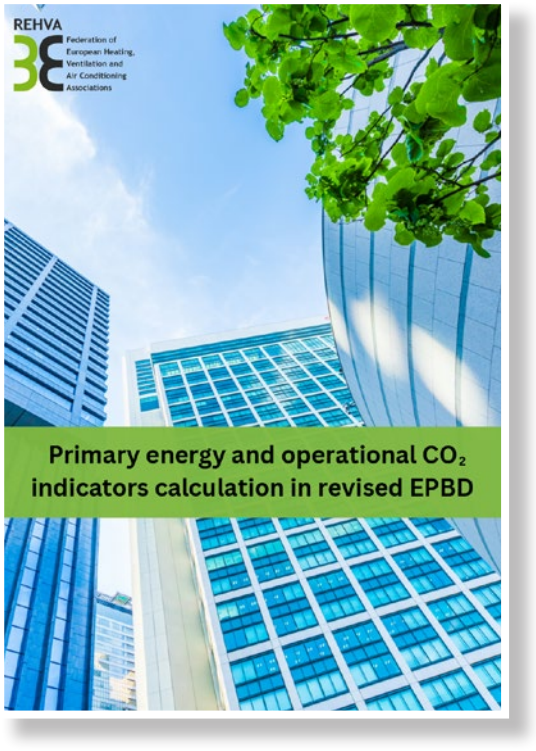
How to calculate EP-value according to revised EPBD?

REHVA experts developed a guidance explaining EPBD

Revised EPBD includes many new items among which EP-value calculation based on the total primary energy instead of non-renewable primary energy maybe seen as a fundamental change. How to calculate EP-value according to EPBD recast and set corresponding energy and operational CO_2 thresholds for zero emission buildings would be a great question for energy experts in all Member States starting to implement the directive. REHVA experts have prepared methodology including assessment boundaries and calculation rules illustrated with calculation examples for primary energy and CO_2 indicators to support harmonised implementation of EPBD so that the 'energy efficiency first' principle is followed.

Efficiency first principle stresses that energy consumption both from non-renewable and renewable energy carriers should be minimised through efficiency measures, and to cover the remaining energy consumption, renewable energy generation should be used as much as possible. While non-renewable primary energy factors and CO_2 coefficients may to approach zero, the total primary energy factors cannot be smaller than one by the definition. This provides stable environment for energy calculations as well as for end users because energy prices tend to increase in green transition.



EPBD formally adopted on April 12 will now be published in the Official Journal of the EU. Member states have two years to implement the directive into national legislation. There are technically complicated new items of IEQ which successful and harmonised implementation could be supported by HVAC associations expert bodies. Therefore, in addition to energy and CO_2 indicators calculation issues REHVA calls Member Associations to follow and support the implementation of addressing *optimal indoor environmental quality* as stated in new buildings Article 7 and existing buildings Article 8. Also note the new definition of IEQ in Article 2.

These important additions call to establish or update ventilation and IAQ requirements to support the application of demand-controlled systems in non-residential buildings, because in this context both too small or too high ventilation is not optimal. For the first time, Article 13 says clearly: "Member States shall set requirements for the implementation of adequate indoor environmental quality standards in buildings in order to maintain a healthy indoor climate." Perhaps the most important change is the requirement for non-residential zero emission buildings in Article 13 to equip these buildings with measuring and control devices for the monitoring and regulation of indoor air quality. How about HVAC industry – do we have a robust and reliable demand-controlled systems for European wide application? ■

JAREK KURNITSKI
REHVA Technology and Research Committee,
Tallinn University of Technology, Aalto University