

<b>State</b>		<b>Bosnia and Herzegovina</b>
<b>General information</b>	<b>Status EU membership</b>	potential candidate for EU membership, Stabilization and Association Agreement was signed in 2008 <sup>1</sup>
	<b>Population</b>	3.28 million (2020) <sup>2</sup>
	<b>Land area (km<sup>2</sup>)</b>	51,200 km <sup>2</sup> (2020) <sup>3</sup>
	<b>Urban population (%)</b>	49 % (2020) <sup>4</sup>
	<b>GDP (current US\$ billion)</b>	19.79 (2020) <sup>5</sup>
<b>Socio-economic situation</b>	<b>GDP per capita (EURO)</b>	5,177 (2020) <sup>6</sup>
	<b>Annual net earnings (Single person without children earning 100% of average earning (EURO))</b>	Not available
	<b>Median hourly earnings (EURO)</b>	Not available
	<b>Average Monthly Wage (EURO)</b>	893.87 (2022) <sup>7</sup>
	<b>World Bank economic classification (2021)</b>	Upper middle income country <sup>8</sup>
	<b>Unemployment (% of total labor force)</b>	15.2 % (2021) <sup>9</sup>
<b>Energy situation in general</b>	<b>Current energy sources</b>	<ul style="list-style-type: none"> <li>- <b>Hydro power and coal</b> (119 small hydropower plants + 5 lignite power plants) with electricity generation capacity in dry years – coal 2/3 vs hydro 1/3 of total amount of energy production.<sup>10 11 12</sup></li> <li>- Gross electricity production in 2019 amounted to 9,664 GWh, of which 5,070 GWh or 52.5% was produced in <b>thermal power plants</b>, 4,060 GWh or 42.0% in <b>hydropower plants</b>, in industrial energy 347 GWh or 3.6%; <b>in wind farms</b> - 166 GWh or 1.7%, <b>solar</b> energy - 21 GWh or 0.2%.<sup>13</sup></li> <li>- As of 2020 around 2076 MW net <b>installed</b> hydropower capacity larger than 10 MW, 2156 MW of lignite, 172 MW of small hydropower, 87 MW wind power, and 35 MW solar.<sup>14</sup></li> <li>- Electricity generation in 2020 constituted<sup>15</sup>: <ul style="list-style-type: none"> <li>○ Non-renewable sources: 11 974 GWh (71%)</li> <li>○ Renewable 4 900 GWh (29%), of which: <ul style="list-style-type: none"> <li>▪ Hydro and marine 4 580 GWh (27%)</li> <li>▪ Solar 45 GWh</li> <li>▪ Wind 262 GWh (2%)</li> <li>▪ Bioenergy GWh 13</li> </ul> </li> </ul> </li> <li>- <b>Overreliance on wood and coal for heating</b> (both central and household); district heating systems (electrical and thermal energy)</li> <li>- <b>No natural gas extraction</b>, receives gas from Russia over Ukraine, Hungary, and Serbia; gas use limited due to small distribution network (only in some cities)<sup>16</sup></li> <li>- Adriatic oil pipeline JANAF – transportation and storage of crude oil and petroleum (24 MTG for B&amp;H)<sup>17</sup></li> <li>- <b>Net exporter of electricity</b> in Western Balkans (WB); highest energy intensity in WB<sup>18</sup></li> </ul>

<b>Climate protection targets</b>	<ul style="list-style-type: none"> <li>- Ratified the <b>Paris Agreement</b> in March 2017<sup>19</sup> and the <b>Kyoto protocol</b> in April 2007<sup>20</sup></li> <li>- <b>Climate Change Adaptation and Low Emission Development Strategy</b> for BiH 2020 - 2030<sup>21</sup></li> <li>- Presented its <b>Updated NDC</b> to the UNFCCC in April 2021 and published its Third National Communication (NC3) and Second Biennial Update Report on GHG in 2016.<sup>22</sup></li> <li>- <b>2030 targets</b> - 36.8% below 1990 levels conditional GHG emissions reduction target and GHGE 33.2% below 1990 levels unconditional<sup>23</sup></li> <li>- <b>2050 targets</b> - 61.7% (unconditional) and 65.6% (conditional) below 1990 levels GHG emissions reduction target</li> <li>- Economic growth aligned with adaptation and actions priorities<sup>24</sup></li> <li>- <b>National energy and climate plan (NECP)</b> should contain goals to decarbonize energy sector and <i>Elektroprivreda BiH</i> (EPBiH - state power utility) until 2040; introduction of EU ETS as part of the NECP<sup>25</sup></li> <li>- Development of the <b>Integrated Energy and Climate Plan of BiH for the period 2021-2030</b><sup>26</sup></li> <li>- <b>Sarajevo</b> selected for <b>EU's 100 climate-neutral and smart cities program</b><sup>27</sup></li> </ul>
<b>Renewable energy targets</b>	<ul style="list-style-type: none"> <li>- <b>Action plan on RES FBiH:</b> The share of renewable energy sources in 2020 in the electricity sector will be 44 percent, in the energy sector for heating and cooling 49 percent and in transport ten percent<sup>28</sup></li> <li>- <b>2020 RES target</b> was 40% but in 2019 it reached 37.6<sup>29</sup></li> <li>- <b>2030 target:</b> 56% share of renewables in gross final energy consumption<sup>30</sup></li> </ul>
<b>Renewable energy potential</b>	<ul style="list-style-type: none"> <li>- Significant renewable energy potential, particularly in <b>hydropower and wind power</b> capacity<sup>31</sup>, biomass, solar<sup>32</sup></li> <li>- Wind potential is estimated at more than 6.2 MW per square kilometer<sup>33</sup>; only 40% of hydro power potential used<sup>34</sup></li> <li>- <b>IRENA 2020 potential assessment:</b> solar PV 1363 MW and wind 1033 MW<sup>35</sup></li> <li>- <b>REmap 2030 scenario:</b> solar PV 1811 GWh and wind 2952 GWh<sup>36</sup></li> <li>- <b>Residential sector high potential for improvements</b> (highest energy consumption)</li> <li>- <b>238 plants</b> with a <b>total</b> installed capacity of <b>106.7 MW</b>, of which hydro leads with 84% of the installed capacity, followed by solar with 14%, biogas 0.9%, biomass 0.2%, wind 0.3%, and other plants with 0, 4%<sup>37</sup></li> </ul>
<b>Renewable energy support regime</b>	<ul style="list-style-type: none"> <li>- <b>Feed-in tariffs</b> (as of June 2022 no feed-in for small hydro power)</li> <li>- <b>Internal carbon pricing from Jan 2021</b> introduced by the State power utility<sup>38</sup> + special fund up to 10mil euros for RES investment; 95% of CO2 emissions taxed internally<sup>39</sup></li> <li>- "Bosnia and Herzegovina <b>has abolished the capacity limits for connecting wind farms and solar power plants to the grid</b> regarding frequency control. Initially, the limit was set at 460 MW for wind and 400 MW for solar."<sup>40</sup></li> <li>- The <b>state electricity transmission company (Elektroprijenos BiH)</b> manages the transmission infrastructure, and the <b>Independent System Operator (ISOBiH)</b> manages the operation of the system.</li> <li>- USAID &amp; GIZ Guidelines for investing in electricity sector BiH from 2018<sup>41</sup></li> <li>- Green for Growth Fund (GGF) loans through micro-finance and banks<sup>42,43</sup></li> </ul>

- Foreign private investors BUT this energy is mostly intended for EU market<sup>44</sup>
- Wind connections capped at 840 MW and solar 825 MW (NOSBIH)<sup>45</sup>, even lower earlier not to overburden the grid<sup>46</sup>
- RES Not systematically promoted, lack of political support

---

### Relevant laws, policies, and plans

*\*some are specific to the separate entities of BiH, The Federation of Bosnia and Herzegovina (FBiH) or Republika Srpska and*

Legal and political framework for citizen energy

- Law on Electricity in The Federation of Bosnia and Herzegovina
- Draft Law on the Use of Renewable Energy Sources and Efficient Cogeneration in FBiH
- Law on Energy of the Republic of Srpska
- Law on Electricity of Republic of Srpska
- Law on the Use of Renewable Energy Sources of Republic of Srpska
- Framework Energy Strategy until 2035 (FES)
- National energy and climate plan (NECP) – under development
- The Council of Ministers of BiH adopted strategic documents:<sup>47</sup>
  - a) National emission reduction plan of BiH, adopted in 2015 (Nacionalni plan smanjenja emisija za BiH)
  - b) Action plan for using renewable energy in BiH, adopted in 2016 (Akcioni plan za korištenje obnovljive energije u BiH)
  - c) Action plan for energy efficiency in BiH for period 2016-2018, adopted in 2017 (Akcioni plan za energetska efikasnost u BiH za period 2016-2018)
  - d) Energy framework strategy of BiH until 2035, adopted in 2018 (Okvirna energetska strategija BiH do 2035. godine)
- **Amendments to the Law on Electricity** 7/7/2022 bans the construction of small hydropower plants up to and including 10 MW capacity in **the FBiH**.<sup>48</sup>
- “The Government of the **Republic of Srpska** said it passed the **Draft Law on Amendments and Supplements to the Law on Energy** with the aim to align it with newer laws and the Energy Development Strategy, set the legal basis for the adoption of Srpska’s energy and climate plan and for defining its content.<sup>49</sup>
- With the amendments to its **Law on Renewable Energy Sources**, the **Republic of Srpska** scrapped incentives for small hydropower plants but has not yet banned their construction.<sup>50</sup>

---

### Regulatory framework for citizen energy

- “In BiH cooperatives have a long tradition, at the **state level of BiH**, there is a **General Law on Cooperatives**, which defines the cooperative as a form of organization of voluntarily affiliated members. The cooperative can be established as either general or specialized. At least five physical and / or legal persons can establish a cooperative in BiH.<sup>51</sup>
- **Cooperatives handbook developed by ENZA** (Energy Cooperatives in Bosnia and Herzegovina) in 2016, and financed by Heinrich Boell Stiftung<sup>52</sup>
- **Aarhus Convention ratified in 2008**; Aarhus centres/Eco hubs across country<sup>53</sup>
- The Government of the Federation of BiH has adopted the **draft law on the use of renewable energy sources and efficient cogeneration**<sup>54</sup>

---

### Evaluation of the legal framework

- Implementation and coming into force rather slow
- Institutional and legal hindrance
- Political capture and corruption

\*Energy Community provides an assessment of implementation performance and key energy sector data, including in the field of renewable energy and energy efficiency<sup>55</sup>.

Existing citizen energy projects and/or	<b>Citizen energy projects</b>	- crowdfunding campaign " <b>Solarna Pecka</b> " aiming to bring a clean and sustainable solar energy to Pecka village through a citizen's community direct engagement and financing model" <sup>56 57</sup>
		- <b>Energy Cooperatives in BiH</b> publication (Energetske zadruge u BiH – ENZA) <sup>58</sup>
Existing citizen energy projects and/or	<b>Research and capacity building activities</b>	- Regional education and information center (REIC) - Center for Environment protection Banja Luka (CZZS) - University of Tuzla, FBiH
	<b>NGOs</b>	- REIC <sup>59</sup> , Brave women of Kruščica <sup>60</sup> , The Center for Ecology and Energy Tuzla <sup>61</sup>
Relevant actors and stakeholders	<b>Governmental bodies</b>	
	<b>Local governments</b>	
	<b>Private actors</b>	<b>Heinrich Böll Foundation</b> work on RES (consulting, financing, networking, capacity-building and awareness raising) <sup>62</sup>
	<b>International/supra-national actors</b>	Friends of the Earth International <sup>63</sup> Energy cities, REIC, ZEZ <sup>64</sup> <b>Foreign investors</b> that get concessions for RES. <sup>65</sup>
	<b>Academia</b>	University of Tuzla University of Sarajevo
	<b>Others</b>	Association 'Dinarica' WWF Adria; Association 'Eco center Čajniče'; <b>Association of citizens 'Korjeni' Ugljevik</b> ; 'Greenways' Organization to support Sustainable Development; Citizen association "Nešto više; Geopa; Center for Environment (CZZS); Center for Ecology and Energy; Centre for Economic and Rural Development (CERD); „EcoTOUR" Stolac; Association for development, environment and culture EKO ZH); <b>Ecological association "Hrabre žene Kruščice" (Brave women of Kruščica)</b> ; Association Centre for Development and Support Tuzla

## Summarizing evaluation

<b>Fields of Action</b>	Measures or projects, which would be a good fit to further advance the topic of citizen energy (CE) (can be policy-related, regarding the legal framework, concrete pilot projects, information, awareness raising, feasibility studies, capacity building, networking, etc.).
	<ul style="list-style-type: none"> <li>- Implement a campaign for legal and policy changes <ul style="list-style-type: none"> <li>o Greater <b>scrutiny on government decisions</b> needs to be exerted by BiH's parliaments. Support and guidance can be provided by independent experts where parliamentarians lack expertise."<sup>66</sup></li> </ul> </li> <li>- <b>Increase public dialogue on the energy transition</b> to increase public understanding of, and involvement in, the process<sup>65</sup></li> <li>- Develop and implement <b>educational programs</b>: increase CE awareness and know-how, communicate national and international success stories, inspiring bottom-up action (why RES are necessary, how local actors can benefit);</li> </ul>

- Support capacity building of actors interested or/and already involved in the CE projects
  - o Identify or develop national expertise
  - o Explain administrative and legal procedures
- Provide a networking hub – connect organizations/people expressing interest
- **Donor support** and external/supranational partners are **very much needed**
- Promote intergenerational respect, participation and inclusion (youth, women, minorities)

Authors of the country profile: Srgjan Vidoeski, Melina Kalem, Tamara Mitrofanenko, Gesa Geißler.

<sup>1</sup> [http://www.wecf.org/wp-content/uploads/2018/06/EnergyCoops\\_LongOnline.pdf](http://www.wecf.org/wp-content/uploads/2018/06/EnergyCoops_LongOnline.pdf)

<sup>2</sup> <https://data.worldbank.org/indicator/SP.POP.TOTL?view=chart>

<sup>3</sup> <https://data.worldbank.org/indicator/AG.LND.TOTL.K2?view=chart>

<sup>4</sup> <https://data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS?view=chart>

<sup>5</sup> <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?view=chart>

<sup>6</sup> [https://webgate.ec.europa.eu/isdb\\_results/factsheets/country/overview\\_bosnia-herzegovina\\_en.pdf](https://webgate.ec.europa.eu/isdb_results/factsheets/country/overview_bosnia-herzegovina_en.pdf)

<sup>7</sup> <https://tradingeconomics.com/bosnia-and-herzegovina/wages>

<sup>8</sup> <https://datatopics.worldbank.org/world-development-indicators/the-world-by-income-and-region.html>

<sup>9</sup> <https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS>

<sup>10</sup> <http://library.fes.de/pdf-files/bueros/sarajevo/18313.pdf>

<sup>11</sup> <https://www.iea.org/countries/bosnia-and-herzegovina>

<sup>12</sup> <https://bankwatch.org/beyond-fossil-fuels/the-energy-sector-in-bosnia-and-herzegovina>

<sup>13</sup> <https://www.fmoit.gov.ba/upload/file/2020/Eday/Federalna%20strategija%20za%20C5%A1tite%20okoli%20C5%A1a%202022-2032.pdf>

<sup>14</sup> <https://bankwatch.org/beyond-fossil-fuels/the-energy-sector-in-bosnia-and-herzegovina>

<sup>15</sup> <https://www.irena.org/>

[/media/Files/IRENA/Agency/Statistics/Statistical\\_Profiles/Europe/Bosnia%20and%20Herzegovina\\_Europe\\_RE\\_SP.pdf](/media/Files/IRENA/Agency/Statistics/Statistical_Profiles/Europe/Bosnia%20and%20Herzegovina_Europe_RE_SP.pdf)

<sup>16</sup> <http://library.fes.de/pdf-files/bueros/sarajevo/18313.pdf>

<sup>17</sup> <https://janaf.hr/janaf-system/janaf-oil-pipeline-and-storage-system>

<sup>18</sup> Energy Community Secretariat, Annual Implementation Report 2020 – Energy Community, November 2020;

[https://www.energy-community.org/dam/jcr:0af3b17a-3759-4a23-a2ef-3134784e217c/EnC\\_IR2020.pdf](https://www.energy-community.org/dam/jcr:0af3b17a-3759-4a23-a2ef-3134784e217c/EnC_IR2020.pdf)

<sup>19</sup> [http://www.wecf.org/wp-content/uploads/2018/06/EnergyCoops\\_LongOnline.pdf](http://www.wecf.org/wp-content/uploads/2018/06/EnergyCoops_LongOnline.pdf)

<sup>20</sup> [https://osfbih.org.ba/images/Progs/00-16/PDFP/pdfp\\_08/milena\\_kozomara\\_final\\_policy\\_study\\_bh.pdf](https://osfbih.org.ba/images/Progs/00-16/PDFP/pdfp_08/milena_kozomara_final_policy_study_bh.pdf)

<sup>21</sup> PDF (Bosnian language)

<sup>22</sup> <http://library.fes.de/pdf-files/bueros/sarajevo/18313.pdf>;

[https://climateknowledgeportal.worldbank.org/sites/default/files/2021-07/15914-WB\\_Bosnia%20Country%20Profile-WEB%20%281%29.pdf](https://climateknowledgeportal.worldbank.org/sites/default/files/2021-07/15914-WB_Bosnia%20Country%20Profile-WEB%20%281%29.pdf)

<sup>23</sup> <https://climatepromise.undp.org/what-we-do/where-we-work/bosnia-and-herzegovina>

[https://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mgr/Documents/NDC%20BiH%20\\_170460761.pdf](https://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mgr/Documents/NDC%20BiH%20_170460761.pdf)

<sup>24</sup> [https://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mgr/Documents/NDC%20BiH%20\\_170460761.pdf](https://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mgr/Documents/NDC%20BiH%20_170460761.pdf)

<sup>25</sup> <http://library.fes.de/pdf-files/bueros/sarajevo/18313.pdf>

<sup>26</sup> [https://unfccc.int/sites/default/files/resource/BOSNIA\\_AND\\_HERZEGOVINA\\_cop26cmp16cma3\\_HLS\\_EN.pdf](https://unfccc.int/sites/default/files/resource/BOSNIA_AND_HERZEGOVINA_cop26cmp16cma3_HLS_EN.pdf)

<sup>27</sup> <https://balkangreenenergynews.com/sarajevo-selected-for-eus-100-climate-neutral-and-smart-cities-program/>

<sup>28</sup> <https://www.paragraf.ba/dnevne-vijesti/09112018/09112018-vijest1.html>

<sup>29</sup> <https://bankwatch.org/beyond-fossil-fuels/the-energy-sector-in-bosnia-and-herzegovina>

<sup>30</sup> <https://www.irena.org/publications/2020/Oct/Renewable-Energy-Prospects-for-Central-and-South-Eastern-Europe-Energy-Connectivity-CESEC>

<sup>31</sup> <https://www.trade.gov/country-commercial-guides/bosnia-and-herzegovina-energy>

<sup>32</sup> <https://library.fes.de/pdf-files/bueros/sarajevo/18313.pdf>

<sup>33</sup> <https://www.sussex.ac.uk/broadcast/read/49312>

- 
- <sup>34</sup> <https://balkangreenenergynews.com/rs/obnovljivi-izvori-energije-u-bih-pitanje-neodrzivosti/>
- <sup>35</sup> <https://www.irena.org/publications/2020/Oct/Renewable-Energy-Prospects-for-Central-and-South-Eastern-Europe-Energy-Connectivity-CESEC>
- <sup>36</sup> <https://bankwatch.org/beyond-fossil-fuels/the-energy-sector-in-bosnia-and-herzegovina>
- <sup>37</sup> <https://balkangreenenergynews.com/rs/obnovljivi-izvori-energije-u-bih-pitanje-neodrzivosti/>
- <sup>38</sup> <https://balkangreenenergynews.com/which-western-balkan-countries-intend-to-introduce-carbon-tax/>
- <sup>39</sup> <https://balkangreenenergynews.com/which-western-balkan-countries-intend-to-introduce-carbon-tax/>
- <sup>40</sup> <https://balkangreenenergynews.com/bih-abolishes-grid-connection-limit-for-renewables/>
- <sup>41</sup> <https://fmeri.gov.ba/media/1456/guidelines-for-investors.pdf>
- <sup>42</sup> <https://balkangreenenergynews.com/ggf-provides-loan-boost-energy-efficiency-bosnia-herzegovina/>
- <sup>43</sup> <https://balkangreenenergynews.com/ggf-mf-banka-boost-green-finance-for-smes-in-bih/>
- <sup>44</sup> <https://balkangreenenergynews.com/citizen-energy-the-cornerstone-of-a-sustainable-and-efficient-energy-transition/>
- <sup>45</sup> <https://www.nosbih.ba/en/>
- <sup>46</sup> <http://library.fes.de/pdf-files/bueros/sarajevo/18313.pdf>
- <sup>47</sup> <https://cms.law/en/int/expert-guides/cms-expert-guide-to-renewable-energy/bosnia-and-herzegovina>
- <sup>48</sup> <https://balkaninsight.com/2022/07/07/bosnia-greens-celebrate-as-federation-bans-small-hydropower-plants/>
- <sup>49</sup> <https://balkangreenenergynews.com/republic-of-srpska-drafts-amendments-to-law-on-energy/>
- <sup>50</sup> <https://balkangreenenergynews.com/no-more-permits-for-small-hydropower-plants-in-federation-of-bih/>
- <sup>51</sup> <https://www.wecf.org/wp-content/uploads/2018/06/EnergyCooperativesONLINEshortversionKopieren.pdf>
- <sup>52</sup> <https://balkangreenenergynews.com/energy-cooperatives-innovative-business-modelfor-energy-turn-bosnia-herzegovina/>
- <sup>53</sup> <https://aarhus.osce.org/bosnia-herzegovina>
- <sup>54</sup> <https://balkangreenenergynews.com/whats-new-in-federation-of-bihs-draft-law-on-renewables/>
- <sup>55</sup> [https://www.energy-community.org/implementation/report/Bosnia\\_Herzegovina.html](https://www.energy-community.org/implementation/report/Bosnia_Herzegovina.html)
- <sup>56</sup> <https://www.sciencedirect.com/science/article/pii/S2214629619308862>
- <sup>57</sup> <https://www.indiegogo.com/projects/solarna-pecka#/>
- <sup>58</sup> <https://balkangreenenergynews.com/energy-cooperatives-innovative-business-modelfor-energy-turn-bosnia-herzegovina/>
- <sup>59</sup> <https://www.reic.org.ba/>
- <sup>60</sup> <https://balkangreenenergynews.com/blue-heart-of-europe-hydropower-is-destroying-environment-for-hardly-any-energy/>
- <sup>61</sup> <https://www.devex.com/organizations/center-for-ecology-and-energy-centar-za-ekologiju-i-energiju-cee-118502>
- <sup>62</sup> <https://ba.boell.org/en>
- <sup>63</sup> <https://www.foei.org/member-groups/bosnia-and-herzegovina/>
- <sup>64</sup> <https://energy-cities.eu/hubs/>
- <sup>65</sup> <https://balkangreenenergynews.com/bosnia-and-herzegovina-plans-four-more-large-scale-solar-power-plants/>
- <sup>66</sup> <https://library.fes.de/pdf-files/bueros/sarajevo/18313.pdf>