (De Meulenaer et al., 2020). An EPC expert in the Flanders region estimated that about 10,000 questions are answered each year through the mailbox and 20 to 30 QA assessments take place a year as a result of public complaints in this way. This number is increasing however, with 50 being conducted in 2023 as a result of more measures that are linked to EPCs and an increase of awareness in the media.

Fines and potential suspension of assessors can be issued by VEKA in cases of repeated non-compliance⁴. All fines are predetermined in the decree containing general provisions regarding energy policy (the Energy Decree), adopted in 2009, which ensures uniform penalties are issued for non-compliance (Flanders Government, 2009). They depend on the nature, magnitude and frequency of the infraction and range from €250 - €5000, or temporary suspension of the assessor's accreditation (TU Wien, 2021). If an assessor commits multiple consecutive non-compliance cases, energy experts can risk losing their permit entirely (Kranzl, 2020). An EPC expert in the Flanders region reported that adopting a strict approach to assessor infractions has helped maintain high-quality EPCs. They also believed that as penalties were outlined in law, there are no doubts about the consequences of specific actions for assessors. They reported that this has limited instances of non-compliance and ensured EPCs are accurate and reliable.⁴

3.2 Walloon region

Assessors input the building data they collect into a stand-alone software called PACE, which includes built-in validation rules that prevent incomplete EPCs from being sent to the

⁴ Information obtained in an interview with an EPC expert in the Flanders region

database. A digital system known as the ‘control web’ application then automatically screens all EPCs submitted and flags inconsistent data or values. The system selects a statistically representative number of EPCs per assessor to be manually reviewed (Fourez et al., 2020). The control web also provides an interface for exchange between qualified experts and assessors. Auditors can access a summary panel displaying information on each qualified expert, such as the total number of EPCs submitted, the EPCs with inconsistencies and the EPCs selected for random control⁵ (Fourez et al., 2020).

Buildings Performance Institute Europe (BPIE, 2014) states that penalties are administered in the Wallonia region for qualified/accredited experts for non-compliance with the EPBD. These penalties range from financial fines to mandatory training (BPIE, 2014). Information regarding the types of penalties that correspond to different infractions and how they are determined was not obtained during this study. Sanctions have been introduced for assessor infractions in the form of the following (Fourez et al., 2020):

- A ‘simple warning’ whereby the rules are recalled to the expert
- A warning plus the requirement for mandatory training, meaning that the assessor can continue to work, but has a specific timeframe for completing the training again
- Temporary suspension of accreditation resulting in a requirement to undertake mandatory refresher training and pass an examination
- Permanent withdrawal of accreditation.

3.3 Brussels region

An EPC expert in the Flanders region highlighted that Brussels has recently implemented a database for EPCs, but no further information on the nature of this database was identified during this study. The responsibility for QA of EPCs is allocated to external experts licensed by the BEO (CertiBru, 2024). It is not clear who these experts are nor how they carry out their QA responsibilities. Reviews are conducted on a yearly basis and consist of reviewing 1.5% of total issued EPCs (Danlois et al., 2020). Danlois et al. (2020) found that, despite communication around frequently made mistakes and modifications carried out on the software, no dramatic improvement to EPC quality for dwellings has been observed in the first six years of implementing the regulation.

Mandatory refresher training has been introduced in the Brussels region for accredited experts who make frequent mistakes. If the BEO requires an assessor to complete the retraining, they must attend within a 15-month window. Support for assessors is also provided by the BEO by email or phone to aid assessors regarding any queries they may have about the issuance and QA process (BPIE, 2014).

⁵ Information obtained by asking questions, via email exchange, to an EPC expert in the Wallonia region

4 Use of Administrative fees and levies

The Flanders region has not implemented a lodgement fee for issuing EPCs, EPC assessors can issue and publish EPCs without paying an associated administrative charge⁶.

Similarly, the Walloon region has also not implemented a lodgement fee for issuing EPCs.. An EPC expert in the Walloon region reported that such a fee was not established due to the short timescales in which the EPBD was originally implemented. A fee hasn't been implemented since due to the high administrative cost of implementing and maintaining such a scheme, which the expert believes outweighs the potential benefits gained⁷.

5 Enforcement mechanisms

5.1 Flanders region

In Flanders, the responsibility for enforcing the requirement to display an EPC at the point of sale lies with VEKA. Notaries are required to check the existence of an EPC. An administrative fine exists for Notaries in the case that a sale or rental is made without the existence of an EPC, but these have not been administered to date. A fine of minimum €500 can be administered to building owners for not displaying an EPC at the point of sale⁸. An interview with an EPC expert in the Flanders region reported that they believe the co-operation from notaries has resulted in the requirement to present an EPC at the point of sale to be well-enforced⁸.

5.2 Walloon region

The Walloon government administer minimum fines of €500 to building owners who do not present an EPC at the point of rental or sale. If the same issue is repeated by the same owner within three years, the fine is doubled. Fourez et al. (2020) reported that the fine was applied eleven times in 2019. Enforcement is achieved by administering fines to notaries who do not notify the unavailability of an EPC at the point of rental or sale (TU Wien, 2021).

5.3 Brussels region

Compliance with the requirement to display an EPC at the point of sale or rent lies with the BEO (Danlois et al., 2020). The owner of a building is required to forward the EPC to the new owner upon signing the official deed. Targeted controls have now been implemented that focus on estate agencies that have repeatedly been reported as non-compliant (European Commission, 2015). Instances of non-compliance with this requirement can result in imprisonment for eight to twelve months, and/or a fine of between €25 to €25,000 (Certienergie, n.d.).

⁶ Information obtained during stakeholder consultation with an EPC expert in the Flanders region

⁷ Information obtained during stakeholder consultation with an EPC expert in the Walloon region

⁸ Information obtained in an interview with an EPC expert in the Flanders region.

6 Conclusions

6.1 Flanders region

- Training requirements in Flanders vary depending on the type of assessor accreditation. Mandatory re-training is required for assessors.
- A regional database has been adopted in Flanders for issuing EPCs, EPC licenses and providing information on registered EPC assessors.
- The QA procedure adopted in Flanders is robust and rigorous, involving a two-tiered approach of both targeted and random audits.
- VEKA has implemented a software whereby citizens can notify the Government of cases on non-compliance.
- The approach to enforcement is stringent. Financial sanctions in the form of administrative fines are administered for assessor infractions.
- The requirement to present an EPC at the point of sale is understood to be well-enforced, due to the role notaries play in informing the Government in instances of non-compliance.

6.2 Brussels region

- A specific five-day training programme and centralised examination are required for assessor accreditation.
- Mandatory refresher training has been introduced by the BEO for EPC assessors who make frequent infractions.
- Responsibility of presenting an EPC at the point of sale or rental lies with the seller of a property.

6.3 Walloon region

- To become an EPC assessor, individuals must attend a training course of five and a half days and pass both a written and an oral exam.
- A digital system is in place that automatically screens all EPCs and flags inconsistent data or values. A statistically significant random selection of EPCs per assessor is audited manually. It is understood this approach ensures assessor objectivity and accuracy.
- Mandatory refresher training has also been introduced for assessors who receive a suspension of accreditation sanction.
- Minimum fines of €500 are administered to building owners in instances of non-compliance with the requirement to present an EPC at the point of sale.

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ClimateXChange
Edinburgh Climate Change Institute
High School Yards
Edinburgh EH1 1LZ
+44 (0) 131 651 4783

info@climatexchange.org.uk

www.climatexchange.org.uk

If you require the report in an alternative format such as a Word document, please contact info@climatexchange.org.uk or 0131 651 4783.

www.climatexchange.org.uk