

**A NEW EUROPEAN
BAUHAUS**

**THE CONCRETE EUROPE
MANIFESTO**



**Concrete
Europe**

INTRO

The Concrete Europe welcomes the *New European Bauhaus Initiative* as an opportunity to rethink the way we live and connect people through beautiful, green, innovative and inclusive design and wishes to engage with policy makers and the stakeholders in the construction value chain for a successful new edition within the framework of the *Green Deal*.

Concrete was an essential component of the historic Bauhaus, due to its durable strength and embedded properties (like fire resistance, thermal mass, acoustic insulation). It enabled minimalistic structures and architectural versatility in forms and colours. The Concrete Europe aims to continue playing a key role in the *New European Bauhaus* proving that it is able to bring answers to the challenges of the present: net-zero carbon, circular construction and digital transformation. By working together, the different actors of the concrete value chain and its main constituents (cement, aggregates and admixtures) will be able to provide future-proof concrete responding to Europe's needs.

No doubt, however, the Sustainable Built Environment of tomorrow will require a combination of building materials like the original movement promoted. To achieve this, our sectors would like the European Commission to consider ten principles for the built environment in the *New European Bauhaus* which will contribute to the aesthetics of cities, their liveability and the quality of life of their inhabitants. ***We highlight at the end of our manifesto a series of policies recommendations to make them happen.***

¹ BIBM (the European Federation for Precast Concrete), CEMBUREAU (the European Cement Association), EFCA (the European Federation of Concrete Admixtures Associations), ERMCO (the European Ready-Mixed Concrete Organisation) and UEPG (the European Aggregates Association)



© Photothèque CEMEX

SUSTAINABLE AND CARBON NEUTRAL

Today and tomorrow's buildings need to take into account the three pillars of sustainability (environmental, economic and social) in order to be carbon neutral, so the *New European Bauhaus* should reflect this inspiration. The cement industry, committed to [carbon neutrality by 2050](#), is already developing low-carbon cements to be used for low-carbon concrete mix designs, as well as low carbon admixtures solutions which already contribute today to these sustainability objectives.

For instance, a French company supplies low carbon concrete for several buildings across France. The Jean Zey school in Toulouse was built using a low carbon concrete which has reduced by 30% the carbon footprint of the concrete used.

**FIRST
PRINCIPLE**



RESPONSIBLY SOURCED

The *New European Bauhaus* should promote primary and secondary raw materials used in construction to be sourced responsibly and in compatibility with the environment. Quarries as well as sand and gravel extraction sites are progressively restored during and after operations and use concepts such as temporary or dynamic nature often in cooperation with environmental NGOs. The LIFE project “[Life in Quarries](#)” has developed practical manuals and guidance on how to make active extraction sites living areas for nature and biodiversity.

SECOND
PRINCIPLE



LOCAL AND CIRCULAR

In our view, the *New European Bauhaus* should favour locally-produced construction materials – avoiding long distance transport, supporting local economies while ensuring certainty of the supply chains. Furthermore, in a finite world, recycling construction waste will be a key part of a circular approach that will allow the EU to be self-reliant while still ensuring sustainably and responsibly sourced primary aggregates for the *New European Bauhaus*. In some cases, concrete producers already sell concrete mixes which contain up to 100% recycled aggregates. A Dutch company provided a [100% recycled concrete](#) for the construction of a bike lane between Beilen and Hoogeveen (The Netherlands).

THIRD
PRINCIPLE



ENERGY POSITIVE

There is an urgent need to look at buildings not as pure passive energy-absorbers but, through activation of embedded thermal energy, as active participants in the energy system. The *New European Bauhaus* must look at turning buildings into actors that “feed” energy to the grid and help accommodate various sources of energy such as renewable. Concrete, thanks to its thermal mass activation, will play a leading role to achieve this objective as shown in a [study](#) undertaken by 3E. The MG22 social housing [project](#) in the city of Vienna used thermal mass in the building design and made the most of the thermal mass benefits of concrete. This allowed inhabitants to benefit from an increased thermal comfort throughout the seasons and reduced energy bills. At the same time, buildings may become an intelligent part of the electricity grid, allowing to compensate peaks, and increasing the overall efficiency of the system.

FOURTH
PRINCIPLE



DURABLE AND ADAPTABLE

Buildings and infrastructures must be designed and built to stand for the longest period of time with limited repair or refurbishment. This also means that buildings, which have to remain, could be easily refurbished for new uses, to avoid soil sealing and new service infrastructures, or their components should be conceived to be reused in new buildings as new building components or after demolition as recycled aggregates. The *New European Bauhaus* must fully consider how building back better encompasses the extension of the buildings' life-time. This is already the case of some concrete buildings that are renovated keeping their structure and extending it. The European Union Mies van der Rohe prize was awarded in 2019 to the architects Lacaton and Vassal, Druot, Hutin who also received the Pritzker prize in 2021, for a [renovation project](#) in Bordeaux (France) where renovated social buildings used the existing concrete structure and new pre-cast concrete elements to extend the living area of the inhabitants. This proved that not only reconstruction, but also deep renovation can transform the places we live and increase the quality of lives of European citizens.

FIFTH
PRINCIPLE



OPENING UP GREEN AND BLUE SPACES

The *New European Bauhaus* must also foster an urban agenda expanding beyond buildings to also re-think our relationship with nature, green spaces and biodiversity. Densification can offer solutions to open up green and blue spaces in cities innovative in design. Thanks to its strength, concrete, the material of choice for high-rise buildings, allows architects to make creative and ingenious designs. European Commission President von der Leyen expressed her admiration for the Bosco Verticale building in Milan, a great example on how concrete structures foster architectural creativity and brings nature back to the centre of our cities.

SIXTH
PRINCIPLE

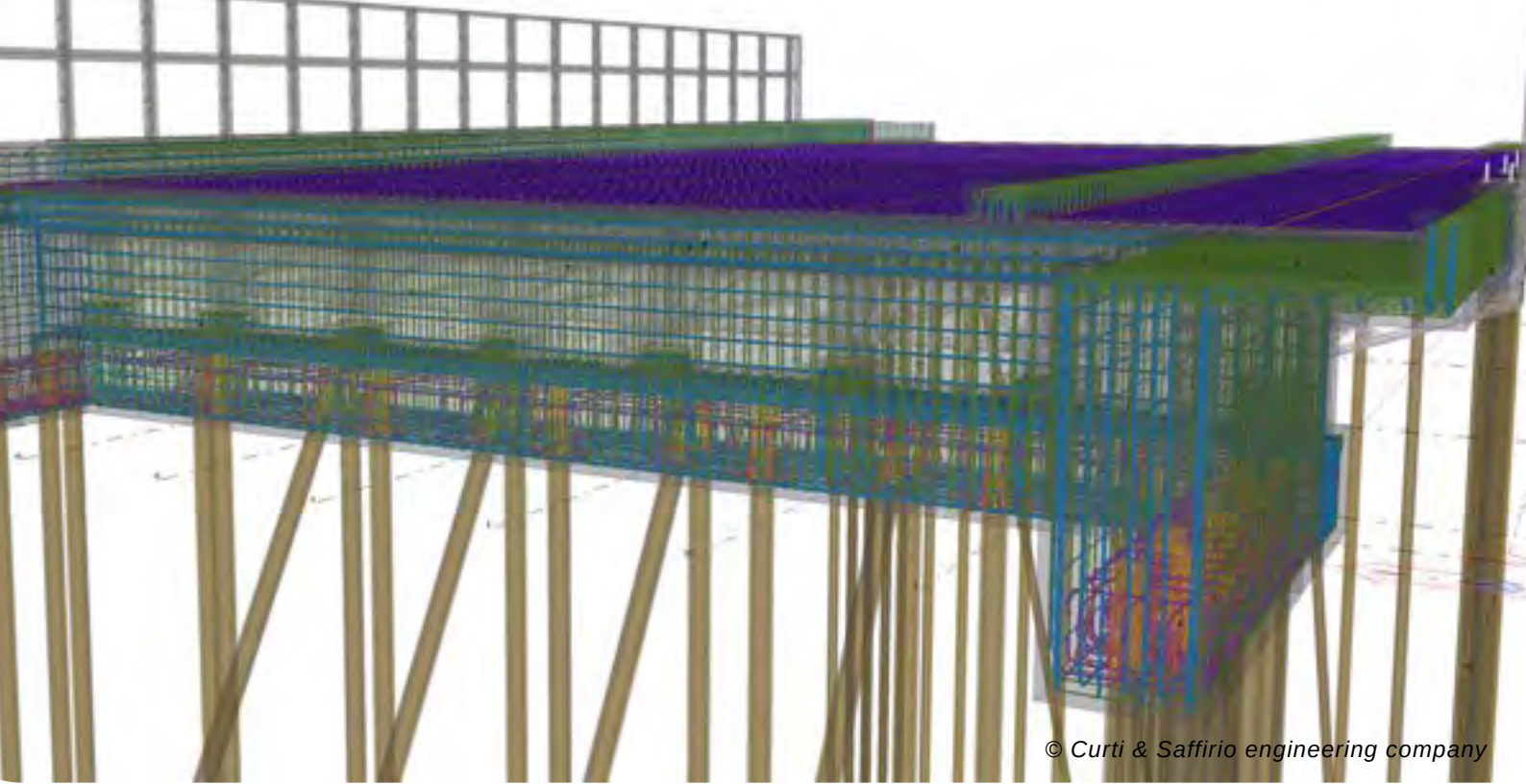


© Riksborgen

RESPECTFUL OF DIFFERENT CONSTRUCTION MATERIALS

The *New European Bauhaus* must foster a vision of construction materials that co-exist, where the most efficient choices are made on the basis of each individual project. No building is made of one material only, architects and designers' ability to use each materials' qualities for the best outcome at building level is the key. Choices should be made based on the Life Cycle Assessment of the building, including its end-of-life. A good example of choice was made by the property developer of the BRF VIVA housing project in Gothenburg (Sweden) who looked into the options of concrete and wooden construction. An environmental impact assessment was undertaken together with leading LCA/EPD experts for wood (SP Trä) and concrete (CBI). Their [joint report](#) showed that, using EN 15978 for the assessment of environmental building performances, there were no significant differences regarding global warming potential between the concrete and wooden solutions.

SEVENTH
PRINCIPLE



© Curti & Saffirio engineering company

DIGITAL AND AFFORDABLE

The European Construction sector is investing a lot in digitalisation to optimize the cost of housing and improve the pace of renovation and construction of new buildings. One of the most significant contributions to digitalising the construction sector is given today by the "Building Information Modeling" (BIM). BIM is neither a product nor a software but a "container of information on the building" in which to insert graphic data (such as drawings) and specific technical attributes (such as technical data sheets and characteristics) also relating to the expected life cycle. The *New European Bauhaus* should strongly support the digital revolution in construction by promoting opportunities for BIM implementation. It could provide a relevant entry point for this, as BIM does not allow only to build new buildings but also look at and take account of how buildings and infrastructures are connected. Most European countries are making rapid progress with respect to BIM for infrastructure. One interesting example of how BIM is changing and improving buildings and infrastructures is the [Randselva Bridge](#), the world's longest bridge. It is a 634-meter-long cantilever concrete bridge being built without drawings, based solely on BIM-models.

EIGHTH
PRINCIPLE



CONNECTING PEOPLE

The *New European Bauhaus* should not forget the renovation and development of “green” transport infrastructure (rail stations, mass transit systems or bicycle lanes) to connect people, whilst allowing for densification and freeing up green and blue spaces. As a key partner of these installations, through its intrinsic durability, concrete has the power to better satisfy our transport needs at low maintenance costs. The [Marexhe & Herstal Railway Station](#) in Belgium, which received the *Grand Prix d'Architecture de Wallonie*, brought a new blend of urban activities and created an open space for better planned and more active urban life.

NINTH
PRINCIPLE



© Christophe Hautier

TURNING CITIES INTO “CARBON SINKS”

It is well known that as plants absorb carbon dioxide by photosynthesis, forests act as a CO₂ global sink – so any improper exploitation of forests may negatively impact the global balance.

Far less well known is that concrete and mortars used for our built environment, our cities and infrastructure, also absorb CO₂ throughout their life. Unlike wood-based products, which release their carbon dioxide into the atmosphere at their end-of-life, concrete stores absorbed carbon dioxide permanently. The *New European Bauhaus* should promote the use of cities as “carbon sinks” by exploiting the full [recarbonation](#) potential of concrete, promoting fully exposed concrete surfaces for roads and pavements. In case of materials, a [project](#) in France is using recarbonation to enhance the properties of recycled aggregates and capturing CO₂ in concrete.

TENTH
PRINCIPLE

POLICIES

Based on all of the above, it is clear that concrete can in many ways contribute to the beauty, sustainability and togetherness of the to the *New European Bauhaus*. In order to mainstream already available solutions and to increase innovation, we recommend the European Union, its Members States and relevant local institutions in the development of their legislation and policies to:

- 1. Encourage the take-up of low-carbon solutions**
- 2. Activate thermal mass**
- 3. Ensure material neutrality**
- 4. Ensure full life-cycle assessment**
- 5. Recognise recarbonation**





The Concrete Europe (CE) is a project led by BIBM (the European Federation for Precast Concrete), CEMBUREAU (the European Cement Association), EFCA (the European Federation of Concrete Admixtures Association), ERMCO (the European Ready-Mixed Concrete Organisation) and UEPG (the European Aggregates Association).

The TCI engages with stakeholders on the issue of sustainable construction, and in particular the barriers and solutions to harness its multiple benefits.

The project examines the economic, social and environmental implications of sustainable construction and the need for a balanced approach among these three pillars. It shows how the construction industry, including concrete, can help find solutions to Europe's challenges and how the industry can provide more sustainable, circular and decarbonized solutions for the built environment. This means increasing understanding of the significant role of concrete in all three areas of sustainable construction.

The Concrete Europe project exists since 2014 and has organized every year a Concrete Dialogue gathering all the EU construction stakeholders around one theme related to the Built Environment sustainability aspects.

