

# REPORT

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

### **BOSNIA and HERZEGOVINA**

(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)	<p>Obligations to transpose the EPBD Directive in Bosnia and Herzegovina are distributed according to the competencies of the state and entity levels. The state level ensures a uniform transposition methodology and provides technical assistance and reporting to the Energy Community Secretariat, while the entities implement the transposition of EPBD requirements into their own legal frameworks.</p> <p><b>Bosnia and Herzegovina</b></p> <p>The Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina is in charge of coordinating the transposition of EPBD requirements into domestic legislation. To this end, MOFTER provided technical assistance to the entities on the following issues:</p> <ul style="list-style-type: none"> <li>▪ National Energy Efficiency Action Plan 2019-2021 (GIZ)</li> <li>▪ FBiH Energy Efficiency Action Plan 2019-2021 (GIZ)</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
	<ul style="list-style-type: none"> <li>▪ RS Energy Efficiency Action Plan 2019-2021 (GIZ)</li> <li>▪ National Building Renovation Strategy (GIZ)</li> <li>▪ FBiH Building Renovation Strategy (GIZ)</li> <li>▪ RS Building Renovation Strategy (GIZ)</li> <li>▪ updated climate data (GIZ Promotion of Energy Efficiency in BiH),</li> <li>▪ Typology of residential buildings in BiH, FBiH and RS (GIZ),</li> <li>▪ Cost-optimal analysis of residential buildings in BiH with testing of new climate data for residential and non-residential buildings (GIZ)</li> <li>▪ Typology of Public Buildings of BiH (UNDP)</li> <li>▪ Cost-optimal analysis of residential buildings in BiH with testing of new climate data for residential and non-residential buildings (UNDP)</li> <li>▪ Feasibility Study for the application of highly efficient cogeneration and efficient district heating and cooling in BiH, FBiH and RS (GIZ).</li> <li>▪ Assessment of the potential for the application of highly efficient cogeneration and cooling and heating in BiH, RS and FBiH, including accompanying maps, substrates, maps were collected from local communities during the drafting of documents (GIZ).</li> </ul> <p><b>Federation of BiH</b></p> <p>In 2017, The Federation of BiH passed the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17) in the Federation of Bosnia and Herzegovina, which regulates the EPBD requirements. Further harmonization was achieved through the following ordinances based on the mentioned Law, namely:</p> <ul style="list-style-type: none"> <li>▪ Rulebook on minimum requirements for energy performance of buildings (Official Gazette FBiH 81/19),</li> <li>▪ Rulebook on Energy Certification of Buildings in the Federation BiH (Official Gazette of the Federation BiH, no. 50/10);</li> <li>▪ Methodology for calculation and declaration of energy characteristics of residential and non-residential buildings;</li> <li>▪ Rulebook on Technical Requirements for Heat Insulation of Buildings and Rational Use of Energy (Official Gazette of the Federation BiH, no. 49/09)</li> <li>▪ Rulebook on regular energy audit of heating system and air conditioning system (Official Gazette of the Federation BiH, no. 02/19)</li> <li>▪ Rulebook on the Energy Efficiency Information System of the Federation of Bosnia and Herzegovina</li> </ul> <p><b>Republika Srpska</b></p> <p>In May 2013, the Republika Srpska passed the Law on Spatial Planning and Construction ("Official Gazette of the Republika Srpska" No. 40/13), and Art. 90-96. The law addresses the area of energy efficiency in buildings, which are largely in line with Directive 2010/31/EU on the energy performance of buildings. Further harmonization was achieved through three ordinances adopted in 2015 on the basis of the mentioned Law, namely:</p> <ul style="list-style-type: none"> <li>▪ Rulebook on performing energy audits of buildings and issuing energy certificates ("Official Gazette of Republika Srpska" No. 30/15 and 93/16),</li> <li>▪ Rulebook on methodology for the calculation of energy performance of buildings ("Official Gazette of Republika Srpska" No. 30/15), and</li> <li>▪ Rulebook on minimum requirements for energy performance of buildings ("Official Gazette of Republika Srpska" No. 30/15).</li> </ul> <p>Also, by adopting amendments to the Law on Spatial Planning and Construction in October 2019 ("Official Gazette of the Republic of Srpska", 84/19), additional harmonization was done with Directive (EU) 2018/884 amending Directive 2010/31/EU on energy performance of buildings and Directive 2012/27 / EU on energy efficiency, which created the legal basis for the adoption of the Strategy for long-term energy renovation of buildings in Republika Srpska, the Ordinance on regular inspections of technical heating systems, cooling and ventilation of technical building systems and the Ordinance on keeping a register on the energy characteristics of residential and non-residential buildings in public and private ownership.</p> <p>An overview of the transposed EPBD requirements into domestic entity legislation is given below:</p>

Main steps/activities	Status of implementation, further activities and planned deadlines for completion
	<p><b>Building Stock Inventory</b></p> <p>FBiH: n/a RS: Article 90a (2a), Amendments to the Law on Spatial Planning and Construction in October 2019 ("Official Gazette of the Republic of Srpska", 84/19)</p> <p><b>Calculation methodology</b></p> <ul style="list-style-type: none"> <li>▪ Article 3 (EPBD) - Adoption of a methodology for calculating the energy performance of buildings FBiH: Article 24 (4) of the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17), RS: Article 93 of the Law on Spatial Planning and Construction ("Official Gazette of the Republic of Srpska" No. 40/13) based on which the Rulebook on the methodology for calculating the energy performance of buildings was adopted ("Official Gazette of the Republic of Srpska" No. 30/15).</li> </ul> <p><b>Energy performance requirements</b></p> <ul style="list-style-type: none"> <li>▪ Article 4 (EPBD) - Setting of minimum energy performance requirements FBiH: Article 24 (2) of the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17), RS: Article 93 of the Law on Spatial Planning and Construction ("Official Gazette of the Republic of Srpska" No. 40/13) based on which the Rulebook on the methodology for calculating the energy performance of buildings was adopted ("Official Gazette of the Republic of Srpska" No. 30/15).</li> <li>▪ Article 5 (EPBD) - Calculation of cost-optimal levels of minimum energy performance requirements FBiH: n/a RS: Article 90a (2b), Amendments to the Law on Spatial Planning and Construction in October 2019 ("Official Gazette of the Republic of Srpska", 84/19)</li> <li>▪ Article 6 (EPBD) - New buildings FBiH: Article 25 of the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17), RS: Article 90 (2) of the Law on Spatial Planning and Construction ("Official Gazette of the Republic of Srpska" No. 40/13)</li> <li>▪ Article 7 (EPBD) - Existing buildings FBiH: Article 25 of the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17), RS: Article 90 (2) of the Law on Spatial Planning and Construction ("Official Gazette of the Republic of Srpska" No. 40/13)</li> <li>▪ Article 8 (EPBD) - Technical building systems FBiH: Article 24 (2) of the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17), RS: Article 90 (5) of the Law on Spatial Planning and Construction ("Official Gazette of the Republic of Srpska" No. 40/13)</li> <li>▪ Article 9 (EPBD) - Nearly zero-energy buildings FBiH: Article 36-37 of the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17), RS: n/a</li> </ul> <p><b>Energy performance requirements</b></p> <ul style="list-style-type: none"> <li>▪ Article 11 (EPBD) - Energy performance certificates FBiH: Article 33 of the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17), RS: Article 90 (2f) of the Law on Spatial Planning and Construction ("Official Gazette of the Republic of Srpska" No. 40/13)</li> <li>▪ Article 12 (EPBD) - Issue of energy performance certificates FBiH: Article 33 of the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17), RS: Article 90 (2f) of the Law on Spatial Planning and Construction ("Official Gazette of the Republic of Srpska" No. 40/13)</li> <li>▪ Article 13 (EPBD) - Display of energy performance certificates FBiH: Article 34 of the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17),</li> </ul>

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
		<p>RS: Article 94 (3) of the Law on Spatial Planning and Construction ("Official Gazette of the Republic of Srpska" No. 40/13)</p> <ul style="list-style-type: none"> <li>▪ Article 17 (EPBD) - Independent experts FBiH: Article 31-32 of the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17),</li> <li>▪ RS: Article 91 (3) of the Law on Spatial Planning and Construction ("Official Gazette of the Republic of Srpska" No. 40/13) Article 18 (EPBD) - Independent control system FBiH: Article 38 of the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17), RS: Article 95 (1c) of the Law on Spatial Planning and Construction ("Official Gazette of the Republic of Srpska" No. 40/13)</li> </ul> <p><b>Inspection of heating and air-conditioning systems</b></p> <ul style="list-style-type: none"> <li>▪ Article 14 (EPBD) - Inspection of heating systems FBiH: Article 36 of the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17), RS: Article 91 (4) of the Law on Spatial Planning and Construction ("Official Gazette of the Republic of Srpska" No. 40/13)</li> <li>▪ Article 15 (EPBD) - Inspection of air-conditioning systems FBiH: Article 37 of the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17), RS: Article 91 (4) of the Law on Spatial Planning and Construction ("Official Gazette of the Republic of Srpska" No. 40/13)</li> <li>▪ Article 16 (EPBD) - Reports on the inspection of heating and air-conditioning systems FBiH: Article 36-37 of the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17), RS: n/a</li> <li>▪ Article 17 (EPBD) - Independent experts FBiH: n/a RS: n/a</li> <li>▪ Article 18 (EPBD) - Independent control system FBiH: n/a RS: n/a</li> </ul> <p><b>Penalties</b></p> <ul style="list-style-type: none"> <li>▪ Article 27 (EPBD) – Penalties FBiH: Article 51-58 of the Law on Energy Efficiency of the Federation of Bosnia and Herzegovina (Official Gazette of FBiH no. 22/17), RS: Article 188 (4) of the Law on Spatial Planning and Construction ("Official Gazette of the Republic of Srpska" No. 40/13)</li> </ul>

## 2. Building Stock Inventory

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
2.	Decision to establish a Building Stock Inventory, and necessary resources and funds for its development and operation allocated or secured	<p>The decision to establish an inventory of buildings in Bosnia and Herzegovina will be made through the adoption of the National Action Plan for Energy Efficiency 2019-2021, and the entity action plans. Currently, these plans are in draft form and are subject to consultation with the entities. Adoption is expected soon.</p> <p>An overview of the fund of residential and non-residential buildings in Bosnia and Herzegovina is given as a result of an extensive statistical analysis done within the development of the typology of residential and non-residential buildings.</p> <p><b>Residential buildings</b> are facilities intended for permanent housing of people, one or more families, and we distinguish between individual residential buildings, ie. family houses with up to three apartments and a maximum of three floors above ground and residential buildings intended for housing several families, the so-called. collective residential buildings. According to the methodology used in the project Typology</p>

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		<p>of residential buildings in BiH, buildings intended for single family housing are systematized into individual family houses (SH) and terraced houses (TH), and buildings intended for collective housing into: smaller residential buildings (MH), residential buildings in a row ( AB1), large apartment blocks (AB2) and skyscrapers (H).</p> <p>Periods of construction of residential buildings are formed according to construction technologies and applicable regulations in the field of construction that were valid in different time periods. The division of residential buildings is defined by the Typology of residential buildings in BiH into 6 periods: 1. until 1945, 2. 1946-1960, 3. 1961-1970, 4. 1971-1980, 5. 1981-1991, 6. 1992-2014.</p> <p>The total number of housing units in BiH is 1,607,998, of which 1,126,998 are constantly used. The total area of housing units is 1,119,522,072 m<sup>2</sup>, of which the area of permanently used housing units is 90,779,976 m<sup>2</sup>.</p> <p>The census determined that 1,179,039 apartments are constantly used in BiH, whose average heating area, according to the Survey on Energy Consumption in Households in BiH, is 51.2 m<sup>2</sup>. It follows that the total heated area of apartments in BiH is 60,366,797 m<sup>2</sup>.</p> <p><b>Central government non-residential buildings</b> in Bosnia and Herzegovina are allocated into the following four building stocks:</p> <ul style="list-style-type: none"> <li>▪ Non-residential building inventory of the central government,</li> <li>▪ Non-residential building inventory in the Federation of Bosnia and Herzegovina,</li> <li>▪ Non-residential building inventory in Republika Srpska, and</li> <li>▪ Non-residential building inventory in the Brčko District of BiH.</li> </ul> <p>In total, there are 92 buildings in Bosnia and Herzegovina owned and used by central state institutions at all four administrative levels, which makes a total of 396,226.39 m<sup>2</sup> of heated and/or cooled building area, out of which:</p> <ul style="list-style-type: none"> <li>▪ The state level of Bosnia and Herzegovina occupies 43 buildings with an area of more than 250 m<sup>2</sup> (according to the data of the Service for Joint Affairs of BiH Institutions). These 43 buildings occupy an area of 244,993.86 m<sup>2</sup> of heated and / or cooled area.</li> <li>▪ Central government institutions in the Federation of Bosnia and Herzegovina use 46 buildings, but only 27 buildings with an area of more than 250 m<sup>2</sup> that are the subject of this census. The total area of these facilities is 71,593.07 m<sup>2</sup>.</li> <li>▪ Central government institutions in the Republika Srpska are in 6 buildings with a total area of 60,000 m<sup>2</sup> (according to the data of the Service for Joint Affairs of RS Institutions).</li> <li>▪ Central government institutions in the Brcko District occupy a total of 17 buildings of 19,631.46 m<sup>2</sup> (according to the BD Public Property Office).</li> </ul> <p><b>Other non-residential buildings</b> in Bosnia and Herzegovina are allocated into the following three building stocks:</p> <ul style="list-style-type: none"> <li>▪ The total area of non-residential buildings in FBiH is 12,730,000 m<sup>2</sup>, of which the area of commercial buildings is 7,568,713 m<sup>2</sup> and the area of public buildings is 5,161,287 m<sup>2</sup>. Buildings intended for education have the largest area of 1,726,842 m<sup>2</sup>, while buildings intended for education (kindergartens) have the smallest, ie 73,796 m<sup>2</sup>. The largest number of public buildings was built in the period from 1974 to 1987. 82% of all public buildings were built in the climate region "North" - 3,634, while in the region "South" only 785 buildings were built.</li> <li>▪ The total area of non-residential buildings in RS is 5,890,000 m<sup>2</sup>, of which the area of public buildings is 3,614,839 m<sup>2</sup> and the area of commercial buildings is 2,275,161 m<sup>2</sup>. Educational buildings have the largest area, 1,084,867 m<sup>2</sup>, and buildings intended for education (kindergartens) have the smallest, 46,602 m<sup>2</sup>. The largest number of public buildings was built in the period from 1974 to 1987. Approximately 94% of all public buildings were built in the climate region "North" - 2,731, while in the region "South" only 177 buildings were built.</li> <li>▪ In BD, buildings intended for education have the largest area of 105,492 m<sup>2</sup>, while buildings intended for education (kindergartens) have the smallest, ie 2,311 m<sup>2</sup>.</li> </ul>
3.	Establishment and operation of national Building Stock Inventory	<p>It is envisaged that the establishment and maintenance of buildings inventory will be the responsibility of the institutions responsible for the implementation of energy efficiency programs. These programs are established by a decision resulting from energy efficiency action plans. The programs are as follows:</p> <ul style="list-style-type: none"> <li>▪ BiH level: PRG.01 BiH Program for increasing the energy efficiency of public service sector buildings under the authority of the authorities at the level of Bosnia and Herzegovina</li> </ul>

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
		<ul style="list-style-type: none"> <li>▪ FBiH: PRG.02 FBiH Program for increasing the energy efficiency of buildings in the public services sector in FBiH; PRG.03 FBiH Cantonal programs for increasing energy efficiency of buildings in the public services sector; PRG.04 FBiH Cantonal programs for increasing energy efficiency of buildings in the housing sector. There are ongoing activities of establishing Building Stock Inventory of Public Building in the Federation of Bosnia and Herzegovina. It is result of technical assistance od UNDP in developing EMIS. All relevant data for public buildings have been entered in the EMIS next step will be Building Stock Inventory for Public Building.</li> <li>▪ RS: PRG.02 RS RS program for increasing energy efficiency of buildings in the public services sector; PRG.03 RS Program for increasing the energy efficiency of buildings in the housing sector</li> <li>▪ BD: PRG.01 BD Program for increasing energy efficiency in the Brčko District of Bosnia and Herzegovina</li> </ul>

### 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>The methodology for calculating the energy performance of buildings is regulated by entity legislation. Currently, the energy performance of buildings, and the accompanying minimum requirements and energy classes are based on the energy required. The methodology still does not provide all the necessary input data in order to switch to the transfer of delivered or primary energy, and then the emission of greenhouse gases. Currently, in cooperation with GIZ and EBRD, activities are being carried out to create the necessary conditions for the development of national annexes for the budget of delivered / primary energy. Only after the establishment of these national annexes will it be possible to move to the definition of minimum requirements and energy classes of buildings according to the delivered / primary energy.</p> <p><b>FBiH:</b> The methodology is regulated by the Rulebook on minimum energy performance requirements for buildings ("Official Guzzetti of the Federation of B&amp;H" NO 81/19) and Annex of this Rulebook is Methodology for calculation with annexes have been developed in the Federation of Bosnia and Herzegovina ("Official Guzzetti of Federation of B&amp;H" NO 85/19). The methodology has recently been harmonized with the requirements of cost-optimal analysis and supplemented with an innovated climate database for Bosnia and Herzegovina.</p> <p><b>RS:</b> This is regulated by Article 93 of the Law on Spatial Planning and Construction, based on which the Rulebook on the methodology for calculating the energy characteristics of buildings was adopted ("Official Gazette of the Republic of Srpska" No. 30/15). The methodology provides guidelines for the calculation of required energy and is still not innovated with the results of cost-optimal analysis and new climate data. Activities are underway, and a very quick intervention of the RS Ministry of Physical Planning on the adoption of the amended rulebook is to be expected.</p>
5.	Adoption of relevant supporting CEN standards	<p>This part of the report includes an overview of current BAS standards used to develop an algorithm for estimating annual energy consumption for heating and cooling facilities, estimating delivered energy in case of using different technical suites in facilities, as well as estimating primary energy consumption. The proposal also includes some standards that are not directly related to the methodology of calculating energy consumption in buildings but are of great importance when it comes to determining the thermal load of the building, or the projected power of thermotechnical systems. This primarily refers to the standards used to calculate heat losses for a building, such as the standard BAS EN 12831-1.</p> <ul style="list-style-type: none"> <li>▪ BAS EN ISO 52000-1:2019 Energy performance of buildings - Overarching EPB assessment - Part 1: General framework and procedures</li> <li>▪ BAS EN ISO 52016-1:2018 Energy performance of buildings - Energy needs for heating and cooling, internal temperatures and sensible and latent heat loads - Part 1: Calculation procedures (ISO 52016-1:2017)</li> </ul>

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
		<ul style="list-style-type: none"> <li>▪ BAS CEN ISO/TR 52016-2:2018 Energy performance of buildings - Energy needs for heating and cooling, internal temperatures and sensible and latent heat loads - Part 2: Explanation and justification of ISO 52016-1 and ISO 52017-1</li> <li>▪ BAS EN 15316-1:2018 Energy performance of buildings - Method for calculation of system energy requirements and system efficiencies - Part 1: General and Energy performance expression, Module M3-1, M3-4, M3-9, M8-1, M8-4</li> <li>▪ BAS EN 15316-2:2018 Energy performance of buildings - Method for calculation of system energy requirements and system efficiencies - Part 2: Space emission systems (heating and cooling), Module M3-5, M4-5</li> <li>▪ BAS EN 15316-3:2018 Energy performance of buildings - Method for calculation of system energy requirements and system efficiencies - Part 3: Space distribution systems (DHW, heating and cooling), Module M3-6, M4-6, M8-6</li> <li>▪ BAS EN 15316-4-1:2018 Energy performance of buildings - Method for calculation of system energy requirements and system efficiencies - Part 4-1: Space heating and DHW generation systems, combustion systems (boilers, biomass), Module M3-8-1, M8-8-1</li> <li>▪ BAS EN 15316-4-2:2018 Energy performance of buildings - Method for calculation of system energy requirements and system efficiencies - Part 4-2: Space heating generation systems, heat pump systems, Module M3-8-2, M8-8-2</li> <li>▪ BAS EN 15316-4-3:2018 Energy performance of buildings - Method for calculation of system energy requirements and system efficiencies - Part 4-3: Heat generation systems, thermal solar and photovoltaic systems, Module M3-8-3, M8-8-3, M11-8-3</li> <li>▪ BAS EN 15316-4-4:2018 Energy performance of buildings - Method for calculation of system energy requirements and system efficiencies - Part 4-4: Heat generation systems, building-integrated cogeneration systems, Module M8-3-4, M8-8-4, M8-11-4</li> <li>▪ BAS EN 15316-4-5:2018 Energy performance of buildings - Method for calculation of system energy requirements and system efficiencies - Part 4-5: District heating and cooling, Module M3-8-5, M4-8-5, M8-8-5, M11-8-5</li> <li>▪ BAS EN 15316-4-8:2018 Energy performance of buildings - Method for calculation of system energy requirements and system efficiencies - Part 4-8: Space heating generation systems, air heating and overhead radiant heating systems, including stoves (local), Module M3-8-8</li> <li>▪ BAS EN 15316-5:2018 Energy performance of buildings - Method for calculation of system energy requirements and system efficiencies - Part 5: Space heating and DHW storage systems (not cooling), Module M3-7, M8-7</li> <li>▪ BAS EN 15193-1:2018 Energy performance of buildings - Energy requirements for lighting - Part 1: Specifications, Module M9</li> <li>▪ BAS EN 15232-1:2018 Energy Performance of Buildings - Energy performance of buildings - Part 1: Impact of Building Automation, Controls and Building Management - Modules M10-4,5,6,7,8,9,10</li> <li>▪ BAS EN 12831-1:2018 Energy performance of buildings - Method for calculation of the design heat load - Part 1: Space heating load, Module M3-3</li> <li>▪ BAS EN 12831-3:2018 Energy performance of buildings - Method for calculation of the design heat load - Part 3: Domestic hot water systems heat load and characterisation of needs, Module M8-2, M8-3</li> </ul> <p>The Institute for standardization of Bosna and Herzegovina is responsible for issuing and adapting the EN standards.</p>
6.	Development of climatic data base	<p>In the previous period, an innovated climate database for Bosnia and Herzegovina was developed, with the technical assistance of GIZ. This is an overview of the basic elements of an innovated database.</p> <p><b>Prepared set of climatic data</b></p> <p>Two hydrometeorological institutes, one for the RS and the other for FBiH, have prepared the following set of data for those stations where they are available:</p> <ul style="list-style-type: none"> <li>▪ Hourly data of stations for which these data exist for following parameters: <ul style="list-style-type: none"> <li>▪ Temperature (T)</li> <li>▪ Humidity (H)</li> <li>▪ Wind speeds (W)</li> <li>▪ Irradiation (I)</li> </ul> </li> </ul> <p>Following meteorological stations were covered:</p> <p>RS: Bileća, Trebinje, Dobož, Gacko, Sokolac, Prjedor, Mrkonjić Grad, Višegrad, Foča, Srebrenica, Novi Grad and Banja Luka  FBiH: Bihać, Bugojno, Gradacac, Livno, Mostar, S. Most, Sarajevo, Tuzla, Zenica</p>

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
		<p>For each station, a set of monthly data required for the calculation of the required energy for heating according to EN 13790 for actual data or for each meteorological station including radiation values in kWh / m2 (from Meteonorm) were obtained. An analysis of previous regulations and temperatures was made, and it was concluded that first reference zone of North corresponds to Doboj and the second, the South corresponds to Mostar.</p> <p><b>Republika Srpska</b></p> <ul style="list-style-type: none"> <li>▪ Database of measured values per station containing&gt;</li> <li>▪ (HD) number of heating days.</li> <li>▪ Tsr (mean temperature) and</li> <li>▪ DD (degree days)</li> <li>▪ Average monthly values for per stations for T, P, W and I;</li> <li>▪ Average daily and values based on the database for Temperature;</li> <li>▪ Values of monthly radiation per station from Meteonorm;</li> <li>▪ Hourly values with all climatic parameters from Meteonorm (SVM) for North / Doboj, I SOUTH / Mostar - Folder "Hourly values RS" including solar radiation, temperatures and wind speeds;</li> <li>▪ Hourly values (SV) with climate data based on measurements in the last 15 years for Banja Luka</li> </ul> <p><b>Federation BIH</b></p> <ul style="list-style-type: none"> <li>▪ Database of measured values per station containing&gt;</li> <li>▪ (HD) number of heating days.</li> <li>▪ Tsr (mean temperature) and</li> <li>▪ DD (degree days)</li> <li>▪ Average monthly values for per stations for T, P, W and I;</li> <li>▪ Average daily and values based on the database for Temperature;</li> <li>▪ Values of monthly radiation per station (Map of Monthly values of FBih - excel documents);</li> <li>▪ Hourly values with all climatic parameters from Meteonorm for North / Doboj, I SOUTH / Mostar - Folder "Hourly values FBih" –</li> <li>▪ Hourly values (with climate data based on measurements in the last 15 years for Sarajevo "Document"SV Sarajevo hourly data "and" SV Mostar hourly data "values of measurement temperature" in the Folder "Hourly values FBih".</li> </ul> <p>The sets of data were used for re-calculating energy needs for selected buildings in the cost optimization where new certification scheme tables based on energy need was created both for the Federation (adopted) and the RS (not yet adopted).</p>
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>The application of software in Bosnia and Herzegovina is the responsibility of the entities and is quite different. Currently, several commercial software are used for this purpose, but with clear indications of the transition to a standardized budget approach in the near future.</p> <p><b>FBih:</b> The software for energy performance certification is regulated by Article 34. Paragraphs (11) and (12) of the Regulation on carrying out energy audits and energy certification of buildings ("Official Gazzetti of the Federation of B&amp;H" N0 87/18); "In controlling the Building Energy Audit Reports and/or issued Certificates in terms of calculation and prior to establishment of a software tool at the level of the FB&amp;H, the Independent Control Commission shall use the Methodology, i.e. the methodology with algorithm to be prescribed by the rulebook referred to in Article 1, paragraph (5) of this Regulation. (12) At the proposal of the FMSP Minister, the FB&amp;H Government shall adopt a decision on establishment of a software tool at the level of the FB&amp;H.</p> <p>Thanks to the technical assistance of the EBRD through REEP and REEP PLUS, we have developed software for energy certification of buildings Simplified Building Energy Model for Federation of Bosnia and Herzegovina (SBEM ba) pending for adoption government Decision about software. Deadline is the end of 2020.</p> <p><b>RS:</b> Article 20 of the Rulebook on conducting energy audits of buildings and issuing energy certificates ("Official Gazette of Republika Srpska" No. 30/15), in Republika Srpska, stipulates that for the preparation of the Report on the conducted energy audit and the proposed energy class of the building and energy certificate may be used software that are in accordance with the methodology for the preparation of energy certificates defined by the Rulebook on the methodology for calculating the energy performance of buildings and which have relevant climate</p>



	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
		data for the Republic of Srpska. Currently, various commercial software packages are in use for the calculation of energy characteristics of buildings. In order to standardize the approach to the calculation, the development of software for the calculation of energy performance of buildings is planned, which will be integrated into the Register of Buildings, which is currently under development.
8.	Training of experts in the calculation methodology and in proper use of the software	<p>Training of experts in the calculation methodology and in proper use of the software is regularly conducted at the entity level. So far, a number of engineers have been licensed in both entities. Training programs have been developed that include calculation methodology.</p> <p><b>FBIH:</b> The institution responsible for conducting training and licensing engineers is the Ministry of Spatial Planning of the Federation of Bosnia and Herzegovina, which is regulated by the Regulation of granting and deprivation of authorisations for energy audit and energy certification of buildings ("Official Guzzetti of the Federation of B&amp;H" N0 87/18). It is prescribed the obligatory content of Training Program, which is consisted of the Training Program for Module 1 and Module 2 and Training Program for updating and upgrading knowledge Module 3, both of them consist practical part for training experts for using software tool for calculation energy performance of building; In 2016. and in 2019. There were organised training sessions for engineers to use SBEM for B&amp;H.</p> <p><b>RS:</b> Article 91 para. 5 and 6 of the Law on Spatial Planning and Construction stipulate that special professional training for performing energy audits is organized by the Fund for Environmental Protection and Energy Efficiency of the Republic of Srpska, and according to the Training and Professional Development Program adopted by the Fund and approved by the Minister for spatial planning, construction and ecology.</p>

#### 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>Adoption of minimum energy performance requirements is the responsibility of the entity. In the past 7-8 years, there have been minimal requirements for the construction of new and reconstruction of existing buildings in both entities. However, the innovation of the climate database, and the results of cost-optimal analysis, created the conditions for the revision of the minimum requirements and their harmonization with the above. This hasn't been done in the FBIH and RS and sew results are expected soon. Moreover, the minimum requirements in both entities are based on the energy need, referring exclusively to the building envelope elements. Technical systems are still not installed in the minimum requirements, and this is expected after the calculation of the delivered / primary energy.</p> <p><b>FBIH:</b> It is regulated by the Rulebook on minimum energy performance requirements for building with Annexes ("Official Guzzetti of the</p>

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
		<p>Federation of B&amp;H" N0 81,85/19) adopted in November 2019. Drafted Rulebook on the procedure for calculating the optimal costs of minimum requirements for energy performance of buildings – pending for adoption. Deadline is the first half of December of 2020. After the entry into force of this Rulebook, it will be recalculated the current minimum energy performance requirements.</p> <p><b>RS:</b> This is regulated by Article 93 of the Law on Spatial Planning and Construction, based on which the Rulebook on Minimum Requirements for Energy Characteristics of Buildings was adopted ("Official Gazette of the Republic of Srpska" No. 30/15).</p>
10.	<p>Calculation of cost-optimal level of energy performance</p>	<p>Entity Ministries of Physical Planning are to adopt a rulebook on the procedure for calculating the optimal costs of minimum energy performance requirements, which establishes a comparative methodological framework for calculating cost-optimal levels of minimum energy performance requirements for new and existing buildings and parts of buildings. The comparative methodological framework is in line with the delegated regulation amending Directive 2010/31/EC of the European Parliament and of the Council on the energy performance of buildings, establishing a comparative methodological framework for calculating cost-optimal levels for minimum energy performance requirements for buildings and parts of buildings. The steps that make up a comparative methodological framework include the following:</p> <ul style="list-style-type: none"> <li>▪ identification of reference buildings,</li> <li>▪ defining energy efficiency measures that will be applied to these reference buildings,</li> <li>▪ an assessment of the associated need for these primary energy measures and</li> <li>▪ an estimate of the costs (ie net present value) of these measures.</li> </ul> <p>The common framework for calculating the energy performance of a building also applies to all steps of the cost-optimal methodological framework, especially for the step in which the energy performance of buildings and parts of buildings are calculated.</p> <p>The comparative methodological framework is correlated with the economic life of the building and / or part of the building, the corresponding costs of energy, products, systems, maintenance, operating and labor costs, the factor of primary energy conversion, as well as predictable energy prices for fuels is applied in buildings. A discount rate is also set to be used for both macroeconomic and financial budgets, after conducting a sensitivity analysis of at least two interest rates for each budget. The methodological framework sets out rules for comparing energy efficiency measures, measures involving renewable energy sources and packages of measures and variants of such measures, based on the characteristics of primary energy and the costs attributable to their implementation. It also sets out how these rules apply to selected reference buildings in order to define cost-optimal levels of minimum energy performance requirements for buildings.</p> <p>A special regulation, in accordance with the Law on Energy Efficiency, will regulate at the entity level the minimum requirements for energy performance of buildings, which should not be more than 15% lower than the cost-optimal budget results, which define the limit values. The cost-optimal level is in the range of feature levels in which the cost-benefit analysis over the lifetime is positive.</p> <p>According to the requirements of Directive 2010/31/EC of the European Parliament, it is necessary to set minimum requirements for the energy performance of a building in such a way that a cost-optimal level is achieved.</p> <p>The requirements for the energy performance of a building are defined in such a way that a cost-optimal level is achieved, ie it is defined as the level of energy characteristics that enables the lowest cost during the estimated economic life of the building. Energy-related investment costs, maintenance and operating costs (including energy costs and savings, building category, energy output) should be taken into account for the estimated useful life of the building. The range of the budget in which the cost-benefit analysis of the budget for the estimated economic life is positive should be considered.</p> <p>In order to identify a valid and representative number of reference facilities for testing new climate data and a proposal to establish energy classes for residential and non-residential buildings in the Federation of Bosnia and Herzegovina, and later analysis and calculation of cost-optimal analysis of residential buildings in the Federation of Bosnia and Herzegovina, representatives / reference buildings for both categories of buildings - residential and non-residential, which in relation to their participation in the total portfolio of residential and non-residential buildings collectively represent valid representatives of the same.</p> <p>Data from the Study Typology of Residential Buildings were used for identification and calculation of residential reference buildings, while data from the Study Typology of Non-Residential Buildings were used for identification and calculation of non-residential reference buildings. Climate data used to test new climate data, as well as energy class proposals based on new calculated reference values of annual heat required for heating of reference residential and non-residential buildings, were used from the Study Preparation of climate data required for</p>

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
		<p>heating / cooling of buildings in BiH, while excel tools and KI-Expert software were used to calculate the annual heat energy required for heating residential and non-residential buildings.</p> <p>In accordance with the existing regulations and based on different climatic conditions and values of climate data during the calculation, a differentiation was made between two climate zones - south and north.</p>
11.	<p>Information/training of key stakeholders in the construction industry</p>	<p>In the period 2018 - 2019, a training entitled "Support to capacity development of private and public actors in the construction sector in the implementation of energy efficiency in buildings in Bosnia and Herzegovina" was conducted, within the programs "New buildings of the Federation of Bosnia and Herzegovina - for savings" and "New buildings of Republika Srpska". The training was organized by the relevant institutions: the Federal Ministry of Energy, Mining and Industry and the Federal Ministry of Physical Planning and the Ministry of Physical Planning, Construction and Ecology of Republika Srpska, and under the auspices of the German for International Cooperation (GIZ) within the project "Promoting Energy Efficiency in Bosnia and Herzegovina". The training included the following groups of actors:</p> <ul style="list-style-type: none"> <li>▪ Designers</li> <li>▪ Energy Auditors</li> <li>▪ Employees of municipal services for Urbanism</li> <li>▪ Contractors of construction and installation works,</li> <li>▪ Supervisory bodies on the construction site,</li> </ul> <p>The aim of the entire training was to train actors in performing tasks and tasks related to the application of requirements and principles of energy efficiency in buildings. The requirements primarily referred to the application of current legislation on energy efficiency in the field of buildings.</p>
12.	<p>Updating/development of routines and specifications for documentation and checking of the energy performance requirements</p>	<p><b>FBiH:</b> It is prescribed by the Rulebook on minimum energy performance requirements for building with Annexes ("Official Gazzetti of the Federation of B&amp;H" N0 81,85/19). And proposal for amendments to the Law on Physical Planning at the federal and cantonal levels Law of Physical Planning on Federal and cantonal to the end of this year Ministry of Spatial Planning plans to organise training for employees in municipality urbanism sector in order to implement prescribed procedures.</p> <p><b>RS:</b> Article 101 of the Law on Spatial Planning and Construction stipulates that the main design of the building, among other things, must contain a study on energy efficiency, and the Rulebook on minimum requirements for energy performance of buildings ("Official Gazette of Republika Srpska" No. 30/15), prescribed are valid standards, technical specifications that need to be met when designing buildings.</p>
13.	<p>Training of national and regional "building inspectorates"</p>	<p>n/a</p>

## 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.)	<p>Energy certification of buildings is the responsibility of the entities. The system has been established and the certification of new buildings is being carried out without hindrance.</p> <p><b>FBIH:</b> It is regulated by the Regulation on carrying out energy audits and energy certification of buildings with Annexes ("Official Guzzetti of the Federation of B&amp;H" N0 87/18), adopted in November 2018.</p> <p><b>RS:</b> This was established through the Rulebook on conducting energy audits of buildings and issuing energy certificates ("Official Gazette of Republika Srpska" No. 30/15 and 93/16), and the Annexes to the Rulebook prescribe energy classes for residential and non-residential buildings and give the appearance of an energy certificate.</p>
15.	Development of Guidelines for energy performance certification of buildings	<p>In both entities, there are guidelines for conducting energy audits and certification of buildings.</p> <p><b>FBIH:</b> Adopted in August 2009.</p> <p><b>RS:</b> This was established through the Rulebook on conducting energy audits of buildings and issuing energy certificates ("Official Gazette of the Republic of Srpska" No. 30/15 and 93/16)</p>
16.	Development of Certification Tool (Issue, statistics, information dissemination, reporting)	<p>In both entities, a register of certificates is in use, as follows:</p> <p><b>FBIH:</b> Energy certificate, Article 22 of the Regulation on carrying out energy audits and energy certification of buildings with Annexes ("Official Guzzetti of the Federation of B&amp;H" N0 87/18), prescribed that Energy certificate for buildings only issue by Register of Energy Certificate (REC) as the part of the information system for Energy efficiency in federation of B&amp;H. REC has been established and it is in operationalisation in Ministry of Spatial Planning in Federation of B&amp;H. Through this System till now it have been issued almost 1000 energy certificates.</p> <p><b>RS:</b> In accordance with Art. 91, 94, and 95 of the Law, the Fund for Environmental Protection and Energy Efficiency of the Republic of Srpska is responsible for issuing energy certificates, establishing and maintaining a database on energy efficiency and issued energy certificates, and informing and encouraging public interest in the importance and effects of energy efficiency. RECRS, a digital register of energy certificates, has been in use for several years, developed and established in cooperation with GIZ.</p>
17.	Training, examination and accreditation of experts	<p>Training, examination and accreditation of experts are conducted regularly in both entities.</p> <p><b>FBIH:</b> Chapter V Training Program of the Regulation of granting and deprivation of authorisations for energy audit and energy certification of buildings ("Official Guzzetti of the Federation of B&amp;H" N0 87/18) prescribed the obligatory content of Training Program, which is consisted of</p>

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
		<p>Training Program Module 1 and Module 2 and Training Program for updating and upgrading knowledge Module 3.</p> <p><b>RS:</b> In accordance with Article 91 of the Law, special professional training for performing energy audits of buildings is performed by the Fund for Environmental Protection and Energy Efficiency of Republika Srpska, and issuing the necessary authorizations, ie licenses for individuals and legal entities, is performed by the Minister of Physical Planning, Construction and ecology.</p>
18.	<p>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.</p>	<p>An Independent Control System and Registry (system and institution) has been established in both entities, with re-establishment expected in the Federation of BiH due to changes in the regulatory framework.</p> <p><b>FBIH:</b> It is prescribed by the Regulation of granting and deprivation of authorisations for energy audit and energy certification of buildings ("Official Gazzetti of the Federation of B&amp;H" N0 87/18); The independent Control System will be established by the end of 2020.</p> <p><b>RS:</b> This was established through the Rulebook on conducting energy audits of buildings and issuing energy certificates ("Official Gazette of Republika Srpska" No. 30/15 and 93/16), in accordance with which independent control of issued energy certificates is carried out by the Fund for Environmental Protection and Energy Efficiency of the Republic Serbian, in the manner and under the conditions prescribed by Articles 35 to 42 of the said Rulebook.</p>

## 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>	<p>EPBD requirements related to regular inspections of heating and air conditioning systems have not been fully implemented in Bosnia and Herzegovina. This is the responsibility of the entity. Although the regulations were adopted in the FBIH, not much has been done to implement the regulations. In Republika Srpska, no regulations have been passed yet, but they are working on it.</p>
20.	Development of Regulation on Inspection of air-conditioning systems	<p><b>FBIH:</b> This is regulated by the Rulebook on Regular Inspection of Heating and Air conditioning System, adopted in 2019.</p> <p><b>RS:</b> The Law on Amendments to the Law on Spatial Planning and Construction ("Official Gazette of the Republic of Srpska", No. 84/19) created the legal basis for the adoption of the Rulebook on regular inspections of technical heating systems, cooling and ventilation of technical</p>

<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
		building systems. Please note that the working text of the mentioned Rulebook has been prepared.
21.	Development of Guidelines for inspections, incl. report templates	<p>Guidelines for inspections, incl. report templates have not been developed in any entity.</p> <p><b>FBIH:</b> It is prescribed by Rulebook on Regular Inspection of Heating and Air conditioning System (FMERI)</p> <p><b>RS:</b> This is provided for in the Annex, which is an integral part of the Ordinance on regular inspections of technical systems for heating, cooling and ventilation of technical systems of the building.</p>
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.	<p>The Independent Control System and Registry have not been established in any entity.</p> <p><b>FBIH:</b> It is prescribed by Rulebook on Regular Inspection of Heating and Air conditioning System (FMERI)</p> <p><b>RS:</b> This is prescribed by the Ordinance on performing energy audits of buildings and issuing energy certificates ("Official Gazette of Republika Srpska" No. 30/15 and 93/16), and is also provided by the provisions of the Ordinance on regular inspections of technical heating systems, cooling, ventilation and technical systems of buildings .</p>
23.	Training and accreditation of experts	<p>It is not implemented.</p> <p><b>FBIH:</b> It is prescribed by Rulebook on Regular Inspection of Heating and Air conditioning System(FMERI)</p> <p><b>RS:</b> In accordance with Article 91 of the Law, special professional training for performing energy audits of buildings is performed by the Fund for Environmental Protection and Energy Efficiency of Republika Srpska, and issuing the necessary authorizations, ie licenses, is performed by the Ministry of Physical Planning, Construction and Ecology.</p>

## 7. Penalties

Requirements given in Article 27of 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><b>FBIH:</b> All those provisions for Minimum energy performance requirements and Certification are prescribed by:</p> <ul style="list-style-type: none"> <li>▪ Law of energy efficiency in the Federation of Bosnia and Herzegovina ("Official Guzzetti of the Federation of B&amp;H" N0 22/17);</li> <li>▪ Regulation on carrying out energy audits and energy certification of buildings ("Official Guzzetti of the Federation of B&amp;H" N0 87/18);</li> <li>▪ Regulation of granting and deprivation of authorisations for energy audit and energy certification of buildings ("Official Guzzetti of the Federation of B&amp;H" N0 87/18);</li> <li>▪ Rulebook on minimum energy performance requirements for building with Annexes ("Official Guzzetti of the Federation of B&amp;H" N0 81,85/19).</li> </ul> <p>For Inspections (non-existing and/or quality and/or registration) by:</p> <ul style="list-style-type: none"> <li>▪ Law of energy efficiency in the Federation of Bosnia and Herzegovina ("Official Guzzetti of the Federation of B&amp;H" N0 22/17);</li> <li>▪ Rulebook on Regular Inspection of Heating and Air conditioning System (FMERI).</li> </ul> <p><b>RS:</b> The Law on Spatial Planning and Construction, through misdemeanour provisions, envisages fines for misdemeanours for participants in the construction procedure and competent authorities, which include, among other things, misdemeanours related to non-compliance with the provisions of the Law relating to energy efficiency of buildings.</p>
25.	Establishment of a monitoring system (system and institution) for checking compliance with	<p><b>FBIH:</b> Law of energy efficiency in the Federation of Bosnia and Herzegovina ("Official Guzzetti of the Federation of B&amp;H" N0 22/17);</p> <ul style="list-style-type: none"> <li>▪ Regulation on carrying out energy audits and energy certification of buildings ("Official Guzzetti of the Federation of B&amp;H" N0 87/18);</li> <li>▪ Regulation of granting and deprivation of authorisations for energy audit and energy certification of buildings ("Official Guzzetti of the</li> </ul>

	Main steps/activities	Status of implementation, further activities and planned deadlines for completion
	national provisions and for issuing and collecting penalties	<p>Federation of B&amp;H" N0 87/18);</p> <p><b>RS:</b> Penalties for misdemeanours are prescribed by the Law on Spatial Planning and Construction, and the issuance of misdemeanour orders and collection of fines is done in accordance with the Law on Inspections and the Law on Misdemeanours.</p>
26.	Operation of the monitoring system	<p><b>FBIH:</b> Monitoring System has been prescribed by:</p> <ul style="list-style-type: none"> <li>▪ Law of energy efficiency in the Federation of Bosnia and Herzegovina ("Official Guzzetti of the Federation of B&amp;H" N0 22/17);</li> <li>▪ Regulation on carrying out energy audits and energy certification of buildings ("Official Guzzetti of the Federation of B&amp;H" N0 87/18);</li> <li>▪ Regulation of granting and deprivation of authorisations for energy audit and energy certification of buildings("Official Guzzetti of the Federation of B&amp;H" N0 87/18) and responsible institutions are: Federal Ministry for Energy, Mining and industry; Ministry of Spatial Planning of the federation of Bosnia and Herzegovina and responsible federal and cantonal inspections.</li> </ul> <p><b>RS:</b> Supervision over the application of the Law on Spatial Planning and Construction and the ordinances adopted on the basis of that law is performed by the competent inspection in accordance with the mentioned Law and the Law on Inspections of the Republika Srpska.</p>