European Council of Civil Engineers

NEW EUROPEAN BAUHAUS
Athens, 9 June 2021

The European Council of Civil Engineers (ECCE) has been the active voice of Civil Engineers across Europe since 1985. It represents the Civil Engineering professional associations from 23 countries. Civil engineers fully support and welcome the *New European Bauhaus* initiative put forward by the President of the European Commission as part of the Renovation Wave strategy.

As the President of the European Commission Ursula von der Leyen stated in her inaugural speech "The New European Bauhaus movement is intended to be a bridge between the world of science and technology and the world of art and culture… it is about a new European Green Deal aesthetic combining good design with sustainability." The New European Bauhaus is an initiative designed to transform the built environment (housing, infrastructure, architecture) into one that is fit for the future, with fewer emissions, greater resilience, and generating long-term social value. At the heart of the New Bauhaus is the belief that the climate emergency can be faced from a multidisciplinary perspective and with the ultimate goal of reaching a circular economy. It will bring together the construction and the culture sectors, thus considering the values of beauty and humanity together with a greener architecture. So, it opens the door to a *more holistic approach* to our built environment.

A sustainable built environment must be resilient, and, in that context, ECCE would like to bring forward and highlight the importance of **structural safety** of buildings which we believe has not been adequately taken into account to date:

Aging building stock: a challenge for energy efficiency and structural/seismic safety
The majority of the existing building stock in most European countries built in the 80s, 70s or earlier does not meet modern design standards including the requirements for seismic safety and energy efficiency. For this "aging" group of existing buildings, key challenges lie ahead regarding their structural safety, sustainability and energy performance. Society and its engineers have the responsibility to address this multidimensional challenge and to maintain this "aging" building stock in an operational, reliable and resilient state, in order to ensure firstly the safety and comfort of the users and secondly the enhancement of its architectural character and energy efficiency.

Structural/Seismic safety: a basic requirement for buildings
For buildings, structural/seismic safety is one of the essential requirements of EU policy and legislation for construction works, which demands that technical specifications shall be based on these seven requirements:

- Structural resistance and stability
- Safety in case of fire
- Hygiene, health and the environment
- Safety and accessibility in use
- Protection against noise
- Energy economy and heat retention
- Sustainable use of natural resources

Sustainable Structural Design (SSD): a holistic approach to building renovation
Currently, from a sustainability perspective, emphasis is placed on developing an integrated holistic design methodology for new buildings that should be preferred over individual actions to

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ensure a Sustainable Structural Design (SSD). Such approaches like the SSD methodology will ensure that new buildings satisfy aesthetic aspects, structural safety, energy efficiency and that meet the needs of the owner and user while minimizing the environmental impact and conserving resources where possible.
For existing buildings SSD means that a conceptually similar approach is required to provide a holistic upgrading solution. Therefore, when renovation projects of a certain scale are undertaken, structural upgrading should be considered and funded jointly with functional, aesthetic and energy efficiency upgrading.

Recent Developments: a pilot project for integrating seismic strengthening and energy efficiency
Only the last few years it has been acknowledged that independent retrofit actions should be integrated to enhance the overall performance of buildings. It started with an effort to relate seismic efficiency with environmental benefits where works were being carried out to mitigate damage and/or demolition caused by earthquakes. This was succeeded by a multidisciplinary approach to improve building performance taking both seismic and energy efficiency into consideration. In this light, the European Commission's Joint Research Center (JRC) is carrying out the Pilot Project "Integrated techniques for the seismic strengthening and energy efficiency of existing buildings". This Pilot Project puts forward a holistic approach to improve simultaneously the seismic safety and energy efficiency of the European building stock. This sustainable approach will combine renovation efforts that reduce building vulnerability to protect lives and will update the energy efficiency of ageing structures to significantly reduce CO2 emissions and tackle energy poverty. The Pilot Project directly supports several European Commission priorities including the Green Deal's call for renovating in an energy and resource efficient way. It provides the technical background in support of the Renovation Wave initiative and an EU Action Plan to modernise the European building stock.

A Resilient New Bauhaus: the need for safe, sound and sustainable buildings
The New European Bauhaus is a transformational crossroads project which leads the way to a holistic approach to our built environment, proposing new dimensions and considerations that are the main drivers for quality planning processes and quality projects. It constitutes a source of inspiration and innovation as well as critical thinking and problem solving. In that context, investing in siloed energy efficiency renovation schemes while overlooking building safety is unwise, particularly in regions with seismic hazard, where the first seismic episode after renovation may lead to the damage or collapse of energy-efficient renovated buildings that are unsafe. Last year ECCE launched a campaign declaring 2020 as the Year of the 3S approach which stands for Safe, Sound and Sustainable buildings. We strongly believe that the European New Bauhaus initiative should take into account the need to integrate the structural/seismic upgrade of existing buildings with energy efficiency and aesthetic improvements. Building safety is a critical factor which needs to be part of a holistic approach to our common efforts to ensure a safe, beautiful and sustainable built environment.

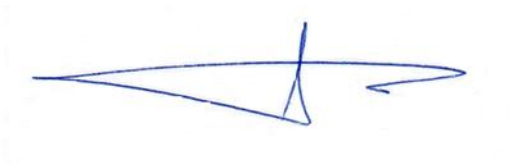
The European Council of Civil Engineers: ready to support the New Bauhaus initiative
ECCE is ready to support the development of the New Bauhaus initiative, notably by:

- acting as an information platform and facilitating dissemination and dialogue through the broad ECCE network (we are able to reach a large audience via our 23 national member organisations);
- enabling contact with renowned professionals and experts, who would be able to give greater visibility to the initiative;
- offering a knowledge and expertise hub, to help the European Commission to further design the initiative and ensure that its process delivers the desired outcomes;
- obtaining inputs from public authorities and decision-makers;
- acting as a partner for co-organising consultations, co-creation initiatives, and awareness-raising events targeting professionals;

- offering The European Engineers' Day – a regular European Engineering event co-organized with other European Engineering Organisations – as a platform to discuss and disseminate the projects and results of the New European Bauhaus.

ECCE is committed and offers its help and support towards optimizing the planning and organization of this initiative and we will follow up with some further suggestions. We are very much looking forward to collaborating with the European Commission and its stakeholders to make this initiative a success.

Aris Chatzidakis



President of ECCE

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