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Result of Survey on energy certificates among Co₂olBricks partners

Introduction

Swedish National Heritage Board, as work package leader for “Policy development” within the Co₂olBricks project, conducted in March 2013 a survey based on questionnaires to the 18 project partners from the participating 9 European countries – Sweden, Finland, Estonia, Latvia, Lithuania, Belarus, Poland, Germany and Denmark. This is a summary of the results of the survey. The questions in the questionnaire can be found on last page.

Terminology

No one uses the term *energy declaration* except Sweden. *Certificate* is the most widely used term.

Energy certificate is the report/document. *Energy audit* is the analysis whose purpose, content and methodology vary between countries.

Content of the energy certificate

The certificate contains an assessment of the building's energy consumption and proposal on energy conservation.

The energy certificate requires that an analysis is performed, in most countries except Estonia, but the scope of this analysis varies between the countries. In Poland, Germany and Finland only simple calculations and ocular inspection is assumed compared with a more comprehensive energy analysis (energy audit).

All countries evaluate individual building elements and heating systems.

In most countries proposals on energy saving measures and cost estimates for each building component and systems is provided in the compulsory energy certificate but the suggestions are generic ie. they refer to general values for the building type / construction - not actual, measured values.

No country seems to follow up on the quality of the proposed measures in the energy certificate in a systematic way.

Competence of energy experts

In most countries certification is required to perform energy audits to issue energy certificate. The certification is covered at the company level, but also at the individual level (Germany, Estonia). Different building types require different skills (single houses, commercial premises, etc.).

In Poland, additional skills are required to perform energy analyzes (energy audits), but the lack of methods for verification and for those who perform only energy certificates.

In Germany, there is a so-called complementary energy advice that is (partly) publicly funded but not mandatory. The energy advisor requires additional skills.

In-depth energy analysis

A more comprehensive energy analysis of measurements of the actual values of the building occurs (but is optional and can be partially financed by public funds) in Finland, Germany, Poland, Latvia and Estonia. A similar system can be found in Poland with specific skills for subsidized energy analyzes.

The in-depth energy analysis, as some countries apply, is useful when it is paid based on each individual building and contains the actual values. Some argue that energy analysis is tedious and difficult to finance, but there are examples where significant energy savings can be made even in the context of historical buildings. It's about a balance between reasonable costs for conducting this analysis and reasonable energy efficiency measures set against the building's heritage values that may involve constraints.

Application of energy certificates in historic buildings

Energy labeling is not suitable for historical buildings but can be applied according to some partners. Most believe that the evaluation of today's energy certificate is useless as it only sets the default values and standard recommendations. Energy efficient action proposals that do not alter the building's heritage values are not possible to do without an in-depth energy analysis.

Some countries (Sweden, Finland) indicates that the persons conducting energy certificates must have knowledge of historical buildings to provide proposals for action but only Germany imposes special requirements on the energy expert in historic buildings with a special education and grants for this - "KfW Denkmal".

Only Sweden has introduced requirements for energy certificate under the Directive 2010/31/EU for historical buildings. In Germany there is a requirement for publicly funded renovations of historic buildings. Energy audits for historic buildings are implemented to some extent in most countries, but on a voluntary basis. Energy Analysis that is associated with some form of interdisciplinary contribution from persons with special knowledge exists in historical buildings in Germany, Latvia, Finland and a very small extent in Poland and Lithuania.

Some partners believe that it will be mandatory energy certification of historical buildings in the near future but most believe that it will take long time.

The energy certificate in its current version is not meaningful in historical buildings, mean most partners. However, an energy analysis, conducted by or in collaboration with people with special knowledge of the cultural buildings, is an asset because there is great potential to save money, energy and cultural values.

Belarus

The energy certification system of individual residential buildings does not exist in Belarus. Only large fuel consumers (1500 tons of equivalent fuel per year) are audited to evaluate the usage efficiency of fuel recourses and ensure their economy. Energy auditing is a survey methodology for the evaluation. The official paper that contains an assessment of the building's energy consumption is called Heat-and-energy passport.

The International public organisation "Ecoproject "Partnership"" proposed the energy certification system of existing buildings. The system intended to be used

- for evaluation of the overall condition of the building
- to control the quality of construction works
- to help the municipal authorities to consider economical, ecological and social aspects when making decisions.

Questionnaire regarding the system of energy audits

1. How do you define the terms energy certificate, energy declaration and energy audit?
2. How are an energy audit performed to elaborate a certificate in your country?
3. Are the different parts of the building (walls, windows, roof, cellar, heating system) individually analysed?
4. Are the different parts of the building (walls, windows, roof, cellar, heating system) individually analysed?
5. Is the energy audit form applicable for historic buildings that are architecturally, culturally or historically valuable? If the answer is no please describe why not?
6. What are the knowledge demands for energy experts performing energy audits? Is there for an example a certification system for energy experts?
7. Are there any special demands for qualification for energy experts working in historical buildings?
8. Are energy audits performed for historic buildings in your country?
9. Do you think energy audits to elaborate energy certificates will become mandatory for historic buildings in your country?
10. Do you see any advantages/disadvantages with a system to perform energy audits to elaborate certificates for historical buildings?