

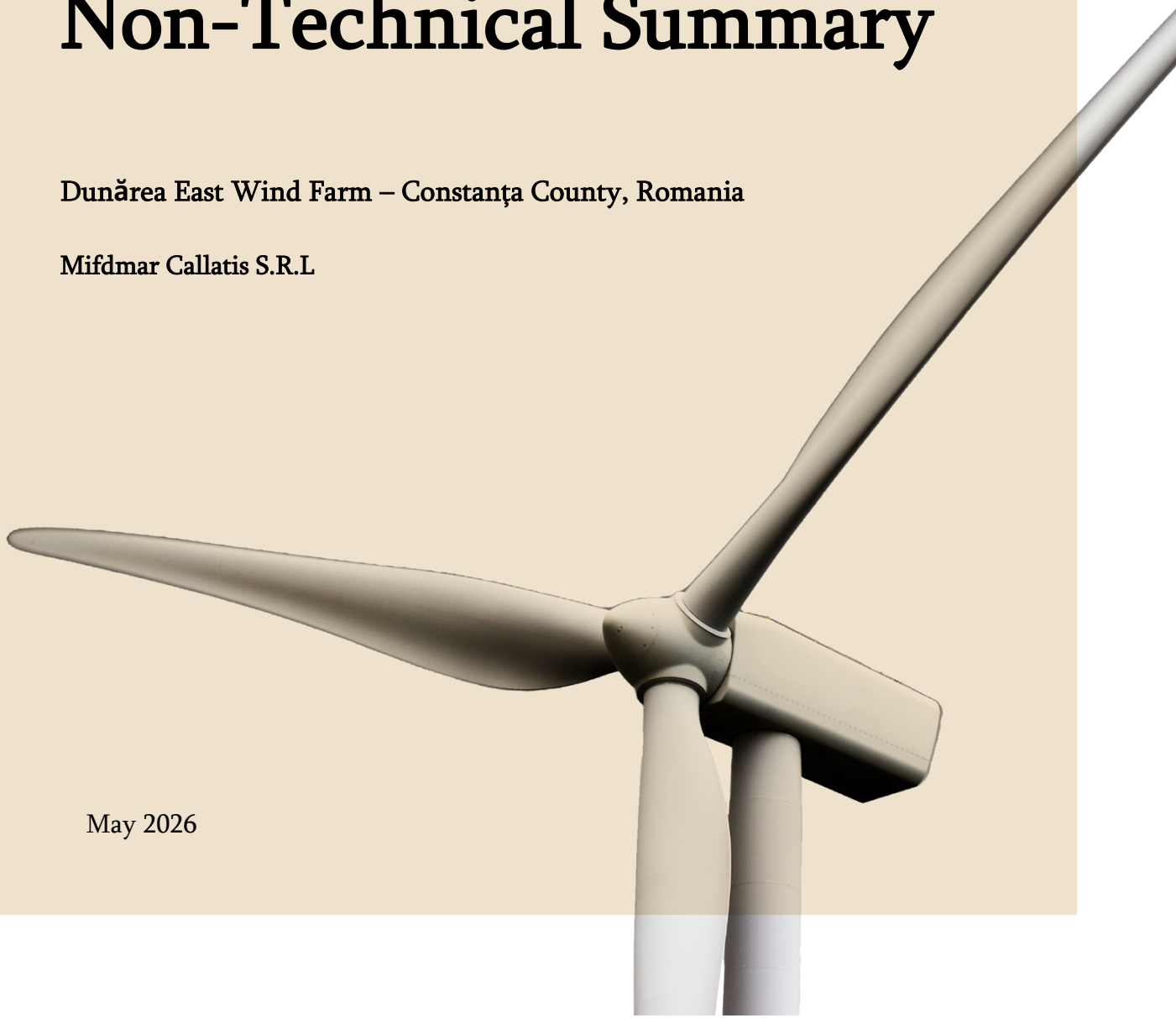
**DUNĂREA**

# **Non-Technical Summary**

**Dunărea East Wind Farm – Constanța County, Romania**

**Mifdmar Callatis S.R.L**

May 2026



## Contents

PURPOSE OF THE NON-TECHNICAL SUMMARY .....	3
PROJECT OVERVIEW .....	3
PROJECT LOCATION .....	3
INDICATIVE VIEW OF THE PROJECT AREA AND LOCAL LANDSCAPE .....	4
ENVIRONMENTAL SENSITIVITIES .....	9
RATIONALE OF THE PROJECT .....	10
PROJECT DESCRIPTION .....	10
Permanent Project Components .....	10
Temporary Project Components .....	11
Size and Capacity of the Project .....	12
Project Proponent and Key Entities .....	12
PROJECT PHASES AND TIMELINE .....	12
Construction Phase .....	13
Operational Phase .....	13
Decommissioning Phase .....	13
Project Schedule .....	14
ENVIRONMENTAL AND SOCIAL BASELINE .....	14
Baseline Methodology .....	14
Environmental Context .....	15
Bird and bat collision risk management .....	16
HOW THE BIRD DETECTION AND AUTOMATIC SHUT-DOWN SYSTEM WORKS .....	17
Social context .....	19
ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT .....	20
OTHER ASSESSMENTS (SUMMARY) .....	24



NOISE ASSESSMENT SUMMARY .....	25
ENVIRONMENTAL AND SOCIAL MANAGEMENT .....	25
Approach to Environmental and Social Management	25
Key Environmental and Social Commitments	26
STAKEHOLDER ENGAGEMENT .....	27
Approach to Stakeholder Engagement	27
Stakeholders' identification	27
Ongoing Engagement	28
Grievance Mechanism	28

## Purpose of the Non-Technical Summary

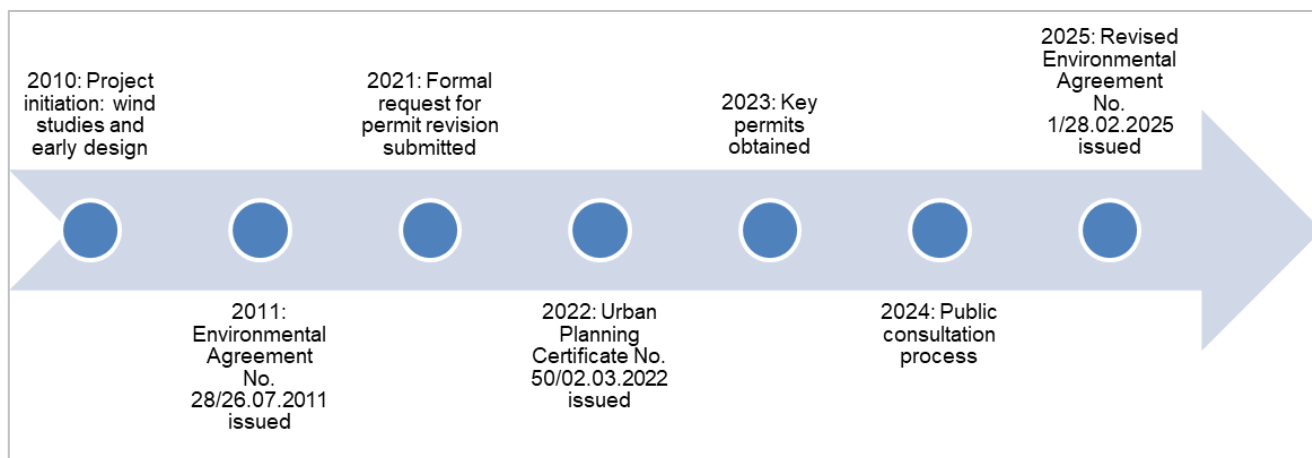
This Non-Technical Summary (NTS) provides a clear and accessible overview of the Dunarea East Wind Farm Project and its potential environmental and social effects. It is intended for non-specialist stakeholders, including local communities, authorities, and financial institutions.

The NTS summarises the key findings of the Environmental and Social Impact Assessment (ESIA), including the project description, main risks and impacts, and the measures proposed to manage them. Its objective is to support transparent communication and informed decision-making, in line with international lender requirements.

## Project Overview

The Dunarea Wind Farm Project is among Romania's largest onshore renewable energy initiatives. Originally planned as a single 600 MW project in Constanța County, it is jointly developed by Consenswind S.R.L, Midmar Callatis S.R.L, and UK-based Rezolv Energy. The project was divided into Dunarea East (Deleni Commune) and Dunarea West (Adamclisi Commune), with the current ESIA focusing on Dunarea East (hereafter "the Project"), which has an approved capacity of 300 MW and an expected annual electricity production of approximately 750 GWh.

The project began in 2010 with wind assessments and preliminary designs. Environmental permitting evolved over time, culminating in a Revised Environmental Agreement in 2025 approving 45 turbines.

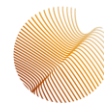


### KEY PERMITTING STEPS OF THE DUNAREA EAST WIND FARM

The international Environmental Social Impact Assessment (ESIA) process, initially led by ERM in 2023, was resumed by DNV Italy in 2025 to reflect Dunarea East's ready-to-build status.

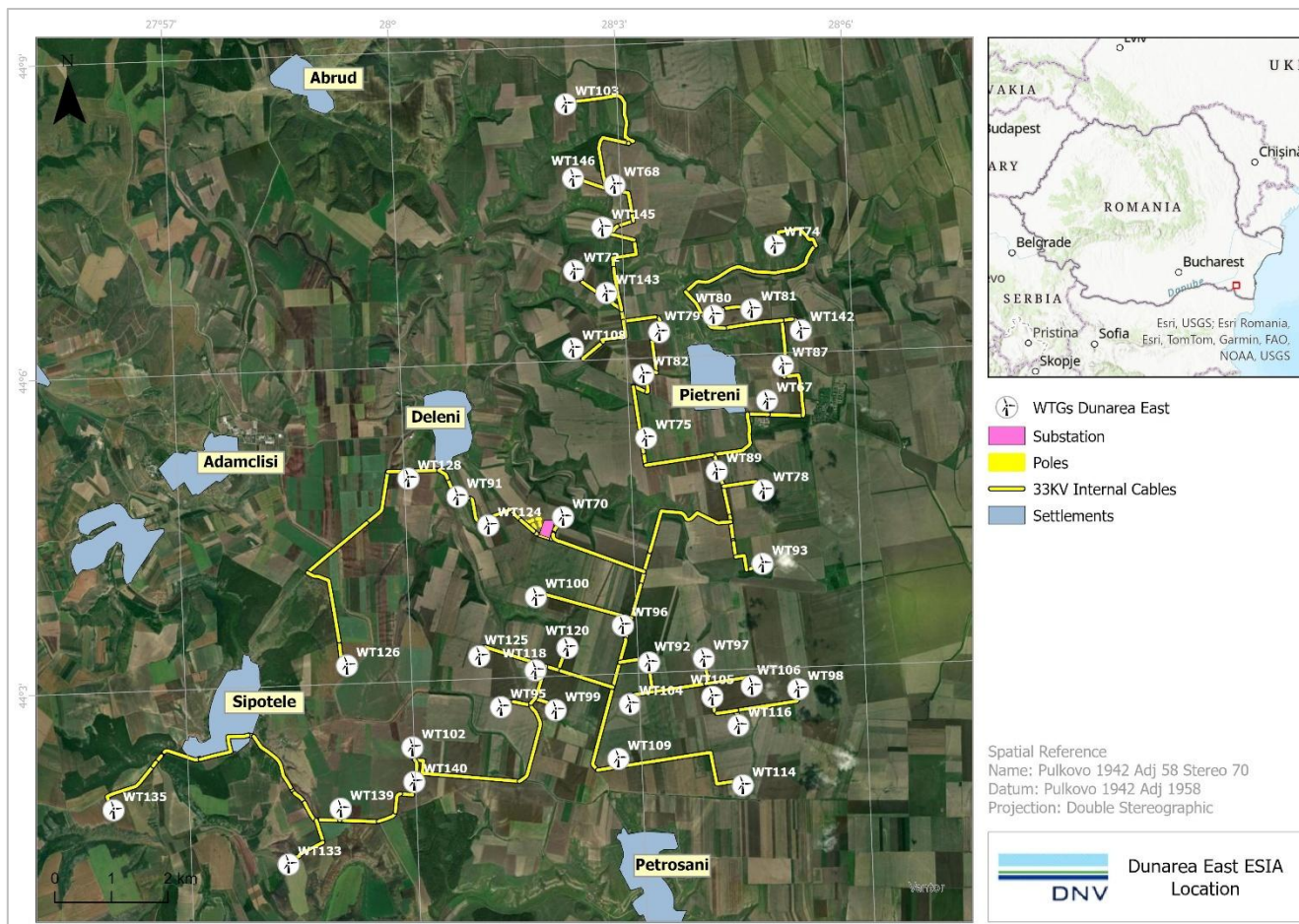
## Project Location

The Dunarea East Wind Farm is situated in the extra-urban area of Deleni Commune, Constanța County, southeastern Romania, entirely outside built-up zones and covering agricultural land, pasture,



## DUNAREA

and farm roads. Land ownership is primarily private, with a small portion of communal pastureland, and the area remains designated for agricultural use. The site is bordered by Peștera, Independența, Cobadin, and Adamclisi Municipalities.



### PROJECT LOCATION

## Indicative view of the project area and local landscape

The Project is located in an open, predominantly agricultural landscape. The visual assessment considered how turbines may be seen from nearby roads, settlements and recreational viewpoints, and identified mitigation measures where relevant (please see below in Photomontage from VP1, VP 25, VP 30, VP 39 and VP 49).



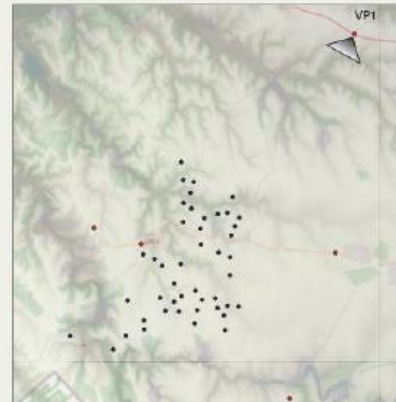


**DUNAREA**

**Current**



**Photomontage**



### VP1

Coordinate System

x: 754815,508742 y: 307591,321356

View direction: Southwest

WTGs in the field of view 43

Nearest WTG in the field of view 14.5 km

Farther WTG in the field of view 40.3 km

The view is taken along highway A2, in a agricultural area near the village of Medgidia.

Sensitivity

Magnitude

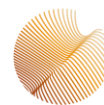
Significance

Low

Negligible

Negligible

**Photomontage from VP1**

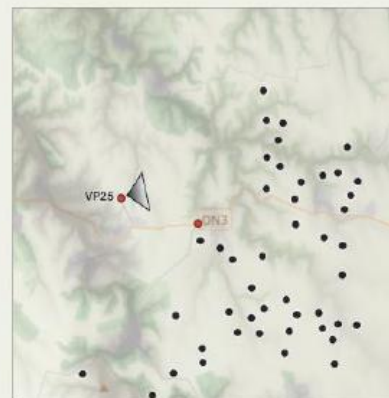


DUNAREA

Current



Photomontage



### VP25

DNV

#### Coordinate System

x: 7 56847,575113 y: 293247,624454

#### View direction: Northeast

WTGs in the field of view 24  
Nearest WTG in the field of view 3.9 km  
Farther WTG in the field of view 10.3 km

The view is taken from the road leading the hystorical monument "Tropaeum Traiani" near the village of Adamclisi which is a recreational spot for people.

Sensitivity	Magnitude	Significance
Moderate	Moderate	Moderate

Photomontage from VP25

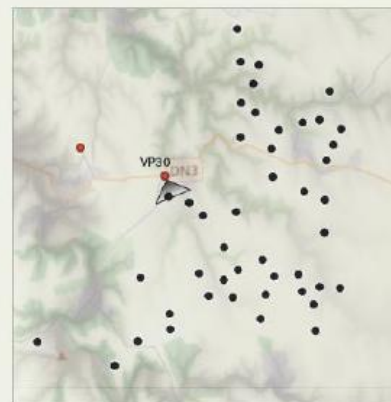


DUNAREA

Current



Photomontage



DNV

### VP30

Coordinate System

x: 740229,726893 y: 292122,855518

View direction: Southeast

WTGs in the field of view 17

Nearest WTG in the field of view 0.7 km

Farther WTG in the field of view 6.8 km

The view is taken along road DN3, in a agricultural area near the village of Defeni.

Sensitivity	Magnitude	Significance
Low	High	Moderate

Photomontage from VP30



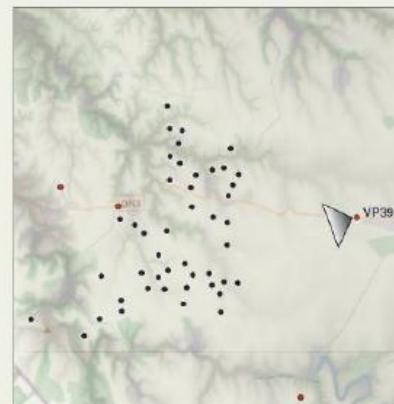


DUNAREA

Current



Photomontage



### VP39

DNV

#### Coordinate System

x: 754198,801757 y: 291485,722956

View direction: West

WTGs in the field of view 20

Nearest WTG in the field of view 7.8 km

Farther WTG in the field of view 12 km

The view is taken along the road to Cobadin, in a agricultural area near the village of Vilsoara.

Sensitivity

Moderate

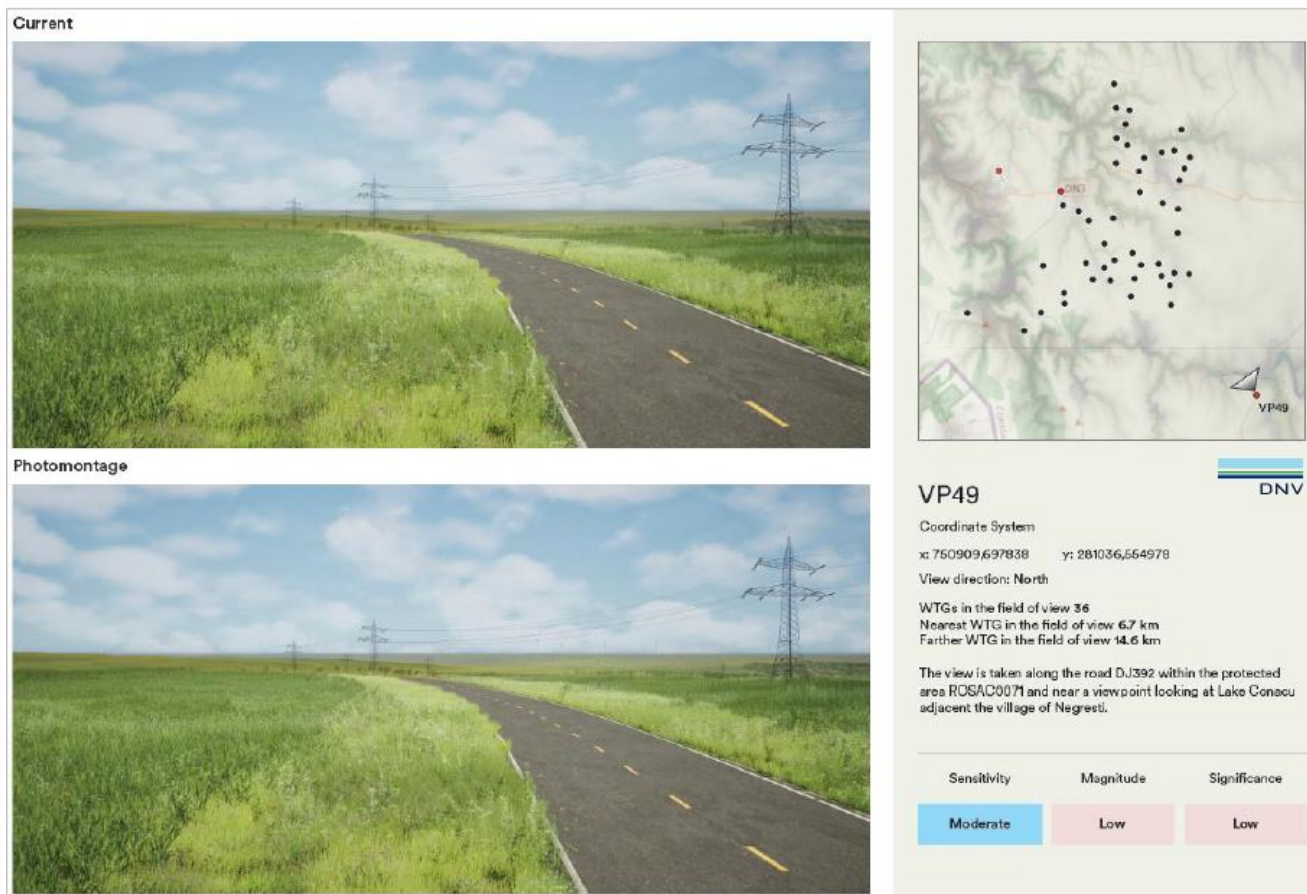
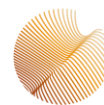
Magnitude

Moderate

Significance

Moderate

Photomontage from VP39

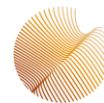


**Photomontage from VP49**

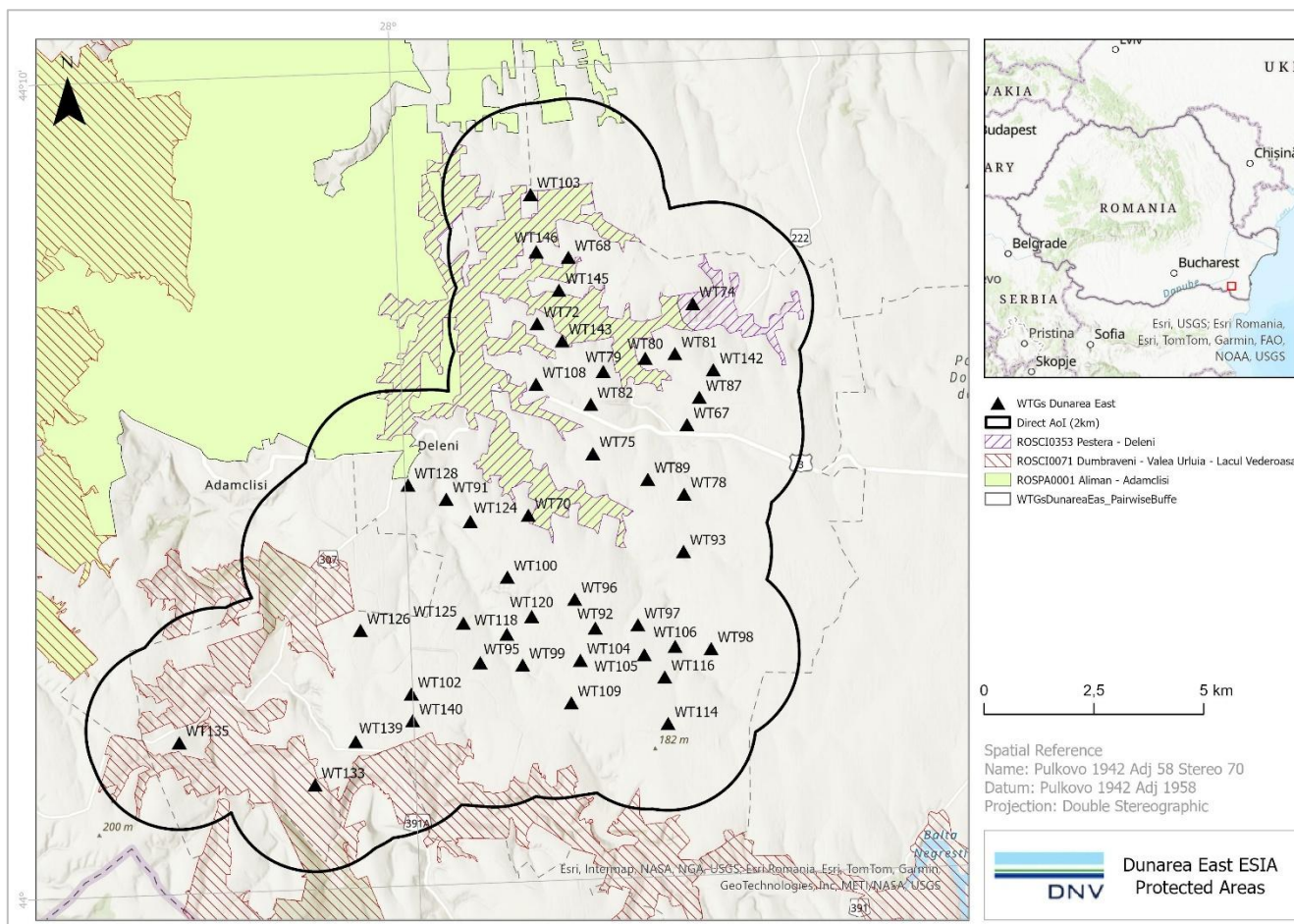
## Environmental sensitivities

The Project is located mainly within an agricultural landscape in Deleni Commune, Constanța County. The Project area partially overlaps two Natura 2000 sites, ROSCI0353 Peștera-Deleni and ROSCI0071 Dumbrăveni-Valea Urluia-Lacul Vederoasa, with one turbine located within each site. These turbines are located on arable land.

The ESIA, Critical Habitat Assessment and Biodiversity Management Plan have assessed the relationship between the Project and nearby protected areas, habitats, birds, bats and other biodiversity features. The Project includes mitigation and monitoring measures to avoid or reduce impacts on biodiversity during construction and operation.



DUNAREA



**Natura 2000 Protected Areas in relation to the Project**

## Rationale of the project

Dunarea East contributes to Romania's renewable energy expansion and EU climate objectives, directly supporting the National Integrated Energy and Climate Change Plan (PNIESC) 2020–2030 and European Union targets for renewable energy. The wind farm delivers significant environmental benefits by reducing greenhouse gas emissions, displacing fossil fuel generation, and avoiding millions of tonnes of CO<sub>2</sub>, SO<sub>2</sub>, and NO<sub>x</sub> over its operational life. The Project enhances energy security, aligns with EU Energy Union priorities, and advances global objectives for climate mitigation, sustainable energy infrastructure, and clean technology adoption. Legally, renewable electricity production is recognized as a public interest activity, with full integration into the National Electricity System and required authorizations from ANRE.

## Project Description

### Permanent Project Components

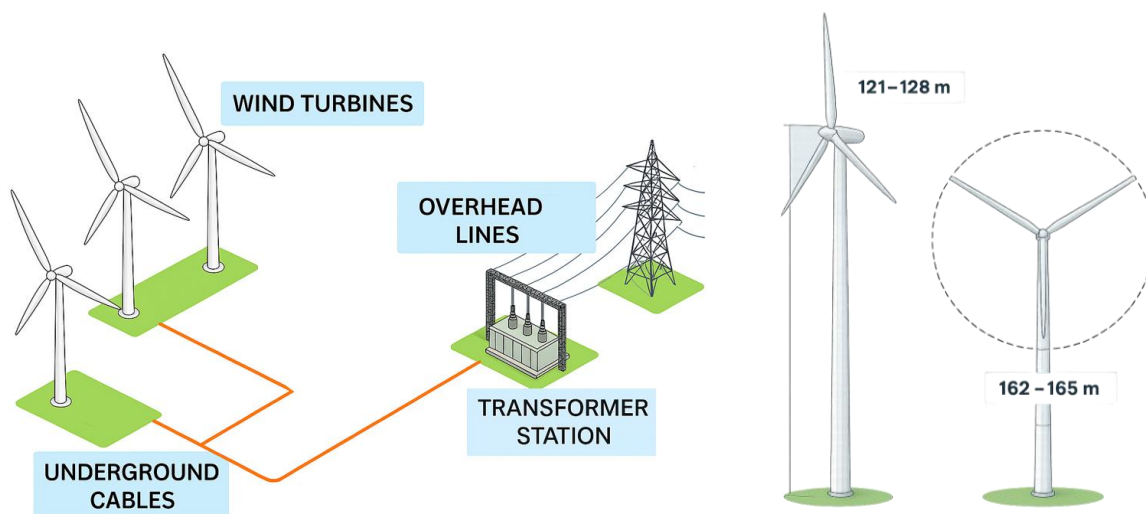
The Project's permanent infrastructure includes:





- the 45 wind turbine generators (WTGs) with a hub height between 121–128 m, and rotor diameters of 162–165 m
- turbine platforms,
- the 33/400 kV Deleni substation,
- underground and overhead cable lines, and
- access roads.

Electrical energy is transformed on-site to 33 kV and collected via underground cables to the Deleni 33/400 kV transformer station, where it is stepped up to 400 kV for injection into the SEN. Grid connection includes short overhead lines to existing transmission corridors, optical fiber communication, tele-protection systems, and metering infrastructure. No separate associated facilities have been identified for the Project. The grid connection infrastructure forms part of the Project and has been assessed within the ESIA, including potential environmental and social risks and the required mitigation and monitoring measures.

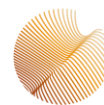


**ILLUSTRATION OF PERMANENT COMPONENTS**

## Temporary Project Components

Construction requires temporary facilities such as a 15,000 m<sup>2</sup> site for site management, equipment storage, and personnel operations, as well as crane and assembly platforms, laydown areas, water abstraction points, and power supply infrastructure.

Temporary containers and sanitary facilities will be provided in compliance with Romanian regulations and international occupational health and safety standards. Workers will be accommodated in private residences nearby, with all necessary welfare and logistical support provided according to IFC and EBRD guidance. All temporary installations will be removed, and the land reinstated after construction.



## Size and Capacity of the Project

The Project is designed for an approved grid injection capacity of 300 MW and is expected to generate approximately 750 GWh of electricity per year, depending on the final turbine selection; this will be achieved through the installation of up to 45 wind turbines, each with a capacity of up to 7 MW (for a total installed capacity of up to 315 MW), with four potential turbine models currently under consideration.

The permanently occupied land will be about 36 ha.

## Project Proponent and Key Entities

The Project is sponsored and led by Rezolv Energy, which acts as the Project Owner and is responsible for the overall development, financing, construction and operation of the wind farm. At the local level, the Project is being developed through Midmar Callatis S.A., the Romanian Project Company for the Dunarea East Wind Farm.

Construction will be implemented through contracted specialists under the Project's Environmental and Social Management System (ESMS).

## Project Phases and Timeline

The Dunarea East Wind Farm Project is structured into four main phases: planning, construction, operations, and decommissioning.

Project Phase	Key Activities	Estimated Duration	Milestone / Target Date
<b>Planning</b>	This phase includes the preparation of technical documentation, permitting, land use planning, and environmental assessment activities. It lays the foundation for all future project activities. It also includes the financing period.	4 months	March 2026
<b>Construction</b>	This phase will start at the Notice to Proceed (NTP) date and will comprise: site preparation works, BoP Engineering, roads and Crane Pads, WTG foundations and soil improvement, Collector System, Substation, Execution of OHL, TSA Equipment Manufacturing, anchor cages delivery to site, WTG Equipment delivery to site, turbine erection and mechanical completion in two stages and grid compliance.	About 24 months	July 2028
<b>Operation</b>	Commissioning, energy production, maintenance. COD is expected to start in a first stage in May 2028.	30 years (up to 35 years)	
<b>Decommissioning</b>	Turbine dismantling, removal of infrastructure, land restoration	About 24 months	





## Construction Phase

The construction phase includes a range of activities that may temporarily generate environmental and social impacts. These activities can be grouped as follows:

- **Site Preparation and Earthworks:** Initial works include site clearance, ground levelling and soil investigations. These activities may result in temporary impacts such as dust generation, soil disturbance and limited vegetation removal.
- **Road Construction and Upgrades:** New access roads will be constructed and existing roads upgraded to allow the transport of heavy equipment. These works may generate traffic, noise and local disturbance, as well as temporary impacts on land use.
- **Foundations and Civil Works:** Excavation and construction of turbine foundations and working platforms involve earthworks and use of construction materials. Potential impacts include soil movement, noise, and temporary occupation of land.
- **Transport and Installation of Turbines:** The delivery and installation of turbine components require heavy transport and crane operations. This phase may generate increased traffic, noise and temporary visual disturbance.
- **Electrical Works and Grid Connection:** Trenching and installation of underground cables, as well as construction of the transformer station and overhead lines, may lead to temporary land disturbance, noise and localised impacts along cable routes.
- **Site Restoration:** At the end of construction, temporary areas are cleared and restored. Remaining impacts are limited to the permanent footprint of turbines, roads and electrical infrastructure.

During the construction phase, the workforce is expected to peak at approximately **100 to 150 workers**, including both skilled and unskilled labour, technical specialists and security personnel. Workforce numbers will fluctuate depending on the stage of construction.

## Operational Phase

During operation, the wind farm generates electricity for approximately 30 years.

The turbines operate automatically and are monitored remotely. No permanent workforce is required on site, although technicians visit regularly for inspections and maintenance. Around **7 to 11 personnel** will be required for operation of the transformer station, together with approximately **20 maintenance staff** responsible for inspections and repairs. A small number of security staff will also be present.

Electricity generated by the turbines is transported through underground cables to the transformer station and then delivered to the national grid. Regular maintenance is carried out to ensure reliable performance. This includes routine inspections, minor repairs and occasional replacement of components.

## Decommissioning Phase

The Decommissioning Phase is planned after at least 30 years of operation, involving either repowering or full dismantling of the wind farm. Decommissioning involves:



- dismantling of turbines and equipment;
- removal of electrical infrastructure;
- recycling or disposal of materials;
- restoration of the land.

Most components, such as steel and electrical parts, can be recycled. After decommissioning, the land will be restored as close as possible to its original condition.

## Project Schedule

Project Phase	Key Activities	Estimated Duration	Milestone / Target Date
<b>Planning</b>	This phase includes the preparation of technical documentation, permitting, land use planning, and environmental assessment activities. It lays the foundation for all future project activities. It also includes the financing period.	4 months	March 2026
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<b>Decommissioning</b>	Turbine dismantling, removal of infrastructure, land restoration	About 24 months	

## Environmental and Social Baseline

### Baseline Methodology

The baseline environment has been determined through desktop studies and detailed site visits and site-specific data collection that was carried out as part of the ERM Draft ESIA and the AON National EIA.

It is to be noted that, in the context of preparing the current baseline description for the Project, DNV did not perform any field work. The baseline information retrieved from the existing studies have been considered sufficient and recent enough to provide a clear representation of the current environmental and social status of the area, being most of them collected in from 2021 to 2023.



## Environmental Context

Component	Description
<b>Location and Land Use</b>	The Project is located in southeastern Romania, in Constanța County, within a predominantly rural area characterised by agricultural land. The landscape is already largely modified by human activities, with limited presence of urban or industrial development.
<b>Topography</b>	The local topography can be described as gentle to moderately undulating, allowing good accessibility and stable ground conditions for construction activities.
<b>Climate</b>	The area has a continental and relatively dry climate, with hot summers, mild but windy winters, and frequent periods of drought. Wind conditions are generally favourable for energy generation.
<b>Geology and Soils</b>	Ground conditions are stable and suitable for construction, with soils primarily used for agriculture and already influenced by cultivation practices.
<b>Water Sources</b>	both surface and groundwater resources are sparse and highly influenced by regional geological and climatic conditions. The Project area falls within two groundwater bodies which are publicly managed by the Constanta County – Dobrogea River Basin Administration, which monitors their quality regularly.
<b>Air and Noise Quality</b>	Overall, according to the AON National EIA, Constanța County's air quality is tracked by the National Air Quality Monitoring Network (RNMCA). A noise baseline survey was conducted by ERM in 2023 at the Project area to characterize the existing environmental sound levels prior to any construction activities.
<b>Habitats and Land Cover</b>	The landscape is highly dominated by agricultural use, with scattered natural and semi-natural elements and minimal urban or industrial development, indicating that human intervention is already the prevailing factor shaping the land cover. From a biogeographical perspective, the Project lies within the Pontic Steppe Ecoregion (PA0814), historically characterized by steppe grasslands ( <i>Stipa spp.</i> , <i>Festuca spp.</i> ) and forest-steppe mosaics. However, these natural habitats have been extensively converted into arable land and pasture, resulting in a highly modified and fragmented landscape, where remnants of natural habitats persist only in small, isolated patches.
<b>Protected Areas and Habitat</b>	The Project partially overlaps two Natura 2000 Sites of Community Importance (ROSCI0353 Peștera – Deleni and ROSCI0071 Dumbrăveni – Valea Urluia – Lacul Vederoasa), although the overlap occurs exclusively on intensively cultivated agricultural land of negligible ecological value, with no qualifying habitats or species recorded within the affected footprint. Additional nearby designated areas include ROSPA0001 Aliman – Adamclisi (SPA), also recognized as an Important Bird Area (IBA) and Key Biodiversity Area (KBA), and ROSPA0036 Dumbrăveni. The wider area also includes IBAs (Dumbrăveni-Plopeni and Aliman–Adamclisi) and the Ramsar site Ostroavele Dunării – Bugeac – Iortmac.



Component	Description
	Habitat surveys identified a predominance of low ecological value habitats, including ruderal vegetation, anthropogenic herbaceous communities, and intensive agricultural land. However, three Annex I habitat types of conservation importance (Ponto-Sarmatic steppes – 62C0*, Ponto-Sarmatic deciduous thickets – 40C0*, and Euro-Siberian forest-steppe woods – 9110*) occur within the wider area.
<b>Flora</b>	Flora surveys recorded 181 vascular plant species, of which eight are listed on the Romanian Red List. However, based on the field studies performed, no plant species of conservation concern were confirmed within the Project footprint, which is dominated by ruderal and segetal species typical of agricultural environments.
<b>Terrestrial Fauna</b>	Faunal surveys identified several species of conservation interest. Mammal surveys confirmed the presence of species such as <i>Spermophilus citellus</i> (Endangered), <i>Mesocricetus newtoni</i> (Near Threatened), and <i>Testudo graeca</i> (Vulnerable). Reptile surveys recorded common species of low conservation concern.
<b>Birds and Bats</b>	<p>Ornithological surveys recorded high species richness, with 118 species historically and 126 species during 2022–2023 monitoring, including 40 Annex I species and 15 species listed as Near Threatened or higher on the IUCN Red List. The site is used by migratory, foraging, and locally breeding birds, although it does not support nesting populations of the most sensitive raptors. Bat surveys recorded 22 species or species groups (approximately 69% of Romania's bat fauna), all protected under Annex IV of the Habitats Directive. The species <i>Miniopterus schreibersii</i> is also listed under Annex II and classified as Vulnerable globally.</p> <p>A total of 134 species have been identified as Priority Biodiversity Features (PBFs) in accordance with EBRD ESR6, including 115 migratory bird species regularly using the Project area and additional species of conservation concern across taxa.</p>
<b>Critical Habitats</b>	The Critical Habitat Assessment (CHA) indicates that the Project does not meet IFC PS6 criteria for Critical Habitat. However, under EBRD ESR6, the presence of Annex I habitats (within the wider area) and qualifying species results in a precautionary classification of certain features as Critical Habitat and confirms the presence of Priority Biodiversity Features requiring specific mitigation and monitoring measures.

## Bird and bat collision risk management

The Project includes specific measures to reduce collision risks for birds and bats during operation. These include minimising turbine lighting to avoid attracting fauna, installing bird flight diverters and insulated overhead lines, and using automated shut-down-on-demand technology where required.



Shut-down-on-demand systems use cameras or sensors to detect birds approaching turbines. Where a collision risk is identified, the system can trigger a temporary slow-down or shutdown of selected turbines. The turbines can then restart once the risk has passed.

Additional measures include blade feathering and turbine curtailment during periods of high bat activity and low wind speeds. Bird and bat mortality will be monitored during operation, and the results will be used to adjust mitigation measures where needed.

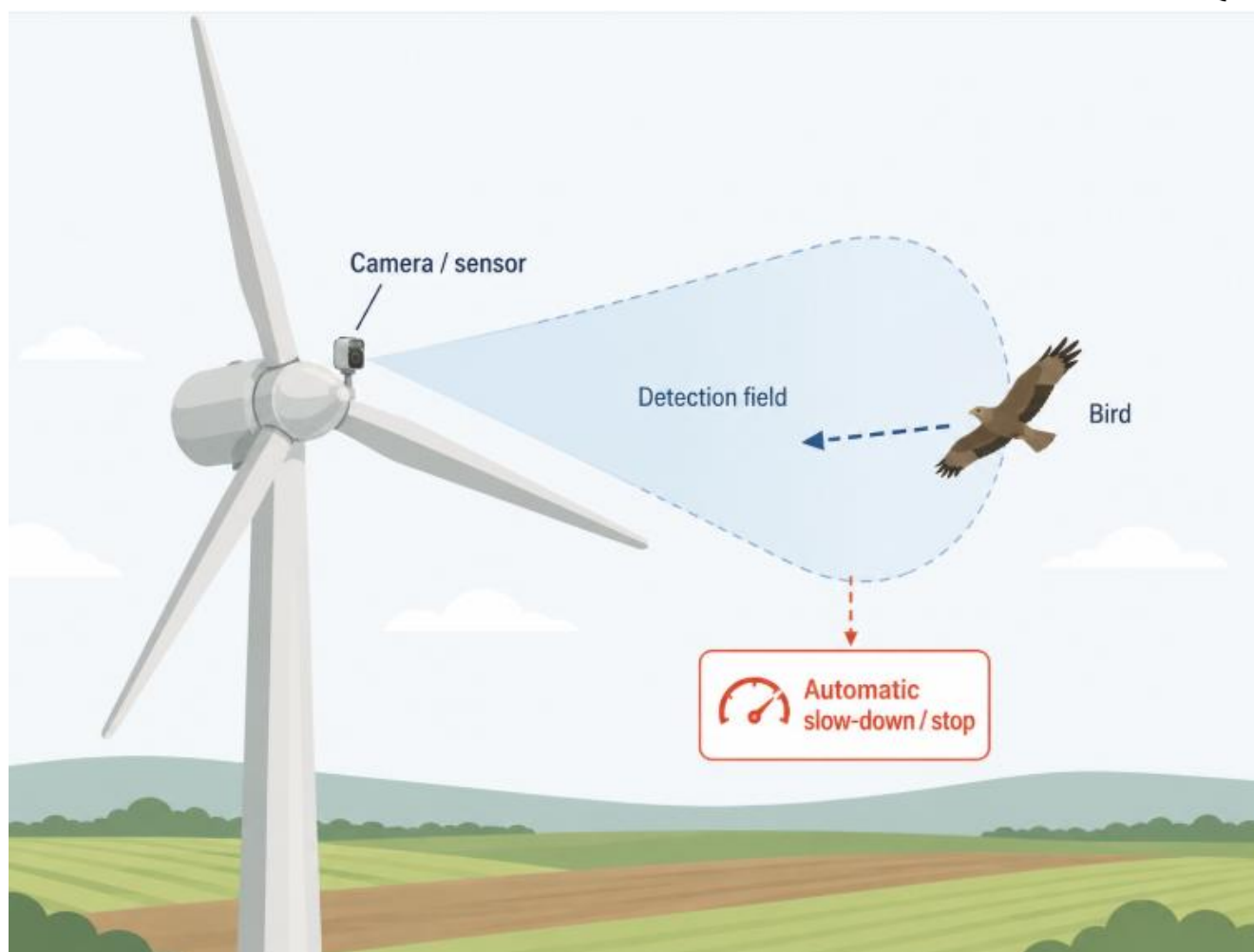
## How the bird detection and automatic shut-down system work

The Project may use camera-based bird detection systems to help reduce collision risk during operation. These systems are automated monitoring tools installed on or near selected wind turbines. They typically include high-resolution optical cameras, and in some systems thermal or infrared cameras, which continuously scan the airspace around the turbine and detect birds approaching the rotor-swept area.

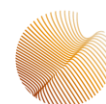
The cameras are connected to software that analyses the bird's size, movement, flight path and distance from the turbine. If the system identifies a potential collision risk, it can trigger an automatic response, such as slowing down or temporarily stopping the relevant turbine. The turbine remains slowed or stopped only for the period needed to allow the bird to pass. Once the risk has passed, the turbine can restart.

This measure helps reduce the likelihood of bird collisions during operation. It will be supported by bird and bat monitoring and adaptive management, meaning that mitigation measures can be reviewed and adjusted where monitoring results show this is needed.





**Simplified illustration of a camera-based bird detection and automatic turbine slow-down/shutdown system**



## How the bird detection and automatic shut-down system works



Illustrative diagram intended to explain the mitigation approach in concise terms

## Social context

Component	Description
<b>Socio-economic context</b>	<p>The land plots required by the Project belong to the administrative territorial unit of Deleni Commune, which is part of Constanța County in Romania's South-East Development Region. The plots are primarily privately owned arable land (about 95%), with a smaller portion of pasture and communal roads under the ownership of the Deleni Local Council.</p> <p>The settlements located within the 2 km buffer include: Deleni (administrative center of the commune), Petroșani, Pietreni and Șipotele. These are small rural villages with dispersed housing patterns, agricultural land use, and limited infrastructure. Therefore, residences within 2 km of certain turbines may experience temporary impacts during construction and Long-term operational impacts.</p> <p>The local economy of Deleni Commune is primarily based on agriculture, with most households relying on crop cultivation, livestock husbandry, and small-scale farming for subsistence and income. The construction and operation of the Dunarea Wind Farm are expected to positively influence this rural economy by creating short-term employment opportunities, stimulating local services such as transport and supply chains, and improving road infrastructure through reinforcement works, which can facilitate better market access for agricultural products. Importantly, the project does not involve physical displacement and is unlikely to disrupt existing farming activities,</p>



Component	Description
	meaning that while it introduces new economic benefits, it does so without significant adverse socio-economic effects on the community's primary livelihood.
<b>Archaeology and Cultural Heritage</b>	The archaeological baseline confirms that the Project area is located within a landscape of high archaeological sensitivity, characterised by a long and continuous history of human occupation from prehistory to the modern period. Desktop studies and national inventories identified numerous recorded sites, including tumuli, settlements and Roman infrastructure, which were further investigated through a staged programme of field surveys, intrusive diagnostics and preventive excavations carried out between 2022 and 2025. These investigations confirmed the presence of Bronze Age funerary monuments, Roman settlements and road systems, Early Medieval reuse, and First World War defensive features, while also verifying the absence of remains in several planned infrastructure locations. The results enabled refinement of archaeological constraints, optimisation of the Project layout and the issuance of archaeological discharge certificates for investigated areas.

## Environmental and Social Impact Assessment

The ESIA and all related documents prepared for the Project assessed potential impacts during construction, operation and decommissioning and defined appropriate mitigation measures whenever needed. With the implementation of such mitigation and management measures, residual impacts are generally expected to be minor or negligible, except for three (3) impact areas which retain **moderate residual significance**, despite the application of mitigations:

- Community exposure to security-related risks affecting Vulnerable and Disadvantaged Groups, due to the presence of non-local workers during both construction and operational phases (residual significance: *moderate*).
- Potential direct physical impacts on cultural heritage, associated with ground disturbance during construction (residual significance: *moderate*).
- Potential mortality of birds and bats due to collision with wind turbines (residual significance: *moderate*).

In such cases, the residual magnitude of impact is reduced following mitigation. The remaining moderate significance is driven by the high sensitivity of the affected receptors, which is consistent with IFC/EBRD significance methodologies. These impacts are addressed through targeted management plans (as outlined in the ESMP), which ensure that risks remain controlled, monitored and capable of further reduction through adaptive management.

The table below presents the environmental and social impacts identified as having medium or high significance, together with the corresponding mitigation measures applied and the resulting residual significance after mitigation.



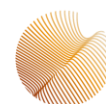
Impacts associated with the decommissioning phase are expected to be generally low and remain at acceptable levels, with mitigation measures largely similar to those applied during the construction phase; therefore, they are not presented in detail in this NTS.

Aspect	Impact	Receptor	Mitigation Measures	Significance after mitigation
<b>Construction Phase</b>				
Land Preparation (site clearance, excavation and levelling), fencing, and civil works  Construction of turbine foundations, transmission line pylons, internal road, auxiliary works and turbine installation  Construction of associated 400 kV transmission lines – two double-circuit LEA lines (~0.3 km) and 8 towers  Construction of associated additional access roads (new or widened roads inside project area)	Degradation of air quality due to dust emission in the atmosphere	Air quality - residential	Mitigation measures focus on minimizing dust emissions through careful site management, including limiting vegetation clearance, reducing exposed soil areas, and sequencing earthworks. Additional measures include regular watering of unpaved roads, covering transported materials, controlling vehicle speeds, and ensuring proper maintenance of machinery to reduce emissions. Traffic will be managed to avoid unnecessary movements near residential areas, and modern equipment will be used where possible. Stockpiles will be properly managed, and any community concerns will be addressed through a grievance mechanism implemented throughout all project phases.	<b>Negligible</b>
		Air quality - construction workers		<b>Negligible</b>
	Degradation of air quality due to pollutants emitted in the atmosphere from engines of vehicles and equipment	Air quality - residential		<b>Negligible</b>
	Soil compaction and erosion	Soil		<b>Low</b>
Equipment and material transport and supply	Loss or displacement of, or disturbance to, fauna species, due to clearance of vegetation for project infrastructure or access to infrastructure, noise, light and movement of vehicles	Birds and Bats	Mitigation measures focus on avoiding habitat disturbance, reducing noise and visual disturbance, and protecting sensitive species during construction, with particular attention to birds and bats. Impacts shall be managed through the preparation of a dedicated Biodiversity and Monitoring Management Plan (BMP).	<b>Negligible</b>
Land Acquisition / Land use	Temporary economic displacement caused by restricted access to agricultural land and pasture routes due to temporary land occupation and construction activities	Vulnerable and Disadvantaged Groups	Develop and implement a Livelihood Restoration Plan (LRP) aligned with IFC PS5/EBRD ESR5. Ensure appropriate disclosure of information and consultation with affected people, including advance notice of construction activities and temporary access restrictions.	<b>Negligible</b>
	Increased pressure on local infrastructure and public services due to the influx of non-local workers.	Public Services & Local Institutions	Mitigation measures focus on reducing pressure on local infrastructure by planning workforce needs and coordinating closely with local authorities. Workers will be accommodated using existing housing solutions without affecting community access to services, and key facilities (such as sanitation, water and waste management) will be provided on site. Traffic will be managed to	<b>Low</b>



Aspect	Impact	Receptor	Mitigation Measures	Significance after mitigation
			avoid congestion, and workers will be trained to use local infrastructure responsibly. Ongoing engagement with local stakeholders will ensure that any emerging pressures are identified and addressed promptly.	
	Pressure on local housing availability and affordability due to accommodation needs of non-local construction workers.	Local population and communities	Mitigation measures aim to minimise pressure on the local housing market through careful workforce planning and coordination with local authorities. Non-local workers will be accommodated in existing off-site housing that meets appropriate standards, avoiding the need for new housing developments. The local rental market will be monitored to identify any potential increases in prices or displacement risks, and accommodation arrangements will be managed in coordination with contractors and local authorities to ensure an orderly and balanced use of available housing.	Low
	Increased security risks, including potential rise in crime, communicable diseases, and social issues due to the influx of non-local workers.	Local population and communities	Mitigation measures aim to manage potential social impacts related to workforce presence by prioritising local employment where possible and promoting responsible worker behaviour. A Workers' Code of Conduct will be implemented, together with training on cultural awareness and community relations. Measures will also be in place to protect community health and safety, including proper sanitation, waste management and disease prevention. A grievance mechanism will allow community members to raise concerns, and specific provisions will be introduced to safeguard vulnerable groups.	Low
		Vulnerable and Disadvantaged Groups		Moderate
	Health and safety risks for workers due to inadequate accommodation, poor sanitation, and non-compliance with labour and safety standards.	Workforce	Mitigation measures aim to ensure safe and fair working conditions for all workers. Adequate accommodation will be provided in line with international and national standards, including proper space, sanitation, water supply and hygiene, with regular inspections and equal conditions for all workers. A confidential grievance mechanism will be available to raise concerns. In addition, supply chain risks will be managed through strict contractor requirements, including compliance with labour and health and safety standards, due diligence processes, and continuous monitoring of performance. All workers, including those indirectly employed, will have access to grievance mechanisms to report issues safely.	Low
	Health and safety risks for supply chain workers due to inadequate labour conditions and limited oversight of global third-party suppliers.	Workforce		Low
Equipment and material transport and supply	Temporary traffic congestion and slower travel speeds due to increased movement of heavy and oversized vehicles and daily worker commuting.	Local population and communities	Mitigation measures are consolidated within a comprehensive Traffic Management Plan (TMP), which will address traffic-related impacts during construction and decommissioning. The TMP will define transport routes, scheduling, traffic control measures and safety procedures to minimise congestion and ensure safe road use. It will also include coordination with local authorities, communication with communities, and measures to manage heavy and oversized deliveries. Road conditions will be protected through pre-construction surveys, temporary upgrades and post-construction restoration where needed. In addition, strict driver	Low
	Deterioration of local and regional road surfaces from frequent heavy truck deliveries and transport of oversized loads.	Local population and communities		Low
		Road Infrastructure		Negligible





Aspect	Impact	Receptor	Mitigation Measures	Significance after mitigation
			training, vehicle standards and safety controls will be applied, together with ongoing monitoring to adjust measures as required.	
Land Preparation (site clearance, excavation and levelling), fencing, and civil works	Direct physical impacts on cultural heritage due to ground disturbance and construction activities	Cultural Heritage	Mitigation measures for cultural heritage focus on avoiding impacts through project design, managing known archaeological features, and addressing any unexpected discoveries during construction. Where possible, project infrastructure has been routed to avoid identified sites, while preventive archaeological investigations have been carried out in areas that could not be avoided. During construction, all ground-disturbing works will be subject to archaeological supervision, with clear procedures in place to stop works and adapt the design if significant findings are identified. A formal chance finds procedure will ensure that any unexpected discoveries are properly managed. Contractors will be trained on cultural heritage protection, and continuous coordination with relevant authorities will be maintained. Measures will also be implemented to ensure that access to cultural and religious sites is preserved and that construction activities do not disrupt local cultural practices.	Moderate
Construction of turbine foundations, transmission line pylons, internal road, auxiliary works and turbine installation	Indirect impacts on cultural setting and access due to visual intrusion, dust deposition and temporary movement restrictions	Cultural Heritage		Negligible
Construction of associated 400 kV transmission lines – two double-circuit LEA lines (~0.3 km) and 8 towers		Intangible Cultural Heritage		Negligible
Construction of associated additional access roads (new or widened roads inside project area)				
Operational Phase				
WTG Operation WTG Inspection and Maintenance	Mortality due to collision with wind turbines	Birds and Bats	Mitigation measures during operation focus primarily on reducing collision risks for birds and bats. These include minimising turbine lighting to avoid attracting fauna, installing bird flight diverters and insulated overhead lines, and implementing advanced detection systems (e.g. camera-based shut-down-on-demand) to automatically slow down or stop turbines when birds are present. Additional measures include blade feathering and turbine curtailment during periods of high bat activity and low wind speeds. Continuous monitoring of bird and bat mortality will be carried out, supported by an adaptive management approach to further refine mitigation over time. All other biodiversity measures—such as habitat restoration, control of invasive species, pollution prevention and general fauna protection—will be implemented through the Biodiversity Management Plan (BMP).	Moderate
	Mortality due to electrocution with overhead transmission line and pylons	Birds and Bats		Negligible
		Permanent economic displacement due to loss of land access within the Project footprint and safety buffer zones	Vulnerable and Disadvantaged Groups	Develop and implement a Livelihood Restoration Plan (LRP) aligned with IFC PS5/EBRD ESR5. Ensure appropriate disclosure of information and consultation with affected people, including advance notice of construction activities and temporary access restrictions.
WTG Operation		Landscape (VP39)	For Operational Phase impacts the following mitigation measures are proposed:	Low



Aspect	Impact	Receptor	Mitigation Measures	Significance after mitigation
	Permanent vertical structures alter landscape character.	Road users (along road DN3 – VP30)	<ul style="list-style-type: none"> <li>Consider implementing small-scale landscape compensation projects such as green areas, scenic paths or upgraded public spaces, prioritising locations with highest significance visual exposure.</li> <li>Engage with local communities through clear communication and agreed local benefits, supporting minor infrastructure or public services.</li> </ul>	Low
		Recreational sites (VP25)		Low
	Visual and health disturbance due to shadow flickering effects	Residential clusters – shadow flicker	Mitigation measures aim to ensure that shadow flicker remains within acceptable levels through refined assessments and adaptive management. Detailed modelling will be carried out for the most affected receptors using site-specific data. A grievance mechanism will allow ongoing monitoring through community feedback, and, where necessary, additional measures will be implemented, such as improving natural or artificial screening or temporarily adjusting turbine operation during critical periods.	Low

## Other Assessments (Summary)

The table below summarises the key findings of additional assessments carried out for the Project, including unplanned events, cumulative impacts, human rights and climate change. Overall, no significant unmanaged risks have been identified, and all impacts are considered acceptable with the mitigation measures in place.

Topic	Summary of Findings
<b>Unplanned Events</b>	Most potential incidents (e.g. minor spills, waste issues, construction events) are expected to have low to moderate residual impacts due to existing management measures. Rare but severe events (e.g. fire, accidents, equipment failure) may have higher consequences but are very unlikely. A comprehensive risk management framework (including safety systems, emergency response plans and monitoring) ensures all risks remain acceptable and controlled.
<b>Cumulative Impacts</b>	<p>A Cumulative Impact Assessment was carried out to understand how the Project may interact with other existing, approved and reasonably foreseeable developments in the wider area. The assessment considered combined pressures on environmental and social receptors, including biodiversity, birds and bats, traffic, noise and landscape/visual receptors.</p> <p>The Project is not expected to be a major driver of cumulative impacts in the region. Minor cumulative effects may occur where construction activities overlap with other developments or where birds, bats and landscape receptors are affected by more than one project. These effects will be managed through the ESIA mitigation measures, biodiversity monitoring, traffic planning, data sharing where relevant, and coordination with other developers. Overall, cumulative impacts are expected to be low or negligible after mitigation.</p>



<b>Human Rights</b>	Potential risks are mainly linked to general country and sector conditions rather than project-specific issues. These include labour conditions, discrimination and supply-chain risks. The Project will implement policies aligned with international standards (e.g. labour management, H&S, grievance mechanisms), reducing risks to low levels overall. Some supply chain risks remain moderate but managed through due diligence and monitoring.
<b>Climate Change</b>	The Project makes a positive contribution to climate mitigation by generating renewable energy and reducing emissions. Physical climate risks (e.g. extreme weather) are manageable through design and operational measures. Transition risks are negligible, and overall climate-related risks are expected to remain low and acceptable.

## Noise Assessment summary

A noise assessment was carried out for both construction and operation. During construction, noise will mainly be generated by earthworks, road upgrades, foundation works, construction traffic and equipment use. These impacts are expected to be temporary and will be managed through standard good practice measures, including maintaining equipment, limiting unnecessary engine idling, planning vehicle movements and restricting high noise works where required.

During operation, turbine noise was assessed at nearby noise-sensitive receptors against applicable Romanian and World Bank Group EHS Guideline limits. The operational noise modelling concluded that predicted noise levels are within the applicable limits of 55 dB(A) during the day and 45 dB(A) at night. The highest predicted level was 41.4 dB(A), which remains below the night-time limit. Operational noise impacts are therefore expected to be low. If noise complaints are received, they will be investigated through the Project grievance mechanism, and additional mitigation will be implemented where necessary.

## Environmental and Social Management

### Approach to Environmental and Social Management

The Project will be implemented in accordance with a comprehensive Environmental and Social Management Plan (ESMP), which defines how environmental and social risks and impacts will be managed throughout all phases of the Project.

The ESMP is aligned with Romanian legislation and international standards (including IFC and EBRD requirements) and translates the findings of the ESIA into practical actions, procedures and monitoring activities.

It covers all Project phases—construction, operation and decommissioning—and defines:

- mitigation measures to avoid or reduce impacts;
- monitoring activities to track performance;



- roles and responsibilities;
- procedures for reporting and continuous improvement.

Overall, the ESMP ensures that environmental and social impacts are effectively managed and that the Project remains compliant with applicable standards over time.

## Key Environmental and Social Commitments

The main commitments of the ESMP are summarised below.

Topic	Key Commitments
<b>Environmental Management</b>	Minimise impacts on air, soil and water through good construction practices, pollution prevention measures and proper waste management.
<b>Biodiversity and Critical Habitat</b>	A dedicated Biodiversity Management Plan (BMP) will be implemented in line with IFC PS6 and EBRD requirements. The Project area includes features that qualify as Critical Habitat under EBRD ESR6, including one species (European ground squirrel) and priority habitats in the wider area. Management measures will follow the mitigation hierarchy (avoid, minimise, restore) and are designed to achieve No Net Loss and, where applicable, Net Gain for biodiversity.
	Sensitive habitats located near the Project will be clearly demarcated and avoided, with construction activities limited to already modified agricultural land wherever possible.
	Specific measures are implemented to reduce impacts on fauna, including pre-construction surveys, seasonal restrictions, and exclusion zones around nesting areas.
	During operation, advanced mitigation measures will be applied to reduce collision risks for birds and bats, including automated turbine shutdown systems, blade feathering and ongoing monitoring programmes.
	Long-term biodiversity monitoring and adaptive management will be implemented to track impacts and adjust mitigation measures where needed.
<b>Land and Restoration</b>	Limit land disturbance to the minimum necessary and restore temporary areas after construction using native vegetation.
<b>Community Health and Safety</b>	Implement measures to manage traffic, noise and workforce presence, and ensure safe interaction with local communities.
<b>Labour and Working Conditions</b>	Provide safe and fair working conditions in line with international standards, including worker accommodation, health and safety procedures and grievance mechanisms.
<b>Stakeholder Engagement</b>	Maintain ongoing communication with stakeholders and ensure access to an effective grievance mechanism throughout the Project lifecycle.



<b>Traffic Management</b>	Implement a Traffic Management Plan to control vehicle movements, reduce congestion and ensure road safety.
<b>Cultural Heritage</b>	Protect archaeological resources through chance find procedures and supervision of ground works where required.
<b>Monitoring and Reporting</b>	Carry out regular environmental and social monitoring and report performance to stakeholders and lenders.

## Stakeholder Engagement

### Approach to Stakeholder Engagement

Stakeholder engagement is a key component of the Project and is implemented as a continuous and structured process throughout all phases, from planning to operation. The approach is based on national legislation, European requirements and international lender standards, particularly EBRD Performance Requirement 10 and IFC Performance Standard 1.

A **Stakeholder Engagement Plan (SEP)** has been developed to guide the systematic and ongoing engagement with stakeholders throughout all phases of the Project.

Engagement is managed through a single, integrated framework covering the full Dunarea Wind Farm project, ensuring consistency across project components and stakeholders. The Project Companies are responsible for implementation, supported by a dedicated **Community Liaison Officer (CLO)** who acts as the main point of contact with communities, authorities and other stakeholders.

Stakeholder engagement aims to:

- provide clear and accessible information about the Project;
- collect feedback and address concerns;
- support project design and mitigation measures;
- ensure transparency and build trust with local communities.

### Stakeholders' identification

A wide range of stakeholders has been identified, including:

- national and local authorities,
- local communities and landowners,
- vulnerable groups (e.g. elderly, youth, Roma communities, women, and people with disabilities),
- NGOs, local associations and service providers,
- businesses and contractors.

Special attention is given to vulnerable groups to ensure they can access information and participate in consultations through tailored approaches.





## Ongoing Engagement

Engagement will continue throughout the Project lifecycle:

- **Pre-construction:** disclosure of ESIA results and consultation on potential impacts;
- **Construction:** regular updates on activities, workforce presence and schedule;
- **Operation:** ongoing communication on Project performance, maintenance and monitoring results.

To keep stakeholders informed and involved, the Project will use a range of simple and accessible communication tools:

- **Information leaflets:** these include short information leaflets that explain Project activities in a clear way, as well as notice boards placed in local communities with regular updates.
- **Website:** Stakeholders will also be able to access information online through a dedicated Project website and contact the Project directly via a telephone hotline for questions or clarifications.
- **Meetings:** regular meetings and community events will be organised to explain what is happening on site, listen to feedback and address any concerns.

The CLO will remain available locally as a direct point of contact, ensuring that communication is continuous and easy to access. In addition, all engagement activities will be documented and monitored to ensure that stakeholder concerns are addressed and commitments are tracked.

## Grievance Mechanism

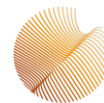
The Project has established a **Community Grievance Mechanism (CGM)** to allow stakeholders to raise concerns or complaints at any stage of the Project.

The mechanism is designed to be:

- accessible and free of charge,
- transparent and predictable,
- responsive and fair,
- open to all stakeholders, including anonymous complaints.

Grievances can be submitted through multiple channels (verbally or in writing) and are formally recorded, assessed and resolved within defined timeframes depending on their severity.

The process includes registration, assessment, investigation, communication of results and closure, with the possibility for stakeholders to access external legal remedies if not satisfied.



## BOX 1

### How to Submit a Grievance

Stakeholders can submit complaints or requests for information through the following channels:

- **Community Liaison Officer (CLO):**
  - Name: **Sorin Blidaru**
  - Phone: **+40 768 064 467**
  - Email: **blidaru.sorin@yahoo.com.**
- **Hotline:**
  - **+40 752 243 522**
- **In person:**
  - Directly to the CLO or project representatives
- **Written submission:**
  - Grievance forms available in local mayoralty offices (e.g. Deleni Commune Hall)
  - Online via the Project website
- **Grievance boxes:**
  - Available in local community offices

All complaints can be submitted **confidentially or anonymously** and will be addressed in a timely manner.