January 2020

Level(s) Newsletter

Level(s) learning article

Test results of Level(s) presented during the conference on 20 February 2020

Level(s), the assessment and reporting framework for building sustainability performance, has been tested by a wide range of building professionals from different countries, working at different life cycle stages of both renovation and new building projects. In the next step, stakeholders are invited for the 'Reflect, Debate, Advise - Get Level(s) right' conference on 20 F ebruary.

The aim of the event is two-fold – firstly, to present the analysis and findings of the Level(s) test phase; and, secondly, to further engage with testers, test co-ordinators and stakeholders more widely from the building sector on how to revise Level(s) and ensure its success. Topics of discussion include how to accommodate the framework to users with less experience, how to implement the typical building project stages of work and how to provide for benchmarking.

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Policy update

A European Green Deal and the Circular Economy Action Plan 2.0

The new European Green Deal, (11 December 2019) places a central focus on the importance of circular economy policies as a part of Europe's objective to transform into a climate-neutral continent by 2050. The need for further ambition in this transition is highlighted by the fact that recycled materials only meet 12% of EU demand for materials.

'Building and renovating in an energy and resource efficient way' is a specific action area of the Green Deal. This highlights the importance of greening the construction sector to reduce material and energy consumption and increase resource efficiency, while maintaining the importance of affordability.

The European Green Deal announces the release of a **new Circular Economy Action Plan** building upon the success of the first Action Plan, which served as a powerful tool in the transition towards a circular economy. The new Action Plan will be ambitious in its aims, looking at the entire life cycle of products and materials and will include a 'sustainable products' focus and an increased role for Extended Producer Responsibility schemes. Construction will be covered as a key, resource-intensive transition sector together with textiles, electronics and plastics.

The new Circular Economy Action Plan will give more importance to the empowerment of stakeholders, recognising the importance of ground level and bottom-up initiatives in leading the transition. Interconnected policy areas, such as climate mitigation, industrial strategy, and territorial cohesion will jointly address the challenges of digitalisation and green transition in order to modernise European industry and Europe's economy.

Research and innovation partnership on the built environment: Built4People

On 12 December 2019, stakeholders (including the European Commission and industry & research representatives) came together to discuss policies linked with the proposed partnership on 'People-centric sustainable built environment (Built4People)'. The research and innovation partnership aims to bring together key stakeholders from the public and private sector that are engaged in creating 'research pathways based on a holistic view of the built environment for sustainability and better living'.

"Building professionals across the value chain were very happy to see how a lot of different services in the Commission work together to make sure research and innovation lead to a common vision of a truly sustainable built environment. There is still a lot of work to do, but we are fully committed!" – Josefina Lindblom, European Commission

The expected impacts of the partnership will be

- the increased competitiveness of EU buildings and construction actors,
- an increased uptake of innovation in the construction sector, including i.a.:
    - the uptake of smart solutions that also target the improved well-being of building users,
    - the realisation of the potential of buildings to contribute to achieving climate and environmental objectives.

Best practices

Level(s) implementation

Interview with Ms Esther Castillo Dominguez Adame, Junta de Andalucia

The Andalusian Housing and Rehabilitation Agency (Agencia de Vivienda y Rehabilitación de Andalucía, AVRA) is part of an 11-partner consortium that has been appointed to manage the EU funded project SUDOE ENERGY PUSH* (2019-2022), which makes use of the Level(s) tool. This project proposes an innovative solution on the integrated energy management of social housing, which combines and optimizes the Building Information Modelling (BIM) methodology and principles of sustainability for evaluating and quantifying the profitability of the adopted energy efficiency measures.

Periana (source: Junta de Andalucia)

The goal of the project is to improve the energy efficiency of **social housing** and to combat the energy poverty of inhabitants. Achieving a better thermal behaviour of buildings will both reduce energy consumption and emissions as well as improve the comfort of houses, alleviating the risks of energy poverty. AVRA seeks to automate decision-making processes by developing a tool for planning and analysis to ensure the technical feasibility and socio-economic profitability of the procedures. The project will therefore link innovation with sustainability and social profitability through the BIM methodology and the sustainability indicators of Level(s).

For the implementation of the BIM methodology and Level(s) indicators, the project developed a work plan consisting of five stages:

- Selecting Level(s) sustainability indicators next to research and innovation in energy efficiency
- Mapping the energy needs of social housing
- Identifying theoretical solutions in energy renewal of 3D digital models in social housing.
- Pilot Actions
- Dissemination of results: awareness raising about the reduction and more efficient use of energy in social housing.

La Carolina (source: Junta de Andalucia)

Currently, the agency manages a social housing stock of almost 75,000 dwellings, providing housing to more than 350,000 people in more than 500 municipalities in Andalusia. An integral management is made by the agency (social, administrative and technical aspects). The implementation of Level(s) on this public housing stock implies a significant impact on building sustainability performance, possibly serving as a best practice example for other regions in Europe.

*Supported by the EU Interreg Sudoe Programme, which finances transnational projects in Southwestern Europe

Did you know?

The production of materials accounted for about 23% of global Greenhouse Gas (GHG) emissions in 2015, namely 11.5 GtCO2e of so-called embodied carbon emissions. Of these emissions, 5 GtCO2e is related to materials used for construction [1].

According to the International Resource Panel and the UN Environment Programme (UNEP), GHG emissions from the material cycle of residential buildings in the G7 and China could be reduced by at least 80% by 2050 through better design, using less materials (and materials of a lighter weight), lifetime extension, as well as the use of building information systems & prefabrication [1][2].

Another approach could include the smart design of buildings to allow for easier resizing, which would allow for more intensive use of houses through adaptable floor area based on family size.

[1] UNEP (2019) Emissions Gap Report 2019

[2] IRP (2020). Resource Efficiency and Climate Change: Material Efficiency Strategies for a Low-Carbon Future. Hertwich, E., Lifset, R., Pauliuk, S., Heeren, N. A report of the International Resource Panel. United Nations Environment Programme, Nairobi, Kenya.

Glossary

- **Embodied carbon emissions**

This refers to the greenhouse gas emissions associated with the non-operational phase of a project, namely the emissions released through extraction, manufacturing, transportation, assembly, maintenance, replacement, deconstruction, disposal and end of life aspects of the materials and systems that make up a building.

- **Operational carbon emissions**

This refers to the greenhouse gas emissions associated with the operational or use-phase of a product. For the built environment, this is related to the energy use needed to heat, cool, power and light a building.

- **Whole life carbon emissions**

The sum of operational and embodied carbon emissions.

Definitions based on own expertise and complemented with literature info from Greenhouse Gas Protocol, Royal Institute of British Architects