Barriers and opportunities for achieving compliance and enforcement: application to transmission aspects

Peter Wouters
INIVE EEIG
Webinar in January

Robust Details
Update after 900,000 homes

Not possible to have this presentation due to other important commitment

Professor Sean Smith

www.napier.ac.uk/isc
PART 1: U-value requirements...  
\[ U_{\text{wall}} \leq 0.6 \text{ W/m}^2\text{K}^* \]

*Or \( \leq 1 \text{ W/m}^2\text{K} \) if one can prove of there is no condensation risk

PART 2: Average U-value requirement  
1 September 1992: \( \leq K65 \)  
1 September 1993: \( \leq K55 \)
The installer has insulated the roof 4 cm whereas 6 cm was foreseen in the declaration at the moment of the building permit. There has to be a sanction...
The installer has insulated the roof 4 cm whereas 6 cm was foreseen in the declaration at the moment of the building permit. There has to be a sanction...

The technical specifications mentions 6 cm, I made no error

I have prescribed 6 cm

I agreed with the owner to only insulate 4 cm

Which type of sanction? If fine, what level? Who should pay?

We have no idea how this is possible (but we are not competent)
The installer has insulated the roof 4 cm whereas 6 cm was foreseen in the declaration at the moment of the building permit. There has to be a sanction...
SENVIVV (Flemish study 1995-1997)

Thermal insulation level of 200 new dwellings

- **Average insulation level**
  - Individual dwellings
  - Apartment buildings

- **Date of building permit**
  - 1989 to 1997
Results by period...

Nearly no evolution

Average insulation level

- Individual dwellings
- Apartment buildings

- No requirement
- K65
- K55
Observations

- Experience in practice: Not well applied
  → Very clearly illustrated by SENVIVV study

General objective 1:
To achieve boundary conditions that provide a better guarantee that energy requirements are correctly applied and reported.

1998
Observations

**General objective 2:**

Determination procedures which better cover present and future needs

- Evolution in the needs:
  - Not only insulation is important, also solar gains, ventilation, HVAC systems, lighting, renewables, ...
  - Comfort is crucial:
    - Summer comfort, visual comfort,
    - Good indoor air quality important but not evident
The installer has insulated the roof 4 cm whereas 6 cm was foreseen in the declaration at the moment of the building permit. There has to be a sanction...

How does the inspector knows that there is only 4 cm?

What kind of obligations exist with respect to reporting?

At the moment of building permit? Which documents?

When the works start? Which documents?

When the work is finished? Which documents? Which delay is allowed?
At which stage should there be communication of information?
Figure 2: When is compliance with energy performance requirements checked for new buildings? (2014)
In most countries: No or very few sanctions...

In the rest of the presentation focus on the concept of fines. However, challenges are quite similar for other sanctions.
The installer has insulated the roof 4 cm whereas 6 cm was foreseen in the declaration at the moment of the building permit. There has to be a sanction...

The technical specifications mentions 6 cm, I made no error. I agreed with the owner to only insulate 4 cm. I have prescribed 6 cm.

Which type of sanction? If fine, what level? Who should pay?
The installer has insulated the roof 4 cm whereas 6 cm was foreseen in the declaration at the moment of the building permit. There has to be a sanction...

We have insulated the roof less but the floor more because it was cheaper to better insulate the floor.

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.

Will it be a priority for judges?
Not easy to decide about liabilities.
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.
Compliance and enforcement:
Flemish Region: Percentage that does not comply – fine ≥ 250 €

![Graph showing percentage of declarations with fine ≥ 250 € by year of building permit]

- 2006: 10%
- 2007: 6%
- 2008: 6%
- 2009: 4%
- 2010: 4%
- 2011: 4%
- 2012: 4%
- 2013: 4%

% declarations with fine ≥ €250

Year of building permit
Compliance and enforcement:
Flemish Region: Percentage that complies

- % EPB declarations that comply
- Year of building permit

- All requirements
- E-level
- Transmission
- Ventilation

QUALICheck
Towards better quality and compliance
This declaration contains errors. The fine is 1.278 €. But who should pay this?

- Civil servant
- Rapporteur
- Contractor(s)

I have made no error

10%

20%

30%

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 €.
I am willing to pay the fine, BUT I accept a fine of only 732 €

This declaration contains errors. The law states that the rapporteur has to pay 1.278 €
Important to avoid discussions on input data

It is very important that there is consensus about the data to be used...

• To create confidence in the market
• To avoid disputes in case of fines
Is there clarity about the input data to be used?

Is there a consensus about the data for characterising this system? If not, not so easy to raise a fine...

What to do if the technical documentation of the manufacturer gives a value of 0.032 W/mK whereas the civil servant believes it is 0.035 W/mK?
Belgian approach (3 regions)
<table>
<thead>
<tr>
<th>Marque</th>
<th>ID Produit</th>
<th>Durée de validité</th>
<th>Marquage CE</th>
<th>Marque ATG-H</th>
<th>Marque ATG</th>
<th>Marque Keymark</th>
<th>Autres marques</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>début (T0)</td>
<td>fin (T0+4)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.035</td>
<td></td>
<td>13/05/2015</td>
<td>06/10/2019</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>0.035</td>
<td></td>
<td>13/05/2015</td>
<td>06/10/2019</td>
<td>X</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>0.039</td>
<td></td>
<td>13/05/2015</td>
<td>06/10/2019</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>0.035</td>
<td></td>
<td>13/05/2015</td>
<td>06/10/2019</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>-</td>
</tr>
<tr>
<td>0.035</td>
<td></td>
<td>13/05/2015</td>
<td>06/10/2019</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>0.044</td>
<td></td>
<td>30/04/2013</td>
<td>30/04/2017</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>CH1 DE1 FR1</td>
</tr>
<tr>
<td>0.050</td>
<td></td>
<td>30/04/2013</td>
<td>30/04/2017</td>
<td>X</td>
<td>-</td>
<td>X</td>
<td>CH1 DE1 FR1 NL1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>28/07/2014</td>
<td>28/07/2018</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>BM Trada / VTT</td>
</tr>
</tbody>
</table>

- BM Trada / VTT

- CH1 DE1 FR1 NL1

- CH1 DE1 NL1

- CH1 DE1 FR1 NL1

- NL1 US1
Easy access to reliable input data

→ Targets to be reached:
  • Agreed procedures for determining data, preferably in concertation with stakeholders
  • It should be easy for the users to know if the data will be accepted by the controllers
  • The effort for obtaining these data should be reasonable
The thermal conductivity is 0.033 W/mK and not 0.026 W/mK. The rapporteur must pay a fine of 462 €.

I should have checked the available database!!
This declaration states that the building is not meeting the requirements.

1.278 €

Owners

There is in many countries the opinion that private owners are not competent in technical building related aspects.
I have clearly and formally informed you that you should have insulated 6 cm. But you did not want to do this, you only asked the contractor to do 4 cm.

This declaration states that the building is not meeting the requirements. The owners have to pay 1.278€.
Sanction to owners?

• Private owners are considered non-competent as builders. How is it possible that they have to pay the fine?

• In Flemish context in the legislation:
  “... the architect must inform the owner if certain decisions might lead to non-conformity with the legal requirements”
Source book for improved compliance of Energy Performance Certificates (EPCs) of buildings

Draft report for discussion with stakeholders, 4 March 2016
(A final report, including information from other experiences and feedback from stakeholders, is planned to be published in February 2017)

François Durier (CETIAT, France), Susanne Geissler (OEGNB, Austria), Peter Wouters (BBRI, Belgium)

With contributions and/or reviews from: Samuel Callebaut (BBRI, Belgium), François Rémi Carlé (CCEE/AVE), Per Johansson (Chemalco, Sweden), Theoni Karistlia (University of Athens, Greece)
Conclusions...

• Bringing EPBD article 27 into practice is challenging: “The penalties provided for must be effective, proportionate and dissuasive.”

• There are various possibilities to have an effective compliance and enforcement framework

• The presented approach is one option, each country should check what is the most feasible.
Barriers and opportunities for achieving compliance and enforcement: application to transmission aspects

Peter Wouters
INIVE EEIG
The sole responsibility for the content of this presentation lies with the authors. It does not necessarily reflect the opinion of the European Union. Neither the EASME nor the European Commission are responsible for any use that may be made of the information contained therein.