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CESBA Alps, From Building To Territory: Together Towards A Harmonized Built Environment Assessment

ABSTRACT

Assessment tools are widely used in Europe and worldwide, addressing building and urban scale. These various tools don't allow the comparison of the performance of the built environment and lead to a confuse situation, for construction stakeholders, buildings owners and building users. The Common European Sustainable Built Environment Assessment (CESBA) initiative promotes the use of assessment tools, contextualized to the regional/local context and harmonized through common principles and key performance indicators in order to ensure the comparison of performance. To go further than the building scale, CESBA uses these principles in the European project CESBA Alps to develop a new and innovative approach: assessing the built environment at territorial scale.

Keywords: Assessment; Contextualization; Harmonization, Empowerment, Europe

1. INTRODUCTION

European Union's 28 nations with different legal, cultural, climate and technical background have to work together to meet the Paris Agreement on climate change from 2015. The building sector and built environment has an important role to play. They have become a cornerstone of the EU climate protection program and have a crucial role to play in the achievement of the long term 80-95% greenhouse gas emission reduction objective. In this perspective, the EU released a series of political and legislative initiatives in order to reduce the environmental impact of buildings by improving their overall resource efficiency and, as a consequence, enhancing the competitiveness of construction businesses and the quality of life of European citizen.

As pointed out by the European Commission in its recent Communications "Resource efficiency opportunities in the building sector" (COM (2014) 445 final) and "Strategy for the sustainable competitiveness of the construction sector and its enterprises" (COM/2012/0433 final) one of the main issues in the building sector remains the lack of comparable and accessible data and assessment methodologies.

Therefore, a harmonization of building assessment systems is needed in order to make the quality of the built environment comparable and enable policy makers to better steer the development of the sector. Furthermore, it will also enhance

knowledge diffusion among companies and thus improve the control of the quality of buildings and eliminate export burdens for SMEs.

The European Commission also underlined in its „Communication on Resource efficiency opportunities in the building sector” (COM (2014) 445 final): „There is a risk that the indicators they [Member States] eventually develop will differ, leading to an unnecessarily complex business environment.” In order to tackle this issue and ensure the effectiveness of certification labels, CESBA proposes to create a common and integrated approach promoting a harmonization of assessments throughout Europe.

While assessment rating tools at building scale are already well established, while many experiences have been carried out at small urban scale/district scale, very little experiences were developed to set up and implement assessment and rating tools for territories (see Figure 1.).

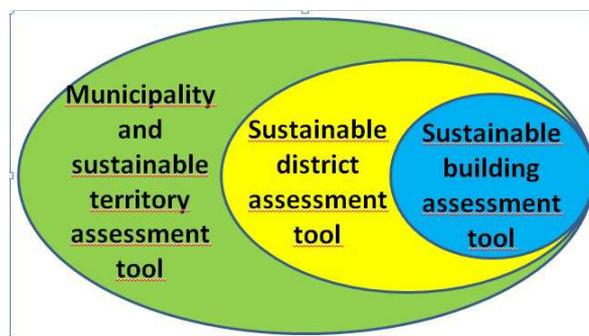


Figure 1: Assessing various scale

In order to be able to compare buildings, neighbourhoods, villages, cities, territories and to share experiences between public and private stakeholders in Europe, CESBA promotes a harmonized and integrated approach, which is flexible enough to consider regional needs and circumstances, and to provide an open source framework with minimum requirements to ensure the quality of certification processes. This applies on a global perspective on all continents as well.

2. COMMON EUROPEAN SUSTAINABLE BUILT ENVIRONMENT ASSESSMENT (CESBA) GOALS

CESBA stands for Common European Sustainable Built environment Assessment and is a common bottom-up initiative towards promoting a harmonization of assessments of the sustainable built environment throughout Europe based on nine principles.

2.1. CESBA history

During the project ENERBUILD, funded by the Alpine Space programme, partners found too many sustainable building assessment systems on their territories, and felt that users and stakeholders were disoriented. This profusion of system was the starting point of an international conference held in Lyon in February 2011: “From

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Europe to territories: what possible convergence?": the question of convergence was on the table.

To share this vision and to disseminate these results, to start the work with the EU commission, the first CESBA conference in Brussels was organized on 10th October 2012, and the website launched. After the launch of the idea several institutions were interested to know more about the initiative. Partner began to present CESBA on various occasions all over Europe, even on the World Sustainable Building conference in Spain 2014.

CESBA developed its own method – the CESBA Sprint Method – to bring people with different technical, cultural and native language together and prepare common results. The 2nd CESBA-Conference was held as the first CESBA Sprint Workshop Hochhäderich / Austria in 2013. During these 3 days over 100 experts in various fields defined core elements of the CESBA approach.

2015 the CESBA Association was officially launched.

2.2 CESBA principles

CESBA is based on nine principles. These principles are used to develop assessment tools for any scale addressed by the tool: building, neighbourhood, territory.

2.2.1 The user first

CESBA focuses on the people who use buildings. On average people spend 90% of their life inside buildings. The aim is to design, build and operate the buildings in order to meet the users' requirements and needs, providing an improved comfort, and an ecological and economical construction and operation.

The users are the main actors in a building. The awareness for their rights and responsibilities builds the base for win-win situations. Obtaining the users' participation and support is crucial to achieve the highest quality of use and energy-efficient building operation.

The monitoring of building performance indicators guarantees a sufficient check of the building's function ability and comfort provided to users. The indicators used to communicate performance to the end users have to be target-oriented and easily understandable.

The revolutionary approach of CESBA is the change of the perspective. By putting the user at the centre of the initiative, the purpose becomes to design, construct, operate and maintain buildings to meet their functional requirements and comfort.

2.2.2 Sustainability

Sustainability regards economic, environmental and social aspects. The term built environment refers to the human-made surroundings that provide the setting for human activity, ranging in scale from buildings and parks or green space to neighborhoods and cities that can often include their supporting infrastructure, such as water supply, or energy networks. The built environment is a material, spatial and cultural product of human labor that combines physical elements and energy in

forms for living, working and playing. It has been defined as the human-made space in which people live, work, and recreate on a day-to-day basis

2.2.3 Regional contextualization

Building assessment systems must be contextualized to the region where they are applied, in order to reflect the local specific priorities, cultures, habits, and construction practices. This means using local units of measure, adopting national / regional standards and regulations, giving due consideration to the local climate, and accounting for availability of natural resources and cultural aspects of design. At local level it is fundamental to set the relative importance of environmental, social, economic, legal and political issues. Each criterion included in the assessment tool should be assigned a relative weight and a reference benchmark (minimum acceptable performance level) adequate to the local conditions. The value of rating results diminishes when systems are used in contexts outside of their origin.

2.2.4 Comparability

The performance results shall be comparable thanks to points/targets. Further national tools shall be translated into one language. Further the inputs in the assessment shall be defined and not the outputs.

2.2.5 Mass orientation

Building rating systems can play a key role in moving the built environment towards a better sustainability. To reach this objective they have to be widely adopted by the different stakeholders of the building sector: architects, designers, public organizations, construction companies, investors, etc. Only a “mass oriented” approach allows reaching this objective. “Mass oriented” means that the objective of the certification is to reach 100% of constructions.

2.2.6 Simple to use

A “mass oriented” building assessment system has to find a right balance between the simplicity to use and the scientific/technical value. The assessment must be precise, not simplified, clear, affordable and visible. A system requiring complicated calculations or the availability of data that are not easy to find would request too much time and effort (costs) to be widely used. Simplicity helps the dissemination of assessment systems among the stakeholders. Effective training courses can be implemented to improve the skills of professionals in building assessment.

2.2.7 Open source

Using an open source approach allows CESBA to be appropriate to its context by paying special consideration to the environmental, ethical, cultural, social, political, and economic aspects of the community it is intended for. Consequently, this approach allows for regional adaptations in the guidance system. In addition, the open source approach allows CESBA to be a low-cost alternative to more expensive and proprietary alternatives of sustainable building assessments. The open source way provides a bottom-up initiative for the standardization and harmonization of sustainable building assessments. The knowledge and results generated by CESBA can be used to support incentive systems, regulations and laws on a regional, national and European level.

2.2.8 Transparency

The public should have access to the performance results especially for public buildings. Privacy rules have to be considered. The visualization of the results must be understandable. Guidance for further understanding shall be delivered. For the assessment a guideline is laid out before the assessment. All indicators have to be checked step by step along the guideline. An external certification body does the final check. The simplicity and transparency procedures (guideline, external independent control) guarantee the best possible quality of the assessment.

2.2.9 Co-creation

CESBA is developed by several people and organisations from various European regions, with experts providing input on their field by contributing as Wiki editors. The knowledgebase and further areas of content development are discussed and agreed during common and open CESBA Sprint Workshops. All necessary support software, databases and tools will be jointly developed.

3. GENERIC FRAMEWORK AND KEY PERFORMANCE INDICATORS

Based on the comparison of existing assessment tools and regional success stories like KGA (Vorarlberg/Austria) CESBA develops its own generic framework. This framework is a benchmark to harmonize existing and upcoming assessments schemes in Europe.

The first steps toward the needed harmonization of the systems are:

- to define common principles regarding built environment sustainability certification;
- to define a core of common criteria and indicators that would allow a comparison between the performances of buildings, neighborhood, village, cities, territories certified with different labels.

In this sense an interregional generic framework like CESBA generic framework can play a key role. The CESBA generic framework for buildings has been developed during the project ENERBUILD as a synthesis of the most important building assessment criteria in the Alpine region. The CESBA generic framework need further interaction with other European institutions that have similar objectives in the way to define a consensus based set of core criteria applicable and significant for all Europe.

The CESBA cycle conveys the concept of CESBA that is defined by harmonized indicators; tools and services usable during the whole life cycle and an ongoing dialogue with society (see Figure 2.).

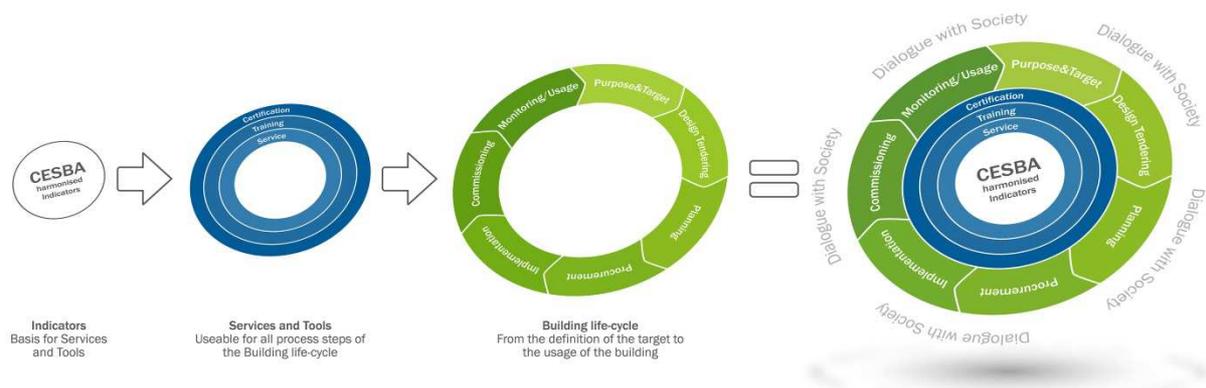


Figure 2: the CESBA cycle

The building scale is addressed by the Enerbuild outputs and will be reinforced in the frame of the EU macro-regional strategy for the Alpine region; the district scale will be addressed with the CESBA Med project in the European macro-region Mediterranean.

In addition to these approaches at building and district level, the project CESBA Alps funded by the Alpine Space program, develops an innovative approach, addressing the territorial scale, following exactly the principles of CESBA:

- Development of regional tools by regional actors to assess built environment at territorial level (contextualization, co-construction, simple to use)
- Definition of a transnational common set of indicators, to be included in all regional tools (harmonization)
- Test and validation in territories
- Guideline for the use of assessment tools in public policies.

First results will be available in 2017.

4. POLICY RECOMMENDATIONS

More than a common European approach to assess the environmental performance of the built environment, CESBA also wants to promote a new culture in Europe – one that will be more likely to take into account the overall impact of construction on the European environment. In this perspective, the CESBA partners propose several concrete recommendations

4.1 Promotion of a common open source approach towards sustainable built environment

- Adoption of affordable and operable key performance indicators at EU level
- Necessity to coordinate diverging / different national approaches
- Develop comparable assessments
- Share best practices

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- Use online tools (social media, platforms) for networking and creating synergies
- Avoid a complex business environment
- Integration of regional and local specificities

4.2 Promotion of the use of assessment in public initiatives for the built assessment

- The EU Ecolabel for buildings currently under development could benefit from the CESBA methodology and key performance indicators
- Introduce mandatory EU Green Public Procurement criteria based on the agreed EU Framework of common indicators
- EU funding for public building projects must become conditional upon applying Green Public Procurement criteria
- And also in incentives based policy, building codes, urban plans

4.3 Consider the build environment in its local and regional context

Reach political and management support at regional and local levels

- Achieve regional sustainable built environment strategies and action plans
- Monitor local needs and specificities
- Favour local practices and resources in the sector
- Using EU Regional Funds to develop a long term sustainable built environment framework
- Creation and stimulation of sustainable building clusters

5. EMPOWERMENT THROUGH COOPERATIVE PROJECTS

The European Union is a mix of cultures and economies that will reach its full potential through mutual understanding and close cooperation. As the top-down approach is limited due to the lack of knowledge on regional circumstances and its difficulty to reach citizens, local craftsmen, local administrations etc. Therefore a bottom-up approach is needed.

A bottom-up approach supports cultural diversity, regional responsibilities, and regional economic cycles, further it is in line with the subsidiarity principle of the European Union. Therefore since 2011 over 30 public and private European organizations from 13 nations from all over Europe have been involved to establish the non-profit bottom-up movement CESBA.

CESBA empowers people, organizations, and regions and offers a productive perspective. The movement works on 4 dimensions: communication, Sprint Method, organization, common projects.

- Communication: All relevant information regarding CESBA is available on the CESBA wiki. Everybody can gain the regular CESBA newsletter. To be accessible

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the process offers specific regional points of contact, technical interfaces, a online knowledge platform, capacity building and public meetings.

- **CESBA Sprint Method:** on equal bases people with different technical, cultural background and native language work together to define, elaborate issues for the CESBA movement.
- **Organization:** CESBA is organized as a non-profit association the membership in the CESBA movement is for free.
- **Common projects:** Working in common projects across borders helps to explain, test and develop approaches to realize the intended and accepted goals. To overcome the barriers the partners work in common transnational EU-projects.

CONCLUSION

The CESBA approach offers a European approach of harmonization of a wide variety of built environment assessment schemes while integrating the building, neighbourhood, city, and territory level.

CESBA's intrinsic force is the empowerment of local and regional initiatives to work together for a common good which yields profit for every participating partner by using European research funds. Therefore CESBA is closely linked to application in the public and semi-public sector on local and regional level.

CESBA offers a global perspective as well. Therefore it invites other bottom-up initiatives for common efforts. Nevertheless CESBA is not finished. CESBA is an ongoing process of integration of new research results, political programs, and continuous lobbying for its 9 principles.