

# REPORT

## on the implementation of the Energy Performance of Buildings Directive

### <MONTENEGRO>

(Update November 2020)

The Directive 2010/31/EU on the energy performance of buildings (EPBD)<sup>1</sup> is one of the most complex energy efficiency directive for implementation in the Energy Community, and requires cooperation between various stakeholders and broader spectrum of activities, besides work on development of legislation. The overall deadline for the transposition of EPBD was 30 September 2012.

### 1. General framework for implementation for implementation of EPBD

*< Please report what is the status of implementation, further activities and planned deadlines for completion in your country >*

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
1.	Main requirements of the EPBD included in the National Law(s)	Process related to the transposition of the new EPBD in Montenegro was started by adopting Law on Efficient Use of Energy (“Official Gazette of Montenegro” 57/14 and 25/19) as well as by updating bylaws related to the energy efficiency of buildings as follows: <ul style="list-style-type: none"> <li>- Rulebook on Minimal Energy Efficiency Requirements in Buildings („Official Gazette of Montenegro“ 75/15 of 25 December 2015),</li> <li>- Rulebook on the Energy Performance Certification of Buildings („Official Gazette of Montenegro“ 75/15 of</li> </ul>

<sup>1</sup> Directive 2010/31/EU of 19 May 2010 on the energy performance of buildings, as incorporated and adapted by Ministerial Council Decision 2010/02/MC-EnC of 24 September 2010: [https://www.energy-community.org/dam/jcr:6b3f4de1-fa7e-4b51-bc72-7918ace7fe54/Directive\\_2010\\_31\\_EE.pdf](https://www.energy-community.org/dam/jcr:6b3f4de1-fa7e-4b51-bc72-7918ace7fe54/Directive_2010_31_EE.pdf)

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
		<p>25 December 2015),</p> <ul style="list-style-type: none"> <li>- Rulebook on Performing Energy Audits of Buildings („Official Gazette of Montenegro“ 75/15 of 25 December 2015) determining the methodology for performing energy audits of buildings,</li> <li>- Rulebook on Regular Energy Audits of Heating Systems and Air-conditioning Systems („Official Gazette of Montenegro“ 76/15 of 28 December 2015),</li> <li>- Rulebook on Conditions for Performing Training, Obtaining of Authorization and Manner of the Managing of the Registry for Energy Audits Performing („Official Gazette of Montenegro“ 75/15 of 25 December 2015).</li> </ul>

## 2. Building Stock Inventory

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
2.	<p>Decision to establish a Building Stock Inventory, and necessary resources and funds for its development and operation allocated or secured</p>	<p>The Ministry of Economy has been provided the assistance from the Government of the Federal Republic of Germany, through KfW bank (Energy Efficiency Program in Public Buildings - EPPB), for development of software for energy performance of buildings, as well as the building stock inventory in Montenegro in order to provide conditions for defining energy classes.</p> <p>Main purpose of preparing the building stock inventory is to collect and provide key information on the existing building stock:</p> <ul style="list-style-type: none"> <li>- Information necessary for determining /adjusting national reference buildings;</li> <li>- Input necessary for evaluation/calculation of cost-optimal levels for requirements in terms of energy performance;</li> <li>- Input necessary for calculation of national potential for energy savings;</li> <li>- Information on continued development of energy consumption (including the impact of new legal framework).</li> </ul>
3.	<p>Establishment and operation of national Building Stock Inventory</p>	<p>The process of establishment of the national building inventory has been finalized in 2019. Reference buildings are defined based on the established building stock inventory. They cover three building types (single-family house, multi-family house and office building) and three age classes (before 1960, 1960-2011, after 2011) resulting in 9 reference buildings to be used in cost-optimal calculations.</p>

### 3. Calculation methodology

These requirements are given in Article 3 of EPBD; Adoption of a methodology for calculating the energy performance of buildings.

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
4.	Development of national calculation methodology with national annexes (default input values) - National Standard	<p>Calculation methodology is developed in line with the main requirement of primary energy use required in EPBD 2010 and 2018. Calculation is based on DIN V 18599:2018 and compatibility is provided as required in EPBD 2018.</p> <p>EP calculation is according to requirements from EPBD, international standards and national requirements which considers:</p> <ul style="list-style-type: none"> <li>• Climate zones,</li> <li>• National user profiles that can be adjusted, but are still in line with international standards and national law and/or rulebook.</li> </ul>
5.	Adoption of relevant supporting CEN standards	-
6.	Development of climatic data base	Development of climate databases in accordance to requirements of calculation methodology is finalized.
7.	<p>Development of software for energy performance certification (new or adoption/adjustment of existing software)</p> <p>(could be developed commercially or nationally by public means)</p>	<p>Development of the software that will be used for the certification of buildings is in its final stage under Energy Efficiency Program in Public Buildings - EEPPB. The software MEEC—Montenegrin Energy Efficiency Certification is available from the web site: <a href="http://www.meec.me">www.meec.me</a>.</p> <p>The calculation itself is using DIN V 18599 with certain adjustments to Montenegrin legislation (climate data, user profiles, construction/material library, conversion factors, etc.). Section still not present in the software relates to energy performance certificates (reference values, energy classes, EPC layout, etc.) and will be added as soon as cost-optimal analysis will be completed.</p>
8.	Training of experts in the calculation methodology and in proper use of the software	Training of the energy auditors for using the new software is planned right after the completion of the national EPC software (beginning of 2021).

#### 4. Energy performance requirements

Requirements given in several Articles of the EPBD:

- Article 4 Setting of minimum energy performance requirements
- Article 5 Calculation of cost-optimal levels of minimum energy performance requirements
- Article 6 New buildings
- Article 7 Existing buildings
- Article 8 Technical building systems
- Article 9 Nearly zero-energy buildings

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
9.	Adoption of minimum energy performance requirements	<p>Rulebook on Minimal Energy Efficiency Requirements in Buildings („Official Gazette of Montenegro“ 75/15 of 25 December 2015) defining the minimal requirements related to energy efficiency of buildings, types of buildings which according to their purpose are not required to meet minimum energy efficiency requirements and methodology for calculating energy performance of buildings.</p> <p>The application of minimum energy efficiency requirements is implemented and controlled in the building design phase through the development of separate energy efficiency analysis. Energy efficiency analysis is a mandatory part of the technical documentation according to the Law on Spatial Planning and Construction of Buildings and the manner of preparation of such analysis is prescribed by the Rulebook on the content of the on the energy efficiency analysis of buildings.</p>
10.	Calculation of cost-optimal level of energy performance	<p>Reference buildings are defined based on the established building stock inventory. They cover three building types (single-family house, multi-family house and office building) and three age classes (before 1960, 1960-2011, after 2011) <b>resulting in 9 reference buildings to be used in cost-optimal calculations.</b></p> <p>Energy efficiency measures to be applied on the reference buildings are defined. Starting with current requirements and beyond, 110 variants per each reference building will be calculated (5 building envelope</p>

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
		<p>variants, 11 heating technology variants and 2 sun protection variants), taking into account all 3 climate zones.</p> <p>Assessment of energy performance of the reference buildings by calculating the impact of different packages of energy efficiency measures is currently ongoing. For this purpose, consultant (Fraunhofer IBP) has developed batch calculation engine in parallel with development of the software for the calculation of energy performance of buildings (MEEC).</p> <p>Upon obtaining the results of the energy performance calculations, the assessment of financial performance will take place. Input data for cost calculations have been prepared.</p> <p>According to the results of the cost-optimal comparative analysis, the national requirements in force will be reviewed.</p>
11.	Information/training of key stakeholders in the construction industry	Awareness raising of all stakeholders on new EP requirements will be organized (beginning of 2021).
12.	Updating/development of routines and specifications for documentation and checking of the energy performance requirements	New EP requirements will become mandatory and will be incorporated in the national software for EPC.
13.	Training of national and regional "building inspectorates"	Training of the energy auditors responsible for EPC for checking the requirements during construction (beginning of 2021).

## 5. Energy performance certificate

Requirements given in several Articles of the EPBD:

- Article 11 Energy performance certificates
- Article 12 Issue of energy performance certificates
- Article 13 Display of energy performance certificates
- Article 17 Independent experts
- Article 18 Independent control system

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
14.	Development of Regulation on Energy Performance Certification of buildings, incl. national values for each class (A, B, C, etc.)	Regulation is in place but need to be updated right after the completion of the national EPC software (beginning of 2021).
15.	Development of Guidelines for energy performance certification of buildings	Development of the guidelines for EPC is planned as part of the training process and pilot certification of public buildings.
16.	Development of Certification Tool (Issue, statistics, information dissemination, reporting)	Development of the software that will be used for the certification of buildings is in its final stage. The software MEEC—Montenegrin Energy Efficiency Certification is available from the web site: <a href="http://www.meec.me">www.meec.me</a> .
17.	Training, examination and accreditation of experts	Training of the energy auditors for using the new software is planned right after the completion of the national EPC software (beginning of 2021). Training and accreditation scheme for energy auditors is already established by the Law on Efficient Use of Energy (“Official Gazette of Montenegro” 57/14 and 25/19). Energy auditors are responsible for building EPC according to the Law.
18.	Establishment of Independent Control System and Registry (system and institution) – combined with the control system for inspections if applicable. The Control system should provide information enabling evaluation of the effectiveness of the Certification Scheme.	Development of the Registry of issued EPC is planned under support of Government of the Federal Republic of Germany, through KfW bank (to be completed in 2021). Registry will be a key tool to monitor EPC process at the national level, evaluate its effectiveness and propose further improvement.

## 6. Inspection of heating and air-conditioning systems

Requirements given in several Articles of the EPBD:

- Article 14 Inspection of heating systems
- Article 15 Inspection of air-conditioning systems
- Article 16 Reports on the inspection of heating and air-conditioning systems
- Article 17 Independent experts
- Article 18 Independent control system

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
19.	Development of Regulation on Inspection of heating systems <sup>2</sup>	Regulatory framework for performing regular energy audits of heating systems and air conditioning systems in buildings was been implemented since 2016 and consists of two by-laws: - Rulebook on regular energy audits of heating systems and air-conditioning systems ("Official Gazette of Montenegro", 76/15 of 28 December 2015); - Rulebook on conditions for performing training, obtaining of authorization and manner of the managing of the registry for energy audits performing ("Official Gazette of Montenegro", 75/15 of 25 December 2015).
20.	Development of Regulation on Inspection of air-conditioning systems	See previous answer.
21.	Development of Guidelines for inspections, incl. report templates	Guidelines and reporting templates are developed as a part of the rulebooks and training materials.
22.	Establishment of Independent Control System and Registry (system and institution) – combined with the control system for energy certification if applicable. The Control system should provide information enabling evaluation of the effectiveness of the Certification Scheme.	Despite the established framework for the implementation of the measures and trained professionals, it has not been systematically implemented in the previous period, mainly due to the fact that the owners of the heating systems and air conditioning systems recognized by the Law have not fulfilled their obligations. Therefore, there is possibilities for improving the concept of conducting regular inspections of heating systems and air-conditioning systems, in line with the recent good practice in EU countries.
23.	Training and accreditation of experts	Professionals who are authorized by competent state authority can perform regular inspections of heating

<sup>2</sup> Could be combined with regulation on Inspection of air-conditioning systems and developed as one regulation

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
		<p>systems and air-conditioning systems. Authorized persons obtain the authorization based on the training program stipulated in the Rulebook on conditions for performing training, obtaining of authorization and manner of the managing of the registry for energy audits performing.</p> <p>In the previous period, several trainings of experts for this kind of inspections has been conducted and currently 18 experts are qualified to carry out this type of service.</p>

## 7. Penalties

Requirements given in Article 27 of EPBD.

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
24.	<p>Develop rules on penalties for infringements of the national provisions adopted and include them into relevant laws/regulations. Penalties could be imposed for noncompliance to:</p> <ul style="list-style-type: none"> <li>• Minimum energy performance requirements</li> <li>• Certification (non-existing and/or quality and/or registration)</li> <li>• Inspections (non-existing and/or quality and/or registration)</li> </ul>	<p>Already prescribed by the Law on Efficient Use of Energy (“Official Gazette of Montenegro” 57/14 and 25/19). Need to be further revised through the amendments of the Law in 2021 in relation to the quality control of the EP certificates.</p>
25.	<p>Establishment of a monitoring system (system and institution) for checking compliance with national provisions and for issuing and collecting penalties</p>	<p>Scheme for monitoring and quality control of the issued EP certificated need to be designed through the amendments of the Law on Efficient Use of Energy.</p>
26.	<p>Operation of the monitoring system</p>	<p>Still need to be defined and established.</p>