

Subject: Revision of the Energy Performance of Buildings Directive 2010/31/EU via Directive (EU) 2018/844 – Public Consultation Phase

The Scientific and Technical Chamber of Cyprus (ETEK) is the organisation of Cyprus Architects and Engineers and the Technical Advisor of Cyprus government. ETEK supports the call for promoting the enhancement of energy efficiency of the EU building stock with a perspective of achieving the 2030/2050 climate targets and the revision of the Energy Performance of Buildings Directive (EPBD) so that it is coherent with the Renovation Wave strategy objectives.

However, while with the introduction of Article 2a.7 in the revised EPBD, the significance the structural integrity of buildings located within the seismic regions of EU has on their lifetime and on energy renovations is recognized, we strongly believe that more specific references and requirements should be incorporated in the revised EPBD, shall (a) the assessment of the seismic efficiency of structures undergoing major energy renovations be ensured and (b) the simultaneous upgrading of the buildings seismic/structural capacity and energy efficiency in seismic regions of the EU is encouraged. In particular, we note the following:

1. The majority of the existing building stock in most of the southern European countries prone to earthquakes, has been erected during time periods where no or less strict seismic codes were implemented in design and materials of poorer mechanical properties were used in construction. The lack of proper maintenance for a considerable number of aging buildings in the seismic regions of the EU has also contributed to their vulnerability to seismic events.
2. The structural integrity and seismic resistance of structures is often the main parameter dictating their lifetime and thus the lack in seismic resistance capacity of buildings may pose a significant obstacle to energy renovations. It is thus evident that structural integrity and sustainability are interrelated. This has been recognised by the ECCE which has declared 2020 as the year of the 3S Approach (Safe, Sound and Sustainable) in its recent manifesto and has also been acknowledged in the revised EPBD, as mentioned above.
3. On the basis of the above, we consider that a holistic approach should be taken for the upgrading of the energy efficiency of the aging existing building stock of European countries prone to earthquakes, one that incorporates the assessment and upgrading of their structural/seismic resistance.
4. EPBD revision: We therefore recommend that the revised EPBD places emphasis on the need for assessment of the structural capacity and seismic resistance of older buildings within the earthquake prone areas of the EU undergoing major energy renovations – especially those designed with no consideration for their seismic resistance - so that potential needs for seismic resistance upgrading are identified and addressed. Particularly, we recommend that the assessment of the seismic resistance/structural stability of structures prior to the execution of energy renovation works is set as a requirement for buildings undergoing major energy renovations, that have been designed with no consideration for their seismic resistance (i.e. without the implementation of a seismic code). Such a requirement would contribute in ensuring the safety of the building's users and the public, placing the necessary emphasis on resilience. It would also ensure that the proposed upgrading of the energy efficiency of a building is analogous to its estimated remaining lifetime. Additionally, it would create incentive for the execution of structural renovation works – where this is deemed as necessary - which could prolong the remaining life of a significant number buildings, thus creating further opportunity for long-term investments in energy renovations.

Also, we recommend that specific requirements are included in the revised EPBD, promoting a holistic and integrated approach for the upgrading of a building's performance which takes into consideration the state of its structural integrity and encourages the simultaneous upgrading of the energy efficiency and structural/seismic capacity of buildings in these areas. On this basis, we recommend that the revised EPBD includes requirements for the simultaneous upgrading of the seismic and energy efficiency of buildings for which the assessment of their seismic capacity has shown that structural upgrades are deemed as

necessary for the safety of the structure and/or that their estimated remaining lifetime is significantly disproportionate to the proposed energy renovations for the building.

On the basis of the above, we recommend that the below reference is added in Article 2a.7 of the revised EPBD:

“Each Member State may use its long-term renovation strategy to address fire safety and risks related to intense seismic activity affecting energy efficiency renovations and the lifetime of buildings. *For buildings located within regions of high seismicity that have been designed without the implementation of a seismic code and shall undergo major energy renovations, the seismic capacity of the building should be assessed by a competent engineer. In the case that structural upgrades are deemed as necessary for the safety of the building following the assessment of its seismic capacity, the structural/seismic upgrading of the building should take place simultaneously or prior to the energy renovation works.*”.

5. Funding instruments: Furthermore, we recommend and consider that it is of outmost importance that financial resources made available by the Eurovision Commission via the Renovation Wave strategy include funds to encourage the assessment of the structural capacity of older buildings in the seismic regions of the EU which may lack in seismic capacity, so that, if deemed necessary, issues of structural performance are addressed, ensuring the safety of the occupants and the public but also creating opportunity for long-term investments for the upgrading of the energy efficiency of the buildings.

Also, we recommend that part of the funding is also utilised to encourage the simultaneous upgrading of the structural/seismic capacity and energy efficiency of the older building stock of European countries prone to earthquakes, via the use of an integrated methodology, or otherwise.

The incorporation of such incentives could contribute significantly in creating a culture for a common and integrated approach for the upgrading of the structural/seismic capacity and energy efficiency of buildings in these regions.