

# STEAM3D Academy

IO1: Green Best Practice guide

BEGIN



National Desk Research  
**BULGARIA**

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# Background

**Full name:** Republic of Bulgaria

**Area:** 110,993.6 km<sup>2</sup>

**Borders:** Turkey (259 km), Greece (493 km), North Macedonia (165 km), Serbia (341 km), Romania (609 km)

**Population:** 6 520 314 inhabitants

**Population density:** 63 people/km<sup>2</sup>

**Capital:** Sofia

**Currency:** Lev

Bulgaria is located in Southeast Europe, in the northeast part of the Balkan Peninsula. It falls within the southern part of the temperate climate zone with subtropical influence. Its location on the transition line between two climate zones influences the climate, soils, vegetation and animal species. All of them are characterized by great diversity. The Black and the Aegean Sea also influence the country's climate. The influence of the Mediterranean is extensive for the climate in the southern parts of the country, while the Black Sea influences the climate over an area extending some 40 km inland, supporting diverse flora and fauna. The Danube River is important for the country, both with regard to water resources and for species diversity. Bulgaria's favorable geographic location creates excellent preconditions for the development of tourism. Bulgaria is also a transport crossroad, affording access to Western Europe, the Near East and the Middle East, and the Mediterranean. The total length of Bulgaria's borders is 2,245 km. Of these borders, 1,181 km are on land, 686 km are on rivers, and 378 km are on the sea. Bulgaria borders to the north with Romania, to the east with the Black Sea, to the south with Turkey and Greece, and to the west with Macedonia and Serbia <sup>1</sup>.

Bulgaria is a parliamentary republic with local self-government and a clear division of powers: legislative, executive and judicial. The supreme law of the country is the Constitution of the Republic of Bulgaria, adopted by the Grand National Assembly in July 1991. The National Assembly of the Republic of Bulgaria is a parliament. It consists of 240 members who are elected by the people every four years. The President is the head of state of the Republic of Bulgaria and one of the bodies of state power. The President is the Supreme Commander-in-Chief of the Armed Forces of Bulgaria and is elected directly by the voters for a term of five years. On 1 January 2007, Bulgaria became member state of the European Union (EU) in the fifth wave of EU enlargement.

Current population 6,871,914. This decrease between 2011 and 2021 is the largest recorded so far. The country has shrunk by 844,000. Much of this decrease (53%) is due to negative demographic trends, higher mortality than birth rates and negative natural growth, as well as people who have left

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<sup>1</sup> <https://bulgariatravel.org/about-bulgaria/geographic-location/>

the country and not returned. The overall assessment of the population made by the NSI shows that the negative trends are deepening, the population is shrinking and aging. There is also a continuing depopulation in certain areas of the country. The population in the cities is increasing (74% are the people there), according to NSI data. Compared to the previous census in 2011, only Sofia-city increased its population by 14.7%. All other districts registered a decrease in population, ranging between -8 and -26%<sup>2</sup>. The number of residences in the country as of September 7, 2021 is 4,182,000 and increases by 295,000 compared to 2011. Basically, this increase is in the cities. Most homes are in Sofia, Plovdiv, Burgas and Varna. The buildings are also increasing - 36,000, again mainly in the cities - Varna, Burgas, Blagoevgrad<sup>3</sup>.

## Energy policies

- **Evolution in the last 10 years**

Energy policy of the Republic of Bulgaria is consistent with the main objectives of energy policy of the European Union for energy security, competitiveness and sustainable development. Directive 2012/27/EC was transposed into national law by the adoption of the new Energy Efficiency Law, promulgated in State Gazette. 35 on 05/15/2015.

The Energy Strategy of the Republic of Bulgaria is assumed that "energy efficiency is the highest priority in the energy policy of the country." On this basis are set ambitious targets for improving energy efficiency<sup>4</sup>. There is a steady trend of increasing the use of renewable energy. During the period 2000-2016, the ratio between the final and primary energy consumption increased from 45 to 52 %. This growth is primarily due to the reduction of electricity exports and increased use of renewable energy. The Energy Strategy is a fundamental document of the national energy policy that is approved by the Council of Ministers and passed by the National Assembly of the Republic of Bulgaria. The present National Energy Strategy reflects the political vision of the Government of European Development of Bulgaria pursuant to the up-to-date European energy policy framework and the global trends in the development of energy technologies. The main priorities in The Energy Strategy can be summarized in the following five directions: to guarantee the security of energy supply; to attain the targets for renewable energy; to increase the energy efficiency; to develop a competitive energy market and policy for the purpose of meeting the energy needs, and to protect the interests of the consumers. These priorities also determine the Government's vision for development of the energy in the coming years, namely:

- Maintaining of a safe, stable and reliable energy system;
- The energy sector remains a leading branch of the Bulgarian economy with definite orientation to foreign trade;
- Focus on clean and low-emission energy – nuclear and from renewable sources;
- Balance between quantity, quality and prices of the electric power produced from renewable sources, nuclear energy, coal and natural gas;

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<sup>2</sup> <https://nsi.bg/bg>

<sup>3</sup> <https://dariknews.bg/novini/bylgariia/>

<sup>4</sup> <https://www.odyssee-mure.eu/publications/national-reports/energy-efficiency-bulgaria.pdf>

- Transparent, efficient and highly professional management of the energy companies<sup>5</sup>.

Other important laws and regulations are:

#### **ERSA- Act on Renewable Energy Sources**

This law regulates the public relations related to the production and consumption of: 1. electricity, heat and cooling energy from renewable sources; 2. gas from renewable sources; 3. biofuels and energy from renewable sources in transport.

#### **Clean Ambient Air Act**

The purpose of the law is to protect the health of people and their offspring, animals and plants, their communities and habitats, natural and cultural values from harmful effects, as well as to prevent the occurrence of hazards and damage to society in the event of a change in air quality as a result of different activities.

#### **EEA- Energy Efficiency Act**

This law governs public relations related to the implementation of government policy to increase energy efficiency. The law aims to increase energy efficiency and frequency the policy of sustainable development of the country

#### **Energy Act**

This law regulates public relations related to the implementation of activities for production, import and export, transmission, distribution of electricity and heat and natural gas, transmission of oil and petroleum products by pipeline, trade in electricity and heat and natural gas, and the powers of state bodies in determining energy policy, regulation and control

#### **The European Green Pact**

On 11 December 2019, the Commission presented its Communication on the European Green Pact (COM (2019) 0640). This Green Pact sets out a detailed vision for making Europe a climate-neutral continent by 2050 by providing clean, affordable and secure energy.

- **Current situation**

Renewable energy sources (wind, solar, hydroelectric, ocean, geothermal, biomass and biofuels) are alternatives to fossil fuels that help reduce greenhouse gas emissions, reduce energy diversification and diversify energy supplies, and reducing dependence on unreliable and volatile fossil fuel markets, especially oil and gas.

In Bulgaria, electricity from renewable sources is mainly promoted through a premium tariff. All power plants using renewable energy and CHP with an installed capacity of 4 MW and higher should sign contracts with the Electricity System Security Fund (ESSF) on the granting of a premium to offset the difference between the stock price and the price in the long-term contracts that RES-E producers have with the National Electricity Company (NEK). The plants below the threshold will continue to operate under the existing system of FiT and be paid by NEK.

The connection of renewable energy plants to the grid is subject to the provisions of the general legislation on energy. Renewable energy is not given priority access.

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<sup>5</sup> file:///D:/Energy%20Strategy%20of%20the%20Republic%20of%20Bulgaria%20till%202020.pdf

The use of renewable energy for heating and cooling is promoted through a subsidy from the European Regional Development Fund, several loan schemes and through an exemption for building owners from property tax.

In Bulgaria, the main support scheme for renewable energy sources used in transport is a quota system. This scheme obliges companies importing or producing petrol or diesel to ensure that biofuels make up a defined percentage of their annual fuel sales. Furthermore, biofuels are supported through a fiscal regulation mechanism.

The following policies aim at promoting the development, installation and usage of RES-installations in Bulgaria: There is a professional training programme for RES-installers as well as a building obligation for the use of renewable heating and for the exemplary role of public authorities<sup>6</sup>.

- **Future tendencies**

Now in Bulgaria there are companies that actively promote and are an example of the use of 100% green energy, which ensures that the company promotes the production of electricity from renewable sources in Bulgaria - solar energy, wind and hydropower. This trend is assumed to continue in the future.

The country's policy in this direction also shows a desire to make the use of renewable energy sources a priority. In Bulgaria, there is already an opportunity to conclude such long-term contracts for the purchase of electricity.

- **Main threats and challenges**

A sustainable environment is a key prerequisite for achieving sustainable economic development. Air pollution with dust particles is a permanent problem, covering the entire territory of Bulgaria and hiding serious health risks. Focusing efforts on reducing harmful emissions of gases into the environment is mandatory. Identifying the source of the problem and preparing all future policies in line with the priority of reducing emissions is extremely important.

Bulgaria's progress in the field of new renewable energy sources (RES) is slow. Bulgaria relies heavily on imports and foreign know-how with respect to green technologies.

The development of green technologies and business in Bulgaria depends on the availability of highly qualified specialists. Therefore, policies are needed to create and build educated human capital in the field of green technologies.

In general, Bulgarian energy policy downplays the need for change in public behavior and perceptions of individual users. The active participation of municipalities in these processes is mandatory condition for achieving goals such as improving energy efficiency and energy saving.

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<sup>6</sup> <http://www.res-legal.eu/search-by-country/bulgaria/tools-list/c/bulgaria/s/res-e/t/gridaccess/sum/112/lpid/111/>

At present, most households do not take measures to increase energy efficiency, not because consumers are wasteful, uninformed and / or disinterested, but because they cannot afford investment.

- **Legislation and Regulations about green energies in cities infrastructures**
  - Renewable Energy Act
  - Energy Efficiency Act
  - Law on structure and construction
  - Forest Act

## Grants and subsidies

- Rural Development Program 2014-2020
- Energy Efficiency and Renewable Sources Fund

## References

<https://bulgariatravel.org/about-bulgaria/geographic-location/>

<https://dariknews.bg/novini/bylgariia/>

<file:///D:/Energy%20Strategy%20of%20the%20Republic%20of%20Bulgaria%20till%202020.pdf>

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