

The Role of Legal Regulation of Building Permission in Relation to the Principles of Sustainable Construction (European Directive on Energy Performance of Buildings)

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Introduction

The task of regulating the construction permitting in relation to the principles of sustainable construction is, according to European Directive on Energy Performance of Buildings, to provide rules for reducing the energy performance of buildings and to provide a healthy environment for future generations. Given the need to protect nature and the landscape, it is necessary to regulate the construction and thus the sustainable development of the landscape by law.

European Commission and the Council adopted the Directive 2010/31/EU on Energy Performance of Buildings in May 2010, which is known by the acronym EPBD II or as a recast EPBD. Compared to the same existing Directive marked by 2002/91/EC, the trend is to intensify building new and reconstructing existing buildings in higher quality energy standard as well as extending this provision to a greater scope of buildings. For EU countries, an obligation to implement the new requirements into their national regulations implies.

The previous Directive 2002/91/EC on Energy Performance of Buildings was implemented to the Czech legislation in 2007 by Decree 148/2007 Coll. on Energy Performance of Buildings, which is providing regulation to the Act 406/2000 Coll. on Energy Management. These legislative regulations established rules for processing and duty to issue an Energy Performance Certificate. This Certificate is the mandatory part of building permit documents from 1.1.2009 in accordance with the Decree 499/2006 Coll. on Construction Documentation.

Directive EPBD II is based, inter alia, on the "Action Plan for Energy Efficiency: Realising the potential"¹. This document identified the significant potential for cost-effective energy savings in the buildings sector. The European

¹The European Council of March 2007 emphasised the need to increase energy efficiency in the Union so as to achieve the objective of reducing by 20% the Union's energy consumption by 2020 and called for a thorough and rapid implementation of the priorities established in the Commission Communication entitled "Action plan for energy efficiency: realising the potential". That action plan identified the significant potential for cost-effective energy savings in the buildings

Parliament also called for the requirement to increase energy efficiency by 2020 by 20% was mandatory. The plans for 2020 thus reducing overall EU energy consumption by 20% and increase the share of renewable energy to 20%. This requirement is called the “20-20-20 rule”.

EPBD II should be a “guide” for individual Member States to adjust their national law, so as to lead to sustainable building construction, to reduce energy consumption and to optimize it in terms of investment and operating costs. This should be achieved by both legal regulations and technical standards, by establishing minimum limits for evaluated parameters (i.e. setting the appropriate evaluation methodology) as well as by informing and motivating the public in the field of energy performance of buildings (i.e. through a simple Energy Performance Certificate).

The new European Directive on Energy Performance of Buildings, among other things, contains a number of important data, which are obligatory for Member States. The most important are the obligation of implementing the Directive itself, i.e. the obligation to adopt and publish the modified national acts and regulations till 9 July 2012. This task is currently solved on a professional level within the technical working groups, in particular the working groups at the Czech Chamber of Commerce and the Faculty of Civil Engineering at Czech Technical University in Prague. Very time-consuming will be the approval process for Act 406/2000 Coll. on Energy Management.

Other key data are a duty of a construction of the nearly zero energy buildings starting in 31 December 2018 in case of buildings owned and used by public authorities, and 31 December 2020 in case of other new buildings.

In addition to the mandatory implementation of the EPBD II, it is necessary to prepare a new version of the regulation on energy performance of buildings including solution of deficiencies identified during several years of practice especially in terms of processing and issuing the Energy Performance Certificate of a building.

sector. The European Parliament, in its resolution of 31. January 2008., called for the strengthening of the provisions of Directive 2002/91/EC, and has called at various times, on the latest occasion in its resolution of 3 February 2009 on the Second Strategic Energy Review, for the 20% energy efficiency target in 2020 to be made binding. Moreover, Decision No 406/2009/EC of the European Parliament and of the Council of 23. April 2009. on the effort of Member States to reduce their greenhouse gas emissions to meet the Community's greenhouse gas emission reduction commitments up to 2020 (OJ L 140, 5.6.2009, p. 136.), sets national binding targets for CO₂ reduction for which energy efficiency in the building sector will be crucial, and Directive 2009/28/EC of the European Parliament and of the Council of 23. April 2009. on the promotion of the use of energy from renewable sources provides for the promotion of energy efficiency in the context of a binding target for energy from renewable sources (OJ L 140, 5.6.2009, p. 16.) accounting for 20 % of total Union energy consumption by 2020.

A duty of issuing the Energy Performance Certificate shall be redefined. Newly, the Certificate will be issued in case of selling and renting of buildings or flats. In case of public buildings, the number of buildings that will be required to have the Certificate, shall be increasing. Such buildings will have the duty to display the Certificate in place accessible for public.

Other changes introduced by EPBD II are related to inspections of boilers and air-conditioning systems.

1. Definitions according to the EPBD II and Current Legislative Proposals

As the EPBD II defines the terms in a quite vague way and leaves some space for adjustment and specification on levels of individual EU Member States, it is necessary to define these terms first and then create an appropriate calculation methodology for the design of buildings. The following definitions have key importance for understanding the methodology for designing and evaluating energy efficiency in buildings implemented by EPBD II.

For example, the relevant definitions are energy efficiency in buildings, nearly zero energy building, primary energy and primary energy factor, or major renovation.

Energy performance of a building means the calculated or measured amount of energy needed to meet the energy demand associated with a typical use of the building, which includes, inter alia, energy used for heating, cooling, ventilation, hot water and lighting.

The planned amendment of Act 406/2000 Coll. on Energy Management takes over this definition with the difference that, according to the implementation of legislation of the Czech Republic, measured energy performance rating will not be allowed to perform.

According to the EPBD II, nearly zero-energy building means a building that has a very high energy performance, as determined in accordance with Annex I (of EPBD II). The nearly zero or very low amount of energy required should be covered to a very significant extent by energy from renewable sources, including energy from renewable sources produced on-site or nearby.

The planned amendment of Act 406/2000 Coll. on Energy Management takes over the definition with no changes or concretization.

Primary energy means energy from renewable and non-renewable sources which has not undergone any conversion or transformation process.

The definitions of primary energy and primary energy factor can also be found in the forthcoming amendment of Decree 148/2007 Coll. on Energy Performance of Buildings, which says that the primary energy is such energy that has not undergone any transformation.

EPBD II contains the term “major renovation”. This term was already a part of the existing EPBD and its meaning is not changed. But the use of this term in national regulations has been modified a bit. Major renovation of the building according to the EPBD II means the renovation of a building where (a) the total cost of the renovation relating to the building envelope or the technical building systems is higher than 25 % of the value of the building, excluding the value of the land upon which the building is situated; or

(b) more than 25 % of the surface of the building envelope undergoes renovation. Member States are allowed to choose which option shall be applied. In case of the Czech Republic, the (a) option has been chosen. This major renovation of a building is called “greater change of a building” in terms of prepared Czech law.

This term is introduced to distinguish between really huge renovation works and smaller scale ones. there is quite visible need by EPBD II for requiring more global parameters fulfilment (such as total energy consumption of the building) in case of larger scale renovations. On the other hand, requirements for small reconstructions will be defined by parameters that will be related to the reconstructed / modified elements. The global parameters have to be calculated for information purposes only. This will lead to better public awareness about the effects of individual measures, the total reconstruction possibilities, and differences between them.

2. Design of Buildings according to the EPBD II

EPBD II requires that, with force from 1 January 2013, the building is designed in accordance with the amended regulations implementing this Directive at national level (i.e. at the level of individual Member States).

All requirements to the suitable and correct design of a building, i.e. building with low energy consumption, will be defined by legislation and standards on cost-optimal level.

In terms of amended Act 406/2000 Coll. on Energy Management, when designing a new building or renovation, several situations can be distinguished (among others, depending on scope of a building renovation² and size of the overall energy reference area³):

² EPBD II introduces the term “major renovation” and in slightly modified form of this, will be implemented into national legislation.

³ Overall energy reference area means all external floor space of rooms with regulated internal environment in the building; the area is defined by the outer surfaces of the building envelope.

- New buildings covered by the regulations implementing the EPBD II⁴,
- A greater change of a building⁵ - change of more than 70% of the building envelope,
- A greater change of a building⁶ - change of 25% - 70% of the building envelope,
- Other changes of buildings (other than major renovation).

EPBD II in its Article 9 requires that all new buildings built after 31 December 2020 have to be buildings with nearly zero energy consumption, and that new buildings owned and used by public authorities built after 31. December 2018. have to be buildings with nearly zero energy consumption.

At the Czech national level, this requirements will be implemented in the amended Act 406/2000 Coll. on Energy Management.

The Czech Act will require the builder to ensure that from 1 January 2019, the building owned by the Czech Republic or local self-governing unit, which will be used by governmental or regional authorities, local self-government facilities, hereinafter referred to as “public authority”, meets energy performance requirements for nearly zero energy building.

3. Conclusion

Implementation of EPBD II will significantly extend the scope of legislation on energy performance of buildings in terms of number of buildings that will be assessed from this perspective.

With the introduction of cost-optimal levels of calculations received by architects and designers, as well as builders, suggesting the possibility of building energy-efficient and optimized in terms of both investment and operating costs.

The designed building will be compared with the reference building for the purpose of building permit. The reference building has set its reference energy consumption which has to be compared with the individually calculated values of the designed building. The conditions and requirements set on the designed buildings will be more equitable then.

⁴ According to the EPBD II, the new buildings to 50 m² of overall energy reference area, the building officially protected or listed, buildings for religious purposes, houses for family recreation, some agricultural and industrial buildings and the structures, where technically impossible or economically not feasible (proofed by an energy audit), will not be evaluated.

⁵ According to the EPBD II, all buildings to 50 m² of overall energy reference area, the building officially protected or listed, buildings for religious purposes, houses for family recreation, some agricultural and industrial buildings and the structures, where technically impossible or economically not feasible (proofed by an energy audit), will not be evaluated.

⁶ The same notice.

Proper design of the building will be easier in that regard, that the design author will have some kind of guidance in the amended regulation, under which the designer will be able to drive to reach the minimal (i.e. reference) parameters or better.

Demonstrating the correct design will be done by presenting the Energy Performance Certificate of building during its building permit processing in accordance with regulation 499/2006 Coll. on Documentation of Buildings. The Certificate will be precisely defined by the regulation. A graphic design of the certificate (its label) will undergo significant changes compared to existing one, that is defined by the existing Regulation 148/2007 Coll. on Energy Performance of Buildings.

The aim of the implementation of EPBD II is, at the global level, in particular reducing an energy consumption and emissions of green house gases in general. At the level of building user or builder, energy consumption reducing and also raising awareness on the energy performance of buildings and potential building measures and their effects with long-term economic context, are the most important aspects.