What is the view of the market regarding compliance and quality of the works?

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Background

Definitions

- **Compliant EPC input data (in EPC context).** EPC input data established in line with the procedures in force in the context of the applicable legislation.
- **Quality of the works.** Measure of potential gap between the building works realised and the works executed in accordance with applicable regulations and specifications. The quality of the works can be considered as "good" or "compliant" if this gap does not degrade the expected performance. Note that quality of the works has no absolute meaning: it always relates to the needs (including expected performance) stated in regulations or specifications. The specifications may be set on contractual basis or defined at the level of a specific framework.
- Cf. [http://qualicheck-platform.eu/results/terms/](http://qualicheck-platform.eu/results/terms/)

Why are compliance and quality important in EPB context?

Cost for non-quality in the building sector

~ 10% of sector turn-over in France

Probably very significant energy savings potential

- Design
- Products
- Site implementation
- Buildings operation

Why are compliance and quality important in EPB context?

**Clients don’t get what they pay for**

- They may expect an EPC rating of A based on the claimed EPC rating
- They actually get a building with an EPC rating of C if the EPC is compliant

**Example**

<table>
<thead>
<tr>
<th>Claimed or Expected</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>C</td>
</tr>
</tbody>
</table>

**Competition distortion**  
Market distrust  
... Increased energy use

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**Why are compliance and quality important in EPB context?**

**Energy-related policy goals**

Reduce energy poverty, GHG emissions, environmental impacts, security of supply concerns ...

**Expected market response**

Invest in energy efficiency

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**Poor compliance and quality hinder investments**
What is the status on the ground?

- Not so good!
  - Examples of results regarding EP assessment compliance:
    - AT: 20% of the EPC input data not updated between design and completion => errors on SHD assessment in the range of 5-28%
    - EE: 68% of the buildings did not comply with summer comfort criteria
    - RO: recalculation of EPCs lead to a change in energy class in ≈ 40% of the buildings
  - Examples of results regarding quality of building works:
    - Over 50% of non-compliant ventilation provisions in France or The Netherlands, and serious indoor climate problems in nearly two thirds of Estonian buildings.
    - Numerous common problems in renewables in multi-energy systems in Austria, France, Germany and Sweden (e.g., 50% to 83% of unused pipe connections not insulated that degrade heat storage tank performance)

Can we improve the situation?

- Competent persons as pre-requisite to subsidies

18,000 companies pushed to obtain the ‘RGE’ qualification
Can we improve the situation?

- Quality control frameworks

Every year, approx. 15-20,000 declarations of conformity issued on a market of 600,000 houses with non-insulated cavity walls in the Flemish region of Belgium.

Can we improve the situation?

- Competent tester schemes in several countries are operational for building airtightness testing
- They help:
  - Reduce the variability of test results between testers
  - Improve the consistency between test results and input data used in EP assessments

Can we improve the situation?

- Significant market change in many countries over the past 10 years due to the energy impact in energy performance assessments (QUALICHeCK fact sheets #07 and #33)

Can we improve the situation?

- Product characteristics databases
- They help finding information regarding compliant product characteristics
Can we improve the situation?

- Effective penalty schemes

Can we improve the situation?

- Contractual obligations
  - AMA approach, see QUALICHeCK factsheet #09
  - Specifications developed since the 1950s, widely used by designers and installers to specify and follow quality requirements on products and systems as well as on design, installation, commissioning and maintenance
  - The AMA requirements are specified in measurable units and in such a way that the tenderers and contractors understand them and are able to calculate a price for their commitments
  - The AMA scheme has governed all major building projects in Sweden since a long time, likely because following the guidelines reduces risks for contractors
Can we improve the situation?

- Contractual obligations

  ![QualiCheck fact sheet #09](image)

  **AMA - GENERAL MATERIAL AND WORKMANSHIP SPECIFICATIONS**
  
  AMA (General material and workmanship specifications) has been used in Sweden for more than sixty years. The different parts of AMA are used as reference documents in technical specifications. Between 90% and 95% of all building projects in Sweden refer to AMA in the contract documents.

- Other reference more specific to ventilation:
  - Andersson J. (2015), AMA and certification of ventilation installers- two ways of improving the quality of HVAC systems. REHVA journal, 04/2015

![QualiCheck fact sheet #45](image)

**THE EFFINERGIE APPROACH TO EASE TRANSITIONS TO NEW REGULATORY REQUIREMENTS**

Since 2006, the EFFINERGIE certification has been a major market driver in France for energy efficiency initiatives in all building types, new and renovated. It has been a laboratory for the 2012 energy regulation in France, for instance, for the overall primary energy minimum requirements or for the mandatory justification of an envelope airtightness level. In the same vein, the EFFINERGIE and BEPOS labels operational since 2012 and 2013 experiment new requirements and methods, which will serve for the 2020 revision of the energy regulation. EFFINERGIE also developed regulatory-based low-energy buildings certification for renovated buildings which are operational since 2009.
Can we improve the situation?

➢ All of these successful approaches bring value to compliance or quality:
  ▪ Cost or time savings
  ▪ Mandatory quality scheme requirement
  ▪ Differentiation compared to competitors or fear to be outdated

Preliminary questionnaire results
To achieve Nearly Zero-Energy Buildings (NZEB), do you think efforts for increasing the compliance of EPCs should be considered as:

- **Essential Priority**
- **High Priority**
- **Neutral**
- **Low Priority**

Romania Greece Austria Sweden

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Do you think improving the compliance of EPCs can become a priority in your country?

- Already a high priority
- Possibly in the next 5 years
- Possibly in the next 10 years
- Not probable to happen in the next 10 years

Romania Greece Austria Sweden
Barriers to develop and implement frameworks

- Cost and lack of political support appear as critical barriers

Summary

- Quality and compliance issues are important aspects to consider to achieve energy policy goals
- Measures to improve the compliance of EPCs and quality of the works can trigger market response
- QUALICheck deliverables give practical information, including hints and pitfalls, to help improve the compliance of EPCs and quality of the works
- Cost and political support are 2 major hurdles, ... amongst others