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Level(s) testing phase

Guidance and rules for selecting indicators

A broad range of building professionals are encouraged to participate in the testing of Level(s), the common EU framework of core sustainability indicators for buildings. The test phase provides an opportunity to participate in the refinement of a tool that will enable more building projects to contribute to European environmental policy objectives, as well as enabling buildings to be healthier to live and work in, less costly to run and maintain, and which are futureproofed against potential financial and operational risks to performance.

1. Adapting Level(s) to each test team's experience and priorities

Level(s) is designed to be accessible and useable by as many potential users as possible – from those just starting to assess the environmental performance of buildings to those who are experts with many years of experience. In total, it consists of eight core indicators, complemented by six life cycle tools which include the option to make a full Life Cycle Assessment (LCA).

For less experienced testers who are not accustomed to carrying out environmental performance assessments of buildings, there is the possibility to start with the Level(s) 'minimum reporting requirements'. These consist of five core indicators that address the most fundamental aspects of performance, together with a recommendation to try and start to use one additional core indicator and a life cycle tool.

For testers that have more experience, there is the option to add a selection of more advanced indicators and life cycle tools to their test. The possibilities for 'optional additional reporting' encompass:

- Three additional core indicators,
- Six life cycle tools, consisting of:
    - Compilation of the Bill of Materials for a building
    - Three scenarios for a building life span, adaptability and deconstruction
    - One scenario for future climate change
    - A cradle to cradle Life Cycle Assessment (LCA)

These indicators and life cycle tools are more challenging but will provide testers with a more comprehensive understanding of the life cycle performance of a building. They will also make a contribution towards a more circular analysis approach to buildings.

A brief description of the minimum and optional reporting possibilities, and where to find guidance and reporting formats, is provided in this note. The indicators and tools selected, the Level at which you will use the indicators and tools as well as the project stage for which they are being reported must be recorded using the Level(s) common reporting spreadsheet [1].

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[1] The Level(s) common reporting spreadsheet can be downloaded from the JRC's website here: http://susproc.jrc.ec.europa.eu/Efficient_Buildings/documents.html

2. The rules for making your selection of indicators

Testers will select the indicators and life cycle tools that they will test in accordance with the following rules:

- Minimum reporting requirements: All testers must use these indicators.
- Optional additional reporting: Testers may add further indicators and also life cycle tools to their test, according to the following options:

    Option 1: Thematic sets of indicators and life cycle tools, or

    Option 2: Their own selection of further indicators and life cycle tools.

These rules are intended to ensure a thorough and balanced testing of Level(s).

2.1 The Level(s) test minimum reporting requirements

The minimum reporting requirements are made up of:

- A description of the building to be tested (also referred to in the Level(s) documentation as the 'goal and scope definition'), including:
    - the buildings configuration,
    - details of its location,
    - details on how it is intended to be used.
- Results for selected Level(s) core indicators and tools.

The results must be reported using the Level(s) common reporting format, which is in an excel spreadsheet format. The core indicators to test are listed in Table 1.

Table 1. The Level(s) minimum reporting requirements

Part of the Level(s) framework	Description
Goal and scope definition	*What will I need to report on?* 1. The building and its elements 2. The building type, ownership and market segment 3. The unit to be used for comparative purposes 4. How the building will be used and the lifespan of its elements 5. The timescale for the performance assessment *Where can I find more guidance and a reporting format?* ✓ See section 1 of *'How to make performance assessments using Level(s) - Part 3'* ✓ Level(s) common reporting spreadsheet

Level(s) Core Indicators	Which indicators should I use?
	1.1 Use stage energy consumption (primary and delivered energy)
	2.3 Construction and demolition waste and materials
	3.1 Use stage water consumption
	4.1 Indoor air quality (at Level 1)
	4.2 Time out of thermal comfort range (at Level 1)
	In addition to these indicators, it is recommended to use:
	○ *2.1 Life cycle tool: Building Bill of Materials (BoM)* as this can support the use of indicator 1.2. ✓ the simplified option for *1.2 Life cycle Global Warming Potential* (see Guidance Note 1.5 in *'How to make performance assessments using Level(s) - Part 3'*)
	Where to find more guidance and the reporting format?
	✓ See Macro-objectives 1-6 in *'How to make performance assessments using Level(s) - Part 3'* ✓ Level(s) common reporting spreadsheet

The performance measurement and format of reporting for each core indicators has been configured in a specific manner. The indicators function in a number of different ways, reflecting the different nature of each performance aspect that is addressed within Level(s):

- ○ Those that have a single unit of measurement, for example:
    - ✓ *Indicator 1.1 Use stage energy consumption*
- ○ Those that aggregate data from different activities on a site, for example:
    - ✓ *Indicator 2.3 Construction and demolition waste and materials*
- ○ Those that are a composite of different aspects of performance that must be reported under one heading, for example:
    - ✓ *Indicator 4.1 Indoor Air Quality*

The additional 2.1 Life cycle tool: Building Bill of Materials requires the compilation of data on building elements and their quantities.

In all cases, results can be reported based on either, or both, of the following:

- ○ calculated performance: by making an assessment at design stage, based on simulated or theoretical values;
- ○ actual performance: by collecting real operational and in-use data from a building that is under construction, recently completed and/or occupied.

2.2 The Level(s) test optional additional reporting

Testers wanting to go further than the minimum requirements can, as mentioned previously, choose between two options for additional reporting:

- Option 1: Thematic sets of indicators and life cycle tools which work together to understand a buildings performance.
- Option 2: A free choice from the range of indicators and life cycle tools according to your priorities and interests.

The optional additional reporting aspects consist of three further core indicators and a number of life cycle tools that can be used to make a more comprehensive assessment of a buildings performance:

1. **More advanced indicators:** Additional indicators allow users to start by modelling Global Warming Potential ('GWP') and then expand to address a full set of environmental impact categories as specified in LCA methodologies. They also allow life cycle costs to be modelled, thereby supporting users wishing to model both environmental and economic performance along the full life cycle of a building.
2. **Life cycle scenarios:** Level(s) provides a set of simple checklists and scoring methods which enable analysis over the full service life of a building, including its adaptability, deconstruction potential and response to projected future climatic conditions. These four tools can contribute to a more circular approach to analysis of a building. In this way they are intended to support users in considering future performance aspects of a building.
3. **Life Cycle Assessment (LCA):** Moving to the most advanced indicator within Level(s), a building's performance can be assessed by carrying out a Life Cycle Assessment (LCA). This can help building professionals to develop a more comprehensive understanding of the long term. performance of a building and its impact along all stages of its life cycle.
4. **Property value creation and risk factors:** This composite checklist and rating tool is designed to support property valuers and investors by supplementing their existing data and knowledge, thereby allowing them to better take into account the potential influence of sustainability aspects on value and risk.

Testers can either choose a predetermined set of core indicators and tools (option 1) or to make a free choice from those listed (option 2).

Option 1: The Level(s) test thematic additional reporting

An important feature of Level(s) is that it is based on six 'macro-objectives'. These macro-objectives reflect EU and Member State policy objectives in areas such as energy, material use and waste, water and indoor air quality. Their role is to ensure that all performance assessments made according to Level(s) have the potential to make a clear contribution to broader European policy objectives.

These macro-objectives form the basis for Option 1. Testers may choose from predetermined sets of indicators and life cycle tools, as listed in Table 2. These sets of indicators and life cycle tools contribute to the different macro-objectives of Level(s). Each set below in Table 2 will provide for a holistic, life cycle based understanding of how a building's performance can be assessed for each macro objective.

Table 2. Thematic sets of indicators and life cycle tools

Macro-objective 1	*Which indicators and tools should I use?*
Greenhouse gas emissions along a buildings life cycle	1.2 Life cycle Global Warming Potential (GWP)
	2.1 Life cycle tool: Building Bill of Materials (BoM)
	2.2 Life cycle tools: scenario 1 - Building and elemental service life planning
	5.1 Life cycle tools: scenario 1 – Protection of occupier health and thermal comfort
	Where to find more guidance and the reporting format?
	✓ See Macro-objectives 1 and 5 in *'How to make performance assessments using Level(s) - Part 3'* ✓ Level(s) common reporting spreadsheet

Macro-objective 2
 	
Resource efficient and circular material life cycles
	Which indicators and tools should I use?
	
	   2.1 Life cycle tool: Building Bill of Materials (BoM)
	
	   2.2 Life cycle tools: scenario 1 - Building and elemental service life planning
	
	   2.2 Life cycle tools: scenario 2 - Design for adaptability and refurbishment
	
	   2.2 Life cycle tools: scenario 3 - Design for deconstruction, reuse and recycling
	
	It is also recommended to use either:
	
	   1.2 Life cycle Global Warming Potential (GWP), or
	
	   2.4 Life cycle tool: Cradle to cradle Life Cycle Assessment (LCA)
	
	Where to find more guidance and the reporting format?
	
	  ✓ See Macro-objective 2 in *'How to make performance assessments using Level(s) - Part 3'*
	  ✓ Level(s) common reporting spreadsheet

Macro-objective 4
 	
Healthy and comfortable spaces
	Which indicators and tools should I use?
	
	   4.1 Indoor air quality (at Level 3)
	
	   4.2 Time out of thermal comfort range (at Level 3)
	
	   5.1 Life cycle tools: scenario 1 – Protection of occupier health and thermal comfort
	
	Where to find more guidance and the reporting format?
	
	  ✓ See Macro-objective 4 in *'How to make performance assessments using Level(s) - Part 3'*
	  ✓ Level(s) common reporting spreadsheet

Macro-objective 6
 	
Optimised life cycle cost and value
	Which indicators and tools should I use?
	
	   2.2 Life cycle tools: scenario 1 - Building and elemental service life planning
	
	   2.2 Life cycle tools: scenario 2 - Design for adaptability and refurbishment
	
	   6.1 Life Cycle Cost (LCC)
	
	   6.2 Value creation and risk factors
	
	Where to find more guidance and the reporting format?
	
	  ✓ See Macro-objectives 2 and 6 in *'How to make performance assessments using Level(s) - Part 3'*
	  ✓ Level(s) common reporting spreadsheet

Overarching assessment Cradle to cradle life cycle assessment	*Which indicators and tools should I use?* 2.1 Life cycle tool: Building Bill of Materials (BoM) 2.2 Life cycle tools: scenario 1 - Building and elemental service life planning 2.4 Life cycle tool: Cradle to cradle Life Cycle Assessment (LCA) *It is also recommended to use the following tools:* 2.2 Life cycle tools: scenario 2 - Design for adaptability and refurbishment 2.2 Life cycle tools: scenario 3 - Design for deconstruction, reuse and recycling *Where to find more guidance and the reporting format?* ✓ See Macro-objective 2 and Overarching assessment tool 7 in *'How to make performance assessments using Level(s) - Part 3'* ✓ Level(s) common reporting spreadsheet

Option 2. The Level(s) test free choice of additional reporting

The following Table 3 provides an overview of the optional additional reporting for Level(s). Tester can make a free choice from these core indicators and tools according to their priorities and interests.

Table 3. Description of the optional additional reporting for Level(s)

Part of the Level(s) framework	Description
Level(s) core indicators	*Which indicators can I choose from?* 1.2 Life cycle Global Warming Potential (GWP) 6.1 Life Cycle Cost (LCC) 6.2 Value creation and risk factors *Note: More information about 6.2 is presented below in this table* *Where to find more guidance and the reporting format?* ✓ See Macro-objectives 1-6 in *'How to make performance assessments using Level(s) - Part 3'* ✓ Level(s) common reporting spreadsheet

Tools that describe a life cycle aspect of a building	*Which scenarios can I choose from?* 2.1 Life cycle tool: Building Bill of Materials (BoM) 2.2 Life cycle tool: scenario 1 - Building and elemental service life planning 2.2 Life cycle tool: scenario 2 - Design for adaptability and refurbishment 2.2 Life cycle tool: scenario 3 - Design for deconstruction, reuse and recycling 5.1 Life cycle tool: scenario 1 – Protection of occupier health and thermal comfort *Where to find more guidance and the reporting format?* ✓ See Macro-objectives 2 and 5 in *'How to make performance assessments using Level(s) - Part 3'* ✓ Level(s) common reporting spreadsheet
A cradle to cradle Life Cycle Assessment (LCA) of a building (indicator 2.4)	This is the most advanced indicator option within the Level(s) framework. Users can also use the life cycle tools 2.1, 2.2 and 5.1 to support their analysis. *Where to find more guidance and the reporting format?* ✓ See Overarching assessment tool 7 – Cradle to cradle LCA in *'How to make performance assessments using Level(s) - Part 3'* ✓ Level(s) common reporting spreadsheet
Indicator of value creation and risk factors (indicator 6.2)	Indicator 6.2 is a composite checklist and rating tool that focusses on: ✓ *The potential for a positive influence on a market valuation:* A set of checklists to identify aspects of performance that have the potential to create financial value or to expose owners and investors to future risks and liabilities. ✓ *Reliability rating for each Level(s) performance assessment:* A rating tool that will provide information on the reliability of the underlying data and calculation methods on which a reported performance is based. *Where to find more guidance and the reporting format?* ✓ See Macro-objective 6 in *'How to make performance assessments using Level(s) - Part 3'* ✓ Level(s) common reporting spreadsheet