Your opinion counts
How it works

- Read the question and corresponding answers.
- Choose the most suitable answer.
- Each answer is identified by a number.
- Simply press the corresponding number in your voting unit.

- Voting is anonymous.
- Give your own opinion.
- Only one reply per question.
How many stars has the European flag?

1. 10
2. 11
3. 12
4. 13
5. 14
6. 15
7. 16
About yourself...

1. I am from Greece

2. I am from outside Greece
Are the speed limits in your country respected?

1. In general very good

2. Quite often not respected, mostly outside the urban areas a problem

3. Quite often not respected, mostly in urban areas a problem

4. Quite often not respected in all situations

5. No respect at all
About culture and respect for the rules...

• There are big differences between countries (and their citizens) regarding the respect of regulations (in general, taxation, traffic, ...)
• This is to a large extent linked to cultural differences, a long history, ...
What about change in attitudes?

1. It is sufficient to make stricter regulations in order that the citizen respect the regulations

2. It is almost impossible to change the attitude of citizens regarding respect of regulations, whatever the kind of regulation you make

3. It is possible to change attitudes, but it requires very smart regulations, compliance checks and sanctioning

4. No opinion yet
Driving in Greece...

- Is the speed limit well respected?
- If so, why?
- If not, why?
Driving in France...

→ Limit on highways is 130 km/h
In the past

• 160 km/h was rarely a problem
• No risks for foreigners as no information exchange between countries
Since a number of years...

• If you drive as a foreigner 135 km/h, you are often the quickest
• Very frequent control + point system for French drivers with the risk to loose the license
• Automatic information exchange with other countries, last year 300,000 fines for Belgian drivers
What has changed?

• **Speed rules**: no real change
• **Legal framework for sanctions**:  
  • System with points → French license  
  • Agreement with neighbouring countries
• **In practice**: speed control equipment, mobile teams, legal system operational, active follow-up by other countries, ...
3 essential steps ...

- Clear speed limit
- Legal procedures if speed too high
- Effective sanctioning for all
Source book for improved compliance of Energy Performance Certificates (EPCs) of buildings
3 steps for effective compliance frameworks

1. Procedures to obtain and prove compliant data
   - There should be clear procedures what must be done

2. Formal procedures if non-compliance
   - There should be clear procedures how to decide on non-compliance and related actions

3. Handling of non-compliance in practice
   - There should be an effective control and penalties if non-compliance

!! Societal support !!
PART 1: Procedures to obtain and prove compliant data

There should be clear procedures what must be done

Formal procedures if non-compliance

There should be clear procedures how to decide on non-compliance and related actions

Handling of non-compliance in practice

There should be an effective control and penalties if non-compliance
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Assume: the technology is included in your EPC method...

- Which input data are compliant in EPC context?
  - Cool roof product
  - Solar shading device
  - ...

- What means ‘compliant’?
  - The data will be accepted by the government for EPC use, no risk of penalties
4.2. Which one of the following sources provide compliant EPC input data?

1. Data which are included in documentation from the manufacturer

2. Data coming from a test report from a neutral laboratory

3. Data coming from a publicly available database

4. Extra information needed before I can answer

5. No opinion yet
4.3. Easy access to compliant data

→ See discussion on ES-SO database

• Compliant data:
  • There must be consensus about which parameter to be defined
  • According which procedure
  • By whom
  • ...

• “Easy” access
  • To a certain extent subjective

• Status of the database
  • Important to clarify the status
4.3 Easy access to compliant data

**TOPIC:**

Easy access to compliant data

**CONTEXT AND MOTIVATION:**

A quantity used as an input data for:

- the calculation or the assessment of the energy performance of a building and/or
- the declaration of its energy performance in the Energy Performance Certificate (EPC) is "easily accessible" if it can be found, seen and used by taking "reasonable time, effort or money".

The notion of "reasonable time, effort and money" is to be appreciated in the context of the modern information technologies and media to get the information. A reference for easy access to data with these modern information technologies and media is an information that is available on an Internet page, preferably with a free access. Input data will be considered more or less accessible depending on the effort needed to obtain this data compared to this reference.

There are several reasons why it is important to pay specific attention to an easy access to EPC input data:

- this maximises the time for finding the correct and compliant data,
- this minimises the risk that the expert in charge of the calculation uses wrong data,
- this minimises the risk of discussion about which data to be used.

**EXAMPLES OF PROBLEMATIC SITUATIONS:**

- Difficulty to find the characteristics of a construction product
- Difficulty to find the characteristics of a system
- Difficulty to find the result of an on-site measurement

**CONSIDERATIONS REGARDING PROCEDURAL ASPECTS:**

Possible approaches for an easier access to the EPC input data may be related to:

- easy access to the description of the building and the systems
- documentation about products and systems with an easy access
- publicly available database of characteristics of products and systems
- database of characteristics of products and systems embedded inside an EPC calculation tool
- easy access to on-site measurement results
- easier access to the actual energy consumption of the building

If a database is referred to by a national regulation, precaution should be taken that this is not in contradiction with the Treaty (that prohibits restrictions on imports and exports, and all measures having equivalent effect, between Member States) and/or with Directives or European Regulations (as for the Construction Product Regulation).

Ideally, the issue of easy access to compliant input data for products and systems should be handled at European level. This is probably difficult as products and systems are not always the same for different national markets. In addition, the input data needed at national levels may differ from one country to another. This means that there probably is a need for national and/ or industry led initiatives.

**APPROACHES WITH RELEVANCE FOR THIS TOPIC:**

- Information and communication technologies are a key element to contribute to an easy access to EPC input data
- The development of the use of the Building Information Model (BIM) should help for an easy access to the data related to the building and its systems
- Most of the manufacturers of products and systems provide an easy access to their characteristics

**REFERENCES:**

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- Certified Performance Database - tool for quality and compliance, Sylvain Courtoy (Eurovent Cerita Certification, France), pp. 28-29, REHVA Journal, Volume 52, Issue 4, August 2015
- French voluntary scheme for harmonised publication of ventilation product data, François Durier, Laure Montanari (CETIAT, France), Fabrice Lamarré (Unicatna, France), April 2015, [http://qualis-platform.eu/events/events-
  -objects/]
- Energy Performance of buildings regulations in Belgium – The key puzzle pieces for an effective regulation, Xavier Loncourt (BBRI, Belgium), slide presentation at QUALICHECK Workshop, Lund, March 2015, [http://qualis-platform.eu/events/events-
  -workshops/]

**QUESTIONS:**

- Could there be a central European database and/or guidance where appropriate data can be found?
- Is there a risk that a database referred to by a national regulation creates a restriction of the imports and exports between Member States? How to overcome this risk?
What to do if not included in the EPC calculation method...

- Is it possible to include cool roof features in the future revision of the EPC calculation method?
- Is it possible to make use of an alternative procedure for assessing technologies not included in the EPC methodology?
Is it possible to take the performances of cool roof products into account in your national EPC calculation?

1. Yes - precise value

2. Yes – only default value

3. No

4. Not sure

5. No idea
4.8. Robust technical handling of project independent innovative systems

• What does in this context mean ‘innovative systems’?
  • Systems which are not included in the standard calculation procedure
  • This can vary from country to country

• Examples relevant for this workshop
  • Cool roof products
  • Ventilative cooling concept
  • Solar shading
  • Phase change materials
  • …
4.4. Availability of various paths for compliance – trade-off between accuracy and effort
Windows: $U \leq 1.50 \text{ W/m}^2\text{K}$
Various levels of complexity

• Very simple:
  • “window with double glazing – cavity $\geq 10$ mm - wooden”: $U = 3.0$ W/m$^2$K

• ... 

• Other extreme:
  • Exact calculation of U-value glazing 
  • Exact calculation of U-value of each window profile 
  • Exact calculation of spacers 
  • Each window has another U-value
Solar shading

• Very simple (“default value”)
  • Fixed value for external shading device

• ...

• Very detailed calculation:
  • Calculation with spectral analysis
PART 2: Formal procedures in case of non-compliance

- Procedures to obtain and prove compliant data
- There should be clear procedures what must be done
- Formal procedures if non-compliance
- There should be clear procedures how to decide on non-compliance and related actions
- Handling of non-compliance in practice
- There should be an effective control and penalties if non-compliance

!! Societal support !!
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The installer has installed internal shading whereas external shading was foreseen in the declaration at the moment of the building permit. There has to be a sanction...

The technical specifications mentions external shading, I made no error.

I have prescribed external shading.

I agreed with the owner to install internal shading.

Which type of sanction? If fine, what level? Who should pay?
The installer has installed internal shading whereas external shading was foreseen in the declaration at the moment of the **building permit**. There has to be a sanction...

We have better insulated the floor then foreseen in the declaration

Not easy to check the composition of a concrete floor...

There are many advantages to base control on a reporting at the end of the works. Then no excuses if information is wrong, as all the information was in principle available
This declaration at the end of the works contains errors. It has to go to **court**

We don’t know anything

I have made no error!

I have made no error!

I have made no error!

We don’t know anything

Not easy to decide about liabilities

Will it be a priority for judges?
Do you believe that judges in your country (will) give such energy problems a high priority?

1. Yes
2. Probably yes
3. Probably no
4. No
5. No idea
This declaration at the end of the works contains errors. I shall give a fine.

How can a civil servant decide on a “reasonable” fine? Without endless discussions?
Why not to agree on pre-determined fines?

Belgian context:

e.g. transmission losses: 60 € per W/K

→ Window of 5 m²:

- $U_{\text{declared}} = 2.5 \text{ W/m}^2\text{K}$
- $U_{\text{reality}} = 3.0 \text{ W/m}^2\text{K}$
- Fine = 5 m² * (3.0 -2.5) * 60 = 150 €

**Belgian software**: The calculation of fines is included in the software.
In case of a fine system: what is your opinion on pre-defined rules for the amount?

1. In favour

2. Some concerns

3. Not in favour

4. Not yet a clear opinion
This declaration contains errors. The fine is 1.278 €. But who should pay this?

- Civil servant: 10%
- Owners: 30%
- Architect: 20%
- Rapporteur: 10%
- Contractor(s): 40%
Flemish approach

• Intensive stakeholders concertation (2002-2004)

• A consensus was reached that the inspectors should not have to investigate which parties are (partly) responsible
  • If declaration wrong → rapporteur pays the fine
  • Of course, rapporteur should be able to transfer to fine to the person who made the error
    • If rapporteur has collected relevant documents (invoices, technical prescriptions, visit,..), he should have a strong case to recover cost from those who made the fault.
This declaration contains errors. The law states that the rapporteur has to pay 1.278 €.
Do you find it acceptable that someone gets a fine if there is no evidence that he made a professional error?

1. No  33% (7)
2. In principle not, unless there is sufficient guarantee that this fine will be later on paid by the responsible person  48% (10)
3. Yes  0% (0)
4. No clear opinion  19% (4)
This declaration contains errors. The law states that the rapporteur has to pay 1.278 €.

I am willing to pay the fine, BUT I accept a fine of only 732 €.
Compliance and Control
OVERVIEW AND OUTCOMES
AUGUST 2015

1. Introduction

The Energy Performance of Buildings Directive (EPBD) emphasises compliance and control as vital elements for its successful implementation. This report contains information, statistics, outcomes and conclusions from the dialogue on national approaches to compliance and control during the period 2011-2015.

The discussions within the Concerted Action EPBD (CA EPBD) focused mostly on compliance with the energy performance requirements and control of the Energy Performance Certificates (EPCs). As Member States (MSs) implemented the EPBD, experience of enforcing energy performance requirements and of EPC quality control has grown significantly; but it seems that there are still quite a few substantial challenges preventing the EPBD from being fully implemented and controlled.

This report attempts to obtain the relevant information from every MS in the EU. However, as this was not possible for every aspect, the total number of countries covered in some statistics may be less than twenty-eight (or twenty-nine including Norway).

2. Objectives

Directive 2010/31/EU introduced two new obligations for the MSs, in order to improve the quality and effectiveness of its implementation:

> MSs shall lay down the rules on penalties for infringement of the national provisions adopted pursuant to the Directive (Article 27).
> MSs shall implement an independent

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<td>Design stage – with building permit</td>
<td>90%</td>
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<td>0%</td>
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<tr>
<td>During construction phase</td>
<td>0%</td>
</tr>
<tr>
<td>After construction/as-built</td>
<td>30%</td>
</tr>
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<td>With permit to use (as-built situation)</td>
<td>20%</td>
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<tr>
<td>Check of real consumption after first use</td>
<td>10%</td>
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At which stage should there be communication of information?
PART 3: Practical implementation of a framework for better enforcement and effective penalties

- **Procedures to obtain and prove compliant data**
  - There should be clear procedures what must be done

- **Formal procedures if non-compliance**
  - There should be clear procedures how to decide on non-compliance and related actions

- **Handling of non-compliance in practice**
  - There should be an effective control and penalties if non-compliance

!! Societal support !!
PART 3: Practical implementation of a framework for better enforcement and effective penalties

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Conclusions

• To implement an effective compliance and enforcement framework is far from evident

• This source book has the ambition to contribute to the efficient development of such effective frameworks
  • At present draft version, feedback is welcome
  • Final version in February 2017

• Important: each country must identify its own path to effective enforcement