

# ZERO EMISSION BUILDINGS CAN BE EVEN MORE SUSTAINABLE

To reduce the carbon footprint in buildings the traditional approach is focused on reducing the operational energy consumptions

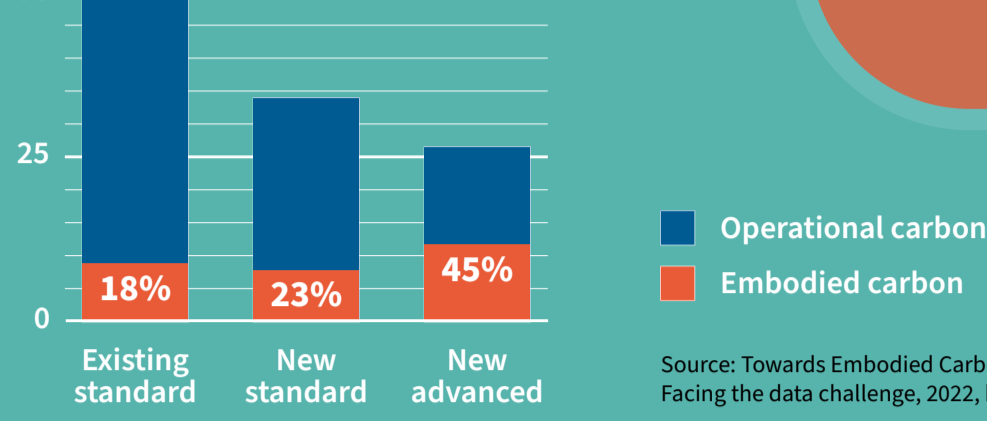
**BEFORE THE BUILDING BECOMES OPERATIONAL**  
a relevant amount of CO<sub>2</sub> is produced during the manufacturing of materials, their transportation and the construction processes

**Embodied carbon**

**Operational carbon**  
CO<sub>2</sub> emissions produced using and managing the building

**AT THE BUILDING END-OF-LIFE**  
CO<sub>2</sub> emissions are produced demolishing the buildings, transporting and recycling the wastes

Global trends in life cycle emissions of buildings, average kgCO<sub>2</sub>e/m<sup>2</sup>a



Source: Towards Embodied Carbon Benchmarks for Buildings in Europe – Facing the data challenge, 2022, <https://doi.org/10.5281/zenodo.6120522>

Thanks to advances in reducing operational carbon, embodied carbon is becoming a larger portion of a building's overall carbon footprint

## Towards zero emission buildings: how to apply circular principles in construction



## EU policy instruments for more sustainable buildings

<p><b>Energy performance of buildings:</b></p> <ul style="list-style-type: none"> <li>Energy Performance of Buildings Directive / EPBD</li> <li>Energy Efficiency Directive / EED</li> <li>Renovation Wave</li> </ul>	<p><b>Waste Management:</b></p> <ul style="list-style-type: none"> <li>Waste Framework Directive</li> </ul> <p><b>Public Procurement:</b></p> <ul style="list-style-type: none"> <li>EU Procurement Directive</li> </ul>	<p><b>Circularity tools and labels:</b></p> <ul style="list-style-type: none"> <li>Level(s)</li> <li>Greening Public Procurement / GPP</li> <li>EU Eco-Management and Audit Scheme / EMAS</li> <li>Construction Product Regulation</li> <li>Product and Organisation Environmental Footprint / PEF and OEF</li> <li>Ecolabel</li> </ul>
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In 2018 the European Commission launched Level(s), an assessment and reporting tool for sustainability performance of buildings, firmly based on circularity

Level(s) provides a common language using indicators covering all life-cycle stages and grouped in 6 macro-objectives

<p><b>1</b> Greenhouse gas emissions along a buildings life-cycle</p>	<p><b>4</b> Healthy and comfortable spaces</p>
<p><b>2</b> Resource efficient and circular material life-cycles</p>	<p><b>5</b> Adaption and resilience to climate change</p>
<p><b>3</b> Efficient use of water resources</p>	<p><b>6</b> Optimised life-cycle cost and value</p>

### What's in it for you?

<p><b>Built environment and sustainability professionals</b></p> <p>Support in comparing design options and setting sustainability targets from the beginning of the project</p>	<p><b>Policy makers / Procurers / Public authorities</b></p> <p>Help in developing and implementing policies and actions linked to sustainability</p>	<p><b>Investors / Property owners / Landlords</b></p> <p>Support in tracking and reporting the buildings performances throughout the full life-cycle</p>
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How can you start using Level(s) in your working environment?

<p><b>eLearning course</b></p> <p>A comprehensive overview of Level(s) that will help you to complete a building assessment</p> <p><a href="#">Read more</a></p>	<p><b>Calculation and Assessment Tool (CAT)</b></p> <p>A calculator that makes easier to complete your sustainability performance assessment</p> <p><a href="#">Read more</a></p>
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Learn more about Level(s) here [tinyurl.com/levels-eu](https://tinyurl.com/levels-eu) and join the [LinkedIn group](#) to connect with the community!