

The Revised EPBD – A STEP FORWARD

Long debates finally resulted in a revised version to be adapted in April 2018 by the European Parliament (see also article on [page 70](#)). The renewed EPBD will push EU Member States to increase their efforts to reduce the energy use and CO₂ emission in the built environment.

It is up to us as professionals in the HVAC&R and building design community to design, retrofit and install more energy efficient and smart buildings and building systems. The cost-efficiency of the solutions to meet the national energy performance requirements will also be influenced by the choices made by the national building regulating authorities. Such as their choices and assumptions assessing the Primary Energy Factors (PEF's) and CO₂ emission factors of the various energy sources. This is one of the reasons why the Annex 1 of the EPBD requires EU-MS's to report and motivate their choices according the EN ISO 52000-1 and several other of the overarching EPB standards. These national choices will influence the role of bio-fuels, district-heating and cooling systems, CGHP and HP systems. How PV and Wind-energy is awarded in relation to the Energy Performance declarations of buildings (the Energy Certificate and related regulation on the requirement levels) is also an important issue. Are these sustainable sources just rewarded as the sustainable part of the national energy grid or can they be considered as integral part in the building system and, if so, under which conditions and circumstances (e.g. to optimize implementation and allocation of renewable resources and to avoid double counting)? These choices have an impact on a cost-efficient equilibrium between decarbonised energy supply and reducing the final energy use of buildings to achieve the 2030, 2040 and long-term 2050 objectives.

The revised EPBD doesn't always give clear answers or guidance. But it is clear that related concepts like energy storage capability and to be developed Smart Readiness Indicators will become more relevant. This may help to develop transparency regarding the interaction between energy grids and built environment. Annex 1 of the EPBD requires EU-MS's to declare their national EP assessment procedures on basis of a

group of overarching EPB standards (Member States shall describe their national calculation methodology following the national annexes of the overarching standards (EN- ISO 52000-1, 52003-1, 52010-1, 52016-1, and 52018-1). This is a first step to more overall transparency in Europe. In addition to what is already included in these overarching EPB standards, more clarity on the assessment background of PEF's and CO₂ emission factors for various systems and energy sources is needed. CEN/TC371-WG1 currently works on an additional EPB standard "Determination and reporting of Primary Energy Factors (PEF) and CO₂ emission factors". This standard will provide a uniform procedure to describe how the (national) Primary Energy Factors and CO₂ emission factors related to energy delivered to or exported from buildings have been assessed: the elements that are or are not taken into account and related assumptions. It is expected that this standard will lead to more transparency throughout Europe and an increased understanding of the impact of the choices. This will help both policy makers and the designers and retrofitters of our buildings and their systems and connected energy grids to make the correct choices towards an effective reduction of the energy use and CO₂ emission of buildings in Europe. ■



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