

Implementation of the EPBD in Belgium Flemish Region Status in November 2010

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1 > Introduction

Since the last report published in the spring of 2008, major new steps were taken for the implementation of the EPBD in the Flemish Region. As certification of existing buildings started in 2008, a lot of experience on both new and existing buildings is now available.

The EPBD was implemented in the following phases:

- > Requirements and certification for new buildings since January 2006.
- > Certification of existing residential buildings for sale since November 2008.
- > Certification of existing residential buildings for rent since January 2009
- > Certification of public buildings since January 2009.
- > Regular inspection of natural gas boilers and one-off inspection of the heating system since June 2010. Regular inspection of other types of boilers was already mandatory before the EPBD implementation.
- > Regular inspection of A/C installations since February 2007. In February 2011, specific legislation will be introduced in order to specify the inspection intervals, as well as the method of inspection.

In 2009, there were minor changes in the decree that constitutes the base for the implementation of the requirements and certification scheme. The requirements for new and renovated buildings were tightened on the 1st of January 2010. At this moment, the revision process of the current legislation is launched for the implementation of the recast of the EPBD in 2010, in order to improve the processes based on the experience from the last 5 years, and to set two further steps in the tightening of the requirements.

This report presents an overview of the current status of the implementation and of the plans for the evolution of the implementation of the EPBD in the Flemish Region. It addresses certification and inspection systems, including quality control mechanisms, training of Qualified Experts, information campaigns, incentives and subsidies.

In Belgium, the implementation of the EPBD is a regional responsibility. The Flemish Energy Agency (VEA) and the Ministry of Environment, Nature and Energy are responsible for the implementation in the Flemish Region. VEA is also the managing body for the requirements and certification schemes. VEA designed, developed and supports the requirements and certification system for the Flemish region.

website:

> www.energiesparen.be

2 > Certification

The certification system was implemented in different phases, based on the variety of buildings. The certificate for new buildings is part of the energy performance requirements procedure, which is in force since January 2006. The certificate for existing residential buildings for sale is mandatory since November 2008. In January 2009, the certificate became mandatory for existing residential buildings when rented, as well as for public buildings. The legislation concerning the certification of existing non-residential buildings is already in place, but the software tools are still under construction. The implementation is expected in 2013. The development of the certification system for existing non-residential buildings happens in collaboration with the Brussels and Walloon region.

The methodology, software and qualifications of the qualified experts are different for new buildings, residential buildings and public buildings.

	Existing residential buildings	Public buildings	New buildings	Existing non-residential buildings
Implementation	Since 1/11/2008 (sale) or 1/1/2009 (rent)	Since 1/1/2009	Since 1/1/2006	Legislation is approved but not yet implemented. Expected in 2013.
Qualified Expert	Type A: training course + examination	Type C: training course (attendance mandatory)	'reporter': degree in architecture or engineering needed	Type D: Not defined yet
Calculation	Calculated energy* use in kWh/m ²	Measured energy* use in kWh/m ²	Calculated energy* use E-level	Calculated energy* use in kWh/m ²
Methodology	Mandatory inspection protocol	/	/	Not defined yet
Responsibility for obtaining a certificate	Owner of the building	User of the building - public organisations	Person who asks for the building permit	Not defined yet

* Primary energy

Table 1: Overview of the different certification systems

Existing residential buildings

A certificate must be available from the moment the building is put for sale or for rent. The owner must give a valid certificate to the buyer when the deed is established. In case of rent, the renter must get a copy.

A qualified expert (type A) visits the property and assesses the building in terms of the type of construction (walls, windows, insulation, ventilation, etc.), as well as the type and quality of HVAC and hot water systems. The expert has to use the mandatory certification software offered by VEA. This software calculates the energy score. There is no minimum requirement for an existing building. The energy score which expresses the calculated primary energy use is placed on a colour bar between 0 kWh/m² and 700 kWh/m². The impact of the behaviour of the inhabitants is not taken into account. Old buildings with wasteful use of energy can have a calculated energy score that is much higher than the marked 700 kWh/m² on the scale. In order to be legal, the certificate has to be signed by the qualified expert.

The front page of the Energy Performance Certificate contains:

- the address of the building;
- the type of the building (single-family home or multiple, detached, semi-detached and terraced buildings);
- the software version;
- the energy score: the calculated primary energy use in kWh/m² per year.
- the energy score on the colour bar shows the energy impact of the building: from green (energy friendly) over orange to the red zone (not energy friendly);
- the data of the qualified expert;
- the validity period (10 years).

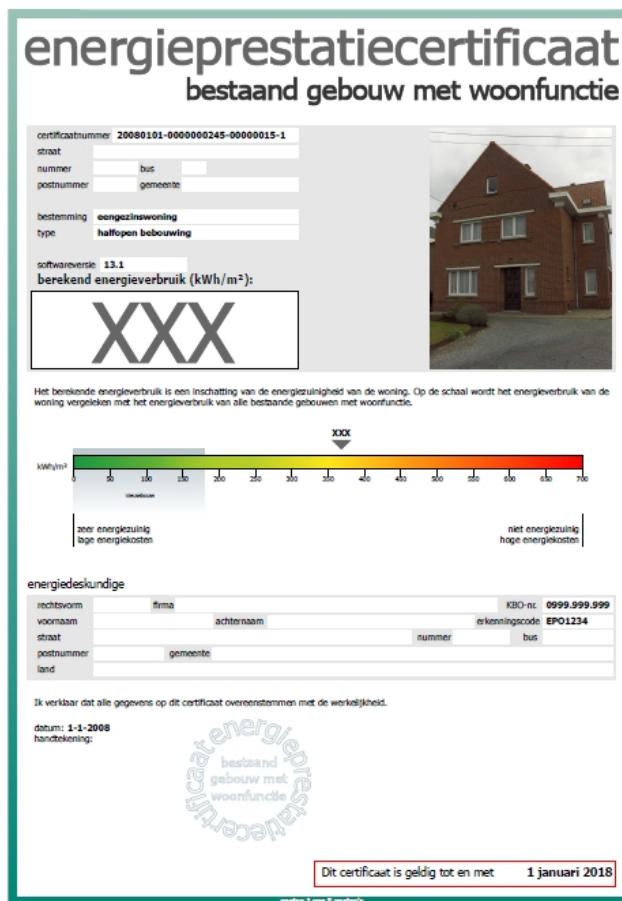
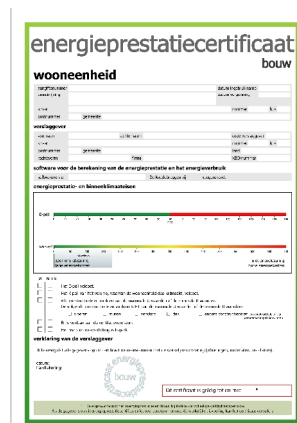
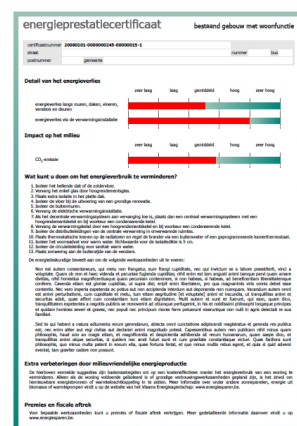


Figure 1: Cover page of the EPC for existing residential buildings



Cover page of the EPC for new buildings



Second page of the EPC for existing residential buildings

The second page contains the energy performance of the building envelope, the energy performance of the heating system, an estimation of the CO₂-emissions, and the recommendations, generated automatically based on the data filled in by the qualified expert. There is a blank field where the energy expert can fill in additional information or additional advice based on the specific condition of the building. There is currently no obligation to implement these recommendations.

VEA charges no fee to the owner or to the qualified expert. The owner has to pay the qualified expert. The cost usually varies between 100 € (apartments) and 300 € (houses). There is no fixed price.

Calculation methodology

The calculation methodology for existing buildings is developed for the Flemish region on the basis of the methodology used for new buildings, as well as the methodology used in the Netherlands for energy performance certificates. A lot of default values are used to increase the reproducibility. It includes heating, cooling, DHW and electricity use for fans and pumps. The result is expressed in terms of primary energy in kWh/m².year. The qualified expert has to follow a mandatory inspection protocol. He/she fills in all the necessary data in the software, which is an online system based on a central server.

Enforcement

VEA carries out random checks for the availability of the certificate for existing buildings, by inspecting websites, real estate agents and advertisements. If no certificate is available in the central database for that address, the owner will receive an invitation for a hearing. The owner risks a fine between 500 € and 5000 €. Besides this, the notary has to report to the VEA the absence of an EPC. Renters or buyers can also make a complaint to the VEA if no EPC is available.



Front page of the certificate for public buildings

The energy performance certificate for public buildings contains:

- > the name, address, of the public organisation;
- > the energy score, based on the measured energy use of exactly 1 year;
- > the energy score on a colour bar in order to make a comparison with similar buildings;
- > the recommendations;
- > the data of the qualified expert.

Training centres for energy experts on existing residential buildings are listed on:

<http://www.energiesparen.be/epcparticulier/opleiding+energiesdeskundigetypA>

The list of qualified experts is updated weekly at VEA's website:

Public buildings:
www2.vlaanderen.be/economie/energiesparen/doc/externe_energiesdeskundigen.pdf

Residential:
www2.vlaanderen.be/economie/energiesparen/doc/energiesdeskundigen_typ_e_A.pdf

In 2009, VEA executed 2,017 checks on availability. In 47% of the investigated cases, the seller or renter did own a valid certificate at the moment the building was put for rent or for sale. In the first half of 2010, 2,019 checks on availability were executed, and almost 65% of the renters and sellers owned a valid certificate.

Public buildings

A “public building” is a building with a total useful floor area over 1,000 m², occupied by public authorities or by institutions providing public services to a large number of persons, and therefore frequently visited by these persons. The certificate must be placed in a prominent location, so that it is clearly visible to the public.

The public organisation using the public building is responsible for having a public certificate. If no certificate is available, the organisation using the building can get a fine between 500 € and 5,000 €, and it must obtain a certificate. The certificate has to be issued by a type C qualified expert or an internal expert, an employee of the public organisation. The qualified expert or the internal expert has to use the web tool provided by VEA. VEA charges no registration fee for the use of the software or for the publication of the certificate.

In order to be valid, the EPC has to be signed. The validity period of an EPC is 10 years.

VEA carries out random checks for the availability of the certificate for public buildings. 10% of the local authorities were checked in 2009. In 2010, the checks were extended to other target groups (provinces, schools and universities). In 2011, the focus will be on the health and welfare organisations.

In July 2010, more than 5,728 public buildings were certified, and many more are in the process of being certified.

Quality assurance (QA)

The first level of quality assurance regarding energy certificates for existing residential buildings is the accreditation of the experts. Only a type A qualified expert can carry out certifications. He/she has to follow a specific training course and pass an exam. No further degrees are required.

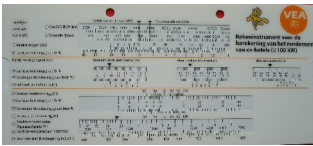
The energy expert has to follow a strict audit protocol when issuing a certificate for an existing residential building. He/she has to fill in the data in the certification software that is provided by VEA. The use of the specific certification software and the audit protocol are mandatory, in order to guarantee a more uniform and correct approach.

There are some automatic software checks on the data. Mistakes have to be corrected. Strange input generates a message to warn the expert.

VEA has started carrying out quality controls on the issued certificates for existing residential buildings. VEA checks a list of standard issues. The qualified expert receives a letter from the VEA, containing his/her mistakes, and can be asked to send evidence. If mistakes or errors occur in the certificates, the qualified experts will get a warning. If a second check shows again errors or mistakes, the qualified expert will get a penalty, a suspension or a fine, based on the impact of the errors. Besides these controls, VEA also investigates complaints. In case of complaints, a detailed inspection on the location is carried out.

VEA noticed that some mistakes are frequently made by the qualified experts. Therefore, VEA is investigating how a higher quality guarantee can be introduced to the training course and the exam.

One of the options is a central examination beside the current training courses. Such an examination has the advantage that every candidate will be evaluated in the same way. Also, extra training courses will be obligatory, in order to enhance the knowledge of the qualified experts. Furthermore, specific courses will be given for the trainers.



Calculation device for one-off inspection of small heating systems

Around 200 QA investigations of certificates for existing residential buildings started in October 2010. By the end of 2010, 89 of the most active qualified experts were checked. Fines are not yet imposed. The target is to audit at least 600 of all the issued certificates every year after 2010.

Currently, there are no quality checks on the certification of public buildings. There are only checks concerning the availability of the certificate for public buildings. Quality checks on the certificates for public buildings will start in 2011.

3 > Inspections - Status of implementation

Boiler inspections

Since 1978, boilers using solid fuels must be inspected every year. Since the 1st of June 2010, natural gas boilers must be inspected every two years.

The regulation related to the one-off inspection of boilers more than 15 years old came into force on the 1st of January 2009 for central heating boilers using liquid fuel. For boilers using natural gas, this became active from the 1st of June 2010. The owner of the installation must order a heating audit when the installation is more than 15 years old. This inspection audit to the heating system, carried out by a qualified technician, will contain an advice to the user concerning a possible replacement or ameliorations of the system.

The method and tools for the one-off inspection are developed in cooperation with the Brussels and Walloon region. The method is not based on CEN standards. Different tools are used for systems between 20 and 100 kW and for systems higher than 100 kW. For smaller systems, a calculation device is used.

For large installations, specific software was developed.

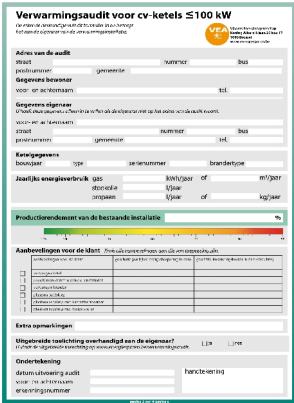
The experts for the one-off inspection are the same experts carrying out regular boiler inspection. For small heating systems, they have to follow one extra one-day of training and pass a test.

Once a year, the expert has to give the government a list of the inspected installations.

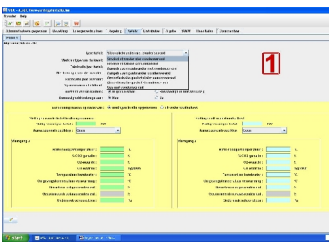
Air conditioning inspection

The Flemish region incorporated the inspection requirements for air conditioning installations in the Order of the Flemish Government, issued on the 1st of June 1995, concerning general and sectoral provisions relating to environmental safety. Air conditioning systems with a nominal cooling capacity of over 12 kW need regular inspection by a competent expert. The inspection consists of an assessment of the efficiency of the air conditioning and its dimensions, taking into account the cooling requirement of the building. The Minister can determine the content and the frequency of the inspection.

In 2008 and 2009, the Flemish government organised an informal consultation with experts from the sector, in order to determine the elements and the frequency of inspections. Following this consultation, it was concluded that an inspection tool prepared by the Flemish government, which could be freely used by inspectors, is necessary. This will promote the effective implementation of the inspection obligation; the inspections will be carried out in an uniform way, will allow for the identification of many occurring shortcomings or points which are subject to significant improvement, and will prevent inspections which will not meet the desired minimum requirements. The study for the development of the software started in February 2010. At this moment, a test of the first version of the software is performed on different types of air conditioning installations (real cases, in the field). The software will be optimised on the basis of these tests. The study was completed in November 2010, and the results are under consideration.



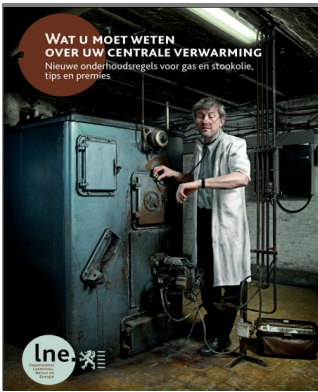
Inspection report of a one-off inspection of the heating system



Software for the inspection of large heating systems



Advertisement for the launching of the certification for existing buildings



Advertisement for the launching of regular inspections of boilers

Based on the complexity of the methodology and the duration of the inspection, the Minister will determine an appropriate inspection interval. The study will also include a proposition for the inspection frequency, (based on inspection regimes in surrounding countries and on the constructed methodology/software itself).

Industry representatives are involved in the follow-up of the study and the construction of the inspection requirements. The early involvement of industry representatives will enhance the acceptance of the inspection tool that is now under development. The definite approval for the necessary legislative framework is expected in February 2011.

The system does not include a registration system for the competent experts or an independent control system. This will be studied in view of the implementation of the recast. At the same time, the opportunity to collect all the reports of the inspections (for instance, in some sort of central database) will be also investigated.

4 > Qualified Experts



Brochure for public buildings' EPC

Certification of new buildings

A degree in architecture or engineering is required. There is no mandatory training and no exam. There are more than 5,000 experts for new buildings, from which more than 3,000 are actively working.

Certification of existing buildings

Qualified experts are the only persons recognised to issue certificates. Qualified experts for existing residential buildings (type A) do not need a specific degree, but they have to follow a training course and pass an exam. For public buildings (type C), there is a mandatory training but no exam.

More than 4,100 type A qualified experts are registered. 928 type C qualified experts are registered. Both types can act on an individual basis or be integrated in legal organisations.

For public buildings, there is also the possibility for the certificate to be issued by an internal qualified expert who is an employee of the public organisation, with at least two years of experience on energy in his/her current job. An internal qualified expert can only issue certificates for the buildings of his/her own organisation.

Air conditioning inspection

A competent expert for air conditioning inspection needs a degree in electromechanics, to be specialist in climate control, in cooling and heating technology, industrial cooling technology or cooling installations, or to have a certificate on climate control, or to be an air conditioning or cooling technician recognised by the Flemish government. It is also possible for someone to become an expert if they have at least a three years proven experience in servicing and setting air conditioning systems with a nominal cooling power above 12 kW, or if they are recognized as experts for air conditioning inspecting in another EU Member State.

In 2010-2011, the necessary qualifications of the competent experts will be evaluated. This will be based on the profile needed for using the software. A tightening of the qualification demands is therefore an option.

The list of qualified experts is updated weekly, and is available online for the public at VEA's website, on the following pages respectively:

- > public buildings:
www2.vlaanderen.be/economie/energiesparen/doc/externe_energiesdeskundigen.pdf
- > residential:
www2.vlaanderen.be/economie/energiesparen/doc/energiesdeskundigen_type_A.pdf

5 > National Information and Communication Campaigns

Information regarding the information campaigns is available on:

> existing residential buildings
www.energiesparen.be/epcparticulier/documenten

> public buildings
<http://www.energiesparen.be/epcpubliek/communicatie>

> boiler inspections:
<http://www.lne.be/campagnes/centrale-verwarming/brch-jrlijketelcontr-21x26-lagres.pdf>

In 2005, an advertising campaign was developed for the launching of the requirements.

In September 2008, a campaign for the launching of the certification of residential buildings was promoted on television channels, in the press and on the Internet. The concept is that buildings have to be inspected, just like cars. The idea is that a certificate for residential buildings gives us information on the status of the house, just like there are labels for products, food, cars, etc.

VEA's website www.energiesparen.be provides detailed information about:

- > energy performance requirements for building permits, for builders, for experts, and for building companies;
- > the certification system, for professionals of the sector, property owners, and also for the general public. It includes information on training courses, a list of qualified experts, legislation, etc.

Detailed brochures, as well as official texts, are available at the website. An adapted brochure on certification was sent to professionals such as notaries, real estate agents, etc.

A specific information brochure was developed and sent directly to public organisations such as schools, city halls, etc.

The new obligation for the regular inspection of boilers on gas, as well as the one-off inspection of the heating system, was also launched with a campaign.

6 > National incentives and subsidies

Start > Subsidies >
Zoek uw subsidie
Subsidies [enbop](#)

Kies Gemeente: Gemeente: of Postcode:

Kies jouw doekgroep: Doekgroep:

Nieuwbouw/renovatie: Nieuwbouw Renovatie Beide

Categorieën:

Search engine for subsidies

VEA developed a search engine for subsidies:
www.energiesparen.be/subsidies

There are incentives on different levels. There is a tax reduction on national level for:

New buildings:

- > For 10 years, if the net energy demand for heating and cooling is lower than 30 kWh/m². Low-energy house: tax reduction of 420 € per year.
- > For 10 years, if the net energy demand for heating and cooling is lower than 15 kWh/m². Passive house (incl. airtightness): tax reduction of 850 € per year.
- > For 10 years, if the net energy demand for heating and cooling is lower than 15 kWh/m² and the rest of the energy is compensated by locally generated energy. Zero-energy house (incl. airtightness): tax reduction of 1,700 € per year.
- > Heat pump, solar panels and PV.

Existing buildings:

- > Roof insulation, wall insulation, floor insulation, windows, heat pumps, solar panels and PV: 40% of the investment with a maximum of 2,770 € (3,600 € if PV solar panels are included). If 40% of the investment is higher than 2,770 (3,600 € if PV solar panels are included), the balance may be used over the following three years.

The government pays 1.5% of the interest on green loans used for investments in roof insulation, wall insulation, floor insulation, windows, heat pumps, solar panels and PV. The maximum amount of the loan is 15,000 € per person and per year, and started to be granted in 2009.

On regional level, there is a property tax reduction for low energy new buildings:

- > residential buildings E60 or lower: -20% for 10 years;
- > residential buildings E40 or lower: -40% for 10 years;
- > non-residential buildings E70 or lower: -20% for 10 years.

The distribution network managers have the obligation to give subsidies to consumers investing in energy savings. There is a global subsidy for new residential buildings having an E-level of E60 or lower. Investments in existing buildings are subsidised according to the separate investments. The Flemish government grants an additional subsidy of 500 € for roof insulation if at least an area of 40 m² is insulated. Some communities and provinces have additional subsidy schemes.

7 > Impact of the EPBD at national level

New buildings

An analysis of the final declarations shows that new residential buildings become more energy-efficient over the years. The amount of buildings with an E-level higher than E80 drops from 70% for building permits asked for in 2006, to 49% for building permits asked for in 2009. Low-energy buildings (E < 60) are slowly introduced into the market. The average E-level decreases, both for residential and non-residential buildings.

	2006	2007	2008	2009
New flats	90	83	81	81
New single-family houses	86	81	78	76
New offices and schools	100	87	83	79

Table 2: Overview of the average E-level (on 31/12/2010)

Even when the new buildings become more efficient on average, there is still a huge potential for improvement. The potential of very good insulation is not yet used enough. The airtightness is only measured in 3.5% of the new residential buildings. Renewable technologies (PV, solar DHW heating and heat pumps) are used in 10% of the new residential buildings.

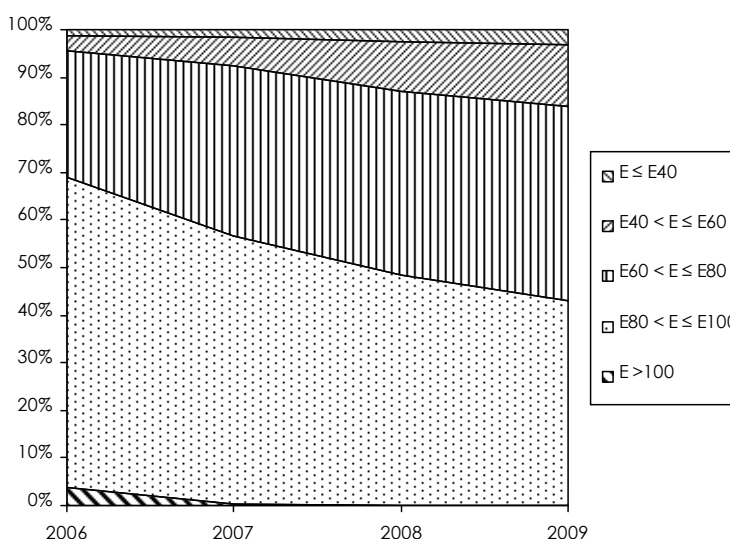


Figure 2: Accumulated percentage of different energy performance levels met by new single-family houses (from final declarations submitted), e.g., the amount of houses between E80 and E100 (E100 required since 2007) diminishes; only a few houses have an E-level lower than E40 (very low energy buildings).

Existing residential buildings

There are almost 350,000 certificates already issued. About 13,000 new EPCs are monthly issued for existing residential buildings.

	2007	2008	2009	2010
Existing residential buildings	0	8,596	154,961	142,913
New buildings	567	5,658	15,899	22,471
Existing public buildings	0	1,868	3,341	780

Table 3: Number of issued EPCs (on 31/12/2010)

The average energy score (primary energy) for apartments is 254 kWh/m² per year. For a single-family dwelling, the average primary energy score is 359 kWh/m² per year. This corresponds to the middle of the colour bar. An analysis of all the scores as a function of the date of the construction of the building shows that younger buildings have a better energy score.

Date of construction	Apartment	Single family	Single family terraced	Single family semi-detached	Single family detached
<=1970	373	565	472	592	666
1971-1985	287	447	361	426	479
1986-1995	252	345	293	328	362
1996-2005	199	245	207	236	269
>2005	160	192	174	189	230
Average energy score (kWh/m ²)	254	359			

Table 4: Average energy score for apartments and single-family dwellings, depending on the age and the building type

The legislation can be consulted on the following websites:

for residential buildings:
<http://www.energiespar.en.be/epcparticulier/documenten>

for public buildings:
<http://www.energiespar.en.be/epcpubliek/documenten>

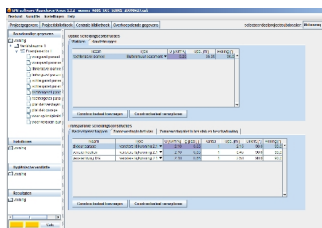
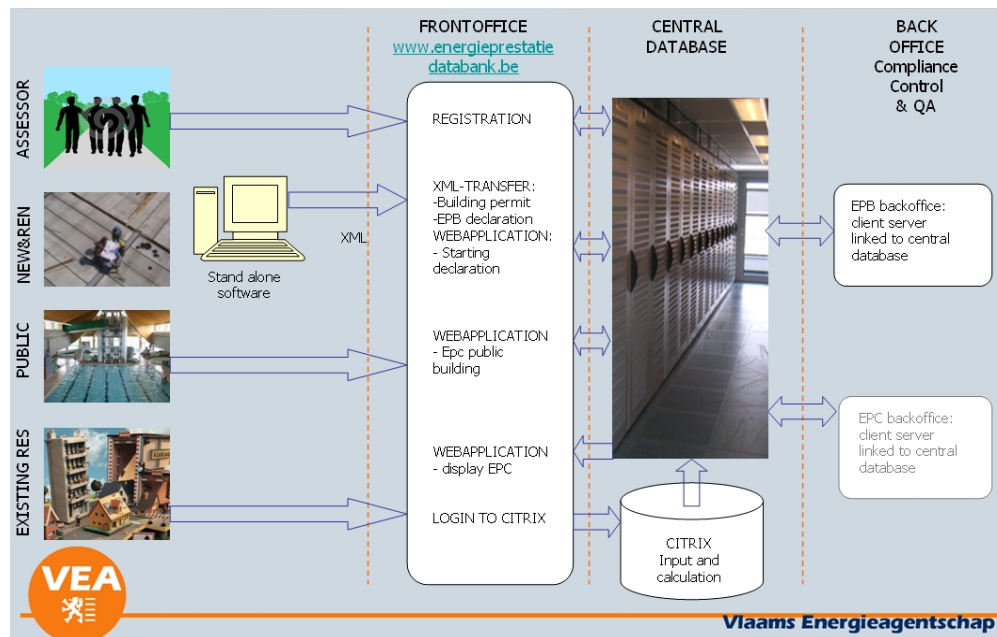
for new buildings:
<http://www.energiespar.en.be/epb/energieprestatie/energieprestatie>

for non-residential buildings:
<http://www.energiespar.en.be/epcnietresidentie/el>

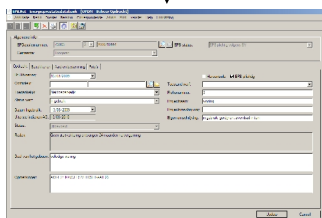
8 > Energy Performance Requirements for new buildings and renovations

Each new and renovated building with a building permit since the 1st of January 2006 has to fulfill the requirements both on energy performance and on indoor climate (EPB-requirements). The most important requirement concerns energy performance. New buildings should have an energy performance level lower than E100. The E-level is the annual primary energy consumption divided by a reference consumption.

All procedures are electronic, with a central regional energy performance database. This database is also the core of the enforcement system.



EPB-software



On-site visit leads to input in the system, and to a letter in order to urge the implementation of the solution

All communities send the new building permits monthly. All documents regarding the procedures on the energy performance requirements and the energy certificates are gathered in the same database.

	2006	2007	2008	2009	2010
Declaration of start of work	4,540	20,726	24,462	24,631	26,737
Final declaration	-	981	8,102	21,408	30,662

Table 5: Overview of the amount of declarations for building permits in the energy performance database

Calculation methodology

The calculation method for new buildings is the same for the three Belgian regions. In Flanders, it is described in the building regulations and includes heating, cooling, DHW for residential buildings, lighting for non-residential buildings, electricity use for pumps and fans and on-site production of electricity from PV or CHP. The result is expressed in terms of primary energy. The methodology is based on the CEN standards, as they were before 2006, when the calculation method was established.

The three regions have an agreement to work together for further development of the methodology. As a result, a study project started in 2009, in order to revise the cooling and overheating calculations, and to include some innovative technologies. Major changes due to this project are expected during 2011.

Tightening of the requirements

The requirements were tightened for all buildings permits asked for since the 1st of January 2010. The maximum U-value for wall and roofs changed for all building types, new and renovated. New residential buildings have to meet an energy performance level of E80.

	Wall	Roof	Floor	Glazing	Windows
2006-2009	0.60	0.40	0.40	1.60	2.50
2010-2011	0.40	0.30	0.40	1.60	2.50
2012-2013	0.35	0.27	0.35	1.30	2.20
2014-...	0.30	0.24	0.30	1.10	1.80

Table 6: Overview of maximum U-values (values for 2012 and 2014 are based on a regulation that is in principle approved, but not yet officially adopted)

A change in the legislation for the tightening of the requirements in 2012 and 2014 is on the way. A project was started up in spring 2010, for studying the amount of renewables which will be mandatory from 2015 onwards.

Enforcement

A specific software, the 'EPB back office', was developed on the energy performance database, so that VEA can check the compliance with the procedures and the requirements, and to perform QA checks for new buildings. On the basis of the building permit, VEA checks the availability of the declaration of the start of work for every building. If documents are missing in the database, VEA sends a letter to remind (no on-site visit) or to fix a short deadline in order for the obligations to be fulfilled (based on on-site visit).

94% of all building declarations fulfill the requirements, while 6% of all buildings do not fulfill one or more of the requirements. The amount of building declarations not fulfilling the requirements was higher for building permits in 2006 (9%) than in the more recent years (5% in 2008).

At this moment, 3,300 declarations are made with an administrative fine larger than 250 €. VEA calls the building owner for a hearing before imposing the administrative fine. 227 building declarations with a fine larger than 250 € were analysed in 2008. In 2009, VEA treated 500 cases. The same amount of cases will be treated in 2010. The average fine is approximately 2,000 €. The largest fine till now was +/- 15,000 €. More than 2,000 cases are still waiting for a hearing.

In 90% of all cases, the ventilation requirements are not met (fully or in some rooms). It only rarely occurs that a building does not fulfill the energy performance level. The building owner has to pay an administrative fine in case of non-compliance. Repairs to the building are then not needed.

Quality assurance

The quality of the final declaration, which includes the energy performance certificate for new buildings, is checked by the VEA. Quality checks for new buildings and renovations with a building permit started in 2008. The priorities are the most active experts, large building companies, complaints, and buildings that get financial rewards. There are two types of quality control:

- > Desk control: check of the validity of the input data in the software file. In most cases, specific attention is given to a certain amount of input data;
- > Control with on-site visit: desk control combined with a comparison of data in the software file, and materials and installations that VEA saw on an on-site visit.

Controller compares his on-site gathered data with the input in software made by the expert

2% of all final declarations got a desk control in the period 2008 - 2010. In 1 on 3 cases, a small or major problem was detected. When the desk control shows that there is a quality problem, VEA asks the expert for the building plan and the evidence for the input values. A more detailed assessment follows the initial check.

Year	Desk control not ok		Desk control ok		Total	
	Amount of files	Amount of experts	Amount of files	Amount of experts	Amount of files	Amount of experts
2009	87	46	108	65	195	111
2010	264	94	547	188	811	282
total	351	/	655	/	1006	335

Table 7: Overview of amount desk controls on new buildings

The 282 experts checked by VEA during 2010 have submitted 57% of all EPB-declarations in 2009. VEA also carries out inspections on the building site and visits buildings after they are completed. Until now, 550 new buildings were inspected. If the performance of the building is in reality worse than what the expert declared in the final declaration, an administrative fine is calculated for the expert. VEA invites

the expert to a hearing before imposing the administrative fine. The QA processes for 69 files for which VEA calculated a fine for the expert are now completed. More than 100 files need further treatment.

9 > Conclusions and future planning

Experience on the running systems for energy performance requirements and certification indicates the need for improvements on:

- > The calculation methodology. At midterm, the Flemish government wishes to have one single method that can be used for both new and existing buildings.
- > The user-friendliness of software for new buildings. A change of software is planned to be made in two years.
- > The quality of the experts for existing residential buildings, by a central examination.
- > The reinforcement of the QA scheme, increasing the number of checks.
- > An Improvement of the energy performance database, in order to reduce the administrative burden and to increase the efficiency of the enforcement process.

Other changes will be made to the system for the implementation of the recast of the EPBD. The consultations for the development of the action plan for nearly zero energy buildings and for the long term path for the requirements have already started. This process will become more intense during 2011.

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