Policy position on the integrated spatial planning of RES development and acceleration areas in Bulgaria

May 2025

Introduction and background of the policy position:

In response to the hardships and global energy market disruptions caused by Russia's invasion of Ukraine, the European Commission launched the REPowerEU Plan in May 2022 to phase out Russian fossil fuel imports. The plan focuses on saving energy, diversifying energy supplies, and producing clean energy. As part of these efforts, the Commission called on EU Member States to reduce reliance on fossil fuels and accelerate renewable energy development. These measures aimed to accelerate renewable energy deployment while minimizing territorial impacts, such as by designating renewable energy areas with streamlined environmental licensing processes. Notably, Regulation (EU) 2022/2577 allowed Member States to grant exemptions for environmental impact and species protection assessments in specific energy zones previously subject to strategic environmental assessments (SEA). The revised RED (Renewable Energy Directive), adopted on October 9, 2023, further extended these provisions, introducing new requirements for Member States to engage in spatial planning and mapping for renewable energy production.

The revised RED establishes two key spatial planning provisions to guide the deployment of renewable energy. Article 15b mandates Member States to carry out coordinated mapping of their territories by May 21, 2025, to identify the domestic potential and the available land surface, sub-surface, sea or inland water areas that are necessary for the installation of renewable energy plants and their related infrastructure, such as grid and storage facilities, including thermal storage, that are required in order to meet at least their national contributions towards the overall Union renewable energy target for 2030. This process involves evaluating available land and water surfaces, considering energy potential, projected demand, and infrastructure capacity. The goal is to balance land use, energy needs, and grid capacity while ensuring compatibility with existing uses. Mapped areas will undergo standard permitting processes, enabling the orderly development of renewable energy projects. Complementing this, Article 15c requires Member States to adopt one or more plans designating Renewables Acceleration Areas (RAAs) for one or more types of renewable energy sources

(which may exclude biomass combustion and hydropower plants), by February 21, 2026. These RAAs, identified as subsets of mapped areas, are deemed particularly suitable for renewable energy projects due to low environmental sensitivity and benefit from fast-tracked permitting procedures.

National implementation status: mapping and designating RAAs

As of July 2025, Bulgaria has not yet completed the mapping and official designation of renewables acceleration zones, as required by Article 15b of Directive (EU) 2023/2413 (RED III). Nevertheless, key amendments to the Renewable Energy Act were adopted in October 2023 and June 2025, introducing a legal framework for the designation of such zones. The Renewable Energy Act assigns the Ministry of Environment and Water (MoEW), the Ministry of Energy, and the Ministry of Regional Development and Public Works as the responsible bodies to assess and designate suitable areas for the accelerated development of renewables, excluding protected zones and prioritizing industrial and degraded land. It also foresees the creation of one-stop-shop services to support projects in these zones. Despite the adopted framework, no maps or lists of specifically designated accelerated zones have been published to date, putting Bulgaria behind schedule in meeting the transposition deadline of 21 May 2025 for RED III. The European Commission has already sent an official notice to the country for non-compliance with this part of the directive.

The sustainable deployment of renewable energy in Bulgaria which also ensures the highest levels of biodiversity protection requires not only technical preparation, but also political will for transparency, cooperation, and reform. The country already has a foundation - a legislative framework and methodological tools, but it needs a clear commitment to publicly define areas for accelerated renewables development by the end of 2025, open the process to citizens, and ensure synchronized work between all responsible institutions. This is not only a requirement under RED III, but also a strategic opportunity for energy independence, innovation, and sustainable growth.

The RENewLand initiative and its role in the RAAs implementation

1. **Project outcomes and expert insights:**

The RENewLand project started in November 2023 and aims to ensure that sustainable and science-based approaches for the designation of acceleration areas are followed in the three Eastern European countries: Bulgaria, Hungary and Romania. It capitalises on experience and technical expertise in renewable energy spatial planning from other countries.

To this end, the project partners aim to improve the capacities of public authorities, industry associations, civil society and academia to undertake integrated spatial planning. In addition, they develop a methodology for the sustainable siting of wind and solar acceleration areas. The project includes studies to analyse the main economic, social and environmental constraints, stakeholder engagement and policy advocacy activities. Project beneficiaries are provided with tools to help them avoid and mitigate conflicts relating to the designation of acceleration areas, ultimately leading to faster siting and approval of solar and wind farms in the three countries. As part of the project, a methodology for the desginatiton of RAAs is being

developed in order to be tested in pilot municipalities in Hungary, Bulgaria and Romania. It is based on the recommendations of HUMEA (2025) and will serve as a suggestion for a multicriterial assessment approach to be used by the responsible public bodies in the three countries.

Through stakeholder engagement activities including two national workshops in each country and a regional knowledge exchange webinar, the project has established a collaborative foundation for sustainable renewable energy development, culminating in a National Joint Stakeholder Principles document. In Bulgaria, two identical workshops were held separately with representatives from the renewable energy and the NGO sectors in April 2024, with the goal of identifying the main challenges that lie ahead of the spatial planning and RAA designation process in the country. A total of about 20 people representing different organisations participated in the meetings. The first meeting focused on the RES sector, inviting representatives of RES industry associations and businesses in Bulgaria and representatives of the National Electricity Company (NEK) and one of the electricity distribution companies (EVN). The second group included experts in the field of renewable energy and environmental protection from the non-governmental sector, as well as a representative of the Sofia Energy Agency - SOFENA.

Some of the main challenges, identified by stakeholders during the workshops include:

Lack of an integrated long-term strategy for the development of the energy sector in Bulgaria: A key issue mentioned repeatedly by both stakeholder groups wass the lack of a long-term integrated strategy at national level that synchronises the country's energy, climate, economic and biodiversity objectives and that strategically considers and plans the country's energy mix. Such a strategy would provide clarity to investors and direct future projects to the most suitable areas.

At the same time, in the context of the ongoing political instability in the country, the issue is highly politicised and the focus is shifted away from the topic of planning RE development towards maintaining outdated coal-fired power plant capacity and the potential new investments in nuclear power plants. Both stakeholder groups agree that decarbonisation needs to be a more seriously stated priority on the national level.

Lack of coordination between different institutions: A key challenge is the lack of coordination and clearly defined roles and responsibilities within and between the different institutions responsible for planning and implementing energy and climate policies at the national level. The transfer of responsibilities between different ministries, agencies and units slows down the process and could prevent the implementation of spatial planning for RES in the required timeframe. Lack of coordination and clear responsibilities was also cited by the RE sector representatives as a major factor complicating partnership and communication between business, government and local communities.

Incomplete coverage of the Renewable Energy Act (REA): In the current version of the national Renewable Energy Act (REA), there is an obligation to designate priority areas for wind energy development only, but not for other types of renewable energy such as solar plants, for example. Although the law formally meets the requirement of the EU's Renewable Energy Directive (RED III), which mentions that such fast-track development zones should be

in place for at least one type of RES, the incomplete scope of the Act and the designation of zones only for RES creates a risk for further damage to biodiversity and landscapes.

In addition, stakeholders identify as a challenge the fact that there is currently a lack of clarity on the criteria for designating acceleration zones to ensure a balance between biodiversity conservation, climate objectives and economic interests.

It is also important to provide clarity on what will happen to projects which are already at a certain stage of the permitting procedure, once the acceleration areas are identified, as there are numerous RES installations already waiting to be added to the grid and a lot of planned new RES capacity.

Lack of sufficient spatial data: Detailed data-driven spatial analyses are needed to properly identify suitable areas for balanced RE development. However, such data is often missing, not updated or incomplete or inaccurate, including data in the country's cadastral map. The different sources of information, as well as the lack of clarity regarding the specific institution that holds a specific type of spatial data, makes the analysis and planning process difficult. Moreover, quite often the necessary information is not even digitised. There is a lack of geospatial data to help define the zones while reflecting the specific constraints of each potential site. Digital registers and spatial data on disturbed land, as well as comprehensive data on biodiversity outside Natura 2000 and protected areas is also missing.

Existing problems with the utilisation of disturbed and urbanised land: Disturbed and urbanised land is a major factor in the spatial planning of RE and should be prioritised according to the EC Directive and the REA, but in both stakeholder groups, participants identified different challenges to their utilisation:

- There are problems with ownership - it is often undefined or unclear, partly public (co-owned), and master plans are often not updated and do not provide for the possibility of using such land;
- Lack of defined regimes for the use of disturbed land after decommissioning;
- Not all disturbed sites in the country have been identified, there is no complete information or unified register of disturbed sites; and there is no link between cadastral data on disturbed and urbanised areas with the property register;
- Incentives for the use of disturbed and urbanised land are insufficient;

Representatives of the NGO sector also highlight the lack of control over compliance with the requirements for reclamation and remediation of disturbed land.

For the use of urbanised land, the lack of comprehensive information and technical passports for buildings, the unexplored potential for the use of existing rooftops, and the lack of a detailed regulatory framework to encourage the creation of energy communities are cited as challenges.

Grid connection and balancing issues for RES: The insufficient grid capacity to connect new RES is identified as another challenge to the successful spatial planning of RES. The representatives from the RES sector also mention the additional constraint of the allowances for PV/wind in the regulated market in Bulgaria.

Balancing a grid with many RES capacities is another major challenge that requires serious planning at the national level.

Lack of expert capacity in local administrations: The lack of sufficient expert capacity in institutions, especially at the local level, also emerges as another major challenge. At both municipal and district level, more experts are needed to deal with the overall spatial planning of RES locally and the planning of large-scale RES projects together with potential investors and stakeholders. There is also a lack of sufficient expert capacity to identify and study disturbed or urbanised land suitable for RE and, more generally, to explore the feasibility and implementation of RE projects, which is why investors often lead in this process. Accelerating RE deployment requires shortening permitting timelines and providing a one-stop shop for investors, but municipal and district administrations are not prepared to start providing this service.

Insufficient participation of local communities: In addition to the main challenges, the two stakeholder groups mentioned the weak citizen pressure for proper RE development and the lack of sufficient involvement of local communities in a constructive and democratic way as problematic. This often creates tensions and conflicts between citizens, institutions and investors and can lead to a general negative attitude towards RE by local communities. Citizens, as a key stakeholder, should be involved in the decision-making and planning process of future renewable energy projects at a much earlier stage so that their interests and concerns are taken into account. There is also a need for a broader public dialogue about climate change, its effect on every aspect of people's lives, and the role of renewable energy development in this context.

2. Best practices study and methodology for designation of RAAs

Two complementary expert studies, commissioned within the RENewLand project, provide a comprehensive methodological framework for RAA implementation:

Trinomics (2024) identified practices from advanced EU MS in mapping RAAs, highlighting:

- **Comprehensive sensitivity mapping**. This approach systematically excludes areas of high environmental, cultural, or social sensitivity, such as Natura 2000 sites and migratory bird pathways. Croatia's Zadar County demonstrated how multi-criteria analysis can effectively rank land sensitivities and identify suitable areas that balance environmental protection with renewable energy potential.
- **Multi-stakeholder coordination mechanisms**. It emphasises Portugal's collaborative model, where diverse entities from government, industry, and civil society contributed to data collection and scenario analysis. Similarly, Czechia established clear roles and responsibilities across agencies, creating detailed GIS-based tools that guide regional authorities in selecting optimal zones for renewable energy projects.
- **Early community engagement**: Croatia's pilot projects illustrated how early consultations with stakeholders significantly reduce potential conflicts and align projects with local priorities. Transparent processes and interactive GIS platforms enhance this engagement by providing accessible information that builds public trust and acceptance.

- **Scenario-based planning approaches**: Portugal's methodology considers varying levels of land use restrictions and environmental protections, creating alternative development scenarios. Czechia integrated sensitivity mapping with detailed exclusion zones that accommodate specific requirements like aviation fields and national defence zones, ensuring harmonisation between renewable goals and other strategic objectives.
- **Streamlined permitting processes**: The report advocates for legal and procedural clarity to expedite renewable projects within RAAs through digital platforms and one-stop-shop models, reducing administrative burdens that currently delay implementation.

HUMEA (2025) developed a technical methodology featuring:

- **Integrated Geographic Information Systems (GIS)** and **Multi-Criteria Decision-Making (MCDM)**: This combined approach enables transparent evaluation of multiple conflicting criteria – environmental sensitivity, renewable energy potential, and socio-economic impact. By assigning weights to these criteria, MCDM creates a balanced and evidence-based decision-making process that stakeholders can trust and understand.
- **Analytic Hierarchy Process (AHP)**. This structured technique breaks down complex decisions into hierarchies of criteria, sub-criteria, and alternatives, facilitating systematic evaluation through pairwise comparisons. The HUMEA report demonstrated how AHP can assess priorities among factors like infrastructure proximity, renewable potential, and environmental constraints, providing guidance for balancing competing objectives.
- **Practical GIS operations**: The methodology details specific technical procedures for pre-processing geospatial data, defining buffer zones around exclusion areas, and performing operations to assess land suitability. These step-by-step guidelines ensure precision in identifying potential RAA sites by creating standardised processes that can be replicated across regions.
- **Comprehensive data integration requirements**: The report identifies essential datasets spanning land cover, topography, infrastructure, biodiversity, protected areas, climate conditions, population density, land ownership, and proximity to energy demand centres. Integrating these diverse datasets into a unified GIS framework ensures holistic analysis that addresses all relevant factors.
- **Three distinct planning scenarios**: The environmental scenario applies strict exclusion criteria for sensitive ecosystems and biodiversity hotspots, ensuring alignment with conservation goals. The socio-economic scenario emphasizes infrastructure proximity and benefit distribution to maximize economic advantages. The technical scenario prioritizes favourable conditions like grid connection points, wind speeds, and solar radiation levels to optimize energy yield and operational efficiency.

Both reports converge on several critical recommendations:

- **Adoption of Technology-Driven Tools:** Member States should leverage GIS and MCDM tools to streamline spatial planning and ensure evidence-based decisions.
- **Legal and Institutional Support:** Clear mandates, legal responsibilities, and centralized oversight are vital for efficient implementation.
- **Proactive Stakeholder Engagement and Transparency:** Early and continuous engagement with stakeholders fosters sectoral and local community support and reduces administrative bottlenecks.
- **Scenario Development:** Developing alternative scenarios allows Member States to adapt strategies to diverse environmental and socio-economic conditions. Again, our recommendation is **for institutions to use the environmental scenario**, since SEA processes in our region are still not transparent and comprehensive and selecting the environmental scenario would ensure low impact-low conflict decisions/developments.
- **Knowledge Sharing and Training:** Establishing platforms for sharing best practices and providing training to local authorities will enhance capacity-building across the EU.

Policy recomendations for the responsible Bulgarian institutions:

Completion of the process of mapping and designating areas for accelerated development (RAA)

- Adapting a comprehensive and GIS-based methodology for the designation of RAAs, possibly integrating learnings from HUMEA (2025) and the regional methodology developed within the framework of RENewLand
- Official adoption of pilot-validated approaches (e.g. by the Municipality of Ruse) as a basis for national deployment
- Systematic exclusion of environmentally sensitive areas
- Publication of maps with clearly defined RAA zones on a publicall available platform by the end of 2025, with the possibility of public consultation.

Strengthening institutional coordination and integrated spatial planning

- Introduction of mandatory coordination mechanisms between institutions, such as an electronic platform for spatial data exchange and joint planning.
- Strengthening of integrated planning obligations in regional and municipal spatial plans.

Ensuring accelerated development of renewable energy combined with environmental protection

The spatial planning of future renewable energy production, transmission and storage, as well as the identification of acceleration areas, must be combined with the achievement of biodiversity

conservation objectives and the long-term protection of ecosystem services of natural ecosystems. A key aspect of the mapping and designation process should be the prioritisation of areas where the adverse effect on the environment will be negligible. This can be achieved by **designating exclusion territories -** identifying the types of sites that should be excluded due to significant risk to biodiversity from the installation of renewables energy. Such exclusion should be:

- All protected areas designated under the National Protected Areas Act (PAA);
- Protected Areas of the Natura 2000 network, as for FPPs there may be an exception of existing structures in the PAs, as well as relocatable objects in the areas where the RES power is for private use;
- Important breeding, rearing, wintering and migration sites for species subject to strict protection under Directive 2009/147/EC and Directive 92/43/EEC, as well as for migratory non-endangered bird species vulnerable to the construction and operation of renewable energy installations; 4. Riparian areas with buffer zones around them; 5. Other areas, not included in the above three categories, which are included in the list of areas through which Bulgaria will meet its target of 10% strict protection, stemming from the European Biodiversity Strategy 2030.

The next step is to identify the types of areas where there may be negative impacts on biodiversity and ecosystem services due to the installation of RES in and around them, depending on the specificities of the particular areas and the specificities of the investment projects. That is to say, these are areas where there is environmental sensitivity, but there is insufficient information on which to base a complete ban on the use of these areas for renewable energy development. These areas should be of lower priority for renewable energy development compared to areas without such sensitivity. Examples of types of areas with ecological sensitivity are:

- Biodiversity: forests, forests in agricultural land, highly fertile agricultural land, rivers, lakes, wetlands, beach strips, sand dunes, natural and semi-natural grass ecosystems, scrub, rocks and other types of permanent uses with the potential for a high level of biodiversity;
- ecosystem services - natural ecosystems with high importance for regulating air quality and climate, water quantity and quality, soil erosion; natural ecosystems with importance for reducing the frequency of natural disasters; areas that are a source of food, pollination and fresh water; natural ecosystems with importance for cultural heritage and ecotourism, etc., which may be strongly affected in a negative way by the RES development and consequently, their ecosystem services may be strongly reduced.
- Different types of environmentally sensitive areas should have different "weights" depending on the expert judgement of the negative impact of solar/wind power installations on them. Areas where more than one type of sensitivity overlaps for a given RES technology should be given an even lower priority for development.

In addition to sensitivity mapping, as required by the RED III Directive, the Plan for the designation of acceleration areas must also include specific measures to mitigate the potential negative effects of renewable energy production on biodiversity in specific areas.

This should be done separately for solar and wind as the two technologies imply different risks to biodiversity.

Prioritisation of artificial and degraded and degraded land for RES development

In order to minimize the area of anthropogenized territories and to reduce the negative effect on biodiversity and conflicts with other land uses, it is important that the installation of new renewable energy capacities occurs as a priority in disturbed terrains and urban areas. While the National Renewable energy Act requires the preparation of a plan for the designation of acceleration areas for wind power sites only, it is important that such a process also take place for other types of renewable energy sources, especially solar energy, which has experienced rapid development in recent years, including sitting of many projects in environmentally sensitive areas. Both disturbed and urban areas and roof and facade structures are particularly suitable in this context and should be considered as a priority in the spatial planning of solar power generation[5] . In this context, WWF Bulgaria published the "Baseline Analysis of the potential of disturbed and urban areas for RES development" in May 2024. The analysis clearly demonstrates that disturbed and urban land has great potential for RE development and should be a priority in identifying acceleration areas.

Urban areas should be prioritised for PV installations as they have great potential and can accommodate more than a 100% of the planned PV capacity by 2050. Disturbed land outside urban areas is suitable for both PV and wind, and the focus should be on land with confirmed municipal or state ownership. There may be scenarios where some of the identified disturbed sites are not suitable for RES installation due to technical/engineering inadequacies or insufficient energy capacity for the type of RE. Also some of the disturbed sites, especially those located in Natura 2000 areas, may have a high potential for restoration to the original ecosystem type. Those disturbed sites that do not fall into the above scenarios are considered suitable for installation of RES and are subject to reclamation, which will require different expertise, financial and time resources depending on the context, and some of them may already be in the process of reclamation. Once there is clarity on the disturbed and urban land that is actually suitable for the installation of RE (either immediately or after reclamation), these should be identified as acceleration areas of the relevant type of RE.

Long-term measures to prioritize disturbed and urban sites: For the long-term utilization of these sites, a number of measures need to be taken, the most important of which are:

- Establishing and ensuring the updating of a unified register of disturbed land in Bulgaria;
- Ensuring a link between cadastral data for disturbed and urban areas with the property register;
- Updating of the master plans in relation to the status of the disturbed land;
- Preparation of normative changes for timely, qualitative and effective reclamation of disturbed land with priority use for RES;
- Exploiting the potential of former industrial zones.

Ensuring active stakeholder participation

- Introduction of mandatory consultations with local communities, NGOs, and businesses during the mapping phase
- Development of online maps with the possibility for citizens to comment and report on the planned areas
- Support for joint projects involving municipalities, energy cooperatives, and SMEs

A key requirement for the process of mapping the potential for RES and the identification of acceleration areas under the renewed RED III Directive is that this is done in a coordinated manner, involving all relevant national, regional and local institutions and authorities, including grid operators and electricity distribution companies, as well as citizens, civil society organisations and local communities. It is important that this takes place at an early stage to ensure a higher level of transparency, democracy and public support for renewable energy generation and its spatial deployment.

Although public consultation is only statutorily required at the Strategic Environmental Assessment stage of the identified acceleration areas, in the context of the current chaotic development of renewable energy and the accumulated tensions between different stakeholders, it is very important to involve stakeholders from the very beginning of the process in the stages described below:

- Methodology Stage: The detailed methodology for the identification of the acceleration areas should be agreed with the academic, NGO and business sectors in order to increase public confidence in the final outcome of the process, and to capitalise on the specific expertise that each of these groups holds.
- Sensitivity and Technical Suitability Criteria Definition Stage: Experts from the academic, NGO and business sectors need to be involved in detailing the environmental sensitivity and technical suitability criteria for the areas and identifying the databases through which these criteria will be applied. These stakeholders also have a key role to play in providing data on these criteria that are not available in government institutions.
- Stage of the Environmental Assessment of potential acceleration areas
- Project implementation phase in the RES acceleration zones: opportunities for stakeholder involvement should be ensured throughout the implementation and operation of new RES sites, fostering constructive interaction between citizens, investors and local administration.
- A national campaign on the importance of RES and their spatial planning: the lack of sufficient information and knowledge on the benefits of RES often leads to tensions and opposition to investor initiatives by local communities. It is therefore important that the process of information and education on climate change, decarbonisation and the need for RES acceleration zones happens in parallel and is prioritised at national level.

Improving access to infrastructure and connection capacity:

- Prioritizing the development of the electricity transmission and distribution network in and around future accelerated development zones.
- Introduction of public maps showing connection capacity, available infrastructure, and network load forecasts.
- Promotion of energy storage solutions (batteries) to balance new RES capacities

The development of renewables in the coming years will require a significant expansion of the transmission and distribution network capacity to integrate new volumes of renewable energy into the electricity system. It is therefore important that the available grid capacity is already taken into account when mapping and identifying suitable areas for renewables, but it is even more important for identifying acceleration areas by 2030. The Plan for acceleration areas should pay particular attention to areas where capacity is expected to be insufficient. The Ministry of Energy should work closely with ESOs, utilities and other responsible institutions to align plans for grid capacity expansion with priority for the identified acceleration areas.

The maximum timeframe for permitting projects in acceleration areas set out in the RED III Directive is 12 months, and the same model of a simplified and accelerated permitting process will apply to electricity transmission infrastructure and storage systems, further necessitating their synchronised planning. The plan for the identification of acceleration areas should be accompanied by the following parallel measures, coordinated by the Ministry of Energy.

Finally, maximising digitisation of processes - implement digitisation of grid connection application procedures as required by the Directive, and providing easy public access to up-to-date information on available grid capacity to ensure greater transparency and easier planning for renewable energy investors is also key.