Remarks on the European Commission's Proposal for a Recast of the Energy Performance of Buildings Directive (EPBD)

TightVent Europe, the 'Building and Ductwork Airtightness Platform', welcomes the proposed recast of the EPBD as presented by the European Commission on December 15th, 2021, and hereunder proposes amendments for improvement.

Remark 1: About inspections (Article 20)

TightVent Europe is very pleased with the proposal to impose mandatory inspection of ventilation systems. The recently published EPBD 19a feasibility study found installed ventilation systems in the EU non-compliant and of insufficient quality of operation. Ventilation systems not functioning, as expected, result in poor indoor air quality, indoor climate problems and/or increased energy consumption. The proposed article 20 specifies that member states shall lay down the necessary measures to establish regular inspection of ventilation systems.

Various studies (i.e. SAVE-DUCT project etc.) and practice have shown that the airtightness of many air distribution systems is poor to very poor, resulting in less good indoor air quality and/or a higher energy consumption. The measurement of the ductwork airtightness is a relatively easy measurement allowing a straightforward assessment. Measurement techniques are covered in EN 12237:2003, EN 13403:2003, EN 14239:2004, EN 1507:2006, EN 15727:2010, EN 12599:2012, EN 17192:2018. Ductwork airtightness testing is already standard practice in several countries [1] (e.g., Belgium, Finland, France, Norway, Portugal, Sweden, UK).

Proposal for amendments:

- In general: TightVent Europe proposes to list a number of minimum requirements regarding the necessary measures to be laid down by the member states, including ductwork airtightness assessment.
- In Article 20/ paragraph 4: TightVent Europe proposes the modification (in bold) which follows: *"The inspection shall include the assessment of the generator or generators, circulation pumps, **ventilation systems** and control system. Member States may decide to include in the inspection schemes any additional building systems identified under ANNEX I"*
- In ANNEX I/ paragraph 4: TightVent Europe proposes the modification (in bold) which follows:
  *"(d) natural and mechanical ventilation ~~which may include~~ **including ductwork** air-tightness;"*

Remark 2: About inspections (Article 20)

The present specification in Article 20/ paragraph 1, is that inspection is mandatory for systems above 70 kW. This limit is not so relevant for ventilation. Our proposal is to impose inspections for all ventilation systems which are larger than typical residential ventilation systems. Therefore, we propose to impose inspections for all ventilation systems with a nominal air flow rate above 500 m³/h.

Proposal for amendments:

- In ANNEX I/ paragraph 1: TightVent Europe proposes the modification (in bold) which follows: *"Member States shall lay down the necessary measures to establish regular inspections of heating, ventilation and air conditioning systems, with an effective rated output of over 70 kW **or a nominal air flow rate above 500 m³/h**. The effective rating of the system shall be based on the sum of the rated output of the heating and air-conditioning generators."*

Remark 3: About COMMON GENERAL FRAMEWORK FOR THE CALCULATION OF ENERGY PERFORMANCE OF BUILDINGS (ANNEX I)

Research and practice show that many buildings have a poor to very poor building airtightness level which has a significant impact on energy use, indoor air quality and the functioning of ventilation systems, among others [2, 3, 4, 5, 6]. On average, in many existing buildings, air infiltration losses correspond to 10% or more of the total energy losses [7].

Proposal for amendments:

- In general: TightVent Europe proposes to include building airtightness related aspects (mandatory assessment, measures to improve, etc.) as a minimum requirement for ANNEX I.
- In ANNEX I/ paragraph 4: TightVent Europe proposes the modification (in bold) which follows:

"The methodology shall be laid down taking into consideration at least the following aspects:
(a) the following actual thermal characteristics of the building including its internal partitions:
(i) thermal capacity;
(ii) insulation;
(iii) passive heating;
(iv) cooling elements; ~~and~~
(v) thermal bridges;
***(vi) building airtightness;**"*

Who we are:

The TightVent Europe 'Building and Ductwork Airtightness Platform' was launched in January 2011. TightVent Europe aims at facilitating exchanges and progress on building and ductwork airtightness issues, including the organization of conferences, workshops and webinars. It fosters experience sharing as well as knowledge production and dissemination on practical issues such as specifications, design, execution, control, etc., taking advantage of the lessons learnt from pioneering work while keeping in mind the need for adequate ventilation. In September 2012, the TightVent Airtightness Associations Committee (TAAC) was also launched with the primary goal of promoting reliable testing/inspection and reporting procedures. TAAC gathers both TightVent partners and TAAC members (experts or representatives of airtightness testers in 18 countries).

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