Specific IAQ requirements in EPBD 2024

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The energy performance of buildings directive (EPBD)

Main focus is on

promoting the improvement of the energy performance of buildings and the reduction of greenhouse gas emissions from buildings

…but indoor environmental quality / indoor air quality is mentioned many times in the directive.

Article 1 - **Subject matter**

1. This Directive promotes the improvement of the energy performance of buildings and the reduction of greenhouse gas emissions from buildings within the Union, with a view to achieving a zero-emission building stock by 2050, **taking into account** the outdoor climatic conditions, the local conditions, **the requirements for indoor environmental quality**, and cost-effectiveness.

Article 1 - **Subject matter**

2. This Directive lays down requirements as regards:

(l) regular inspection of heating systems, ventilation systems and air-conditioning systems in buildings;

(n) **the indoor environmental quality performance of buildings**.

Article 2 - **Definitions**

‘**air-conditioning system**’ means a combination of the components required to provide a form of indoor air treatment, by which temperature is controlled or can be lowered;

‘**heating system**’ means a combination of the components required to provide a form of indoor air treatment, by which the temperature is increased;

‘**ventilation system**’ means the technical building system which provides outdoor air to a space by natural or mechanical means;

Article 2 - **Definitions**

‘**indoor environmental quality**’ means the result of an assessment of the conditions inside a building that influence the health and wellbeing of its occupants, based upon parameters such as those relating to the

- temperature,
- humidity,
- ventilation rate and
- presence of contaminants.

Article 3 - **National building renovation plan**

2. Each national building renovation plan shall include:

(h) an evidence-based estimate of expected energy savings and wider benefits, **including those related to indoor environmental quality.**

Article 5 - **Setting of minimum energy performance requirements**

Those requirements **shall take account of optimal indoor environmental quality**, in order to avoid possible negative effects such as inadequate ventilation, as well as local conditions and the designated function and the age of the building.

Article 7 - **New buildings**

6. **Member States shall address, in relation to new buildings, the issues of optimal indoor environmental quality**, adaptation to climate change, fire safety, risks related to intense seismic activity and accessibility for persons with disabilities. Member States shall also address carbon removals associated to carbon storage in or on buildings.

Article 8 - **Existing buildings**

3. Member States shall, in relation to buildings undergoing major renovation, encourage high-efficiency alternative systems, in so far as technically, functionally and economically feasible. **Member States shall address, in relation to buildings undergoing major renovation, the issues of indoor environmental quality,** adaptation to climate change, fire safety, risks related to intense seismic activity, the removal of hazardous substances including asbestos and accessibility for persons with disabilities.

Article 13 - **Technical building systems**

4. Member States shall **set requirements for the implementation of adequate indoor environmental quality standards in buildings** in order to maintain a healthy indoor climate.

5. Member States shall **require non-residential zero-emission buildings to be equipped with measuring and control devices for the monitoring and regulation of indoor air quality**. In existing non-residential buildings, the installation of such devices shall be required, where technically and economically feasible, when a building undergoes a major renovation. Member States may require the installation of such devices in residential buildings.

Article 13 - **Technical building systems**

9. Member States shall lay down requirements to ensure that, **where technically and economically feasible, non-residential buildings are equipped with building automation and control systems**, as follows:

(d) by 29 May 2026 monitoring of indoor environmental quality.

Article 15 - **Smart readiness of buildings**

1. The Commission shall adopt delegated acts in accordance with Article 32 to supplement this Directive concerning an optional common Union scheme for rating the smart readiness of buildings. **The rating shall be based on an assessment of the capabilities of a building or building unit to adapt its operation to the needs of the occupant, in particular concerning indoor environmental quality** and the grid and to improve its energy efficiency and overall performance.

Article 19 - **Energy performance certificates**

5. The energy performance certificate **shall include recommendations for the cost-effective** improvement of the energy performance and the reduction of operational greenhouse gases emissions and **the improvement of indoor environmental quality of a building or building unit**, unless the building or building unit already achieves at least energy performance class A.

Article 19 - **Energy performance certificates**

8. **The recommendations shall include an assessment of whether** the heating systems, **ventilation systems, air-conditioning systems** and domestic hot-water systems **can be adapted to operate at more efficient temperature settings**, such as low temperature emitters for water based heating systems, including the required design of thermal power output and temperature and flow requirements.

Article 19 - **Energy performance certificates**

9. **The recommendations shall include an assessment of the remaining lifespan of** the heating system or **air-conditioning system**. Where relevant, the recommendations shall indicate **possible alternatives for the replacement of the** heating system or **air-conditioning system**, in line with the 2030 and 2050 climate targets, taking into account local and system-related circumstances.

Summary

- Visibility already in Article 1
- Definition of Indoor Environmental Quality
- Optimal IEQ to be addressed in new and renovated buildings, and shall be taken into account in setting of minimum energy performance requirements
- Measuring & control devices for IAQ (Indoor Air Quality)
- Integration of IEQ monitoring in BACS (Building Automation and Control System)
- Visibility of IEQ in SRI, EPCs, Building Renovation Passports (Annex VIII)
- Policies and Measures addressing the improvement of IEQ in Building Renovation Plans