

## JustWind4All case studies

# NORTH EAST REGION, BULGARIA



### WIND ENERGY DEVELOPMENT IN SEVEROIZTOCHEN, BULGARIA

In Bulgaria, fossil fuels continue to be an important source of energy: coal accounts for approximately 30% of the electricity generated, while natural gas retains significant importance, particularly for heating and industrial applications. Notwithstanding, Bulgaria has made considerable progress in developing renewable energy sources, including solar, wind, biomass, and hydroelectric power. Currently (in Q1, 2024), Bulgaria has a total installed capacity of **6.310 MW** from renewable energy sources (RES), including black liquor, hydropower, process, and sewage gas, solar, and wind. Solar and wind energy capacity account for 60% of the total RES.

**80%**  
OF THE COUNTRY'S TOTAL  
INSTALLED WIND CAPACITIES  
ARE IN THE NORTH EAST  
REGION.

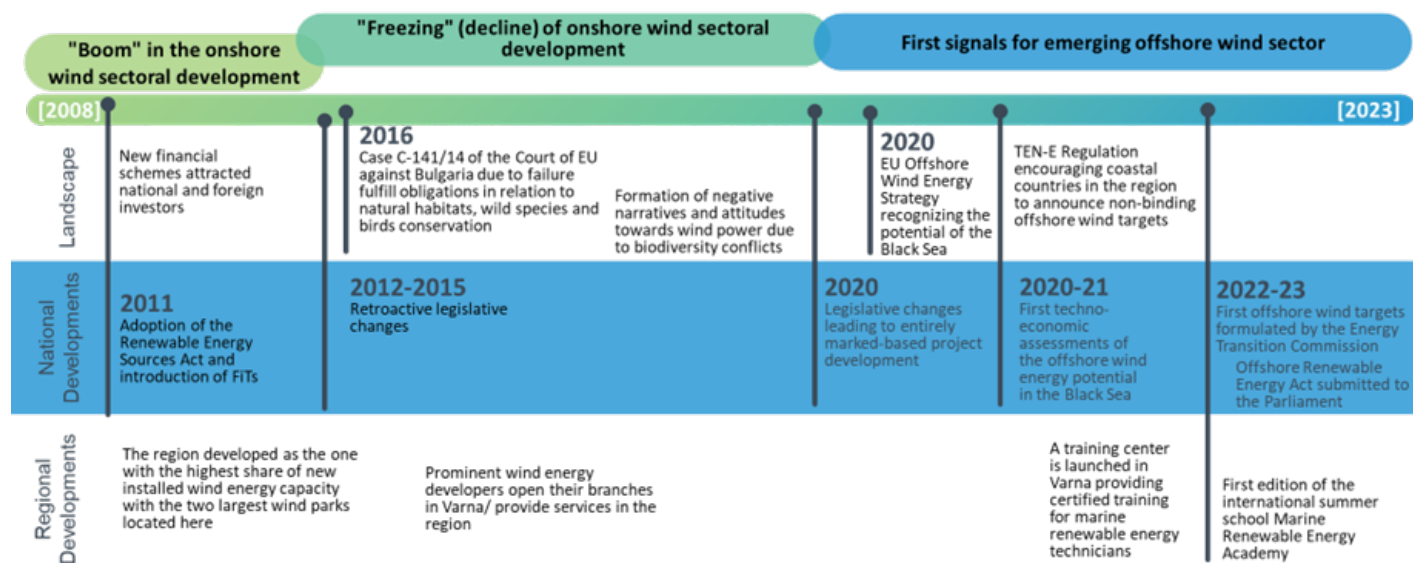
The Severoiztochen region boasts significant untapped wind energy potential, both on- and offshore, with a large portion yet to be realised. The majority of Bulgaria's onshore wind energy capacity is concentrated in this particular region, accounting for a significant **80% of the country's total 700 MW installed capacity** (which has been built in the past 10-15 years). The region's estimated potential suggests a minimum of 10 GW of onshore wind capacity and 3-4 GW of offshore installations.

With the state being the predominant owner of energy assets, potential for accelerating wind energy in the Northeast currently remains underutilised due to an unfavourable policy environment. However, following Russia's invasion of Ukraine, the Bulgarian government has been exploring options for offshore wind development as part of efforts to prioritise energy independence from Russia. The technical potential for offshore wind energy in the Bulgarian section of the Black Sea is estimated at 116 GW, with a fifth achievable using mature bottom-fixed technology; the anticipated new additions until 2040 are modest, reaching only 3-4 GW.



In the context of the JW4A project, a historical analysis of the governance of wind energy in Severoiztochen over the past 20 years was conducted, with a particular focus on the latest developments during the last quarter of this period. This analysis zoomed in on changes in the governance of wind energy that were critical for wind energy development. For Severoiztochen, three phases of wind energy development were identified. Significant expansion began with a ‘boom’ in onshore wind development (from 2008 to about 2015) following the transposition of EU regulations on national level and the introduction of financial support measures. Feed-in tariff schemes attracted foreign and national investors, who were also guaranteed long-term power purchase agreements (PPAs). This was followed by a phase of “‘freezing’ of onshore wind development” (from 2015 to about 2020), as the Bulgarian energy system began to experience increasingly high costs, and development suffered from a lack of sound regulation and administrative capacity. As a result, Bulgarian authorities altered the legislative framework several times, unpredictably and sometimes retroactively, introducing new fees and ban on new projects in the wind resource rich areas of the country. Many RES producers started court proceedings against the administration, large international investors left the market and no new wind capacity has been added to the system after 2014. Finally, a current third phase of “first signals for an emerging offshore wind sector” (from around 2020 to 2023) began with the introduction of key legislative changes and a new EU Strategy on Offshore Renewable Energy, catalysing a focus on offshore potential in the Black Sea.

Based on this work, the following recommendations were formulated: introducing predictability through enabling legislative framework, industry roadmaps and auctions, streamlined permitting procedures, exploring opportunities for cross-border projects, upgrading port infrastructure to support offshore wind development, and creating transparent, inclusive information campaigns to garner support for wind energy. These recommendations are described in more detail below.



# Recommendations

## 1. SUPPORTIVE LEGISLATION

A critical undertaking for the blue economy growth in the North-East region is the formulation and enactment of legislation that supports the offshore wind sector in Bulgaria. Regional policymakers need to advocate for a specialised regulatory framework that aligns with the unique characteristics of the region to tailor policies to address local concerns and ensure efficient project approvals. The Offshore Wind Energy legislation should be grounded in transparent, competition-friendly principles, delineating clear allocations of risks, costs, and responsibilities among stakeholders. The establishment of consistent policies will create a stable investment environment, attracting private investments and simplifying permitting processes. By mitigating political and regulatory risks, regional governments can minimise the overall deployment cost. Drawing inspiration from mature offshore wind markets like the United Kingdom, Germany, and Denmark, the North-East region can construct robust frameworks conducive to long-term growth and sustainable blue/green development.

Implementing comprehensive roadmaps can provide a clear strategic direction for the development of offshore wind projects. These roadmaps should outline timelines, milestones, and key objectives, ensuring that all stakeholders are aligned towards common goals. Furthermore, the introduction of streamlined administrative procedures is essential for expediting project approvals and reducing bureaucratic hurdles. By establishing efficient permit processes and minimising administrative red tape, regional authorities can significantly accelerate the pace of offshore wind development. This approach not only enhances investor confidence but also promotes timely project execution, thereby maximising economic benefits for the region. Moreover, ensuring that regulatory frameworks are time-aligned with industry developments is crucial for maintaining competitiveness and fostering innovation. Regular reviews and updates of policies and regulations can help address emerging challenges and capitalise on new opportunities in the offshore wind sector.

## 2. COMMUNITY OF PRACTICE

The formation of communities of practice, akin to the Black Sea Renewable Energy Coalition initiated in the summer of 2023, emerges as another crucial step in accelerating the development of the offshore wind sector. This coalition, encompassing stakeholders from Romania, Bulgaria, Ukraine, and Turkey, serves as a platform to exchange knowledge, share best practices, and foster a collective understanding of challenges. Through this collaborative effort, technical, environmental, and social barriers can be collectively addressed, contributing to capacity building in the regional markets for offshore low-carbon energy and the decarbonization of coal-dependent energy systems. Local companies and organisations from the North-East region should take an active role in the working groups of the Coalition and contribute to its agenda.

The exploration of opportunities for cross-border projects is imperative for maximising the region's offshore wind energy potential, since the region is neighbouring Romania. Collaborative initiatives between neighbouring countries can efficiently utilise resources, optimise grid integration, and enhance energy security. By establishing interconnection mechanisms and developing joint offshore wind projects, countries can leverage strengths, attract larger investments, and achieve economies of scale.

### 3. UPGRADING PORT INFRASTRUCTURE

The transformation of ports, including the two major industrial ports in Varna, into decarbonization hubs stands out as a crucial aspect of offshore wind industry development in the North-East region. Upgrading port infrastructure to support the construction, operation, and maintenance of offshore wind farms will generate job opportunities and stimulate local economies. Ports can also function as centres for manufacturing, assembly, and supply chain activities, further fostering growth in the renewable energy sector and employment.

### 4. ENGAGING WITH THE PUBLIC

Information campaigns play a pivotal role in raising public awareness and garnering support for offshore wind energy in the North-East region. Engaging with local communities, addressing concerns, and highlighting the environmental and economic benefits can contribute to building social acceptance. Promoting transparency, providing accurate information, and involving stakeholders in decision-making processes are essential for ensuring a smooth and inclusive energy transition.

JustWind4All took a detailed dive into **just and effective wind energy governance** in diverse regions in the EU, summarised in seven case studies. Keep exploring the nuances of energy justice and participatory practices, summarised in regional recommendations and inspiring solutions.

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