

	State	Bulgaria
General information	<b>Status EU membership</b>	Member state since 1 January 2007 <sup>1</sup> Participant of Energy Community since 1 January 2007 <sup>2</sup>
	<b>Population</b>	6,519,789 (2021) <sup>3</sup>
	<b>Land area (km<sup>2</sup>)</b>	110, 993.6 km <sup>2</sup> <sup>4</sup>
	<b>Urban population (%)</b>	73.3 % (2021) <sup>5</sup>
	<b>GDP (current US\$ billion)</b>	69.11 (2020) <sup>6</sup>
Socio-economic situation	<b>GDP per capita (EURO)</b>	8,840 (2020) <sup>7</sup>
	<b>Annual net earnings (Single person without children earning 100% of average earning (EURO))<sup>8</sup></b>	6,385.89 (2020) <sup>9</sup>
	<b>Median hourly earnings (EURO)</b>	Males: 2.44 (2018) Females: 2.38 (2018) <sup>10</sup>
	<b>World Bank economic classification (2021)</b>	Upper-middle-income country <sup>11</sup>
	<b>Unemployment (% of total labor force)</b>	5.7 % (2020) <sup>12</sup>
Energy situation in general	<b>Current energy sources</b>	<ul style="list-style-type: none"> <li>- Electricity generation in 2020 consisted of<sup>13</sup>:               <ul style="list-style-type: none"> <li>○ Non-renewable 33 289 GWh (82%)</li> <li>○ Renewable 7 478 GWh (18%)</li> <li>○ Hydro and marine 2 820 GWh (7%)</li> <li>○ Solar 1 481 GWh (4%)</li> <li>○ Wind 1 477 GWh (4%)</li> <li>○ Bioenergy 1 699 GWh (4%)</li> </ul> </li> <li>- The gross electricity generation in 2021 was 47.6 TWh, 16.7% more than the electricity generated in 2020. There was an increase in the generation of energy by thermal power plants (+36.7%), renewable energy sources (+28.9%), factory power plants (+8.7%) and heat production or supply power plants (+5.7%). There was a decrease in gross electricity generation by the NPP units (-0.8%) and pumped storage hydropower plants (-0.5%) in 2021 compared to 2020.</li> <li>- The structure of electricity generation is dominated by thermal power plants using coal, followed by the Kozloduy NPP. Major sources for the electricity generation are local coal and nuclear fuel.<sup>14</sup></li> <li>- Bulgaria currently has the lowest household electricity prices in the EU, with households paying approximately EUR 0,10/kWh. However, prices have increased by 17% between 2009 and 2019, and it is expected that retail prices for households will continue to rise in the years ahead<sup>15</sup></li> <li>- Bulgaria suffers from high amounts of energy poverty: approximately 40% of households in Bulgaria struggle to pay their energy (electricity/heating) bills;<sup>16</sup> natural gas prices in the country have continuously grown<sup>17</sup></li> </ul>

<b>Climate protection targets</b>	<ul style="list-style-type: none"> <li>- Strategic Vision for the Development of the Power Sector in Bulgaria over the 2023-2053 was approved in January 2023. It envisages continued operation of coal-fired power plants until 2030, as well as developments in the field of nuclear energy, photovoltaic and wind energy, the use of geothermal energy for local heating systems and batteries for storage of electricity<sup>18,19</sup>.</li> <li>- Bulgaria's government might need to renegotiate the National Recovery and Resilience Plan (NRRP)<sup>20</sup>, which includes "tripling power generation from renewables by 2026, cutting greenhouse gas emissions of the power sector by 40% by 2025 and setting out a framework for a coal phaseout"<sup>21</sup>.</li> <li>- Bulgaria's 2030 target for greenhouse gas (GHG) emissions not covered by the EU Emissions Trading System (non-ETS) is -0% compared to 2005<sup>22</sup></li> <li>- Bulgaria proposes a share of 25% of energy from renewable sources in gross final consumption of energy in 2030 as contribution to the EU renewable energy target for 2030<sup>23</sup></li> <li>- Priorities of the Environmental Ministry include: Reducing the adverse impacts of climate change on human health, ecosystems and the national economy; Establishing a comprehensive, systematic and integrated strategic framework for the development and implementation of environmental policy for the period up to 2030.<sup>24</sup></li> </ul>
<b>Renewable energy targets</b>	<p>The consumption of energy from renewable sources has increased significantly in the last years, reaching in 2018 a share of 20.53% in the energy consumption in the country, exceeding the mandatory national target for renewable energy in the National Action Plan - 16% by 2020.<sup>25</sup></p> <p>The NCEP sets a target for the share of renewable energy in the electricity sector at 30% by 2030 - a 7% increase from the current level. The latest plan indicates a target of roughly 2.000MW of new solar PV by 2030<sup>26</sup></p>
<b>Renewable energy potential</b>	<ul style="list-style-type: none"> <li>- "In the period 2020-2030, gross electricity generation from RES will increase by more than 33%, due to a threefold increase in electricity generated by PV plants and a 41% increase in generation from wind power. An increase of 46% is also expected in biomass-fired power generation, where the use of biodegradable waste should increase from 14 GWh in 2020 to 115 GWh in 2030."<sup>27</sup></li> <li>- The potential for solar energy is very high, mainly due to the favourable conditions of location, high efficiency, lower costs, and availability of various technical solutions. This makes the technology very attractive for small investors, both individuals and energy communities.<sup>28</sup></li> <li>- Wind energy potential of Bulgaria is not great. It is estimated that an area of about 1,400 km<sup>2</sup> has an average annual wind speed of over 6.5 m/s, which is a threshold for the economic feasibility of a wind energy project. Thus, only some areas in the mountainous areas and the northern coast are appropriate for this purpose.<sup>29</sup></li> <li>- In the period 2017 - 2018 installed capacity for the production of electricity from biomass (transition of existing power plants to conventional biomass fuels) increased almost 4 times, it reached 195 MW in 2018.<sup>30</sup></li> <li>- Bulgaria has low-potential geothermal deposits. Over 840 studied localities with temperatures up to 103°C are located in about 140</li> </ul>

sites. A total of 136 hot mineral springs with different flow and temperature are registered.<sup>31</sup>

### Renewable energy support regime

**Bulgarian Energy Efficiency Fund** - relevant for the heating and cooling sector, financial grants for improvements of energy efficiency<sup>32</sup>

**National recovery and resilience plan (NRRP)**<sup>33</sup> with various support schemes:

- National Decarbonisation Fund
- Energy Financing Mechanism
- Grant for RES construction

### Modernisation Fund

**Cohesion policy** with so called Operative programs (2021-2027)<sup>34</sup>

**Just Transition Mechanism; Just Transition Fund; InvestEU**

**Connecting Europe Facility; LIFE; The Innovation Fund; Horizon 2020 and Horizon Europe**<sup>35</sup>

- All producers of energy from renewable sources with an installed capacity of more than 1MW are supported by premiums;
- Preferential prices are offered for new PV projects at an installed capacity of up to 30 KW;
- Producers must conclude agreements with the Electricity System Security Fund (EUSF);<sup>36</sup>
- A Bulgarian household needs about 20–25 weeks and 170 h to install a single RE system, followed by an equally complex operation of the facility and trading with the final supplier, which in many cases is part of the same company, which owns the network operator<sup>37</sup>
- With the latest legislative changes from June 2022 the administrative burdens for RES installation are eased. The Parliament amended the procedures for the construction of small photovoltaic plants and solar hot water collectors in residential buildings for own use. This will be done without a building permit for installations up to 20 kW.<sup>38</sup>

### Legal and political framework for citizen energy

#### Relevant laws, policies, and plans

- Bulgarian National Climate and Energy Plan (NCEP):
- Integrated National Plan "Energy and Climate" (INPEC) - offers the most detailed information regarding policies and measures to support the establishment and functioning of energy communities, which will be implemented in the period up to 2030.
  - o The role of energy communities in the development of the internal energy market is set out in the general framework of the plan, which provides for "stimulating the creation of energy communities for the production and consumption of renewable energy and stimulating a more active role of consumers" (p. 19).<sup>39</sup>
  - o While INPEC provides support for citizen energy communities, no measurable targets or specific measures are foreseen<sup>40</sup>
- Strategy for Sustainable Energy Development of the Republic of Bulgaria until 2030 with a horizon until 2050
  - o Follows the logic on INPEC but lesser references to energy communities. The energy market in Bulgaria is still not fully liberalized<sup>41</sup>

## Legal and political framework for citizen energy

**Regulatory framework for citizen energy**

- **The European Renewable Energy Directive (REDII)** has yet to be transposed, and Bulgaria should do so by 30 June 2021<sup>42</sup>
- The ***National Programme for Energy Efficiency of Multifamily Residential Building*** is aimed at renovating multifamily residential buildings through implementation of energy efficiency measures through establishing of homeowners' associations acting as energy communities."<sup>43</sup>
- Amendments to the **Spatial Development Act in 2019** removed the requirement for solar PV systems with a total installed capacity of up to 1 MW mounted on rooftops and façades to have an approved investment plan in order to obtain a building permit for the installation.
  - o Systems up to 1MW that are not connected to grid do not require formal commissioning, which enables them to avoid some administrative hurdles and delays.
  - o Producers with installations that are connected to the grid after 2021 and do not receive feed-in tariffs are no longer be required to pay a 5% levy on their revenues that was introduced on FIT projects in 2015 as a measure to fund the Energy System Security Fund.<sup>44</sup>

**Evaluation of the legal framework**

- The current legislation lacks provisions on the establishment and functioning of energy communities. Administrative barriers remain high; the political will is lacking.
- A number of strategic documents, including INPEC, encourage the entry of energy communities and their active participation in the energy market by prescribing legislative measures."<sup>45</sup>

\*An updated assessment is available in the REScoop Transposition Tracker.<sup>46</sup>

- The main problems include: the lack of legal framework targeting local communities and their projects, unfavourable and unstable legal and administrative framework<sup>47</sup>, the low level of awareness across citizens about the energy cooperatives, the lack of a politically agreed model for energy efficiency projects is an obstacle for the development of a new innovative instrument combining grants and market-oriented financing.<sup>48</sup>
- Energy communities are not well known in Bulgaria.<sup>49</sup> The socialist regime has also left a mark in Eastern Europeans' understanding of the terms "community energy" and "cooperative", as they are often associated with the word "communism".<sup>50</sup> Especially among the poorer sections of the population, suspicions of "another fraud" are expected.<sup>51</sup>
- Other barriers for the development of RECs in Bulgaria include: a **shortage of engineers** (due to demotivation caused by low-paid engineering jobs) and a **lack of sufficient knowledge and expertise among architects and technicians** "on every level"<sup>52</sup>

## Existing citizen energy projects and/or research initiatives

**Citizen energy projects**

- **An apartment complex in Sofia's "Hristo Smirnenski" district**  
"One example that is similar to an energy community is a 117-unit apartment complex in the "Hristo Smirnenski" district of the capital Sofia, the owners of which have pooled their resources to install a 28kW rooftop PV installation on their building. Organized via the property owners' association (a legal entity required by law for every condominium building in the country), it took the entity 3 years (from 2010 to 2013) to successfully complete the project.26 The community-owned PV installation brings a regular monthly income to the entity which is used to pay common bills and building expenses. All of the electricity produced is sold back to the grid under the country's feedin tariff policy."<sup>53</sup>
- **Burgas Municipality** - a pioneer among municipalities<sup>54</sup>

In 2019, the municipality building renovation included the installation of a 30 kWp rooftop solar PV system configured for self-consumption, as part of an EU co-funded energy efficiency project. 65% of the cost (BGN 2.28 million /EUR 1.16 million) came from EU's Regional Development Fund (ERDF), and the remaining 35 - rom the municipality's own budget.

In addition, five kindergartens across the city were equipped with rooftop solar PV installations entirely for self-consumption. Residential buildings have also benefited from municipality-led projects promoting energy efficiency that includes renewables.

**A significant obstacle** is that the installation of any rooftop system requires the **consent of all apartment owners**.<sup>55,56</sup>

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- **Straldzha Municipality** taking advantage of geothermal energy  
 "In 2016, the Municipality started a project "Utilization of the local potential of geothermal energy in heating installations for schools and kindergartens in the town of Straldzha".<sup>1</sup> The grant financing is 772 109,23 BGN (€394 773.18). The project is funded by the BG04 Energy Efficiency and Renewable Energy Program as part of the Financial Mechanism of the European Economic Area (EEAFM). The project was completed in 2016.  
 Additionally, in 2018 the municipality installed a system of streetlights that runs entirely on renewable energy. Currently, the municipality continues to work on building on and expanding its portfolio of renewable energy projects. Municipalities like Straldzha could provide a template that other municipalities in the country could follow."<sup>57</sup>
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- Currently no known RECs exist in Bulgaria, based on their description in Art. 22 of the RED II<sup>58,59</sup>
  - At the moment, the homeowners' associations are acting as energy communities with the goal to achieve substantial energy savings through participation in renovation programmes. There are few examples of motivated property owners who have established owner partnerships in private multifamily buildings and have implemented solar heating and electricity generating measures.<sup>60</sup>
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- Some public-private partnerships (PPP) between municipalities and energy suppliers ("EVN Bulgaria", "CEZ", "ENERGO-PRO") exist, e.g: one of the public kindergartens ("Valentina Tereshkova") in the city of Pazardzhik where "EVN Bulgaria" installed a photovoltaic power plant, for production of electricity for own needs and generation of excess energy in the network with installed capacity: 29.76 kW and is worth BGN 44,777. It consists of 96 photovoltaic modules installed on the roof of the building. The estimated amount of electricity produced is 37,05 MWh per year."<sup>61</sup>;
  - "Energopro", an energy supplier, invested in the renovation of the street lighting of Dobrich municipality on one of the main boulevards in the city, and the whole street lighting system in Opaka municipality.<sup>62</sup>
  - The Municipality of Bansko build a biomass utility company in 2006 as a public-private partnership. All municipal buildings are heated by the biomass thermal plant; In 2020 the Municipality of
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	<p>Bansko acquires full ownership of the utility company with installed capacity of 10 MW.<sup>63</sup></p> <hr/> <p>IZGREI<sup>64</sup></p> <ul style="list-style-type: none"> <li>- REScoop member, the website indicates that it is the first energy community in Bulgaria</li> </ul>
<b>Research and capacity building activities</b>	<p>Two webinars in 2021 conducted by the Center for the Study of Democracy:</p> <ul style="list-style-type: none"> <li>- June 2021: Innovative Financial Schemes for Supporting Citizen-Driven Decentralised RES Projects in Europe – presenting experiences from the H2020 project SCORE<sup>65</sup></li> <li>- November 2021: The Challenges in Financing Energy Communities in Bulgaria in the Low Carbon Economy Transition<sup>66</sup></li> </ul> <hr/> <p>Solutions to Tackle Energy Poverty (STEP)<sup>67</sup></p> <ul style="list-style-type: none"> <li>- Horizon2020 funding</li> <li>- is a project to develop a simple, innovative and replicable model of measures to address energy poverty</li> <li>- disseminate best practices and policy choices that can alleviate energy poverty and promote their replication in other EU countries</li> </ul> <hr/> <p>SCORE project - Center for the Study of Democracy part of the consortium</p> <hr/> <p>COALESCCE - Community owned and led energy for security climate change and employment, Interreg project<sup>68</sup></p> <ul style="list-style-type: none"> <li>- To <b>increase the capacity for community-based approaches</b> to local renewable energy provision across Europe in order to reduce carbon emissions, increase energy security and <b>tackle energy poverty</b> whilst driving 'Green Growth'.</li> <li>- 2017-2021, Final conference in 06/2021</li> <li>- Bulgarian part: Operational programme "Regions in Growth" (2014-2020)</li> <li>- Bulgarian partner: EPF Euro Perspectives Foundation</li> </ul> <hr/> <p>EUKI-project: CONGREGATE – Gebäudesanierung und Energiegenossenschaften<sup>69</sup></p> <ul style="list-style-type: none"> <li>- Promotion of cooperatives for building renovation and renewable energies in Southern and Eastern Europe through targeted public relations work and awareness raising.</li> <li>- Countries: Bulgaria, Croatia, Czech Republic, Greece, Romania</li> <li>- 10/20-03/23</li> <li>- Lead: Stiftung Zentrum für Energie-Effizienz EnEffect, Bulgaria</li> <li>- Partner: Center for the Study of Democracy</li> <li>- An information campaign will be designed for the national building renovation strategies in Bulgaria, Croatia and Romania.</li> </ul> <p>The project promotes the establishment of public-private renewable energy cooperatives in Bulgaria, Greece and the Czech Republic. Three case studies are conducted per country and feasibility studies are supported in the participating municipalities.</p>
<b>Relevant actors and stakehold</b>	<p><b>NGOs</b></p> <p><b>Greenpeace Bulgaria</b></p> <ul style="list-style-type: none"> <li>- In 2020, Greenpeace Bulgaria published the first legal analysis of RECs and the possibilities for their development in Bulgaria.<sup>70</sup></li> </ul> <hr/> <p><b>EPF Euro Perspectives Foundation<sup>71</sup></b></p>

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- Part of the COALESCCE Project - Community owned and led energy for security climate change and employment, Interreg project.<sup>72</sup>

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#### **Center for the Study of Democracy**<sup>73</sup>

- Involved in EUKI project CONGREGATE
- organized a round table discussing the challenges in financing energy communities in Bulgaria in the just transition<sup>74</sup> in 11/2021
- “The online event gathered participants from across Bulgaria and from different types of institutions, including representatives of local authorities such as the **Mayor of Gabrovo city**, Energy Security expert in the **municipality of Dobrich**, and a chief expert in the International Cooperation and Integrated Territorial Investments Unit in the **municipality of Burgas**. The financial institutions were represented by the **Bulgarian Development Bank** by the head of Strategic Analysis and Development, the director of the **Fund of Funds** unit for Project Information and Funding, as well as senior expert in **Fond FLAG** unit for Finances.”
- Recording of the conference available (in Bulgarian)<sup>75</sup>
- **European Climate Foundation**<sup>76</sup> co-author of report “Scaling up Energy Communities in Bulgaria”, 2021

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#### **Stiftung Zentrum für Energie-Effizienz EnEffect, Bulgaria**

##### **E3 Analytics (Berlin)**

- report “Scaling up Energy Communities in Bulgaria”, 2021

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#### **BNAAC – Bulgarian National Consumer Association**<sup>77 78</sup>

- Independent NGO which protects Bulgarian consumer interests
- Partner in STEP project

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#### **APSTE**<sup>79</sup>

**Public Environmental Center for Sustainable Development, Varna:**  
<https://ecovarna.info/en/>

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**Center for Energy Solutions:** <https://cer.bg/en/>

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#### **European Council on Foreign Relations, Office Sofia**

- International think-tank conducting research on EU policies
- Decarbonization of the Bulgarian business, project funded by the European Climate Foundation (2022)

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#### **Governmental bodies**

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##### **Ministry of Energy**<sup>80</sup>

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##### **Ministry of Environment and Water**<sup>81</sup>

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##### **Ministry of Regional Development and Public Works**<sup>82</sup>

**Advisory Council on the European Green Deal** (to the Bulgarian Government) with 8 committees:

1. Energy Transition Committee;
2. Sustainable Mobility Committee;
3. Energy Efficiency and Tackling Energy Poverty Committee;
4. Committee on Taxonomy and Sustainable Finance;
5. Committee on Development and Implementation of Innovation and Circular and Eco-Based Economy;
6. Committee on Adaptation to Climate Change, Conservation and Restoration of Biodiversity and Integration of Nature-based Solutions;
7. Committee on publicity and communication of green transition, decarbonisation, Green Deal and climate change messages;
8. A committee to present and discuss national negotiating positions on the EC's 'Ready for Goal 55' legislative package.<sup>83</sup>

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Mayor of Gabrovo city

<b>Local governments</b>	Energy Security expert in the municipality of Dobrich
	Chief expert in the International Cooperation and Integrated Territorial Investments Unit in the municipality of Burgas
	<b>Municipality of Bansko</b>
	<b>Municipality of Koprivishtitsa</b>
<b>Private actors</b>	<b>Local businesses in Bansko and Koprivishtitsa</b>
<b>International/ supra-national actors</b>	ECFR (see above)
<b>Academia</b>	<b>Bulgarian Academy of Sciences</b> with the various Institutes. A meeting with the President of the Academy was held on 23.01.2023 to present the perspectives of energy communities in Bulgaria.
<b>Others</b>	

### Summarizing evaluation

<b>Fields of Action</b>	<ul style="list-style-type: none"> <li>- Setting up a coalition in favor of the promotion of the energy communities</li> <li>- <b>Information</b>, Education and awareness-raiding measures need include: <ul style="list-style-type: none"> <li>- raising the awareness across citizens and communities about the possibilities of the energy cooperatives</li> <li>- improving the knowledge about the business models of the EC</li> <li>- exchange knowledge/expertise among technicians / engineers / architects</li> <li>- facilitating stronger attention to citizen energy among policymakers or stakeholders.</li> <li>- trust building activities and soft skills measures</li> <li>- Professionalising start-up cooperatives<sup>84</sup></li> <li>- Easy to access information about open calls;</li> </ul> </li> <li>- There is a need for newer study of the geothermal potential</li> <li>- There is a need to evaluate the framework for grid access and propose amendments in favor of accelerating the process</li> </ul> <p>Based on barriers identified by Couture et al. 2021<sup>85</sup>:</p> <ul style="list-style-type: none"> <li>- The many administrative barriers to energy communities need to be removed, and <b>a policy and regulatory environment that will enable municipalities and local citizens to participate in the energy transition</b> should be created</li> <li>- Long-term efforts and support and a clear policy framework to drive change are needed</li> <li>- <b>Net Metering, or Virtual Net Metering</b> policy is needed</li> <li>- <b>Access to affordable financing</b> to small scale distributed PV/RES and community energy projects in Bulgaria should be improved.</li> <li>- A clear legal definition and specific legal provisions regarding energy communities both at national and municipal levels in Bulgaria are needed. This lack of regulation, rules governing tax rates, and systematic approach discourages potential investors. Owners of renewable energy installations are subject to numerous taxes, fees, and administrative charges</li> <li>- <b>Establishing a series of “solar gardens” nationwide</b> in partnership with municipalities, on municipally-owned land</li> <li>- <b>A more tailored method of creating awareness about the benefits of community energy should be developed and implemented</b> on both the EU level and national levels;</li> </ul>
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- <sup>1</sup> [https://european-union.europa.eu/principles-countries-history/country-profiles/bulgaria\\_en](https://european-union.europa.eu/principles-countries-history/country-profiles/bulgaria_en)
- <sup>2</sup> <https://www.energy-community.org/aboutus/whoweare.html>
- <sup>3</sup> [https://www.nsi.bg/sites/default/files/files/pressreleases/Census2021\\_population.pdf](https://www.nsi.bg/sites/default/files/files/pressreleases/Census2021_population.pdf)
- <sup>4</sup> Penin, Rumen (2007). Природна география на България [Natural Geography of Bulgaria] (in Bulgarian). Bulvest 2000. p. 18. ISBN 978-954-18-0546-6.
- <sup>5</sup> [https://www.nsi.bg/sites/default/files/files/pressreleases/Census2021\\_population.pdf](https://www.nsi.bg/sites/default/files/files/pressreleases/Census2021_population.pdf)
- <sup>6</sup> <https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?view=chart>
- <sup>7</sup> [https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nama\\_10\\_pc&lang=en](https://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=nama_10_pc&lang=en)
- <sup>8</sup> Bulgaria has the lowest gross disposable income of households in the EU, the smallest average and minimum wages, the highest income inequality rates, the lowest Human Development Index and Social Progress Index figures and the largest percentage of people living below the poverty line.  
Source: Spasova, Deyana; Braungardt, Sibylle (2021): Building a Common Support Framework in Differing Realities—Conditions for Renewable Energy Communities in Germany and Bulgaria. In: *Energies* 14 (15), S. 4693. DOI: 10.3390/en14154693. (Spasova et al. 2021)
- <sup>9</sup> [https://ec.europa.eu/eurostat/databrowser/view/earn\\_nt\\_net/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/earn_nt_net/default/table?lang=en)
- <sup>10</sup> [https://ec.europa.eu/eurostat/databrowser/view/earn\\_ses\\_pub2s/default/table?lang=en](https://ec.europa.eu/eurostat/databrowser/view/earn_ses_pub2s/default/table?lang=en)
- <sup>11</sup> <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519-world-bank-country-and-lending-groups>
- <sup>12</sup> <https://data.worldbank.org/indicator/SL.UEM.TOTL.ZS>
- <sup>13</sup> [https://www.irena.org/-/media/Files/IRENA/Agency/Statistics/Statistical\\_Profiles/Europe/Bulgaria\\_Europe\\_RE\\_SP.pdf](https://www.irena.org/-/media/Files/IRENA/Agency/Statistics/Statistical_Profiles/Europe/Bulgaria_Europe_RE_SP.pdf)
- <sup>14</sup> <https://cnpp.iaea.org/countryprofiles/Bulgaria/Bulgaria.htm>
- <sup>15</sup> Couture, Toby D.; Stoyanova, Teodora; Pavlov, Toma (2021): Scaling-up Energy Communities in Bulgaria. Hg. v. E3 Analytics. Berlin. Online verfügbar unter [https://www.e3analytics.eu/wp-content/uploads/2021/06/E3A\\_Bulgaria\\_Analysis\\_of\\_Energy\\_Communities\\_EN\\_FINAL.pdf](https://www.e3analytics.eu/wp-content/uploads/2021/06/E3A_Bulgaria_Analysis_of_Energy_Communities_EN_FINAL.pdf), zuletzt geprüft am 19.01.2021. (Couture et al. 2021.)
- <sup>16</sup> Ibid.
- <sup>17</sup> Spasova, Deyana; Braungardt, Sibylle (2021): Building a Common Support Framework in Differing Realities—Conditions for Renewable Energy Communities in Germany and Bulgaria. In: *Energies* 14 (15), S. 4693. DOI: 10.3390/en14154693.
- <sup>18</sup> <https://balkangreenenergynews.com/bulgarias-2053-energy-strategy-coal-until-2030-new-nuclear-capacities/#:~:text=Bulgaria%20intends%20to%20burn%20coal,proposed%20energy%20strategy%20until%202053.>
- <sup>19</sup> <https://www.bta.bg/en/news/bulgaria/392228-cabinet-approves-strategic-vision-for-power-sector-development-until-2053>
- <sup>20</sup> <https://balkangreenenergynews.com/bulgarian-parliament-tells-government-to-abandon-co2-reduction-target/>
- <sup>21</sup> <https://balkangreenenergynews.com/eu-greenlights-bulgaria-recovery-resilience-plan/>
- <sup>22</sup> [https://energy.ec.europa.eu/system/files/2019-06/necp\\_factsheet\\_bg\\_final\\_0.pdf](https://energy.ec.europa.eu/system/files/2019-06/necp_factsheet_bg_final_0.pdf)
- <sup>23</sup> Ibid.
- <sup>24</sup> Ministry of Environment and Water, <https://www.moew.government.bg/bg/ministerstvo/strategicheski-celi/prioriteti-za-2022/celi-na-ministerstvoto-na-okolnata-sreda-i-vodite-za-2022-g/>
- <sup>25</sup> Tzanev, Dragomir; Simeonov, Kamen; Ivanov, Borislav; Stanisheva, Teodora; Karásek, Jirí; Veleba, Jan et al. (2021): Completed set of general solutions for renewable energy cooperatives. BULGARIA CZECH REPUBLIC GREECE NATIONAL CONTEXTS FOR ENERGY COMMUNITIES. Hg. v. Center for Energy Efficiency EnEffect. Online verfügbar unter [https://www.euki.de/wp-content/uploads/2021/03/CONGREGATE-COMPLETED-SET-OF-GENERAL-SOLUTIONS-FOR-RENEWABLE-ENERGY-COOPERATIVES\\_MARCH-2021.pdf](https://www.euki.de/wp-content/uploads/2021/03/CONGREGATE-COMPLETED-SET-OF-GENERAL-SOLUTIONS-FOR-RENEWABLE-ENERGY-COOPERATIVES_MARCH-2021.pdf), zuletzt geprüft am 19.01.2022 (Tzanev et al. 2021.)
- <sup>26</sup> Couture et al. 2021.
- <sup>27</sup> Ministry of Energy & Ministry of Environment and Water, Integrated National Energy and Climate Plan 2021-2030, available at [https://commission.europa.eu/energy-climate-change-environment/implementation-eu-countries/energy-and-climate-governance-and-reporting/national-energy-and-climate-plans\\_en#final-necps](https://commission.europa.eu/energy-climate-change-environment/implementation-eu-countries/energy-and-climate-governance-and-reporting/national-energy-and-climate-plans_en#final-necps)
- <sup>28</sup> Tzanev et al. 2021.
- <sup>29</sup> Ibid.
- <sup>30</sup> Ibid.
- <sup>31</sup> Ibid.
- <sup>32</sup> Spasova und Braungardt 2021.
- <sup>33</sup> <https://www.nextgeneration.bg/>
- <sup>34</sup> Ibid.
- <sup>35</sup> SeeNews Ltd. & Gugushev Partners, The Renewable Energy Sector in Bulgaria Report, 2022, available for free download after registration on <https://seenext.org/reports/the-renewable-energy-sector-in-bulgaria-report/>
- <sup>36</sup> Spasova und Braungardt 2021.
- <sup>37</sup> Ibid.
- <sup>38</sup> <https://www.bpva.org/en/actual/parliament-eases-the-procedure-for-the-installation-of-small-photovoltaic-systems-in-residential-and-villa-buildings-for-own-needs>
- <sup>39</sup> Tzanev et al. 2021.
- <sup>40</sup> Ibid.
- <sup>41</sup> Spasova und Braungardt 2021.
- <sup>42</sup> <https://seenews.com/news/eu-refers-bulgaria-to-court-for-failure-to-transpose-renewable-energy-directive-812533>

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- <sup>43</sup> Tzanev et al. 2021.
- <sup>44</sup> Couture et al. 2021.
- <sup>45</sup> Tzanev et al. 2021.
- <sup>46</sup> <https://www.rescoop.eu/policy/bulgaria-rec-cec-definitions>
- <sup>47</sup> “The **administrative matters** needed to connect to an alternative energy network were deemed “literally impossible for the common person” by Interviewee 3 who had first-hand experience with the administrative procedure for installing solar panels for own consumption. The process in Bulgaria also takes significantly longer than in other European countries, such as Germany, Italy, the Netherlands and the UK.
- <sup>48</sup> <https://csd.bg/events/event/the-challenges-in-financing-energy-communities-in-bulgaria-in-the-low-carbon-economy-transition/>
- <sup>49</sup> <https://www.stepenergy.eu/energy-communities-burgas-bulgaria-projects/>
- <sup>50</sup> Spasova und Braungardt 2021.
- <sup>51</sup> Tzanev et al. 2021.
- <sup>52</sup> Spasova und Braungardt 2021.
- <sup>53</sup> Couture et al. 2021.
- <sup>54</sup> <https://www.stepenergy.eu/energy-communities-burgas-bulgaria-projects/>
- <sup>55</sup> Interviews conducted with experts suggest that due to the lack of awareness and the inherent scepticism over the benefits of such systems, some apartment owners refuse to give their consent, hindering the realization of more such projects
- <sup>56</sup> Couture et al. 2021.
- <sup>57</sup> Ibid.
- <sup>58</sup> Spasova und Braungardt 2021.
- <sup>59</sup> Capellán-Pérez et al. 2020.
- <sup>60</sup> Tzanev et al. 2021.
- <sup>61</sup> Ibid.
- <sup>62</sup> Ibid.
- <sup>63</sup> <https://bansko.bg/bg/новини/2-новини-за-банско/12328>
- <sup>64</sup> <https://www.izgrei.bg/>, [office@izgrei.bg](mailto:office@izgrei.bg)
- <sup>65</sup> <https://csd.bg/events/event/innovative-financial-schemes-for-supporting-citizen-driven-decentralised-res-projects-in-europe/>
- <sup>66</sup> <https://csd.bg/events/event/the-challenges-in-financing-energy-communities-in-bulgaria-in-the-low-carbon-economy-transition/>
- <sup>67</sup> <https://www.stepenergy.eu/results/>
- <sup>68</sup> <https://www.interregeurope.eu/coalescce/>
- <sup>69</sup> <https://www.euki.de/euki-projects/congregate/>
- <sup>70</sup> Spasova und Braungardt 2021.
- <sup>71</sup> <https://www.europerspectives.org/wp/>
- <sup>72</sup> <https://www.europerspectives.org/wp/coalescce/>
- <sup>73</sup> <https://csd.bg/>
- <sup>74</sup> <https://csd.bg/events/event/the-challenges-in-financing-energy-communities-in-bulgaria-in-the-low-carbon-economy-transition/>
- <sup>75</sup> [https://youtu.be/RIRQM\\_-J9RE](https://youtu.be/RIRQM_-J9RE)
- <sup>76</sup> <https://europeanclimate.org/member/stoyanova/>
- <sup>77</sup> <https://www.consumersinternational.org/members/members/bulgarian-national-consumer-association-bnaac/>
- <sup>78</sup> <https://aktivnipotrebiteli.bg/en>
- <sup>79</sup> <https://apste.eu/en/>
- <sup>80</sup> <https://www.moew.government.bg>
- <sup>81</sup> <https://www.me.government.bg>
- <sup>82</sup> <https://www.mrrb.bg>
- <sup>83</sup> [https://saveti.government.bg/web/cc\\_2002/1](https://saveti.government.bg/web/cc_2002/1)
- <sup>84</sup> Tzanev et al. 2021.
- <sup>85</sup> Couture, Toby D.; Stoyanova, Teodora; Pavlov, Toma (2021): Scaling-up Energy Communities in Bulgaria. Hg. v. E3 Analytics. Berlin. Online verfügbar unter [https://www.e3analytics.eu/wp-content/uploads/2021/06/E3A\\_Bulgaria\\_Analysis\\_of\\_Energy\\_Communities\\_EN\\_FINAL.pdf](https://www.e3analytics.eu/wp-content/uploads/2021/06/E3A_Bulgaria_Analysis_of_Energy_Communities_EN_FINAL.pdf), zuletzt geprüft am 19.01.2021. (Couture et al. 2021.)