Tackling whole-life impact of the built environment and apply circular economy principles in the construction sector

Manifesto for the EU institutions

Time to Act:
for high-quality architecture and living environment for all

ACE key policy priorities for the EU institutions

Promoting high-quality architecture and living environment for all
- Recognising the value of architecture as a key lever for high-quality living spaces
- Embedding the values of the New European Bauhaus in EU legislation
- Developing a proposal for a Planning Services Directive

Advancing the highest standards in education and ensuring the upskilling of professionals
- Aligning with the International Standard of Training (5+2)
- Resolving the problem of mixed qualifications
- Ensuring the up-skilling of professionals

Establishing a SME-friendly regulatory framework
- Ensuring strict reciprocal application of the Government Procurement Agreement and International Procurement Instrument
- Revising the Public Procurement Directive

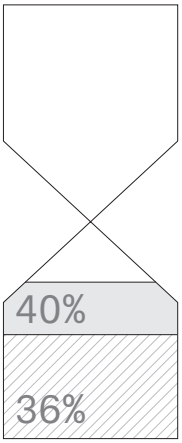
Favouring architectural and planning solutions in the built environment
- **Tackling whole-life impact of the built environment and apply circular economy principles in the construction sector**
- Promoting renovation, transformation and re-use of existing buildings over demolition and new builds
- Adapting living spaces to the effect of climate change through architectural and planning solutions

Challenge: How to reduce the energy and resource consumption in the buildings and construction sector?

Solution: Tackle the whole-life impacts of the built environment and applying circular economy principles in the construction sector.

Background

Worldwide, the construction and operation of buildings accounts for 36% of global final energy use and nearly 40% of energy-related CO2 emissions. In the EU, the sector accounts for about half of all our extracted materials and generates about one third of all waste.



The built environment is responsible for 36% of global energy-related carbon emissions and for 40% of the EU energy consumption.

In the EU, the construction sector is responsible for about half of our extracted materials and generates about one third of all waste.

Source: EU Commission.

ACE Policy Position

Tackling whole life environmental impacts: Around 10% of energy-related GHG emissions are attributable to *embodied carbon*, which is caused by the manufacturing of construction materials, their transportation and the whole building process. This embodied carbon is almost entirely unregulated. The evaluation of the full environmental impacts of buildings over their life cycle is necessary to create the business case for renovation over demolition and re-build and foster the use of local and bio-sourced materials. The ACE calls for:

- Setting out a clear EU strategy and roadmap for reducing whole life GHG emissions in the building sector. The benchmarks, methodologies and infrastructure required to minimise emissions from construction need to be developed immediately to avoid locking in emissions from business-as-usual construction processes.
- Mainstreaming Life-cycle Assessments (LCA) and Life-cycle Costing (LCC) methods, in order to document the savings of embodied energy, resources and carbon emissions.
- Allowing for the validation and disclosure of building performance in use, to ensure that the investment of natural resources and funds deliver the anticipated outcomes, and thereby reduce investment risks. Energy Performance Certificates must record and benchmark metered performance and be based on the as-built building in terms of spatial and material composition and technical systems. This will ensure that they reflect the actual delivered quality of a project, empowering markets to effectively contract for performance.

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Developing circular economy principles in the built environment is fundamentally about changing the way we design our buildings to ensure that they can be easily operated, maintained, repaired, re-used or adapted to new needs. Solutions promoting circularity should consist of actions aiming to preserve and enhance the value of resources:

- Maintain and re-use first: buildings that are appreciated have longer lifespans and inspire generations of owners and users to preserve the resources invested in them;
- Build for different uses: Buildings' spaces and fabrics should be designed so they can be occupied for different uses and easily adapted to new needs;
- Design for easy replacement: by enabling easy access to and removal of components that have a shorter lifespan, they can be cost effectively replaced or repaired;
- Prescribe the right materials and components: namely those that can be cost-effectively re-used or recycled; that are durable and robust; easy to handle; repairable; and bio-degradable, such as wood, earth, straw, cork.

Links

- ACE priorities for the revision of the EPBD
- ACE Statement A sustainable, fair and beautiful built environment to address the climate and biodiversity crisis
- ACE Statement Designing for a Circular Economy

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