CONCERTED ACTION
ENERGY PERFORMANCE
OF BUILDINGS

# Changes in EPCs scales and layouts

## Experiences and best practices

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## Introduction

Since the launch of their Energy Performance Certificate (EPC) schemes, about two-thirds of the Member States (MSs) have made changes to their EPC reports. There were two main reasons for those changes. Firstly, the reputation of the EPCs was not always as good as it should be, and MSs worked to improve their attractiveness. Secondly, the introduction of new - and stricter - requirements have made the original definition of the label outdated. Consequently, around half of the MSs have renewed their EPC layout, half of them have changed the definition of their label, and a quarter did both, until November 2015.

This factsheet looks at examples of the types of changes MSs have implemented to modify their EPCs, what the triggers for these changes were, and how they were integrated into the existing market.

## Overview of rescaling and changes of layout across Europe

If we compare the EPCs as they are now to the EPCs as they were a few years ago, we can see many changes. At first glance, the layout has been completely renewed in nine MSs[1], but it was also slightly adapted in additional eight MSs. If we look more in detail, we can see that the label, which in many MSs is the main indicator of the energy performance of a building (unit), has been adapted in 15 MSs, in five different ways. Some MSs have both renewed the layout and rescaled the label (Figure 1), some have done only one type of change (Figures 2 to 4), whereas Figures 5 and 6 give an overview of the type of changes that occurred in MSs across Europe (at the time the survey was conducted, November 2015).


*Figure 1. Estonia has completely renewed the EPC layout, and has rescaled the label (a new class H was added).*


*Figure 2. Norway has changed the limits between the classes of the label, but without modifying the EPC layout.*

[1] Because the EPBD is sometimes implemented at sub-national level, with large differences between the national entities, and that Norway has also implemented it, the survey includes 33 countries or regions: the 26 actual MSs, three Belgian Regions, three UK Regions and Norway. Even if not appropriate for Regions and Norway, it is easier to use the term "Member States (MSs)".

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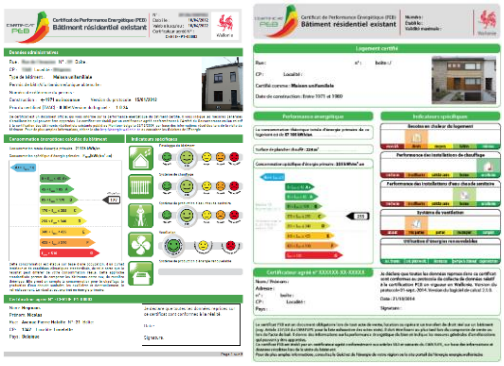

*Figure 3. The Walloon Region of Belgium has renewed the EPC layout (especially in the next pages of the report, not shown here) but has not changed the definition of the label.*

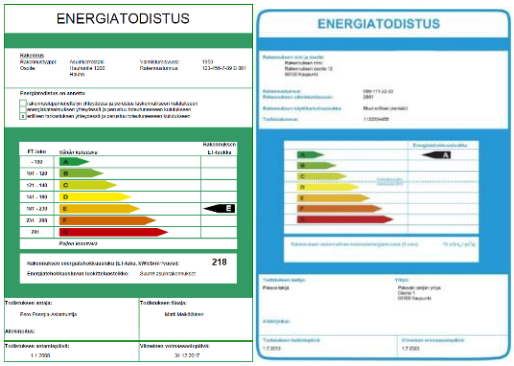


*Figure 4. Finland has slightly adapted the EPC layout, and has not changed the definition of the label.*

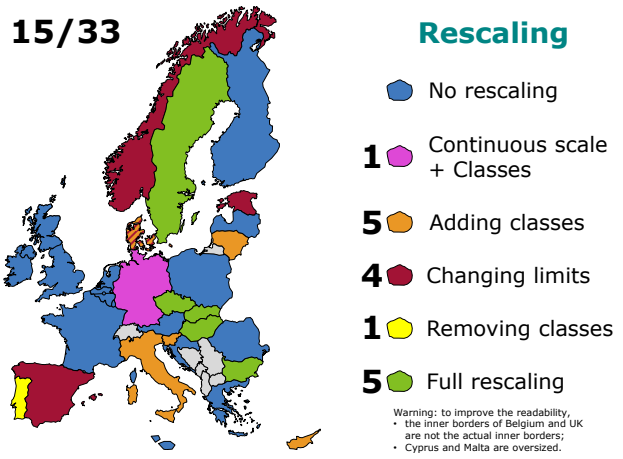


*Figure 5. Fifteen MSs out of 33 have rescaled their label, in five different ways.*

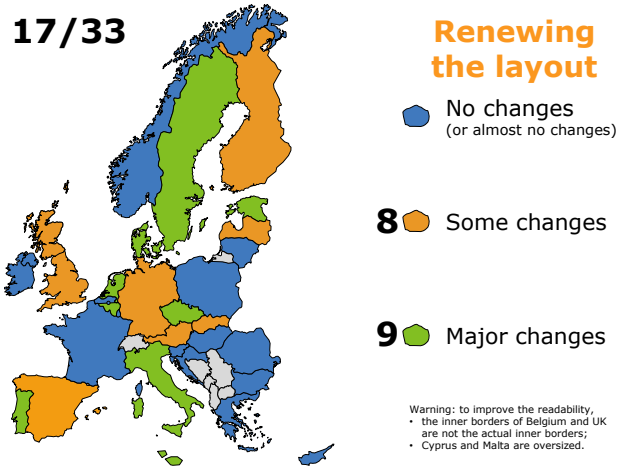


*Figure 6. Seventeen MSs have slightly or extensively renewed the EPC layout.*

The different types of rescaling that were observed are:

- adding classes, usually at the top of the scale (highly energy performant), possibly by subdividing the best class;
- changing the way the energy performance is expressed (see the Slovak case below), so that an old certificate can not (immediately) be compared to a new one ("full rescaling");
- changing the limits between classes;
- removing the lowest class (not energy performant);
- making changes to a continuous scale (see the German case below).

A few examples of changes that occurred in MSs are discussed below.

## Renewing the layout, without rescaling (the Walloon case)

A few years after the EPC was introduced in Belgium, the Belgian customers association *"Test-Achats"* (*Test-Aankoop*) conducted a national survey. One of the conclusions of this survey was that the EPC was not transparent enough, meaning that the consumer / buyer could not find in the report the data used to produce the EPC.

In response to this survey and to other publications in newspapers, the Walloon Region decided to improve the EPC layout. Qualified experts were also involved in the process; they were asked what they thought needed to be changed.

The result was a layout change of the EPC (Figure 3) without rescaling, as from the first implementation the scale went from G to A++, where A++ describes positive energy buildings. The major input data used to produce

the EPC were added to the report, as well as the sources of information that were used[2]. The new layout gave more space for graphical representation of the calculation results. The recommendations were revised. On the front page, the unpopular smileys were replaced by other logos. As a result, the report has been extended from approximately five pages to approximately 15 pages.


*Figure 7. The cover page of the Test-Achats n°562 (showing the EPC of the Brussels-Capital Region).*

| Postes | Preuves acceptables prises en compte par le certificateur | Références et descriptifs |
|---|---|---|
| Isolation thermique | Attestation de l'architecte | Toiture plate bâtiment principal : 4cm XPS |
| | Donnée produit | Fenêtres salle de bain et porte d'entrée : Ug = 1,1 W/m²K |
| | Attestation de l'architecte | Toiture plate annexe : 6cm MW |
| | Attestation de l'architecte | Mur crépi façade arrière |
| | Attestation de l'architecte | Mur structure bois : 2, 3 ou 12cm MW |
| | Document officiel | Année de construction : 1973 (acte notairé) |
| Étanchéité à l'air | Pas de preuve | |
| Ventilation | Pas de preuve | |
| Chauffage | Pas de preuve | |
| Eau chaude sanitaire | Pas de preuve | |
| Solaire photovoltaïque | Facture d'installation | Puissance crête photovoltaïque : 3,12 kWc |

*Figure 8. The new EPC of the Belgian Walloon Region contains a description of the sources of information used.*

A survey among qualified experts showed that almost 89% of the experts found the new layout better than the previous one, and less than 4% of the experts preferred the previous one (one of the reasons being the increased number of pages to print).

The validity of EPCs issued with the old format remains unchanged but all new EPCs were issued with the renewed version, meaning that both versions of the certificate can temporarily be found on the market. As the limit between classes was not changed, this is not considered an issue.

## Changing the scale (the German case)

The German case is interesting for having changed the way the energy performance is expressed, at least for residential buildings.

In Germany, the energy performance was expressed with a continuous scale instead of a label. The scale for residential buildings ranged from 0 to 400 kWh/m². A research, using samples gained from consumption metering, was carried out to determine if the scale was appropriate. It was found that the scale was too long, resulting in typical ratings for a 'bad' building being represented in the yellow band instead of the red band. Therefore, the scale was changed to range from 0 to 250 kWh/m².

Moreover, to improve the acceptance and user-friendliness of EPCs, the Bundesrat (2nd chamber of Parliament) has introduced classes, from A+ to H.

Old certificates are still valid.

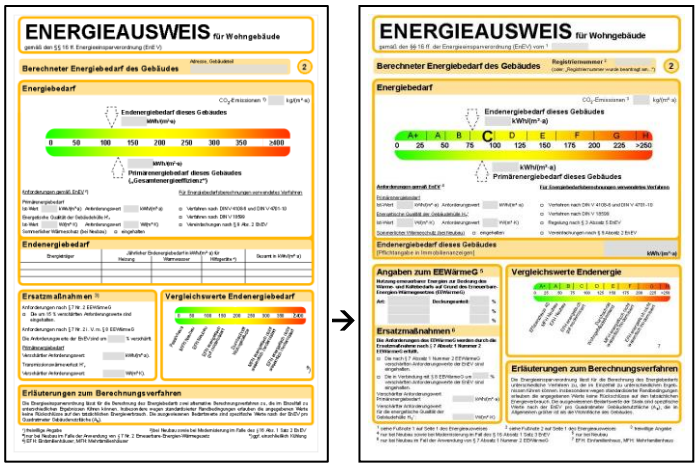


*Figure 9. Germany has changed the scale, has introduced classes and has slightly altered the EPC layout for residential buildings.*

[2] More info: http://qualicheck-platform.eu/2016/09/fact-sheet-23-procedures-for-determining-input-data-for-the-energy-performance-certificate-epc-of-existing-residential-buildings-in-belgium/

## Changing the scale several times (the Danish case)

In Denmark, the scale has already been changed twice. Only the best classes (A and B) were modified, in order to be in line with stricter requirements. The limits between the old classes were not changed, except the limit between classes B and A. It is thus quite straightforward to transform an "old A" to a "new A". The first rescaling (2009) was to split band A into two sub-bands, A1 and A2. The second rescaling (2013) added a new class and new names to the best classes, which were renamed according to the years of the Building Regulations and their compliance boundaries, i.e., A2010, A2015, A2020. The direct connection between the A classes and the year of the requirements for new buildings is very clear for the end users.


*Figure 10. The Danish classes included in the EPC.*

## Changing the way the energy performance is expressed (the Slovak case)

In Slovakia, the global indicator changed from energy use to primary energy. A new scale was thus necessary. Information from past EPCs (10 years) has been used to define the new scale and band ranges. The upper border of the class D was determined from statistical data for the buildings stock, for various types of buildings.

At the same time, to better account for Nearly Zero-Energy Buildings (NZEB), the A class was split into two classes, A0 and A1.

The EPC layout was only changed insignificantly due to this rescaling.

Old certificates are still valid.

## Conclusions

About half of the MSs have changed the EPC layout and/or rescaled it since its first implementation. Five different types of rescaling were observed, e.g., adding classes at the top of the scale (for the best performing buildings), removing a class at the bottom of the scale (for bad performing buildings), changing the limit between classes, adding classes to a continuous scale, or completely changing the way the energy performance is expressed.

One of the main motivations to renew the layout was to increase the attractiveness of the EPC, as shown for instance by the Walloon case. Many motivations to rescale the label have been found in different MSs, including:

- to adapt the scale because of stricter requirements for new buildings (HU, SK, NO, DK);
- to make EPCs more attractive for very efficient buildings (DK, SK);
- to make EPCs less attractive for inefficient buildings (that looked too good in the old EPC) (DE);
- to solve problems with the old EPC, for instance for apartments (HU);
- to change from energy use to primary energy use (SK).

The process of rescaling has been largely enabled by the fact that most of MSs have established a central EPCs database. They thus have a large number of registered data that can be used to define the boundaries between classes, which was not the case when EPCs were first introduced.

In the future, improving the layout will certainly remain one of the most important ways to increase EPC attractiveness, and rescaling might still be necessary to allow for NZEBs to better stand out (if the current scale does not consider them already).