



European
Commission

Level(s)

Building sustainability
performance

#BuildCircular

LEVEL(S): A GUIDE TO EUROPE'S NEW REPORTING FRAMEWORK FOR SUSTAINABLE BUILDINGS

Environment

Table of content

Objectives of the Level(s) Framework	4
Creating a Common Language Around Sustainable Buildings	4
The Potential of Level(s)	4
The Testing Phase for Level(s)	5
Introducing the Indicators	5
Objectives of the Testing Phase	7
Support During the Testing Phase	7
Testing Protocol & FAQ	7
Implementation of Level(s) after the Testing Phase	8
How Prepared is Europe for Level(s)?	8
The Role of Market Leaders	8
The Role of Certification Tools	9
The Public Sector's Role	10
Conclusion and Next Steps	11

Credits;

Cover page; page 2: ©dmitri-popov
Page 3: ©all-bong
Page 4: ©chris-barbalis
Page 5: ©jeremy-yap
Page 7: ©Joel-flipe
Page 10: ©Unsplash
Page 11: ©joseph-gonzalez
Back cover page: ©samuel-zeller

This report was produced with the support of:

EUROPE REGIONAL
NETWORK





LEVEL(S): RELEASING THE POTENTIAL OF OUR BUILDINGS



“Buildings represent the biggest opportunity in the circular economy, not the biggest challenge.”

Sirpa Pietikäinen, Member of European Parliament



“It is our responsibility to recognize the role of buildings in contributing to a better world.”

Pascal Eveillard, Deputy VP Sustainable Development, Saint-Gobain

The commitment of global leaders to the United Nation’s Sustainable Development Goals (SDGs) and the Paris Agreement have demonstrated their resolve to tackle issues such as climate change, resource scarcity, health and wellbeing and sustainable development.

The SDGs will lead to a significant shift in the way global forces balance the economic, social and environmental dimensions of sustainable development. In parallel, the adoption of the Paris Agreement will test the ability of society, government and businesses to work together to keep global temperature rise below 2 degrees.

At a regional level, the European Commission has demonstrated their commitment to tackling these issues via the Circular Economy Action Plan and ambitious energy and climate targets for 2030 and 2050.

The role of the building sector in addressing these complex issues is absolutely critical, and sustainable buildings have huge potential in helping us to achieve a large number of our global, regional and local goals. However, it will be very difficult to meet these goals unless we release this vast potential in the construction and real estate sectors.

This is why the European Commission has developed Level(s); a voluntary reporting framework to improve the sustainability of buildings. Level(s) provides a set of common indicators and metrics for measuring the environmental performance of office and residential buildings, which takes into account their full ‘life-cycle’. It focuses attention on six key areas: greenhouse gas emissions, resource efficiency, water use, health and comfort, resilience and adaptation, and cost and value (see ‘Introducing the Indicators’).

Industry and political leaders have welcomed Level(s) promotion of the principle of “think globally, act locally”, ensuring that action taken at an individual building level makes a measurable impact on issues such as climate change, resource efficiency, water efficiency, resilience and health.

The European Commission has now launched a two year testing phase for Level(s) which will explore whether Level(s), and the supporting guidance, is suitable for the mass market.

WHAT IS LEVEL(S)?

Objectives of the Level(s) Framework

The primary objective of Level(s) is to help construction and real estate stakeholders to reduce the environmental impacts of the buildings they invest in, design, build and occupy, by providing them with a reporting framework that links the building's individual performance with European policy objectives.

By introducing Level(s) as a pan-European framework, the European Commission hopes to achieve the following objectives:

- Encourage the 'mainstream' market to incorporate sustainability.
- Create greater awareness and demand for sustainable buildings.
- Grow the market for sustainable buildings to more regions and countries.
- Target a variety of building types, but particularly the residential market where sustainable practices are less widespread.
- Encourage public authorities to start thinking about using Level(s) when developing their policy initiatives, so European policy in this field is well-aligned.

Level(s) should also enable the setting of clear objectives and targets for building performance in areas beyond energy use, complementing already existing European legislation on buildings.

Creating a Common Language Around Sustainable Buildings

Using robust indicators based on existing tools and standards, Level(s) provides a basic common language around sustainable buildings for the construction and real estate sector; moving mainstream dialogue beyond energy use issues alone. By using this language, users of Level(s) are assured they are working to common EU standards that complement and reinforce existing initiatives. This common language will help:

- Enable central principles for sustainable building to be more widely understood.
- Support better decision making along the building value chain.
- Generate reliable and comparable data on sustainable building performance across the region.
- Enable comparisons to be made between buildings in a geographical area or a portfolio, or between design options at an early stage.

The Potential of Level(s)

The European Commission has consulted widely on Level(s) for over four years. Many of the construction and real estate organizations involved believe in the potential of Level(s) to drive mainstream improvements in Europe's building market because it:

- Provides industry with long-term vision.
- Acts as a catalyst for market transformation.
- Is based on existing standards.
- Focus beyond energy and supports life-cycle thinking.
- Compliments and works with existing certification schemes.
- Facilitates performance comparison.





“Developers can’t move the market without the rest of the value chain – Level(s) is the framework to engage the whole value chain.”

Anna Åkesson, Senior Environmental Manager, Skanska AB



“Level(s) holistic approach and incorporation of life cycle thinking is key to contributing to long-term goals such as Circular Economy and COP21 while supporting national initiatives.”

Vincent Briard, Sustainability & Product Regulatory Affairs Director, Knauf Insulation



“Level(s) will bring added value to our clients and is well aligned with our intention to transition to the green economy.”

Alexander Hadzhiivanov, Associate Director, Sustainable Resource Investments, Energy Efficiency & Climate Change, EBRD (European Bank for Reconstruction and Development)



“Level(s) can accelerate the market for sustainability services as it offers a shared EU platform and common reference standards that address environmental, social and economic benefits for the built environment.”

Peter Andreas Sattrup, Senior Adviser, Sustainability, Danish Association of Architectural Firms

THE TESTING PHASE FOR LEVEL(S)

Introducing the Indicators

The Level(s) framework is structured around six different priority areas or ‘macro-objectives’, identified by the European Commission. 8 performance indicators contribute to achieving these macro-objectives. Further details on these indicators can be found in the document on Guidance and rules for making your selection of indicators.

Importantly, a value and risk rating for each indicator will provide decision-makers such as valuers and investors with a view on the reliability of performance assessments made using Level(s).

[Further information on these aspects can be found in Part 1 & 2 of the Guidance on Level\(s\).](#)

Detailed instructions on how to use the framework can be found in [Part 3 of the Guidance on Level\(s\)](#). The ‘reporting’ template contained within this guidance is now available in an Excel spreadsheet to help support the reporting process.

**Thematic area:
Life cycle environmental performance**

**Macro-objective 1:
Greenhouse gas
emissions along a
buildings life cycle**

1.1 Use stage energy performance (kWh/m²/yr)
 ✓ Primary energy demand
 ✓ Delivered energy demand

1.2 Life cycle Global Warming Potential (CO₂ eq./m²/yr)

2.4 Life cycle tool: Cradle to cradle Life Cycle Assessment (LCA)
 ✓ Seven impact categories (EN 15978)
 ✓ Flows of the four main types of materials
 ✓ Assessment of the three life cycle scenarios (2.2)

**Macro-objective 2:
Resource efficient
and circular
material life cycles**

2.1 Life cycle tool: Building bill of materials (kg)
 ✓ The main building elements
 ✓ Reporting on the four main types of materials

2.2 Life cycle tools: Scenarios for lifespan, adaptability and deconstruction
 ✓ Design aspect checklists
 ✓ Semi-quantitative and LCA based assessments

2.3 Construction & demolition waste and materials (kg/m²)
 ✓ Demolition
 ✓ Construction
 ✓ End-of-life

**Macro-objective 3:
Efficient use of
water resources**

3.1 Use stage water consumption (m³/occupant/yr)
 ✓ Water scarcity by location
 ✓ Potable waste substitution

**Thematic area:
Health and comfort**

**Macro-objective 4:
healthy and
comfortable spaces**

4.1 Indoor air quality
 ✓ Good quality indoor air (ventilation, CO₂, humidity)
 ✓ Concentrations of a target list of pollutants

4.2 Time out of thermal comfort range
 % of the time out of range during the heating and cooling seasons

Potential future aspects
 4.3 Lighting and visual comfort
 4.4 Acoustics and protection against noise

**Thematic area:
Cost, value and risk**

**Macro-objective 5:
Adaptation and
resilience to
climate change**

5.1 Life cycle tools: Scenarios for projected future climatic conditions
 Protection of occupier health and thermal comfort in 2030/2050

Potential future aspects
 5.2 Increased risk of extreme weather events
 5.3 Increased risk of flood events

**Macro-objective 6:
Optimised life cycle
cost and value**

6.1 Life cycle costs (€/m²/yr)
 ✓ Use stage energy and water costs
 ✓ Construction and long-term maintenance, repair and replacement costs

6.2 Value creation and risk factors
 ✓ Comprehensiveness of a valuation or risk rating
 ✓ Reliability of the reported performance assessments

**Overarching
assessment
tool**

Objectives of the Testing Phase

The Commission has launched a two-year testing phase for Level(s), which will end in March 2020. The testing phase aims to explore the readiness of Level(s) for the mass market, supported by robust indicators and clear guidance.

The Level(s) framework is designed to be a flexible system that can be used at different stages of the building's life cycle and testers can choose to test the complete framework or only parts of it. Therefore, the testing period should also reveal the suitability of the guidance for the different ways testers use Level(s).

The testing phase will also look at:

- The efforts and resources organisations need in order to work with Level(s).
- The necessary support mechanisms to support implementation.
- Policy initiatives needed to support implementation.

In order to explore the suitability of Level(s) for the mass market, it is important that the different indicators are tested across Europe by a wide range of building professionals, working at different life cycle stages on both renovation and new building projects.

Support During the Testing Phase

The European Commission's Joint Research Centre (JRC) will provide technical support to organisations during the testing phase for Level(s). As part of this, the JRC has opened an e-mail operated helpdesk. This helpdesk will respond to queries from testers relating to technical content including:

- Interpretation of the guidance documents for Level(s).
- Where to find tools and data.
- Reference standards (to support calculations for the indicators).

A 'Survey Platform' will be launched in June 2018 and will require testers to participate in an online survey of their experience of using Level(s), how it was used, what testers learned and their main recommendations for improvement and support.

The JRC will not provide individual technical and project specific solutions; however, they will conduct webinars for substantial queries of a similar nature. Although the JRC

will not update the guidance documents during the testing period, they will provide separate ad-hoc documents as necessary on this webpage.

Moreover, the JRC will develop a web-based forum where participants can share experiences and information about specific topics. This will be launched in July 2018.

Testing Protocol & FAQ

The European Commission are committed to ensuring testers are equipped with all the necessary information to test Level(s). This includes clarification on what is expected of testers, the support they will be provided with and guidance on how to register as a tester. Therefore, the Commission has also published four documents alongside this report:

1. [Frequently Asked Question Section on Level\(s\).](#)
2. [Detailed Testing Protocol for Level\(s\).](#)
3. [Guidance and rules for making your selection of indicators.](#)
4. [Common Reporting Template.](#)



IMPLEMENTATION OF LEVEL(S) AFTER THE TESTING PHASE

The ultimate aim for Level(s) is to ‘mainstream’ sustainable buildings – therefore the testing phase should also be used to generate awareness, communicate the benefits of and identify the key activities needed to support implementation of Level(s).

This requires an understanding of how prepared Europe is for Level(s) and the role of different stakeholders in supporting implementation.

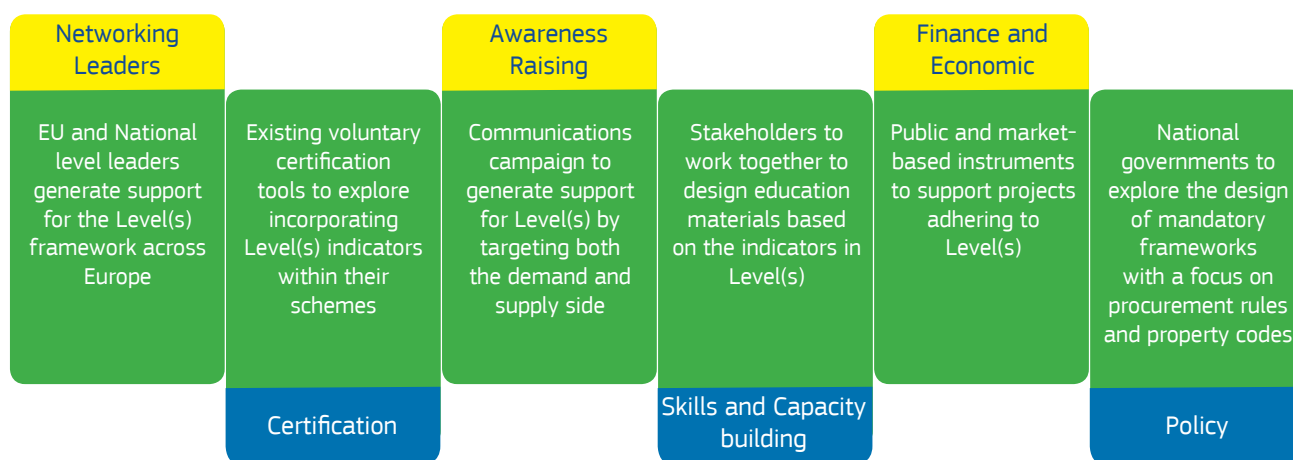
How Prepared is Europe for Level(s)?

Level(s) is a brand new tool that has had limited exposure across Europe. Further, its ambitious focus on life cycle aspects and circularity will represent a challenge for users unfamiliar with these concepts. There is a significant amount of work ahead to support pan-European implementation of the final framework, once this is improved by the testing phase.

Transforming markets requires coordinated action across a number of cross-cutting areas. European stakeholders

must work together to identify and undertake activities that support the implementation of Level(s) – both during its testing phase, and subsequent full launch.

The vast network of stakeholders involved in Europe’s construction and real estate sectors must work together to drive activities in these areas and achieve Level(s)’s full potential. In particular, the role of market leaders, certification schemes and the public sector will be key.



The Role of Market Leaders

Market leaders have welcomed Level(s) progressive yet flexible design which prioritises life cycle thinking – with many stating that they see this as the future direction of Europe’s sustainable buildings policy.

Industry leaders such as Knauf Insulation, Saint-Gobain, Skanska and Stora Enso have already demonstrated their commitment to testing Level(s). By supporting the testing phase, market leaders will help raise the profile and generate the high-level support necessary to mainstream Level(s).

Market leaders must also recognise their role in engaging, educating and supporting their supply chain about the critical role of Level(s) in embedding sustainability throughout the life cycle of the building. This support can be provided by:

- Market leaders reporting back on their ‘flagship’ projects and identifying where Level(s) has added value to their projects.
- Provision of materials to educate smaller market players about Level(s).
- Provision of tools and data to support calculations for

the indicators within Level(s).

- In the longer-term, considering the interaction between BIM and digitalisation and how this may impact on those smaller market players.

The Role of Certification Tools

The inclusion of Level(s) criteria within certification schemes will ensure these schemes are aligned with common EU policy objectives. Certification tools including BREEAM (UK/NL/Spain/Norway/Sweden/Germany/International), DGNB (Germany), HPI (Ireland), HQE (France) and Verde (Spain) support the development of Level(s), and all have stated their intention to explore alignment between their schemes and Level(s).

DGNB has already linked most of the Level(s) indicators to the 2018 update to their certification systems, meaning that buildings certified under DGNB can also report according to most of the indicators within Level(s).

The latest update to the HQE certification system includes performance-oriented indicators and LCA calculations that are closely aligned with the Level(s) framework. The objective is to be able to offer HQE and/or Level(s) 1 without needing a double calculation.

The testing phase of Level(s) will be particularly important for scheme operators who have yet to incorporate the Level(s) indicators and underlying methods as it will

reveal how it works on real projects and determine issues of practicality and usability. The learnings from the testing phase can then be used when updating their certification tools.

For certification schemes, alignment with the Level(s) indicators can help ensure their tools, and therefore projects assessed with them, are well aligned with European building sector policies. This can also serve to further educate the market about Life Cycle Assessment and resource efficiency, as Europe's building sector is challenged to move towards the circular economy.

Existing certification bodies play an important role in testing and implementing Level(s). Administrators of these tools have experience in engaging construction professionals to go beyond standard practice and generate demand for 'better practice' that will help transform markets towards sustainability. This experience will be critical input into the development process of Level(s).

Level(s) provides a limited number of indicators compared to existing schemes. The aim is for these indicators to become a common language for a baseline minimum performance and to become a simple entry point into sustainability reporting for the whole of Europe.

Therefore, the testing phase must explore the feasibility to roll-out Level(s) into and engage these segments of the markets without experiences.



“The results of the testing phase will help inform an update of BREEAM’s international scheme in 2020.”

Alan Yates, Technical Director BRE Global



“HQE certification bodies are willing to align their framework with Level(s), integrate the indicators and share their experience to enable shared learning, including the feedback from the French Energy and Carbon experiment, based on LCA, and related E+C- label.”

Sylviane Nibel, Senior R&D Engineer, Scientific and Technical Centre for Building



“Level(s) should make the step-up to certification a little bit easier.”

Bruno Sauer, CEO, Green Building Council España

The Public Sector's Role

The public sector has a crucial role to play, and by incorporating the Level(s) indicators into national, regional and local plans, public authorities can drive real change in Europe's buildings market.

At an EU level, the alignment of the indicators within Level(s) to the criteria for EU structural funds could facilitate the implementation of Level(s) across Europe and introduce the framework to a wide network of stakeholders.

At a national and regional level, public authorities can explore how they can align their green public procurement criteria with the Level(s) indicator.

Level(s) also presents an opportunity for industry and government to work together to support implementation. Knauf Insulation is testing Level(s) on a training centre in Škofja Loka in Slovenia through the DGNB certification. This ambition has attracted considerable interest from the Slovenian Government which is following the project closely as it explores new ways of shaping national building sustainability requirements.



"Level(s) provides a great opportunity to educate the whole market on resource efficiency and focus on green public procurement."

Pat Barry, CEO, Irish Green Building Council



"Level(s) offers the potential to influence decision-makers and policymakers to do the right thing and look beyond energy."

Anna Braune, Director of Research and Development, DGNB



CONCLUSION AND NEXT STEPS

Level(s) provides a unique opportunity for the building sector to focus on the potential of buildings in addressing global challenges. By linking the building's individual performance to key global and regional priorities, it is assured that buildings designed using the Level(s) framework are realising their full potential in addressing issues such as climate change, environment and health.

Level(s) is the world's first regional framework to address sustainability in buildings and its ambitious focus on circularity will present some challenges. Therefore, the following issues will need to be addressed during the testing and implementation phase:

- How to bring Level(s) from theory to practice.
- How to generate and sustain support for Level(s).
- How to address the skills gap and educate the workforce.
- How to access the necessary data.
- The cost implications of performing an assessment.

The testing phase offers the opportunity for stakeholders from the private sector, public sector and civil society to mobilise their efforts to address these issues and demonstrate their commitment to sustainable buildings.



