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Position Paper

Revision of the Energy Performance of Buildings Directive (EPBD)

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On 15th December 2021, the European Commission (EC) published a proposal for a directive on the energy performance of buildings (recast).[1]

Bitkom welcomes the new proposal, especially regarding the twin green and digital transition under the European Green Deal. The European Green Deal is an important and necessary step towards achieving the climate targets. To reduce the emission of greenhouse gases, increasing energy efficiency in buildings and expanding the use of renewable energies is crucial. As a recently published Bitkom study shows, digital technologies are an essential component in achieving the climate targets in the buildings sector[2].

The building segment does not only account for a significant share of energy consumption, it is also still one of the least digitized sectors of the European economy. Digital solutions in buildings save energy, increase the quality of life, strengthen social interaction as well as local recreation, and enable the sustainable design and operation of smart buildings in the interest of society and citizens.

While the revision proposal fails to address the opportunities of Building Information Modelling (BIM), smart sector coupling, low-investment measures and partly building automation, the reinforcement of the Smart Readiness Indicator, the efforts to simplify data access, the digitalisation of energy performance certificates, and the introduction of national energy performance databases are appreciated.

The following are our comments in detail:

1 Building Information Modeling

The revision proposal fails to address the capability of Building Information Modeling (BIM) for using energy more efficiently. The application of such systems has, among other benefits, potential to reduce CO2 emissions and should not be overlooked. BIM provides the data foundation that, when linked with data from intelligent sensors and

[1] https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12910-Energy-efficiency-Revision-of-the-Energy-Performance-of-Buildings-Directive_en

[2] https://www.bitkom.org/sites/default/files/2021-11/211111_st_klimaschutz-und-energieeffizienz.pdf

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measuring devices in the building, can help to optimize energy usage by enabling an in-depth visualization and analysis of system components and consumption and by enabling real-time facility management. In addition, by linking BIM with life cycle assessment databases and tools, it would be possible to analyze and evaluate energy and resource consumption throughout all phases of a building's life cycle (construction, use, deconstruction). The use of BIM should therefore be encouraged via the EPBD.

2 Smart sector coupling

Also not part of the revision proposal are the possibilities and benefits of smart sector coupling. Sector coupling in a building means, for example, that solar power generated on the roof is used directly in the building for heat pumps and electric mobility. Surplus electricity can be stored or fed into the power grid when required. Thus, the building sector can contribute significantly to the flexibility of energy grids as well as to the system integration of renewable energies.

To be able to use the opportunities of sector coupling, the building's electricity demand must be balanced against electricity storage and in-house electricity supply. This dynamic optimization problem occurs in the building as well as in the power grid and requires intelligent real-time networking between the building's energy sources and consumers.

For electricity, this task can be performed by Smart Meters, by other intelligent measuring devices and by smart energy management via a building automation system. On the grid side, signals and optimization mechanisms (e.g. price signals and aggregators for flexibilities) are required to match potentials from individual buildings with the grid's requirements. Such an intelligent coupling between the electricity system and the building sector has so far only been tested. However, it has been shown that the time-variable or flexible use of renewable energies can mobilize large CO2 reduction potentials in buildings.

The decisive factor is to use the right technology for the right area of application. This allows residents to receive detailed information about their own electricity consumption quickly, securely and cost-effectively. Only by using different technologies at hardware and software level can the highest possible comfort, cost and security standards be achieved for the respective areas of application in the building. As smart electricity sector coupling can play an important role in increasing the use of renewable energy in buildings, the revision proposal should lay out the necessary framework, especially for combining the electricity use in buildings with the power grid.

3 Low investment measures

Bitkom welcomes the introduction of national building renovation plans for member states in connection with Annex II. A uniform roadmap approach with a variety of indicators is important to reach the respective climate goals and to measure the impact of actions. However, the implemented and planned policies and actions currently leave out low investment measures, such as devices to measure minimum efficiency standards for heating systems, which are cost-effective and quickly implementable, thus significantly stretching the remaining CO2 budget and buying time to reach the goals.

Hence, Bitkom recommends to include a focus on the promotion of low investment measures in the recast of the EPBD to enable them to act as an important bridging instrument to reduce CO2 emissions in buildings.

3 Infrastructure for sustainable mobility (Article 12)

Bitkom supports the integration of buildings into the electricity system and welcomes the requirements to provide recharging points at non-residential and residential buildings that are new or undergoing major renovations. In the future, all buildings should be equipped with a digital infrastructure that ensures both energy efficiency and system integration.

In general, the infrastructure in buildings should be ready for the widespread use of electric vehicles; this includes, on the one hand, upgrading systems in existing buildings and, on the other hand, taking electric vehicles into account when planning new buildings. The infrastructure also needs to connect intelligent energy management systems and power grids. The ability to use solar energy directly from the roof of the building, storing this renewable energy and charging the vehicle in a smart way are important advantages of electric vehicles that need to be exploited.

Since there is already a variety of programs to support the charging infrastructure expansion, it is important to closely coordinate the programs and regulations across local, regional, national, and European levels. The rollout of charging infrastructure needs to be thought of in a holistic approach that includes all affected business areas and stakeholders. By generating and consuming electricity locally, the building of the future is also the starting point for a smart power grid infrastructure that enables a sustainable smart city.

4 Smart Readiness Indicator (Article 13)

The Smart Readiness Indicator is a key component for implementing more energy efficiency in buildings and should therefore not be restricted to non-residential buildings. Both non-residential and residential buildings with an effective rated output for heating systems or systems for combined space heating and ventilation of over 70 kW should be mandatorily equipped with an SRI.

It is also crucial to clarify how the Smart Readiness Indicator is going to look, how it will be calculated and how it should be adopted by the Member States. To meet its requirements and to exploit its potential, the SRI should be easily understandable and user oriented.

5 Data exchange (Article 14)

To improve the energy efficiency of buildings by using digital technologies, a solid database is required. Only with solid data the potential of digital technologies can be exploited. For example, Building Information Modelling (BIM) makes it easier to estimate and optimise the environmental impact of buildings if based on precise consumption data.

Bitkom therefore generally welcomes the Commission's efforts to simplify access to building data. However, companies gathering data should be able to charge a cost-covering fee in case data has to be made available to a third party on the request of the building owner, tenant or manager to ensure their effort and expenses are compensated. In the case of building data, a distinction can be made between data collected in apartments and data at building level. While machine data at building level does not have to be anonymized, data from apartments can be used in an anonymized and aggregated form, as the personal reference is not important. However, the anonymization of data is hindered by the current regulatory framework. In Germany, the anonymization of data constitutes data processing under the GDPR. To be allowed to anonymize data, a legitimate interest of the controller must be proven in each individual case or the consent of the data subject must be obtained. Many controllers want to avoid the effort involved, so the potential of data evaluation for improving building energy efficiency cannot be realized.

Therefore, a legal regulation is needed that collected consumption and measurement data can be anonymized to improve energy efficiency and to avoid CO_2 in buildings. The data must also be protected from cyber-attacks, as specified in the EU Cyber Security Regulation.

6 Digital Energy Performance Certificates (Article 17 No. 1)

Energy performance certificates make information on energy consumption transparent, accessible, and comparable. Displaying the certificates in online and offline advertisements and uploading them to the national building energy performance database is a big step in creating and raising awareness for energy consumption.

To further improve the quality of energy performance certificates, to increase the accuracy of the information and to avoid rebound effects, it is important to ensure that metered energy use rather than calculated one is the basis of all energy performance certificates.

7 Databases for energy performance of buildings (Article 19)

By utilizing consumption and measurement data, digital solutions can save up to 17 percent, or an average of 7-8 percent of a building's energy use. The introduction of national databases is therefore a major step forward in making the building stock climate neutral. Since the building sector is characterized by a lot of different stakeholders, it is necessary to bundle and structure disparate information. National databases can be an important basis for decision-making on all aspects of buildings management and can be key to unlock the digital potential for making buildings sustainable.

For the future, it should be examined whether and how the national databases as well as a digital building logbook can be integrated into the GAIA-X infrastructure.

8 Inspections (Article 20 No. 4)

The tightening of inspection obligations is welcomed. However, Article 20 No. 4 still allows exceptions to the inspection obligation and thus also exceptions when it comes to building automation and control functions as well as electronic monitoring. Indeed, the correct setting of the heating system for example and the monitoring of this setting is a low hanging fruit as it is a quickly implementable cost-effective measure, which should hence be further promoted in the Directive. The exemptions should be deleted, as otherwise it cannot be guaranteed that heating systems run optimally.

9 Building Automation (Article 20 No. 7)

The expansion of building automation and control systems in non-residential buildings and residential buildings is appreciated. As building automation is particularly well suited to save emissions in the short and medium term at low CO2 avoidance costs, lowering the effective rated output threshold to 70 kW for the equipment of non-residential buildings is a big step forward. However, to not waste time in fighting climate change this should be done sooner than by the end of 2029. The extension of the requirements to residential buildings that are to be renovated is considered positive.

Bitkom represents more than 2,700 companies of the digital economy, including 2,000 direct members. Through IT- and communication services alone, our members generate a domestic annual turnover of 190 billion Euros, including 50 billion Euros in exports. The members of Bitkom employ more than 2 million people in Germany. Among these members are 1,000 small and medium-sized businesses, over 500 startups and almost all global players. They offer a wide range of software technologies, IT-services, and telecommunications or internet services, produce hardware and consumer electronics, operate in the digital media sector or are in other ways affiliated with the digital economy. 80 percent of the members' headquarters are located in Germany with an additional 8 percent both in the EU and the USA, as well as 4 percent in other regions of the world. Bitkom promotes the digital transformation of the German economy, as well as of German society at large, enabling citizens to benefit from digitalisation. A strong European digital policy and a fully integrated digital single market are at the heart of Bitkom's concerns, as well as establishing Germany as a key driver of digital change in Europe and globally.