Non-Technical Summary

460.8 MW Vifor Wind Farm, Buzău County, Romania

15 February 2024

First Look Solutions S.A.

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Acronyms and Abbreviations

Name	Description
AoI	Area of Influence
APLIC	Avian Power Line Interaction Committee
CRM	Collision Risk Modelling
DEFRA	Department for Environment, Food & Rural Affairs
EHS	Environmental, Health and Safety
EIA	Environmental Impact Assessment
EN	Endangered
EP	Equator Principles
ESAP	Environmental and Social Action Plan
ESIA	Environmental and Social Impact Assessment
ESMS	Environmental and Social Management System
GHG	Greenhouse Gas
GIIP	Good International Industry Practice
IAP	Invasive Alien Plants
IFC	International Finance Corporation
IUCN	The International Union for Conservation of Nature
NTS	Non-Technical Summary
PS	Performance Standard
REA	Rapid Ecological Survey
SEP	Stakeholder Engagement Plan
TCFD	Task Force on Climate-Related Financial Disclosures
TL	Transmission Lines
VEC	Valued Environmental and Social Components
WF	Wind Farm
WTG	Wind Turbine Generator

FOREWORD

Vifor Wind Farm Project (the Project), Romania's second largest wind farm[1] with of 460.8-megawatt (MW) capacity is planned in Buzau County, southeast of the country.

The Project will be implemented by First Look Solutions S.A. as the Project Company (registered in Romania) responsible for development, construction, and operation. Low Carbon and Rezolv Energy (both registered in the UK) will contribute to the Project development, finance, construction, and operation, as Project Sponsors / Project Owners.

This Non-Technical Summary (NTS) briefly explains the outcomes of the Environmental and Social Impact Assessment (ESIA) done for the Project and provides a summary of how the Project is going to interact with the environment and the people.

Every effort has been made to ensure that the information contained in this NTS is correct at the time of its release. Further information on the Vifor Project and the ESIA process is available in the ESIA Disclosure Package, accessible at company's website.

Additionally, anybody wishing to express their views or submit questions about the Project can do so at any time by the following means:

- By contacting the Project Company via telephone or e-mail:

  Petrică Bodnar
  Telephone: +4(0) 752 243 522
  E-mail: vifor@rezolv.energy

- In writing in the dedicated boxes available at the Commune Mayoralty Offices of Costesti, Gherăseni, Smeeni, Țintești and Luciu.

[1] https://moneybuzz.ro/al-doilea-cel-mai-mare-parc-eolian-din-romania-se-va-construi-in-buzau/

1. INTRODUCTION

1.1 Background

The ESIA for the Vifor Project was completed in the following stages:

- Environmental and Social Gap Analysis was done in 2021.
- Scoping Report was prepared for the Project in January 2023.
- ESIA for the Vifor Wind Farm Project was completed in November 2023.

2. INTRODUCING THE VIFOR PROJECT

2.1 What is the Vifor Project and where will it be located?

The Project is a windfarm, which will enable the generation of up to 460.8 megawatts (MW) of electricity. It comprises of 72 wind turbine generators (WTGs) grouped in five sub-projects in Costești, Gherăseni, Smeeni, Luciu and Țintești communes of Buzau County, Romania. The location of Vifor Project is shown in Figure 2-1 below.

The wind farm will be constructed on pastureland, secured via voluntary agreements with the local councils of each administrative territorial unit. No relocation of built structures will be required for the construction of the wind farm and the closest habitable buildings are located at about 600 m from the WTGs. During the construction stage approx. 200 ha are expected to be impacted by construction works, displacing the respective land area from the grazing surface available prior to the Project.

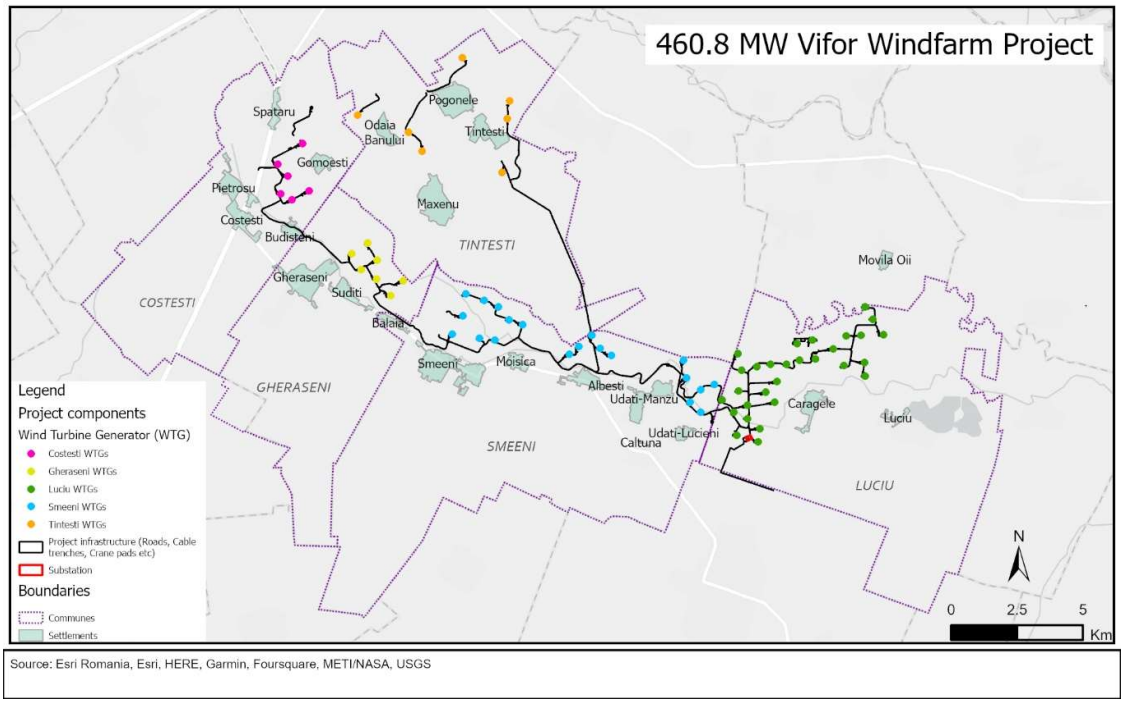


Figure 2-1 Project Location

2.2 What are the main Vifor Project components?

2.2.1 Permanent Facilities and Components of the Wind Farm

The major permanent facilities and components of the Vifor Wind Farm are the wind turbines, central power collection station (substation), underground cable lines and overhead lines, existing roads and additional access roads.

Wind Turbines

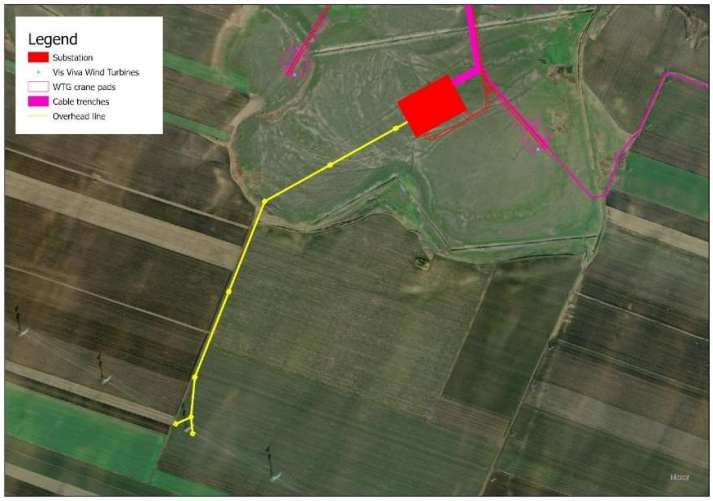
Wind turbines produced by a Danish company Vestas were selected for the Vifor Project. These turbines have nominal capacity of 6.4 MW and a 3-bladed rotor with a diameter of 162 meters. The height to rotor is 166 meters. A total of 72 wind turbines will be built for the Project making the total capacity of the Project 460.8 MW.

Central Power Collection Substation

The Central Power Collection Substation (Collection Substation or CPCS) will be built in Pogoanele sub-project, Luciu commune, on a 2.75 ha land plot owned by the Pogoanele Town Local Council (Figure 2-2). This substation will increase the voltage of electric power produced by the wind turbines from 33 kV to 400 kV, which is needed for transferring it to the grid.

Energy from the wind turbines of all the sub-projects will be transferred to the Collection Substation via 33 kV underground cable lines (UCLs). Intermediate transformer stations are not planned, which will limit the impact on the environment.

Figure 2-2 Substation Location Map



Underground Cable Lines

The underground cable lines will connect the wind turbines with each other and with the Collection Substation. The cables will be laid 2 meters underground.

Overhead lines

Collection Substation will be connected via four overhead powerlines to the electrical station 400 kV *Stâlpu*. The total length of the powerlines is 1.2 km.

Foundations and Sites for Crane Placement

Each wind turbine will have a permanent foundation with a hardstand of 855 m² (Figure 2-3). During construction, a 50 m² hardstand area for crane will be required at each wind turbine site. Total surface of the reinforced concrete foundations for the Project's 72 WTGs, will be 6.15 ha.

Figure 2-3 Typical WTG and Associated Working Platforms

Access Roads

Project will use existing roads within the communes and will build additional roads to access the turbines. The public will be able to use all these roads.

The routes include local and regional roads that will be used for supply and worker travel, and routes that will be used to transport components from the port at Constanţa to Project sites.

Crane, Mounting and Bearing Platforms

A crane platform, a pre-assembly platform and a bearing platform will be installed at each wind turbine site. These platforms will serve as installation areas for the cranes and as assembly and storage areas for parts of the turbines to be installed.

2.2.2 Temporary Construction Facilities of the Wind Farm

The Project construction requires several temporary facilities: the borrow and disposal areas, lay-down areas, concrete batching station, temporary offices, construction / management sites, etc. which will be removed, and affected areas reinstated to the original conditions upon completion of the construction.

Temporary construction facilities are expected to include the following, subject to ongoing design studies:

- **Borrow and disposal areas, lay-down areas, water abstraction points:** at this stage the siting and volume / areas of these components are being defined.
- **Concrete batching station:** one concrete batching station (CBS) will be needed for the entire Project. The CBS will have a surface of 1.5 ha close to WTG54 and near the East – West Construction Corridor.
- **Construction containers and sanitary facilities:** All temporary site offices, warehouses, workshops, surrounding fences around respective facilities will be constructed in accordance with relevant Romanian and international requirements of occupational health and safety.
- **Workers' accommodation:** The Project does not intend to build accommodation camps. Workforce management will be assigned to the EPC Contractor, which is expected to be Vestas. Details on workers' accommodation, including information about the number, origin, and accommodation provisions for the workforce are being defined.

2.3 What is the Vifor Project schedule?

The construction of the Project is envisioned to start in April 2024, with a completion date in the second quarter of 2025. The operational life of Vifor Project windfarm is expected to be up to 35 years, after which the wind park will be either refurbished or decommissioned and removed.

The planned schedule for the construction phase is presented in Table 2-1 below.

Table 2-1 Vifor Wind Farm Project Schedule

	Activity	Duration	Milestone
Construction phase			
Mobilization on site	Start of activities	-	April 2024
Reinforcements and foundations	Grading, clearing, road installation, foundations, and cabling: Construction equipment and supplies, especially concrete components, and cabling would be delivered during this period	approx. 12-14 months	April 2024 – October 2025
Delivery and construction/ assembly of turbine equipment	Wind turbine component delivery requiring oversized transport loads.	approx. 9-10 months	

	Activity	Duration	Milestone
Construction/ assembly of electrical systems	Central power collection station/substation construction, potentially requiring oversized transport loads	approx. 2 months	
Finalization of construction	Internal wind farm network in place (underground power lines) and connection to SEN	-	October 2025
Wind Farm Operational	End of construction activities	approx.18 months	November 2025
Operational phase			
Operation activities	Operation and maintenance works	up to 35 years	-
Decommissioning phase			
Decommissioning activities	Dismantling and land restoration works.	approx. 4-6 months	-

3. WHAT STANDARDS APPLY TO THE PROJECT?

The Vifor Project has been developed in accordance with National Romanian laws and regulations.

Further, the Project is aligned with internationally-recognised environmental and social requirements, namely:

- International Finance Corporation's Performance Standards (IFC PS, 2012), including the World Bank Group's Environmental, Health and Safety Guidelines for Wind Energy (2015), World Bank Group's Environmental, Health, and Safety Guidelines for Electric Power Transmission and Distribution (2007), and associated World Bank Group's General Environmental, Health and Safety (EHS) Guidelines (2007);
- EBRD Performance Requirements (PR), 2019, set out in the EBRD's Environmental and Social Policy;
- European Union's (EU) Law and Regulations relevant for the Project, including but not limited to EU Environmental Impact Assessment Directive and EU Habitats and Birds Directives.

4. HOW WILL THE PROJECT AFFECT THE ENVIRONMENT AND THE COMMUNITY?

The main effects induced by the Vifor Project on the environment and local communities are summarised in the following sections. Mitigation measures addressing potential negative impacts are also presented to show how the Project developer will be managing and mitigating identified impacts.

4.1 Noise

The construction (and later at the end of the Project life cycle) decommissioning noise impacts will be associated with the construction equipment operation, construction activities, and construction traffic. A range of works and activities will be required at various locations within the area, which have a potential to generate relevant noise emissions.

Generally, distances between the location of the wind turbines and receptors (people living near the future turbine sites) are greater than 1 km, and therefore construction noise impacts on local communities are unlikely to be significant.

Any impacts associated with these works would be temporary and do not represent a permanent impact on the community and surrounding environment.

To mitigate construction noise impact, the following measures will be implemented:

- Appropriate machines will be chosen for each task and efficient work practices will be adopted to minimise the total construction period and the number of noise sources on the site.
- High noise-generating construction works and activities will be limited to the daytime period (7 AM to 10 PM), and work will be avoided on Sundays or public holidays if possible.
- In the case that Project activities necessarily must be conducted during night-time period (10 PM to 7 AM), the Project will consult with village heads for approval. Any works that are required during the night-time period should be justified and task-specific noise mitigation and management measures will be implemented to reduce noise impacts to acceptable levels.
- Works associated with transmission line and access road construction often require activities in closer proximity to receptors that are not affected by construction works at wind turbines or permanent facilities. In these circumstances, task-specific noise mitigation and management measures will be implemented (when works are close to receptors) to reduce noise impacts to acceptable levels. These can be limiting the construction activities to some hours per day and at certain times, limiting the speed of vehicles, inform the receptors in advance.
- Construction road traffic and heavy vehicle movements have the potential to generate high noise level events, and these will be limited during the night-time period and avoided if possible. Where possible, significant noise-generating vehicle movements will be limited to the daytime period. Where it is not possible for this to occur, drivers will be instructed to arrive and depart as quietly as possible. Drivers will be instructed to implement good practice driving and instructed to travel directly to site and avoid any extended periods of engine idling at or near residential areas, especially at night.
- If any validated noise complaints are received, the problem source and any potential noise-reducing measures will be identified and evaluated for implementation during the works execution.

The Project personnel will remain aware of the potential for nuisance, or an unacceptable impact on amenity, to occur due to construction noise and continue to plan for and then manage construction works accordingly.

During operation, noise will relate to mechanical and aerodynamic sources as the wind turbines turn. Noise impact on local communities during operation has been assessed by means of preliminary noise modelling and the operation of the project is anticipated to result in an insignificant noise impact. In order to ensure noise impacts remain negligible, the following measures will be implemented during the operation of the wind farm:

- Noise monitoring will be conducted regularly.
- Routine maintenance of wind turbines will be conducted, with specific attention to equipment degradation that may cause further noise impacts. Any equipment that is abnormally noisy will be evaluated and repaired as necessary to return emissions to typical operating performance.

4.2 Soil

The Project key activities that are likely to have negative impacts on geology and land/soil, include vegetation clearance, site preparation, excavation and heavy vehicle movement over land and unpaved roads. Construction workers working on-site would also generate domestic waste and wastewater, which may be released to the ground if not properly managed. The domestic waste at the construction sites may include organic waste, plastic, glass, etc. In addition, construction activities will also generate various types of hazardous waste, including oil, lubricants and diesel leaked from vehicles and construction equipment in the areas already subject to vegetation clearance, site preparation, and heavy vehicle movement over unpaved roads.

The recommended mitigation measures below, to be implemented by the EPC Contractor, are divided into measures that address soil compaction and erosion, and soil contamination, although some overlap in the effects of these measures.

4.2.1 Mitigations to address Soil compaction and erosion Impacts

The following mitigation measures are based on ESIA requirements to minimise impacts, including:

- Preparation and implementation of a Soil Management Plan during construction to incorporate requirements such as use of dust suppression, soil stabilisation during construction, and stormwater and sediment management and control,
- Sites/vegetation clearance, sites preparation, excavations, and improvement of existing roads and construction of additional access roads should not be carried out during periods of torrential rains or storms and heavy wind, to minimize compaction and erosion,
- Sites should be restored at the end of the Project life cycle to pre-Project level. Progressive rehabilitation measures should be implemented, beginning during vegetation clearance, and sites preparation,
- Rehabilitation interventions in the priority areas (i.e. areas where there is a low likelihood of natural revegetation or where areas are prone to compaction and erosion from surface runoff) should be prioritised,
- Should compaction and erosion events be identified, appropriate remedial actions, including restoration of the compacted and/or eroded areas, and where necessary, the relocation of the paths causing the compaction and/or erosion, should be undertaken,
- Additional measures will be implemented in areas identified as having a high compaction and/or erosion potential,
- Land/vegetation clearance should only be undertaken immediately prior to construction activities taken place there,

- Unnecessary land/vegetation clearance should be avoided,
- Unless foreign material, such as aggregate (e.g. crushed stone, ballast, gravel, sand), needs to be inserted, after the installation of features requiring the excavation of a deep holes, soil should be replaced in the holes so as to mimic the pre-construction profile.

4.2.2 Mitigations to address Soil contamination Impacts

The following mitigation measures are based on ESIA requirements to minimise impacts, including:

- Contract a licensed contractor to collect, transport and treat domestic, construction and hazardous wastes from Project sites,
- Prohibit dumping any types of solid waste to the soil, or burning waste of sites,
- Ensure that hazardous materials are stored in designated areas that are designed with impermeable floor, inflammable walls and accessible to authorized personnel,
- Hazardous waste shall be properly managed in accordance with existing legislation on hazardous waste.
- Maintenance works are restricted to specially designated platforms with strict control of accidental spills,
- Procedures for responding to emergencies / accidental spills of hazardous materials, fuel and handling, and waste management are developed and implemented,
- In case of accidental/unintended spillage, the contaminated soil should be immediately collected and stored as hazardous waste.

With the considered mitigation measures implemented, overall, impacts on soil are expected to be minor.

4.3 Water

Surface water resources included in the Project's direct AoI are represented by Călmăţui river course and the left side tributaries of Rușavăț, Negreasca and Strâmbu, where 62 WTGs and ancillary facilities, out of a total number of 72 WTGs of the Project will be located. In the entire area the river is dammed to prevent flooding, and tributaries are dry for most of the year. Luciu Lake, is located north of Luciu village and south of Călmăţui River course. It is the largest permanent pond in the area, with a surface of approx. 359 ha, but usually shrinks during the dry season. The lake is not located within the direct Project AoI, but within the 2 km buffer zone indirect AoI.

For Vifor Project area, based on the characteristics of the existing groundwater and surface water bodies, the water sources that can be used during the Project implementation will be water brought with water tankers.

Activities causing potential impacts to water resources during the operation and decommissioning phases are likely to have an insignificant impact on water quality and quantity.

4.4 Shadow flicker and ice throw

Shadow flicker is “the flickering effect caused when rotating wind turbine blades periodically cast shadows through constrained openings such as the windows of neighbouring properties”. Hence shadow flicker just occurs during operation phase, and its occurrence in a specific location can be modelled and assessed considering the relative positions of the sun throughout the year (dependent on the latitude of the site), the wind turbine layout and orientation, and the presence of sensitive receptors (e.g., inhabitants of residential buildings).

In general, shadow flicker occurs during clear sky conditions, when the sun is low on the horizon. As the sun angle on the horizon changes throughout the year, the locations experiencing the phenomenon changes, so specific shadow receptors can be affected in different periods, with the potential for annoyance and disturbance leading to stress.

The shadow flicker modelling of Vifor Project resulted in potential shadow flicker impacting the receptors at 17 clusters at levels above the IFC threshold (over 30 hours per year and 30 minutes per day). The overall impact significance is considered negligible to moderate depending on the cluster.

It is envisaged that once the executive project will be developed, a final run of the model will be performed and a detailed survey on the potential critical receptors, taking into account local specific receptor settings (such as the mutual position of buildings that can limit the occurrence of shadow flickering, the presence of vegetation barriers, window orientation etc)

The outcome of the field survey will allow a proper development of dedicated grievance mechanism and reporting system able to monitor closely through engagement with residents during the operational phase, where there are predicted impacts from shadow flickers for locations that have been finalized by the project proponent and earmarked for construction.

Based on the type of grievances that will be collected, specific on-site verification of the occurrence of shadow flickering will be managed and tailored mitigation measures will be adopted as follow:

- Visual Screening (Natural) – Continuously assess identified and any potentially sensitive receptors, where shadow flicker modelling indicates the amount could exceed 30 hours per year and 30 minutes per day, to ascertain the extent of existing natural visual screening in place. If not existing, the occurrence of shadow flickering during operation could be further investigated, and if confirmed, natural screening could be implemented to minimize the effect.
- Visual Screening (Architectural/Structural) - If grievances will be received or if natural visual screening at potentially sensitive receptors are found to be insufficient, investigations to implement architectural/structural screening, such as the installation of blinds, window shades, window tinting, awnings or fences, at affected receptors could be evaluated to further minimize the effect of shadow flicker.

Control - Use of turbine control strategies which shut down turbines when shadow flicker is likely to occur.

Following implementation of mitigation measures the impacts will reduce to Minor.

Ice throw can occur if blades are coated with ice and the ice is then thrown to the side as the blades rotate. The event is unlikely but may occur at some time during the winter season during operation. The impact significance is considered to be Minor to Moderate.

In a situation where a risk to the public or operational staff due to ice throw is believed to exist, the following measures are suggested:

- Physical and Visual Warnings: Placing fences and warning signs as appropriate for the protection of site personnel and the public at least one rotor diameter from the wind turbine in all directions and at entrance points to the wind energy facility;

- Turbine Deactivation:
  - Remotely switching off the turbine when site personnel detect ice accumulation;
  - Curtail wind turbine operations in weather conditions that can lead to ice accretion;
  - Equip turbines with ice detectors that shut down the turbine to an idling state when ice is present;
  - Equip turbines with ice detectors to control blade-heating systems, which are designed to release ice from the blade surface, thereby maintaining the efficiency of the turbine
- Operator Safety:
  - Ensure that working procedures include precautions such as shutting down wind turbines before maintenance personnel access the site in icing conditions;

Restricting access to turbines by site personnel while ice remains on the turbine structure. If site personnel absolutely must access the turbine while iced, safety precautions may include remotely shutting down the turbine and restarting the turbine remotely when work is complete.

After the implementation of mitigation measures outlined in the previous paragraph, the residual impact significance is expected to be Minor.

4.5 Air Quality

The Project will primarily impact air quality during the Construction Phase. The main sources of atmospheric emissions during the construction will be associated with:

- Site preparation activities;
- General construction activities for Project infrastructure;
- Dust from inadequate storage of sand, aggregates and other dust generating materials on the batching plant.
- The soils on the Project Site have been subjected to loosening through sustained cultivation over a long period, and have weakened the soil structure, leaving these soils highly susceptible to both wind and water erosion, leading to an increased risk of elevated dust levels.
- Vehicle movement over unpaved surfaces, and in particular heavy vehicles;
- Vehicle exhaust emissions; and
- Potential power generation utilising fossil fuels.

Atmospheric emissions (specifically dust) from the aforementioned sources will be short-term and of a nuisance nature only. Periodic construction traffic along unpaved surfaces and/or during site preparation activities can cause significant local nuisance to receptors in the AoI and immediate surrounds, increasing the already high nuisance and respirable dust baseline. This will be managed through dust suppression techniques.

Overall, the impact on air quality is expected to be minor and local.

4.6 Landscape and visual impact

Landscape impacts may occur upon a Landscape Character as a direct result of the presence of the Project within an area of a particular landscape character. The area identified for the Project has a predominant abundance of agricultural area and gently undulating topography.

Visual impacts refer mainly to the visual character changes of available views resulting from project development, such as obstruction of existing views; removal of screening elements, thereby exposing viewers to unsightly views; the introduction of new elements into the views; and intrusion of foreign elements into the view shed of landscape features. The presence of the WTGs and transmission line is likely to cause visual impacts.

During the enabling and construction phase it is anticipated that construction activities will result in changes in localized areas of land cover. Some part of the agricultural area will be removed adjacent to the site to form the new site access points and access tracks between turbines and the pylon footprints, compound, and material storage facilities. As a result, the site will experience minor adverse effects during this period, hence impact of the project on the landscape character is considered minor. The decommissioning phase has similar character to the construction phase, carrying out similar activities with similar machinery. Therefore, visual impacts generated by the decommissioning phase are considered of the same significance as during construction phase.

During operation, the wind farm will occupy a large area but given the relatively small footprint attributed to a single turbine, construction impacts on land cover and vegetation will occur within relatively small and localized areas across the site. The impact of the Project on the landscape character is considered minor.

Operational phase would see the introduction of large-scale features that would occupy a large proportion of the view from residential properties. However, some natural existing vegetation and the gently undulating topography limit the number and extent of turbines seen and would also reduce the likelihood that dwellings will have extensive views. The gently undulating topography of the terrain and the natural screening given by plants in residential areas limits the view of the proposed wind farm.

To reduce the impacts, the following measures will be implemented:

Landscape Value

In order to mitigate the landscape impacts, there are different actions that should be considered, especially during the construction phase, such as:

- Demarcate construction boundaries and minimize areas of surface disturbance;
- Where possible, locate laydown areas and construction camps in areas that are already disturbed or cleared of vegetation;
- For the construction site maintenance, conduct good housekeeping on site to avoid litter and minimize waste;
- Use existing tracks/roads for access, where possible; and
- Within the environmental management system, prepare a restoration management plan including replanting indigenous species, and landscaping and rehabilitating construction yards.

Visual

The following identifies mitigation measures to be applied for visual impacts, including:

- Where possible, locate laydown areas and construction camps in areas that are already disturbed or cleared of vegetation;
- For the construction site maintenance, conduct good housekeeping on site to avoid litter and minimize waste;

- Minimize night lighting while guaranteeing the minimum safety level;
- Use of materials that will minimize light reflection should be used for all Project components;
- Bright patterns and obvious logos should be avoided on WTG;
- The replacement of wind turbines with visually different wind turbines can result in visual clutter, therefore wind turbines with the same or a visually similar model should be used for replacements; and
- Existing vegetation should be retained to the greatest extent possible. Vegetation should be retained along roads, and other Project infrastructure.

4.7 Biodiversity

4.7.1 Physical Destruction/Disturbance of Vegetation and Habitat

The physical footprint of the wind farm will be relatively small in scale, being localized and limited to the actual footprint of infrastructure where vegetation will be cleared and converted to artificial surfaces (i.e., wind turbine foundations, access roads, substation foundations and pylons for the transmission line) or maintained as agricultural land low shrub or grass cover for the transmission line corridor.

The perceived importance of the biodiversity loss associated with habitat loss is considered moderate, because most of the priority habitat affected by the project is in poor condition due to drought, continuous intensive grazing with unstainable stocking densities.

Souslik *Spermophilus citellus* (IUCN EN) is an exception to this, in that it is a strictly protected species that inhabits the project area mainly to canal embankments, two of which are in proximity to WTG 15 & 48. In addition access roads to WTG 22, 23 & 27 pass canal embankments is occupied by *S.citellus*, Consequently, the population associated with this location are likely to be subject to direct loss of individuals and loss of supporting habitat. This would lead to the likely significant decrease or even total loss of this population. The impact significance rating for this species would be 'Major', given the EN status of souslik, and the potential for total loss of a local colony/population.

With the intended land-use during WF operation to continue to be agricultural, impacts during decommissioning of the project infrastructure (demolition and removal of hard infrastructure) is likely to affect the maintained crops directly, however this will be short-term and recoverable.

To reduce impacts on vegetation and habitats, the impact assessments conducted so far have elaborated a series of measures:

- Implement relevant construction standards (e.g. 'Construction Code of Practice for the Sustainable Use of Soils on Construction Sites' – DEFRA, 20096F6F). Demarcate the construction zone or servitude for the TL corridor on a map and on the ground clearly using high visibility tape for instance, to avoid impacting on sensitive areas outside of the permitted construction area;
- Reinstate temporary land take to original use after completion of construction.
- Avoid locating construction camps and material/equipment laydown areas within or near identified natural or semi-natural habitat;
- Utilise existing roads wherever possible;
- Compile a suitable post-construction habitat restoration plan for temporary areas used during construction;
- Use existing access roads or upgrade existing roads wherever possible before considered new access road construction;
- Place appropriate limits on the number of vehicle movements to and from the wind farm;

- Restrict vehicles to the use of only authorized access roads;
- Compile a suitable Invasive Alien Plant (IAP) species control plan and programme to manage IAP's within the control of the development;

4.7.2 Reduced connectivity of habitats

Whilst indirectly related to the destruction of vegetation and habitat during construction phase of the project, a reduction in habitat connectivity is a long-term and possibly a permanent effect in many cases, extending past construction and into the operational phase.

New planned access roads can potentially fragment the agricultural habitats and contribute to further fragmentation of areas already degraded and with patchy cover. The project location overlapping the priority habitat has been carefully planned to avoid or minimise direct loss, minimise fragmentation of the habitat and maintain connectivity between habitats. During decommissioning, the effects are likely to be the same as for the construction phase, simply shorter in duration and intensity with fewer workers on site.

To mitigate the effects any temporary excavations, fences or stockpiles of soil and materials will be removed from site once construction is complete.

4.7.3 Direct loss of species

Construction vehicles accessing and working within the site pose a risk of colliding with species utilizing the habitats and crossing roads between habitats. Some species may also be attracted to access roads created as easy corridors to move between areas and these animals are likely to be more at risk. Slower moving and more sedentary species are likely to be at a greater risk of being injured or killed by moving vehicles, even at low speeds, particularly as cold-blooded species such as reptiles may utilize roads for sunning themselves. Vehicular collisions, whilst probable, are likely to be localized, manageable and therefore also unlikely to diminish populations of the identified species (magnitude of effect considered 'negligible'). Furthermore, there is existing and collision risks associated with agricultural operations.

As discussed above regarding physical destruction and disturbance, there is potential for direct loss of a colony of European souslik during borrow pit excavation, likely to result in a Major significant impact and loss of the population unless mitigated. Also, there is a moderate impact assessed for *Lutra lutra.*

Impacts during the decommissioning phase of the project will be very similar to the construction phase impacts, but less intense and shorter in duration most likely.

To mitigate the effects, the following measures will be implemented:

- Conduct pre-construction surveys where *Spermophilus citellus* and *Lutra lutra* habitats were identified within 100 m of turbines during the baseline studies;
- Noise controls;
- Utilize low-noise wind turbine designs;
- Implement advanced turbine foundation designs that minimize vibration transmission to the surrounding environment;
- Establish temporary exclusion zones around sensitive *Spermophiluis citellus* habitats to prevent destruction of burrows. Create buffer areas around key habitat zones to reduce noise levels, limit human activity;
- If road widening is required then this should be on the opposite side to the river embankments;
- Implement a robust monitoring program during the construction phase to assess the impact on *Spermophilus citellus* and their habitat. This includes regular surveys, population monitoring and

tracking of individuals. If unexpected impacts are observed, use adaptive management strategies to modify construction practices and mitigate any negative effects on the population;

- Where precautionary working methods cannot prevent disturbance or destruction of animals or burrows undertake licenced translocation programme involving suitably qualified and experience experts.
- Degradation or destruction of supporting habitats due to the construction of planned facilities and infrastructure can also affect herpetofauna species, which were regularly encountered during baseline surveys but were largely associated with waterways and waterbodies, and the main construction effects would arise from unmitigated effects on aquatic and near supporting terrestrial habitat. The mitigations measures in this case would include conducting thorough surveys and assessments to identify the presence of herpetofauna species and their habitats before construction activities; implementing best management for river crossings (SEPA 2010).

The impact is likely to be the same as for the construction phase, simply shorter in duration and intensity with fewer workers on site.

4.7.4 Species Collisions with Wind Turbines

4.7.4.1 Birds

One of the most well-known impacts of wind farms on birds is the risk of collision with wind turbine blades. Birds may not perceive the fast-moving blades as barriers and can inadvertently collide with them, resulting in injury or mortality. The risk is especially high for birds that fly at similar heights as the rotating blades or during migration when large numbers of birds pass through wind farm areas. A total of 63 different species of birds were recorded during the field surveys, while the Collision Risk Model identified 12 species where mortality was predicted within the lifetime of the project.

The impact during the operation phase is considered major, and the following mitigation measures will be implemented:

- Implement post construction fatality monitoring to quantify collision rates;
- Develop adaptive management plan including shut down on demand systems based on casualty thresholds;
- Implement ongoing monitoring programs to assess the effectiveness of mitigation measures and make necessary adjustments;
- Implement appropriate lighting systems that reduce the attraction of birds to turbines during low-light conditions. Utilize lighting designs that minimize disorientation and provide adequate illumination for safe bird passage.

4.7.4.2 Bats

Most bat species mortalities linked to WF projects relate mainly to migratory, foliage-roosting and tree-roosting species, and especially those species adapted for foraging insects in open spaces above the ground and far from vegetation. As bats are typically long-lived and have exceptionally low reproductive rates, fatalities of significant bat numbers could affect local populations of recorded species.

Although early indications are that bats exposure to the project is relatively limited both in terms of numbers and distribution, given the constraints in determining bat fatality impacts prior to operation of the wind farm, it will be necessary to undertake further operational monitoring to validate operational impacts and to inform adaptive management if required. Eleven species or species groups were recorded.

To reduce impacts, the assessments conducted so far have elaborated a series of measures:

- Undertake post construction fatality monitoring to inform adaptive management plans and monitor effectiveness of mitigation;
- Adaptive management plans should include thresholds for action;
- Actions should include curtailment protocols, which either involve temporarily shutting down or reducing turbine operation during peak bat activity periods (blanket curtailment) or Smart curtailment options that include weather variables and bat activity levels;
- Opt for lighting systems that minimize attraction to bats, as certain types of lighting can draw them closer to turbines;
- Use light configurations that minimize light pollution and avoid attracting insects, a primary food source for bats;
- Curtailment protocols;

4.7.5 Species Collisions with Transmission Lines

A low number of collisions are predicted to occur throughout the lifetime of the Project and risk of electrocution is negligible given that the design will follow a standard high voltage configuration, and the distances between live elements makes it very unlikely that even the largest species could be impacted. After mitigation, significance is likely to be minor for key species and insignificant for bats and common bird species.
During the operational phase of the project, collisions with the earth wire of transmission lines (which is typically quite poorly visible to avifauna) may lead to injury or even fatalities in bird and bat species. TL projects can also result in electrocution when birds or bats earth live elements of the line, which is particularly relevant for larger species (with large wing spans). Electrocution risk is relevant to the transmission lines and substations.

4.7.5.1 Birds

Electrocution risk is typically quite species-specific and may disproportionally affect species that utilize the pylons as perches when hunting or for nesting purposes, and this is most significant for raptors and other larger perching birds with large wing spans (Bennun et al., 2021). Birds can be attracted to the distribution lines for various reasons, such as using them as perching sites or hunting from them. When they make contact energized parts, they can create a path for electrical current to flow through their bodies. This can result in severe injuries or death.

Birds of prey are particularly vulnerable due to their tendency to perch on elevated structure like distribution lines.

4.7.5.2 Bats

There is limited evidence of risks posed by transmission lines to bats (Bennun *et al.,* 2021). They have therefore been scoped out of assessment for collision with overhead lines.

The mitigation measure for the operation phase regarding electrocution risks for birds are the following:

- Installing bird flight diverters, which are visual markers that make the lines more visible to birds and deter them from approaching;
- Monitor effectiveness through post construction fatality monitoring that includes sample of OHL;
- Ensure bird safe pylon design (Sielicki, J., Cardenal, A.C., Conzo, L.A., Garrido, J.R., Martín Martín and Adamczyk, R. 2020. Quick Guidance for Preventing Electrocution Impacts on Birds; Reference note. International Association for Falconry and Conservation of Birds of Prey).

4.7.6 Dust Pollution

Construction activities and operations are known to increase levels of dust due to vehicles travelling on informal dirt roads and through the creation of bare surfaces where vegetation clearing, and bulk earthworks take place. Where large quantities of dust are released, this can smother plant parts and reduce photosynthetic activity; however, this is likely to be a highly localized impact. Faunal impacts are also likely to be insignificant. Impacts of increased dust will also be limited to particularly windy periods and when vehicles drive along dirt roads, and the magnitude of effect is therefore likely to be 'negligible'.

Impacts during the decommissioning phase of the project will be very similar to the construction phase impacts, but less intense and shorter in duration most likely.

To reduce impacts, the assessments conducted so far have elaborated a series of measures:

- Reduce the risk of fugitive dust emissions through: Minimizing the surface clearing to minimum required for operations, minimizing the size of material/spoil storage piles, restricting the unnecessary traffic, minimizing and strictly regulating the offsite hauling of debris, using the truck bed covers when hauling materials, supplying the workforce with dust masks, using gravel for the access roads, spraying the roads with water during warm period to suppress dust, planting vegetation where relevant.
- Avoid earthworks during particularly windy periods.
- Cover soil stockpiles during windy periods.
- Use a cover/tarp when transporting soil/sand.

4.7.7 Water and Soil Pollution

Fuels, oils, and other chemical substances required by construction crews operating at the site of the wind farm will be liable to potential accidental spillage, and even improper disposal, unless this is carefully managed. Whilst watercourses and aquatic biodiversity are typically most sensitive and prone to pollution impacts, these are absent from the site and surrounds. Terrestrial habitats and soils that have been subject to pollution could hinder natural plant growth. While the likelihood of significant spills occurring for a project of this nature can be considered low typically, where spills of hydrocarbon products and other hazardous substances do happen these can be long-lasting and may require considerable remediation efforts. During decommissioning phase, largely similar effects can be expected.

During the operation of the project, this impact may be relevant to maintenance activities, but these are likely to be limited, with insignificant quantities of fuel, oil, etc. stored and handled during the operational phase.

To reduce impacts, the assessments conducted so far have elaborated a series of measures:

- Implement erosion and sediment control measures to minimize the discharge of sediment and pollutants into Călmățui River
- Use appropriate containment systems to prevent fuel or chemical spills during decommissioning
- Monitor water quality parameters regularly to identify any impacts and take corrective actions if necessary.

4.7.8 Disturbance caused by Noise, Light, Vibration

General nuisance and disturbance as a by-product of construction activities, including that associated with increased noise / vibrations from heavy construction machinery and artificial light. There is a strong possibility that species could be disturbed by noise up to a radius of approximately 250m from the construction site, and outside of the 250m, noise level from construction should have been attenuated to background noise levels, except for when piling occurs in which case which the disturbing zone could be larger. The displacement of fauna during construction is mostly associated to noise (for birds and non-volant mammals) and vibrations (herpetofauna). Locally common species are likely to be less sensitive to noise/light disturbance can probably become habituated at the site. Given that the existing land use is agricultural, with high levels of existing disturbance and human activity, any additional disturbance during construction will be short-term and will unlikely increase the effect of the magnitude of impact to fauna, which are most likely already adapted to the modifications at the site. Impacts during the decommissioning phase of the project will be very similar to the construction phase impacts, but less intense and shorter in duration most likely.

Artificial light impacts during operation are likely when specific facilities such as substations may need to be well-lit for safety and security purposes. This can also attract certain species of insects, which can lead to increased activity by insectivorous species such as bats and small reptiles. Attracting certain insects may increase the bat activity, which may lead to increase mortality.

To reduce impacts, the assessments conducted so far have elaborated a series of measures:

- Use noise-reducing technologies and insulation materials to minimize noise propagation;
- Monitor populations post construction, set thresholds for adaptive management;
- Include habitat creation and enhancement options within adaptive management plan
- Establish buffer zones and construction exclusion zones around sensitive herpetofauna habitats to minimize disturbance;
- Implement noise and vibration mitigation measures such as limiting noisy activities during sensitive periods (e.g., breeding season) and use equipment with noise reduction technologies.
- Establish exclusion zones or limiting construction activities in close proximity to active otter dens or habitats;
- Use noise barriers and mufflers on construction equipment;
- Monitoring noise and vibration levels regularly to ensure compliance with regulatory standards;

4.7.9 Introduction/Spread of Invasive Species

The movement of vehicles, people, and equipment into and through the project area may facilitate the introduction of Invasive Alien Plants (IAPs) to the area, or contribute to the spread of existing IAP species, primarily through the transport of seed attached to machinery, soils, clothing, etc.

The introduction of invasive alien plants into the lesser disturbed and ecologically important forest ecosystems can have a significant and lasting negative effect on the habitat and plant communities, that can extend well past the construction phase unless controlled. However, with mitigation this will probably be localized and therefore the magnitude of effect is considered ‘small’ during the operational phase.

To reduce the effects, the following measures will be implemented:

- Compile a suitable Invasive Alien Plant (IAP) species control plan and programme to manage IAP’s within the control of the development;

- This will include measures to inspect vehicles clothing and boots prior to moving between areas, and measures such as brushes, power hoses and wheel washing with suitable containment to remove any IAP's;
- Implement IAP species surveillance and control plan within areas in the projects control, focusing particularly on areas of natural habitat;
- Monitor IAPs to inform further management intervention.

4.8 Cultural heritage

The baseline study for cultural heritage identified a total of 58 cultural heritage resources comprising 16 Designated resources and 42 Non-Designated Resources within the Area of Influence of the Vifor Wind Farm Project. Each resource was assigned a unique identifier (for example VV_CH_001) and comprise the following type of resource:

- Archaeological sites
- Built Heritage
- Mounds
- Settlements
- Necropolis, Tumuli, and funerary monuments

Five potential impacts are considered during the construction phase:

- Physical ground disturbance through earthworks: a direct impact, ground disturbance and earthworks associated with the construction phase have the potential to partially or wholly remove Cultural Heritage resources, such as:
  - Buried archaeology, including undiscovered archaeological sites and burial mounds;
  - Built heritage including historic buildings, places of worship; and
  - Historic agricultural landscapes and structures, settlements or enclosures.
- Restriction of access: restriction zones associated with the construction phase have the potential to temporarily or permanently restrict the access for traditional users or researchers to existing Cultural Heritage resources;
- Visual: The construction of temporary or permanent structures have the potential to indirectly impact Cultural Heritage through the introduction of intrusive visual elements to the physical environment or 'setting' where the resource draws value from its surroundings;
- Auditory: The construction phase has the potential to introduce intrusive auditory (noise) elements through associated construction works to the physical environment or 'setting' of Cultural Heritage resources; and
- Dust: The construction phase has the potential to introduce intrusive dust elements through associated works to the physical environment or 'setting' of Cultural Heritage resources.

Three types of indirect impacts are considered during the operation phase:

- Restriction of access: the potential to permanently restrict access for traditional users or researchers to existing Cultural Heritage resources;
- Visual: the potential to introduce mobile intermittent intrusive visual elements to the physical environment or 'setting' of Cultural Heritage resources;
- Auditory: the potential to introduce intermittent intrusive auditory elements to the physical environment or 'setting' of Cultural Heritage resources.

To reduce effects, the following mitigation measures will be implemented during the construction phase:

A comprehensive Cultural Heritage Management Plan (CHMP) will be developed for the Project to ensure all Cultural Heritage resources are addressed and managed adequately. The plan will be developed and agreed pre-construction, to allow appropriate mitigation measures to be applied before any impact occurs. Items to be covered in the CHMP include (but not limited to):

- Specific design measures, such as screening bunds or noise reduction measures, to address indirect impacts;
- Regulator engagement with the Ministry of Culture to agree site-specific mitigation measures;
- Further field survey and assessment for potentially impacted resources. In the absence of more detailed information on Cultural Heritage resources identified in the baseline, additional field survey will be required under the CHMP to determine the full extents and significance of Project impacts to be undertaken by an appropriately qualified Cultural Heritage specialist. The CHMP will need to be updated to reflect the findings of this additional survey.
- Access management (Memorandum of Understanding with local communities regarding access and activities). Access arrangements will be made to the satisfaction of identified stakeholders through a Memorandum of Understanding agreed to by authorities and identified stakeholders, which will allow unrestricted access to Cultural Heritage resources. This memorandum should be in place before construction begins.
- Cultural Heritage input into the Community Grievance Mechanism;
- Grave Relocation Plan. This will be designed and implemented with the agreement of the local communities (for the cemetery identified in the AoI).
- Chance Finds Procedure. A Chance Finds Procedure will be designed and implemented to manage any unexpected discovery of archaeological material in-line with international requirements and guidelines IFC PS8.
- Detailed site-specific Archaeological mitigation, such as pre-construction investigations, archaeological excavations, etc.;
- Built heritage recording; and
- Monitoring of mitigation measures and Mitigation Control.

4.9 Land and Livelihood

During construction, impact on a given land user can range from minor to moderate, depending on the size and the importance of the affected land (also in relation to remaining, unaffected land), economic resource for the affected household and vulnerability of the household.

The impact assessment assumes that all the land was/will be acquired prior to the start of construction of each Project component. As a result, during the operation phase, there should be no additional significant impacts arising from Project-related land take.

More than two hundred farmers are currently leasing pastureland across the AoI in the five administrative territorial units (ATU) where the Project is to be implemented.

Economic displacement results from an action that interrupts or eliminates people's access to productive assets, even without physical displacement.

Potential livelihood impacts are to be expected during construction stage. Approx. 200 ha are expected to be impacted by construction works, displacing the respective land area from the grazing surface available prior to the Project.

There are several key elements to the mitigation approach including:

- All land users shall be duly identified and compensated for reduction in subsidies, including both formal and informal land users and prior to accessing the land;
- Providing compensation for loss of assets at replacement cost;
- Ensuring appropriate disclosure of information, consultation, and the informed participation of those affected;
- Improving or, at a minimum, restoring the livelihoods and standards of living of affected persons to pre-project levels, so as to facilitate sustainable improvements to socio-economic status;
- Paying particular attention to the needs of vulnerable groups – a.i. older farmers, small-scale farmers, who are typically less resilient to change and may be made more vulnerable by Project impacts. These may include the extremely poor and groups that suffer social and economic discrimination, including Roma minority. Members of vulnerable groups may require special or supplementary displacement assistance because they are less able to cope with change than the general population. Elderly farmers, for example, may not be able to use replacement pasture or deal with increased distance from pastureland to home.

The Livelihood Restoration Plan (LRP) is to provide the foundation for adequate compensation process, The LRP will include an entitlement matrix applicable to all Project Affected People (PAPs) and ensure that:

- Farmers can continue to access the same livelihood resources or otherwise livelihood restoration measures will be provided to adequately manage economic displacement impacts.
- Land users will be compensated for the loss of their specific interest in part of the pastureland for a period and assisted in their re-establishment, if required, once the constructions works are completed.
- The Project will compensate for all eligible crops identified and valued in the asset inventory. Compensation payments for crops, trees and other agricultural assets will be awarded according to official government rates, or based on full replacement value, whichever rate is higher and in line with applicable law.
- Engagement will be maintained with PAPs through the process of robust stakeholder engagement, including an effective and accessible grievance mechanism, also applicable to land-related aspects. The grievance mechanism will be maintained during operations to ensure that local communities and stakeholders have an adequate channel to voice concerns and land related queries and complaints. If feedback is received about stakeholders suffering loss of income or subsistence that affects living standard, the Client will establish appropriate measures to understand the impacts and work with stakeholders to develop appropriate additional mitigation.
- Moreover, the LRP shall include an Accidental Damage Compensation Procedure that is to be developed as part of the Project ESMS and used to guide compensations during the Construction and Operation of the Project.
- The Project will also assist farmers through livelihoods restoration programs, including measures to increase productivity of residual holdings.

4.10 Economy and Employment

The activities related to each Project's phase will require the engagement of number of employees, as well as the procurement of goods - often from local and regional sources – therefore potentially directly and indirectly affecting both temporary employment and income in the Social AoI and the wider Buzău County. The Project will also have a potential long-term impact on the Social AoI, increasing local councils' revenue through tax payments.

The Investor will implement clear and transparent recruitment procedures, providing the workforce with documentation that will outline labour rights, such as the working hours, compensations for overtime, and any additional employee benefits. The documentation will also highlight the workers' right to self-organisation and collective agreements.

What is more, the Investor will develop a Construction Labour and Working Management Plan, which will contain amongst others:

- Selection criteria, job profiles, and number of workers for the construction phase with specific attention to the enhancement of the local community, women, and vulnerable groups' employment.
- Clear communication of required involvement of local workforce and local companies, explaining requirements on qualification, availability, eventual training, etc.
- Description of the recruitment process and details of the recruitment information disclosure to local communities.
- Details of vocational trainings available to employed construction workers.
- Description of the Worker's Code of Conduct, highlighting labour conditions with an aim to reduce the risk of gender-based violence and harassment.
- Details of worker's grievance mechanism that will be disclosed during the recruitment process and the employment period.
- A commitment to provide workers with a sufficient notice period as to when their job contract terminates.
- Monitoring indicators and the reporting timeline for the recruitment process and management of the workforce.

A Stakeholder Engagement Plan will be implemented to outline how the Project will ensure regular, open, and transparent communication with all stakeholders, concretely:

- To provide clear information on the number and limited timescales of employment opportunities.
- To ensure information on the employment and the procurement strategies is disclosed at all settlements within the Project Area of Influence.
- To plan an engagement with stakeholders through early, inclusive dialogue to build a shared understanding of the potential positive and negative impacts of workers' influx, and the associated risks and opportunities.
- Continuing to engage local people in the employment opportunities and work with suppliers to enable capacity building, procurement, employment and contracting opportunities at a settlement-level, as part of maximizing the positive benefits.
- As part of the Stakeholder Engagement Plan, a Community Grievance Management Procedure will be implemented to ensure that individuals who have concerns or complaints about the Project or wish to report their potential expectations or concerns related to local economy and employment can communicate directly with the Project.

4.11 Public & occupational health & safety

All construction projects present risks to worker health and safety. The Project developer will control those risks by requiring contractors to develop and strictly enforce occupational health and safety plans that meet Romanian and international standards for worker protection. This will include assessments of the hazards presented by every job, training of all workers, and requiring the use of contractor-provided protective equipment. For jobs that present special risks, such as working with electricity, working at heights, working in excavations, or working in confined spaces, there will be special rules and extra training. This will reduce the risk to acceptable levels.

The primary risk to other people will be from traffic and from trespassing on the site, especially the substation. A traffic management plan to reduce the risk from increased traffic. Trespassers could fall into excavations or be electrocuted if they encounter live electricity. Fences and warning signs will reduce this risk, and there may be guards at some sites during construction to prevent trespassing.

4.12 Traffic and Road Transportation

4.12.1 Impacts on road infrastructure

The AoI for traffic includes county and communal roads that cross or border the Project site, roads that would be used for worker commuting and transport of materials, and routes from the Port of Constanţa that may be used for transport of internationally sourced components. Rail and air transportation are not proposed for this Project. Sea freight would be the primary mode of transport for bringing internationally sourced components to Romania.

Turbine components would include very large components (blades, turbine tower sections, nacelle, and transformers) requiring oversized vehicles. Transporting turbine installation equipment (cranes) would also require travel of oversized vehicles.

The internal Project roads will consist of reconstructed agricultural roads and new roads. These roads will be open to local and agricultural traffic during operations. The internal Project roads would have with a stone surface, width of 4.5 meters, and drainage swales.

The wear and tear of multiple heavy and oversized truckloads, such as those associated with delivery of concrete, equipment, and turbine components, would degrade road infrastructure, leading to conditions such as pitted, cracked or crumbling asphalt, and trenches, ridges and ditches on dirt and stone road surfaces.

To reduce impacts, a series of measures were identified for implementation during the Project execution:

- Obtain necessary permits and implement all necessary road improvements or alterations prior to use of the routes for oversized Project shipments. (construction, operations, decommissioning).
- Restore signs, streetlights and other street furniture removed for or damaged by the movement of Project-related trucks. (construction, operations, decommissioning).
- Survey the condition of roads to be used for concrete, supply, equipment, and component deliveries prior to construction and submit reports to local road authorities. (pre-construction).
- Repair road damage resulting from construction traffic during the construction period.
- Upon completion of the construction and decommissioning phases, work with local road authorities to identify damage to and restore county, communal, and agricultural roads used for Project-related heavy truck traffic. Coordinate with national road authorities (the Romainian National Road Infrastructure Company, or CNAIR) to coordinate and contribute to repair and maintenance of national roads damaged by construction. (construction, decommissioning).

- Upon completion of construction, install road signage for the new public roads built for the Project as required by the local road authorities. (construction).
- Upon completion of construction, in coordination with local road authorities and stakeholders, establish a schedule to be implemented by the Proponent and other stakeholders for maintenance of roads within the Project area during wind farm operations. (construction).

4.12.2 Impacts on road safety

Increased traffic volumes are correlated with accident frequency, indicating that increased traffic volumes due to Project activity would generate an increase in traffic-related accidents if not properly managed or mitigated (Retallack and Ostendorf, 2020). The risk of additional incidents would increase if existing road users were not accustomed to increased traffic volumes and heavy or oversized vehicle traffic. Oversize Project vehicles delivering turbine components create safety concerns. Safety risks associated with these vehicles include potential property damage, as well as crashes resulting from the lack of public familiarity with the slow manoeuvring and travel speeds and the wide turning radii of these oversize vehicles. The size of Project vehicles (especially oversize vehicles) would also likely increase the severity of outcomes of a crash.

To reduce impacts on road safety, a series of measures were identified:

- As part of the TMP, address transportation safety risks of Project traffic, including (but not limited to) truck routes, hours of transport, community notification, signage, education, and other measures to minimize safety hazards. (construction, decommissioning)
- Complete a detailed road transport route study (either a new study or an update of the 2020 study) that evaluates every route to be used for oversized loads, identifies every hindrance, obstacle or needed alteration, and identifies mitigations for hazards to roadside structures or property. Obtain permits and implement alterations prior to deliveries. If necessary, construct bypasses to avoid hazards to properties or other road users at constrained road segments or intersections. (pre-construction, construction, decommissioning)
- Plan truck routes for non-oversized loads using roads with adequate geometrics and load-bearing capacity for safe passage. (pre-construction, construction, operations, decommissioning)
- Consider community schedules that result in higher levels of local traffic, school schedules, or community events. Schedule truck traffic outside of these times in addition to avoiding periods of peak traffic volumes. (construction, operations, decommissioning)
- As part of a Project-related public engagement programme, regularly inform, educate, and update stakeholders about Project construction traffic, oversized vehicle movements, and related safety considerations. (pre-construction, construction, decommissioning)
- Establish and implement standards addressing the following (constructions, operations, decommissioning):
  - Training and accreditation for project drivers, including contractors.
  - Driver fitness standards, including mandatory rest periods and prohibition of drug/alcohol use.
  - In-vehicle monitoring systems to monitor vehicle speed and location (Project vehicles and contractors).
  - Project and contractor standards for vehicle safety and maintenance.
  - Security response for vehicle incidents.
  - Load stability standards.

5. CUMULATIVE EFFECTS

Cumulative impacts are successive, incremental and/or combined (aggregated) impacts from a project and the impacts from other past, existing and reasonably foreseeable future projects or activities that could affect the same biodiversity or natural resources, collectively affecting habitat, water quality or flow, or impacting the same locally endemic species.

The following five components have been selected and looked at as part of the Cumulative Impact Assessment completed for the Project:

- Avifauna (birds and bats)
- Traffic
- Landscape & Visual
- Employment
- Climate

The incremental cumulative impact of the Project was considered in terms of the following two scenarios:

- **Scenario A**: the anticipated future condition of the above-indicated Environmental and Social Components when impacted only by the other developments in the future baseline.
- **Scenario B**: the anticipated future condition of these components considering both other developments and the Vifor WF Project, collectively.

As a result of the impact assessment of these two scenarios on the identified components **it has been concluded that the Vifor Project is unlikely to be a major contributor to cumulative impacts to the components identified,** and Project level mitigation measures recommended should be adequate for reducing residual impact significance to insignificant or minor levels.

6. HOW IS THE PROJECT GOING TO MANAGE THESE RISKS AND IMPACTS?

To ensure the proposed mitigation measures are effectively implemented, adequate resources and project management planning will be put in place, as guided by an Environmental and Social Management Plan (ESMP) package available for the project.

The management plans comprising the above-indicated ESMP will be publicly disclosed, as they become available at the Project website.

7. HOW IS THE PROJECT ENGAGING WITH COMMUNITIES AND OTHER STAKEHOLDERS?

The Project developer has engaged stakeholders since 2012, both informally through their local representative and formally in official meetings with government institutions, regulatory consultation meetings with the public or public disclosure sessions organised in 2012.

Public consultation has been supported by public announcements in the local media and public meetings organised in each commune. Public Consultation Reports have been concluded for each commune, by the respective Local Councils, as part of the PUZ approval process. The meetings were announced at each of the Commune Halls and in local media. Relevant authorities and local NGOs were provided the relevant documentation and the invitation to the meetings.

Engagement with local authorities was resumed in 2019, when the developer organised a meeting with local authorities' representatives to inform them about the intention to implement the Project using international financing. The Client representatives are in permanent contact with the Local Councils and Mayors, as permitting process progresses.

During the meeting with all six mayors and a county councillor, held at Gherăseni in April 2021, additional information was provided by the developer regarding expected timeline and next steps for project implementation. All mayors confirmed the implementation of the Project will bring significant added value to local development, via the contribution to local budgets deriving from the land lease agreements, taxes, provision of jobs and use of local suppliers.

8. CONCLUSION

The Vifor Project is designed to meet Romanian and international standards for environmental protection and for preventing adverse effects on people. The Project will be an important step for Romania in meeting European Union requirements for renewable energy generation and will benefit the local and national economies.

With the implementation of required mitigation measures and best practices, all negative impacts on the environment and people will be avoided, reduced, or otherwise mitigated to acceptable levels.