

Absheron 240 MW_{ac} Wind Project Azerbaijan

Environmental and Social Impact Assessment



April 2026

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LIST OF ABBREVIATIONS

ABBREVIATION	MEANING
5 Capitals	5 Capitals Environmental and Management Consulting
AERA	Azerbaijan Energy Regulatory Agency
AIIB	Asian Infrastructure Investment Bank
ANAS	Azerbaijan Academy of Sciences
AREA	State Agency for Alternative and Renewable Energy Sources
AZRB	Azerbaijan Red Data Book
BAT	Best Available Techniques
CESMP	Construction Environmental and Social Management Plan
CLO	Community Liaison Officer
CH	Critical Habitat
DFI	Development Finance Institutions
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
EMF	Electromagnetic Field
EMP	Environmental Management Plan
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESMS	Environmental and Social Management System
EP	Equator Principles
EPFI	Equator Principles Financial Institution
EPRP	Emergency Preparedness and Response Plan
ESR	Environmental and Social Requirement
ESS	Environmental and Social Standard
EU	European Union
FAO	Food and Agriculture Organization
FGD	Focus Group Discussions
FHH	Female-headed households
GBVH	Gender Based Violence and Harassment
GIIP	Good International Industry Practice
GIS	Geographic Information System
GRM	Grievance Redress Mechanism
GPN	Good Practice Note
GW	Gigawatts
HDI	Human Development Index
HSSE-MS	Health, Safety, Social and Environmental Management System
HRRA	Human Rights Risk Assessment
IBA	Important Bird Area
IBAT	Integrated Biodiversity Assessment Tool
ICT	Information and Communication Technology

ABBREVIATION	MEANING
ICCPR	International Covenant on Civil & Political Rights
ICESCR	International Covenant on Economic, Social and Cultural Rights
IDP	Internally Displaced Persons
IFC	International Finance Corporation
ILO	International Labour Organisation
IP	Indigenous People
IWGIA	International Work Group for Indigenous Affairs
KBA	Key Biodiversity Area
KII	Key Informant Interview
LCA	Landscape Character Areas
LPA	Legally Protected Area
LRP	Livelihood Restoration Plan
LWCMP	Labour and Working Conditions Management Plan
MAC	Maximum Allowable Concentrations
MENR	Ministry of Ecology and Natural Resources
MES	Ministry of Emergency Situations
MHH	Male-headed households
MIA	Ministry of International Affairs
MSTS	Masdar Specialised Technical Services
NDCs	Nationally Determined Contributions
NH	Natural Habitat
NSR	Noise Sensitive Receptors
NTS	Non-Technical Summary
OHS	Occupational Health and Safety
OHSMP	Occupational Health and Safety Management Plan
PCFM	Post-construction Fatality Monitoring
PM	Particulate Matter
PR	Performance Requirement
PBF	Priority Biodiversity Features
PPB	Parts per billion
PS	Performance Standard
PV	Photovoltaic
SABAA	South African Bat Assessment Association
SCFWCA	State Committee for Family, Women and Children Affairs
SEA	Sexual Exploitation and Abuse
SEE	State Ecological Expertise
SEP	Stakeholder Engagement Plan
SH	Sexual Harassment
SLCC	The State Land and Cartography Committee
SOCAR	State Oil Company of the Republic of Azerbaijan
SPS	Safeguard Policy Statement

ABBREVIATION	MEANING
TAQA	The Abu Dhabi National Energy Company PJSC
TTMP	Traffic and Transport Management Plan
UN	United Nations
UNDP	United Nations Development Programme
UNFPA	United Nations Populations Fund
UNGP	United Nations Guiding Principles
VOC	Volatile Organic Compounds
WBG	World Bank Group
WHO	World Health Organization
WTGs	Wind Turbine Generators
ZTV	Zone of Theoretical Visibility

1 INTRODUCTION

Note: Following completion of this Environmental and Social Impact Assessment, the layout of the Absheron Wind Farm has been revised.

The revised layout results in the removal of wind turbine generators (WTGs), while the majority of the other WTGs remain in similar locations. Due to the fact that the existing ESIA has assessed a Project layout with more WTGs, and a greater impact on environmental and social components, it has been determined that the most suitable means of highlighting the changes to the Project lenders, their advisors, the local communities and the national regulator is in the form of a technical addendum. The technical addendum has also been disclosed, in both English and Azerbaijani.

1.1 Project Overview

Azerbaijan, the host country for the United Nations Climate Change Conference (COP29) in November 2024, has expressed a commitment to developing its renewable energy potential. This initiative forms a crucial part of Azerbaijan's revised Nationally Determined Contributions (NDCs), with a target of reducing emissions by 40% by 2050 compared to 1990 levels.

Renewable energy, particularly solar and wind, is integral to achieving this target. The country's Ministry of Energy has also been active in mapping the renewable energy potential, including the development of an "Atlas" for renewable energy resources. The "Law on the Use of Renewable Energy Sources in Electricity Production" (May, 2021) provides a framework for renewable energy projects, introducing measures such as guaranteed tariffs for electricity produced from renewable sources, priority in transmission, and long-term land leases for project developers. The country intends to increase renewable power capacity to 30% by 2030 and diversify its existing energy system to become a leader in green energy.

Masdar is developing a portfolio of renewable energy projects in the Republic of Azerbaijan in collaboration with key national stakeholders, including the State Oil Company of the Republic of Azerbaijan (SOCAR), supporting the country's renewable energy and energy transition objectives. The wider programme includes a combination of solar photovoltaic (PV), onshore wind and other renewable energy technologies across multiple locations in Azerbaijan. The Absheron Wind Farm, comprising wind turbine generators (WTGs), platforms, substation, access roads, hereafter referred to as the Project, forms part of this broader

renewable energy initiative and is being progressed in coordination with relevant national authorities and project stakeholders

Two other Masdar Azerbaijan projects, the Neftchala (Banka)¹ and Bilasuvar² Solar PV projects reached financial close in November 2024.

On the 26th October 2023, Masdar and the Ministry of Energy entered into an investment agreement for the Project. The Project will assist in achieving Azerbaijan's 2025 vision and beyond for the inclusion of renewable energy electricity within its generation mix.

1.2 Scope of the Document

5 Capitals Environmental and Management Consulting (5 Capitals) has been engaged by Masdar to undertake certain environmental and social studies during the development process of the Absheron Wind Farm project, including the Environmental and Social Impact Assessment (ESIA) process.

At this stage, it is understood that Masdar is seeking an amount of project finance from financial Institutions (together "lenders"), potentially including commercial banks that are Equator Principles Financial Institutions (EPFIs) and Development Finance Institutions (DFIs). This ESIA has been prepared in line with the following standards:

- Asian Infrastructure Investment Bank (AIIB)
- European Bank for Reconstruction and Development (EBRD)
- International Finance Corporation (IFC)

The lenders have their own internal environmental & social investment policies/standards by which the Project must align, which are further outlined in Section 4.3.

A key stage in the development of the Project requires an ESIA in compliance with Azerbaijani national ESIA requirements. 5 Capitals has engaged locally based specialists to undertake certain elements of the scope and provide local experience and expertise. Refer to Section 4.5.1 for the Azerbaijani Environmental Impact Assessment (EIA) requirements and the requirements and process for the Project's national permitting.

This ESIA Report has been informed by:

- The ESIA Scoping Report prepared by 5 Capitals and issued in April 2024;
- Analysis of the Project details and proposed works (as advised by Masdar);

¹ <https://masdar.ae/en/renewables/our-projects/neftchala-solar-power-plant>

² <https://masdar.ae/en/renewables/our-projects/bilasuvlar-solar-power-plant>

- Desk-based study of available mapping and aerial photography;
- Site visits undertaken by 5 Capitals and appointed national specialists between August 2023 and August 2025;
- Consultations with stakeholders;
- Site surveys conducted between 2024 and 2026 (including year-long avifauna vantage point surveys, bat surveys, terrestrial ecology surveys, soil and surface water sampling and analysis, noise monitoring, air quality monitoring, and socio-economic surveys);
- Review of available secondary information, including but not limited to:
 - Integrated Biodiversity Assessment Tool (IBAT);
 - BirdLife International <birdlife.org>;
 - World Database of Protected Areas <protectedplanet.net>;
 - Key Biodiversity Areas <keybiodiversityareas.org>;
 - Office of the United Nations High Commissioner for Human Rights;
 - United Nations Development Programme <undp.org>; and
 - United Nations Educational, Scientific and Cultural Organization (UNESCO) databases.
- 5 Capitals' experience of conducting ESIA's for renewable energy projects (including wind farms) globally and in Azerbaijan; and
- 5 Capitals' experience of working with lenders to ensure necessary financing requirements are met.

1.3 Scoping Exercise Summary

An ESIA Scoping Report was prepared by 5 Capitals and issued in April 2024. A key objective of the Scoping Report is to determine the scope of the environmental aspects (e.g., air, noise, ecology) that will be included and assessed in this ESIA Report.

The following table summarises the scoping exercise outcome.

With regards to the transmission line and connection to the grid, refer to Section 2.6, which outlines the status of assessment of the line.

Table 1-1 Scoping Exercise Summary

ASPECT	CONSTRUCTION / OPERATION	SCOPED	JUSTIFICATION
Air Quality	Construction	In	The construction phase will result in dust generation and gaseous emissions. There are a number of receptors within proximity to proposed construction works, as well as along main access roads.
	Operation	Out	Although the Project will have back-up generators and require the limited, intermittent use of vehicles for O&M purposes, there will not be

ASPECT	CONSTRUCTION / OPERATION	SCOPED	JUSTIFICATION
			significant air emissions during the operation phase and therefore operational air impacts are scoped out.
Noise and Vibration	Construction	In	Construction activities will result in noise emissions and there are noise sensitive receptors in the area of influence.
	Operation	In	During the operation of the wind farm, wind turbines produce noise through a number of different mechanisms, there are receptors in the area of influence.
Geology, Soils, Surface Water and Groundwater	Construction	In	The construction of the Project will require interaction with subsurface conditions, there is surface water evident within the site and in the surrounding areas.
	Operation	Out	Potential significant risks during the operational phase are expected to be limited to the storage and management of limited hazardous materials, chemicals, and wastes, good practice measures for this will be outlined in appropriate management plans and therefore, a detailed operation phase impact assessment is scoped out.
Terrestrial Ecology and Avifauna	Construction	In	The construction of the Project will result in habitat loss and potential impacts to species such as direct mortality, lowered reproduction and survivorship, biodiversity displacement.
	Operation	In	The operation of the wind turbines can result in mortality to avifauna and bat species.
Landscape and Visual Amenity	Construction	In	Construction of the Project will result in landscape character change and impacts to visual amenity to those who have views towards the site.
	Operation	In	The establishment of wind turbines will result in landscape character and visual impacts, for a considerable distance
Shadow Flicker	Operation	In	Operation of the WTG will result in shadow flicker impacts and there are receptors within the area of influence.
Solid Waste and Wastewater Management	Construction	In	The construction phase will result in the generation of wastes which, if not managed in line with good practice, can result in impacts to waste management infrastructure and receptors such as soil, surface water and groundwater quality, and ecology.
	Operation	Out	The operation of the Project will generate insignificant amounts of waste, primarily related to domestic wastes arising from the limited operations workforce.
Archaeology and Cultural Heritage	Construction	In	Excavation and earthwork activities during construction can result in damage and destruction of undiscovered archaeological

ASPECT	CONSTRUCTION / OPERATION	SCOPED	JUSTIFICATION
			artefacts, most likely to occur mainly during the initial stages of construction. In addition, particular elements of intangible cultural heritage have been reported in the local communities.
	Operation	Out	During operation the Project will not have any interaction with the subsurface and therefore impacts on buried archaeology are not anticipated.
Socioeconomics (including land and livelihood impacts)	Construction	In	There are potential negative socioeconomic impacts linked with worker influx, traffic, land use restriction, in addition to potential positive impacts with regards to employment opportunities and dissemination of skills.
	Operation	In	The operation of the Project will lead to potential socioeconomic benefits such as provision of employment opportunities, dissemination of skills etc. In addition, there is the potential for negative socioeconomic impacts, similar to that of the construction phase.
Community Health, Safety & Security	Construction	In	Potential impacts relate to worker influx which can result in community disgruntlement, health risks, gender-based violence and harassment, sexual exploitation, abuse and harassment. Impacts also arise from construction works, movement of construction vehicles and plant, and emergency situations.
	Operation	In	The potential impacts arising in the construction phase are also relevant during the operation phase. In addition, the operation of wind turbines results in potential risks with respect to ice and blade throw.
Labour & Working Conditions	Construction	In	The Project will require a dedicated construction and operation workforce and there are therefore risks with regards to occupational health and safety, risks relating to working at height, forced and child labour, supply chain risks, gender risks, lack of worker representation and provision of inadequate accommodation facilities.
	Operation		
Climate Affairs	Construction	In	A standalone Climate Change Risk Assessment is appended to this ESIA (Appendix B).
	Operation		
Human Rights	Construction	In	A standalone Human Rights Risk Assessment is appended to this ESIA (Appendix A).
	Operation		

1.4 Objectives of the ESIA Report

The primary objectives of the ESIA are as follows:

- Provide an overview of the Project design and construction and operational processes and requirements;

- Identification of sensitive receptors in the Project's areas of influence;
- Review of the regulatory and legislative framework, including national laws, applicable international regulations and standards, and international lender requirements;
- Assessment of the existing environmental and social baseline conditions prior to the development of the Project through a review of available existing data and the undertaking of environmental and social baseline surveys;
- Assessment of the Project's environmental and social impacts for the construction, operational and decommissioning;
- Assessment of the Project's alternatives, specifically the no project alternative, and an alternative layout;
- Determination of applicable mitigation and management measures to be implemented in order to avoid or minimise potential adverse impacts and enhance beneficial impacts;
- Preparation of a framework for which the construction and operational phase management systems and plans can be developed and implemented.

1.5 Structure of the ESIA Report

To align the ESIA with the requirements for environmental and social assessment established by the various lenders and good practice, the ESIA report is presented in the following format:

- Volume 1: Non-Technical Summary
- Volume 2: ESIA - Main Text, Tables and Figures
- Volume 3: Framework Environmental & Social Management Plan
- Volume 4: Appendices

Volume 1 is the Non-Technical Summary (NTS) of the ESIA, including the main outcomes, and conclusions.

Volume 2 (this document) comprises the main text of the ESIA and full impact assessment, with mitigation, management and monitoring measures identified.

Volume 3 provides the Framework Environmental and Social Management Plan.

Volume 4 comprises all technical appendices relevant to the studies and ESIA, as below:

- **Appendix A:** Human Rights Risk Assessment
- **Appendix B:** Climate Change Risk Assessment
- **Appendix C:** Critical Habitat Assessment
- **Appendix D:** Ecology Baseline Surveys
- **Appendix E:** Air, Noise, Soils and Groundwater Analysis Report

- **Appendix F:** Livelihood Restoration Plan
- **Appendix G:** Noise and Shadow Flicker Modelling Reports
- **Appendix H:** Archaeological Survey Report
- **Appendix I:** Stakeholder Engagement Plan

2 PROJECT INFORMATION

2.1 Project Context

The Ministry of Energy of the Republic of Azerbaijan and Masdar signed an implementation agreement relating to the assessment, development, and implementation of a 4 GW_{ac} pipeline of solar PV and onshore wind projects in the Republic of Azerbaijan starting with 2 GW_{ac} as the first phase. On the 26th of October 2023, Masdar and the Ministry of Energy entered into an investment agreement for the Project.

Masdar is currently developing three greenfield projects consisting of two solar PV power plants and one onshore wind power plant, with an aggregate capacity of 1000 MW_{ac}. As stated in Chapter 1, the Absheron Wind Farm Project is one of three projects making up the first phase and is the focus of this report while the Neftchala (Banka)³ and Bilasuvar⁴ projects reached financial close in November 2024.

Details of the three projects are shown in the following table.

Table 2-1 Initial Project Details

	BILASUVAR PV	NEFTCHALA (BANKA) PV	ABSSHERON WIND FARM
Location	Bilasuvar	Banka, Neftchala Region	Gobustan South
Capacity (MW _{ac})	445	315	240
Area (ha)	1,454	973	Construction: 105 Operation: 63

2.2 Key Project Information

Table 2-2 Key Project Information

PROJECT TITLE	Absheron 240 MW _{ac} Wind Project
PROJECT DEVELOPER	Masdar and SOCAR Green LLC
EPC CONTRACTOR	TBC
O&M COMPANY	Masdar Specialised Technical Services (MSTS)
MASDAR REPRESENTATIVE	Murad Sadikhov Abu Dhabi Future Energy Company PJSC – Masdar Baku, Azerbaijan

³ <https://masdar.ae/en/renewables/our-projects/neftchala-solar-power-plant>

⁴ <https://masdar.ae/en/renewables/our-projects/bilasuvar-solar-power-plant>

SOCAR REPRESENTATIVES	Elmir Musayev SOCAR Green LLC Baku, Azerbaijan
ESIA CONSULTANT	5 Capitals Environmental and Management Consulting (5 Capitals) PO Box 119899, Dubai, UAE Tel: +971 (0) 4 343 5955, Fax: +971 (0) 4 343 9366 www.5capitals.com

2.3 Project Location

The Project is located approximately 30 km west of Baku, WTGs are located across two districts, the Absheron District of the Absheron-Khizi Economic Region and Garadagh District in the Baku Economic Region. Figure 2-1 depicts the location of the Project in Azerbaijan and Figure 2-2 depicts the regional location of the Project.

The closest communities to the Project are Gobustan, Pirekeshkul, Mushfigabad and Ashagi Guzdak.

The project comprises 32 WTGs. 20 WTGs are located south of the Baku-Shamakhi M4 highway and 12 are located north of it, as is evident in Figure 2-3.



Figure 2-1 National Project Context

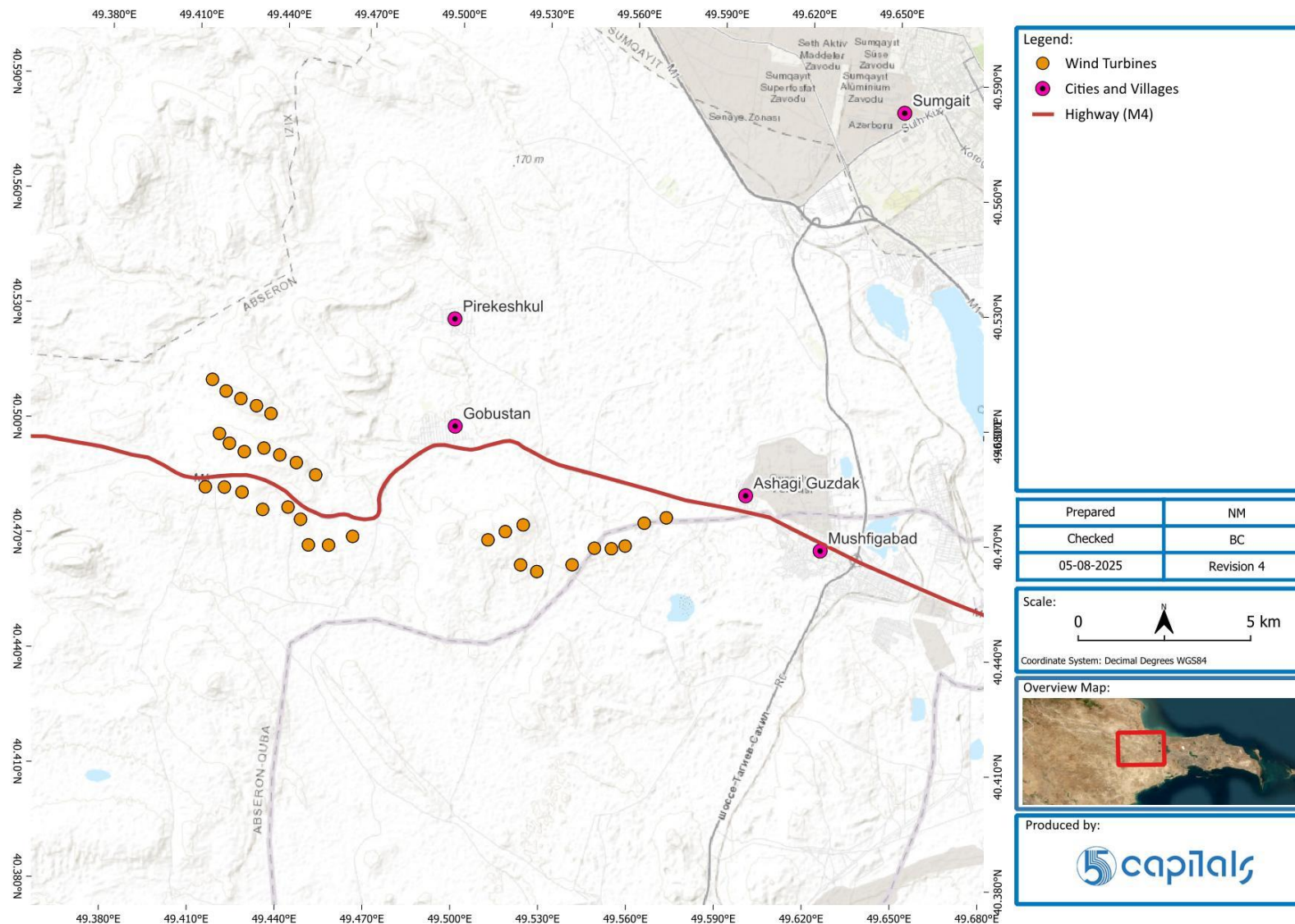


Figure 2-2 Local Project Context

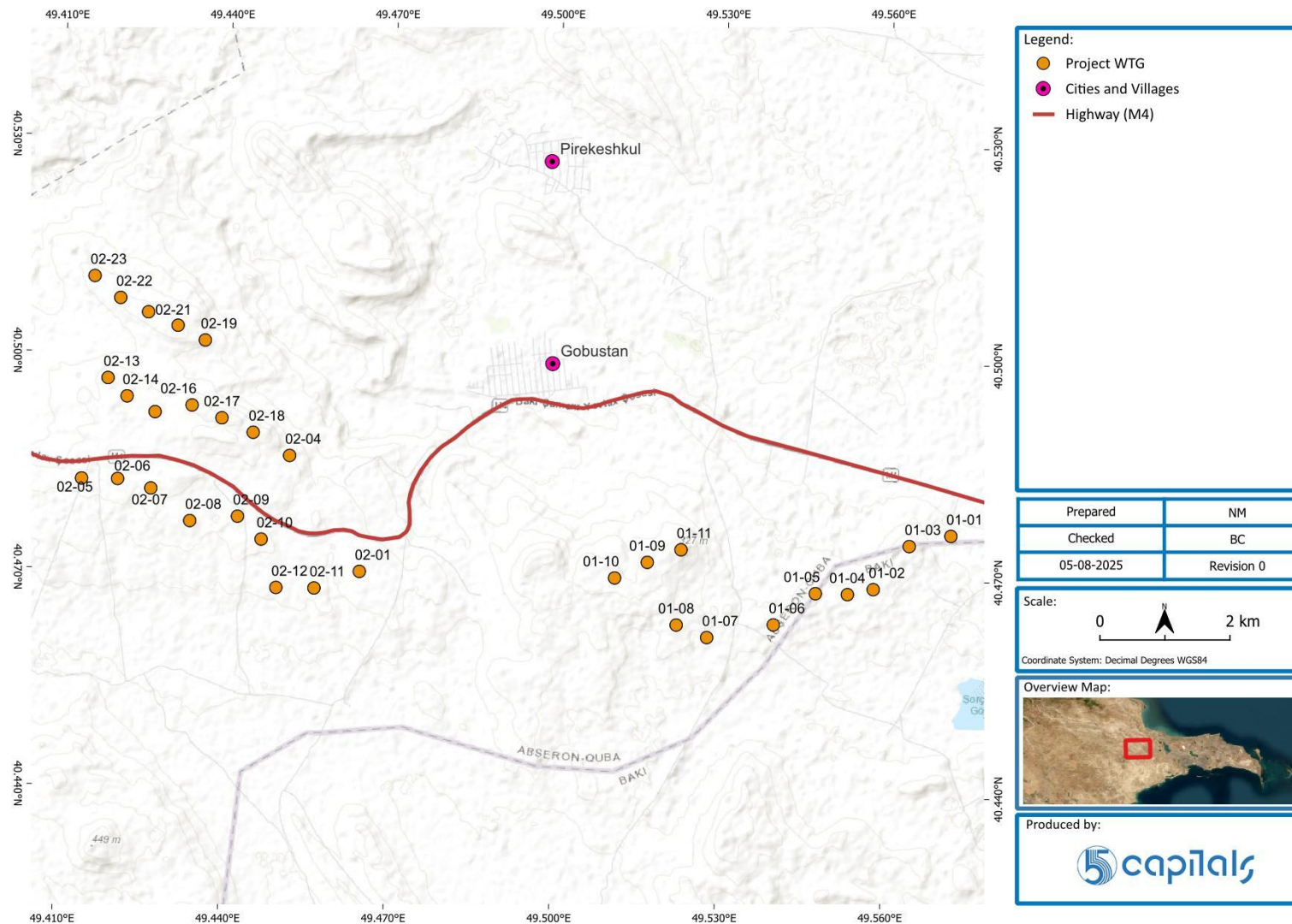


Figure 2-3 WTG Locations

2.4 Land Ownership, Use, and Site Condition

2.4.1 Land Ownership

The Project lands consist of three plots that are to be consolidated and announced as 'Renewable Energy Land Category' State Land under the possession of the Ministry of Energy by Decree of the Prime Minister. The three land plots are as follows:

- 19.875 ha agricultural category (state land) Absheron district
- 11.25 ha agricultural category (municipal land) Absheron district
- 3.375 ha agricultural category (state land) Garadagh district

Upon completion of the land category change, the land certificate and land lease agreement are to be approved by the Cabinet.

2.4.2 Land Use and Site Conditions

The entire Project area is classified as semi-desert habitat with light to moderate grazing pressure. When grazing is conducted, it is typically conducted in the winter months, when the temperature in the region is more moderate than that of other regions in Azerbaijan.

The land allocated for the development of the Project WTGs does not include any structures or other permanent land use. With regards to structures closest to the Project, the closest is a herder structure approximately 400 m away from a WTG, two other herder structures are located approximately 650 m from the nearest WTG, and two fuel stations (neither of which are operational) and poultry farm are both within 700 m of the nearest WTG. All other identified receptors are located over 1 km from the nearest WTG.

Images of the site are shown in the Figure 2-5 and details with regards to land use and surrounding land use are outlined in the following subsections.

MILITARY LAND USE

Military activity has been observed in areas close to the site, and a former barracks, understood to be abandoned, is located 100 m from the nearest WTG (01-01). An image of the abandoned barracks is shown in the following figure. In addition, an active military facility is located 1.4 km from the nearest WTG (shown as M-1 on Figure 2-9).



Figure 2-4 Former Military Barracks

A consultation letter was sent to the Ministry of Defence to provide information about the Project and to request data and feedback that will be relevant to the preparation of the Project ESIA, including any details with regards to the abandoned barracks, military activity in the area and the potential for unexploded ordinance.

In response to the letter, representatives from the Ministry of Defence's Training Center and the project team (including staff from 5 Capitals and Masdar) conducted a joint site visit to the project area on 16 May 2025. After inspecting the proposed WTG locations, the Ministry representatives noted that, based on visual observation, no interference or restrictions are expected on the military lands during project implementation. In addition, the Ministry of Defence requested the coordinates of the WTGs located near military lands.

Following submission of the coordinates, the Ministry responded saying that there were some interferences with Military lands. Masdar, the Ministry of Defence and the Ministry of Energy are in discussions to align on a path forward.

EXISTING TRANSMISSION LINES

As is evident from the site photos, there are a number of transmission lines in the area. Consultation letters were sent to Azerishig and Azerenerji on the 15th April 2025.

In response to the letter, Azerishig requested a joint site visit. Accordingly, on the 13th May 2025, representatives from Azerishig and the project team, including Masdar and 5 Capitals staff, together with the Chief Engineer of the Energy Supply and Sales Management Department of Azerishig, inspected the Azerishig transmission lines located along the Baku–Shamakhi Road within the project area.

During the inspection, Azerishig highlighted that the Azerishig lines are predominantly situated along the M4 highway and that no poles or lines are located in areas designated for WTG

installation. However, it was acknowledged that there is the risk of potential damage to poles and lines by large trucks transporting materials during the construction phase.

To address this, Azerishig will provide Masdar with details of sanitary zones for poles and lines, as well as other technical requirements and criteria related to its infrastructure, to be considered in construction planning. Furthermore, Azerishig advised that, once access road alignments to the project area are finalised, they should be notified to allow for inspection of these routes prior to construction and, if necessary, implementation of preventive measures to protect poles and lines.

It is understood that the transmission lines closest to the Project area are the responsibility of Azerenerji; to-date there has not been a response to the consultation letter. Masdar have confirmed that construction will be managed in such a way to ensure that no existing transmission lines need to be relocated and that no damage to the lines will occur during construction. The EPC Contractor will engage with Azerenerji throughout the construction phase to notify Azerenerji of works and to establish sufficient buffer zones from existing transmission line infrastructure.



Close to 02-01 WTG



Between 01-06 and 01-07 WTGs



WTG 01-01



WTG 01-11, view of the existing OHTL

Figure 2-5 Images of the Project Site

2.4.3 Site Surroundings

It is to be noted that access to the site and surrounding areas (apart from directly off the M4 highway) is difficult, with site visits and surveys often required to be postponed due to poor weather and subsequent access challenges.

COMMUNITIES AND SCHOOLS

The site is located approximately 2 km from Ashagi Guzdak and Mushfigabad, 3 km from Gobustan and over 5 km from Pirekeshkul.

Two schools are located on the outskirts of Ashagi Guzdak, with the closest approximately 1.4 km from the nearest WTG.

COMMERCIAL RECEPTORS

WTGs will be developed to the north and south of the M4 highway and there are commercial receptors located along the road, these include restaurants, cafés, an almond orchard and two gas stations, neither of which are operational.

A number of poultry farms are present within the surrounding area, two are located within 2 km of the Project, with the closest (referred to as P-2) approximately 700 m from the nearest WTG.

ISOTOPE PLANT

An Isotope Plant is located along the Baku-Shamakhi highway, the plant is approximately 1.7 km from the nearest WTGs (01-11, 01-05 and 01-04).

The Plant falls under the responsibility of the Ministry of Emergency Situations of the Republic of Azerbaijan, as per The Ministry's website⁵, *"Isotop" Special Enterprise functions in direction of radiological monitoring, receiving radioactive sources and wastes, rendering them harmless, their long-time storage and burying, transportation of radioactive sources, materials and equipments with radioisotope, decontamination of special clothes and personal protection equipments, radiological monitoring and decontamination in territories, organizations and enterprises exploiting radiation installations.*

Consultations were conducted with the Isotope Plant Director and the Deputy Head of the Department for Organizing Work with Regional Centres of Ministry of Emergency Situations on the 2nd May 2025. During this consultation the representatives of the Plant and the Ministry highlighted that one of the main documents referred to in the management of the Isotope Plant are the sanitary rules and regulations on radioactive waste management. According to

⁵ <https://fhn.gov.az/en/ministry/bodies/isotope-special-enterprise>

these regulations, no construction and installation work that is not related to the activities of the Plant is allowed to be carried out within a 1 km sanitary zone.

AREA 1 AND KHIZI 3 WIND FARMS

Two wind farms are being developed to the north of the Project, the Area 1 wind farm and the Khizi 3 wind farm. Area 1 is approximately 5.2 km from the nearest Project WTGs, and Khizi 3 is approximately 19 km. The location of the wind farms relevant to the Project are shown in the following figure.

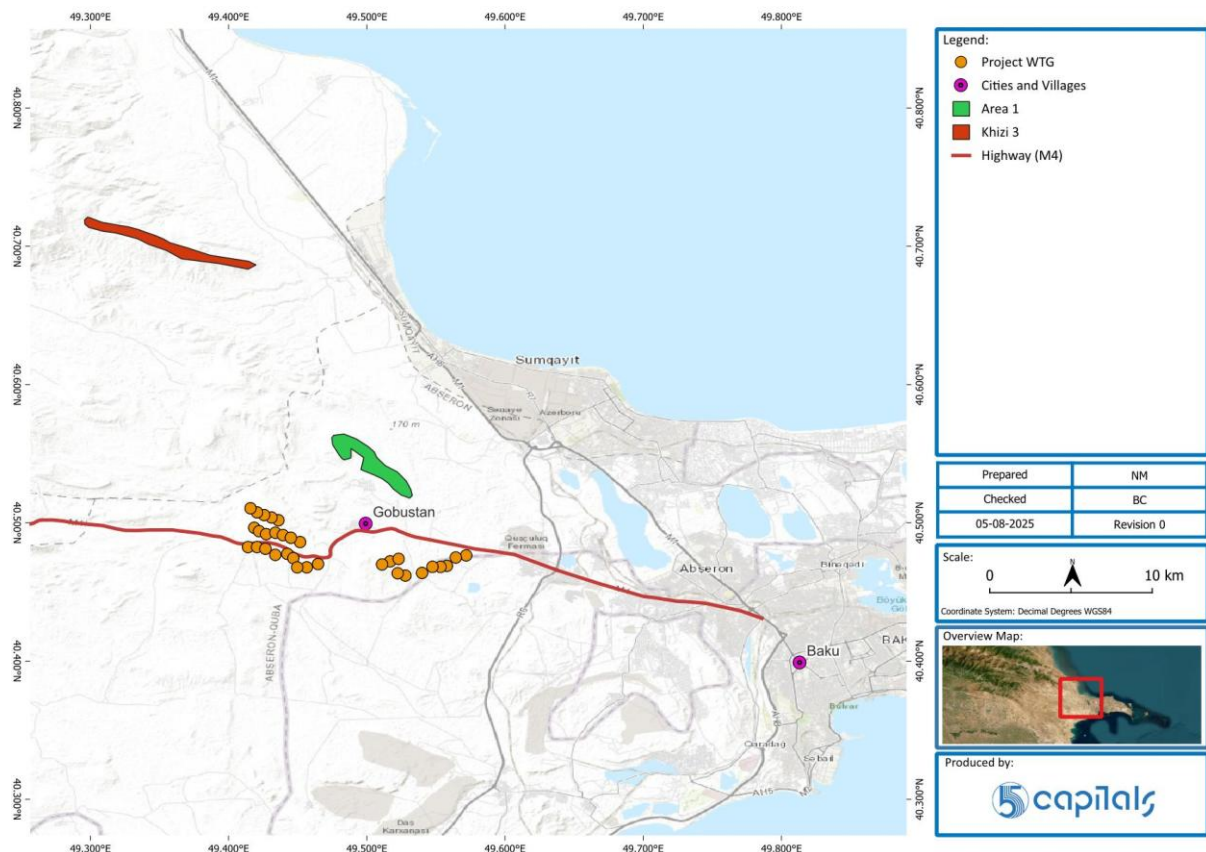


Figure 2-6 Relative Proximity of the Area 1 and Khizi 3 Wind Farms

The wind farms make up the Absheron-Khizi Wind Farm project in Azerbaijan, developed by ACWA Power⁶. EBRD⁷ and the OPEC Fund for International Development (the OPEC Fund) have provided senior debt financing facilities for the Absheron-Khizi 240 MW Wind Farm in the Republic of Azerbaijan.

⁶ <https://acwapower.com/en/projects/azerbaijan-wind-ipp/>

⁷ <https://www.ebrd.com/home/work-with-us/projects/psd/52735.html>

A consultation letter was prepared and Masdar Azerbaijan management spoke with their counterparts at ACWA. No formal response to the letter was received. It is understood that all of the WTGs for the Area 1 Wind Farm are already installed.

MUD VOLCANOES

Mud volcanoes are common in Azerbaijan, particularly in the Project area, and three are located close to the Project area, as shown in the following figure. The location of these three mud volcanoes was also confirmed during consultations with Ministry of Ecology and Natural Resources (MENR). Within their response to the consultation letter, a recommended setback distance of 600 m from the volcanoes was stated. This setback distance is respected for all WTGs, with the Pirekushkul Vulkan (Mud Volcano 1) being 600 m from the nearest WTG (02-09) and with the topography and major highway separating the WTG from this mud volcano.

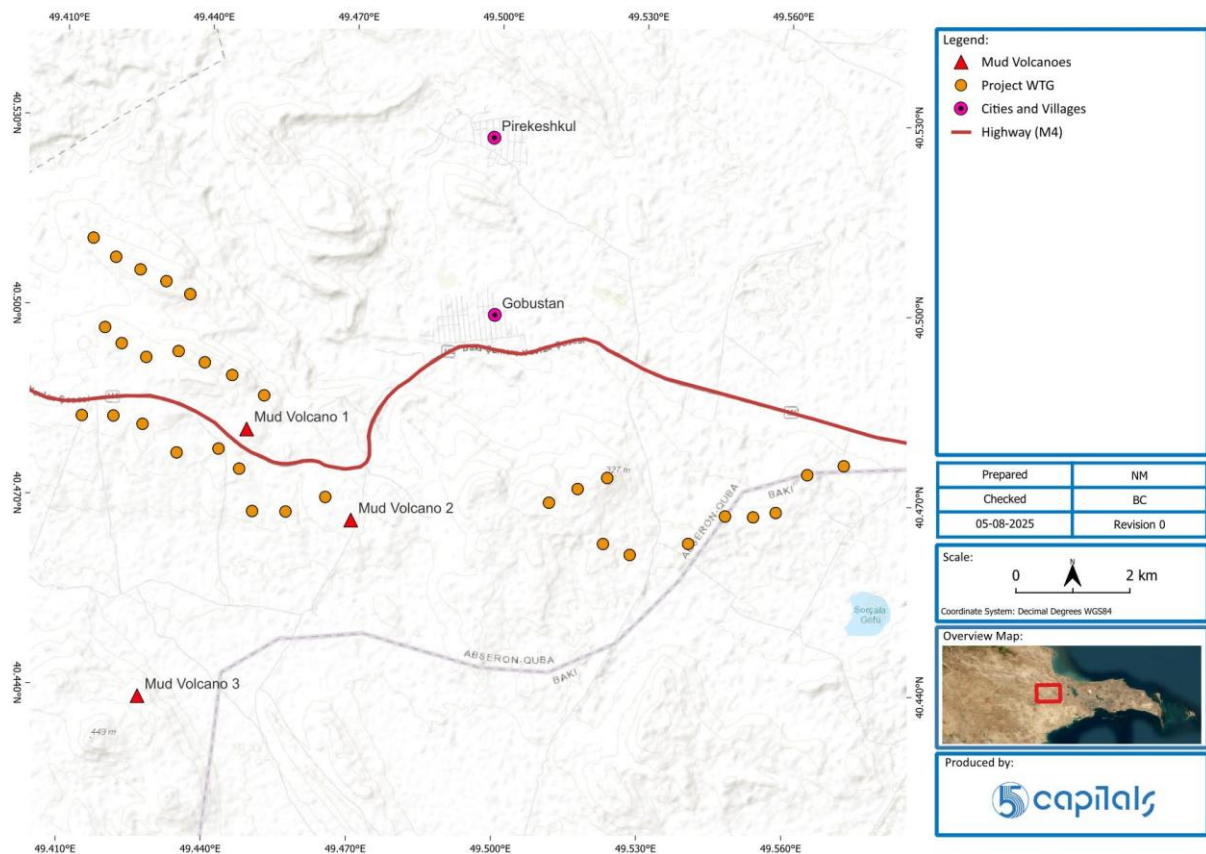


Figure 2-7 Location of Mud Volcanoes

An example of one of the mud volcanoes is shown in the following figure.



Figure 2-8 Mud Volcano 2

AZERCOSMOS

The Space Agency of the Republic of Azerbaijan (Azercosmos), a public legal entity under the Ministry of Transport, Communications and High Technologies of the Republic of Azerbaijan, is the first satellite operator in the Caucasus region entirely owned by the Government of Azerbaijan.

There is an Azercosmos facility located centrally within the area allocated for the placement of the WTGs, however, it is approximately 2 km from the nearest WTG.

Azercosmos were consulted by 5 Capitals in a face-to-face meeting in February 2024 and have subsequently been consulted throughout the ESIA phase. In addition to this, in September 2023, Azercosmos were consulted with directly by Masdar, and a visibility analysis was conducted and the Project layout amended.

HERDER STRUCTURES

There are a number of herder structures located within 3.5 km of the Project boundary. Three herder structures are located within 700 m of the nearest turbine, with the nearest one located approximately 380 m from the nearest WTG.

Site visits and consultations have been conducted with the herders. It is understood that these structures are used seasonally, typically in the winter season. Verification of land ownership, land lease agreements and land use are currently ongoing, through collaboration with 5 Capitals, Masdar and the relevant Executive Powers.

Herder structures are shown as H-X on Figure 2-9.

GO-KARTING AND PARAGLIDING ACTIVITIES

Due to its topographical features, the Project site may appear suitable for outdoor sports activities. Initial map analysis identified two locations marked on Google Earth as a paragliding site and a go-kart track, located approximately 300 m from WTG 01-05 and 350 m from WTG 02-05, respectively. However, site visits conducted in February and December 2024 and May and June 2025 found no evidence of ongoing recreational activities at these locations.

Further verification was obtained through consultations with local authorities, including the Absheron and Garadag Executive Powers and the Mushfigabad municipality, who reported no awareness of any such activities in the area.

A consultation letter was sent on the 30th June 2025 to the State Tourism Agency and the Ministry of Youth and Sports of the Republic of Azerbaijan, who responded on the 7th July 2025 stating that there are no records or official recognition of these recreational activities. Furthermore, efforts to contact the paragliding service provider identified via Facebook, through email, WhatsApp, and multiple phone call remained unanswered.

Based on these findings, the Project team concluded that the mapped paragliding and go-karting sites likely reflect one-time or outdated activities. Nevertheless, to ensure public safety, the Project will install warning signs indicating that paragliding and similar activities may pose significant safety risks in the vicinity of construction activities and operating wind turbines.

The location of surrounding land use and images are shown in the following figures.

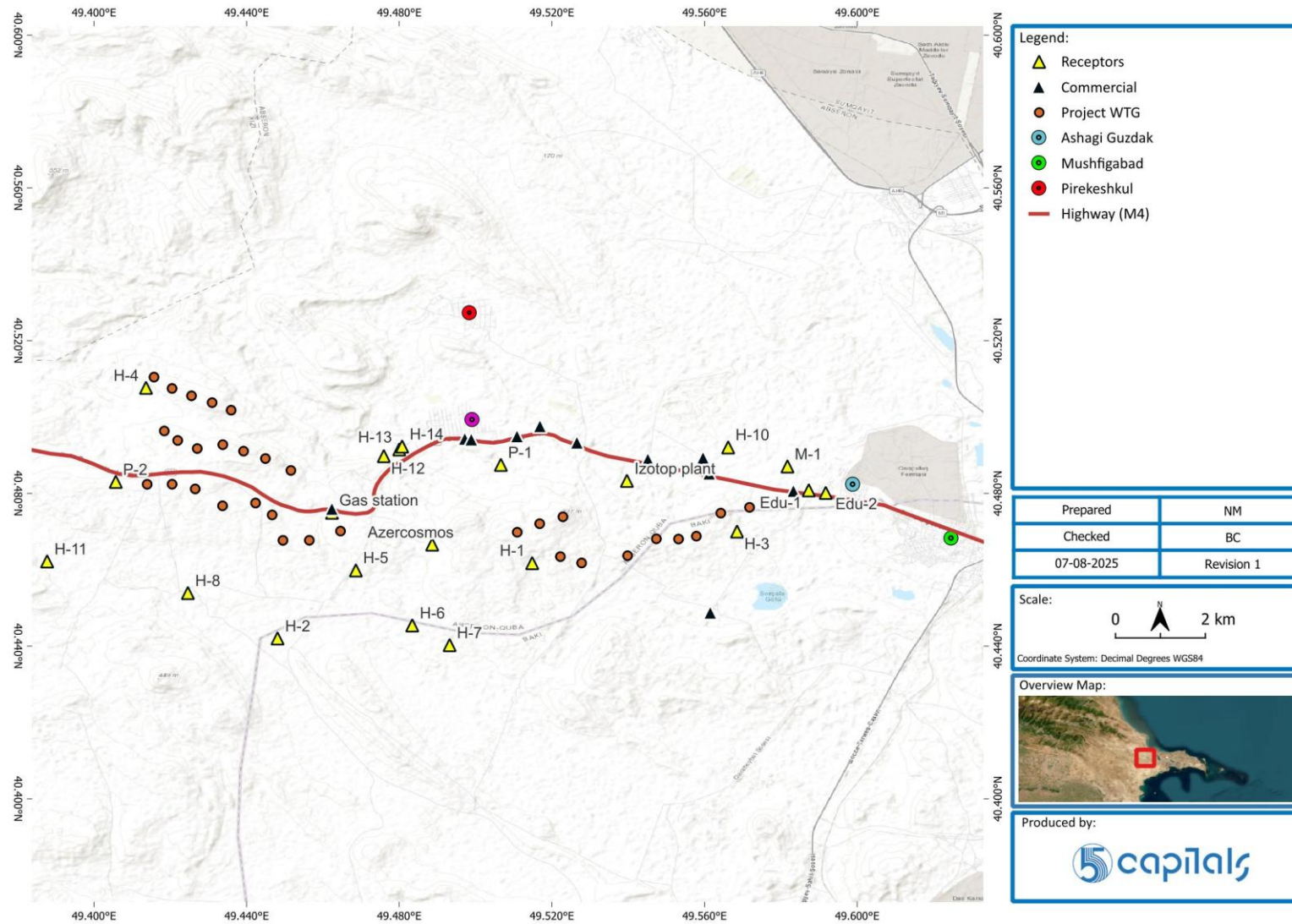


Figure 2-9 Surrounding Land Use



Structure 3 km from nearest WTG



Restaurant along the M4 highway



Poultry Farm (P-2) in the Background



Market along the M4 highway

Figure 2-10 Images of the Surrounding Land Use

2.5 Project Description

2.5.1 Wind Turbines

Wind turbines harness the energy of the wind and convert it to electricity. The amount of energy produced by wind turbines increases with wind speed and modern turbines are able to adapt efficiently to extract energy from a range of wind speeds.

Wind speeds typically increase with height above ground as turbulence (due to topography and ground features) intensity decreases. This typically allows turbines with higher hub heights to produce more energy than a turbine with a lower height at the same location. In addition, longer blades (the rotor radius from the turbine) significantly increase the swept area from which wind energy can be extracted.

The project is a 240 MW_{ac} wind farm comprising 32 WTGs. 20 WTGs are located south of the M4 highway and 12 are located north of it. The Envision EN 182-8.0MW Steel Tower Turbine model has been selected and will have the specifications outlined within the following table.

Table 2-3 Project Details

PARAMETER	UNIT	DETAILS
IEC wind turbine class	-	IEC-S
Manufacturer	-	Envision
Turbine type	-	EN-182/8.0
Rated power	MW	8
Number of blades	-	3
Blade length	m	91
Rotor diameter	m	182
Hub height	m	105 / 120
Tip height	m	196 / 211
Blade material	-	GFRP
Tip speed	m/s	90.7
Tower type	ST/CT/HT	Steel
Cut-in Wind Speed	m/s	3
Cut-out Wind Speed	m/s	25

2.5.2 Project Facilities

SUBSTATION

A GIS 35/330kV sub-station will be located in the centre of the Project area.

EXTERNAL ACCESS ROADS

Based on preliminary layouts, the project will have five access roads from the M4 highway. Due to the proximity of the highway, the access roads will be short (< 1km) and typically along existing tracks.

PROJECT ANCILLARY/SUPPORT FACILITIES

The following ancillary facilities will be included in the Project design:

- Site entrance and security building
- Administration building, offices and amenities
- Central Control Room
- Warehouse and stores
- Security
- Lighting
- Access roads and underground transmission lines along the access roads between turbines
- Other mobile plant and vehicles

The indicative layout showing the WTGs, internal and external access roads and the substation is shown in the following figure.

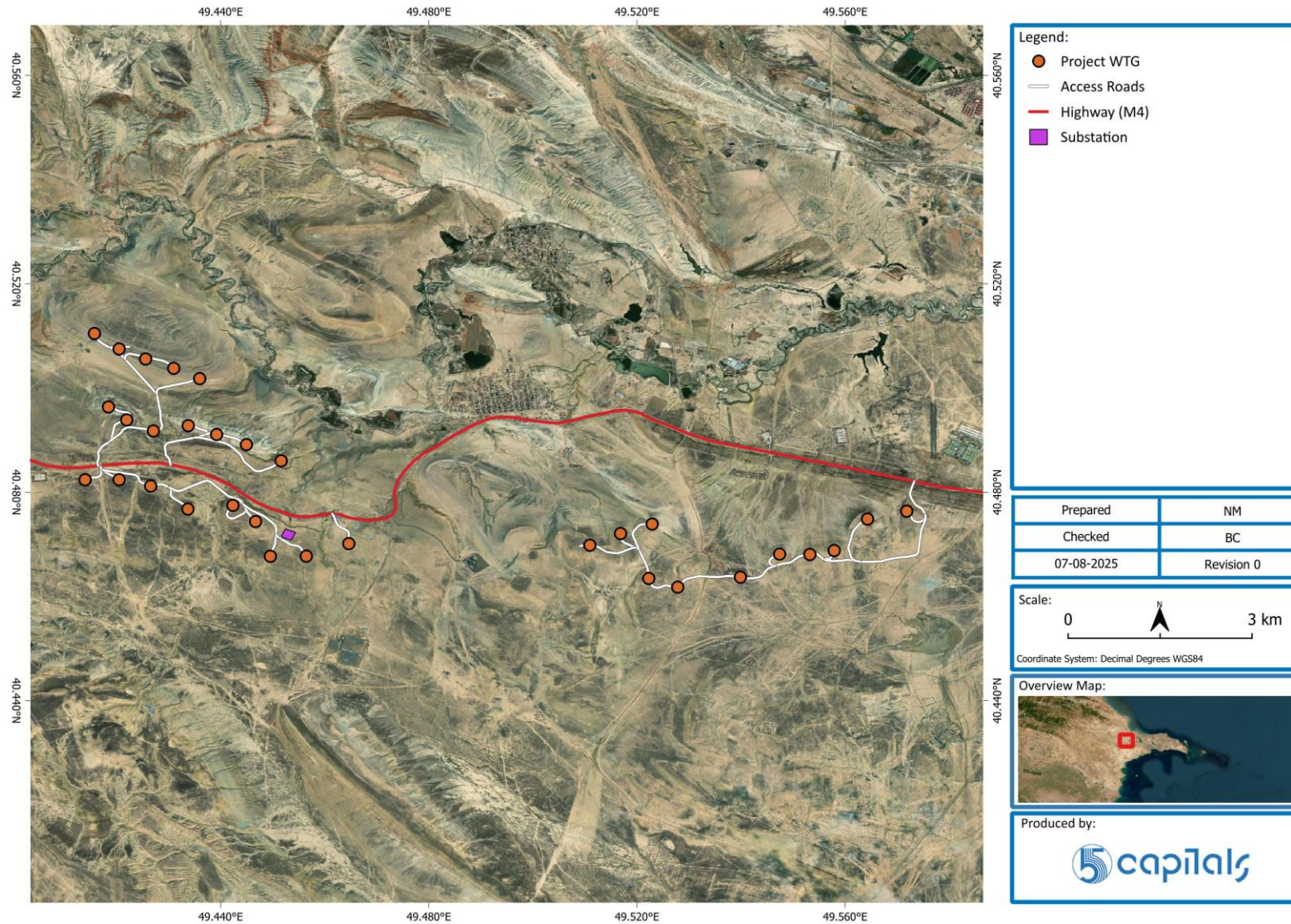


Figure 2-11 Indicative Layout Showing the WTGs, Access Roads and Substation

2.6 Grid Connection

2.6.1 Overview, Responsibility and Status of Assessment

In March 2025, the World Bank approved the Azerbaijan Scaling-Up Renewable Energy Project (AZURE)⁸, an initiative that will strengthen Azerbaijan's power transmission network, enable the country to diversify its energy mix, and meet growing electricity demand through a more resilient and reliable power grid. Amongst other components, the AZURE project focuses on expanding and reinforcing key transmission lines and substations to connect the Project to the transmission grid.

An ESIA for the Project was disclosed by the World Bank in February 2025⁹. The following figure depicts the geographic scope covered by the AZURE project ESIA.

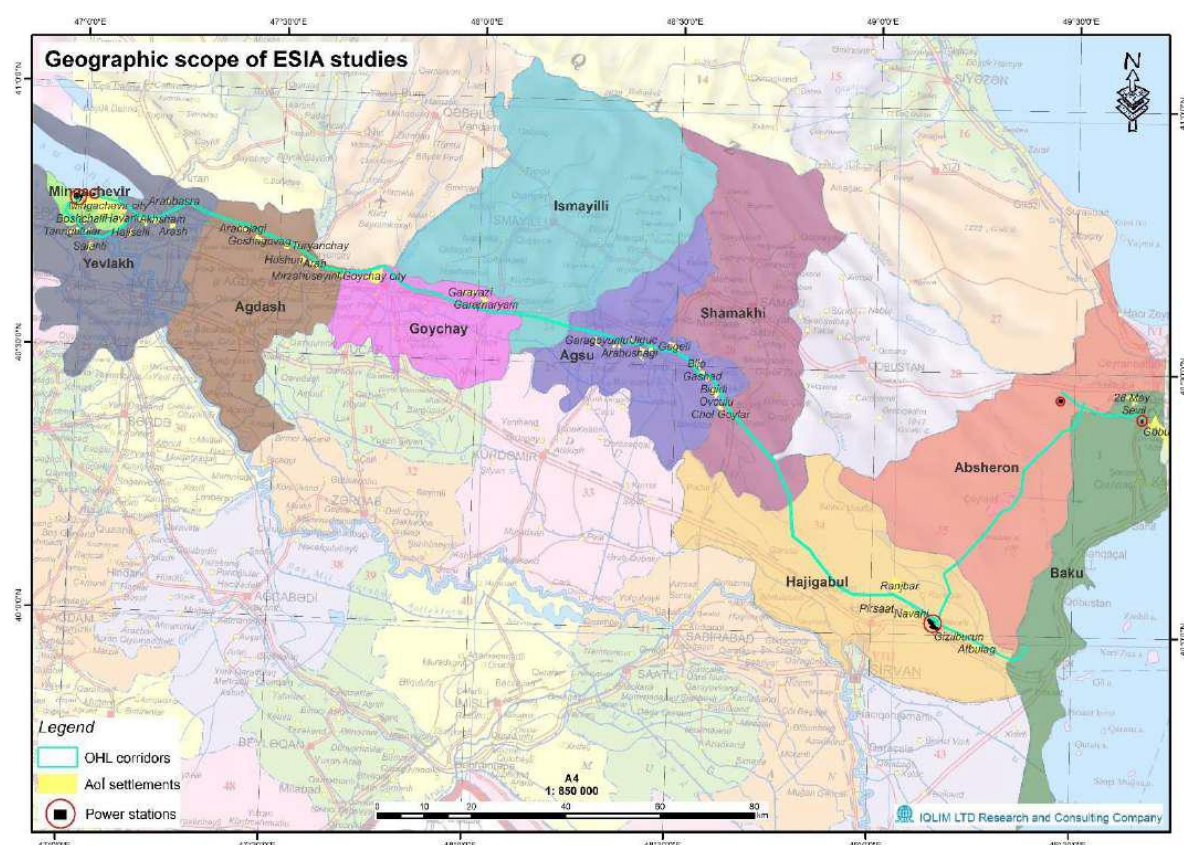


Figure 2-12 Geographic Scope Covered by AZURE ESIA

⁸ <https://www.worldbank.org/en/news/press-release/2025/03/27/azerbaijan-to-strengthen-energy-security-and-diversify-its-energy-mix>

⁹ <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099022425104039012>

As per the Environmental and Social Due Diligence Report (ESDD)¹⁰, dated February 2025, Component 1: Absheron-Garadagh Wind IPP (the Project) Connection and Transmission Network Expansion (US\$168.4 million IBRD, including US\$18.6 million contingencies), includes two sub-components, with sub-component 1.1 relevant to new transmission lines:

- (i) 65 km OHL single circuit 330 kV from Absheron-Garadagh wind plant substation to Navahi substation.
- (ii) 19 km OHL single circuit 330 kV from Absheron Garadagh wind power plant substation to Gobu PP substation.

The transmission lines are considered as Associated Facilities to the Project. Key risks associated with the lines are considered to be avifauna collisions and electrocution and land acquisition and livelihood restoration matters. With regards to avifauna mitigation, the ESIA mentions the use of bird flight diverters in order to reduce the risk of collision, in addition several design mitigation measures are outlined in order to reduce the risk of electrocution.

With regards to land acquisition and livelihood restoration, as per the disclosed ESIA nine households are affected by the transmission line from the Project to the Navahi Substation and two are impacted due to the line from the Project to the Gobu PP. A Resettlement Action Plan in line with World Bank ESF requirements will be prepared and disclosed by the World Bank. The disclosed ESIA states that the World Bank approval of a RAP (or RAPs) is required before project authorities are allowed to invite bids for any contracts in which works are expected to involve physical or economic displacement.

It is important to highlight that the financing, construction, operation and maintenance of the OHTL fall outside of the control and scope of Masdar, SOCAR Green and the Project Company. The Project is funded by the World Bank and is being implemented in line with the World Bank's Environmental and Social Standards.

¹⁰ <https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099030425025042323>

2.7 Construction

2.7.1 Construction Activities

The principal construction activities and associated requirements in relation to the wind farm are anticipated to include the following;

- Transportation of components to the Project site;
- Delivery of machinery & equipment to the site;
- Construction of temporary laydown facilities and building site equipment (e.g. containers at the Project site);
- Site preparation (comprising excavation, grading, levelling, and land clearing at WTG platforms) to create flat land area for preparation of turbine pads, installation of wind turbine towers and various project components;
- Additional facilities to facilitate construction work (comprising excavation and levelling etc.) for access roads and the internal road network, construction of any building infrastructure;
- Erection of WTGs;
- Construction of the substation; and
- Commissioning tests of electrical infrastructure (including WTGs) and inspection of civil engineering quality records.

There will be no blasting activities required for the Project and borrow pits are not currently expected to be required.

2.7.2 Temporary Construction Facilities

TEMPORARY LAYDOWN AREAS AND OTHER FACILITIES

Temporary laydown areas will be required in the construction phase for the storage of materials and equipment by the EPC Contractor and their sub-contractors. In addition, construction offices, toilets, prayer rooms and car parking areas will be required.

Temporary construction facilities are planned to be within the substation area.

WORKERS ACCOMMODATION

The location of workforce accommodation is not yet confirmed. The EPC Contractor will determine the most appropriate location for the accommodation and will be required to conduct the necessary studies and engagement when selecting its location. It is considered likely that the workforce will be housed in a city such as Sumgayit. This was the approach taken on the adjacent ACWA Power project. Sumgayit is a city of approximately 500,000 people,

and due to the relatively small amount of manpower required for the construction of the Project, any impact on local communities is considered to be unlikely and negligible.

The accommodation will be required to align with IFC & EBRD Workers' Accommodation: Processes and Standards (2009).

2.7.3 Construction Workforce

The workforce during the peak construction period is estimated to be 400 - 500 workers. The manpower power required for the construction will be determined by the assigned EPC Contractor.

During the early stages of construction, the worker numbers will be low but will rise quickly from the time when the civils work begins. After the peak level has been reached, the workforce will gradually be reduced leading up to the start of operations.

The workforce will comprise a mix of highly qualified specialists, technicians and low-skilled personnel. Low-skilled construction workers will receive job-appropriate training before starting work on the Project. This includes basic training on health, safety and environment (HSE), labour management and, where required for specific job profiles, vocational training.

The low-skilled staff workforce will be encouraged to be sourced locally, and the skilled workforce will be first aimed to be resourced locally, then nationally, then internationally. At this stage it is expected that the majority of the workers will be local with 15 – 20% expatriates.

2.7.4 Transportation of WTG Components to the Project Site

Masdar commissioned a study in 2022 relating to the transportation of Goldwind turbine components from China to Azerbaijan. It is noted that this report was prepared in 2022 and for a different turbine to that being considered at present. The geopolitical context of the world, particularly with regards to Russia and Iran has also changed considerably since 2022, however, the report did consider that transit through Russian rivers and through Iran was not possible.

It is understood that another study will be commissioned once the WTG has been selected. A final route survey will be performed by the EPC Contractor / Original Equipment Manufacturer will be a pre-Notice-to-Proceed condition.

WTG BLADES

The wind turbine blades will be transported from China to the Khorgos border crossing on the China–Kazakhstan border. From Khorgos, they will be trucked approximately 3,800 km across

Kazakhstan along a relatively flat route to Bautino. Upon arrival at Bautino, the blades will be offloaded at the terminal and shipped by sea to the Port of Baku.

OTHER COMPONENTS

Other components will be transported by truck from the factory to the port terminals in Taicang, where they will be loaded for shipment to Poti, Georgia. From Poti, the southern route through Tbilisi, the Red Bridge border crossing, Ganja, and onward to Baku will be used for trucking, as the northern route through Azerbaijan's mountainous region is not feasible. The transport study identifies two key obstacles along this route, the Shorapni railway bridges and the Rikoti tunnel.

2.7.5 Utilities

WATER

During construction, the Project will require portable water supply for the construction workforce, facilities and activities. A licensed potable water supply company will supply the water required to cover the water demand of the Project to the site via water tanker trucks. Water sources will be confirmed by the EPC Contractor during detailed design and mobilisation and sourced in accordance with applicable regulations. Groundwater abstraction is not currently expected.

With regards to potable water, the IFC EBRD workers' accommodation guidance (2009) states that (dependant on weather conditions and accommodation standards), 80 to 180 litres of water per person per day should be made available, and the quality must meet national / local or WHO drinking water standards.

The anticipated maximum work force is around 500 at its peak and, with an average of 130 litres per person per day. At its peak workforce during construction there would be 65,000 litres/day required to cover the needs of the workforce (or 65 m³ per day).

Prior to mobilisation, the EPC contractor will undertake a water assessment to confirm that water abstraction and consumption will not adversely affect local community resources.

POWER

Power during the construction phase will be provided by diesel generators, with underground cables. The requirements will be defined by the EPC contractor during the detailed design phase of the Project and mobilisation, based on the final site layout and construction requirements. This will be managed in line with standard project practices and applicable requirements.

BATCHING PLANT

It is understood that the Project will have a batching plant. It is expected that the batching plant will be located in the substation and laydown area.

2.7.6 Waste and Wastewater

WASTE

Wastes will be generated throughout the construction period. Waste streams will include excavation wastes, packaging wastes, domestic waste from construction workforce etc.

Wastes will be segregated and stored onsite before being collected when required by a licensed waste management contractor to a licensed waste management facility. Refer to Chapter 13 for further details regarding waste streams and management.

WASTEWATER

Wastewater will be collected in septic tanks at site and removed periodically, when required, by a licensed wastewater contractor to a licensed wastewater management facility.

2.8 Operation and Maintenance

As per the Power Purchase Agreement (PPA), the Project lifetime is 30 years, the following subsections discuss operation and maintenance activities, and Section 2.9 discusses the decommissioning / transfer of the Project after completion of the 30 years.

2.8.1 Activities

Wind farms generally require limited operational activities and typically include the following:

- Operation and maintenance to include normal daily operation of equipment including maintenance (electromechanical and housekeeping) to optimise energy yield and life of the system;
- Management of operations in relation to turbine shutdowns; and
- Routine planned preventive maintenance and unplanned maintenance (if required).

2.8.2 Workforce

The number of people that are to be employed during operation is expected to be approximately 10, of which 90% are expected to be from Azerbaijan.

2.8.3 Utilities

POWER

Power during the operation phase will be supplied by connection to the national grid and use of Project-generated electricity.

Powerlines within the Project will be underground.

WATER

Water tanker trucks will transport water from outside the Project to water storage tanks within the Project boundary to cover the water demand of the Project, as well as raw water for domestic use, firefighting water demand, and other non-potable water uses if required. It is noted that the water requirements during the operation phase are negligible in comparison to the construction phase.

EMERGENCY POWER

The Project will include emergency diesel generators for use during black-out situations.

WASTE

A limited amount of domestic waste will be produced by the O&M team, and this shall be removed from the site when required.

Wastes from maintenance or repair activities could include spent fuel and chemical containers, oily rags, WTG components. The amount of this type of waste is expected to be negligible. Wastes will be segregated and stored onsite before being collected when required by a waste management contractor. Refer to Chapter 13 for further details regarding waste streams and management.

A septic tank will be constructed for wastewater, the volume of the tank will be determined during detailed design, and it will be emptied as required by a licensed contractor.

2.9 Decommissioning

As per the PPA, the plant is to be operational for 30 years. Following the 30 years, the Ministry of Energy can decide whether to continue, upgrade or decommission the plant; this is outside the scope of this study and to be decided at that time.

Upgrading the wind farm will entail either replacing old WTGs with new ones, augmenting the total peak power of the plant, or enhancing the plant by incorporating new elements.

In the event of decommissioning, the site will be restored close to its original condition, with a Decommissioning and Site Restoration Plan devised prior to this phase, by the Project

Company. This Plan will be required to be finalised and approved prior to the Project Company exiting from the Project.

The components of a wind farm plant possess value for either reuse or recycling. Hazardous wastes will be disposed of in compliance with the environmental guidelines mandated by Azerbaijan, while non-hazardous materials such as waste metals or plastics will be transported to designated recycling facilities, if available.

2.10 Project Milestones

Table 2-4 Project Milestones

MILESTONE	SCHEDULED DATE
PPA Signature	June 2024
ESIA Disclosure	Prior to Financial Close
Financial Close	June 2026
Notice to Proceed	2026
Commercial Operation Date	2028

3 PROJECT ALTERNATIVES

3.1 No Project Alternative

The No Project Alternative would place a greater reliance on generating power from fossil fuel sources and would not be in line with achieving Azerbaijan's 2025 vision for the inclusion of renewable energy electricity within its generation mix, with Azerbaijan hosting the COP29 in November 2024. On the COP29 website¹¹, it states that *"Azerbaijan is committed to developing its renewable energy potential, which is an important part of the country's plan to reduce greenhouse gas emissions by 40% by 2050. The country intends to increase renewable power capacity to 30% by 2030 and diversify its existing energy system to become a leader in green energy."*

The website further states that, due to Azerbaijan's favourable wind energy, there is the potential for up to 3 GW of onshore wind and 157 GW of offshore wind. The Project is therefore an important project in Azerbaijan realising its wind energy potential.

3.2 Alternative Layout

3.2.1 Overview

As is expected with a wind farm project, several different layouts have been considered. Initially a different layout for the Project was considered, this layout is shown in the following figure.

This previously considered layout had WTGs located to the west of the villages of Gobustan and Pirekeshkul, these are circled in the previous figure and are referred to as 'northern WTGs' throughout this section.

The baseline surveys undertaken for the Project considered this previous layout and therefore those areas were surveyed. The results are outlined within the following section, with the benefits of the removing these turbines highlighted.

¹¹ <https://cop29.az/en/green-energy-transition-initiatives>

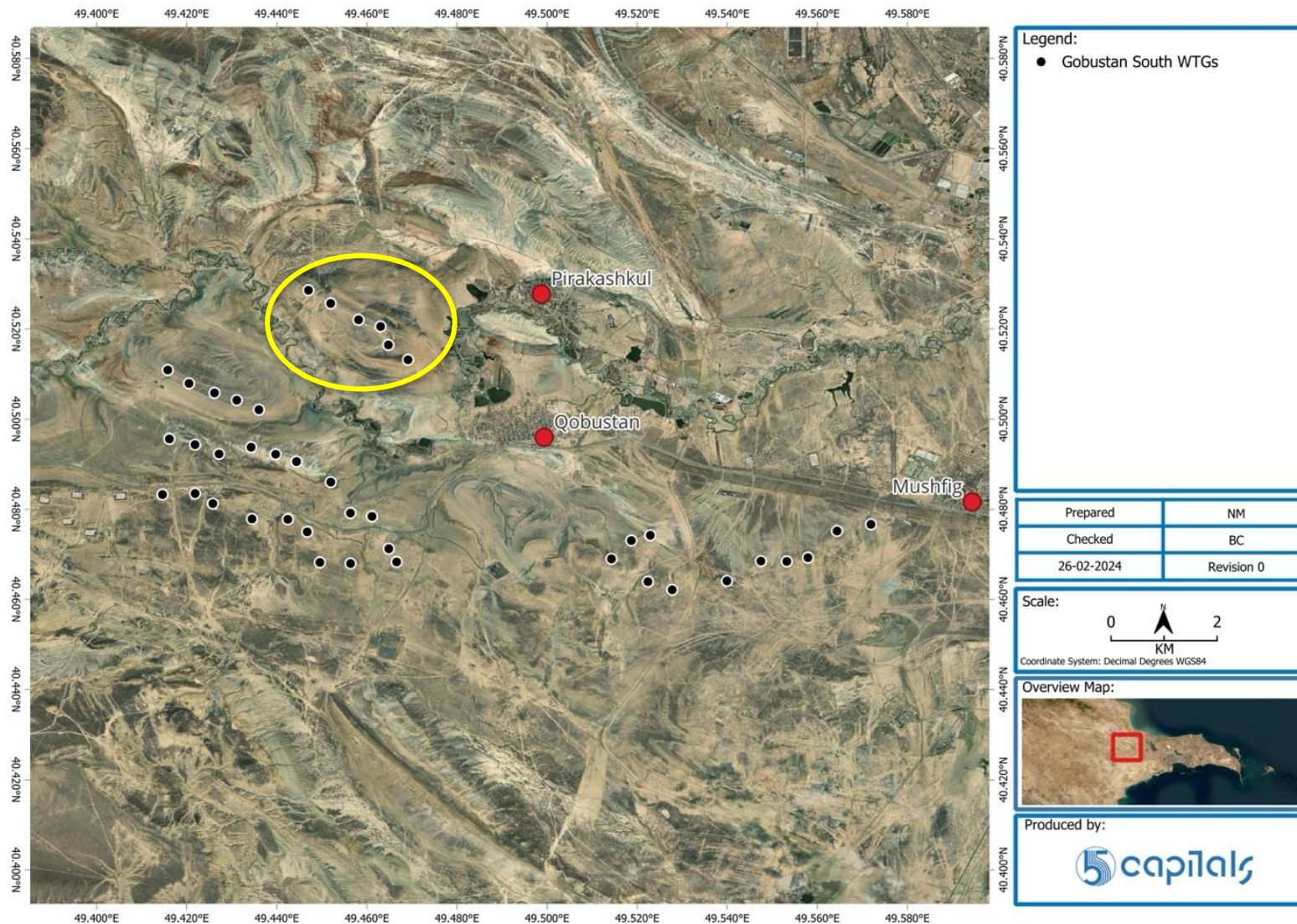


Figure 3-1 Previously Considered WTG Layout, Northern WTGs Circled

3.2.2 Ecology

AVIFAUNA

With regards to avifauna, the full results of the baseline surveys are outlined within Chapter 9.

The baseline vantage point (VP) surveys identified the area of northern WTGs covered by VP5 as a critical hotspot for avian activity, accounting for approximately 47% (1,571 of 3,311) of total observations across the six VPs, with a recorded diversity of at least 21 identified taxa.

The following figure depicts the VP survey locations and previously considered layout.

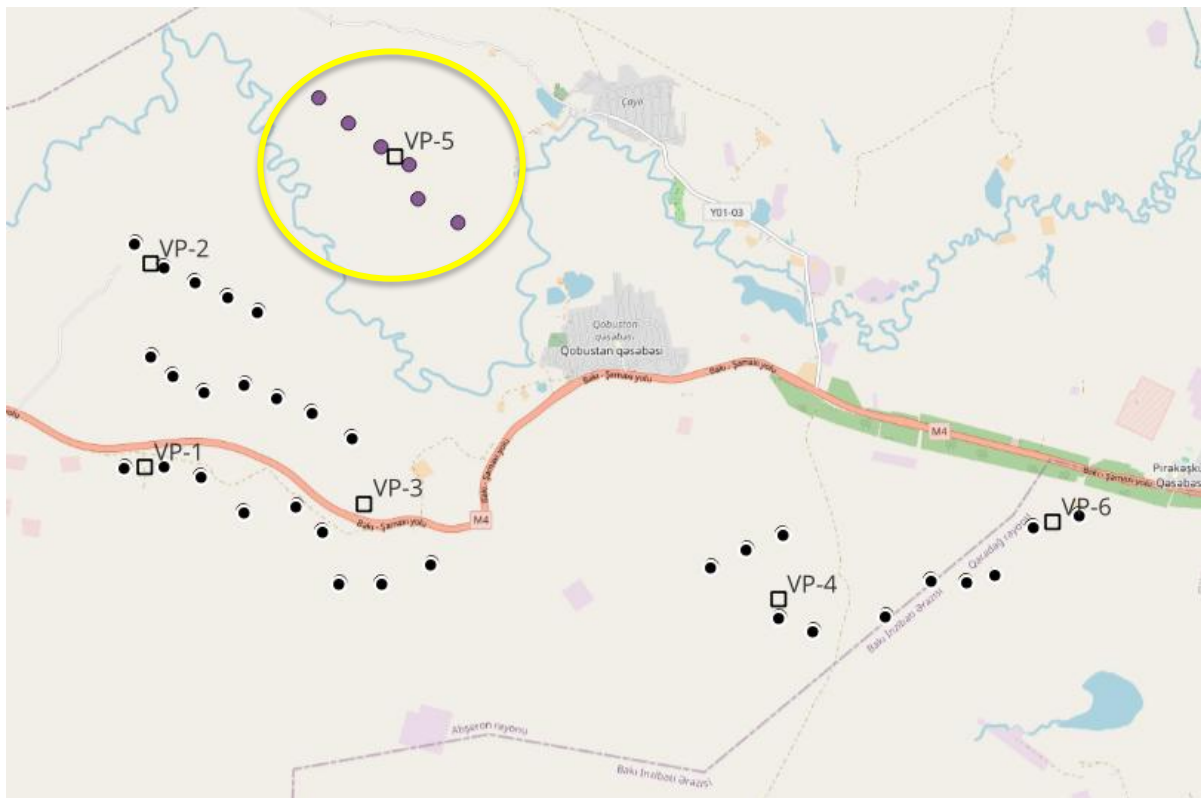


Figure 3-2 VP Locations and Previously Considered Layout

This northern area, now-excluded, exhibited an exceptional concentration of collision-prone soaring raptors, with VP5 hosting 48.6% of Cinereous Vulture observations (549 of 1129), 43.7% of Eurasian Griffon (328 of 749), 41.6% of Steppe Eagle (62 of 149), 52.2% of Eastern Imperial Eagle (47 of 90), and 72.7% of other unidentified vulture sightings (270 of 371). These species are among the most vulnerable to turbine collisions, as confirmed by the original Collision Risk Model (CRM), which estimated collision rates of 5.66 collisions per cycle for Cinereous Vulture, 6.77 for Eurasian Griffon, and 5.36 for other unidentified large vultures. The data further reveals that over 50% of total observations for these high-risk species were concentrated at VP5, while the remaining VPs (VP1-VP4, VP6) each contributed an average of approximately 10%, highlighting the northern area's disproportionate ecological significance. The data clearly

demonstrated that the northern WTGs would have contributed disproportionately to avian mortality risk. The comparison of the CRM outcomes between the original and revised project layouts indicates that total predicted bird collisions are expected to reduce by around 65.3%.

Focusing on the eight most commonly recorded raptor species, Cinereous Vulture, Griffon Vulture, Eastern Imperial Eagle, Steppe Eagle, Egyptian Vulture, Common Kestrel, and Lesser Kestrel, around 46% sourced from the area covered by the northern WTGs. This highlights the area's significance as a raptor activity hotspot. The contribution also varied seasonally, accounting for 51% of observations in spring, 32% in summer, 30% in autumn, and peaking at 75% in winter.

Table 3-1 Key species and Comparison of their Abundance Recorded at Each VP

SN	SPECIES	VP1	VP2	VP3	VP4	VP5	VP6	GRAND TOTAL	% AT VP5
1	Cinereous Vulture	76	173	135	112	549	84	1129	48.63
2	Griffon Vulture	32	68	163	113	328	45	749	43.79
3	Vulture sp.	12	34	51	0	270	4	371	72.78
4	Steppe Eagle	3	38	15	17	62	14	149	41.61
5	Lesser Kestrel	32	10	5	39	37	54	177	20.90
6	Common Kestrel	70	22	5	10	29	13	149	19.46
7	Eastern Imperial Eagle	7	3	9	11	47	13	90	52.22
8	Egyptian Vulture	10	15	17	10	11	10	73	15.07
9	Little Bustard	22	36	0	0	1	0	59	1.69
10	Long-legged Buzzard	2	7	3	14	12	3	41	29.27
11	Eurasian Hobby	0	0	1	1	29	0	31	93.55
12	Western Marsh Harrier	3	1	3	3	19	3	32	59.38
13	Eagle species	1	4	2	6	4	1	18	22.22
14	Honey Buzzard	0	0	0	1	152	0	153	99.35

By avoiding development in this high-activity area, the Project is expected to achieve a significant reduction in potential collision risk for the most vulnerable species. This can be demonstrated by the comparison of original CRM findings and results of the revised CRM considering the new layout.

Comparative analysis of key species reveals substantial reduction in predicted collision rates following the exclusion of the northern WTGs. Lesser Kestrel's predicted collisions/cycle dropped from 18.4 to 9.09 (50.6% reduction), Eurasian Griffon from 6.77 to 2.93 (56.7%), Cinereous Vulture from 5.66 to 1.97 (65.2%), Eurasian Kestrel from 6.77 to 0.82 (87.9%), and other unidentified large vultures from 5.36 to 0.515 (90.5%). These reductions, particularly significant for vultures and kestrels previously concentrated at the excluded VP5 hotspot, validate the ecological efficacy of the revised layout, significantly lowering the overall collision risk.

Table 3-2 Reduction in Collision Rates

SPECIES	COLLISIONS/CYCLE USING MOST REALISTIC CA VALUES (CRM – OLD LAYOUT)	COLLISIONS/CYCLE USING MOST REALISTIC CA VALUES (CRM – NEW LAYOUT)	% REDUCTION
Lesser Kestrel	18.40	9.09	50.6%
Eurasian Griffon	6.77	2.93	56.7%
Cinereous Vulture	5.66	1.97	65.2%
Eurasian Kestrel	6.77	0.82	87.9%
Unidentified Large Vulture	5.36	0.515	90.5%

As is evident from the table above, the exclusion of this area represents a substantial improvement in the Project's biodiversity risk profile. It also demonstrates effective application of the mitigation hierarchy, prioritising avoidance of impacts over subsequent mitigation measures.

RAPTOR NESTING AND BREEDING BIRDS

The raptor nest surveys revealed at least two active nesting sites of Eurasian Hobby, listed as Vulnerable (VU) in the Azerbaijan Red Data Book (AZRB), and Lesser Kestrel located in the northern area. In addition, at least three potential nesting sites of Lesser Kestrel, Marsh Harrier and Lanner Falcon were also recorded in this area around northern WTGs. Among these Lanner Falcon is listed as Critically Endangered (CR) in AZRB.

By removing turbines from this area, the revised layout will help avoid direct disturbance to particularly these nesting sites, preventing potential abandonment due to construction noise, increased human activity, or collision risks.

BOTANY

The majority of the Project area is classified as natural habitat with evident grazing pressure. The northern area exhibited relatively better-preserved conditions, characterised by infrequent grazing and minimal anthropogenic pressures. Relatively higher number of observations of protected species were recorded in northern area. In addition, occurrence of *Ferula persica* (AZRB VU) was recorded solely in this area.

Excluding the northern WTGs without relocating them elsewhere is expected to reduce potential habitat impacts across the landscape, minimising disturbance to this less disturbed area. The revision will help preserve the existing habitats and vegetation in that region.

REPTILES

Baseline surveys recorded a total of six reptile species within the Project area, four of which were observed in the northern WTGs area. None of these species are classified as threatened or locally protected, and all appeared to be broadly distributed across the site, with no unique

reptile species identified in the northern area. However, the revised layout is expected to provide localised benefits for reptiles by avoiding potential habitat disturbance in this area.

MAMMALS

While the Project area supports 14 mammal species, most are common and widespread. The northern area contained typical semi-desert habitat used by species such as the Libyan Jird and Small Five-toed Jerboa (both abundant) and occasional Red Fox and Golden Jackal activity, but no critical mammal habitats or high-density populations of sensitive species were identified.

However, excluding the northern WTGs from the revised layout offers localized benefits for mammal species by avoiding potential habitat disturbance in this area. This revision may help preserve northern area's current ecological functions by protecting small mammal populations, which serve as a key prey base for species such as foxes and jackals.

BATS

The northern WTGs were covered by passive acoustic sampling locations along with active transects. Baseline surveys recorded substantial bat activity in this area, with the passive mast sampling location recording the highest Bat Activity Index (BAI) among the mast sites.

The surveys recorded high collision-risk species such as *Pipistrellus kuhlii*, *P. nathusii*, and *Nyctalus spp.* dominating the northern area. Notably, this area exhibited elevated activity, particularly for *P. kuhlii*, the most abundant species, and migratory species like *P. nathusii* and *Vespertilio murinus*.

Although no critical roosting sites were identified within the immediate project footprint, underground cavities in the northern area may support *Myotis blythii* activity, a species known to form large colonies in nearby regions.

Considering this, the revised layout is expected to reduce collision risks, particularly for species identified as having a high risk of collision.

3.2.3 Operational Noise and Shadow Flicker

The northern WTGs were to be located between two communities, Pirekeshkul and Gobustan, as shown in the following figure.



Figure 3-3 Location of WTGs in Relation to Communities

The previous layout had a WTG within 2 km of Pirekeshkul, following removal of the northern WTGs, the nearest WTG to Pirekeshkul community is 5 km, in addition the distance from the nearest WTG to Gobustan has also increased.

The increased distance to the communities has benefits in terms of operational noise impacts on the communities from the WTGs. In addition, it is likely that it has benefits in terms of shadow flicker impact.

In addition, ACWA Power's Area 1 wind farm is located just north of Pirekeshkul, therefore, the removal of these northern WTGs, means that potential cumulative noise and shadow flicker impacts have been significantly mitigated, by increasing the distance between the two wind farms.

3.2.4 Construction Phase Impacts and Community Health, Safety and Security

As shown in the previous figure, an access road was originally planned to pass through Pirekeshkul. This would have introduced several potential impacts during both the construction and operational phases, including:

- Construction phase noise and dust impacts; and
- Construction phase traffic impacts;
- Community health and safety impacts due to the movement of construction vehicles, equipment and WTG components.

Additionally, by increasing the distance between the WTGs and nearby communities, the risk of community health, safety, and security impacts, such as blade or ice throw, is reduced.

While there may also have been some operational phase impacts related to noise and traffic, these were expected to be minimal compared to those during construction.

3.2.5 Archaeology

An archaeological survey was carried out for the Project, as summarised in Chapter 14. This survey was based on the previous layout and included the northern WTG area.

The survey outcomes indicated that ceramics were most frequently found in the northern WTG area. While the survey report concluded that the overall Project area is not archaeologically sensitive, removing the northern WTGs offers clear benefits in terms of reducing potential archaeological impacts.

3.2.6 Landscape and Visual

The removal of the northern WTGs, which were planned to be located between two villages, brings clear benefits in terms of preserving landscape character and reducing visual impacts on the villages.

As a result, the elevated area between Gobustan and Pirekeshkul will remain unchanged, maintaining its existing landscape character. This is particularly important given that the ACWA Power wind farm is situated to the north of both villages, without the removal, the villages would have been surrounded by WTGs.

3.2.7 Reduction and Transportation of WTGs

The removal of the northern WTGs, and the resulting overall reduction in turbine numbers, means fewer WTGs are required for the Project. This reduces both supply chain demands and transportation requirements. Each WTG requires multiple trips by oversized load vehicles, so having fewer turbines significantly decreases the number of transport trips needed. This has numerous benefits in terms of road safety and air and noise emissions arising from the supply chain.

3.2.8 Reduction in Potential Cumulative Impacts

The Area 1 wind farm is located north of the two villages and north of the Project, as shown in Figure 2-6. At the closest point, the Area 1 Wind Farm would have been within 2 km of the Project, therefore, cumulative impacts with regards to noise, shadow flicker, landscape and visual and ecology (particularly bird and bat collisions) would have been expected.

As a result of the moving of the northern WTGs, the closest turbine to the Area 1 Wind Farm is now >5 km and therefore the potential for cumulative impacts has significantly reduced, although cumulative impacts are still assessed within this report.

4 REGULATORY FRAMEWORK

4.1 National Regulations, Guidelines, and Standards

4.1.1 The Constitution

The main legislative document that defines the rights, obligations, and provisions for the use of natural resources and environmental protection is the Constitution of the Republic of Azerbaijan, adopted on November 12, 1995 (as amended and supplemented as of July 25, 2016). Relations on water and nature protection are regulated by a package of laws adopted immediately after independence. As stipulated in the Constitution, the legislative framework relating to the environment consists of:

- Parliamentary legislation that establishes the State regulation of strictly protected natural areas, and the protection and use of the environment and biodiversity;
- Presidential Decrees and orders and the resolutions of the Cabinet of Ministers that ensure the implementation of the major provisions of the laws;
- By-laws of the executive authorities (Ministries and Committees) that specify the activities to implement the laws; and
- International Agreements and Conventions to which Azerbaijan is a signatory.

Furthermore, the Constitution stipulates how to determine the applicability of national and international requirements as follows:

- International agreements acceded to by the Republic of Azerbaijan become an integral part of the legislative system of Azerbaijan; and
- If any conflicts arise between the normative-legal acts which constitute the legislative system of Azerbaijan (except for the Constitution and the acts adopted via referendum) and the international agreements acceded to by the Republic of Azerbaijan, the provisions of the international agreements shall apply.

It also stipulates the basic rights of people to live in a healthy environment, to have access to information on the state of the environment, and to obtain compensation for damage suffered as the result of a violation of environmental legislation.

4.1.2 The Law "On Environmental Protection" (1999)

The law that governs environmental protection in Azerbaijan is the law on Environmental Protection (EP) of 1999, which identifies the legal, economic, and social bases of environment protection. The legislations on land use and development consists of the Land Code and other legislative acts. Laws that pertain to protection and sustainable use of natural resources

include: Law on Plant Protection (1996), Forestry Code (1997), Water Code (1997), Law on Fisheries (1998), Law on Fauna (1999) and Law on Protected Areas (2000). In addition, there are laws regulating environmental pollutants that are stipulated in environmental protection (1999), atmospheric pollution (2001), pesticides and agrochemicals (1997), industrial and domestic waste (1998) and water supply and wastewater (1999).

4.2 Legal and Institutional Framework

4.2.1 Azerbaijan Institutional Framework

The following ministries, government agencies and institutions have key responsibilities for managing and monitoring of environmental and social aspects and concerns of the Project:

MINISTRY OF ECOLOGY AND NATURAL RESOURCES (MENR)

Ministry of Ecology and Natural Resources (MENR) is the primary institution entrusted with the responsibility of environmental protection and implementation of environmental related laws. The functions and activities of MENR are sub-divided into the following areas: (i) Environmental policy development; (ii) Environmental protection; (iii) Water monitoring and management; (iv) Protection of marine (Caspian Sea) bio- resources; (v) Forest management; and (vi) Bio-resources and protected areas management. This ministry upholds all natural resource protection laws.

The Azerbaijan State Agency for Environmental Expertise (SAE), under the MENR acts within this agency on the Program level in reviewing EIAs. The activities, fields, and sectors to which SAE would apply are specified in Article 54: The units controlled by the SAE, of the EP Law as:

- The State and local programs related to development and placement of productive capacities in governmental and economical institutions;
- The documentation of technical and economical substantiation, construction (reconstruction, enlargement, and renovation technology), and destruction of economical capacities, as well as assessment of the project influence on the environment;
- Documentation concerning creation of new techniques, existing technologies, materials, and substances, as well as the import of these things from abroad;
- Draft of scientific-methodical and normative-technical documentation concerning environment protection;
- Certain ecological conditions caused by improper work of industry and extraordinary situations;
- Ecological conditions of the regions and individual (separate) natural objects and systems; and

- Provisions of draft contracts stipulating use of natural resources, as specified by the relevant decrees of the concerned executive bodies.

MINISTRY OF ENERGY

The Ministry of Energy of the Republic of Azerbaijan is the central executive authority implementing state policy and regulations in the fuel and energy sectors. In its activities, the ministry is guided by the Constitution of the Republic of Azerbaijan, laws of the Republic of Azerbaijan, decrees and orders of the President of the Republic of Azerbaijan, resolutions and orders of the Cabinet of Ministers of the Republic of Azerbaijan, international treaties to which the Republic of Azerbaijan is a party and the Regulation of the Ministry of Energy of the Republic of Azerbaijan. The fuel and energy sectors consist of activities defined in the field of energy by the Law of the Republic of Azerbaijan 'On Energy'. The Ministry of Energy of the Republic of Azerbaijan was established by Executive Order No. 3 of the President of the Republic of Azerbaijan, dated October 22, 2013.

The Ministry is responsible for the design and implementation of state policy and regulation in the energy sector, mainly concerning natural gas production, transportation, processing, distribution, and supply, and electricity generation, transmission, distribution, and supply, and energy saving and efficiency. Moreover, the Ministry controls relevant state-owned enterprises. The Ministry has a dedicated department that is responsible for increasing the deployment of energy efficiency and renewable energy policies.

MINISTRY OF EMERGENCY SITUATIONS (MES)

MES is a central executive body responsible for the civil defence and the protection of the population from natural and man-made disasters. They are responsible for the management of natural disasters and industrial accidents, and the implementation of safety rules in construction, mining, and industry. MES (along with MENR and other appropriate Ministries) require prompt notification in the event of an emergency, or accident. They are also involved in the issuance of construction permits.

MINISTRY OF HEALTH: (SANITARY AND EPIDEMIOLOGY SERVICE SUB-BODY WITHIN AZERBAIJAN ONLY)

Sanitary and hygienic safety is the responsibility of the Ministry of Health. Its main function is the implementation of control over meeting the sanitary and epidemiological rules and standards, and the hygienic standards. This entity implements anti-epidemiological measures throughout Azerbaijan and Nakhchivan Autonomous Republic (NAR) by legal and physical persons through application of laboratory and sampling controls.

TARIFF (PRICE) COUNCIL

This is the implementing body for energy prices, service fees, and collections across all regulated entities in the economy. The Council is chaired by the Ministry of Economic Development and has 12 members.

STATE AGENCY FOR ALTERNATIVE AND RENEWABLE ENERGY SOURCES (AREA)

AREA is the agency driving the development of the country's renewable energy resources and related projects by preparing state policy, legal acts, and regulatory documents, and implementing state policy for the creation and development of renewable energy sources. The status of the agency was altered by Presidential Decree No. 464 of 14 January 2019.

AZERBAIJAN ENERGY REGULATORY AGENCY (AERA)

This recently established agency (December 2017) is the Public Legal Entity under the Ministry of Energy in charge of bringing utility services in line with the requirements of the market economy, achieving sustainable development by further improving control mechanisms, maintaining transparency and flexibility in energy supply, and ensuring accessibility of these services for entrepreneurs.

MINISTRY OF LABOR AND SOCIAL PROTECTION OF POPULATION

The Ministry of Labor and Social Protection of Population is a governmental agency responsible for the regulation of labor markets and social protection of the people of Azerbaijan.

The State Labour Inspection Service, under the Ministry of Labour and Social Protection of the Population, deals with foreign labour.

STATE TOURISM AGENCY OF THE REPUBLIC OF AZERBAIJAN

The State Tourism Agency is the central executive body responsible for implementing the state policy and regulation in the field of protection of historical and cultural monuments located in the territories of the state reserves under its subordination. The State service is the executive body exercising state control on usage of immovable historical and cultural monuments (except for the State Historical-Architecture of "Icheri Sheher" and "Qala" State Historical Ethnographic Reserve) that are under state protection, restoration, reconstruction, and protection.

MINISTRY OF CULTURE (STATE SERVICE FOR PROTECTION, DEVELOPMENT AND RESTORATION OF CULTURAL HERITAGE UNDER THE MINISTRY OF THE CULTURE OF THE REPUBLIC OF AZERBAIJAN)

The Ministry of Culture are a governmental agency within the Cabinet of Azerbaijan in charge of regulation of the activities and promotion of Azerbaijani culture.

STATE COMMITTEE FOR FAMILY, WOMEN AND CHILDREN AFFAIRS

A national body for gender equality, active in mainstreaming gender into state policies, programs, and laws and in developing information systems for gender-related monitoring.

STATE COMMITTEE FOR URBAN PLANNING AND ARCHITECTURE

The State Committee for Urban Planning and Architecture within the Cabinet of Azerbaijan are in charge of implementing the state policy and regulation concerning urban development, spatial planning, architecture, and other related fields of design.

THE STATE LAND AND CARTOGRAPHY COMMITTEE (SLCC) OF AZERBAIJAN REPUBLIC

SLCC are responsible for implementing land cadastral, monitoring and reforms, restoration and increasing of land productivity, and setting territorial units in the Azerbaijan Republic. The Department on Land Structure, Land Reform and Work under SLCC is responsible for the coordination of land acquisition and resettlement works with executive agencies.

AZERBAIJAN NATIONAL ACADEMY OF SCIENCES, INSTITUTE OF GEOLOGY

These are the main state research organization and the primary body that conducts research and coordinates activities in the fields of science and social sciences in Azerbaijan.

AZERBAIJAN NATIONAL AGENCY FOR MINE ACTION

The Azerbaijan National Agency for Mine Action is the government body responsible for coordinating and implementing mine and unexploded ordnance (UXO) clearance activities in Azerbaijan. Established by presidential decree, The Azerbaijan National Agency for Mine Action conducts survey, clearance, and risk education programmes to support safe land use, reconstruction, and development. It operates under civilian authority and collaborates with national and international partners to manage mine action in accordance with humanitarian and safety standards.

DISTRICT / RAYON EXECUTIVE AUTHORITIES AND POWERS

Within the limits of their authority, these executive authorities manage a city (district), adopt acts of regulatory and normative nature, dispose of state-owned lands, and develop and implement programs for socio-economic development in the territories entrusted. The District / Rayon Executive Powers are responsible for the local management of state lands within the Rayons territories, and for the supervision of municipal land management.

MUNICIPALITIES

They are a form of local self-governed and non-state groups for organizing the activities of citizens within the territories established by the laws of Azerbaijan. Municipalities, within their

powers, design and implement programs for social protection and social development, economic development, and local environmental programs.

STATE ENERGY INSTITUTIONS

The following government agencies represent relevant State Energy Institutions:

Azerenerji JSC (Electricity generation and transmission). Azerenerji is the largest electrical power producer in the Republic of Azerbaijan and the Caucasus. Azerenerji is in charge of power and heat energy generation as well as power transmission.

Azerishiq OJSC (Electricity distribution and supply). "Azerishiq" Open Joint Stock Company is responsible for electricity distribution and retail in Azerbaijan in reliable, safe and efficient manner. Azerishiq OJSC was established as a state-owned joint stock company in 2015 by decree of President of Azerbaijan Republic.

4.2.2 International and Regional Agreements and Conventions

The following table represents the International and Regional Agreements and Conventions accepted in Azerbaijan for regulating relevant environmental and social related issues and concerns:

Table 3-1 Relevant International Conventions for the Project

INTERNATIONAL CONVENTION	YEAR RATIFIED
INTERNATIONAL LABOUR ORGANIZATION (FUNDAMENTAL)	
C029 - Forced Labour Convention, 1930	1992
C087 - Freedom of Association and Protection of the Right to Organise Convention, 1948	1992
C098 - Right to Organise and Collective Bargaining Convention, 1949	1992
C100 - Equal Remuneration Convention, 1951	1992
C105 - Abolition of Forced Labour Convention, 1957	2000
C111 - Discrimination (Employment and Occupation) Convention, 1958	1992
C138 - Minimum Age Convention, 1973	1992
C182 - Worst Forms of Child Labour Convention, 1999	2004
POLLUTION PREVENTION	
Stockholm Convention on Persistent Organic Pollutants	Acceded in 2004
Convention on the Transboundary Effects of Industrial Accidents	Acceded in 2004
Basel Convention on the Control of Transboundary Shipment of Hazardous Wastes	2001
Kyoto Protocol, 1997	Acceded in 2000
UN Convention on the Protection of the Ozone Layer (Vienna Convention)	Acceded in 1996
Montreal Protocol on Substances that Deplete the Ozone Layer, 1987	Acceded in 1996

INTERNATIONAL CONVENTION	YEAR RATIFIED
United Nations Framework Convention on Climate Change, 1992	Acceded in 1992
UNECE Geneva Convention on Long-Distance Transboundary Air Pollution	2002
UN Convention on Control of Transboundary Movements of Hazardous Wastes and their Disposals	2001
International Carriage of Dangerous Goods by Road	2000
Espoo Convention (To promote environmentally sound and sustainable development through the application of ESIA, especially as a preventive measure against transboundary environmental degradation)	Acceded in 1999
Aarhus Convention (To guarantee the rights of access to information, public participation in decision-making and access to justice in environmental matters)	Acceded in 2000
Framework Convention for the Protection of the Marine Environment of the Caspian Sea	2003
The Protocol for the Protection of the Caspian Sea against Pollution from Land-Based Sources and Activities (LBSA Protocol)	2012
International Maritime Organization Convention	1995
MARPOL 73/78 International Convention on Prevention of Marine Pollution	2004
International Convention on Oil Pollution Preparedness, Response and Co-operation	2004
BIODIVERSITY PROTECTION	
UNESCO Convention on Wetlands of International Importance especially as Waterfowl Habitat / RAMSAR Convention	2001
UN Convention on Biological Diversity, 1992	2000
Bern Convention on conservation of wild flora and fauna and their natural habitats	2002
Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	1999
UN Convention to Combat Desertification, 1994	1998
UN Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention; CMS), 1979	1998
CULTURAL HERITAGE	
Convention for the Safeguarding of the Intangible Cultural Heritage. Paris 2003	2007
Convention concerning the Protection of the World Cultural and Natural Heritage. Paris, 16 November 1972	1993
European Convention on the Protection of the Archaeological Heritage	2000
UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions, 2005	2009
HUMAN RIGHTS	

INTERNATIONAL CONVENTION	YEAR RATIFIED
European Convention for the Protection of Human Rights and Fundamental Freedoms	2002
UN Convention on the Elimination of All Forms of Discrimination against Women	1995
UN Convention against Torture and Other Cruel, Inhuman or degrading treatment or punishment	1996
UN International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families	1000
UN International Covenant on Economic, Social and Cultural Rights	1992
UN Convention on the Rights of the Child / Protocol Faculty in connection with the participation of children in armed conflicts	1992/2002
UN Convention on the Elimination of All Forms of Racial Discrimination	1996
Regional Framework Convention for the Protection of National Minorities	2000
UN Convention on the Rights of Persons with Disabilities	2009
UN International Covenant on Civil and Political Rights	1992
The high-level conference on the future of the European Court of Human Rights. Interlaken Declaration	2010
The high-level conference on the future of the European Court of Human Rights. Izmir Declaration	2011
The high-level conference on the future of the European Court of Human Rights. Brighton Declaration	2012

4.2.3 National Laws, Regulations and Standards on Environmental, Social Protection and Land Issues

Itemized below is a compilation of legal and regulatory frameworks related to the Project industry, environmental protection, and social/land issues.

Table 3-2 Relevant Laws and Regulation

LAW/ REGULATIONS	YEAR OF ISSUE / AMENDMENT	DESCRIPTION
RELATED ENVIRONMENTAL LEGISLATION		
Law on the Protection of the Environment (No. 678-IQ)	1999 (last amendment in 2014)	This Law governs the legal, economic, and social framework for environmental protection. The purpose of this Law is to guarantee environmental safety and the ecological balance of the environment, prevent the impact of socioeconomic and other activities, preserve biological diversity, and effectively manage the use of nature. This Law governs mutual relations between society and nature for the purpose of improving the quality of the environment, using and renewing natural resources efficiently, and enforcing environmental protection laws and legal procedures.
Law on Ecological Safety (No. 677-IQ)	1999	The main purpose of this Law is to establish the legal basis for the protection of human life and health, the environment including atmospheric air, waterbodies,

LAW/ REGULATIONS	YEAR OF ISSUE / AMENDMENT	DESCRIPTION
	(last amendment in 2024)	subsoil, land, vegetables, and the animal kingdom against risks originating from human and natural impacts.
Law on Fauna (No. 675-IQ)	1999 (last amendment in 2021)	This Law establishes the legal basis for the protection of fauna in the Azerbaijan Republic with the aim of ensuring preservation and rational use of all types of wild animals. It also describes issues of State inventory and monitoring, and economic and punitive regulations.
Law on Green Belts (No. 957-IVQ)	2014 (last amended in 2021)	This Law aims at conservation of greens (trees, shrubs, flowers, grasses and planting materials) and green areas, also by defining the rights and obligations of state agencies, municipalities, legal entities and individuals.
Law on Specially Protected Natural Territories and Objects (No. 840-IQ)	2000 (last amendment in 2019)	This Law determines the legal basis for protected natural areas and objects in Azerbaijan.
Law on Protecting the Atmosphere, (No. 109-IIQ)	2001 (last amended in 2024)	This Law has the purpose of protecting the atmosphere to ensure the people's right to live in a favourable environment and their access to accurate environmental information. It sets general requirements for air protection during economic activities, establishes standards for mitigating physical and chemical impacts to the atmosphere, and establishes rules for the State inventory of harmful emissions and their sources.
Law on Water Code (No. 418-IQ)	1997 (last amendment in 2021)	This Code regulates legal relations concerning the protection and use of water bodies in the Azerbaijan Republic. It sets property rights and covers issues of inventory and monitoring.
Law on waste/wastewater	1998 (last amended in 2023)	This Law determines the state policy and legal relations of the Republic of Azerbaijan in the field of waste management, with the exception of harmful gases, wastewater and radioactive waste, in order to prevent the harmful effects of waste on human health and the environment, reduce their hazardous effects, ensure ecological balance in nature, as well as involve such waste in economic turnover as sources of recycled raw materials.
Law on obtaining Information on the Environment (No. 270-IQ)	2002 (last amendment in 2023)	This Law regulates relations arising in connection with the timely receipt of complete, reliable, timely information about the state of the environment and the use of natural resources from state authorities and local self-government, as well as from responsible persons.
Rules on Environmental Impact Assessment (EIA)	2018 (Approved by Resolution No 362, dated 21 September 2022)	The rules define assessment processes for projects with and without transboundary impacts.
Law On Fishing N.457-IQ	1998 (last amended in 2024)	The law states that surface water bodies (rivers, lakes, water reservoirs, water supply channels) and the Azerbaijan section of the Caspian Sea are considered as water objects with fishing operations value; therefore, any construction project located within the area of influence of surface water bodies is also subject to the review of the State fishing service. For surface water bodies hosting

LAW/ REGULATIONS	YEAR OF ISSUE / AMENDMENT	DESCRIPTION
		spawning sites or fish reproduction operations, the State establishes water protection zones and related shore protection zones, which are considered specially protected areas.
RELATED HEALTH/ SOCIAL/ CULTURAL AND ECONOMIC LEGISLATION		
Law on Community Health Care (No. 360- IQ)	1997 (last amendment in 2023, No. 71- VIQD)	This Law defines the basics of public health and the main principles of the healthcare system in Azerbaijan.
Law on Radiation Safety of the Population (No. 423)	1998 (last amendment in 2024,)	This Law requires compliance with radiation safety in industrial enterprises. The law defines the basic principles of state policy in the field of radiation safety, as well as environmental standards that ensure the safety of workers and the public in territories exposed to potential impacts as a result of the use of radioactive sources.
Law on the Protection of Historical and Cultural Monuments (No. 470-IQ)	1998 (last amendment in 2022, No. 528)	This Law establishes the legal framework related to the protection, study, and use of historical and cultural monuments in Azerbaijan.
Law on Employment, No.1196-VQ	2018 (last amendment in 2024)	This Law establishes the legal, economic, and organizational foundations of state policy in the field of employment assistance, as well as social protection of unemployed citizens.
Law on Unemployment Insurance (No. 765- VQ)	2017 (last amendment in 2023)	This Law establishes the basic principles of relations in the labor market of Azerbaijan, the creation of new mechanisms for financing the lost wages of insured citizens, payment of compensations to them, and strengthening the social protection of the population.
Labor Code of the Azerbaijan Republic (No. 618-IQ)	1999 (last amended in 2024)	The Labor Code, through the relevant legal standards, defines the labor, social, and economic rights of employees and employers, as well as the principles and rules for ensuring the right to work and rest in safe and healthy conditions, as well as other fundamental rights and freedoms of citizens of the republic.
On guarantees of gender equality (men and women)	2006 (last amended in 2024)	This law aims to eliminate all forms of gender-based discrimination and ensure gender equality in the political, economic, social, and cultural spheres. All human rights are guaranteed to women and men.
Law on Prevention of Domestic Violence	2010 (last amended in 2024)	The law establishes and regulates the events held in the direction of prevention of the violence committed by the abuses of the close related relations. Also outlines the providing with legal assistance persons which were affected by domestic violence, and also elimination of the circumstances leading to domestic violence.
RELATED ENERGY LEGISLATION		
Law on Efficient use of energy resources and energy efficiency (No. 359-VIQ)	July 1, 2021	The Law governs the relations arising in the field of production, storage, transfer, distribution, sale and energy consumption and extends to the state bodies (organizations) operating in this sphere, physical persons and legal entities, including final consumers.

LAW/ REGULATIONS	YEAR OF ISSUE / AMENDMENT	DESCRIPTION
(last amendment on 17-02-2023)		
Law on Energy (No. 1006-VIQ)	Oct 24, 2023	This law covers the regulation of the exploration, exploitation, production, processing, storage, transportation, distribution, and use of all energy materials and products, including gas.
Law on Power Industry (No. 858-VIQ)	April 11, 2023 (last amended in December 2023 1086-№ VIQD)	The Law on Power Industry provides the legal background for the generation, transmission, distribution, and sale of electricity and heating, aiming at ensuring rational utilisation of power resources as well as environmental protection. The Law appoints the Ministry of Energy as the authority responsible for licensing and regulating electricity generation, transmission, distribution, sale, and import-export activities.
The Law On the use of renewable energy sources in the production of electricity	May 31, 2021 - 339-VIQ (last amended in 2023, № 895 VIQD)	The Renewable Energy Law addresses guaranteed tariffs, foreign investment, and other support mechanisms, such as scientific research and the promotion of active consumers. In addition, certain incentives are being proposed for investors in renewable energy source (RES) projects in Azerbaijan, including guaranteed offtake, guaranteed connection, priority in transmission and distribution and long-term land leases.
The Rule for selecting electricity produced in the renewable energy sources area. (Presidential Decree No. 2285)	Adopted on Aug 2, 2023 (last amended in May 31, № 895 VIQD)	That rule defines the legal framework related to the contracts concluded and the auctions to be held with subsequent investors. At the same time, rules regulate consumer support and green certificates.
The Rule for Issuance of a certificate on the source of electricity produced from renewable energy sources. (Decree of Cabinet of Ministers No. 347)	Adopted on September 25, 2023 (last amended in 2024)	The rules define rules for provision of 'green certificate,' issued to the producer. The certificate will contain details on the origin of electricity sent to the grid, installation capacity, and quantity of electricity generated, along with the corresponding reduction in carbon dioxide emissions.
RELATED LAND RIGHTS AND RESETTLEMENT LEGISLATION		
The Constitution of the Republic of Azerbaijan	Adopted in 1995 (last amended in 2016)	Recognizes the citizens' right to own, use and dispose property. It also recognizes three type of property ownership in Azerbaijan - state, municipal and private (Article 13). It guarantees that no one will be dispossessed of their property without their consent or decision by the court of law and that alienation of private property for state needs will be allowed only after payment of fair compensation to the owner (Article 29). The constitutional amendment adopted on 26th September 2016 with regards to Article 29 specifies (i) private land ownership entails social obligations and (ii) property right on land can be restricted by law for social justice and efficient use of land.
The Land Code (No. 695-IQ)	1999	The Land Code is aimed at regulating land relations, fulfilling the obligations of landowners, users and tenant

LAW/ REGULATIONS	YEAR OF ISSUE / AMENDMENT	DESCRIPTION
	(last amendment in 2024)	farmers and protecting their rights to land, creating conditions for the rational use of lands and their protection, restoration and improvement of land fertility. Article 101 states that, all damages caused by acquisition of land (compulsory purchase) or temporary detention, as well as limiting the rights of owners, users and lessees or deterioration of the quality of soil should be fully paid to landowners or users. In addition, costs derived from early termination of its obligations against third parties should also be paid to the affected person. Disputes relating to compensation, is being considered in a court in accordance with the procedure established by the legislation.
The Civil Code	Adopted in 1999 (as amended on 13 June 2023)	Articles 246, 247, 248 and 249 include provisions for acquisition of lands for state needs. The Code requires the Decree on acquisition of lands for state needs should be registered in state real estate registration. It also states that Executive Agency should; a) send official notifications to all affected persons about land acquisition; b) pay full compensation to the affected persons within 90 days after the transaction agreement made; c) assist relocated people; and d) pay compensation for affected assets on the market rates (in case it is not possible to identify market rates, replacement prices is used). The Civil Code states as well that affected person can select one or more type of compensations. It also states that any rights to real estate must be registered with the State, and that land may be acquired from owners for state needs as approved by the relevant courts. It also states that the legality of ownership is established through the registration certificate issued by the Real Estate Land Registry Service based on the cadastral information (survey numbers) obtained from the State Land and Cartography Committee (SLCC) where the land is located.
Law on Land Acquisition for State Needs (No.987 III-Q)	April 2010 (last amended in 2023)	This Law regulates withdrawal of lands for the state needs in the Azerbaijan Republic, rules of charge and payment to compensation connected with it, and also other relations arising between the parties in this sphere. Specifically address matters related to involuntary resettlement (IR), including the process and institutional arrangement for land acquisition, compensation and valuation, consultation requirements, entitlements of various categories of displaced persons and grievance mechanism. The law considers various categories of displaced persons, including those without state registration, renters, non-formal long-term users of land, and persons who have no legal rights on the land that they live in. The law entitles persons who have no legal rights on the land to resettlement assistance and compensation for their non-land assets. It includes provision of compensation for loss of business/income, transition allowance and transportation support, and compensation for loss assets based on replacement cost. As per the law, in case of physical displacement, the acquiring authority needs to send notification to DPs at least 60 days before resettlement.
Law on Estimative Activities	1998	The law requires that valuation of the real estate is mandatory in the cases of land acquisition for state needs

LAW/ REGULATIONS	YEAR OF ISSUE / AMENDMENT	DESCRIPTION
(No.510-IQ)	(as amended on 19 May 2020)	and the results of the valuation are to be reflected in a valuation report.
Law on land market (No.665-IQ)	1999 (last amendment in 2024)	This Law establishes general rules for land market relations in the Azerbaijan Republic and ensures the protection of property rights to land.
Law on the state land cadaster, land monitoring and land management (No.593)	1998. (last amendment in 2023))	This Law defines the legal framework for ordering the state land cadaster, land monitoring and land management works in the Azerbaijan Republic.
Law on land lease (No.587-IQ)	1998 (last amendment in 2023)	This law defines the legal framework for the lease of lands in state, municipal and private ownership, and lease relations in the Azerbaijan Republic. The law states that (Article 16) when the leased land is acquired for state needs, another land plot having a same size and a same quality can be provided to lessee. Losses incurred in this land shall be paid in accordance with the legislation.
Law on the management of municipal lands (No.160-IIQ)	2001 (last amendment by the Decree of the President of the Azerbaijan Republic dated June 19, 2020)	This Law regulates the general rules for the transfer of municipal lands to ownership, use and lease, taking into account the peculiarities of their management, legal relations in the field of their use and protection.
Cabinet of Ministers' Resolution (No.45 24)	2012	Approving of guidelines for preparation of Resettlement Plan and Resettlement Guideline.
Rules for assigning lands to categories and transferring them from one category to another", approved by Decision No. 10 of the Cabinet of Ministers of the Republic of Azerbaijan	2017 Approved by Decree No. 201 of the President of the Republic of Azerbaijan dated September 28, 2024	Agricultural lands (arable lands) are specially protected and their transfer to other categories for non-agricultural purposes is permitted in exceptional cases in accordance with the Land Code of the Republic of Azerbaijan and on the basis of the requirements of the "Rules for assigning lands to categories and transferring them from one category to another".
Decree of the President on ensuring the execution of the law No. 506-3 QD dated 7 December 2007 on Amendments and Additions to the Civil Code of the Azerbaijan Republic	2007 (last amended in 2017)	It is regarding to amendments in the Civil Code: requires the provision of 20% additional compensation to the calculated market price of the acquired property.
Resolution of the Cabinet of Ministers on approving of guidelines for preparation of	2012	It stipulates guidelines for preparation of resettlement plan, as well as shows sample content of a resettlement plan and resettlement guideline.

LAW/ REGULATIONS	YEAR OF ISSUE / AMENDMENT	DESCRIPTION
Resettlement Plan and Resettlement Guideline No. 45		
Resolution of the Cabinet of Ministers on approving the guidelines for selection of a person or entity to prepare Resettlement Plan or Resettlement Guideline No. 55	2011	It reflects guidelines and criteria for the selection of a planner (person or entity who prepares resettlement plan or guideline).
Resolution of the Cabinet of Ministers (No. 110)	1999	Procedure of payments of inventory cost of the rooms which are in property of physical persons. The document describes zone coefficients of the territories of the cities and regions of the country for charge of the simplified tax which is subject to payment by persons who are engaged in housing construction.
Resolution of the Cabinet of Ministers No. 42 On Some Normative and Legal Acts Relating to the Land Code	2000 (last amended in 2017)	This resolution describes procedure for receiving of legal permission for allocation of land plot for construction activities
Law of Azerbaijan Republic on Municipality Area and Lands ((No: 771-IQ)	1999 (last amended in 2018)	The Law present the list of municipalities of Azerbaijan, but the subject of change due to change of administrative division if the country after liberation of Azerbaijani territories in 2020.
Law on Management of Municipality Lands (No: 160-IIQ).	2001 (last amendment in 2023)	This Law regulates the general rules for the transfer of municipal lands to ownership, use and lease, taking into account the peculiarities of their management, legal relations in the field of their use and protection.

As stated in Article 151 (Legal Value of International Acts) of the Azerbaijan Constitution, agreements in International Conventions supersede national laws in case of conflict. This principle is embodied in Articles 81 and 82, Chapter 14 (International Co-Operation on Environment Protection Issues) of the Law on Environmental Protection.

4.2.4 Renewable Energy Related Laws

Azerbaijan Renewable Energy Agency under the Ministry of Energy of the Republic of Azerbaijan was established by the Decree No. 1159 of the President of the Republic of Azerbaijan dated 22 September 2020 and the Charter of the Agency was approved.

Relevant laws and normative legal acts have been adopted in order to develop the renewable energy sector in our country, to improve the legislative and institutional environment in this area.

In recent years, the work carried out in the field has been continued and the law of the Republic of Azerbaijan No 339-VIQ, dated 31 May 2021 On the use of renewable energy

sources in the production of electricity, which makes a special contribution to the development of renewable energy has been approved.

According to the 2019 Renewables Readiness Assessment Report for Azerbaijan published by IRENA, the existing legal and regulatory energy framework includes specific provisions that promote the use of renewable energy through special concessions.

- *The State Program on the Use of Renewable Energy Sources*, adopted in 2004, aims to determine the potential of alternative energy sources in the production of electricity, increase the efficiency of national energy sources, guarantee national energy security, decrease CO₂ emissions, and support job creation via renewable energy sector development. This Program was updated on July 17, 2023.
- The amendments of March 2014 to the two Cabinet of Ministers decrees Rates of custom duties on export–import operations in Azerbaijan Republic and List of goods exempted of VAT imported to Azerbaijan Republic territory state that the import of equipment, facilities, parts and tools used in the renewable energy industry and in achieving energy efficiency are exempt from customs duties and VAT.
- The Decree of the Cabinet of Ministers *On determination of electricity production and power limits for the commissioning of electrical installations* (No. 482/2016) states that special permits for alternative and renewable energy power plants are required only for power plants with a capacity of more than 150 kW, and for hydropower plants and biogas power plants with a capacity of more than 500 kW.
- The document “Acceleration of Reforms in the Energy Sector of the Republic of Azerbaijan” was approved by presidential order in 2019. It deals with reforms involving the promotion of renewable energy, efforts to increase energy efficiency, preparation of a long-term energy sector development strategy, and proposals for a planned transition to market based competition in the power sector. This order resulted in the preparation of draft laws on a regulator for the energy sector and utilities services; on boosting the use of renewables for electricity production; on promoting energy efficiency; and on gas supply.
- The “Renewable Energy Law”, No. 339-VIQ, dated 31 May 2021 was signed into law by the President and published on July 14, 2021, together with a Presidential Decree on the implementation of the Renewable Energy Law. The newly-adopted Renewable Energy Law addresses guaranteed tariffs, foreign investment and other support mechanisms, such as scientific research and the promotion of active consumers. In addition, certain incentives are being proposed for investors in renewable energy source (RES) projects in Azerbaijan, including guaranteed offtake, guaranteed connection, priority in transmission and distribution and long-term land leases. In order to make effective use of the country’s RES potential, the Renewable Energy Law envisages the creation of an Atlas for the RES Potential of the Republic of Azerbaijan (the “Atlas”), which will be an integral part of an information system (database) that will be coordinated by the Ministry of Energy of the Republic of Azerbaijan.

- Law on Efficient use of energy resources and energy efficiency (359-VIQ) (last amendment on 17-02-2023). The Law governs the relations arising in the field of production, storage, transfer, distribution, sale and energy consumption and extends to the state bodies (organizations) operating in this sphere, physical persons and legal entities,

On September 25, 2023, the Cabinet of Ministers adopted Decree No. 347, introducing a regulation governing electricity produced from renewable energy sources. The regulation sets out the procedure for issuing 'green certificates' to producers. These certificates provide information on the origin of the electricity supplied to the grid, the installed capacity, the volume of electricity generated, and the associated reduction in carbon dioxide emissions.

4.3 Lender Requirements

Masdar will pursue an amount of project finance from financial institutions who either:

- Have their own internal Environmental & Social (E&S) investment policies/guidelines;
- Are members of the collective environmental and social agreements such as the Equator Principles; or
- Align their E&S policies and guidelines with other established guidelines (such as the IFC Performance Standards).

This ESIA has been prepared in line with the standards and requirements of AIIB, EBRD and IFC. In addition, the Project is required to align with Equator Principles (EP) and WBG EHS Guidelines. EP IV establishes the minimum E&S standards to be adopted by EPFI as those from IFC Performance Standards, the WBG EHS Guidelines and/or the relevant host country laws, regulations, and permits that pertain to environmental and social issues.

4.3.1 AIIB

The AIIB Environmental and Social Framework (ESF) is a system that supports AIIB and its clients in achieving environmentally and socially sustainable development outcomes. The 2024 ESF was approved by the Board and entered into force on 26 June 2024, superseding the previous November 2022 version

The Environmental and Social Policy comprises mandatory environmental and social requirements for each Project and is accompanied by three associated mandatory Environmental and Social Standards (ESSs) setting out requirements applicable to Bank Clients on:

- ESS1: Environmental and Social Assessment and Management;
- ESS2: Land Acquisition and Involuntary Resettlement; and

- ESS3: Indigenous Peoples

4.3.2 EBRD

POLICY AND E&S REQUIREMENTS

The latest Environment and Social Policy (ESP) of EBRD (Oct 2024), which supersedes the 2019 ESP, outlines the following Environmental and Social Requirements (ESR):

- ESR1 - Assessment and Management of Environmental and Social Risks and Impacts
- ESR 2 - Labour and Working Conditions
- ESR 3 - Resource Efficiency and Pollution Prevention and Control
- ESR 4 - Health, Safety and Security
- ESR 5 - Land Acquisition, Restrictions on Land Use and Involuntary Resettlement
- ESR 6 - Biodiversity Conservation and Sustainable Management of Living Natural Resources
- ESR 7 - Indigenous Peoples
- ESR 8 - Cultural Heritage
- ESR 9 - Financial Intermediaries, and
- ESR 10 - Stakeholder Engagement.

In addition to EBRD ESRs, the following Guidance Notes will be followed:

- Guidance Note on Grievance Mechanism, 2012;
- CDC, IFC and EBRD Addressing Gender-Based Violence and Harassment Emerging Good Practice for the Private Sector, 2020; and
- EBRD and IFC Workers' Accommodation: Processes and Standards, 2009.

4.3.3 IFC

The IFC Performance Standards (PS) are a key component of the IFC's Sustainability Framework and are directed towards clients (i.e., party responsible for implementing and operating the project that is being financed), providing guidance on how to identify risks and impacts. The IFC PS are designed to help avoid, mitigate, and manage risks and impacts throughout the life of a project as a way of doing business in a sustainable way, including stakeholder engagement and disclosure obligations of the client in relation to project-level activities.

The IFC PS (2012) are listed below:

- PS1: Assessment and Management of Environmental and Social Risks and Impacts
- PS2: Labour and Working Conditions

- Including International Labour Organisation (ILO) Conventions
- PS3: Resource Efficiency and Pollution Prevention
- PS4: Community Health, Safety, and Security
- PS5: Land Acquisition and Involuntary Resettlement
- PS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources
- PS7: Indigenous Peoples);
- PS8: Cultural Heritage

In addition to IFC PSs, the following guidelines will be followed:

- IFC Good Practice Handbook on the Use of Security Forces: Assessing and Managing Risks and Impacts (2017)
- IFC Stakeholder Engagement: A Good Practice Handbook for Companies Doing Business in Emerging Markets, 2007.
- IFC Good Practice Handbook to Cumulative Impact Assessment and Management: Guidance for the Private Sector in Emerging Markets, 2013.
- IFC's Good Practice Handbook on Land Acquisition and Involuntary Resettlement (2023).

4.3.4 WBG Guidelines

In terms of specific guidelines to control environmental externalities (e.g., wastewater quality etc.), EHS guidelines have been set out by IFC and WBG to provide general guidelines for its members when involved in a project or when providing financial support to a project. These guidelines contain general and industry-specific examples of Good International Industry Practice (GIIP). The following IFC EHS Guidelines are relevant to this project:

- General EHS Guidelines, Environmental:
 - Air Emissions and Ambient Air Quality;
 - Energy Conservation;
 - Wastewater and Ambient Water Quality;
 - Water Conservation;
 - Hazardous Materials Management;
 - Waste Management;
 - Noise; and,
 - Contaminated Land.
- General EHS Guidelines, Occupational Health & Safety:
 - General Facility Design and Operation;
 - Communication and Training;
 - Physical Hazards;

- Chemical Hazards;
- Radiological Hazards;
- Personal Protective Equipment (PPE);
- Special Hazard Environment; and,
- Monitoring.
- Community Health & Safety:
 - Water Quality and Availability;
 - Structural Safety of Project Infrastructure;
 - Life and Fire Safety;
 - Traffic Safety;
 - Transport of Hazardous Materials;
 - Disease prevention; and,
 - Emergency Preparedness and Response
- Construction and Decommissioning
 - Environment
 - Occupational Health and Safety
 - Community Health and Safety
- Industry Sector Guidelines:
 - Wind Energy (2015)

4.4 Applicable Environmental Standards

Applicable standards required for Project compliance are included in the respective environmental and social aspect sections of this report. This includes national standards and those expected from the lenders.

4.5 EIA/ESIA Requirements

4.5.1 National Environmental Impact Assessment (EIA) Requirements

The President of the Azerbaijan Republic introduced a law on Environmental Impact Assessment (EIA) in June 2018, which was officially approved by Presidential Decree No. 193 on 13 July 2018.

Under this law, developers are required to coordinate proposed activities with the State Ecological Expertise Agency under the Ministry of Ecology and Natural Resources (MENR). To do so, it is necessary to prepare and submit an EIA report to MENR. The objective of the law is to establish a legal framework for assessing the environmental impacts of public and private projects, with the aim of preventing or minimizing negative effects on the environment and

public health from the earliest stages of project planning. Preparation of an EIA report is mandatory for activities subject to the law.

In accordance with the provisions of the law, the EIA process is based on the following principles:

- Integrated assessment of environmental, social, and economic impacts of the proposed activity on both the environment and human health;
- Ensuring the transparency, completeness, and reliability of information regarding environmental safety;
- Preserving ecological balance and biodiversity;
- Ensuring that environmental impacts do not exceed established permissible limits;
- Forecasting potential environmental consequences and assessing levels of environmental risk;
- Ensuring public participation, transparency in the EIA process, and consideration of public opinion.

Specifically, the SIA report should include:

- Assessment of the initial and expected state of the environmental and socioeconomic environment;
- Determination of the environmental impacts of construction, reconstruction, and operation of facilities;
- Environmental Management Plan, combining a system of measures to reduce and mitigate environmental impacts; and
- Environmental Monitoring Plan providing for the effectiveness of environmental measures.

Based on the Azerbaijani legal updates published on October 2022, the Cabinet of Ministers issued environmental impact assessment (EIA) rules, approved by Resolution No 362 on September 21, 2022, pursuant to its mandate under the EIA Law enacted on July 17, 2018. According to the new rules, project developers are required to consult with the State Ecology Expertise Agency within the Ministry of Ecology and Natural Resources during the pre-design phase. Project developers must submit a project description and proposed assessment details to the Agency for public review. This submission should include the project's location, a feasibility study, alternative proposals, and a potential environmental impact assessment, as well as a plan for public hearings regarding the assessment.

The key deliverables of the EIA process as required by the national legislation are:

- Project Application Letter including the project description and proposed assessment details.
- If required, Scoping Meeting with MENR and relevant authorities; and

- EIA Report.

The Project application letter was issued to MENR on the 17th May 2024, and the Scoping Meeting was held on the 29th May 2024. Once the ESIA has been finalised, it will be translated into Azerbaijani language and issued to MENR.

4.5.2 Lender Requirements

AIIB

AIIB's ESS1: Environmental and Social Assessment and Management outlines the requirement for environmental assessment if a Project is likely to have adverse environmental risks and impacts or social risks and impacts (or both).

AIIB assigns each proposed Project to one of the following four categories and determines the type of assessment and instrument required, as noted below and further elaborated throughout their ESP:

- **Category A:** A Project is categorized A if it is likely to have significant adverse environmental and social impacts that are irreversible, cumulative, diverse or unprecedented. These impacts may affect an area larger than the sites or facilities subject to physical works and may be temporary or permanent in nature.
- **Category B:** A Project is categorized B if: (i) it has a limited number of potentially adverse environmental and social impacts; (ii) the impacts are not unprecedented; (iii) few if any of them are irreversible or cumulative; (iv) they are limited to the Project area; and (v) they can be successfully managed using good practice in an operational setting.
- **Category C:** A Project is categorized C if it is likely to have minimal or no adverse environmental and social impacts. The Bank does not require an environmental and social assessment, but does require the Client to prepare an analysis of the environmental and social aspects of the Project.
- **Category FI.** A Project is categorized FI if the financing structure involves the provision of funds to or through a financial intermediary (FI) for the Project, whereby the Bank delegates to the FI the decision-making on the use of the Bank funds, including the selection, assessment, approval and monitoring of Bank-supported activities, based on a sound environmental and social management system (ESMS) adopted by the FI.

EBRD

In accordance with ESR 1, there is a requirement for EBRD financed projects to undertake an appropriate Environmental and Social Assessment to:

- identify and assess environmental and social risks and impacts of and to the project

- adopt a mitigation hierarchy approach to address environmental and social risks and impacts from project activities on workers, affected communities and the environment
- integrate human rights risks and impacts into the assessment and management process

In addition, it outlines the requirement to:

- implement an ESMS commensurate with the environmental and social risks and impacts of the project in a manner consistent with the relevant ESRs, including monitoring and reporting provisions
- require continuous improvement of the client's environmental and social performance.

EBRD classifies projects based on environmental and social risks to set the required level of assessment, disclosure, and engagement, matching the project's characteristics and the significance of its impacts. Projects are assigned to one of the following four categories:

- A project is categorised "A" when it could result in potentially significant environmental and/or social impacts, including direct and cumulative environmental and social impacts, which are new and additional and cannot readily be identified or mitigated. Category A projects require a formalised and participatory environmental and social impact assessment (ESIA), including a screening and/or scoping process and an assessment of alternatives. An indicative list of Category A projects is presented in Annex B to the ESP.
- A project is categorised "B" when its potential adverse environmental and/or social impacts are typically site-specific, and/or readily identified and addressed through mitigation measures. The scope of environmental and social assessment will be determined by the EBRD on a case-by-case basis, considering the environmental and social risks associated with the project.
- A project is categorised "C" when it is likely to have limited environmental and/or social impacts that can be readily identified and mitigated.

The EBRD is committed to promoting EU environmental requirements and is a signatory to the European Principles for the Environment (EPE), a joint statement by several international financial institutions. The Principles endorse the European consensus on the importance of the fundamental right for present and future generations to live in a healthy and sustainable environment.

The Environmental Impact Assessment (EIA) Directive 85/337/EEC was adopted in 1985 and applied to a broad range of public and private projects. This Directive was subsequently amended and ultimately codified by Directive 2011/92/EU of 13 December 2011. It was later amended by Directive 2014/52/EU, which introduced key enhancements, including more robust consideration of health, climate change, disaster risks, and public participation.

According to Article 3 of Directive 2011/92/EU (as amended), the EIA must identify, describe, and assess in an appropriate manner, considering the specific characteristics of each project, the direct and indirect significant effects on the following factors:

- a. Population and human health;
- b. Biodiversity, with particular attention to species and habitats protected under Directives 92/43/EEC and 2009/147/EC;
- c. Land, soil, water, air, and climate;
- d. Material assets, cultural heritage, and the landscape; and
- e. The interaction between the factors referred to in points (a) to (d).

IFC

Performance Standard 1 outlines the need to “*establish and maintain a process for identifying the environmental and social risks and impacts of the project*”. The standard further states that “*The process may comprise a full-scale environmental and social impact assessment, a limited or focused environmental and social assessment, or straightforward application of environmental siting, pollution standards, design criteria, or construction standards*”.

As part of the review of environmental and social risks and impacts of a proposed investment, IFC also uses a process of environmental and social categorization to reflect the magnitude of risks and impacts. These categories are:

- Category A: Business activities with potential significant adverse environmental or social risks and/or impacts that are diverse, irreversible, or unprecedented.
- Category B: Business activities with potential limited adverse environmental or social risks and/or impacts that are few in number, generally site-specific, largely reversible, and readily addressed through mitigation measures.
- Category C: Business activities with minimal or no adverse environmental or social risks and/or impacts.
- Category FI: Business activities involving investments in financial institutions (FIs) or through delivery mechanisms involving financial intermediation. This category is further divided into three categories.

4.5.3 Project Categorisation as per Lender Descriptions

Upon review of Lender descriptions for categorisation and review of project-specific potential impacts, it is 5 Capitals' view that the Project should fall within **Category B**.

The Project categorisation is subject to confirmation by the Project lenders. However, it is noted that this ESIA Report has been prepared on the basis of undertaking a full ESIA commensurate with a Category A requirement.

5 APPROACH TO THE ESIA

5.1 Scope of Work and Key Deliverables

The key deliverables of the ESIA process for this Project are:

- Environmental and Social Scoping Report;
- ESIA Report (including the Non-Technical Summary and the Framework for E&S Management);
- Climate Change Risk Assessment;
- Human Rights Risk Assessment;
- Livelihood Restoration Plan;
- Biodiversity Management Plan (BMP); and
- Stakeholder Engagement Plan (SEP).

5.2 ESIA Methodology

5.2.1 Process

The ESIA process is a systematic tool for examining and assessing the potential beneficial and adverse environmental and social impacts of a proposed development. In addition to identifying impacts of the Project, the ESIA has also identified key environmental and social mitigation measures and guidance to avoid, minimise and compensate for any adverse environmental and social impacts associated with the construction and operation of the Project. The ESIA process is summarised in the following table and in the following sections.

Table 4-1 Overview of the ESIA process

STAGE	TASK	OBJECTIVE
Scoping	Gap Analysis	Identify the approach, methodology and data requirements of the ESIA
ESIA 	Consultation	Consult with statutory and non-statutory organisations and individuals with an interest in the development
	Desk Based Literature Review	Use existing secondary information and data sources to obtain information on the environmental and social conditions of the development site and immediate surroundings.
	Primary Baseline Data Collection	Characterise the existing physical, ecological and social conditions of the development site and immediate surroundings.
	Specialist Studies	Further investigate those environmental and social parameters which may be subject to potentially significant impacts.
	Impact Assessment	Evaluate the existing environment and social conditions in terms of sensitivity to predict the magnitude and associated significance of the potential impacts.
	Mitigation Measures	Identify appropriate and practicable mitigation and enhancement measures to avoid, minimise and/or offset any adverse impacts. Monitoring plans are proposed to monitor residual impacts.

To obtain a credible assessment of environmental and social impacts, the assignment of 'significance' to each identified impact needs to be a robust, consistent and transparent process. The methodology to assess 'effect significance' is outlined below and follows a GIIP approach based on the assumption that the significance of an impact on resources or receptors is considered to result from an interaction between two factors:

- The nature and magnitude of the impact (i.e., a change in the environment, social and/or health baseline conditions); and
- The environmental or social value or sensitivity of those resources or receptors to the change.

A three-step approach has been used to determine the significance of environmental and social impacts, as follows:

- **Step 1** – Evaluation of value/sensitivity/vulnerability of resource or receptor;
- **Step 2** – Assessing the magnitude of the impact on the resource or receptor; a
- **Step 3** – Determining the significance of impacts

5.2.2 Impact Assessment Significance Criteria

DETERMINING RECEPTOR SENSITIVITY

The sensitivity of a receptor is understood as the sensitivity of the environmental or social receptor to change, including its capacity to accommodate changes that the Project may bring about. The sensitivity is assigned at the receptor level and as such details regarding

sensitivity are provided within the topic specific chapters of this Report. The table below outlines the definition criteria upon which the receptor sensitivities of this ESIA are based.

Sensitive receptors are defined as:

- Elements of the environment that are of value to the functioning of natural systems (i.e., areas or elements of ecological, landscape or heritage value, species, habitats and ecosystems, soil, air and water bodies or land-use patterns); and
- Human receptors, such as stakeholders (i.e., users of dwellings, places of recreation, places of employment, community facilities or household relocation, cultural heritage – tangible & intangible, community health, livelihoods & economic activities, gender relationships) and human systems (e.g. employment market, population disease susceptibility and disease communicability, public infrastructure and services, exposure to toxicity of chemicals).

Table 4-2 Receptor Sensitivity Criteria

SENSITIVITY	DESCRIPTION OF VALUE
Very High	• High importance and rarity on an international scale and limited or no potential for substitution. • The receptor has already reached its carrying capacity, so any further impact is likely to lead to an excessive damage to the system that it supports (e.g., very limited or non-existent infrastructure and services such as hospitals and schools, available natural, economic or local resources are not sufficient to provide means of livelihoods for all local populations). • Locations or communities that are highly vulnerable to the environmental and social impact under consideration or critical for society (e.g., indigenous peoples, hospitals, schools). • Other examples are very high proportion of vulnerable groups (women, elderly, disabled, etc.) in the Project area, very frequent occurrences/risk of gender-based violence and harassment, sexual harassment, retaliation, very low probability of female participation in decision making and in the labour market, archaeological items of international importance or designated UNESCO world heritage sites, tangible or intangible cultural assets that contribute to international research objectives, etc.
High	• High importance and rarity on a national scale, and limited potential for substitution. • The receptor is close to reaching its carrying capacity, so a further impact may lead to a significant damage to the system that it supports (e.g., poor or limited public infrastructure and services, with limited access and high pressure on existing natural or economic resources available). • Locations or communities that are particularly vulnerable to the environmental impact under consideration (e.g., residential areas, vulnerable/marginalized groups). • Other examples are high proportion of vulnerable/marginalised groups (women, elderly, disabled, etc.), locations with poor health practices, poor education level, high crime rate, frequent occurrences/risk of gender-based violence,

SENSITIVITY	DESCRIPTION OF VALUE
	sexual harassment, retaliation, tangible or intangible cultural assets that contribute to national research objectives, etc).
Medium	• High or medium importance and rarity on a regional scale, limited potential for substitution. • The receptor is already significantly impacted, but it is not close to reaching its carrying capacity. Further impacts will get increase the stress of the underlying system, but evidence does not suggest that it is about to reach a critical point (e.g., public infrastructure and services with some capacity, alternative natural or economic resources are available but not sufficient or easily accessible). • Locations or groups that are relatively vulnerable to the environmental impact under consideration (e.g., commercial areas). • Other examples area: average proportion of vulnerable/marginalised groups, occasional occurrences/risk of gender-based violence, sexual harassment, retaliation tangible or intangible cultural assets that contribute to regional research objectives, etc).
Low	• Low or medium importance and rarity on a local scale. • The receptor is not significantly impacted and shows a large spare carrying capacity. Impacts are not likely to generate any noticeable stress in the underlying system (e.g., reasonable public infrastructures and services, sufficient natural, economic or local resources available but not easily accessible). • Locations or groups that show a low vulnerability to the environmental impact under consideration (e.g., industrial areas). • Other examples are low proportion of vulnerable/marginalised groups, rare occurrences of gender-based violence, sexual harassment, retaliation tangible or intangible cultural assets that contribute to local research objectives, etc).
Very Low	• Very low importance and rarity on a local scale. • The receptor is not impacted and shows a very large spare carrying capacity. Impacts are very unlikely to generate any noticeable stress in the underlying system (e.g., very good public infrastructures and services with some capacity, equivalent natural, economic or local resources available and easily accessibly). • Locations or groups that show a very low vulnerability to the environmental impact under consideration (e.g., industrial areas). • Other examples are very low proportion of vulnerable/marginalised groups, no occurrence of gender-based violence, sexual harassment, retaliation tangible or intangible cultural assets that are not legally protected and have no significance to local people (i.e. local people no longer use the cultural asset, etc).

IDENTIFYING POTENTIAL IMPACTS

The following types of impacts have been considered:

- **Direct Impacts** - Potential impacts that may result from the construction, commissioning, and operation of the Project acting directly on an environmental or social receptor;
- **Indirect Impacts** – Potential impacts which are not a direct result of a Project activity, that may be realised later in time or at distances further removed from the project footprint, but are normally a result of a complex pathway;

- **Cumulative Impacts** – Changes to the environment that are caused by an action in combination with other past, present and/or future actions;
- **Beneficial Impacts** – Those impacts that have a positive, desirable or favourable effect on the sensitive resources or receptors (e.g., landscape providing artificial habitat for a variety of species, jobs opportunities during the construction and/or occupation phases of a project);
- **Adverse Impacts** – Those impacts that are detrimental and have a negative influence on the environment, social structures, resources or other receptors;
- **Secondary Impacts** – Potential impacts that may result from the implementation of protection measures applied to mitigate potential direct impacts; and
- **Event Related Impacts** – Potential unplanned or accidental impacts stemming from an unintentional event such as fire, explosion, leakages, oil spill, etc.

DETERMINING AREA OF INFLUENCE

The area of influence for each assessed aspect (e.g., air quality, noise etc.) has been established within each dedicated chapter. In some cases, this differs between each impact, for example, with regards to air quality, there is a different area of influence established for individual impacts such as dust generation and gaseous emissions. This is further outlined within individual chapters.

DETERMINING IMPACT MAGNITUDE

The magnitude of an impact has numerous components, for example:

- The extent of physical change;
- The level of change in an environmental condition;
- The permanence of impact and the reversibility of the impacted condition;
- Its spatial footprint;
- Its duration and frequency; and
- Its likelihood of occurrence where the impact is not certain to occur.

The magnitude of the impact will be defined wherever possible in quantitative terms and where necessary, the determination of impact magnitude will be assisted through the use of modelling. The general criteria used for identifying the magnitude of impacts is provided within the following table.

Table 4-3 Impact Magnitude Criteria

MAGNITUDE	DESCRIPTION OF MAGNITUDE
Major	Adverse: Loss of resource and/or quality and integrity; severe damage to key characteristics, features or elements. Permanent / irreversible change to livelihoods. Severe non-compliance risks relating to labour, gender, security, community health. A major impact is usually large in extent, permanent and irreversible.

MAGNITUDE	DESCRIPTION OF MAGNITUDE
	Beneficial: Large scale or major improvement of resource quality; extensive restoration or enhancement in livelihoods; major improvement of attribute quality.
Moderate	Adverse: Significant impact on the resource, but not adversely affecting the integrity; Partial loss of/damage to key characteristics, livelihoods, features or elements. Moderate impacts usually extend outside the site boundary, and are usually permanent, irreversible or cumulative. Beneficial: Benefit to, or addition of, key characteristics, features or elements; improvement of attribute quality.
Minor	Adverse: Some measurable change in attributes quality or vulnerability; minor loss of, or alteration to, one (maybe more) key characteristics, features, livelihoods or elements. Minor impacts usually are only noticeable within the site and are temporary and reversible. Beneficial: Minor benefit to, or addition of, one (maybe more) key characteristics, features or elements; some beneficial impact on attribute or a reduced risk of negative impact occurring.
Negligible	Adverse: Very minor loss or detrimental alteration to one or more characteristics, features or elements. Beneficial: Very minor benefit to or positive addition of one or more characteristics, features or elements.
No change	No loss or alteration of characteristics, features or elements; no observable impact in either direction.

DETERMINING SIGNIFICANCE

The significance of effects is a combination of the sensitivity of a receptor or resource and the magnitude of the project impact.

The following matrix provides criterion used for determining the significance of environmental effects through consideration of the potential magnitude of impact and sensitivity of the associated receptor.

As is evident from the matrix, in some cases the significance product is a range (i.e., a 'Minor' Magnitude and a 'Very High' Sensitivity results in a 'Moderate to Major' Significance). In these cases, professional judgement will be used to determine which significance the impact best represents.

Table 4-4 Criteria for Determining Significance of Effects

		MAGNITUDE OF IMPACT (DEGREE OF CHANGE)				
		No Change	Negligible	Minor	Moderate	Major
SENSITIVITY OF RECEPTOR	Very High	Neutral	Minor	Moderate to major	Major	Major
	High	Neutral	Minor	Minor to moderate	Moderate to major	Major
	Medium	Neutral	Negligible to minor	Minor	Moderate	Moderate to major
	Low	Neutral	Negligible to minor	Negligible to minor	Minor	Minor to moderate
	Very Low	Neutral	Negligible	Negligible to minor	Minor	Minor

The following table outlines general definitions of significance.

Table 4-5 Definition of Significance

SIGNIFICANCE CATEGORY	CRITERIA
Major	- The impact is large scale and would cause a large improvement or deterioration in the environment, - Adverse impacts may be considered unacceptable due to exceeded of statutory limits or compliance and may require additional studies to ascertain if alternatives (in terms design and location) with the potential for lower impacts should be considered. These impacts represent key factors in the decision-making process. - These impacts are generally, but not exclusively, associated with sites or features of international, national or regional importance that are likely to suffer a damaging impact and loss of resource integrity. However, a major change in a site or feature of local importance may also enter this category.
Moderate	- The impact gives rise to noticeable improvement or deterioration to the existing environment at a regional or local scale. - If adverse, impacts are potential concerns to the project and may become key factors in the decision-making process. - Whilst the impacts will be experienced, mitigation measures and detailed design work may reduce (or enhance) the effect. Some residual effects will still arise.
Minor	- The impact is small scale and would cause a small improvement or deterioration to the existing environment. - Adverse effects are undesirable but acceptable and within statutory limits and not likely to be key decision-making issues. - Mitigation measures are typically not required to mitigate such effects. - The cumulative effect of such issues may lead to an increase in the overall effects on a particular area or on a particular resource.
Negligible	- No discernible improvement or deterioration to the existing environment as a result of the Project will occur. - Local issue unlikely to be of importance in the decision-making process. - Effects do not exceed statutory limits.

SIGNIFICANCE CATEGORY	CRITERIA
	They are of relevance in enhancing the subsequent design of the project and consideration of mitigation or compensation measures.
Neutral	- No effect or effect that is beneath the level of perception, within normal bounds of variation or within the margin of forecasting error. - No mitigation is required.

The approach to assigning significance relies on reasoned argument, professional judgement and cognisance to the advice and views of the appropriate regulators and organisation. For some disciplines, it is determined by comparison, wherever possible with locally, nationally or internationally accepted standards.

5.2.3 Mitigation and Management Measures

A key component of the ESIA process is to explore practical ways of avoiding or reducing potentially significant impacts caused by the development of the Project. These are commonly referred to as mitigation and management measures and will be included in the ESIA report and further incorporated in the future construction Health, Safety, Social and Environmental Management System (HSSE-MS) and Operational HSSE-MS that will be prepared by concerned parties. Mitigation will be aimed at preventing, minimising, or managing significant adverse impacts to as low as reasonably practicable and enhancing and maximising any potential beneficial impacts of the Project. Refer to Volume 3 of the ESIA for the full list of plans and procedures that will be prepared as part of the HSSE-MS.

The approach taken to identifying and incorporating mitigation measures into the Project is based on a typical hierarchy of decisions and measures. This is aimed at ensuring that wherever possible, potential impacts are mitigated at source rather than mitigated through restoration after the impact has occurred.

Upon approval of the Project, the stated mitigation and management measures in the approved ESIA will be required for implementation as a condition of the Environmental Permit or as part of the lenders' loan agreement.

5.2.4 Residual Impacts

The residual impacts section considers the overall significance of impacts following the implementation of the additional mitigation and management measures not included by design. The significance of such impacts is based upon the same criteria used to determine the impact significance stated above.

5.2.5 Cumulative Impacts

Cumulative impacts are those impacts that result from the successive, incremental, and/or combined effects of an action, project, or activity when added to other existing, planned, and/or reasonably anticipated future ones.

In practice, the assessment of cumulative effects requires consideration of some concepts:

- Assessment of effects over a larger (i.e., "regional") area that may be transboundary/cross-jurisdictional; (including effects due to natural perturbations affecting environmental components and human actions).
- Assessment of effects during a longer period of time into the past and future;
- Consideration of national renewable plans and national grid expansion and strengthening and cumulative impacts of national and regional development of energy projects and associated infrastructure;
- Assessment of effects on Valued Environmental Components due to interactions with other actions, and not just the effects of the single action under review; and
- Evaluation of significance in consideration of other than just local, direct effects.

6 STAKEHOLDER ENGAGEMENT

The following presents a summary of stakeholder identification and engagement conducted throughout the ESIA phase. Further information and for the plan for engagement moving forward, throughout construction and operation, is provided in the SEP.

6.1 Stakeholder Identification and Analysis

Stakeholder engagement is a systematic approach to understanding and involving stakeholders and their concerns in project activities and decision-making processes. It supports the identification of appropriate methods for consultation, information disclosure, and feedback incorporation. The stakeholders identified include persons or groups that may be directly or indirectly affected by the Project, as well as those that may have interest in the Project and/or those that may influence the Project's outcomes either positively or negatively. Since stakeholder dynamics may change over time, the SEP will be updated to reflect newly identified stakeholders or changes in stakeholder circumstances.

6.1.1 Approach to Stakeholder Identification

Identified stakeholders have been classified into the following categories:

- Affected Stakeholders **(A)** – those who can be potentially affected by one or more of the potential impacts¹² of the project directly or indirectly.
 - This stakeholder group refers to persons or groups who are directly or indirectly affected by the Project. Directly affected stakeholder and/or groups refers to those who are affected and clearly need on-going attention, taking into consideration other cross-cutting analysis such as vulnerability, project stages, cultural and social context and events, etc. Indirect affected stakeholders refer to individuals, groups, or communities who may not experience direct impacts from the Project. These stakeholders may include neighbouring communities, businesses, or industries that rely on resources or services indirectly impacted by the Project. Their interests, concerns, and perspectives should still be considered by the Project during the planning and implementation stages.
- Interest-based Stakeholders **(I)** – Stakeholders concerned with any of the procedures set by the Project, the Project's beneficiaries, national and international non-governmental organizations, and interested parties of civil society.
 - These are external groups or organizations whose interests qualify them as stakeholders, despite not being adversely affected by the Project or located within the impacted area.

¹² The potential environmental and social impacts of the Project have been identified and assessed in the ESIA. These impacts cover air quality, noise, soil and groundwater, terrestrial ecology, landscape and visual impacts, solid waste and wastewater management, archaeology and cultural heritage, socioeconomics, community health, safety and security, human rights, labour and working conditions, and climate-related considerations.

- Decision Making Stakeholders (**D**) – those who are involved in the development of the Project and its financing. In addition, this includes the regulator, the Ministry of Ecology and Natural Resources (MENR).

The following table presents the identified Project stakeholders, categorised by stakeholder group, and outlines their relevance to the Project.

Table 6-1 Stakeholder Identification

STAKEHOLDER GROUP	STAKEHOLDER BODIES	RELEVANCE TO PROJECT: AFFECTED (A), INTEREST-BASED (I), OR DECISION MAKER (D)
Directly Affected Stakeholders	Formal and informal land users which include: • Herders • Workers • Natural resources collectors	A: Formal and informal land users within the Project AoI may potentially experience economic and/or physical displacement as a result of the Project development. Additionally, existing structures may need to be relocated prior to commencement of the construction phase.
	Workforce: • Project's construction and operation workforce including the EPC Contractor, subcontractors, O&M Company, and supply chain workers.	A/I: The Project's construction and operation workforce may potentially experience labour risks and impacts during the construction and operational phases, as applicable, including occupational health and safety risks, forced labour, inadequate working conditions, and GBVH/SEA/SH risks.
	Enterprises and schools: • Chemical Plant (Isotop plant) • Lachin District Safiyan village Secondary School • Secondary School of Absheron District	A: These stakeholders may experience Project E&S impacts during the construction and operation phases, including those related to traffic, transportation, and shadow flicker effects due to their proximity to the Project site, and use of access roads.
	Commercial receptors: • Poultry farms (P1 and P2), shops, and cafes along highway Baku-Shamakhi	A: These stakeholders are located near the Project site and are users of the access roads that branch off to the site, i.e. near WTG 02-01. Potential impacts they may experience are those related to traffic and transportation of Project components, construction materials and equipment.
	Service providers: • Aztelekom • Azerishiq • Azerenerji	A: Service providers will be engaged to obtain data on technical specifications of existing public infrastructure near the Project area and along the M4 highway, i.e. underground communication lines and OHTLs, to establish the requirements for the Project.
	Unregistered paragliders near the site	A: May potentially be impacted if they undertake the unregistered paragliding activities within the turbine and/or crane areas which may result to safety risks.
	Unregistered kart racers near the site	A: May potentially be impacted if they undertake their karting activities along the project access roads.

STAKEHOLDER GROUP	STAKEHOLDER BODIES	RELEVANCE TO PROJECT: AFFECTED (A), INTEREST-BASED (I), OR DECISION MAKER (D)
	Communities near the project site - Pirekeshkul village - Gobustan village - Mushfigabad village - Ashagi Guzdak settlement	A: Local communities may be directly affected by the Project E&S impacts, including those related to worker influx, community health & safety, noise, shadow & flicker etc.
	Vulnerable groups in the communities near the project site - Low-income households (whose income is below the national minimum wage) - Female-headed households - Elderly-headed households (aged 60 and above) - IDP households - Households with members living with a disability, - Households with members living with a chronic illness - Illiterate heads of households	A: These groups may face disproportionate risks and impacts from the Project, including worker influx, GBVH and SEAH, ability to benefit from the Project opportunities, discrimination.
Indirectly Affected Stakeholders	The Space Agency of Azerbaijan “Azercosmos”	I: This stakeholder requires security measures to be implemented during Project-related activities conducted near its station to ensure the protection of the facility.
Local Governmental Authorities	Absheron District Executive Power/Committee	D: The land allocated to the project is found within these jurisdictions. Additionally, these government bodies will support the project in organising consultation and disclosure meetings and providing applicable E&S data.
	Garadag District Executive Power/Committee	
	Ashagi Guzdak Municipality	
	Mushfigabad Municipality	
	Mushfigabad police station and police representatives in Pirekeshkul and Gobustan	I: This stakeholder will be potentially interested in the safety and security of nearby communities and any safety risks from the project.

STAKEHOLDER GROUP	STAKEHOLDER BODIES	RELEVANCE TO PROJECT: AFFECTED (A), INTEREST-BASED (I), OR DECISION MAKER (D)
Ministries & Government Agencies	Ministry of Defence	D: Responsible for granting permission to conduct Project related surveys in proximity to military facilities near the Project area.
	Ministry of Energy	I: Responsible for overseeing the development of the Project and supporting the Project's stakeholder engagement and data collection from regional and local government authorities during the ESIA phase and RAP.
	Ministry of Emergency Situations of the Republic of Azerbaijan	I: Oversees the operational activities of Izotop plant located in near the Project Area.
	Ministry of Culture and Tourism of Republic of Azerbaijan	I: Oversees the protection of cultural heritage and archaeological sites and features of Azerbaijan. It plays a key role in providing information on the location of cultural heritage sites near the Project site.
	Ministry of Ecology and Natural Resources (MENR)	D: Will be responsible for approving the national EIA and ensuring the project construction and operational phases comply with the Azerbaijan requirements.
	Ministry of Transport, Communications and High Technologies of the Republic of Azerbaijan	D: Oversees the transport sector in Azerbaijan. They may potentially be consulted by the EPC Contractor on the technical requirements for the transportation of the project components during the traffic study.
	Ministry of Youth and Sports of the Republic of Azerbaijan	I: Responsible for implementing state policy and regulating youth affairs, physical culture, and sports. The ministry will provide information to the project on sporting and recreational activities near the site such as the paragliding and go-karting.
	State Tourism Agency of the Republic of Azerbaijan	I: Responsible for developing and implementing a unified state policy in the field of tourism, overseeing regulatory activities, and coordinating efforts with other government bodies and organizations. The agency will provide information to the project on sporting and recreational activities near the site such as the paragliding and go-karting.
	Gender representatives in the Ashagi Guzduk and Mushfigabad municipalities	I: Will potentially be interested in the social risks and impacts of the Project on nearby communities. These include issues such

STAKEHOLDER GROUP	STAKEHOLDER BODIES	RELEVANCE TO PROJECT: AFFECTED (A), INTEREST-BASED (I), OR DECISION MAKER (D)
		as GBVH/SEA/SH and employment opportunities, community health & safety.
	The State Committee on Property Issues (SPS) under the Ministry of Economy of the Republic of Azerbaijan	I: Responsible for implementing state policy and regulations in the areas of state property management, privatisation, and investment attraction. It also oversees the state registration of real estate. As part of the Project, the SPS will be engaged during the development of the LRP to gather information regarding ownership of the herders' structures that will be impacted by operational noise.
	State Committee for Family, Women and Children's Affairs	I: Central executive power for regulating and implementing policy on family, women and children's issues. Will potentially be interested in the social risks and impacts of the Project on nearby communities. These include issues such as GBVH/SEA/SH and employment opportunities, community health & safety.
	State Committee for Affairs of Refugees and IDP	I: Responsible for overseeing matters related to refugees and internally displaced persons (IDPs). The Committee will be engaged to determine the socioeconomic profile of IDP households residing in Ashagi Guzdak settlement located near the Project area.
	Azerbaijan National Agency for Mine Action	I: Responsible for mine action coordination, including the identification, assessment and clearance of land contaminated by unexploded ordnance and landmines.
NGOs/PUs	"Damla" Public Union (PU) for Care for Low-income Families	I: Will potentially be interested in the Project's environmental and social risks and impacts to local communities and vulnerable groups including the identified mitigation and monitoring measures.
	"Support for Social Protection and Integration of Persons with Disabilities" PU	
	"Women, Development, Future" PU	

STAKEHOLDER GROUP	STAKEHOLDER BODIES	RELEVANCE TO PROJECT: AFFECTED (A), INTEREST-BASED (I), OR DECISION MAKER (D)
	Azerbaijan Centre for Women and Development (AWDC)	
	"IRELI" PU	
	Bankwatch	I: Interested how the Project will manage the social and environmental impacts. Has high international influence which can influence public perception at a global scale.
	BirdLife International	I: Interested in the Project's potential impacts on avifauna including the identified mitigation and management measures.
Media	Regional and local mass media	I: Will potentially be involved in reporting and disseminating information about the Project during the Project ESIA disclosure.
Other Projects near the Project area	ACWA Power Area 1 Wind Farm project	I: These WFs are located approximately 5 km and 19 km from the Absheron WF respectively. Will be consulted to identify their on-going engagements with the local communities and any issues identified.
	ACWA Power Khizi 3 Wind Farm Project	
Financial Institutions	Lenders	D: Will provide the financing to the project.

6.1.2 ESIA Phase Consultations

During the ESIA, stakeholder consultations were conducted with relevant stakeholder groups. Prior to the public consultation meetings held in communities near the Project site, consultations were undertaken with state and local authorities through phone calls, formal correspondence, and key informant interviews (KIIs). The objective of these engagements was to collect secondary data and obtain the necessary permissions and support for the planning of public consultation meetings. In addition to the public meetings, 264 households were provided with Project information and details of the GRM during the socioeconomic surveys conducted in Pirekeshkul, Gobustan and Mushfigabad.

Following the public consultation meetings and socioeconomic household surveys, a FAQ brochure was developed to address common questions and concerns raised by stakeholders. This brochure was displayed at strategic locations within the communities near the site. Additional issues raised by stakeholders will be addressed as part of the ESIA disclosure process.

A summary of consultations during the ESIA phase is presented in the following tables.

Table 6-2 Summary of ESIA Phase Consultations

TARGET GROUP	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	INPUTS FROM STAKEHOLDERS	PROJECT RESPONSE
Pirekeshkul community – Women	To provide information about: - Key project information and milestones. - Potential construction and operational impacts, mitigation and monitoring measures - To inform stakeholders about planned upcoming surveys. - To provide details of the grievance redress mechanism. - To give an opportunity to stakeholders to provide their feedback.	Public meeting 22 nd May 2025 Participants: 9	- A concern was raised regarding potential dust to be generated by the Project activities. - Participants stated that no community members use the Project area or its surroundings, however, nomadic herders from Shamakhi District that use the pastures near the Project area for grazing during winter.	The response to the dust concerns was provided in the FAQ brochure provided in Appendix E. Additionally, the dust mitigations identified in the ESIA will be disclosed as part of the ESIA disclosure.
Pirekeshkul community – Men		Public meeting 22 nd May 2025 Participants: 9	- Approximately 60% of households keep livestock; however, the community does not use the Project area or its surroundings for grazing. - Participants do not anticipate adverse impacts from the Project.	No questions were raised.
Pirekeshkul community – Vulnerable People		Door-to-door visit and distribution of Project Information brochures 22 nd May 2025	Participants raised concern about radiation from the Project's wind turbines during the operation phase.	Participants were informed that the Project facilities will not cause radiation that is harmful to humans. They were informed that WTG generates electromagnetic

TARGET GROUP	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	INPUTS FROM STAKEHOLDERS	PROJECT RESPONSE
		Households: 7	- Participants inquired if the Project facilities will lead to reduced pasture for their livestock. - Additional inquiries focused on Project included employment opportunities, potential electricity cost reductions and support for people living with disabilities.	fields that are typically much weaker than those produced by common household appliances and are well within established safety limits. - It was explained that there will be access restrictions for grazing animals at the Project site based on the footprint only. During the operational phase, herders will be able to use the pasture near the Project area. - It was stated that >100 workers will be needed during construction. It was further explained that the recruitment will be based on skill availability and needs of the Project, and that the recruitment process will be fair and transparent. More detailed responses were provided in the FAQ brochure in Appendix E.
Gobustan community – Women	To provide information about: - Key project information and milestones - Potential construction and operational impacts,	Public meeting 16th May 2025 Participants: 24	A concern was raised on if WTGs will cause radiation and if the Project operation will lead to generation of more wind.	Participants were informed that the Project facilities will not cause radiation that is harmful to humans. They were informed that the WTG generates electromagnetic fields that are typically much

TARGET GROUP	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	INPUTS FROM STAKEHOLDERS	PROJECT RESPONSE
	potential mitigation and monitoring measures. - To inform stakeholders about planned upcoming surveys. - To provide details of the grievance redress mechanism. - To give an opportunity to stakeholders to provide their feedback.		- An inquiry was raised on how the Project's electricity will be distributed to the communities. - Additionally, the participants also wanted to know about the total land area allocated to the Project. - They also stated that the land near the Project area is not suitable for grazing.	weaker than those produced by common household appliances and are well within established safety limits. - Detailed studies show that influence of wind farms on local and global wind speeds is minimal and far less than that of oceanic or atmospheric oscillations. - It was explained that energy from the wind farm will be supplied to the national electricity grid and will then be distributed by Azerenerji. - The construction will require 105 ha of land, and the operation phase will require 63 ha.
Gobustan community – Men		Public meeting 16th May 2025 Participants: 25	- A concern was raised regarding if the operation of WTGs will cause radiation. - A question was raised about the planned location of storage areas.	- Participants were informed that the Project facilities will not emit radiation that is harmful to humans. The WTG generates electromagnetic fields that are typically much weaker than those produced by common household appliances and are well within established safety limits. - Participants were informed that the exact locations of storage areas will be

TARGET GROUP	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	INPUTS FROM STAKEHOLDERS	PROJECT RESPONSE
				determined at a later stage of the project, once the detailed design of the Project is finalized. This information is expected to be available by the time of the ESIA disclosure.
Gobustan community – Vulnerable People		Door-to-door visit and distribution of Project Information brochures 22nd May 2025 Households: 9	Participants inquired about potential impacts of the Project.	- The potential impacts were presented in a PPT to all the participants and the finalised mitigations, management and monitoring measures will be disclosed to them at the ESIA disclosure phase. - Land used for grazing will be restricted during construction and in the areas allocated to permanent Project facilities, but grazing will be allowed in the Project area during the operation phase. The impact of this is currently being assessed and separate studies and engagements with affected people will be conducted. - More detailed responses were provided in the FAQ brochure in Appendix E.
Mushfigabad community - Women	To provide information about: Key project information and milestones	Public meeting 25th April 2025	Participants inquired whether community health will be affected	It was explained that the main community risk during the construction phase is increased traffic from

TARGET GROUP	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	INPUTS FROM STAKEHOLDERS	PROJECT RESPONSE
	- Potential construction and operational impacts, potential mitigation and monitoring measures. - To inform stakeholders about planned upcoming surveys. - To provide details of the grievance redress mechanism. - To give an opportunity to stakeholders to provide their feedback. - To distribute Project Information brochures during door-to-door meetings.	Participants: 29	by the Project during the operation phase. - Participants stated that no community members use the Project area or surrounding land for grazing or other purposes. - A question was raised on how communities will benefit from the Project.	construction vehicles, which will be managed through a Traffic and Transport Management Plan, but the project will not use community roads. Operational phase risks are minimal, though the ESIA will assess unlikely events such as blade and ice throw, through implementation of safety buffers. Masdar and SOCAR Green are committed to delivering positive impacts in project areas. The Project is currently collecting data on nearby communities and will engage with them further after Project establishment to assess community needs and potential benefits. All decisions will be made in consultation with stakeholders and communicated through ongoing engagement activities.
Mushfigabad community - Men		Public meeting 25th April 2025 Participants: 14	- There was a request that the Project should employ 20-30 people to benefit the community. - Participants stated that the community does	Masdar's representative stated that the project will require professionals such as electricians and drivers and that individuals will be

TARGET GROUP	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	INPUTS FROM STAKEHOLDERS	PROJECT RESPONSE
			not use the Project area.	expected to submit their CVs at Mushfigabad municipality. Additionally, Masdar and SOCAR Green are committed to delivering positive impacts in project areas. The Project is currently collecting data on nearby communities and will engage with them further after Project establishment to assess community needs and potential benefits. All decisions will be made in consultation with stakeholders and communicated through ongoing engagement activities.
Mushfigabad community – Vulnerable People		Door-to-door visit 5th May 2025 Households: 5	No concerns or questions were raised.	None.
Ashagi Guzdak community	To provide information about: - Key project information and milestones. - Potential construction and operational impacts, potential mitigation and monitoring measures.	Door-to-door visit and distribution of Project Information brochures. 2nd June 2025 Households: 20	- Participants inquired about how the community will benefit from the project. - Existing challenges were raised including electricity supply due to the old transformer and the lack of public	It was stated that >100 workers will be needed during construction. It was further explained that the recruitment will be based on skill availability and needs of the Project, and that the recruitment process will be fair and transparent.

TARGET GROUP	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	INPUTS FROM STAKEHOLDERS	PROJECT RESPONSE
	- To provide details of the grievance redress mechanism. - To give an opportunity to stakeholders to provide their feedback.		facilities such as health facilities, centralized piped water and sewage system. Participants stated that the community does not use the Project area.	Additionally, Masdar and SOCAR Green are committed to delivering positive impacts in project areas. The Project is currently collecting data on nearby communities and will engage with them further after Project establishment to assess community needs and potential benefits. All decisions will be made in consultation with stakeholders and communicated through ongoing engagement activities.
Avropa restuarant (Commercial receptor along the highway Baku-Shamahi-Yevlakh)	To provide information about: - Key project information and milestones. - Potential construction and operational impacts, potential mitigation and monitoring measures. - To provide details of the grievance redress mechanism. - To give an opportunity to stakeholders to provide their feedback.	Face-to-face meeting and distribution of Project Information brochure. 13th May 2025 Participants: 1	- An inquiry was raised about potential impacts on the restaurant during project implementation. - Support on the Project was expressed due to its national significance.	- The potential Project impacts on the restaurant include noise, dust and traffic and these are to be assessed in the ESIA. Suitable mitigation measures are to be proposed in the ESIA. - The ESIA will be disclosed to the stakeholders once it has been finalised.
Yolüstü Foodmood (Commercial receptor along the highway)		Site visit. 13th May 2025 Yolüstü Foodmood serves as a small	None raised.	None.

TARGET GROUP	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	INPUTS FROM STAKEHOLDERS	PROJECT RESPONSE
Baku-Shamahi-Yevlakh)		roadside rest stop for travellers rather than a full-service restaurant.		
AK Oil gas station (Commercial receptor along the highway Baku-Shamahi-Yevlakh)		Site visit. 13 th May 2025 The AK Oil gas station is not operational.	None raised as no participants available.	None.
Secondary School of Absheron District named after Afgan Gadashev	Provide information about: • Project, importance of involvement during public hearing/disclosure process • Potential E&S impacts and GRM. • Gather information on potential E&S impacts. • Distribution of the Project Information and FAQ brochure.	Face-to-face meeting and distribution of the Project Information brochure. 2 nd May 2025 Participants: 1	The School Director raised concerns about the potential traffic and noise impacts on teaching activities during construction.	In response, it was stated that noise modelling studies were ongoing, and results would be disclosed as part of the ESIA disclosure process. The Project will mitigate the traffic impacts through implementation of the Traffic and Transportation Management Plan, which will be shared with the stakeholders. A detailed response to construction impacts was provided in the FAQ brochure in Appendix E.
Lachin District Safiyan village Secondary School		Face-to-face meeting and distribution of the Project Information brochure. 2 nd May 2025 Participants: 1	No questions or concerns raised.	None.

TARGET GROUP	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	INPUTS FROM STAKEHOLDERS	PROJECT RESPONSE
Indirectly affected, including communities and commercial receptors	To provide detailed responses to the frequently asked questions and concerns raised during public consultation meetings.	Distribution of FAQ brochure in strategic places in Pirekeshkul, namely: Pirekeshkul EPO Representation and the Ashahi Guzdak Municipality, schools, shop and health facility. 4 th August 2025 Brochures: 10	No questions or concerns raised.	None.
		Distribution of FAQ brochure in strategic places in Gobustan, namely: Gobustan village secondary school, health facility, and the Mahalla and Kenan markets. 4 th August 2025 Brochures: 10	No questions or concerns raised.	None.
		Distribution of FAQ brochure in strategic places in Mushfigabad, namely: Mushfigabad Settlement EP	No questions or concerns raised.	None.

TARGET GROUP	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	INPUTS FROM STAKEHOLDERS	PROJECT RESPONSE
		Representative ¹³ , Mushfigabad Settlement Municipality, Housing and Maintenance Office, and at a supermarket. 19 th August 2025 Brochures: 8		
		Distribution of FAQ brochure in strategic places in Ashagi Guzdak settlement, namely: Bol and El markets, and a hardware store ¹⁴ . 4 th August 2025 Brochures: 10	No questions or concerns raised.	None.
		Distribution of FAQ brochure to Poultry farms. 6 th November 2025	No questions or concerns raised.	None.

¹³ The Mushfigabad Settlement EP Representative advised the Project to formally seek permission from relevant ministries and agencies prior to posting Project FAQ brochures at the school or health facilities.

¹⁴ The businesses at Ashagi Guzdak settlement received the FAQ brochures, however, they did not consent to posting the brochures and distributing them to customers.

TARGET GROUP	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	INPUTS FROM STAKEHOLDERS	PROJECT RESPONSE
		Brochures: 3		
Izotop plant / Ministry of Emergency Situations	To provide information about: - Key project information and milestones. - Potential construction and operational impacts, potential mitigation and monitoring measures. - To give an opportunity to stakeholders to provide their feedback.	Face-to-face meeting 2nd May 2025 Participants: 5	The following inquiries were raised: - The purpose of the questions attached to the formal correspondence letter. - The intensity of construction activities. - Whether the Project plans to build additional access road during construction phase. - Whether construction activities will affect the plant's communication lines or interfere with radio wave transmission. It was stated that the buffer zone for WTGs should be 1,100–1,200 meters.	- The Project highlighted that a Traffic and Transportation Management Plan will be prepared. - It was noted that construction vehicles and machinery will utilise the roads surrounding the Project. Construction impacts include access restrictions, noise, traffic and dust, all of which are typically temporary and short in duration and will be mitigated in accordance with the ESIA, including implementation of the Traffic and Transportation Management Plan. - It was clarified that the Project will not interfere with the plant's communication lines or radio transmissions. - It was noted that the Project will have internal access roads. - The buffer zone from the facility is respected.
Absheron District Executive Power	To provide information about the Project.	A meeting was held with Absheron EP and Ashagi	Concern raised about neighbouring projects that made promises to	It was stated that >100 workers will be needed during construction. It was

TARGET GROUP	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	INPUTS FROM STAKEHOLDERS	PROJECT RESPONSE
	- To seek assistance on establishing the GRM Committee. - To obtain information related to land use, history of site occupation and current land users and activities, availability of alternative land for potential PAPs, district- and local level socioeconomic data, gender, vulnerable groups, human rights, and potential project E&S impacts.	Guzdak Municipality representatives. 1st May 2025 Participants: 12	provide employment opportunities and introduce community development initiatives, however, these were unfulfilled. - It was stated that there should be financial compensation to residents for the use of their land. - The need for community buy-in and trust for the proposed Project was emphasized. - Suggestions on community development initiatives were listed, including reconstruction of a damaged dam, installation of a pump and water delivery pipeline, training programmes on language and computer literacy.	further explained that the recruitment will be based on skill availability and needs of the Project. - Additionally, Masdar and SOCAR Green are committed to delivering positive impacts in project areas. The Project is currently collecting data on nearby communities and will engage with them further after Project establishment to assess community needs and potential benefits. All decisions will be made in consultation with stakeholders and communicated through ongoing engagement activities. - Land used for grazing will be restricted during construction and in the areas of permanent Project facilities, but grazing will be allowed in the Project area during the operation phase. The impact of this is currently being assessed and separate studies and engagements with affected people will be conducted.

TARGET GROUP	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	INPUTS FROM STAKEHOLDERS	PROJECT RESPONSE
				Masdar has a Community Liaison Officer who continues to engage with communities and different stakeholders regarding different issues, including addressing complaints. A grievance mechanism will be available through the construction and operational phase, and it will be free of charge, transparent and without any fear of reprisal to those who use it.
Mushfigabad Municipality and female representatives	- Provide information on project. - Seek assistance with establishing the GRM Committee. - Obtaining information related to land use, history of site occupation and current land users and activities, availability of alternative land for potential PAPs, district- and local level socioeconomic statistics, gender, vulnerable groups, human rights, and project E&S impacts.	Face-to-face consultation with Municipal Deputy Chairwoman and Mushfigabad ExCom Representative. 2nd May 2025 Participants: 2	Local authority representatives requested that the socioeconomic survey to be shared with Garadagh EP and Mushfigabad local authorities after translation into Azerbaijani for their information.	The Project Team shared the translated socioeconomic household survey with Garadagh EP.

TARGET GROUP	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	INPUTS FROM STAKEHOLDERS	PROJECT RESPONSE
Ministry of Defence	- Provide information about the Project. - Information gathering on land use and land access issues in relation to Project activities/facilities near the military area.	Site visit with two representatives from Military Training Center and National Defence University. 16th May 2025 Participants: 2	- It was stated that no interferences or restrictions are expected on areas used by MoD during Project implementation. - MoD requested coordinates of WTGs close to the land used by the military.	The Project has shared coordinates of WTGs with the MoD in May 2025.
Azerishig JSC	Discuss issues regarding land use and infrastructure near the Project Area	Site visit was undertaken along the section of the Baku-Shamakhi road with the Chief Engineer. 13th April 2025 Participants: 1	- Power lines run mainly along the road, with no poles or power lines in the areas designated for WTG installation. - It was advised that final Project access roads should be shared before construction to allow for inspection prior to construction and preventative measures for nearby poles and lines. - Underground communication lines, including those belonging to Azercosmos and Isotop Plant, must also be considered during construction to avoid damage from heavy	The Project will share the Traffic and Transport Management Plan prior to the construction phase.

TARGET GROUP	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	INPUTS FROM STAKEHOLDERS	PROJECT RESPONSE
			equipment and excavation.	

Table 6-3 Summary of ESIA Phase Letter Correspondence

STAKEHOLDER GROUP	STAKEHOLDER BODIES	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	SUMMARY OF THE RESPONSE RECEIVED
Directly affected organisations	Isotop plant/Ministry of Emergency Situations	- To provide information about the Project. - To gather information on Isotop plant activities, its facilities (above and underground) and requirements for buffer zones, if any.	Formal letter correspondence was sent on 15th April 2025.	No response to the letter has been received to date. A face to face meeting was conducted on 2nd May 2025, refer to Table 5-2.
	Aztelemek LLCs	- To provide information about the project. - To discuss issues regarding land use and infrastructure near the Project Area.	Formal letter correspondence was sent on 15 th April 2025; response was received on 28 th April 2025.	Aztelemek reported that 2 intersections with underground cables (FO-20 and FO-96) with Project's proposed access roads.
	The Space Agency of Azerbaijan "Azercosmos"	- To provide information about the project. - To discuss issues regarding land use and access roads.	Formal letter correspondence sent on 15 th April 2025; response letter was received on 20 th May 2025.	Azercosmos provided maps showing the intersection of wind turbines with the infrastructure.
			An email from Azercosmos was received on 20 th May 2025.	Information was shared on existing infrastructure near the Project area, including a 10 kV powerline, 159 mm

STAKEHOLDER GROUP	STAKEHOLDER BODIES	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	SUMMARY OF THE RESPONSE RECEIVED
				steal water pipe underground fibre-optic cable leading to Mushfigabad.
	Ministry of Defence	- To provide information about the project. - To gather information on land use and land access issues in relation to Project activities/facilities near the military area. - To confirm the presence or absence of unexploded ordnance in military training areas.	Formal letter correspondence sent on 15 th April 2025; response letter was received on 11 th June 2025.	- Information was shared on land ownership and land use. It was highlighted that a number of the WTGs are located in land belonging to military settlements. It was highlighted that regulator training exercises are conducted in these settlements. - The proximity to the air force area was also highlighted. - No information was provided about abandoned barracks. - No response was provided about the presence or absence of unexploded ordnance. In response to the above, Masdar, the Ministry of Energy and Ministry of Defence conducted further consultations.
	The State Committee on Property Issues (SPS) under the Ministry of Economy of the Republic of Azerbaijan	- To provide information about the project. - To request for information on borders of land lease/owners impacted by Project	Formal letter correspondence sent on 15 th April 2025; no formal response received.	No response to the letter has been received to date.
Indirectly affected	ACWA Power Area 1 Wind Farm project	To share Information about existing infrastructure and the management of shared E&S impacts, as community members and land users in Pirekeshkul will	Formal letter correspondence sent on 15 th April 2025; response letter was	- The Project Information Centre in Pirekeshkul is operational and staffed with permanent personnel. - Community Development Programs have commenced through

STAKEHOLDER GROUP	STAKEHOLDER BODIES	CONSULTATION AGENDA	METHOD AND DATE OF CONSULTATION	SUMMARY OF THE RESPONSE RECEIVED
		potentially be impacted by the Project.	received on 19 th August 2025.	Community Development Committees. - Grid connection for Area 1 project was completed in August 1, 2025, with commercial operation expected soon. - Foreign workers were accommodated in Sumgait.
	State Committee for Affairs of Refugees and IDP	- To provide information about the project. - To request for socioeconomic data on IDP communities at Ashagi Guzdak settlement.	Formal letter correspondence sent on 2 nd June 2025; no response has been received to date.	No response to the letter has been received to date.
	Ministry of Youth and Sports of the Republic of Azerbaijan	- To provide information about the project. - To request Information about outdoor sport activities that might be conducted near Project site.	Formal letter correspondence sent on 30 th June 2025; response letter was received on 7 th July 2025.	There is no information regarding any outdoor activities occurring near of Project site, and any such activities are unregistered.
	State Tourism Agency of the Republic of Azerbaijan		Formal letter correspondence sent on 30 th June 2025; response was received on 15 th July 2025.	There is no information on any outdoor activities occurring near the Project site, and any such activities are unregistered.
	Azerbaijan Paragliding and Mountaineering Club	- To provide information about the Project, importance of involvement during public hearing/disclosure process. - To gather information on potential E&S impacts.	Facebook message 15 th July 2025; No response has been received to date.	No response to the message has been received to date.
			Email; No response to the email has been received to date.	No response to the email has been received to date.

7 AIR QUALITY

7.1 Applicable Requirements & Standards

7.1.1 National Regulations

Ambient air quality in Azerbaijan is regulated by the Law No. 109-IIQ on Protecting the Atmosphere. This law entered into force on 27th March 2001 with the purpose of:

- Protecting public health;
- Preventing air pollution;
- Regulation air emissions; and
- Gathering information on ambient air quality and pollution amongst others.

Currently, the air quality standards of the Soviet period are still in use in Azerbaijan. The table below provides the ambient air quality standards that should not be exceeded as a result of Project activities.

Table 7-1 Ambient Air Quality Standards ($\mu\text{g}/\text{m}^3$, unless otherwise stated)

PARAMETER	AVERAGING PERIOD	MAXIMUM ALLOWABLE CONCENTRATION	
		MAC _{ON} ¹⁵	MAC _{AD} ¹⁶
Sulphur Dioxide (SO ₂)	20-30 minutes	500	-
	1 hour	-	-
	24 hours	-	50
Nitrogen Dioxide (NO ₂)	20-30 minutes	85	-
	1 hour	-	-
	24 hours	-	40
Carbon Monoxide (CO)	20-30 minutes	5 (mg/m ³)	-
	1 hour	-	-
	24 hours	-	3 (mg/m ³)
Ozone (O ₃)	20-30 minutes	160	-
	8 hour mean	-	-
	24 hours	-	30
Benzene (C ₆ H ₆)	20-30 minutes	1500	-
	8-hour mean	-	-
	24 hours	-	30

¹⁵ MAC_{on} - the maximum allowable single concentration of a chemical in the air of residential areas, $\mu\text{g}/\text{m}^3$. This concentration inhalation for 20-30 minutes should not cause reflex responses in humans.

¹⁶ MAC_{ad} - the maximum allowable daily average concentration of a chemical in the air of residential areas, $\mu\text{g}/\text{m}^3$. This concentration should not affect a person direct or indirect harmful effects with an indefinite period of time.

PARAMETER	AVERAGING PERIOD	MAXIMUM ALLOWABLE CONCENTRATION	
		MAC _{ON} ¹⁵	MAC _{AD} ¹⁶
	24 hours	-	100
Lead (Pb)	20-30 minutes	1	-
	24 hours	-	0.3
Arsenic (As)	24 hours	-	2
Cadmium (Cd)	24 hours	-	0.3
Nickel (Ni)	24 hours	-	1

7.1.2 Lender Requirements

AIIB AND IFC

AIIB and IFC require adherence to the World Health Organisation (WHO) Ambient Air Quality Guidelines (2021).

Table 7-2 WHO Ambient Air Quality Standards ($\mu\text{g}/\text{m}^3$ unless otherwise specified)

PARAMETER	24 HOUR	ANNUAL
PM ₁₀	150 (Interim target 1)	70 (Interim target 1)
	100 (Interim target 2)	50 (Interim target 2)
	75 (Interim target 3)	30 (Interim target 3)
	50 (Interim target 4)	20 (Interim target 4)
	45 (guideline)	15 (guideline)
PM _{2.5}	75 (Interim target 1)	35 (Interim target 1)
	50 (Interim target 2)	25 (Interim target 2)
	37.5 (Interim target 3)	15 (Interim target 3)
	25 (Interim target 4)	10 (Interim target 4)
	15 (guideline)	5 (guideline)
NO ₂	120 (Interim target 1) 50 (Interim target 2) 25 (guideline)	40 (Interim target 1) 30 (Interim target 2) 20 (Interim target 3) 10 (guideline)
SO ₂	125 (Interim target 1)	500 (10-minute guideline)
	50 (Interim target 2)	
	40 (guideline)	
O ₃	100 (interim target 1) (8-hour daily maximum)	
	70 (interim target 2) (8-hour daily maximum)	
	60 (8-hour daily maximum guideline)	

EBRD

The EBRD 2024 Environmental and Social Policy, specifically ESR 3: Resource Efficiency and Pollution Prevention and Control, requires the avoidance or minimisation of air emissions using

the mitigation hierarchy and Good International Practice, including Best Available Techniques (BAT).

The ambient air quality standards presented below are based on EU Directive 2008/50/EC and apply to a range of pollutants. In accordance with EBRD policy, where host country regulations differ, the most stringent applicable standard between national law, EU thresholds, and recognised international benchmarks (e.g. WHO) will be applied.

Table 7-3 EC Ambient Air Quality Standards ($\mu\text{g}/\text{m}^3$ unless stated)

POLLUTANT	CONCENTRATION	AVERAGING PERIOD	PERMITTED EXCEEDANCES PER YEAR
PM_{2.5}	25	Annual	n/a
PM₁₀	50	24-hour	35
	40	Annual	n/a
Sulphur Dioxide	350	1-hour	24
	125	24-hour	3
Nitrogen Dioxide	200	1-hour	18
	40	Annual	n/a
Lead	0.5	Annual	n/a
Carbon Monoxide	10 mg/m ³	Maximum Daily 8-hour mean	n/a
Benzene	5	Annual	n/a
Ozone	120	Maximum Daily 8-hour mean	25 days averaged over 3 years
Arsenic	6 ng/m ³	Annual	n/a
Cadmium	5 ng/m ³	Annual	n/a
Nickel	20 ng/m ³	Annual	n/a
PAH	1 ng/m ³ (expressed as concentration of Benzo(a)pyrene)	Annual	n/a

7.2 Baseline Conditions

The Project site is located away from significant air emission sources. It is expected that ambient air quality is primarily impacted by vehicle movements from surrounding communities (although all are at least 1 km from the nearest WTG) and the Baku-Shamkhi M4 highway, with turbines located to both the north and south of the highway.

As part of the publicly disclosed ESIA for the nearby Area 1 Wind Farm (5 Capitals, 2022), ambient air quality surveys were undertaken at three locations for ten days at each location. One of the monitoring locations is approximately 3 km from the nearest Project WTG. All measured pollutants including Ozone (O₃), Particulate Matter (PM), Nitrogen Dioxide (NO₂),

and Sulfur Dioxide (SO₂) were found to be well within international and national standards with the exception of PM which showed occasional exceedances. This is attributed to the semi-arid nature of site soils and wind-blown PM resulting in intermittent exceedances.

BASELINE SURVEY

Although significant air quality impacts are not expected, ambient air quality baseline surveys were conducted on the 4th June 2024.

The parameters monitored were PM₁₀, PM_{2.5}, Nitrogen Oxide (NO_x), Sulfur Oxide (SO_x), and Carbon Monoxide (CO). All measurements were monitored by a calibrated portable device.

Measurements were conducted as follows:

- 1 hour of measurements in total during the daytime (07:00 am - 10:00 pm).
- 1 hour of measurements in total during the nighttime (10:00 pm - 07:00 am).

The monitoring was conducted at two locations, one to the east of the site and one to the west, their locations are shown on the following figure.

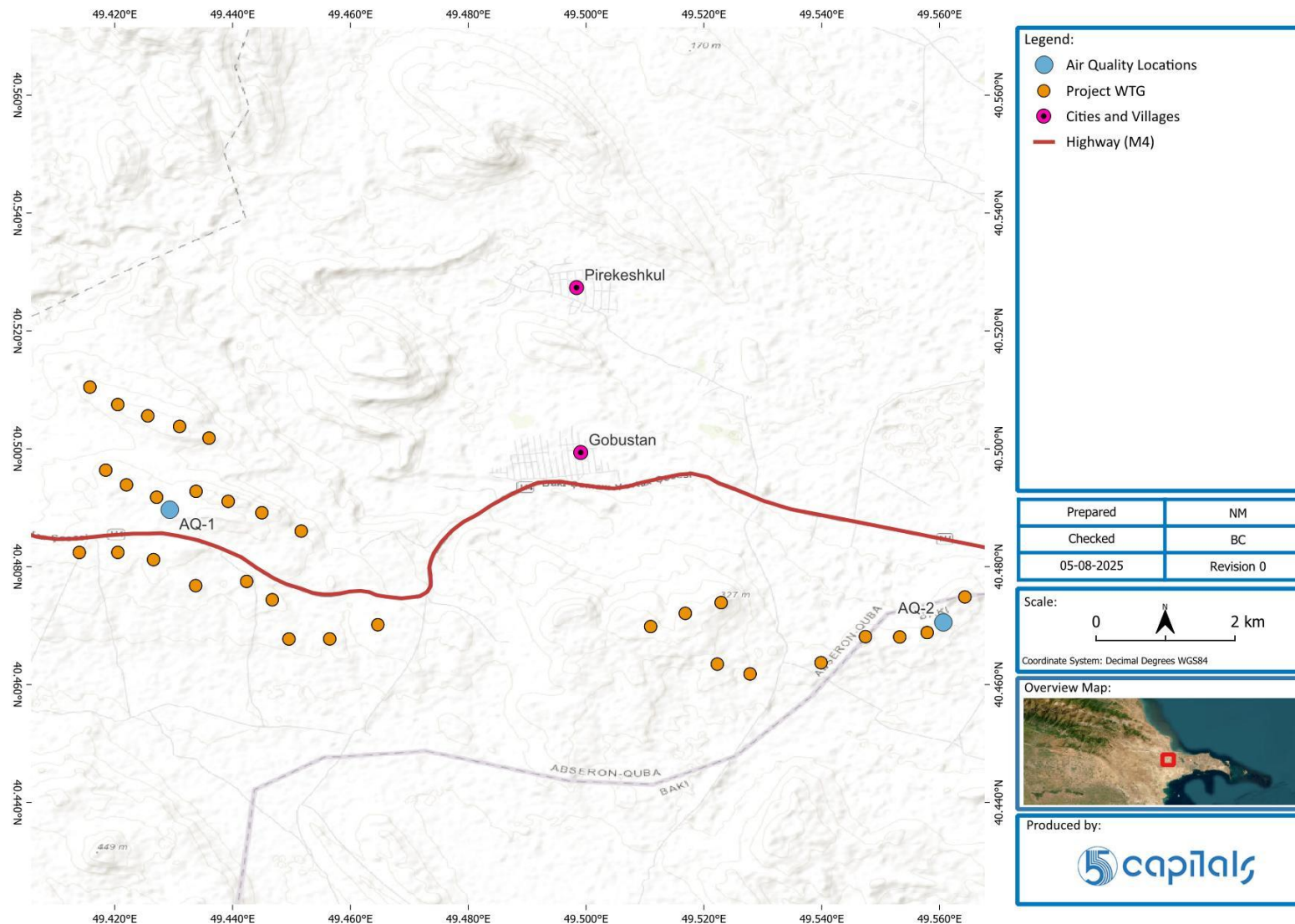


Figure 7-1 Baseline Air Monitoring Locations

The following table outlines a summary of the air quality baseline results.

Table 7-4 Air Quality Baseline Results

LOCATION ID	PARAMETER	PM _{2.5}	PM ₁₀	CO	SO ₂	NO ₂
UNIT		µG/M ³	µG/M ³	MG/M ³	MG/M ³	MG/M ³
AQ-1	Max	14	30	0.93	0.3	0.02
	Min	3	7	0.01	<0.01	<0.01
	Average	10	20	0.59	0.03	<0.01
AQ-2	Max	14	31	1.08	0.3	0.06
	Min	5	10	0.44	<0.01	<0.01
	Average	10	21	0.68	0.03	0.01
WHO limit	25-hour	15	45	4	0.04	0.025

All average results are well within the WHO limits. The maximum values for SO₂ (both sites) and for NO₂ at AQ-2 do exceed the 24-hour limit, however, it is important to highlight that the results cannot be directly compared with the 24-hour standards as the monitoring period was not 24-hours, and the averages are within the limits.

Consistent with previously monitored ambient air quality within the area, and as expected due to the location of the project and proximity to air emission sources, the airshed is not degraded.

7.3 Area of Influence and Receptors

7.3.1 Area of Influence

A 250 m buffer (as per the UK Institute of Air Quality Management (IAQM) Guidance on the assessment of dust from demolition and construction (January 2024)) around the WTGs is shown in the following figure, it is important to highlight that this figure does not include any construction vehicle routes, which would also result in air quality impacts, and have also been assessed.

In addition to the site-specific area of influence, the area of impact for the air quality impact assessment also considers potential areas or communities affected by cumulative or indirect impacts, such as those arising from the transportation of components to the site.

As is evident from Figure 7-2, no communities are considered to be within the area of influence of air quality impacts, and access roads through the communities will not be required.

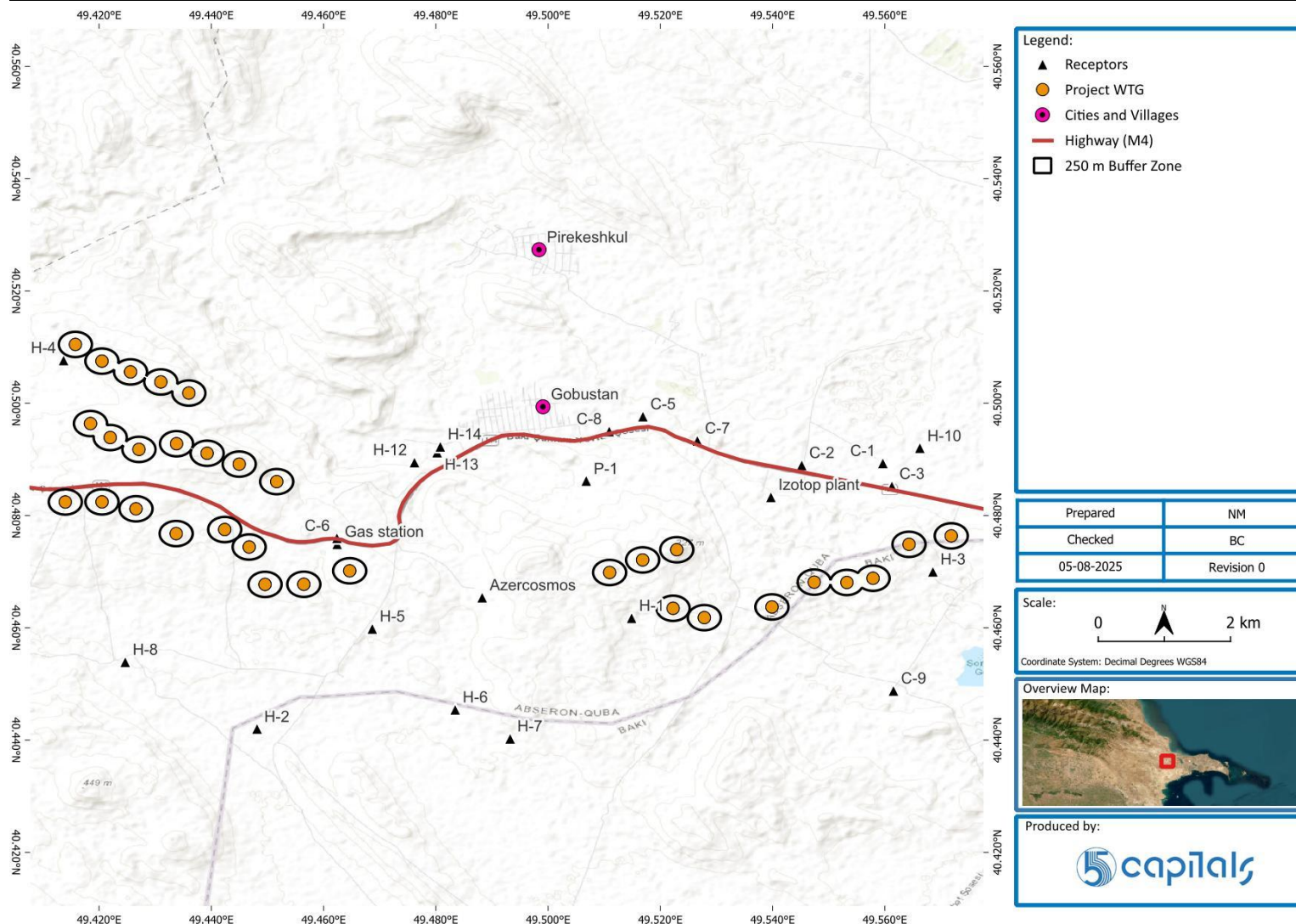


Figure 7-2 Air Quality Construction 250 m Area of Influence

7.3.2 Receptors

Table 7-5 Receptor Sensitivity to Air Impacts

RECEPTOR	SENSITIVITY	JUSTIFICATION
Herders	Medium	No herder structures are within 250 m of a WTG, and likely are not in the direct area of influence, however, herders have been included in the impact assessment as a precautionary approach
Commercial enterprises along the Baku-Shamakhi highway	Low	Several commercial enterprises are located along the Baku-Shamakhi highway, these may potentially be impacted by air emissions generated by construction vehicles.
Construction workers	Low	The construction workforce will be working within the air emissions Aol, however, they will be supplied for PPE to manage potential air impacts arising from the Project.

7.4 Potential Impacts, Mitigation, Management & Residual Impacts

The following subsections describe the potential impacts and their magnitude. Refer to Table 7-5 for the receptor sensitivity. A summary of the impacts, their magnitude, receptor sensitivity and therefore significance, and proposed mitigation measures, is provided in Table 7-6.

7.4.1 Construction Phase

7.4.1.1 Dust Generation

In line with IAQM Guidance on the assessment of dust from demolition and construction, (2024), it is noted that dust / PM will be generated by a multitude of construction activities. Although there is not a human receptor within 250 m of construction activities, an assessment of construction dust has been included as a precautionary approach.

Activities with direct earth movement such as land levelling can generate a significant amount of dust. During site visits it was noted that the area has high amount dust, indicating that nuisance dust may be readily generated, however, the air quality baseline survey did not indicate excessively high dust levels.

Other activities can result in indirect generation of dust. For example, it may be generated by the movement of HGVs and other vehicles along unpaved tracks (known as trackout). The Baku-Shamakhi highway, which is an asphalt road and not an unpaved track, passes through the centre of the site, and the WTGs will be located both north and south of the highway, and therefore significant trackout dust impacts are not expected.

Generated dust will primarily represent a nuisance to construction personnel, however, if not managed, impacts may occur to the commercial receptors along the M4 highway as well as herders seasonally utilising the lands surrounding the Project. Respirable dust can impact directly on human health, due to its physical penetration into the lungs. There is also the potential that dust settling could impact the agricultural fields.

Dust raised during construction activities is likely to settle in close proximity to where the activity is being carried out and impacts are expected to be temporary and contained. In addition, as a wind farm project, construction impacts are largely isolated, with the WTGs typically located >500 m apart.

During focus group discussions with women in Pirekeshkul, the local community highlighted the issue of construction dust, this is understood to be in relation to the Area 1 Wind Farm.

The magnitude of dust impacts is considered to be **minor** and they are expected to be managed effectively with GIIP.

7.4.1.2 Gaseous Emissions

The main sources of gaseous emissions to air during construction will be the combustion of fossil fuels from the operation of vehicles, generators, construction equipment and mobile plant. Any emissions from these sources are not expected to result in noticeable incremental impacts to the local airshed as the relatively limited emissions will mix in ambient air close to the point of origin resulting in emissions that are not distinguishable from the background concentrations. The key air pollutants associated with these sources include NO_x, CO and SO₂.

If improperly managed, there is a risk of nuisance and health effects to construction workers onsite, commercial enterprises along the M4 highway and herders.

As with dust generation, impacts are expected to be reversible, temporary, contained and easily managed with GIIP, and therefore are considered to be of **minor** magnitude.

7.4.1.3 Volatile Organic Compounds and Odour Emissions

Emissions of VOCs and odour can arise from improper handling or storage of chemicals, hazardous materials and wastes (including wastewater). However, a limited number of chemicals and hazardous materials, such as paints, lubricants and oils are required due to the project type, and with the implementation of good practice management measures there should not be any impact.

With regards to wastewater, the Project will use septic tanks that will be emptied, when required, by a licensed contractor.

There are not sensitive receptors within the area of impact for VOC and odour emissions, and the impact magnitude is considered to be negligible and therefore, impacts are considered to be **insignificant** and not assessed further, however, mitigation measures will be included in the respective HSSE-MS.

7.4.1.4 Indirect Air Emissions

There will be air emissions arising from the supply chain and transportation of materials to the Project site, including the WTG components. These will be typical air emissions related to the transport industry, albeit extensive oversize load journeys will be required to transport the components. Significant or unexpected/abnormal emissions are not anticipated and therefore these are deemed to be **insignificant** and are not assessed further.

7.4.2 Operation Phase

Although the Project will have back-up generators and require the limited, intermittent use of vehicles for O&M purposes, there will not be significant air emissions during the operation phase and therefore operational air impacts are scoped out of further assessment.

7.4.3 Cumulative Impacts

Project related impacts on ambient air quality are those associated with construction activities, temporary emissions from vehicles, dust from earthworks and dust from vehicle movements within the Project. However, since the construction of the nearby ACWA Power Area 1 Wind Farm project has been completed before the commencement of Project construction, cumulative air quality impacts during the construction phase are not anticipated.

With regards to impacts arising from the development of the transmission line, these will be largely limited to site preparation works in order to install the tower during the construction phase, this impact will be temporary and contained to the immediate construction areas. There are also not considered to be the potential for significant cumulative air quality impacts, due to the isolated nature of the site and the fact that the impacts are typically limited to close to the site boundaries.

During operation, the wind farm will not involve combustion-related activities, resulting in no direct emissions to the local air-shed. Consequently, cumulative air quality impacts from project operations are not expected.

7.4.4 Decommissioning Phase

Potential impacts relating to decommissioning will be similar to those encountered during the construction phase. This will include the generation of dust from demobilisation and break-up of foundations and landscape restoration etc. As such, it is assumed that the risk of dust generation or gaseous emission as a result of vehicle movement associated with the construction phase will be expected for the decommissioning phase. Likewise, the mitigation & management measures outlined for the construction phase in relation to dust generation and gaseous emission will be applicable to the decommissioning phase but will be reassessed at the time to best inform a Decommissioning Management Plan, with specific relevance to working methods, receptors and regulations that may be applicable at that time.

Table 7-6 Air Quality Impact Significance, Mitigation Measures and Residual Impacts

POTENTIAL IMPACT	MAGNITUDE	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACT
Construction						
Construction Dust	Minor Negative	Herders	Medium	Minor	- Dust emissions during construction will be managed in accordance with the Emissions Management Plan within the Project HSSE-MS, which sets out monitoring and control measures consistent with GIIP. - Keep construction worksite and roads clean and tidy and free from loose friable materials. - Where practical, compact the ground in areas that are heavily used by vehicles and machinery. - Limit or suspend earthworks during extreme weather conditions (e.g. strong winds). - Implement dust control facilities (e.g. windbreaks, temporary barriers, netting screens, fences or plastic sheets) to contain dust emissions from earthworks and stockpiled soil. - Water spraying of open or unpaved ground areas such as temporary facilities areas and access roads around the site, will be done as frequent as necessary to minimize dust generation. Only non-potable water will be used for such activities - All vehicles within construction areas onsite shall adhere to a speed limit of: (i) 30km/h at the main access road; (ii) 20 km/h within the project area; and (iii) 10km/h within working areas. Appropriate speed limit signage shall be provided at such construction areas. - Ensure periodic washing of vehicles in order to remove any dusty material in a dedicated area. - All trucks transporting aggregates, debris, and fine materials must be appropriately covered at all times through the use of tarpaulin or equivalent. - Proper management of stockpiles and excavated material through appropriate enclosures and covers. This entails that it is of appropriate size to ensure entire coverage of the stockpile/excavated material, durable, able to withstand exposure to weather conditions (heat, rain, and strong winds in particular). - Adequate supplies of disposable dust masks shall be provided. Workers shall use them during strong winds or when conditions of worksite and work activities (e.g. earthworks) require their use (such conditions will be determined and identified by the EPC Contractor E&S Manager). - Doors and windows of portable offices shall be kept sealed or closed to minimize if not totally prevent dust accumulation indoors. - Arrange site layout in a way that machineries and dust causing activities are located as far as possible from offices.	Negligible
		Commercial enterprises along the Baku-Shamakhi highway	Low	Negligible		Negligible

POTENTIAL IMPACT	MAGNITUDE	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACT
		Construction Workers	Low	Negligible	- Visual dust monitoring will be undertaken daily and documented in the Internal Visual Dust Register [MP 17 - REG 3]. - Upon receipt of complaints, an air quality and dust monitoring program will be undertaken, this will include [Total Suspended Solids (TSP)], Particulate Matter less than 10 µm in diameter [PM10] and Particulate Matter less than 2.5 µm in diameter [PM2.5], and will include at least two monitoring points which represent activities undertaken (i.e. one point for areas with construction activities and one point at office/recreational areas). Monitoring will be undertaken through a certified and approved third-party entity. Monitoring reports will be maintained onsite. Results will be compared against allowable national limits as well as limits included within the IFC General EHS Guidelines.	Negligible
Gaseous Emissions	Minor Negative	Herders	Medium	Minor	- Gaseous emissions during construction will be managed in accordance with the Emissions Management Plan within the Project HSSE-MS, which sets out monitoring and control measures consistent with GIIP. - Ensure that generators are located in an appropriate area as far as possible from offices.	Negligible
		Commercial enterprises along the Baku-Shamakhi highway	Low	Negligible	Ensure that vehicles and trucks comply with the limits for exhaust emissions. This will be through: (i) ensuring all vehicles and trucks are equipped with a catalytic convertor; (ii) ensuring that all vehicles and trucks utilized onsite are properly licensed for operation with relevant authorities which in turn are expected to undertake inspections before issuing such licenses	Negligible
		Construction Workers	Low	Negligible	- Develop a regular inspection and scheduled maintenance program for vehicles, machinery, and equipment to be used throughout the construction phase for early detection of issues and to avoid unnecessary pollutant emissions. Smoke belching equipment shall be taken out of service for appropriate repair and will be prohibited for entering the site if not properly serviced. - Turn off any equipment, machine or vehicle not in use. - A suitable respirator (cartridge type air purifying respirator) should be made available in the following cases: - Handling any material or items that requires a respirator as identified within the accompanying Material Safety Data Sheet (MSDS) - Construction activities that require so as included within the occupational health and safety risk assessment, job safety procedure and/or permit to work system.	Negligible

7.5 Monitoring

Table 7-7 Air Quality Monitoring Requirements

MONITORING	PARAMETER	FREQUENCY & DURATIONS	MONITORING LOCATION	RESPONSIBILITY
CONSTRUCTION				
Emissions from engines and plant.	Vehicle Emissions	Pre-site authorisation checks on vehicle status and health, including associated emissions.	All non-road vehicles and engines	EPC Contractor
		Visual assessment of emissions (e.g. black smoke) to be undertaken on a daily basis while vehicles and equipment are in use and annual inspection of vehicles.		
Sanitary Facilities & Hazardous Material Storage Areas	Odour & VOCs	Daily visual and olfactory observations – as part of maintenance and inspection checks (for hygiene, safety and appropriate storage/containment).	All sanitary facilities available within the laydown areas, sub-contractor camps and work fields. All hazardous material, chemical and fuel storage areas.	
Construction Dust	Dust	Visual dust monitoring will be undertaken daily	At active construction locations	
	TSP, PM ₁₀ and PM _{2.5}	Upon receipt of complaints, if any	At least two locations, e.g., active construction area and receptor.	

8 NOISE AND VIBRATION

8.1 Applicable Requirements & Standards

8.1.1 National Regulations

Decree No. 796 (2008), 'Norms of vibration and noise pollution adversely affecting the environment and human health' are set out in the following table.

Table 8-1 National Noise Standards¹⁷

N	PURPOSE OF ROOMS	DAY TIME	OVERALL SOUND LEVEL	MAXIMUM LEVEL
			L _{Aeq,T} dB	L _{Amax} dB
1	Living rooms of buildings (apartments)	Day Night	35	50
			25	40
			40	55
			30	45
2	Living rooms of hotels, dormitories, rest and boarding houses	Day	45	60
		Night	35	50
3	Living rooms of social service institutions, preschools and boarding schools for the elderly and people with disabilities	Day	40	55
		Night	30	45
4	Work rooms and booths in administrative buildings, scientific institutions and organizations	Day	50	65
5	Chambers of hospitals and sanatoriums	Day	35	50
		Night	25	40
6	Operating rooms of hospitals	Night	30	45
7	Doctors' room of medical institutions	Day	35	50
8	Classrooms of educational institutions, educational offices, auditoriums of educational institutions, conference halls, reading rooms, meeting (discussion, meeting) rooms	Day	40	55
9	Halls of hotels, dormitories, rest and boarding houses	Day	50	60
10	Cafe, restaurant, dining halls	Day	55	65
11	Trade halls of shops, passenger halls of railway stations and airports	Day	60	70
12	Areas directly adjacent to hospital and sanatorium buildings	Day	45	60
		Night	35	50
13	Areas directly adjacent to residential, polyclinic and outpatient buildings, dispensaries, rest homes, boarding houses, social service institutions for the elderly and disabled, preschool, general and other educational institutions, libraries	Night	55	70
			45	60

¹⁷ <https://e-qanun.az/framework/15124>

N	PURPOSE OF ROOMS	DAY TIME	OVERALL SOUND LEVEL	MAXIMUM LEVEL
			L _{Aeq,T} dB	L _{Amax} dB
14	Areas directly adjacent to hotels and hostels	Day	60	75
		Night	50	65
15	Recreation areas of hospitals and sanatoriums	Day	23	35
16	Areas of micro-districts and groups of residential buildings, rest homes, boarding houses, recreation areas of social service institutions for the elderly and people with disabilities, areas of preschool, general and other educational institutions	Day	45	60

8.1.2 Lender Requirements

AIIB AND IFC

AIIB and IFC require adherence to WHO noise standards as detailed in IFC EHS Guidelines (2007), which stipulate a maximum threshold of 70 dB(A) at industrial and commercial receptors during daytime. The IFC General EHS Guidelines require that the project comply with the WHO noise standards, though these relate to noise received at receptor locations rather than the project boundary.

Table 8-2 IFC/WBG EHS General Guidelines – Ambient Noise Level Guidelines (2007)

RECEPTOR	ONE HOUR LAEQ (dBA)	
	DAYTIME (7AM-10PM)	NIGHT (10PM-7AM)
Residential, Institutional, Educational	55	45
Industrial, Commercial	70	70

Noise impacts should not exceed the levels presented in the table or result in a maximum increase in background levels of 3 dB at the nearest sensitive receptor location off-site.

Furthermore, the following requirements have also been specified in the IFC EHS noise guidelines:

- No employee should be exposed to a noise level greater than 85 dB (A) for duration of more than 8 hours per day without hearing protection. In addition, no unprotected ear should be exposed to a peak sound pressure level (instantaneous) of more than 140 dB(C);
- The use of hearing protection should be enforced actively when the equivalent sound level over 8 hours reaches 85 dB (A), the peak sound level reaches 140 dB(C), or the average maximum sound level reaches 110 dB(A). Hearing protective devices provided should be capable of reducing sound level at the ear to at least 85 dB (A);
- For every 3 dB(A) increase in sound levels, the allowed exposure period or duration should be reduced by 50%;

- Where feasible, use of acoustic insulating materials isolations of the noise source and other engineering controls should be investigated and implemented prior to the issuance of hearing protection devices as the final control mechanism; and,
- Medical hearing checks on workers exposed to high noise levels should be performed periodically.

EBRD

The European Commission's Environmental Noise Directive (Directive 2002/49/EC) is the primary EU legislation governing the assessment and management of environmental noise. It aims to identify noise pollution levels and prompt necessary actions at both the Member State and EU levels. The Directive applies to noise exposure affecting humans, particularly in built-up areas, public parks, quiet zones within agglomerations or open countryside, and near noise-sensitive locations such as schools and hospitals. However, the Directive does not establish specific noise limit or target values, nor does it mandate particular measures in noise action plans, leaving these decisions to the competent authorities of Member States.

In alignment with the Directive and lender requirements, EBRD's ESR3 specifies that clients must assess noise and vibration impacts based on a comprehensive environmental and social risk assessment. This involves collecting baseline data, identifying key receptors, and evaluating both negative and positive impacts of the project, ensuring compliance with national legislation and relevant Performance Standards.

Furthermore, the EBRD requires that the most stringent thresholds between applicable EU, local, and lender standards be applied to the project.

NOISE REQUIREMENTS FOR WIND PROJECTS

The EHS Guidelines for Wind Energy (2015) outline the following with regards to noise requirements:

- Receptors should be chosen according to their environmental sensitivity (human, livestock or wildlife);
- Preliminary modelling should be carried out to determine whether more detailed investigation is warranted. The preliminary modelling can be as simple as assuming hemispherical propagation (i.e., the radiation of sound, in all directions, from a source point). Preliminary modelling should focus on sensitive receptors within 2,000 m of any of the turbines in a wind energy facility;
- If the preliminary model suggests that turbine noise at all sensitive receptors is likely to be below an LA90 to 35 dB(A) at a wind speed of 10 m/s at 10 m height during day and night times, then this preliminary modelling is likely to be sufficient to assess noise impact; otherwise, it is recommended that more detailed modelling be carried out, which may include background ambient noise measurements;

- All modelling should take account of the cumulative noise from all wind energy facilities in the vicinity having the potential to increase noise levels;
- If noise criteria based on ambient noise are to be used, it is necessary to measure the background noise in the absence of any wind turbines. This should be done at one or more noise-sensitive receptors. Often the critical receptors will be those closest to the wind energy facility, but if the nearest is also close to other significant noise sources, an alternative receptor may need to be chosen; and
- The background noise should be measured over a series of 10-minute intervals using appropriate wind screens. At least five of these 10-minute measurements should be taken for each integer wind speed from cut-in speed to 12 m/s.

The above principles are referenced from the following key guidance documents:

- ETSU, Report ETSU-R-97 "The Assessment & Rating of Noise from Wind Farms" 1997.
- Institute of Acoustics (IOA) "A Good Practice Guide to the Application of ETSU-R-97 for the Assessment & Rating of Wind Turbine Noise" 2013.
- D. McLaughlin "Wind Shear and its Effect on Wind Turbine Noise Assessment" Acoustic Bulletin, July/August 2012, 39-42.

8.2 Baseline Conditions

The proposed Project site does not have any significant noise sources. It is expected that noise at the site is primarily influenced by the noise of wind and general day-to-day activity from the nearby communities, including vehicular and traffic noise from the M4 Baku-Shamakhi highway.

8.2.1 Baseline Noise Surveys

In order to characterise noise levels at the site, two baseline noise surveys were conducted.

INITIAL BASELINE NOISE SURVEY

An initial baseline noise survey was conducted on the 22nd July 2024. One-hour of daytime measurements, over two half hour periods was conducted at five locations shown in Figure 8-4. The locations were selected to provide baseline noise levels at receptors, project boundaries and central to the site.

The recorded noise levels are shown in the following table.

Table 8-3 Daytime Noise Baseline Monitoring Results

PARAMETER	N-1	N-2	N-3	N-4	N-5
Location description	East of Gobustan Village	Close to the Abandoned Military Barracks	Close to the poultry farm	West of Pirekeshkul Village	Central of the study area
Average 1-hour LA_{eq}	52.7	60.4	70.1	53.1	65.7
Noise sources	Community activity and traffic from the highway	Highway and wind	Highway, poultry farm and wind	Community activity and traffic from the highway	Traffic from the highway

It is noted that the Project area does not fit into any categories for noise limits in either the national or WHO limits. The noise baseline levels:

- Exceed the national standard for “areas of micro-districts and groups of residential buildings” (Row 16 in Table 8-1) at all locations, however, it is noted that this standard is extremely stringent, and is not directly applicable to the Project area;
- All locations are compliant with the WHO limit for industrial/commercial areas, apart from N-3, which slightly exceeds the standard.

DETAILED BACKGROUND NOISE BASELINE

In addition, in order to determine operational noise impacts from WTGs upon receptors, a detailed baseline noise monitoring campaign was undertaken in line with EHS Guidelines on Wind Energy (2015) and the Good Practice Guide to the Application of Etsu-R-97 for the assessment and Rating of Wind Turbine Noise.

The monitoring was conducted at three locations (BN1, BN2 and BN3), further details are provided in the following table.

Table 8-4 Detailed Background Noise Monitoring

PARAMETER	BN1	BN2	BN3
Location description	To the west of the Project site, close to the Poultry Farm	To the west of Gobustan village,	Close to the schools in Pirekeshkul Settlement
Distance to nearest WTG (m)	760	3,000	1,300
Dates of Monitoring	30/06/2025 – 04/07/2025	08/07/2025 – 16/07/2025	01/07/2025 – 07/07/2025
Average LA_{eq}	58.8	37.5	53.9

The monitoring survey duration was between 30th June and 16th July 2025. Ten-minute intervals were recorded, with the LA_{90,10min} readings synchronised with the site's wind mast data to determine background noise levels.

The regression analysis of the monitored noise levels is presented in the following figures (for a standardised wind speed at 10 m/s and a height of 10 m). As observed over the course of the monitoring survey, it was evident that there was, apart from wind noise, an absence of any other significant noise source(s). Further, on closer inspection of the daytime and night-time noise levels, there was no significant difference between the periods.

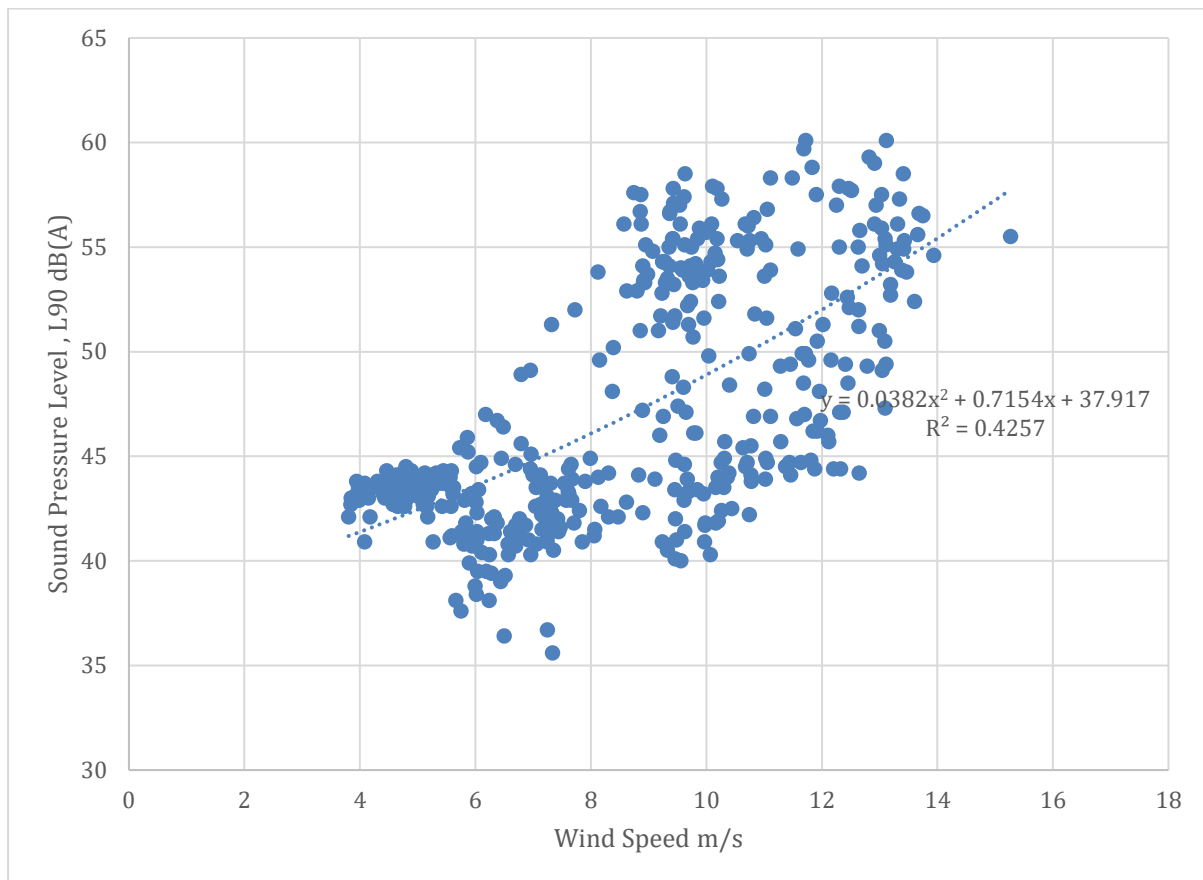


Figure 8-1 Regression Curve, BN-1

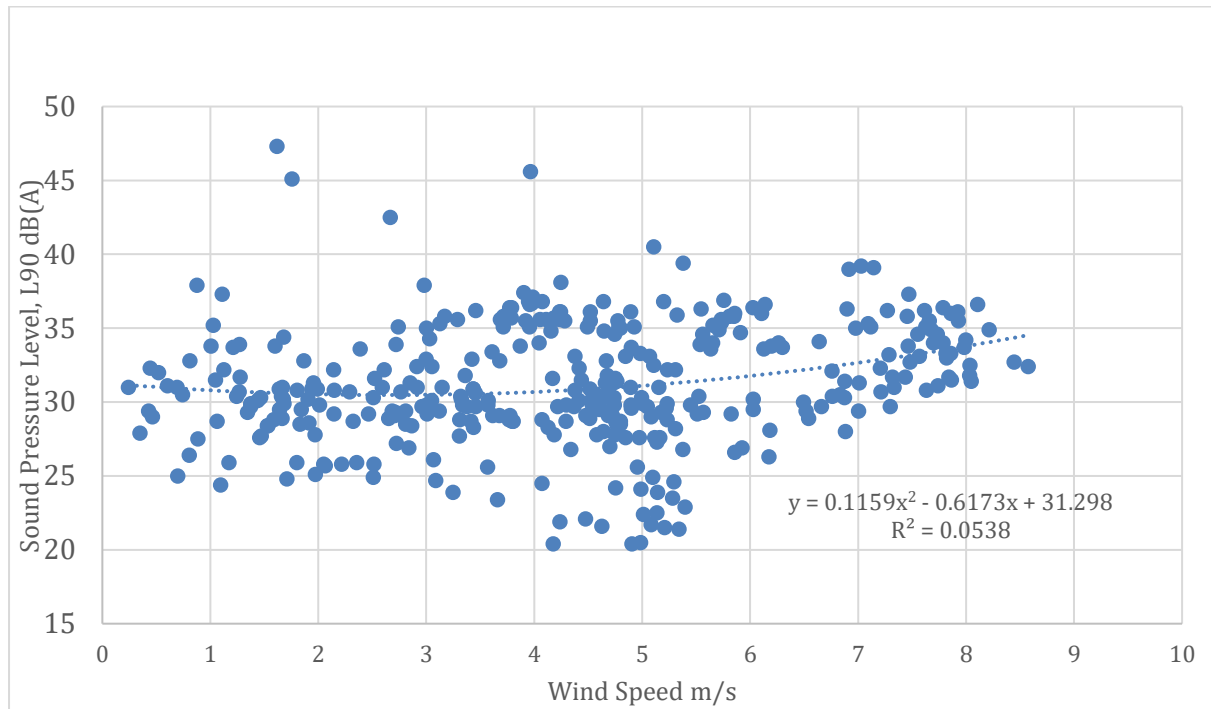


Figure 8-2 Regression Curve, BN-2

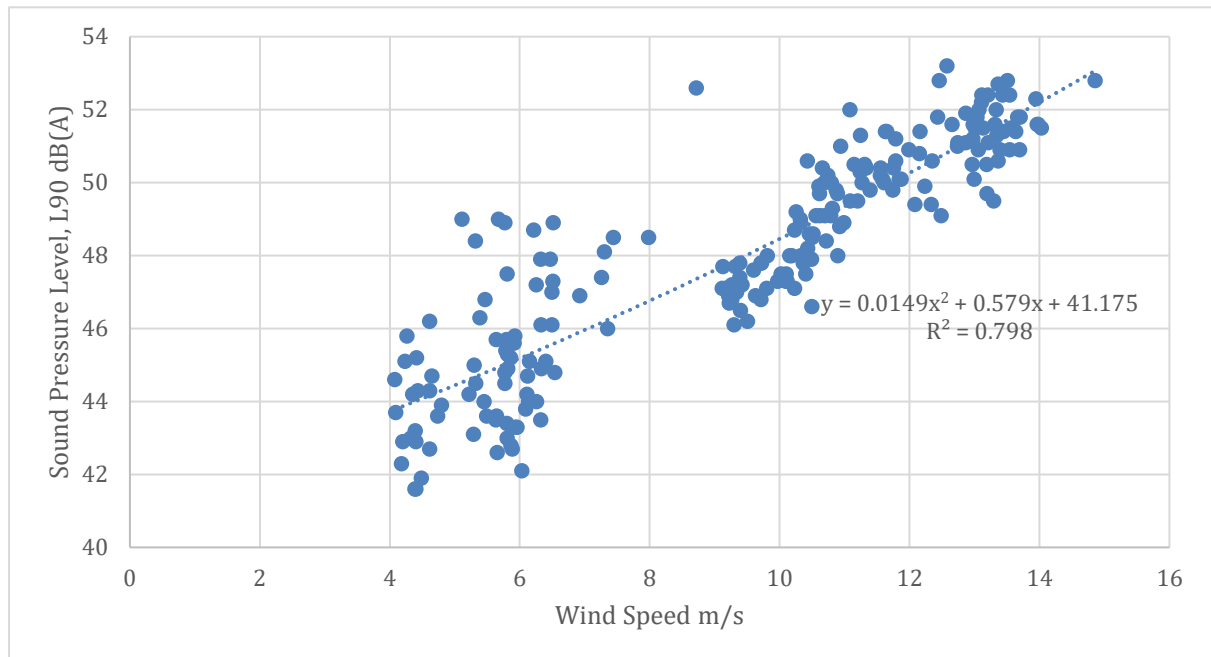


Figure 8-3 Regression Curve, BN-3

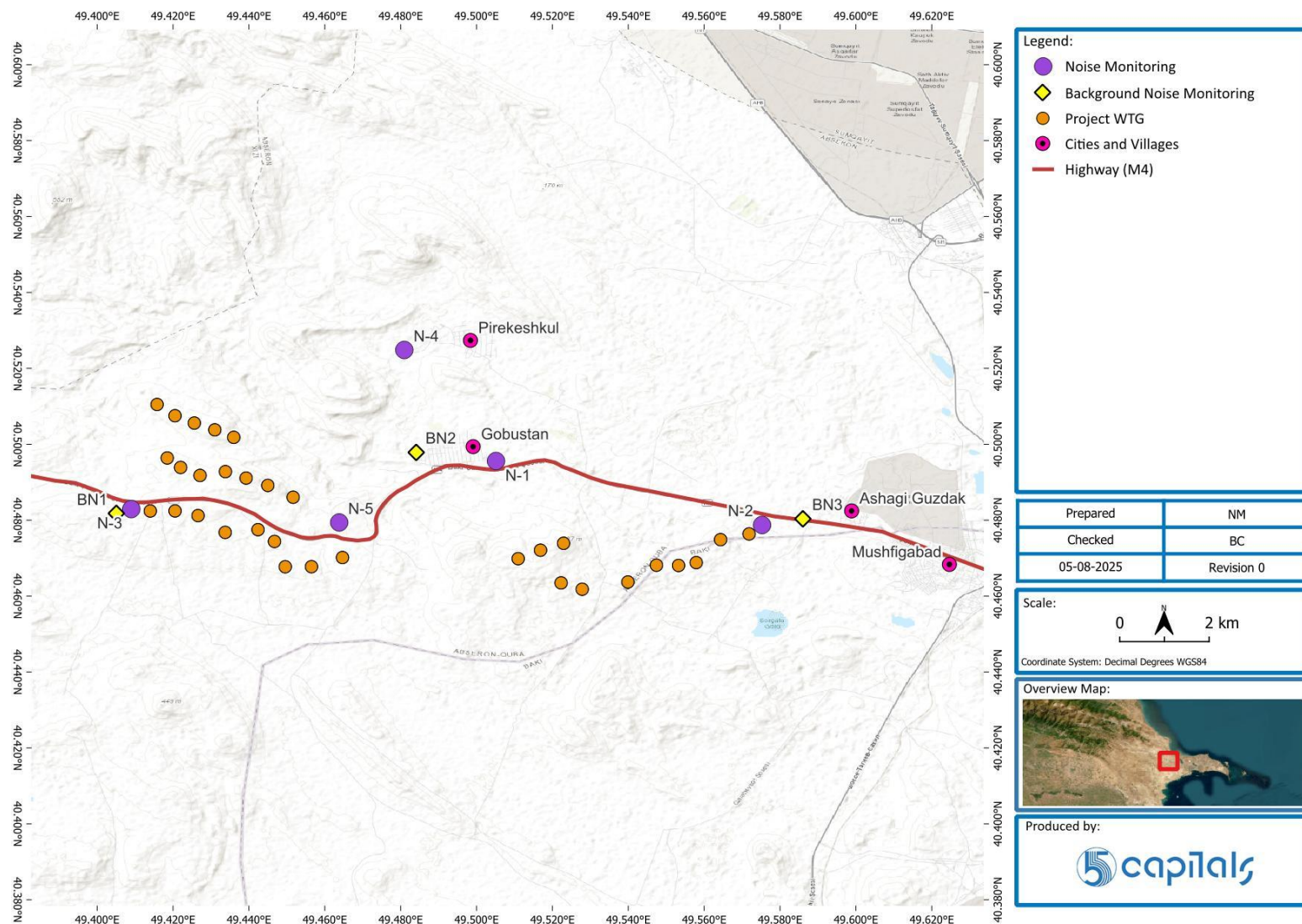


Figure 8-4 Noise Monitoring Locations

8.3 Area of Influence and Receptors

8.3.1 Area of Influence

In line with the EHS Guidelines on Wind Energy (2015), a 2 km area of influence around the WTGs has been determined for noise impacts, in addition, noise impacts will arise from the construction phase, although construction noise impacts are not expected to be significant at a distance greater than 1 km.

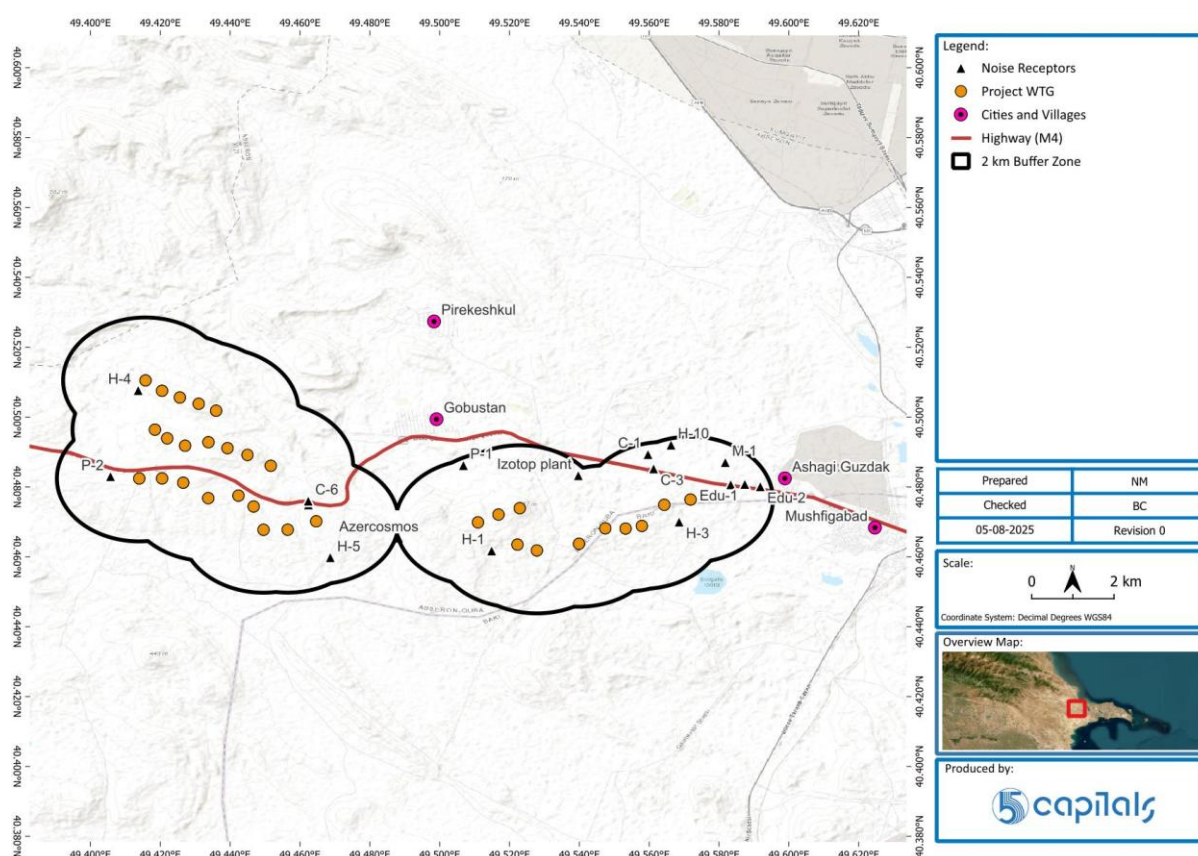


Figure 8-5 Noise Area of Influence

It is noted that the Baku–Shamakhi highway runs centrally through the area designated for wind turbine installation and is already subject to regular heavy goods vehicle (HGV) traffic. As such, receptors located along this route, including commercial establishments such as a gas station, are not considered highly sensitive to noise impacts. Furthermore, the proposed access roads do not traverse any residential communities.

The operation of the Area 1 Wind Farm has the potential to result in cumulative noise impacts, primarily upon the communities of Gobustan and Pirekeshkul, and these impacts have been considered in the modelling study.

In addition to the site-specific area of influence, the area of impact for the noise impact assessment also considers potential areas or communities affected by cumulative or indirect impacts.

8.3.2 Receptors

Table 8-5 Receptor Sensitivity to Noise and Vibration Impacts

RECEPTOR	SENSITIVITY	JUSTIFICATION
Schools and Residential Communities	High	Residential communities and schools are highly sensitive to noise and vibration impacts.
Herder structures	Medium	Herders are not present annually, the structures are utilised for winter grazing, and in some cases family members also stay in the structures. In addition, they are mobile and therefore would likely avoid the area during times of significant construction activity.
Commercial enterprises along the Baku-Shamakhi highway	Low	Several commercial enterprises are located along the Baku-Shamakhi highway, these may potentially be impacted by noise and vibration impacts generated by construction vehicles.
AzerCosmos, Poultry Farms and Isotope Plant	Low	As industrial receptors, these are considered relatively low sensitivity to noise impacts.
Construction workers ¹⁸	Low	The construction workforce will be supplied for PPE to manage potential noise impacts arising from the Project.

8.4 Potential Impacts, Mitigation, Management & Residual Impacts

The following subsections describe the potential impacts and their magnitude. Refer to Table 8-5 for the receptor sensitivity. A summary of the impacts, their magnitude, receptor sensitivity and therefore significance, and proposed mitigation measures, is provided in Table 8-11.

8.4.1 Construction Phase

8.4.1.1 Construction Site Noise and Vibration

CONSTRUCTION SITE NOISE

The spatial extent of construction noise will typically be local, and largely limited to within the immediate surroundings of the works. The duration of the impact will be short considering individual noise emission events relative to the lifespan of the project. The frequency of

¹⁸ At the time of writing the plan for labour accommodation is not yet determined, should this be a camp located within the site or the noise area of influence, then residential noise limits will apply and the camp will have to be located in such a way, and noise mitigated, that the standards are met.

occurrence is high as noise emissions will likely occur almost daily, but noise emissions are reversible once the activity ceases.

In addition, as a wind farm project, construction impacts are largely isolated, with the WTGs typically located >500 m apart.

Construction activities for the Project will result in temporary and short duration increases in noise and vibration levels. Pertinent construction activities at the project site in relation to noise are likely to include:

- Access road preparation / construction for the transport of equipment to the site;
- Construction traffic and vehicle movements;
- Site Preparation (e.g. earthworks, compaction);
- Installation of foundations;
- Construction of buildings such as control rooms; and
- Mechanical installation works.

The accumulation of noise from the above sources can introduce potential cumulative impacts when generated in tandem.

The anticipated construction equipment/machinery to be used at the site for various construction activities together with noise data for this equipment are presented in the following table as obtained from 'BS 5228-1:2009 - British Standards: Code of practice for noise and vibration on construction and open sites'.

Table 8-6 Noise Level of Typical Construction Equipment

EQUIPMENT	BS 5228-1:2009 REFERENCE	SPL dB (A)
Site Prep and Earth and Civil Works		
Wheel loader	Table C.6, 28	76
Backhoe excavator	Table C.2,3	78
Crawler bulldozer	Table C.6,29	88
Road roller	Table C.2, 38	79
Dump truck	Table C.2, 30	79
Diesel Generator	Table C.4, 84	74
Truck	Table C.4, 62	66
Forklift	Table D.7 96	77
Building & Foundation Works		
Platform lorry	Table C.2,34	80
Concrete pump truck	Table C.4, 30	79

EQUIPMENT	BS 5228-1:2009 REFERENCE	SPL dB (A)
Concrete delivery truck	Table C.4, 20	80
Piling machine	Table C.3, 1	89
Diesel Generator	Table C.4, 84	74
Truck	Table C.4, 62	66
Forklift	Table D.7 96	77
Mechanical & Installation Works		
750t crawling crane	Table C.4,52	75
150t crawling crane	Table C.4,52	75
Lifting frame	Table C.4,57	67
250t crawling crane	Table C.4,52	75
50t crawling crane	Table C.4,50	71
50t truck crane	Table C. 4, 46	67
Gantry crane	Table C.4,52	75
Tower crane	Table C.4.48	76
Vehicle crane	Table C. 4, 50	71
Diesel Generator	Table C.4, 84	74
Truck	Table C.4, 62	66
Forklift	Table D.7 96	77
Batching Plant Works		
Concrete pump truck	Table C.4, 30	79
Concrete delivery truck	Table C.4, 20	80
Truck	Table C.4, 62	66
Diesel generator	Table C.4, 84	74
Wheel loader	Table C.6, 28	76
Backhoe excavator	Table C.2,3	78
Crawler bulldozer	Table C.6,29	88
Dump truck	Table C.2, 30	79

Predicted noise levels for construction plant impacts at receptors have been calculated using the noise ratings for equipment, in combination with distance attenuation to receptors, assuming no sound barriers are present. The phases of construction have been split (as above) and the noise pressure levels from expected equipment have been combined.

The predictions assume that each piece of equipment will only be operational for 50% of the working day. The predictions also work on the basis that all of the equipment is located at the same location at the boundary of the asset/WTG (as a worst-case assumption), closest to the receptor.

A basic modelling assessment using equations set out in Annex F of 'BS5228-1:2009 Part 1 Noise' has been used to predict the effects of distance propagation and ground absorbance related to different stages of construction shown in the table below.

The relevant noise monitoring location has been selected by determining the nearest baseline monitoring location to each receptor. The cumulative impact is based on the overall noise and considers the baseline noise and the construction noise levels.

The cumulative noise levels obtained are then compared with applicable established standards to determine the significance level of construction noise impacts.

In respect of potentially more sensitive residential receptors, BS5228 outlines criteria in Annex E.3, which considers impact significance based upon the change in ambient noise associated with construction activities. BS5228 states that this can be considered as, '*an alternative and/or additional method to determine the significance of construction noise levels*'. Paragraph E.3.2 describes Example Method 1 (The ABC Method), which considers the existing ambient noise environment (the LAeq noise level environment) at the neighbouring sensitive receptors and identifies levels that if exceeded would be considered to result in a significant adverse effect and is noted to apply to residential receptors only.

Table E.1 of BS5228 sets out significance effect threshold values at receptors. The process for determining this requires the determination of the ambient noise level at the relevant receptor (rounded to the nearest 5dB), which is then compared to the total noise level, including the predicted construction noise level. If the combined noise level exceeds the appropriate category value, then the impact is deemed to be significant. The relevant statistics from Table E.1 are set out below.

Table 8-7 Construction Phase Noise - ABC Assessment

ASSESSMENT CATEGORY AND THRESHOLD VALUE PERIOD (LAeq)	THRESHOLD VALUE, IN DECIBELS - dB(A)		
	CATEGORY A	CATEGORY B	CATEGORY C
Daytime (0700 to 1900 hrs) and Saturdays (0700 to 1300 hrs)	65	70	75
Evenings & Weekends	55	60	65
Night-time (2300 to 0700 hrs)	45	50	55
NOTE 1 A significant effect has been deemed to occur if the total LAeq noise level, including construction, exceeds the threshold level for the Category appropriate to the ambient noise level.			
NOTE 2 If the ambient noise level exceeds the threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a significant effect is deemed to occur if the total LAeq noise level for the period increases by more than 3 dB due to construction activity.			
NOTE 3 Applied to residential receptors only. A) Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.			

ASSESSMENT CATEGORY AND THRESHOLD VALUE PERIOD (L _{Aeq})	THRESHOLD VALUE, IN DECIBELS - dB(A)		
	CATEGORY A	CATEGORY B	CATEGORY C
B) Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.			
C) Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values.			

Note: The ABC Method does not provide levels of significance, as such professional judgement has been applied to determine this within following significance tables.

Various types of equipment will be used for different construction activities. The anticipated noise levels at a distance of 10 meters for each stage are as follows:

- Site Preparation, Earth & Civil Works: 89.9 dB(A)
- Building & Foundation Works: 90.8 dB(A)
- Mechanical & Installation Works: 84.5 dB(A)

To streamline the assessment across different construction stages, the worst-case scenario, representing the highest noise levels, the building and foundation works, was used for evaluation at each receptor location.

For the purpose of the quantitative assessment, ten human receptors within 2 km were assessed. The receptors were selected based on their proximity to the construction areas and their sensitivity to noise impacts.

The following table provides the assessment of the selected receptors located within 2 km of the nearest WTG, their distance from the noise source, the baseline noise at the receptors, the predicted construction noise levels at these locations and the cumulative noise and therefore change in baseline.

Table 8-8 Building & Foundation Works Noise Attenuation by Distance

RECEPTOR	NEAREST WTG	DISTANCE FROM SOURCE (M)	RELEVANT BASELINE MONITORING LOCATION	BASLINE NOISE LEVEL (L _{Aeq})	ANTICIPATED CONSTRUCTION NOISE AT RECEPTOR LOCATION DUE TO CONSTRUCTION WORKS & DISTANCE ATTENUATION (dBA)	CUMULATIVE NOISE LEVEL AT RECEPTOR LOCATION (dBA)	CHANGE FROM BASELINE (dBA)
Source Noise: 90.8 dB(A) (at 10m)							
Poultry Farm (P-1)	01-10	1,800	N-1	52.7	36.4	52.8	+0.1
Poultry Farm (P-2)	02-05	700	BN-1	58.8	46.7	59.1	+0.3
Azercosmos	01-10	2,000	N-1	52.7	35.3	52.8	+0.1

RECEPTOR	NEAREST WTG	DISTANCE FROM SOURCE (M)	RELEVANT BASELINE MONITORING LOCATION	BASELINE NOISE LEVEL (L _{Aeq})	ANTICIPATED CONSTRUCTION NOISE AT RECEPTOR LOCATION DUE TO CONSTRUCTION WORKS & DISTANCE ATTENUATION (dBA)	CUMULATIVE NOISE LEVEL AT RECEPTOR LOCATION (dBA)	CHANGE FROM BASELINE (dBA)
Source Noise: 90.8 dB(A) (at 10m)							
Schools in Ashagi Guzdek Settlement (Edu-1 and Edu-2)	01-01	1,400	BN-3	53.9	39.1	54.0	+0.1
Isotop Plant	01-11	1,750	N-1	52.7	36.7	52.9	+0.2
H-1	01-08	670	N-1	52.7	47.1	53.8	+1.1
H-3	01-03	670	N-1	52.7	47.1	53.8	+1.1
H-4	02-23	400	BN-1	58.8	52.7	59.8	+1.0
M-1	01-01	1,450	BN-3	53.9	38.8	54.0	+0.1

The ABC method indicates that construction noise impacts will not be significant to receptors. The magnitude of construction noise impacts are considered to be **minor** due to the fact that they are temporary, reversible and largely contained.

In addition, increased noise levels can impact upon construction workers, however, construction personnel who will be conducting noisy works will be provided with the required training and PPE and therefore impacts upon construction workers are considered to be **minor**.

VIBRATION

Certain construction processes, particularly those involved with site preparation and civil works, e.g. breaking, piling, vibratory rollers etc. have the potential to create vibration within the vicinity of the works. Vibration to a lesser extent is also anticipated to occur around the construction site due to the movement of materials and equipment by vehicles.

Vibration dissipates rapidly as it spreads and loses energy radiating 360 degrees from the source, hence impacts from vibration are not expected to be discernible at receptors located over 200 m away from the Project site. Considering no receptor is expected within 200 m from the construction activities, the vibration impacts have not been discussed any further in the assessment.

VEHICULAR NOISE

The addition of temporary construction vehicles on local roads and within the site will likely result in temporary increases in traffic which will consequently result in an increase to noise levels at off-site receptors within close proximity to the Project area and along key routes.

Impacts due to vehicular noise will vary due to the phasing of works and the timing of vehicular movements, which affect both vehicles flow and the percentage of heavy vehicles.

It is noted that the Baku–Shamakhi highway runs centrally through the area designated for wind turbine installation and is already subject to regular heavy goods vehicle (HGV) traffic. As such, receptors located along this route, including commercial establishments such as a gas station, are not considered highly sensitive to noise impacts. Furthermore, the proposed access roads do not traverse any residential communities.

As such, vehicular noise impacts are considered to be **negligible** and limited to the receptors along the Baku-Shamakhi highway.

8.4.1.2 Indirect and Associated Noise

There will be noise arising from the supply chain and transportation of materials to the Project site, including the WTG components. These will be typical noise emissions related to the transport industry, albeit with large load vehicles, and significant or unexpected/abnormal emissions are not anticipated and therefore these are deemed to be **insignificant** and are not assessed further.

8.4.2 Operation Phase

8.4.2.1 Noise from WTGs

During the operation of the wind turbines, noise will be generated from mechanical and aerodynamic sources. Both mechanical and aerodynamic noise may result in propagation to areas within 2 km of the WTG. Mechanical noise is radiated by the surface of the turbine and by openings in the nacelle housing and will emanate from generator, gearbox, yaw drives etc. These components produce their own characteristic noise. Aerodynamic noise will be produced by the flow of air over the blades. This is the major source of noise during operations and it generally increases as rotor speed increases.

Noise from WTGs vary with wind speed. The sound power level of WTGs increases with higher wind speed due to the increase in rotation speed of the turbine blades.

NOISE MODELLING STUDY

For the purposes of this assessment, noise data for the Goldwind GWH 182-7.5MW turbine was used in lieu of the EN182 turbines as currently, EN182 sound power data is being collected. The sound power levels of the Goldwind turbines in octave bands are presented in the following figure for the hub height wind speed of 10m/s.

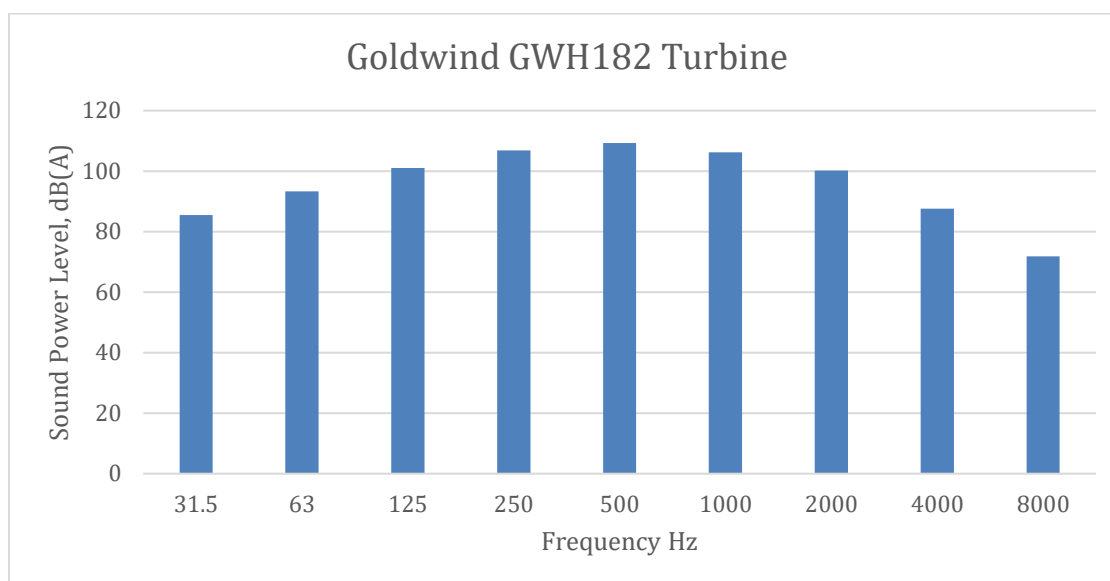


Figure 8-6 Octave Data for the turbines (hub height, 10m/s, not adjusted for uncertainty)

All the above sound power levels are not guaranteed by the manufacturer and therefore, for the purposes of noise modelling, an uncertainty of +2 dB has been applied for a worst-case assessment. The +2 dB addition to the sound power levels is in accordance with good practice guidance and is routinely applied for wind farm projects where there is no manufacturer's warranty.

Noise levels at the receptors have been calculated using the noise-modelling suite IMMI2025 (recognised by the European Union and the UK Government), in accordance with the ISO 9613 prediction methodology.

In addition to the uncertainty adjusted turbine sound power levels used in the calculations; the model also considers the effects of the topographical conditions throughout the area as well as applying a light downwind propagation correction to represent worst case. The model considers the noise 'emission' of each turbine and calculates the accumulative noise level at each receptor in accordance with the ISO9613 methodology.

The modelling results are shown in the following table.

Table 8-9 Operational Noise Modelling Results

RECEPTOR	COMPLIANT WITH THE INITIAL IFC 35 dB LA90,T CRITERION	COMPLIANT WITH THE IFC GENERAL / AZERBAIJAN DAYTIME 53/43 DB CRITERIA OR 68 DB FOR COMMERCIAL/INDUSTRIAL USE?	COMPLIANT WITH THE IFC GENERAL / AZERBAIJAN NIGHT-TIME 43 DB CRITERIA OR 68 DB FOR COMMERCIAL/INDUSTRIAL USE?	RECEPTOR CLASSIFICATION
Edu-1	N	Y	Y	Educational Facility

RECEPTOR	COMPLIANT WITH THE INITIAL IFC 35 dB LA90,T CRITERION	COMPLIANT WITH THE IFC GENERAL / AZERBAIJAN DAYTIME 53/43 dB CRITERIA OR 68 dB FOR COMMERCIAL/INDUSTRIAL USE?	COMPLIANT WITH THE IFC GENERAL / AZERBAIJAN NIGHT-TIME 43 dB CRITERIA OR 68 dB FOR COMMERCIAL/INDUSTRIAL USE?	RECEPTOR CLASSIFICATION
Edu-2	Y	Y	Y	Educational Facility
M1	N	Y	Y	Military
C1	N	Y	Y	Poultry Farm
C2	N	Y	Y	Poultry Farm
C3	N	Y	Y	Commercial - Cafe
Azercosmos	N	Y	Y	Space Centre
Gas station	N	Y	Y	Gas Station – not operational
C4	N	Y	Y	Commercial - Restaurant
H10	N	Y	Y	Herder Settlement
H-3 (all structures)	N	Y	N	Herder Settlement
H-1	N	N	N	Herder Settlement
Isotop plant	N	Y	Y	Industrial
P-1	N	Y	Y	Poultry Farm
P-2	N	Y	Y	Poultry Farm
C5	Y	Y	Y	Poultry Farm
H-7	Y	Y	Y	Herder Settlement
H-6	Y	Y	Y	Herder Settlement
H-2	Y	Y	Y	Herder Settlement
H-8	Y	Y	Y	Herder Settlement
H-5	N	Y	Y	Herder Settlement
C6	N	Y	Y	Gas Station – not operational
H11	Y	Y	Y	Herder Settlement
H-4	N	Y	N	Herder Settlement
H12	N	Y	Y	Herder Settlement
H13	N	Y	Y	Herder Settlement
H14	N	Y	Y	Herder Settlement
C7	N	Y	Y	Commercial – Almond Orchard
C8	Y	Y	Y	Commercial – unfinished building
Cement factory	N	Y	Y	Commercial
C9	Y	Y	Y	Military
Gobustan Village	Y	Y	Y	Human Settlement
Ashagi Guzdek Settlement	N	Y	Y	Human Settlement

RECEPTOR	COMPLIANT WITH THE INITIAL IFC 35 dB LA _{90,T} CRITERION	COMPLIANT WITH THE IFC GENERAL / AZERBAIJAN DAYTIME 53/43 dB CRITERIA OR 68 dB FOR COMMERCIAL/INDUSTRIAL USE?	COMPLIANT WITH THE IFC GENERAL / AZERBAIJAN NIGHT-TIME 43 dB CRITERIA OR 68 dB FOR COMMERCIAL/INDUSTRIAL USE?	RECEPTOR CLASSIFICATION
Mushfigabad	Y	Y	Y	Human Settlement
Pirekeshkul Village	Y	Y	Y	Human Settlement

As can be seen from the results, only 12 of 35 receptors comply with the WBG/IFC's initial 35 dB LA_{90,T} criterion and further detail studies including noise surveys have been undertaken for these and other receptors. However, the WBG/IFC General guidelines as well as the Azerbaijan National Standards limits still apply.

The results of the modelling are as follows:

- Non-compliance with day IFC/Azerbaijan guidelines: H-1.
- Non-compliance of residential, institutional and educational receptors with night-time IFC/Azerbaijan guidelines: H-1, H-3 and H-4.

It is important to highlight that three receptors, two gas stations (both not operational), and a poultry farm (P-2), exceed the night-time IFC/Azerbaijan guidelines for residential, institutional and educational receptors, however, these are industrial / commercial receptors and are well within those limits.

NOISE IMPACT ON H-1, H-3 AND H-4

Following the noise modelling study, the Project team conducted site visits to the herder structures H-1, H-3, and H-4 to better understand their construction materials and specifications. The structures were observed to have 20 – 25 cm thick shell limestone walls, single-glazed windows, and corrugated iron roofs in the living spaces.

Based on these observations, the estimated sound insulation of the structures, including windows and roofs, is approximately 20 dB Rw, assuming the walls provide 35 dB, the roof 22 dB, and the single-glazed windows 26 dB of attenuation.

With the preference to avoid resettlement, and with physical noise barriers not feasible due to required height, it was necessary to establish a benchmark for acceptable internal noise levels. The most appropriate criteria are those outlined in the WHO guidelines, namely 35 dB LA_{eq,Day} and 30 dB LA_{eq,Night}.

Considering the predicted sound attenuation, all three receptors (H-1, H-3, and H-4) would comply with the WHO internal noise limits, apart from H-4 which exceeds the nighttime guideline by just 1 d(B)A. The following table outlines the estimated noise levels at each

receptor before and following sound attenuation. Note that the closest structure (and therefore that with the highest predicted noise level) of H-3 is shown in the following table. For noise levels at H-3's other structures refer to the appended noise model.

Table 8-10 Operational Noise Modelling Results with Sound Attenuation

RECEPTOR	LA _{90,T} DB AT 10 M/S WINDSPEED	DAYTIME INTERNAL NOISE LEVEL, LA _{EQ}	NIGHT-TIME INTERNAL NOISE LEVEL, LA _{EQ}	COMPLIANCE WITH WHO?
H-1	46	26	26	Yes
H-3	47	27	27	Yes
H-4	51	31	31	Complies with the daytime limit and just 1 dB(A) above the night-time guideline which for seasonal herders, is considered to be acceptable.

While operational noise levels are predicted to marginally exceed IFC EHS Guidelines at these seasonally occupied herder structures, the impact is considered to be of **minor** magnitude due to their intermittent and seasonal use, combined with the expected compliance with WHO internal noise criteria. It should also be noted that the noise output of a turbine varies with the wind speed and therefore the noise climate attributable to the wind farm will not always be at a worst-case output at 10m/s or greater.

The noise contours are presented in the following figure.

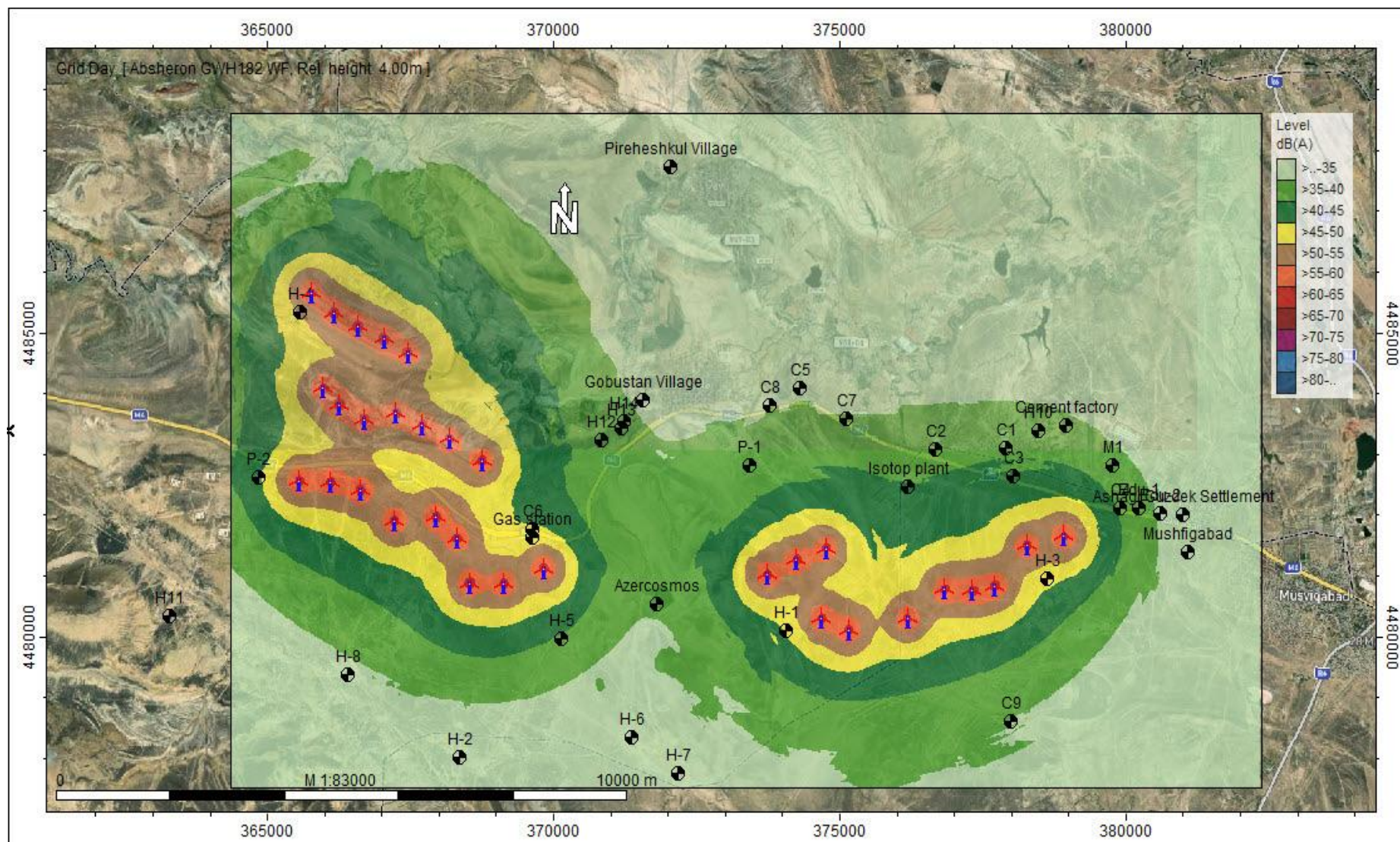


Figure 8-7 Operational Noise Contours

8.4.2.2 Other Operational Noise Sources

Noise impacts from vehicles used for maintenance activities are not expected to be major sources of noise.

Given the minimal requirements for maintenance activity during operation, noise impacts from vehicles are also not expected to be major source of noise as it will only be discernible along access roads and within the wind farm boundary. As such, operational vehicle noise is not expected to be discernible at identified receptor locations. As the magnitude of noise impacts are minimal, further assessment has not been undertaken.

8.4.3 Cumulative Impacts

With regards to cumulative impacts, there is the potential that construction of the transmission line (as outlined within Section 2.6) may overlap with site activities, and this could result in cumulative noise impacts, however, this would be of limited duration, and neither construction activities have significant noise impacts.

Cumulative operational noise impacts for the Project and the Area 1 Wind Farm were also modelled. It is determined that noise levels attributable to the Area 1 Wind Farm do not significantly affect the overall noise assessment of the project site though noise levels are higher for Pirekeshkul Village but within the IFC guidelines.

Cumulative operational noise contours are presented in the following figure.

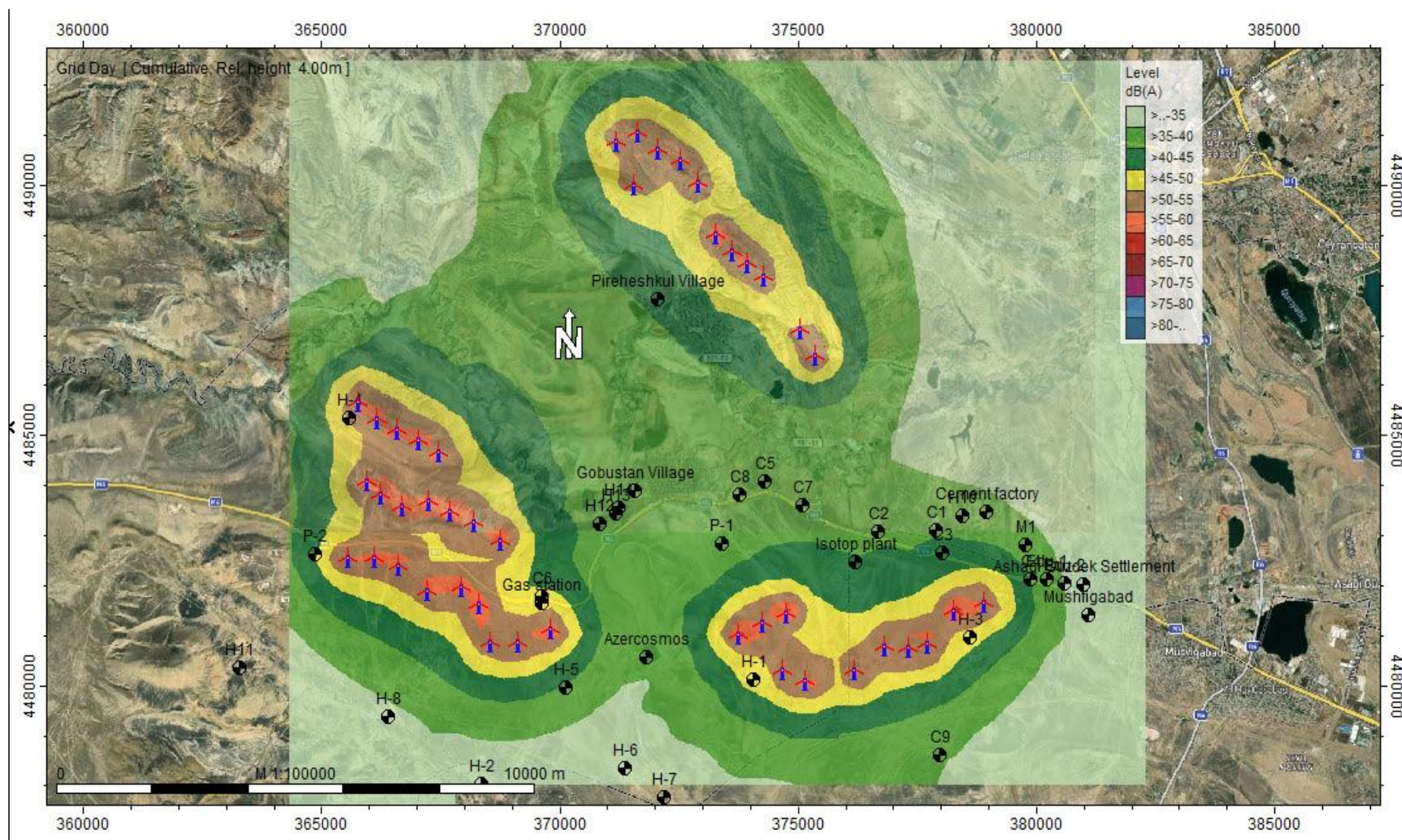


Figure 8-8 Cumulative Operational Noise Contours

8.4.4 Decommissioning Phase

Potential impacts relating to decommissioning will be similar to those encountered during the construction phase. As such, it is assumed that the risk of increased noise level associated with the construction phase will be expected for the decommissioning phase at noise sensitive receptor locations. Likewise, the mitigation & management measures outlined for the construction phase in relation to noise generation at the site, vehicle movement and vibration impacts will be applicable to the decommissioning phase as well.

Table 8-11 Noise and Vibration Impact Significance, Mitigation Measures and Residual Impacts

POTENTIAL IMPACT	MAGNITUDE	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACT
Construction						
Construction Site Noise	Minor Negative	Schools	High	Moderate	- Noise emissions during construction will be managed in accordance with the Emissions Management Plan within the Project HSSE-MS, which sets out monitoring and control measures consistent with GIIP. - Construction activities will be scheduled, unless otherwise agreed, from Monday to Saturday 08:00 to 22:00. - If construction activities are to take place outside of these times, short term high transient noise events, or activities relatively close to nearby noise sensitive receptors, those will be scheduled with prior notice given to such receptors. - Limit machinery and vehicle movements to defined work area and designated access and roads. - Select construction equipment based on GIIP. - Locate fixed and mobile plants (e.g. generators) with consideration of nearby sensitive receptors. - Select and use the quietest machinery and equipment that can economically undertake the work wherever possible. - Operators of construction machinery and equipment will be informed of the potential noise problems and of techniques to minimize noise emission through a continuous process of training and inspection. - Use well-maintained mufflers and noise suppressants for high noise generating equipment and machinery where applicable, such as compressors, electric motors, machines, etc. - Develop a regular inspection and scheduled maintenance program for vehicles, machinery, and equipment to be used throughout the construction phase for early detection of issue to avoid unnecessary elevated noise levels. Upon detecting any vehicle or machinery that emits unacceptable amount of noise will be ordered for removal from work until it is repaired. - Turn off any equipment, machine or vehicle not in use. - Ensure that all vehicles and machinery used through the execution of the project are properly licensed. - Any noise complaint will be treated seriously and appropriate monitoring or mitigation will be undertaken to minimise impact. - In areas where noise levels may exceed 85 Decibels (dB) (e.g. excavation and grinding activities and/or workers exposed to excessive noise generating equipment and machinery), noise monitoring shall be undertaken for at least 10	Negligible
		Herder structures	Medium	Minor		Negligible
		Poultry farms, Azercosmos, Isotop plant	Low	Minor		Negligible
		Construction workers	Low	Negligible		Negligible
Vehicular Noise	Negligible Negative	Schools and Residential Communities	High	Minor	- Select construction equipment based on GIIP. - Locate fixed and mobile plants (e.g. generators) with consideration of nearby sensitive receptors. - Select and use the quietest machinery and equipment that can economically undertake the work wherever possible. - Operators of construction machinery and equipment will be informed of the potential noise problems and of techniques to minimize noise emission through a continuous process of training and inspection. - Use well-maintained mufflers and noise suppressants for high noise generating equipment and machinery where applicable, such as compressors, electric motors, machines, etc. - Develop a regular inspection and scheduled maintenance program for vehicles, machinery, and equipment to be used throughout the construction phase for early detection of issue to avoid unnecessary elevated noise levels. Upon detecting any vehicle or machinery that emits unacceptable amount of noise will be ordered for removal from work until it is repaired. - Turn off any equipment, machine or vehicle not in use. - Ensure that all vehicles and machinery used through the execution of the project are properly licensed. - Any noise complaint will be treated seriously and appropriate monitoring or mitigation will be undertaken to minimise impact. - In areas where noise levels may exceed 85 Decibels (dB) (e.g. excavation and grinding activities and/or workers exposed to excessive noise generating equipment and machinery), noise monitoring shall be undertaken for at least 10	Negligible
		Commercial enterprises along the Baku-Shamakhi highway	Low	Negligible		Negligible

POTENTIAL IMPACT	MAGNITUDE	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACT
					mins during peak activities. If 85 dB (LAeq) is exceeded, appropriate hearing protection shall be provided to all workers – this will be based on noise levels and location but can include ear plugs, semi-insert ear plugs, ear protection or earmuffs. It must be ensured that such hearing protection is worn by all affected personnel at all times. Ear plugs or earmuff shall have a Noise Reduction Rating (NRR) of at least 20 to 30 Decibels. Results will be compared against allowable national limits as well as limits included within the IFC General EHS Guidelines. Safety signs must be installed in areas where noise is expected to be greater than 85 dB to require the use of appropriate Personal Protective Equipment (PPE) (i.e. hearing protection).	
Operation						
Wind Turbines Operational Noise (Refer to the modelling study in Section 8.4.2.1)	Minor	Herder structures (H-1, H-3 and H-4)	Medium	Minor	- An Operational Noise Management Plan will be prepared. - Impacted herder structures will be consulted throughout the Project, including prior to the start of operations and will have access to the grievance mechanism. This system is designed to ensure that any concerns or complaints raised by individuals within these areas are appropriately addressed. - Within the first quarter of operations, 24-hours of noise measurement will be conducted at each impacted receptor. This data will be compared against the detailed background noise data collected as part of this baseline to determine if perceptible noise impacts are evident at receptors. - If a grievance is submitted, dedicated monitoring procedures will be initiated. These procedures are intended to assess the nature of the grievance and determine the most suitable response to the issue at hand. - Where complaints are substantiated, a range of mitigation measures are available to resolve the identified issues. Such measures include improvements such as enhanced roof insulation or the installation of double-glazed windows, aimed at addressing specific concerns and improving overall conditions.	Negligible

8.5 Monitoring

Table 8-12 Noise Monitoring Requirements

MONITORING	PARAMETER	FREQUENCY & DURATIONS	MONITORING LOCATION	RESPONSIBILITY
CONSTRUCTION				
Daytime Construction noise	Leq(A)	Once a week, 1-hour monitoring duration	N-1, N-2, N-3, and N-5	EPC Contractor
OPERATION				
Operational noise from WTG	Leq(A), LA90	Within the first quarter of operations, 24-hours of noise measurement will be conducted at each impacted receptor	H-1, H-3 and H-4	O&M Company
	Leq(A)	If complaints are received from receptors regarding wind turbine noise, or if any exceedances are noted during the monitoring, and after implementing any required mitigation to ensure effectiveness. This will be carried out over a period of 10 days	At complainant's locations	O&M Company

9 GEOLOGY, SOILS, SURFACE WATER, AND GROUNDWATER

9.1 Applicable Requirements & Standards

9.1.1 National Regulations

- Water Code of Azerbaijan Republic (approved by Law No. 418-IQ); specifically relevant articles under Chapter V: Usage of water objects, Chapter VI: Rights and obligations of water users, and Chapter XIII: Usage of water objects for water discharge, fire prevention and other purposes, Chapter XIV: Protection of water objects, Chapter XVI: Economical regulation of measures on usage and protection of water objects, and Chapter XVII: Dispute resolution on the issues of usage and protection of water objects for violation of water legislation.
- Law on Water Economy of Municipalities which is enacted with President's Degree on August 2001; specifically relevant articles under Part IV: Use of the Municipal Water Economy Structures, and Part V: Rights and Duties of Municipalities to Regulate Water Relations.
- State Standard No. AZS 834-5-2015 for Soil quality -- Sampling -- Part 5: Guidance on the procedure for the investigation of urban and industrial sites with regard to soil contamination. Part 6: Guidance on the collection, handling and storage of soil under aerobic conditions for the assessment of microbiological processes, biomass and diversity in the laboratory.

9.1.2 Lender Requirements

AIIB

ESS1 – Environmental and Social Assessment and Management: Point 38 relates to pollution prevention and references international good practice and internationally recognised standards such as the WBG EHS Guidelines.

EBRD

ESR 3 on Resource Efficiency and Pollution Prevention and Control establishes general requirements for pollution prevention as follows:

- The assessment process will identify technically and financially feasible and cost-effective pollution prevention and control techniques that are best suited to avoiding or minimising adverse impacts on human health and the environment. The techniques applied to the project will favour the prevention or avoidance of risks and impacts over minimisation and reduction, in accordance with the mitigation hierarchy and consistent with GIP, and be appropriate to the nature and scale of the project's adverse risks and impacts and to the potential impacts on vulnerable people.

- Throughout the project lifecycle, the client will apply pollution prevention and control techniques consistent with the mitigation hierarchy to minimise potential adverse impacts on human health and the environment while remaining technically and financially feasible and cost effective. This applies to the release of pollutants due to routine, non-routine or accidental circumstances.
- The client will structure the project to meet relevant EU substantive environmental standards, where these can be applied at project level.

IFC

The IFC Performance Standards requires adherence to IFC Performance Standard 3 on 'Resource Efficiency and Pollution Prevention' and this requires the client and/or the Project to:

- Avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities; and
- Prevent the release of pollutants to water and land due to routine, non-routine, and accidental circumstances, or when not feasible, minimize and/or control the intensity and mass flow of their release.

GOOD INDUSTRY PRACTICE

The Dutch Standards, environmental pollutant reference values (i.e., concentrations in environmental media) used in environmental remediation, investigation and cleanup, are typically used as good international practice, the standards identify target and intervention values for soils and groundwater.

9.2 Baseline Conditions

9.2.1 Geology and Geomorphology

Azerbaijan is geologically diverse and is located at the intersection of the Eurasian and Arabian tectonic plates. The principal tectonic features of Azerbaijan include the east-west-trending Greater Caucasus Mountains to the north, the Kura Depression to their south, the Lesser Caucasus Mountains further south, and the expansive South Caspian Depression to the east of these three features.

The following figure shows the geomorphological zoning map of Azerbaijan, including the Project location.

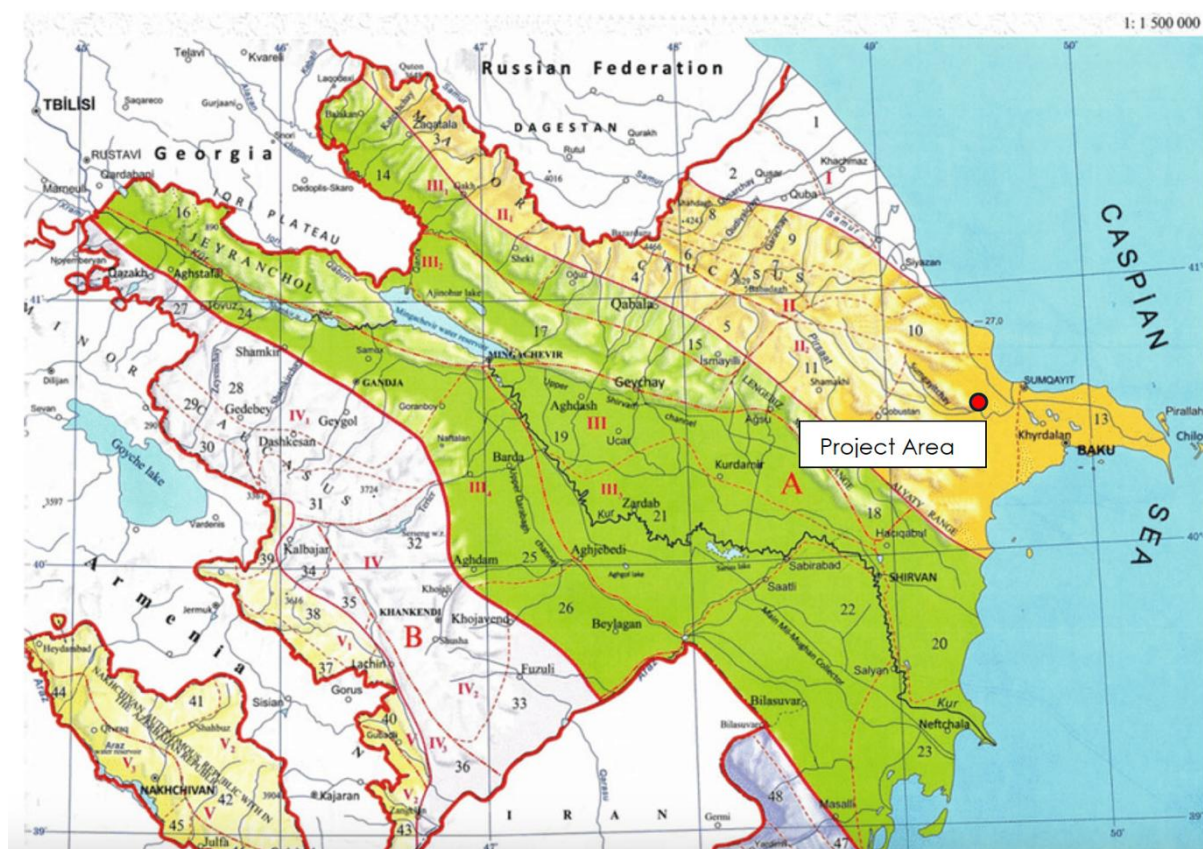


Figure 9-1 Scheme Geomorphological zoning of Azerbaijan territory (Adapted from Alizadeh, Guliyev, Kadirov and Eppelbaum, 2016)

9.2.2 Groundwater

The region has eighteen hydrogeological basins featuring various types of water resources: porous-stratal, porous-fractured, and fractured. The Project area is situated within the Kur-Araz Lowland's geostructural region and falls under the hydrological basin of the Shirvan porous-stratal water basin. The following figure shows the hydrogeological zones in Azerbaijan, including the project location (shown as the yellow circle).

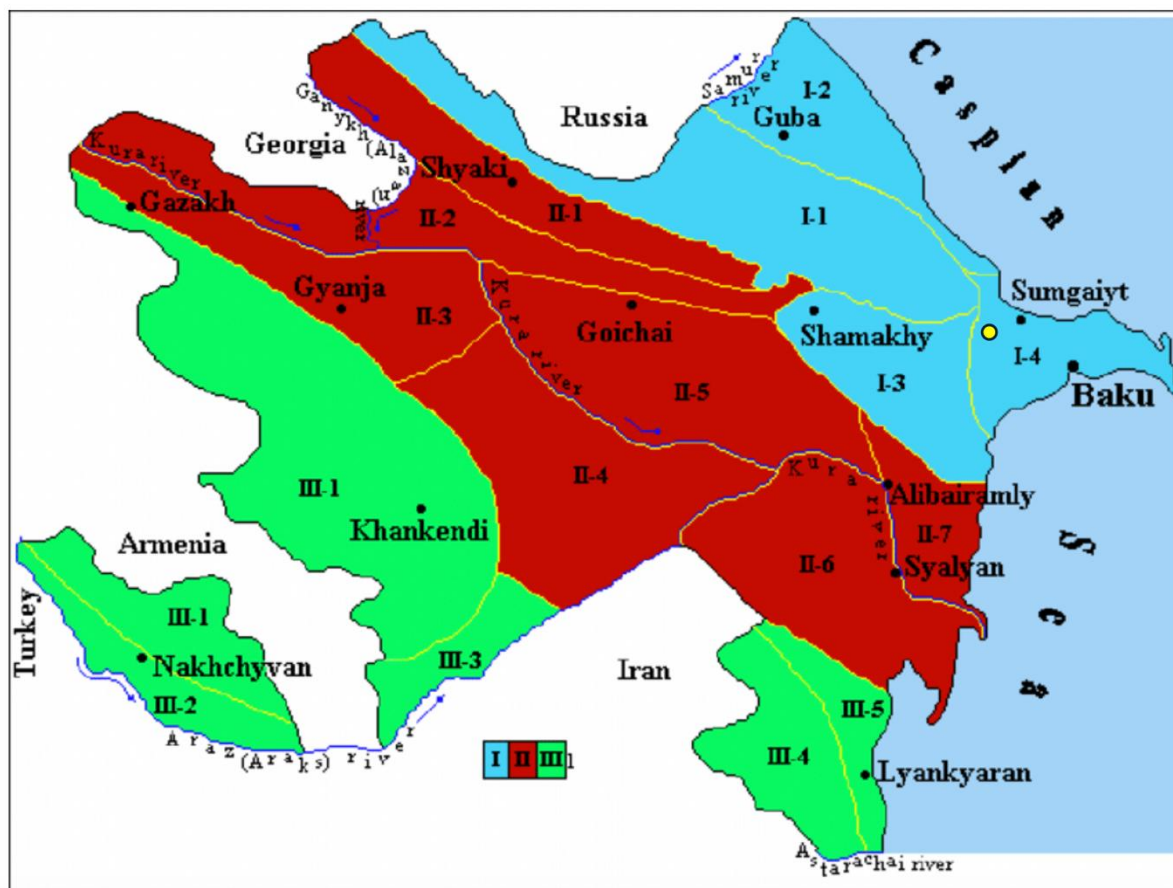


Figure 9-2 Scheme of Hydrogeologic Zoning of Azerbaijan (Alakbarov, nd)

9.2.3 Seismology

According to ThinkHazard¹⁹ Azerbaijan's earthquake risk is 'high', meaning that there is more than a 20% chance of potentially damaging earthquake in Azerbaijan in the next 50 years. However, the Project area is categorised as 'medium' according to the information that is currently available. This means that there is a 10% chance of potentially damaging earthquake in the next 50 years.

9.2.4 Project Site Conditions

TOPOGRAPHY

The elevation across the Project site ranges from approximately 73.5 m to 383.8 m, with a clear gradient descending from the west and northwest toward the east and southeast. The highest elevations are found in the western section of the site, particularly around turbines WTG-02-06, WTG-02-10, WTG-02-13, and WTG-02-15, where the terrain exceeds 350 m and is represented by deep orange to red shading.

¹⁹ <https://thinkhazard.org/en/report/19-azerbaijan/EQ>

In contrast, the eastern section of the site, including turbines such as WTG-01-04, WTG-01-05, WTG-01-06, and WTG-01-07, lies in lower elevation zones, depicted in green to light blue and ranging from approximately 73.5 m to 150 m. The southern portion of the site, including turbines like WTG-02-11 and WTG-02-12, occupies moderately low terrain, generally between 150 m and 250 m. This elevation profile indicates a predominantly west-to-east and northwest-to-southeast downward slope across the wind farm area.

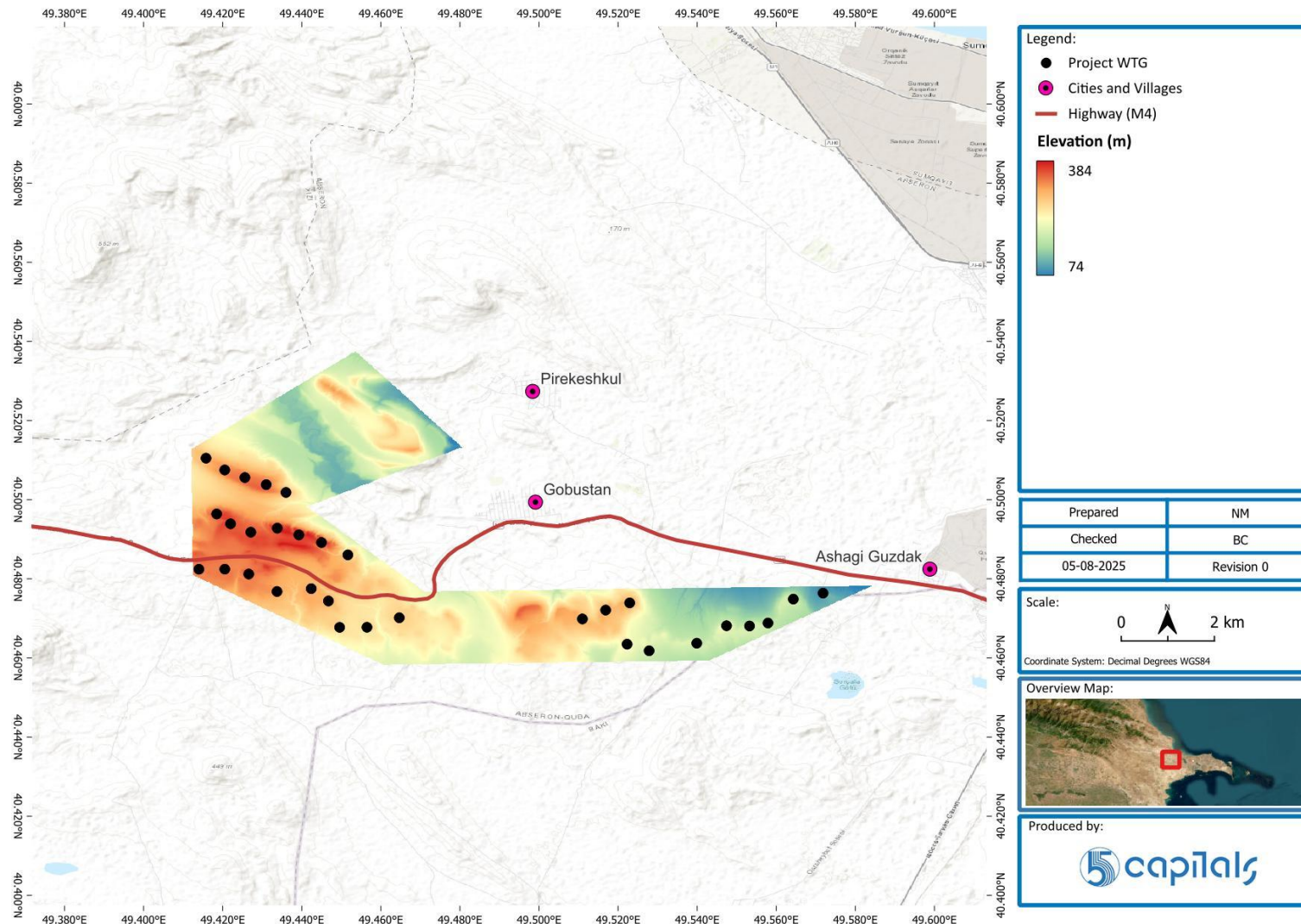


Figure 9-3 Digital Elevation Model

SOIL PROFILE

Based on the borehole investigations, a stiff to very stiff clayey sandy silt layer is encountered beneath the topsoil, which has a minimum depth of 0.20 m. This silt layer has a variable thickness ranging from 1.0 m to 4.0 m. Below the silt layer, a very stiff to hard silty sandy clay layer is observed.

GROUNDWATER

Twelve boreholes and one crosshole were drilled at the site, their depths ranged from 10 m to 35 m. Groundwater presence and levels were investigated in the drilled boreholes. Water levels were recorded at the beginning and end of each shift with groundwater detection.

All boreholes were dry, and groundwater was not recorded in any, as such impacts on groundwater are not expected and are excluded from assessment.

SURFACE WATER

The Sumgait River Tributary shown on the following figure, at its closest, around 1 km from the nearest WTG, is understood to be dry in summer but wet during the rainy season. It is used for irrigation and drinking by livestock.

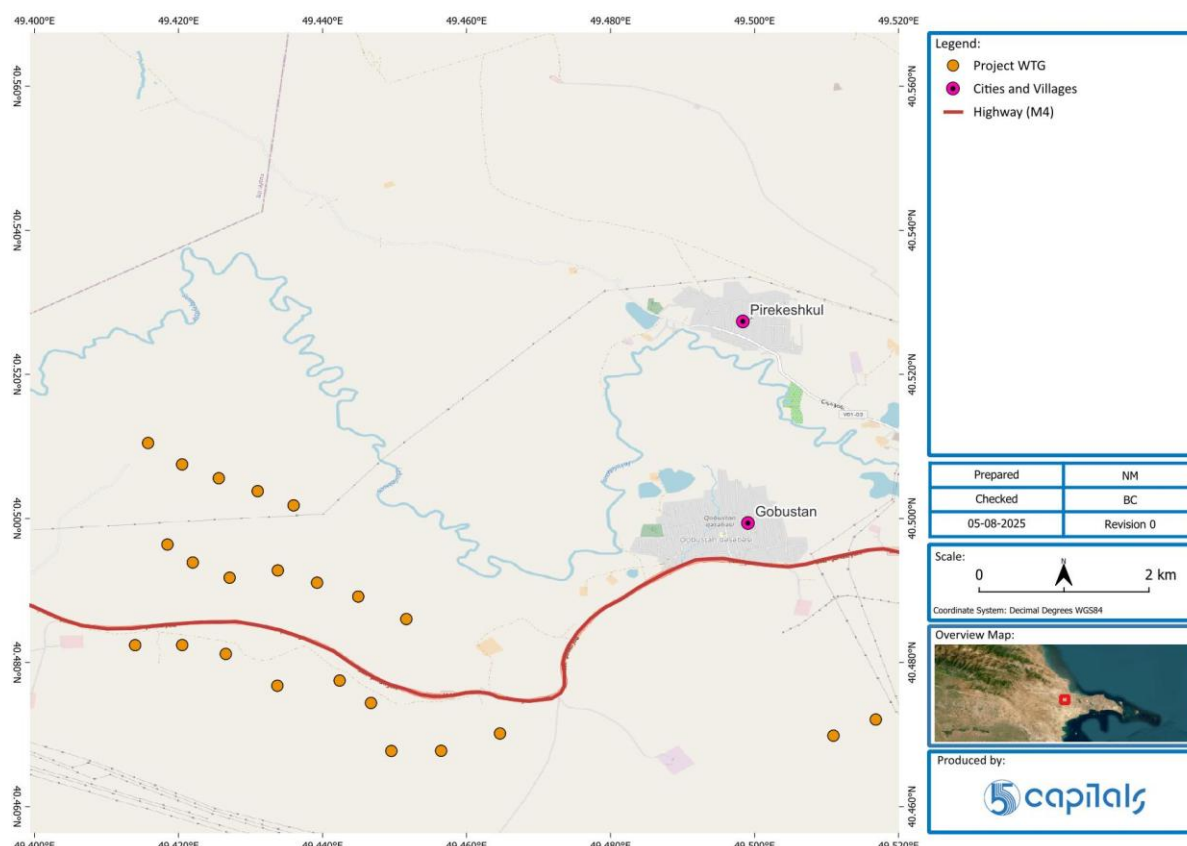


Figure 9-4 Sumgait River Tributary

In addition, as evident through satellite imagery, there are a few ponds (one of which in Azeri is called Şorçala gölü or Lake Shorchala, translated literally “salty hole”). The Project team passed these ponds several times, which were typically dry in the summer and occasionally had a very small amount of water in the rainier months. The larger one is approximately 2 km from the nearest WTG and another is just over 1 km.

SOIL AND SURFACE WATER SAMPLING AND ANALYSIS

Soil and surface water samples were collected and analysed at an accredited laboratory as a precautionary approach and to establish the baseline. The locations of the five soil sampling sites (S1–S5) and the two surface water samples (W-1 and W-2) are presented on the following figure.

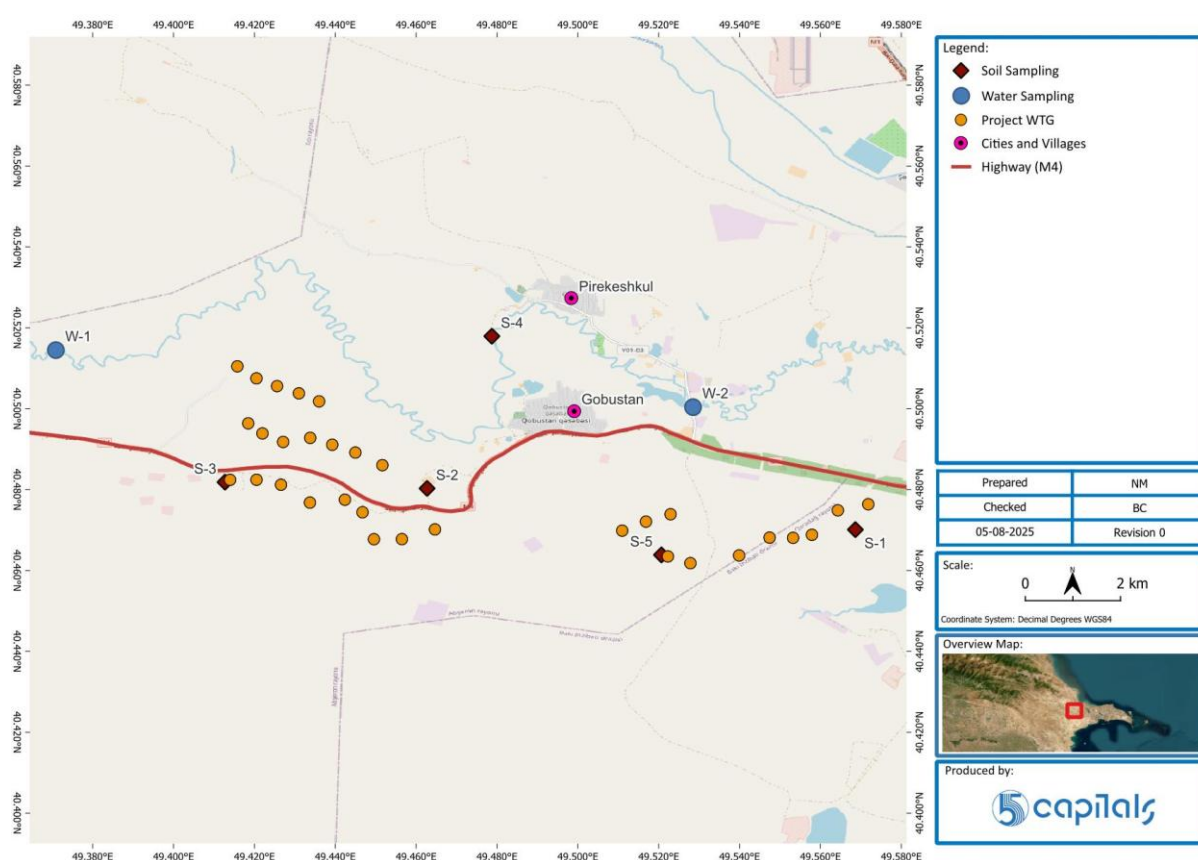


Figure 9-5 Soil and Surface Water Sampling Locations

Soil Analysis Results

The soil quality results for the five sampling sites (S1–S5) reveal notable variability in both nutrient and contaminant concentrations, indicating differing levels of anthropogenic influence or natural geochemical variation.

Nutrient Indicators

Nitrate (NO_3^-) and ammonium (NH_4^+) levels are highest in S3, with 442.7 mg/kg and 80.5 mg/kg respectively, substantially elevated compared to the other sites. Phosphate is also markedly elevated at S3 (135 mg/kg). In contrast, sites S4 and S5 display low nutrient levels.

Heavy Metals and Trace Elements

Nickel (Ni), Chromium (Cr), and Copper (Cu) concentrations are relatively high across all sites. For instance, Ni levels reach up to 46 mg/kg in S3 and 38 mg/kg in S4. Zinc (Zn) is also elevated, particularly at S1 and S2 (90 mg/kg and 105 mg/kg).

Potentially Toxic Elements

Cd is notably higher in S2 (3.5 mg/kg), well above typical background concentrations. Mercury, although present in low absolute values, peaks in S5 (0.050 mg/kg).

pH and General Observations

Soil pH values range from slightly alkaline to neutral (7.11–9.14), with S3 being notably alkaline. The total petroleum hydrocarbons (TPH) are below detection limits (<0.1 mg/kg) across all sites, suggesting no recent petroleum contamination.

Comparison against Dutch Target Values

Cobalt, Nickel and Cadmium often exceeded the Dutch Target Values, and there were instances of Copper and Barium also exceeding the target values, however, the Dutch Intervention Values were not exceeded.

The soil analysis results are presented in the following table.

Table 9-1 Soil Analysis Results

PARAMETER	SAMPLE ID					DUTCH	
	S-1	S-2	S-3	S-4	S-5	TARGET	INTERVENTION
pH	7.50	7.69	9.14	7.37	7.11	-	-
Sulphate (mg/kg)	3450	21500	5000	1950	4400	-	-
Nitrate (mg/kg)	194.8	88.5	442.7	24.3	11.1	-	-
Ammonium (mg/kg)	9.02	2.6	80.5	0.71	0.75	-	-
Phosphate (mg/kg)	5.5	1.95	135	1.2	1.6	-	-
Total Petroleum Hydrocarbons (mg/kg)	<0.1	<0.1	<0.1	<0.1	<0.1	-	-
Cr (mg/kg)	29.803	19.288	33.760	18.904	23.372	100	380
Co (mg/kg)	13.899	10.359	14.315	11.906	10.100	9	240
Ni (mg/kg)	49.738	32.500	45.856	37.899	36.105	35	210
Cu (mg/kg)	37.809	26.128	35.443	41.474	35.970	36	190
Zn (mg/kg)	90.317	105.360	78.783	55.982	54.624	140	720
As (mg/kg)	13.493	7.578	10.643	10.482	7.610	29	55
Cd (mg/kg)	0.914	3.528	0.811	0.427	0.382	0.8	12
Ba (mg/kg)	180.140	159.365	137.663	170.302	131.907	160	625
Pb (mg/kg)	16.713	14.190	16.228	12.245	11.014	85	530
Hg (mg/kg)	0.034	0.012	0.011	0.037	0.050	0.3	10
Fe (mg/kg)	19491	17988	19508	19149	26234	-	-
Mn (mg/kg)	723	386	683	881	2932	-	-

Surface Water Analysis Results

Two surface water samples were collected from the Sumgait River Tributary, one to the west of the Project site (W-1), and one to the north (W-2). Both W-1 and W-2 samples demonstrate signs of contamination, particularly due to presence of petroleum hydrocarbons, elevated organic loads (high COD and BOD), and excess sulphates. W-2 also shows marginal phosphate enrichment, potentially due to eutrophication. These results suggest influence from industrial, urban, or agricultural runoff.

The surface water analysis results are presented in the following table.

Table 9-2 Surface Water Analysis Results

PARAMETER	W-1	W-2
pH	8.45	8.59
Sulphate (mg/L)	360	560
Ammonium (mg/L)	0.19	0.19
Phosphate (mg/L)	0.43	0.52
Total Petroleum Hydrocarbons (mg/L)	3.1	2
COD (mg/L)	77	35
BOD (mg O ₂ /l)	21	8
V (ppb)	1	1
Cr (ppb)	<1	<1
Co (ppb)	<1	<1
Ni (ppb)	2	3
Cu (ppb)	3	3
Zn (ppb)	<1	<1
As (ppb)	<1	<1
Cd (ppb)	<1	<1
Ba (ppb)	37	34
Pb (ppb)	<1	<1
Hg (ppb)	<3	<3

FLOOD RISK

Masdar have commissioned a hydrology study, which was finalised in September 2025. The document presents the calculations conducted for designing the drainage system of the Project road network. It identifies the natural basins intersected by the new roads and platforms and details the activities undertaken, including sub-basin analysis, rainfall data collection, hydrological study with runoff calculations, and the design of culverts, box structures, and fords. Masdar have not commissioned a flood risk study, highlighting that there

is no technical justification or requirement for a flood risk study, given that the wind turbines are installed in elevated terrain, and internal roads crossing wadis have other solutions.

9.3 Area of Influence and Receptors

9.3.1 Area of Influence

The area of influence for soils and surface water vary. For soils the area of influence is generally limited to the construction footprint, while the area of influence for surface water extends further due to mobility.

9.3.2 Receptors

Table 9-3 Geology, Soils and Surface Water Sensitive Receptors

RECEPTOR	SENSITIVITY	JUSTIFICATION
Soil	Low	The soil within the Project site is typical of the soil characteristics found in the project area. It is not known to be of particular significance and hence it is of low importance and rarity on a local scale.
Surface water	High	Local surface water can be assigned a high sensitivity due to potential use of it in local communities.

9.4 Potential Impacts, Mitigation, Management & Residual Impacts

The following subsections describe the potential impacts and their magnitude. Refer to Table 9-3 for the receptor sensitivity. A summary of the impacts, their magnitude, receptor sensitivity and therefore significance, and proposed mitigation measures, is provided in Table 9-4.

9.4.1 Construction Phase

9.4.1.1 Excavation, Compaction and Removal of Soils

The Project will require excavation activities in order to establish foundations for the WTGs, substation, building structures and underground cabling.

The presence of heavy loads, construction equipment and vehicles, and compaction activities in particular can lead to soil compaction within the construction footprint and access road alignments.

Considering the Project type, the magnitude is considered to be **minor** as this impact will only occur in isolated areas of the site, such as internal access roads and WTG pads.

9.4.1.2 Accidental Spills and Leaks

Construction will involve the transportation and storage of various construction materials and wastes, as well as the operation and maintenance of heavy machinery. Bare ground within the Project's access roads and off-loading and pick-up bays is subject to contamination due to accidental spillage of transited products. Soil within areas designated for light and bulk storage of construction materials and waste (e.g., diesel, concrete washout water, used oils, hydraulic fluids), is equally prone to contamination from inadvertent spills and leakages associated with compromised containment structures/ packaging and handling.

Concrete washout will be generated during the site preparation, building construction and some civils activities. Concrete washout is caustic and has high pH. The inappropriate disposal or other exposure to soils can result in impacts to soil quality and can potentially affect surface and groundwater quality.

In addition, areas dedicated for maintenance of heavy machinery (e.g., workshops) also bear the risk of contamination resulting from accidental spills and leakages. Contamination can have a localised knock-on effect on the quality of surrounding water features, however, it is noted that the closest WTG to the Sumgait River Tributary is 1 km away, and no construction works will be permitted close to the river.

The impact is considered to be relatively unlikely and reversible, noting that any spills are likely to be very small and contained, and therefore of **minor** magnitude.

9.4.2 Operation Phase

Although there will be little or no interaction with hazardous materials or chemicals, storage and usage of any hazardous wastes during the operational phase, there remains a small potential risk associated with spills and leaks to ground.

Certain sources of contamination that can introduce risks to soil, surface water and groundwater are cleaning fluids and solvents, oils from transformers and fuels stored for use by site vehicles and back-up generators, sanitary wastewater in septic tanks etc. Although these materials may be present and used in small quantities, precaution must be paid to ensure proper storage, handling, transportation and adequate spill prevention. It is expected that the storage of any of these materials, chemicals and fuels will be within designated areas, which have specific management and mitigation measures in place to prevent exposure of these pollutants to unprotected soils and runoff areas that could contaminate surface or groundwater.

A detailed operation phase impact assessment is therefore scoped out. Good practice measures for the storage and handling of hazardous materials will be outlined in the HSSE-MS.

9.4.3 Cumulative Impacts

The Project is part of an overall program to increase Azerbaijan's national renewable energy generation, and therefore there are number of renewable energy projects, including wind farms, that are being developed. This has the potential to result in cumulative impacts relating to land use change, compaction and erosion.

However, the limited requirement for interaction with geology and soils, and the isolated nature of the project mean that cumulative impacts are not expected.

9.4.4 Decommissioning Phase

Potential impacts relating to decommissioning will be similar to those encountered during the construction phase. As such, it is assumed that the risk of accidental spills (such as oils, transformer oils, machinery lubricants, fluids and solvents, etc.) and waste management (such as lubricated turbine parts, substation components, machinery lubricants and paints) associated with the Project will be expected for the decommissioning phase. Likewise, the mitigation & management measures outlined for the construction & operational phase in relation to accidental spills and leaks will also be applicable to the decommissioning phase.

Table 9-4 Geology, Soils, Surface Water and Groundwater Impact Significance, Mitigation Measures and Residual Impacts

POTENTIAL IMPACT	MAGNITUDE	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACT
Construction						
Excavation, Compaction and Removal of Soils	Minor Negative	Soil	Low	Minor	- Activities during construction will be managed in accordance with the Emissions Management Plan within the Project HSSE-MS, which sets out monitoring and control measures consistent with GIIP. - Salvage and store topsoil and subsoil before areas are excavated, with topsoil stripped and stockpiled separately. - Segregate excavated soils into stockpiles dependent on material type and provide erosion control while stockpiled as per requirements identified below. Stockpile heights should not exceed 2 m. - On completion of earthworks, backfill material in the same stratigraphic sequence. - Maintain grass cover on berms and ditches. - Re-stabilize existing eroded tracks and restore vegetation cover as needed. - Do not collect firewood from the site. - Reseeding and restoring areas that have been cleared of vegetation (including in erosion control channels) with indigenous plants and grasses as soon as possible, as well as utilizing mulching to stabilize exposed areas. - Drainage infrastructure will be constructed during dry periods to reduce erosion risk and the potential for sediment movement downstream. - Vehicles should be confined to demarcated roadways at all times. To extent possible, minimize activities during wet conditions. When activities must occur in wet conditions, control storm water by using measures identified below to impede storm water flow and prevent erosion.	Negligible
Accidental Spills and Leaks	Minor Negative	Soil	Low	Negligible	- Activities during construction will be managed in accordance with the Emissions Management Plan and Hazardous Materials and Waste Management Plan within the Project HSSE-MS, which sets out monitoring and control measures consistent with GIIP. - Construction activities will not be conducted in proximity to surface water sources. - Ensure proper PPE is worn; to include at a minimum: gloves, safety shoes, and safety goggles	Negligible
		Surface Water Quality	High	Minor	- Prompt and effective action be initiated to stop the spillage/leakage and its pollution at source. - Contain the spillage and prevent it from reaching sensitive areas by using the absorbent materials in the available spill kit - After the spillage or leakage has been contained, the contaminated material and the absorbent material should be placed within the disposal bags available in the spill kit	Negligible

POTENTIAL IMPACT	MAGNITUDE	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACT
					and properly enclosed with tape or twist ties. Disposal bag shall be removed and treated as hazardous waste. • Make sure that the used spill kits are replaced with new ones and that enough absorbing materials are available for future potential environmental accidents. • If the situation cannot be controlled, refer to [MP 11 – Emergency Preparedness and Response Plan] for additional details on handling of the incident.	

9.5 Monitoring

Table 9-5 Geology, Soils, Surface Water and Groundwater Monitoring Requirements

MONITORING	PARAMETER	FREQUENCY & DURATIONS	MONITORING LOCATION	RESPONSIBILITY
Construction				
Soil, surface water and groundwater quality	Visible spills & leaks of hydrocarbons and other potentially hazardous or chemicals	Daily during construction as part of the daily walkdown	The entire project area during construction	EPC Contractor
Soil integrity	Visible erosion features	Daily during construction as part of the daily walkdown	Soil stockpiling areas (where applicable) and disturbed sites	
Operation				
Soil, surface water and groundwater quality	Visible spills and leaks of chemicals/ waste	Daily during operations	Storage and maintenance areas	O&M Company

10 TERRESTRIAL ECOLOGY AND AVIFAUNA

10.1 Applicable Requirements & Standards

10.1.1 National Regulations

National laws that govern protection of biodiversity include:

- Law of the Azerbaijan Republic on Specially Protected Natural Territories and Objects No. 840-IQ;
- Law of the Azerbaijan Republic on Fauna No. 675-IQ;
- Law of the Republic of Azerbaijan on Specially Protected Natural Areas and Objects;
- Law of the Republic of Azerbaijan on Addition to the Law of the Republic of Azerbaijan "On Specially Protected Natural Areas and Objects"; and
- Law of the Republic of Azerbaijan on accession to the European Convention for the Protection of Wildlife and the Natural Environment of Europe.

10.1.2 Lender Requirements

AIIB

As outlined in AIIB's ESF, the Bank "recognises that protecting and conserving biodiversity, sustainably managing terrestrial and aquatic natural resources and maintaining core ecological functions and services are fundamental to sustainable development. The objective of biodiversity conservation and sustainable management of natural resources should be balanced with a commitment to sustainable use of the multiple economic, social and cultural values of biodiversity and natural resources in an optimized manner. Through the Projects it finances, the Bank seeks, where applicable, to: (a) avoid adverse impacts on biodiversity and ecosystem services; and (b) assist its Clients in protecting and conserving biodiversity and promoting the sustainable management of living natural resources through the adoption of practices that integrate conservation needs and development priorities."

EBRD

EBRD Environmental and Social Requirement 6 (ESR 6): Biodiversity conservation and sustainable management of living natural resources sets out requirements for the conservation of biodiversity and sustainable management of living natural resources covering aspects such as the assessment of issues and impacts on biodiversity. The Bern Convention (June 1979) is also applicable.

Where applicable, the Project will follow the EBRD's E&S Eligibility Criteria for On-Shore Wind Power Projects. This includes targets set out by the EU Biodiversity Strategy including the Habitats Directive 92/43/EEC, the Birds Directive 2009/147/EC, the Bern Convention (June 1979), and EU Regulation 1143/2014 on Invasive Alien Species.

Baseline studies will conclude with a Critical Habitat and Priority Biodiversity Feature assessment to determine if any features in the Project area qualify as priority biodiversity features or critical habitat. This assessment will identify the conservation importance of the study area and the applicable ESR 6 requirements, and will also inform the subsequent assessment of project-specific impacts.

ESR6 defines critical habitat and priority biodiversity features as:

Critical Habitat: The most sensitive biodiversity features, which comprise one of the following:

- Highly threatened or unique ecosystems;
- Habitats of significant importance to endangered or critically endangered species;
- Habitats of significant importance to endemic or geographically restricted species;
- Habitats supporting globally significant migratory or congregatory species;
- Areas associated with key evolutionary processes; or
- Ecological functions that are vital to maintaining the viability of biodiversity features described in this paragraph.

Priority Biodiversity Features (PBF): This concept continues to encompass a sub-set of biodiversity that is particularly irreplaceable or vulnerable, but at a lower priority level than Critical Habitats, and includes:

- Threatened habitats;
- Vulnerable species;
- Significant biodiversity features identified by a broad set of stakeholders or governments (such as Key Biodiversity Areas or Important Bird Areas); and
- Ecological structure and functions needed to maintain the viability of priority biodiversity features.

The criteria used by the EBRD's ESR6 to define critical habitat are closely aligned with those outlined in IFC PS6. ESR6 also explicitly includes ecological functions that are vital for maintaining the viability of critical habitat features

IFC

The assessment of impacts upon terrestrial ecology is required with due consideration to IFC Performance Standard 6 on Biodiversity Conservation and Sustainable Natural Resource Management which establishes requirements for protecting and conserving biodiversity, maintaining ecosystem services, and sustainably managing living natural resources. When avoidance of impacts is not possible, measures to minimise impacts and restore biodiversity and ecosystem services should be implemented. Specifically, it is necessary to determine baseline conditions and categorise the project's habitats as 'critical', 'modified', or 'natural' to undertake the necessary assessment. The Performance Standard defines the different habitats as follows:

- Natural Habitat: "Natural habitats are areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition";
- Critical Habitat: "Critical habitats are areas with high biodiversity value, including (i) habitat of significant importance to Critically Endangered and/or Endangered species; (ii) habitat of significant importance to endemic and/or restricted-range species; (iii) habitat supporting globally significant concentrations of migratory species and/or congregatory species; (iv) highly threatened and/or unique ecosystems; and/or (v) areas associated with key evolutionary processes"; and
- Modified Habitat: "Modified habitats are areas that may contain a large proportion of plant and/or animal species of non-native origin, and/or where human activity has substantially modified an area's primary ecological functions and species composition. Modified habitats may include areas managed for agriculture, forest plantations, reclaimed coastal zones, and reclaimed wetlands".

10.2 Baseline Conditions

10.2.1 KBA and LPA Proximity

Although the Project's overlap with, or proximity to an Internationally recognised Key Biodiversity Area (KBA) or Legally Protected Area (LPA)²⁰ do not automatically result in a Critical Habitat (CH) determination, there is generally a strong correlation with KBA overlap, as the

²⁰ Key Biodiversity Areas (KBAs) and Legally Protected Areas (LPAs) differ primarily in their basis and status. KBAs are identified based on scientific criteria, such as the presence of threatened species or unique ecosystems, and highlight sites of high biodiversity importance, but they do not automatically carry legal protection. In contrast, LPAs are formally designated by law or government regulation, with enforceable rules to conserve biodiversity and regulate human activities. While some areas may be both KBAs and LPAs, a KBA does not guarantee legal protection, and an LPA may or may not coincide with sites of critical biodiversity value.

international KBA standard promulgated by the IUCN, is the same standard that has been incorporated into the CH criteria in IFC PS6 and EBRD ESR6.

Beyond the possible triggering of CH, overlap with, or close proximity to KBA and/or LPA is an important factor in ecological risk assessment for a project, as it generally indicates a high level of ecological sensitivity, as well as priority status of certain species, habitats, or other biodiversity features among international or regional biodiversity science/conservation stakeholders.

For the present analysis, the results of the proximity analyses from the Integrated Biodiversity Assessment Tool (IBAT) report are presented, in the form of maps showing the location of the Project area in relation to KBA (Figure 9-1) and LPA (Figure 9-2).

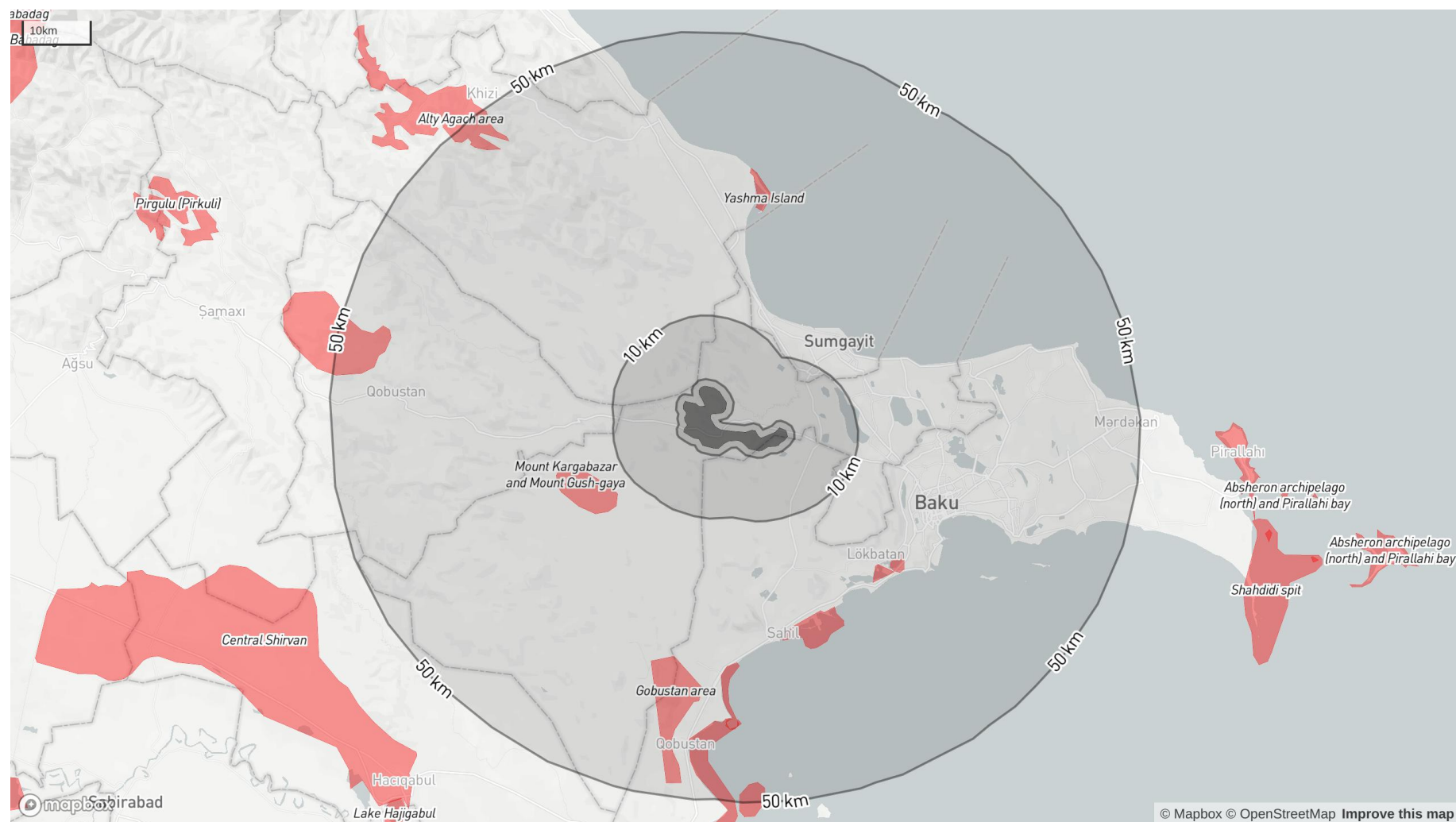


Figure 10-1 Location of the Absheron Wind Project area (dark grey polygon) in relation to KBA (pink areas), according to the IBAT database (from IBAT report dated 7 March 2024). Illustrating that the nearest KBA is the Mount Kargabazar and Mount Gush-gaya Area, located roughly 12 km to the southwest.

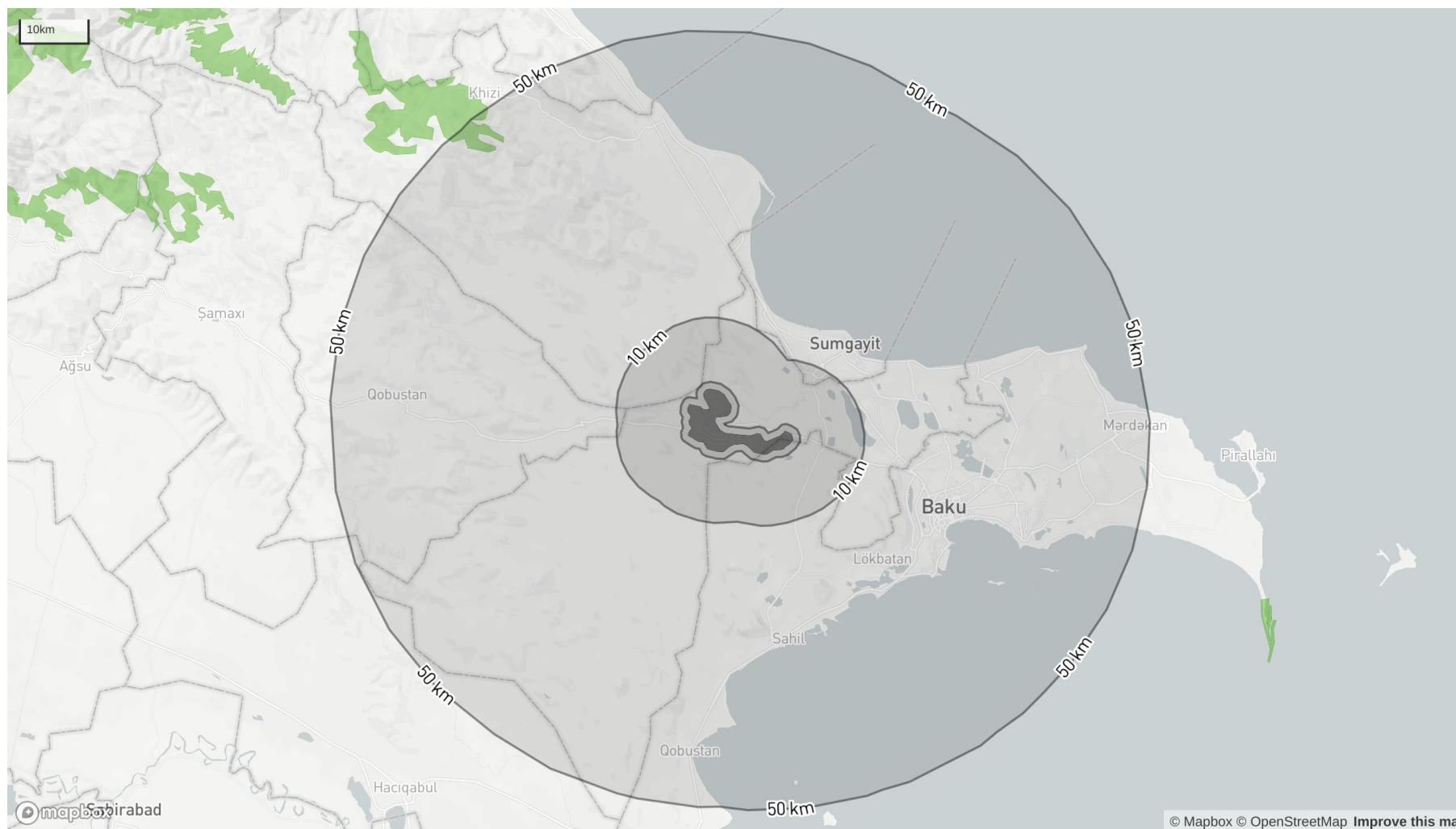


Figure 10-2 Location of the Absheron Wind Project area (dark grey polygon) in relation to LPA (green areas), according to the IBAT database (from IBAT report dated 7 March 2024). The nearest LPA to the Project area, Altiaghaj National Park, is located roughly 50 km to the northwest.

Figure 9-1 illustrates that there is no KBA or LPA located within the 10 km radius of the Project site and the nearest KBA is the Mount Kargabazar and Mount Gush-gaya Area, located roughly 12 km to the southwest. This IBA is triggered for 1 species, namely Lesser Kestrel (LC) under criterion A1²¹.

With regard to LPA, Figure 9-2 indicates that the Project does not overlap with any, and that the nearest one is roughly 50 km to the northwest. This LPA is Altiaghaj National Park, which is an IUCN category II LPA, covered by temperate deciduous broadleaved forests.

10.2.2 Ecological Overview

The Project Area lies within the Absheron-Gobustan physical-geographical region of the Greater Caucasus natural province. Area consists mainly of arid-denudation foothills and low mountains through the Sumgayitchay and its branches. The Sumgayitchay Valley (known as Gozluchay and Cengichay in its upper reaches) is one of the two largest negative relief features in the region. The area is situated in a semi-desert zone.

Soil cover is poorly developed on steep slopes, and ground cover is not developed on intensively fragmented steep and rocky ridges. Vegetation growth occurs from autumn to late spring, with annuals, biennials, and ephemerals succumbing to the intense heat by mid-May. Wormwood-saline vegetation is dominant, and terraced plains are covered by both annual and perennial saline plants. Shrub salt marshes are common in saline and takyr depressions. Various relief features, especially erosion-induced landslides and small cave-like cavities, were considered suitable as summer or winter shelters for certain groups of mammals, including bats.

Herding activities, small livestock farms, commercial poultry farms, powerlines, roads, derelict buildings and local communities are present in the wider area.

The project lies within the Black Sea/Mediterranean Flyway and West Asian-East African Flyway. These flyways are critical migration routes for thousands of birds, including waterbirds and raptors, connecting breeding grounds in Europe and Asia to non-breeding sites in Africa. Azerbaijan lies at the intersection of these two major flyways.

²¹ <https://datazone.birdlife.org/site/factsheet/mount-kargabazar-and-mount-gushgaya>

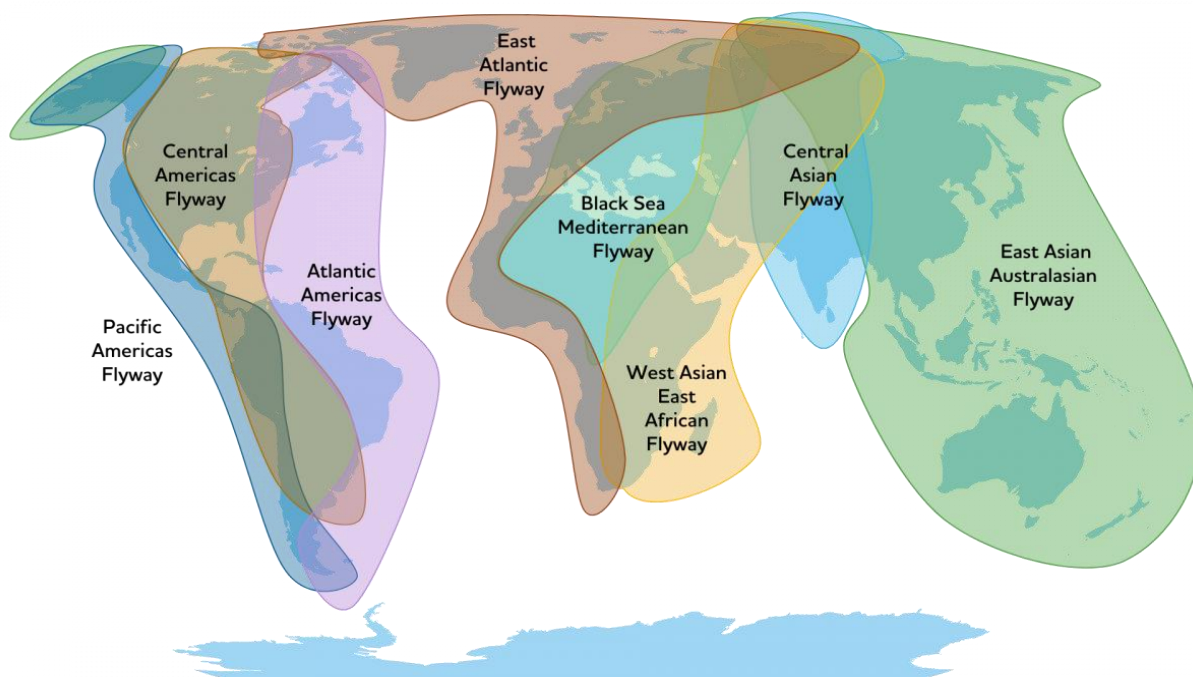


Figure 10-3 Global Migratory Flyways

10.2.3 Baseline Surveys

The following presents a summary of the baseline surveys, please refer to the appended survey reports for further information.

Note: Baseline ecological surveys were carried out based on an earlier wind farm layout. Following a design revision, some of the northern WTG locations were excluded from the layout. This baseline section has been updated to reflect the current layout. Data associated with the excluded WTG locations have not been included in this assessment, however, are summarised and analysed in Chapter 3 'Project Alternatives'.

METHODS AND EFFORT SUMMARY

Baseline biodiversity surveys were conducted for the Project between February 2024 and January 2025 by regional biodiversity experts. The survey and effort details have been provided in the following table.

Table 10-1 Details of the survey and efforts

SURVEY TYPE	EFFORT SUMMARY	TIMEFRAME
VP Monitoring	Bird monitoring across six VPs; each VP surveyed 36 hours per season for whole year; a total of 844.3 hours of VP survey effort across 6 VPs	February 2024 – January 2025
Raptor Nest Survey	8 days of searches, 4 – 5 hours per day	June – July 2024
Breeding Bird Transect	3 transects (35.8 km total); 8 survey days (4–5 hours/day), conducted in mornings	May – July 2024

SURVEY TYPE	EFFORT SUMMARY	TIMEFRAME
Nocturnal Birds	6 nights; vehicle based transects across the Project area	April and May 2025
Botany Survey	10 days of transect and point surveys conducted on-site	April – June 2024
Bat Survey	Mist netting, roost searches and acoustic methods; 12 night and 6 day sessions; ground-level static detectors active all season; elevated detectors active Sept–Oct 2024. Supplemental elevated-height surveys covering active season (April–October) of 2025 to capture the full active window.	March 31 – October 15, 2024 April 11 – October 31, 2025
Mammal Survey	8 days of transect surveys (day & night); 21 km on foot, ~42 km by vehicle during night-time	March – October 2024
Reptile Survey	8 days of transect surveys (3 m width, 1–5 km length); focused searches at potential reptile hiding places	April – August 2024

HABITATS AND BOTANY

Natural Habitat Analysis

According to IFC PS6, Natural Habitat is defined as “areas composed of viable assemblages of plant and/or animal species of largely native origin, and/or where human activity has not essentially modified an area's primary ecological functions and species composition.”

In practice, IFC applies the concept of NH broadly, often including habitats that are used by humans for various activities such as domestic livestock grazing provided that the fundamental vegetation structure and ecosystem functions remain comparable to natural conditions, and the species composition is largely native.

Based on field assessments and land use analysis, the majority of habitats of the site appear to meet the definition of Natural Habitat under IFC PS6, while limited areas, particularly around settlements and degraded former military infrastructure in the southeast, are more appropriately classified as Modified Habitat. The region is dominated by native species, and key ecological processes such as nutrient cycling, soil stabilization, and natural succession remain intact. However, these processes are impacted by heavy and ubiquitous livestock grazing pressure, which reduces vegetation cover and density, increases soil erosion, favouring plant species that are tolerant of livestock grazing. The landscape is modified by heavy domestic livestock grazing pressure, but is otherwise relatively intact, as there is no large-scale agricultural conversion or dominance by invasive species.

Rare plants such as *Astragalus geminus* (IUCN and nationally EN) and *Veronica amoena* (IUCN N/A, nationally NT) have also been recorded at the Site.

While the vegetation observed may be normal for the region, the area has never been ploughed or cultivated for crops and does support an assemblage of entirely native plants.

No spread of invasive species has been documented. The vegetation is dominated by native species and continues to support essential ecological functions.

Representative photographs of the habitats at the site are provided in the following figure.



Figure 10-4 Habitats at the Project site

Flora

Floral surveys were conducted using a combination of transect and plot sampling methods to ensure a comprehensive assessment of vegetation across the site. Twenty sampling plots of 10m X 10m were established along routes strategically selected based on the site's topography and vegetation distribution. Each route was surveyed at least twice between April and June 2024, with fieldwork carried out over a total of 10 days during this period.

Although no site-specific literature was available, a comprehensive review of the literature related to flora of similar ecosystems and the region identified 603 species distributed across the region, with 335 being annuals, 13 biennials, 205 perennials, 15 shrubs, 35 subshrubs, and 1 tree.

Primary surveys identified a total of 262 species. Of these plants, 178 were annual herbs, 5 were biennial herbs, 61 were perennial herbs, 3 were shrubs, and 16 were subshrubs. The majority of the species identified are consistent with those found in the literature and plant distribution maps.

Despite the entire area being classified as semi-desert, dominant plants and plant groupings vary. In some areas, certain plants within these groupings become dominant. The species commonly found throughout the entire area include those from the genera *Artemisia*, *Alyssum*,

Cynodon, *Bromus* (Poaceae-efemeroids), and *Salsola*. *Artemisia fragans*, *Bromus rubens*, and *Cynodon dactylon* are some of the dominant species. A habitat map highlighting the dominant species has been provided in the following figure.

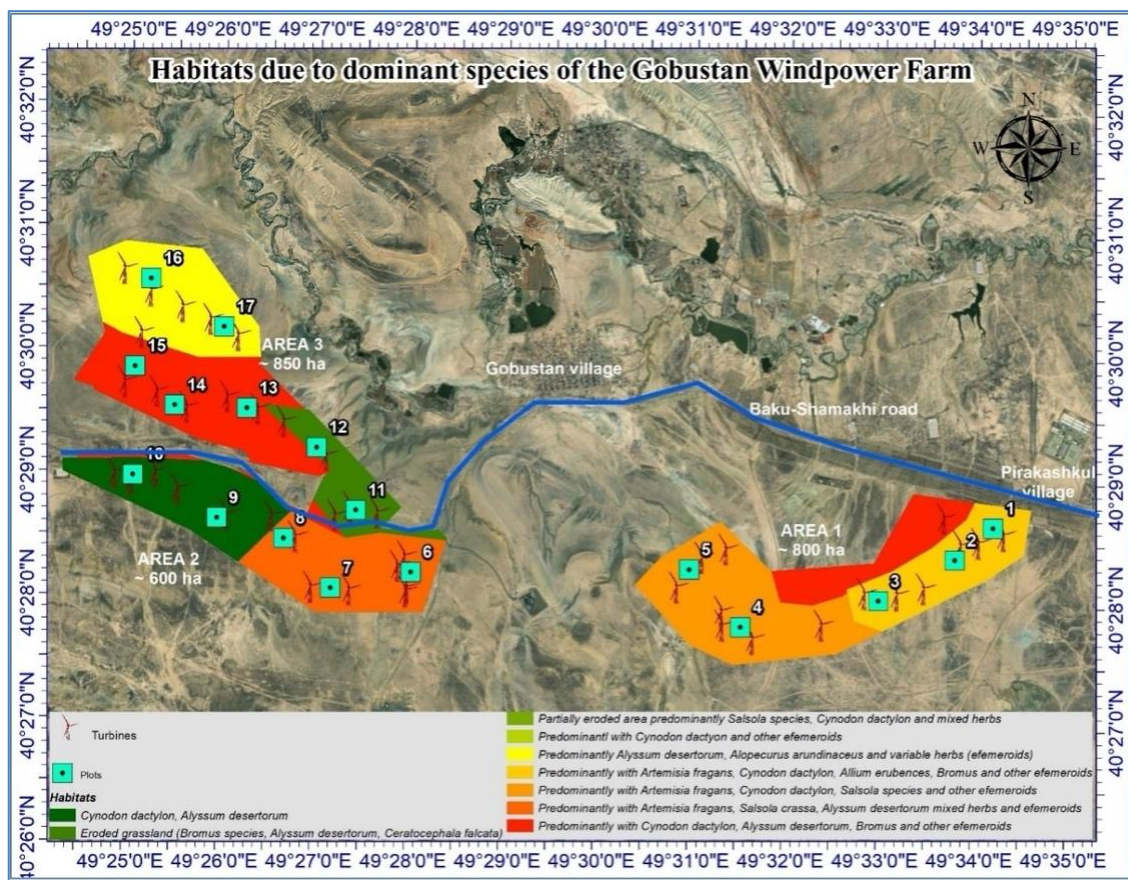


Figure 10-5 Habitat Map of the Project Site (Dominant Species)

Six rare and/or threatened species, as per 2023 Red Book of Azerbaijan and the IUCN Red List, were identified within the area. The most prevalent was *Astragalus geminus* (IUCN EN, AZRB EN), while other species with occasional records included *Veronica amoena* (AZRB NT), *Dianthus schemachensis* (AZRB EN), *Suchtelenia calycina* (AZRB VU), and *Ferula caspica* (AZRB EN). The details along with the locations of these species are provided in the table and following figures.

No invasive/exotic species were recorded in the Project area.

Table 10-2 Rare/Threatened Species found in the Project Area

SPECIES	IUCN STATUS	AZRB STATUS
<i>Astragalus geminus</i> Maassoumi (<i>A.albanicus</i>)	EN	EN
<i>Iris acutiloba</i> C.A.Verz.	-	EN
<i>Dianthus schemachensis</i> Schischk	LC	EN
<i>Suchtelenia calycina</i> C.A.Mey	-	VU

SPECIES	IUCN STATUS	AZRB STATUS
<i>Veronica amoena</i> Bieb.	-	NT
<i>Ferula persica</i> Willd.	-	VU
<i>Ferula caspica</i> M.Bieb.	-	EN



Astragalus geminus



Iris acutiloba



Suchtelenia calycina



Dianthus schemachensis

Figure 10-6 Photographs of some of the rare/threatened species recorded

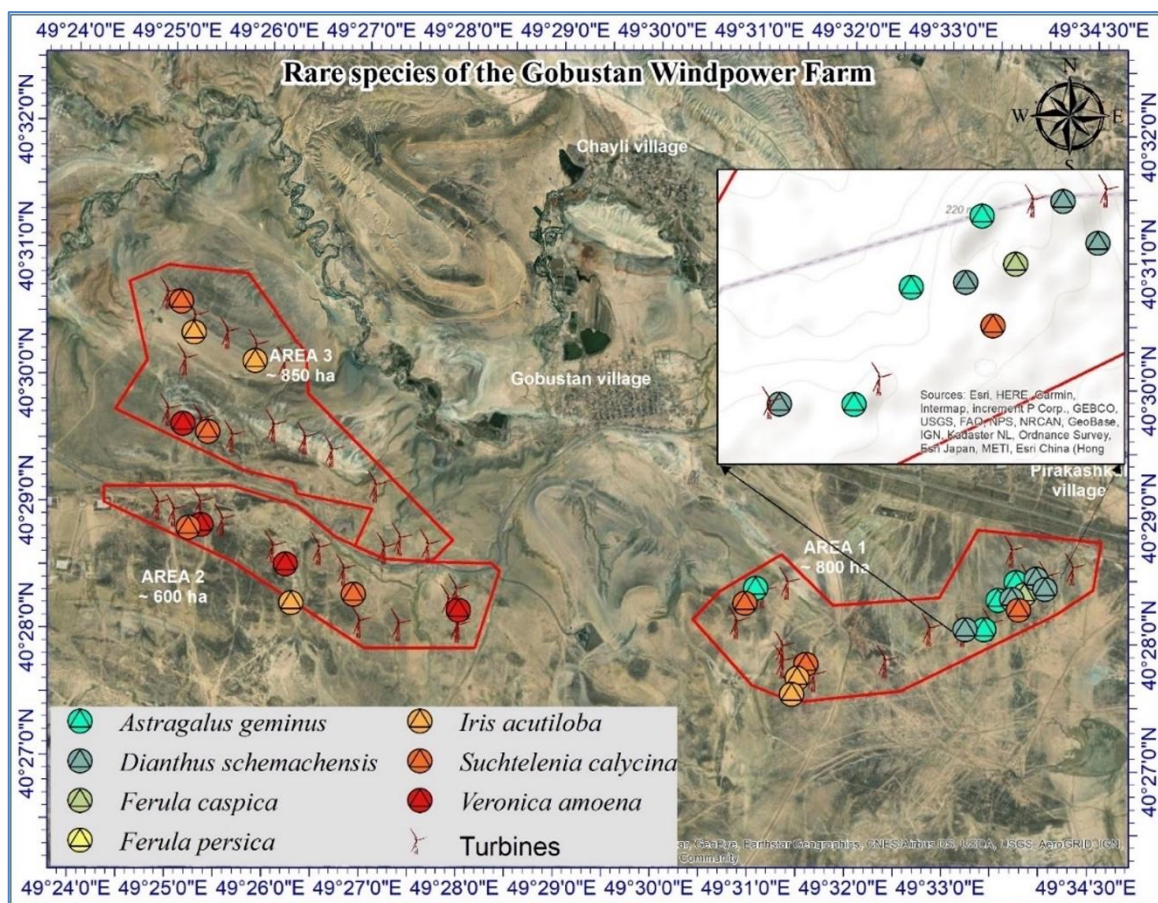


Figure 10-7 Distribution of Red listed species in the Project area

AVIFAUNA

Vantage Point Survey Results

The Vantage Point (VP) surveys were conducted in accordance with NatureScot guidance to ensure data quality suitable for Collision Risk Modelling (CRM), using the method developed by William Band and colleagues.

Surveys were carried out by national ornithologists. Over the course of a year, from February 10, 2024, to January 20, 2025, a total of 844.3 hours of VP survey effort was completed across six vantage points, based on the layout of the original Project design. However, as the northern areas were excluded in the updated project layout, data from the corresponding VP (VP5) have been excluded from the analysis presented in this section.

The VP survey protocol was developed with technical input from the Project's International Ornithologist in alignment with Scottish Natural Heritage (SNH) 2017 recommendations, to ensure the data were appropriate for input into the Band (2012) CRM model. In addition to providing initial methodological guidance, the International Ornithologist reviewed geospatial information to support the selection and placement of VP locations. A site visit was conducted from March 27 to April 1, 2024, during which the International Ornithologist ground-truthed the

VP positions and provided direct training and capacity building to the local ornithology team on field methodology and data recording techniques.

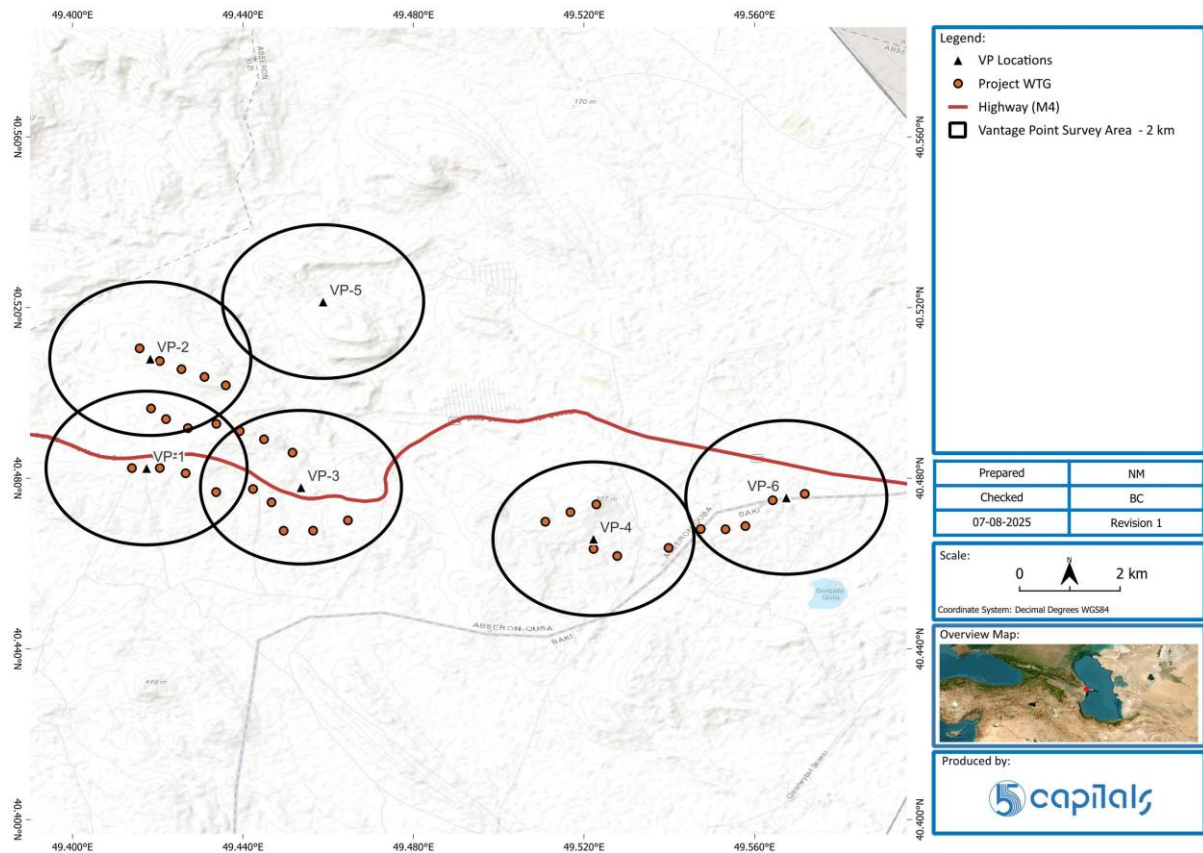


Figure 10-8 VP Locations at the Project Site

Seasonal Patterns

A total of 1,740 bird observations, representing at least 28 identified species, were recorded throughout the year. Bird activity demonstrated clear seasonal variation, with the highest number of observations recorded during autumn (917 observations; 53%), followed by spring (331; 19%), summer (271; 15%), and winter (221; 13%) (Refer to the following figure).

Vultures dominated the observations, accounting for 1,164 observations (66.9%). Within this group, Cinereous Vultures were most prevalent, peaking in autumn with 313 of 580 total observations. Griffon Vultures also showed a strong seasonal pattern, with 244 of their 421 records occurring in autumn. Egyptian Vultures, although less abundant (62 observations), were primarily recorded in summer (52). Other unidentified vulture species contributed 101 observations, with their presence distributed more evenly across seasons. These trends indicate that autumn was the most critical period for soaring bird activity in the Project area, both in terms of abundance and species richness.

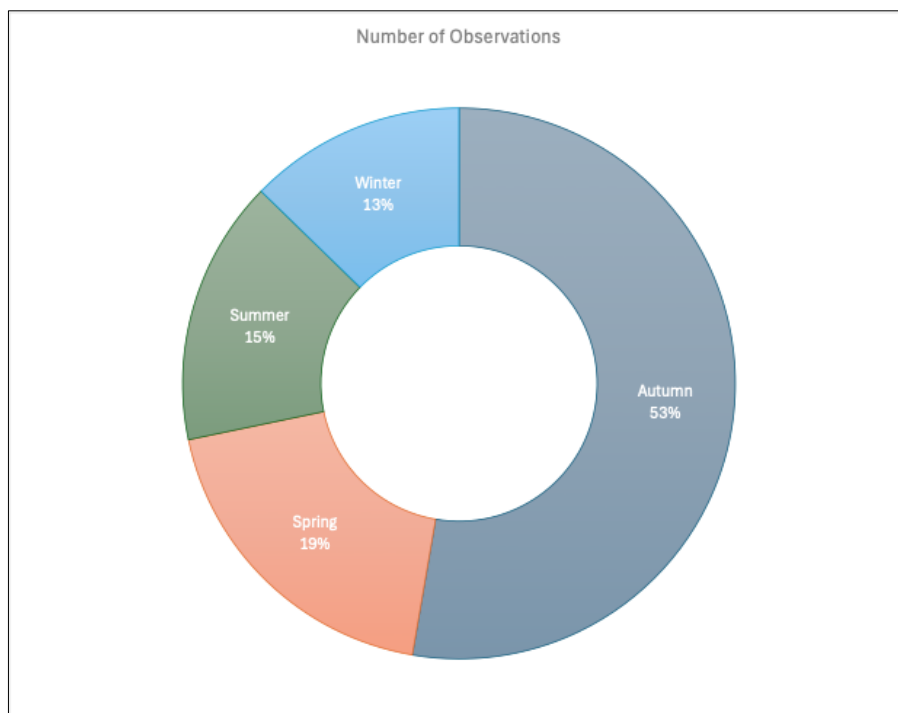


Figure 10-9 Seasonal Variations in the VP Observations

Across the five VPs, VP2 recorded the highest overall bird observations with 430 records (24.7%), followed closely by VP3 with 417 observations (23.9%), and VP4 with 342 observations (19.7%). VP1 and VP6 contributed approximately 15.7% (274 observations) and 15.9% (277 observations) of the total, respectively.

Cinereous Vultures were most frequently observed at VP2 (173) and VP3 (135), while Griffon Vultures were most abundant at VP3 (163). VP6 stood out for the highest number of Lesser Kestrel sightings (54), whereas VP1 recorded the most Common Kestrels (70). Other notable distributions include Steppe Eagles, most commonly observed at VP2 (38), and Little Bustards, which were only recorded at VP1 and VP2.

Survey results indicate that Cinereous and Eurasian Griffon vultures are common, year-round visitors to the Project area. Their presence is likely influenced by the availability of carrion, primarily from large herds of domestic sheep in the landscape. Additional attractants may include improperly managed livestock carcasses, including poultry, from nearby farms. This localized carrion availability is likely an important factor contributing to vulture activity and highlights the importance of implementing a robust carcass management program during Project operations to minimize associated risks.

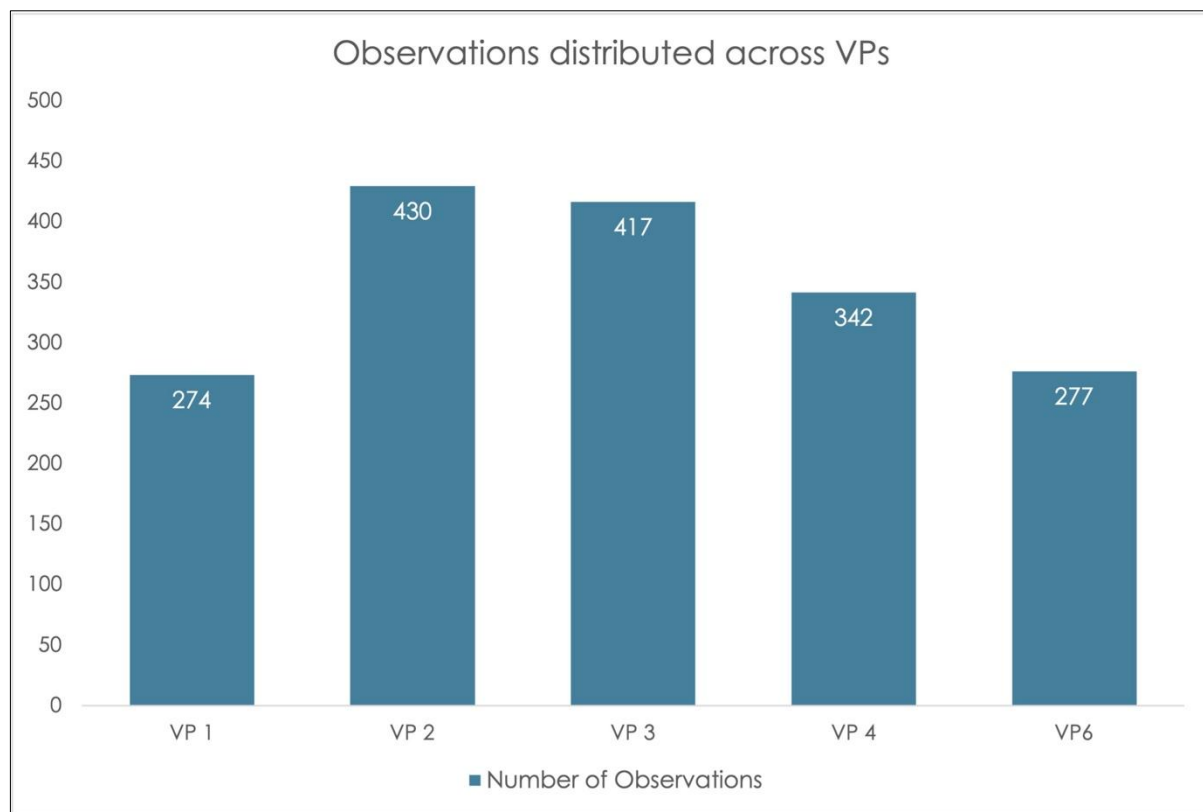


Figure 10-10 Observations Distributed Across VPs

*It is important to note that although data associated with VP5 have been excluded from the current baseline analysis due to the removal of the northern turbine locations from the revised project layout, this vantage point represented a clear outlier in terms of avian activity and collision risk potential. VP5 alone accounted for more than 47% (1571) of all observations recorded across the six VPs, with at least 21 identified taxa, and was particularly notable for high concentrations of collision-prone raptors, including around 48.6% of all Cinereous Vulture, 43.8% of Eurasian Griffon, 41.6% of Steppe Eagle, 52.2% of Eastern Imperial Eagle, and around 72.2% of other unidentified vulture observations. These species are identified in original Collision Risk Modelling (CRM) as having one of the highest predicted collision rates, with estimates ranging from 5.36 to 6.77 collisions. In total, over 50% of all observations for these high-risk species were concentrated at VP5, while the remaining VPs each contributed an average of approximately 10%. This concentration underscores the northern area as a likely hotspot for soaring raptors and a potential area of elevated collision risk under earlier layouts. As such, the removal of northern WTGs in the revised design resulted in a meaningful and significant reduction in overall avian collision risk, particularly for priority species identified through CRM. Further details related to the layout revision and subsequent change in the risk profile of the Project have been discussed in **Section 3 Project Alternatives**.*

The following figure presents seasonal patterns for species with more than 30 total observations across the whole year of VP monitoring. The overall VP-wise observations have been provided in the following table.

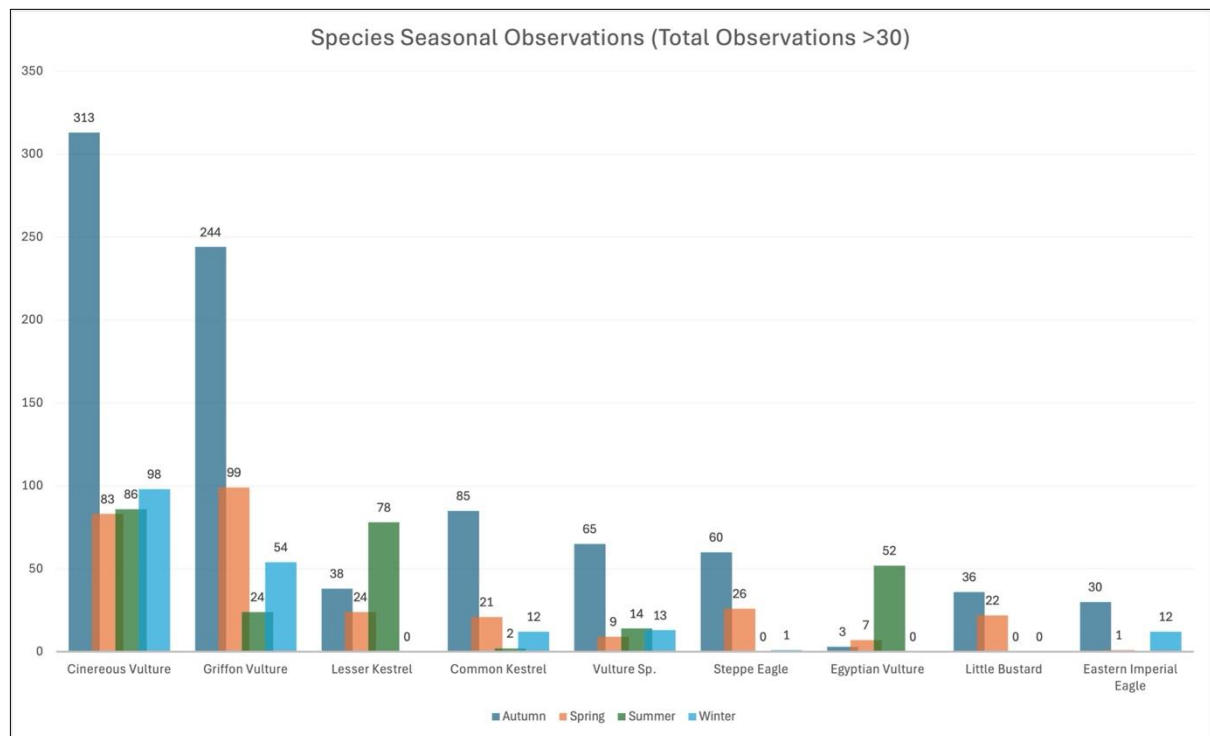


Figure 10-11 Seasonal Observations for Species with total observations >30

Table 10-3 VP Survey Results

COMMON NAME	SCIENTIFIC NAME	IUCN STATUS	AZRB STATUS	STATUS/DISTRIBUTION RANGE	VP 1	VP 2	VP 3	VP 4	VP6	GRAND TOTAL
Cinereous Vulture	<i>Aegypius monachus</i>	NT	EN	Resident	76	173	135	112	84	580
Griffon Vulture	<i>Gyps fulvus</i>	LC	VU	Resident	32	68	163	113	45	421
Lesser Kestrel	<i>Falco naumanni</i>	LC	-	Resident	32	10	5	39	54	140
Common Kestrel	<i>Falco tinnunculus</i>	LC	-	Resident	70	22	5	10	13	120
Vulture Sp.	<i>Vulture Sp.</i>	-	-	-	12	34	51	-	4	101
Steppe Eagle	<i>Aquila nipalensis</i>	EN	EN	Migratory	3	38	15	17	14	87
Egyptian Vulture	<i>Neophron percnopterus</i>	EN	EN	Migratory	10	15	17	10	10	62
Little Bustard	<i>Tetrax tetrax</i>	NT	NT	Migratory	22	36	0	0	0	58
Eastern Imperial Eagle	<i>Aquila heliaca</i>	VU	EN	Migratory	7	3	9	11	13	43
Long-legged Buzzard	<i>Buteo rufinus</i>	LC	-	Breeding	2	7	3	14	3	29
Marsh Harrier	<i>Circus aeruginosus</i>	LC	-	Breeding	3	1	3	3	3	13
Eagle sp.	<i>Eagle sp.</i>	-	-	-	1	3	1	4	1	10
Black-bellied Sandgrouse	<i>Pterocles orientalis</i>	LC	-	Resident	1	9	0	0	0	10
Harrier sp.	<i>Circus sp.</i>	-	-	-	0	0	0	0	8	8
Falcon sp.	<i>Falco sp.</i>	-	-	-	-	3	4	-	1	8
Whooper Swan	<i>Cygnus cygnus</i>	LC	-	Migratory	-	-	-	-	6	6
Black Kite	<i>Milvus migrans</i>	LC	VU/CR	Breeding	1	1	-	-	4	6
Golden Eagle	<i>Aquila chrysaetos</i>	LC	VU	Resident	-	1	1	-	2	4
Eagle sp.	<i>Aquila sp.</i>	-	-	-	-	1	1	2	-	4
Eurasian Sparrowhawk	<i>Accipiter nisus</i>	LC	-	Breeding	-	-	1	-	2	3
Common Buzzard	<i>Buteo buteo</i>	LC	-	Resident	1	-	-	-	2	3

COMMON NAME	SCIENTIFIC NAME	IUCN STATUS	AZRB STATUS	STATUS/DISTRIBUTION RANGE	VP 1	VP 2	VP 3	VP 4	VP 6	GRAND TOTAL
Short-toed Snake-Eagle	<i>Circaetus gallicus</i>	LC	EN	Migratory	-	3	-	-	-	3
Hen Harrier	<i>Circus cyaneus</i>	LC	-	Migratory	-	1	1	1	-	3
Northern Lapwing	<i>Vanellus vanellus</i>	LC		Breeding	-	-	-	2	1	3
Northern Goshawk	<i>Accipiter gentilis</i>	LC	VU	Resident	1	-	1	1	-	3
Rough-legged Buzzard	<i>Buteo lagopus</i>	LC		Migratory	-	-	-	-	2	2
Buzzard sp.	<i>Buteo sp.</i>	-	-	-	-	-	-	-	2	2
Eurasian Hobby	<i>Falco subbuteo</i>	LC	VU	Breeding	-	-	1	1	-	2
Mute Swan	<i>Cygnus olor</i>	LC	CR/NT	Migratory	-	-	-	-	1	1
Lanner Falcon	<i>Falco biarmicus</i>	LC	CR	Migratory	-	1	-	-	-	1
Merlin	<i>Falco columbarius</i>	LC		Migratory	-	-	-	-	1	1
Peregrine Falcon	<i>Falco peregrinus</i>	LC		Resident	-	-	-	1	-	1
European Honey-Buzzard	<i>Pernis apivorus</i>	LC	CR	Breeding	-	-	-	1	-	1
Small Raptor sp.	<i>Small Raptor sp.</i>	-	-	-	-	-	-	-	1	1
Grand Total					274	430	417	342	277	1740

Breeding Bird Survey

The breeding bird survey was carried out over eight days between May 4th and July 6th, 2024, following the transect methodology. Surveys were conducted during early morning hours (typically between 05:30 and 10:00). Three transects, covering the Project area were surveyed a total of three times per month throughout the breeding season.

A total of 24 bird species were recorded, including eight species of raptors. Four raptor species have elevated conservation status: two are listed in the Azerbaijan Red Data Book (Griffon Vulture and Black Kite), and Egyptian Vulture (EN) and Cinereous Vulture (NT) are listed on both the AZRB and the IUCN Red List. The remaining three raptor species, including Lesser Kestrel, Eurasian Kestrel, and Long-legged Buzzard, are considered common in the region.

Species richness and raptor activity were highest near VPs 3 and 6, which hosted 15 and 12 species, out of which four were raptor species each. In contrast, areas near VPs 1, 2, and 4 showed lower species diversity and raptor presence with 9, 7 and 8 total species respectively.

Nocturnal Bird Survey

A targeted nocturnal bird survey was carried out over six nights between April and May 2025, coinciding with full moon periods to enhance detectability. Surveys were conducted in the Project area using vehicle-based observations and auditory detections between evening and early morning hours. The primary aim was to detect the presence and breeding activity of nocturnal species such as the Little Owl (*Athene noctua*) and Eurasian Eagle Owl (*Bubo bubo*), which are known or expected to occur in similar semi-desert landscapes across Azerbaijan.

The surveys confirmed the presence of total three nocturnal species, primarily the Little Owl, with two potential nesting sites recorded near VPs 3 and 4. Nightjar sp. activity was recorded in the area of VPs 4 to 6, both by voice and in flight and unconfirmed call of Scops Owl in VP6 area. All recorded species are common in the region and are not listed under the Azerbaijan Red Data Book. Transects and results of the survey and provided in the following figure.

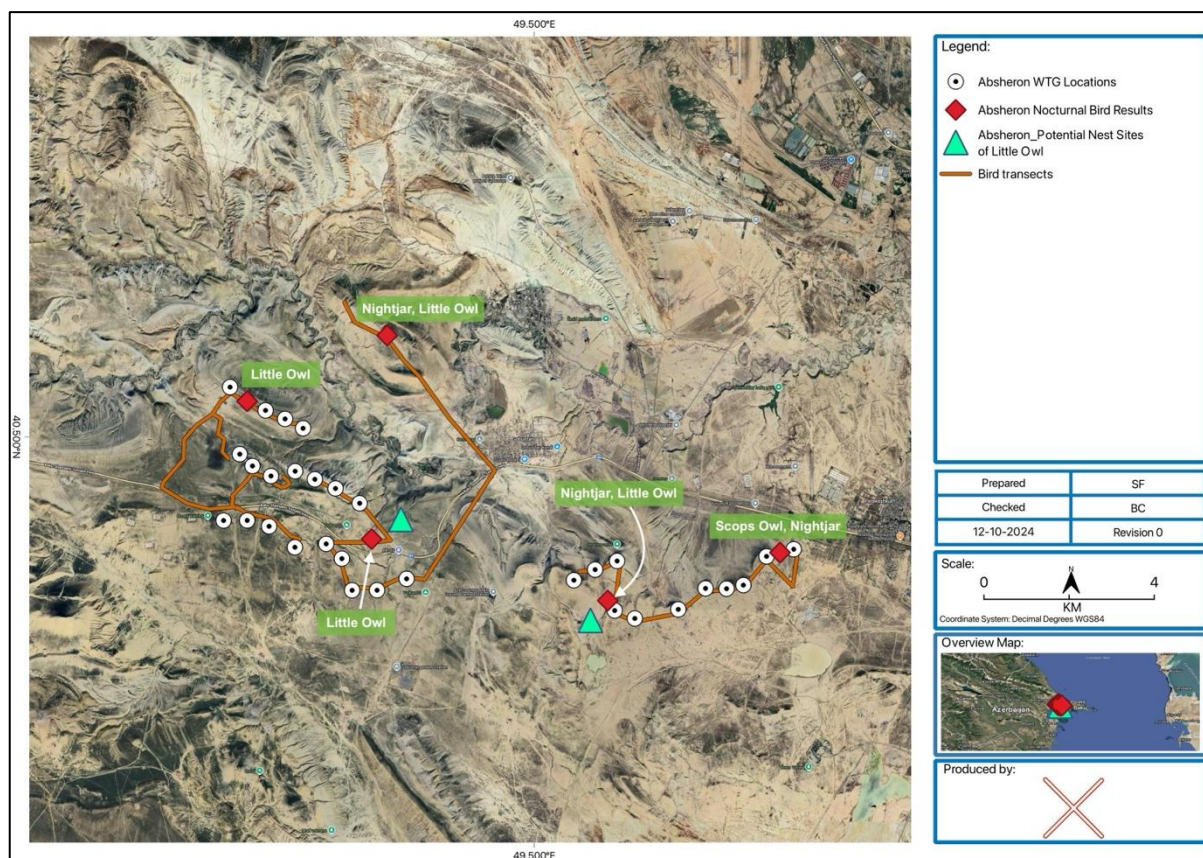


Figure 10-12 Results of Nocturnal Bird Survey

Raptor Nest Survey

The raptor nest survey was carried out over eight non-consecutive days during June and July 2024: specifically, on June 23, 26, and 30, and July 7, 11, 13, and 14. The surveys were entirely ground-based, involving both opportunistic and targeted searches of likely nesting substrates. Particular attention was given to features known to support raptor nesting, such as cliffs, trees, and anthropogenic structures like power line pylons and poles.

In total 12 confirmed active nests or colonies were recorded within a 5 km radius of the Project site (refer to the following figure). Of these, 11 were Lesser Kestrel nests or breeding colonies, and one nest was attributed to the Eurasian Hobby which was recorded in the area of the now-excluded northern WTGs. Three closely located Lesser Kestrel sites may represent a single colony, reducing the total to nine. The nearest active Lesser Kestrel nest was located approximately 200 m north of the easternmost wind turbine. While none of these species are globally threatened according to the IUCN, the Eurasian Hobby is listed as Vulnerable in the Azerbaijan Red Data Book.

The Eurasian Hobby nest was found on an electric pole, while Lesser Kestrels were recorded nesting mainly in natural sites like rock crevices or abandoned buildings, consistent with their known preferences.

In addition, 12 potential nest places were found: 9 for Lesser Kestrel, and 1 each for Long-legged Buzzard, Lanner Falcon and Marsh Harrier. Among these, only Lanner Falcon is listed in Azerbaijan Red Data Book (CR). A site was classified as a potential nest location if it exhibited notable raptor activity, such as the repeated presence of a single pair or a localized concentration of individuals. However, these sites may also have functioned as feeding or perching locations and were not assumed to be active nests without further evidence.

A site was confirmed as an active nest only when direct evidence was observed, specifically the presence of chicks and active parental care such as feeding behaviour.

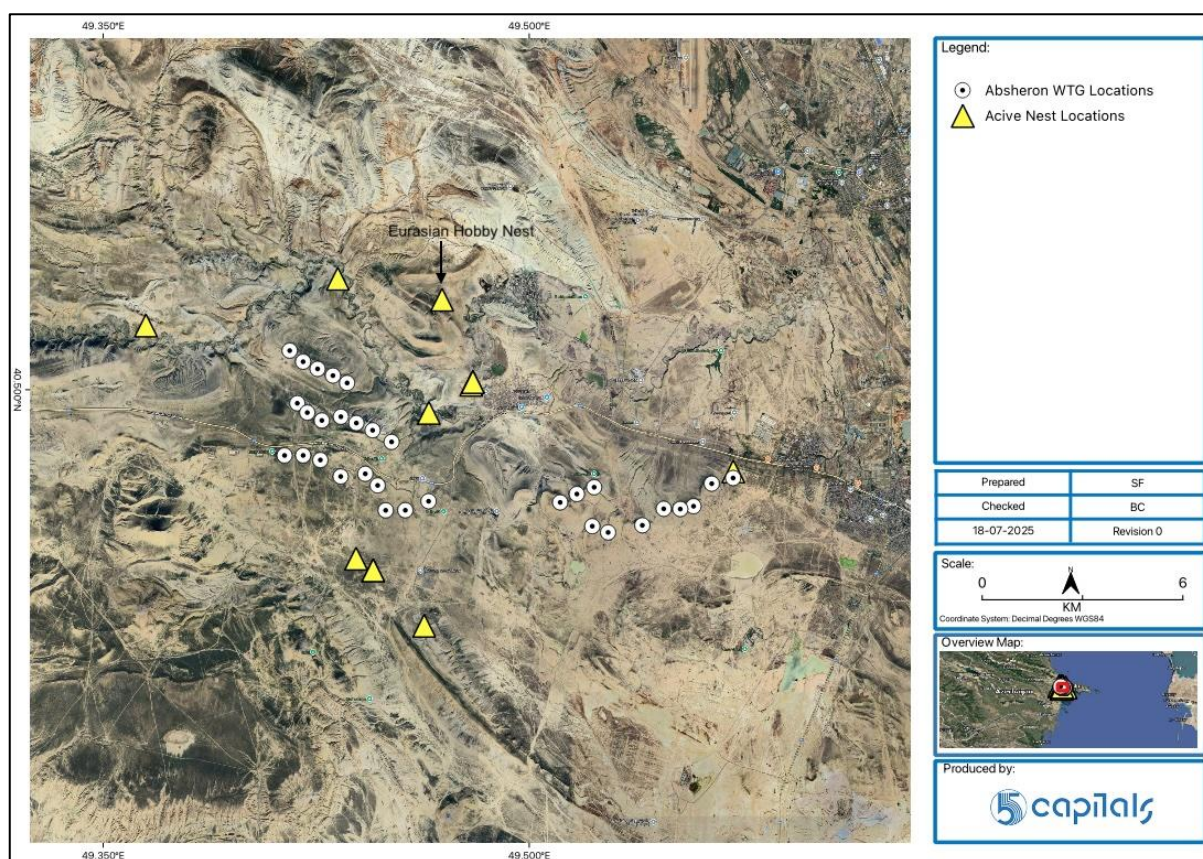


Figure 10-13 Locations of the Active Raptor Nests Recorded

REPTILES

Reptile surveys were conducted over eight days between April and August (April 6, May 4, June 7, 8, July 6, 13, 20 and August 6) using daytime active searches through transects (3 m wide, 1–5 km long) (Refer to the following figure). Special attention was paid to potential reptile hiding places during the hottest parts of the day. Any opportunistic observations/sightings outside the transects were also recorded. Species identification was primarily based on morphological characteristics, such as shell structure. Areas of snake activity were inferred based on visible tracks.

In addition to the primary surveys, available literature and previous studies conducted in the broader landscape were also reviewed.

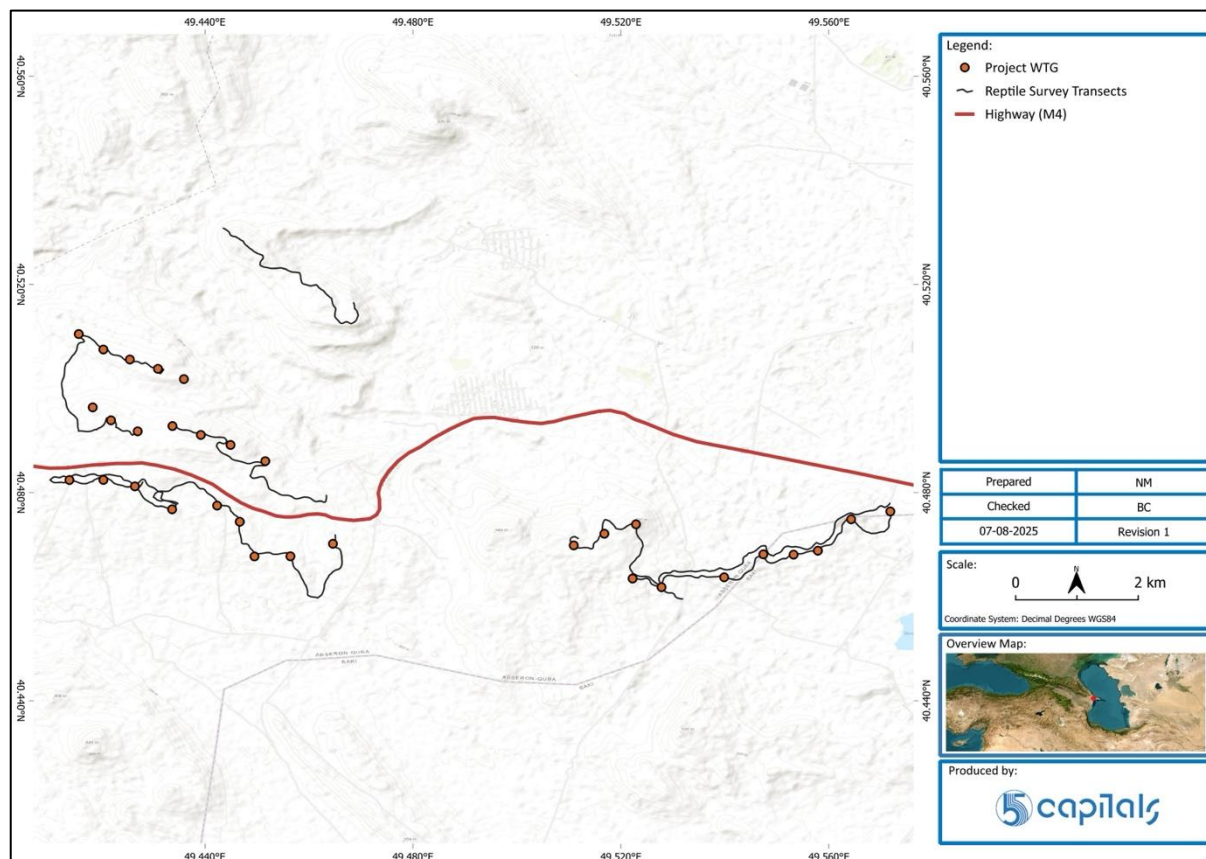


Figure 10-14 Reptile Survey Transect Locations

The review of available literature revealed that 20 – 27 reptile species have been reported in the Gobustan and surrounding regions, with some variation between studies.

The primary surveys recorded six reptile species within the Project area (Refer to the following figures). The Caspian Bent-Toed Gecko was the most frequently observed, showing high local density, while the Greek Tortoise was recorded only once. Only a single adult male was found on a farm outside the Project area, with no other evidence of a local population. Moreover, previous studies by zoologists/researchers working in the region also did not report this species, suggesting that it was likely introduced by local residents and not part of a stable population. Other species included the Steppe-Runner, Snake-Eyed Lizard, Eastern Montpellier Snake, and Levant Viper, with varying habitat preferences across semi-desert and steppe environments.

Among these species, only the Greek tortoise is listed as Vulnerable on the IUCN Red List and is included in the Third Edition of the Red Book of the Republic of Azerbaijan. The remaining species are classified as Least Concern (LC) under the IUCN Red List.

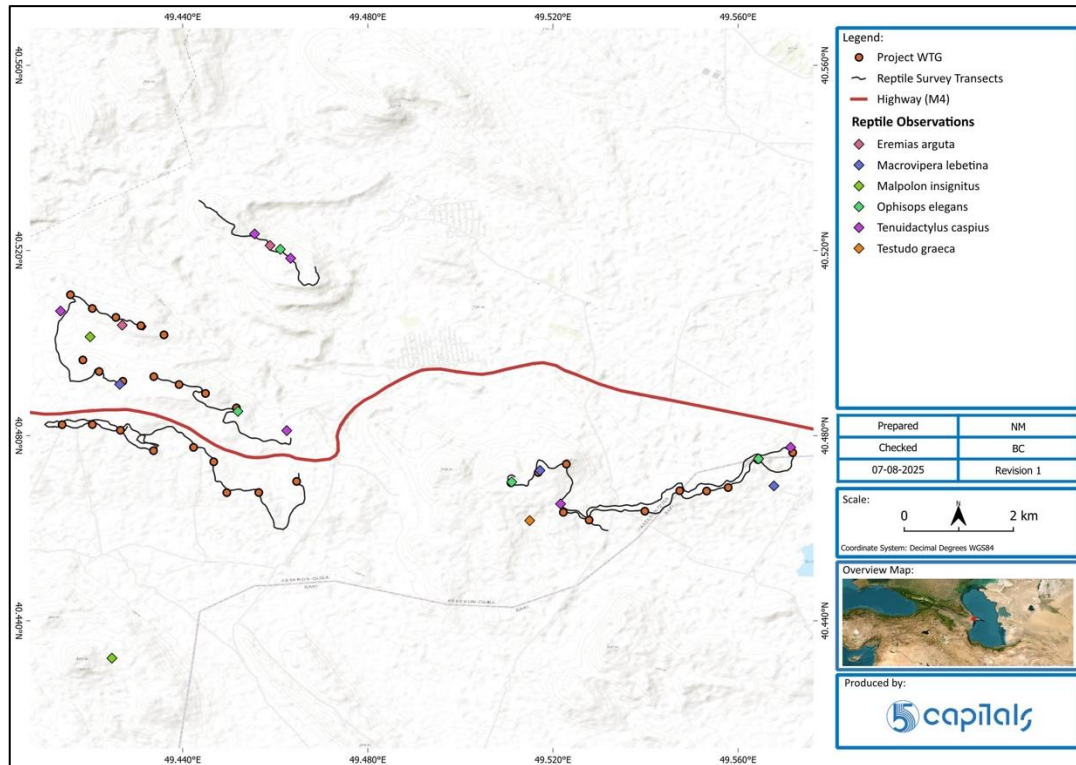


Figure 10-15 Locations of reptiles recorded



Tenuidactylus caspius



Eremias arguta



Ophisops elegans juvenile individual



Ophisops elegans adult individual

Figure 10-16 Photographs of some species observed at the Project site.

Table 10-4 Reptiles observed during at Project site

COMMON NAME	SPECIES	GLOBAL THREAT CATEGORIES				NATIONAL THREAT CATEGORY
		IUCN	BERN	CITES	HABITAT DIR.	
Greek Tortoise	<i>Testudo graeca</i>	VU	Annex II	Annex II	Annex II/IV	NT
Caspian Bent-toed Gecko	<i>Tenuidactylus caspius</i>	LC	-	-	-	-
Steppe Runner	<i>Eremias arguta</i>	LC	-	-	-	-
Snake-eyed Lizard	<i>Ophisops elegans</i>	LC	Annex II	-	Annex IV	-
Eastern Montpellier Snake	<i>Malpolon insignitus</i>	LC	-	-	-	-
Levant Viper	<i>Macrovipera lebetina</i>	LC	-	-	-	-

BATS

Bat baseline surveys were conducted across two active seasons, from the 31st March 2024 to the 31st October 2025, using a combination of traditional field methods and modern acoustic monitoring to assess bat presence and activity. Traditional methods included mist-netting, roost searches, transect counts, and consultations with local communities. The sampling locations have been mapped in the following figure.

- Roosts Searches: Roosts were searched in natural and man-made structures such as caves, cavities, bridges, tunnels, old building, etc. up to 20 km from the Project location.
- Mist Netting: Nets were set near roosts and flyways to capture bats for identification and release after measurement. Locations varied based on likelihood of capture.
- Acoustic Surveys: Night-time transect surveys used handheld bat detectors to record call activity. Data collected included call frequency, species identification (where possible), and coordinates.
- Static Monitoring: In the 2024 season, three wind masts were equipped with passive detectors (at ~10 m and 80 m heights) from mid-September 2024 to late October 2024. However, initial recordings from April to September 2024 were made from ground-level sites before mast erection.
- Static detector surveys were conducted again in the 2025 active season. With detectors installed on the met masts from 11 April to 31 October, again with two detectors on each of the three met masts.
- Detectors recorded continuously from sunset to sunrise, following EUROBATS²² and South African Bat Assessment Association (SABAA) guidelines.

²² Eurobats guidelines for consideration of bats in wind farm projects

- According to the SABAA guidelines, at least 75% of the bat active season must be covered by static surveys. In Azerbaijan, the bat active season spans 200–210 days (April to mid-October). The overall detector deployment in the Project area in 2024 lasted 210 days, with recordings over 178 days, providing 85% coverage of the bat active season. However, coverage per detector was lower due to the unavailability of masts to mount detectors at height. In 2024, detectors on masts recorded for only 31–35 days. To address this gap, supplemental elevated-height surveys were conducted to capture the full active season of 2025.
- In the 2025 active period, the static acoustic surveys, conducted using six bat detectors mounted on three masts, averaged 81% of the 2025 active period.

The following tables outline the locations and dates of the 2024 transects and the 2024 and 2025 passive surveys. The following figure depicts their relative locations.

Table 10-5 Locations of the transects for bat survey

ROUTE	SURVEY DATES - 2024			COORDINATES		
	SPRING	SUMMER	AUTUMN	START	END	LENGTH
Route 1	March 31, April 21, May 25 2024	June 9, July 13, 18, Aug 11 2024	September 22, October 5, 12, 27 2024	40.51361 N 49.47341 E	40.52883 N 49.44601 E	3 km
Route 2				40.48462 N 49.40264 E	40.47269 N 49.47878 E	5 km
Route 3				40.47425 N 49.58778 E	40.47064 N 49.50424 E	4 km

Table 10-6 Locations of the passive monitoring locations

DETECTOR / POINT	MONITORING PERIODS	RECORDING DAYS	COORDINATES
Old Farm (GL)	17 Apr – 17 Sept, 2024	143	40.53454155 49.47414694
Poultry (GL)	17 Apr – 21 Sept, 2024	148	40.48280052 49.40127323
Military Pole (GL)	26 Apr – 22 Sept, 2024	148	40.47826963 49.56917066
MAST1	22 Sep – 26 Oct, 2024	31 (Low)	40.46764722 49.54748056
		33 (High)	
	11 Apr – 30 Oct, 2025	171 (Low)	
		200(High)	
MAST2	22 Sep – 27 Oct, 2024	35 (Low)	40.476861 49.433135
		32 (High)	
	12 Apr – 30 Oct, 2025	180 (Low)	
		120(High)	
MAST3	22 Sep – 27 Oct, 2024	15 (Low)	40.52020579 49.46149489
		33(High)	
	11 Apr – 31 Oct, 2025	204 (Low)	
		165(High)	

<https://arnhemspeil.nl/docs/2008-07-21-eurobats-guidelines-for-consideration-of-bats-in-wind-farm-projects.pdf>

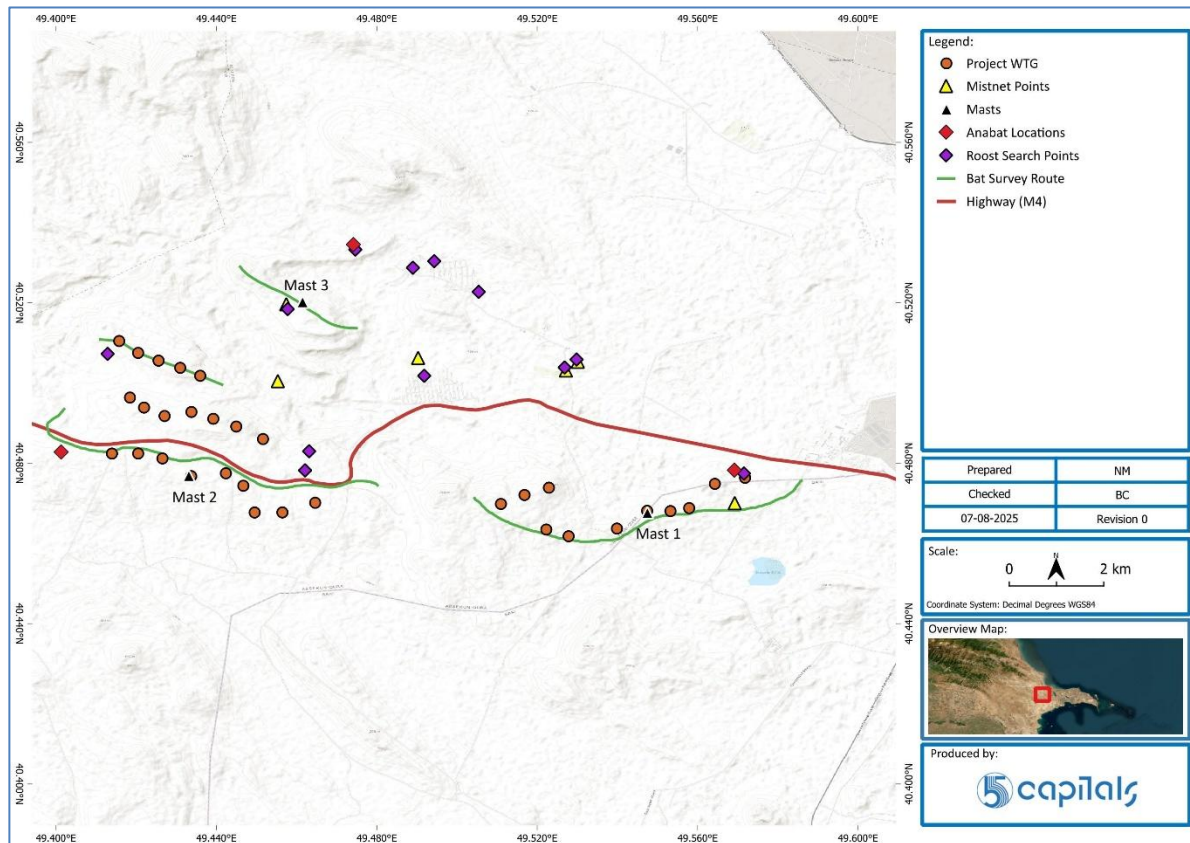


Figure 10-17 Bat survey sampling locations

The key findings of the bat surveys are as follows, please refer to the appended bat report for further details:

- Based on the literature, the bat diversity in the Project Area and surroundings consists of 23 species. Out of these, 18 species were recorded during the primary surveys. The most abundant species in the area belong to *Pipistrellus* genus (*P. kuhlii* and *P. Nathusii*), which were recorded more frequently by both detectors and direct encounters than any other species. Locations of observations are shown in the following two figures.
- Out of the 18 species, 8 are commonly found in the Project Area and surroundings, including 3 species of *Myotis*, *Vespertilio murinus*, and *Pipistrellus nathusii*, the latter of which has a high collision risk. Six species are rare or very rare, while the status of 8 species remains uncertain in terms of their distribution at the site.
- 10 of the recorded species are considered to have a high collision risk, including species from the *Pipistrellus*, *Hypsugo*, *Vespertilio*, *Nyctalus* and *Tadarida* groups. These species are either common or abundant in the area. Bat species with low collision risk, such as *Rhinolophus* and *Myotis*, are rare in the area.
- A total of 7 species were recorded during transect surveys, and 6 bat species were captured during mist net surveys. The night-time count results showed relatively low bat activity along the transects, possibly due to ground-level recording that misses high-flying individuals. Transect 2 showed the highest level of bat activity with 8.3 calls/hr or 2.2 calls/km.

- Most of the bat species' roosts were associated with man-made structures, with the Project Area serving primarily for foraging or as a passage for migrating bats. There were no significant bat colonies or shelters/roosts in the immediate vicinity of the Project Area.
- Based on the 2025 passive acoustic surveys, bat activity across the Project Area was moderate but highly variable, showing clear early and late-season peaks linked to juvenile dispersal, migration, and foraging. Activity differed markedly between ground level (GL) and upper level (UP), underscoring strong vertical stratification.
- The 2025 passive acoustic survey recorded 16 bat species, most of which are locally rare. Four species are listed in the Red Book of Azerbaijan, and two are classified as Vulnerable (VU) by the IUCN. Compared to the 2024 passive acoustic surveys, one additional species (*Myotis daubentonii*) was recorded.
- Mast 1 recorded the highest Bat Activity Index (BAI), driven by extreme UP peaks (up to 33.06 BAI/hr) during mid- and late season. These peaks reflect intensive use of rotor-height airspace by high-flying, migratory species, indicating elevated collision risk.
- Mast 2 showed consistently low activity at both heights, while Mast 3 exhibited moderate GL activity with limited UP peaks. Both sites are primarily used by low- and mid-flying species, suggesting lower turbine collision risk compared to Mast 1.
- Ground Level activity is generally moderate, with averages ranging from 0.50 BAI/hr (Mast 2) to 1.70 BAI/hr (Mast 1). Maximum activity at GL is highest at Mast 1 (25.1), followed by Mast 3 (10.07 BAI/hr) and Mast 2 (3.17 BAI/hr), indicating occasional intense foraging events by low- to mid-flying species.
- GL activity dominates Masts 1 and 3, suggesting these sites are primarily used by low-flying, clutter-adapted species. Nights with very low activity (min 0.02–0.03 BAI/hr) occur across all masts, reflecting temporal variability influenced by weather, prey availability, or environmental conditions.
- Upper activity is highly variable and shows extreme peaks at Mast 1 (max 33.06 BAI/hr), reflecting high-flying, open-air species and migratory events. Masts 2 and 3 show lower UP activity (max 1.68 and 3.74 BAI/hr), indicating limited presence of high-flying species at these sites; this vertical stratification highlights relatively elevated collision risk at Mast 1 due to concentrated upper-level activity within the rotor-swept zone.

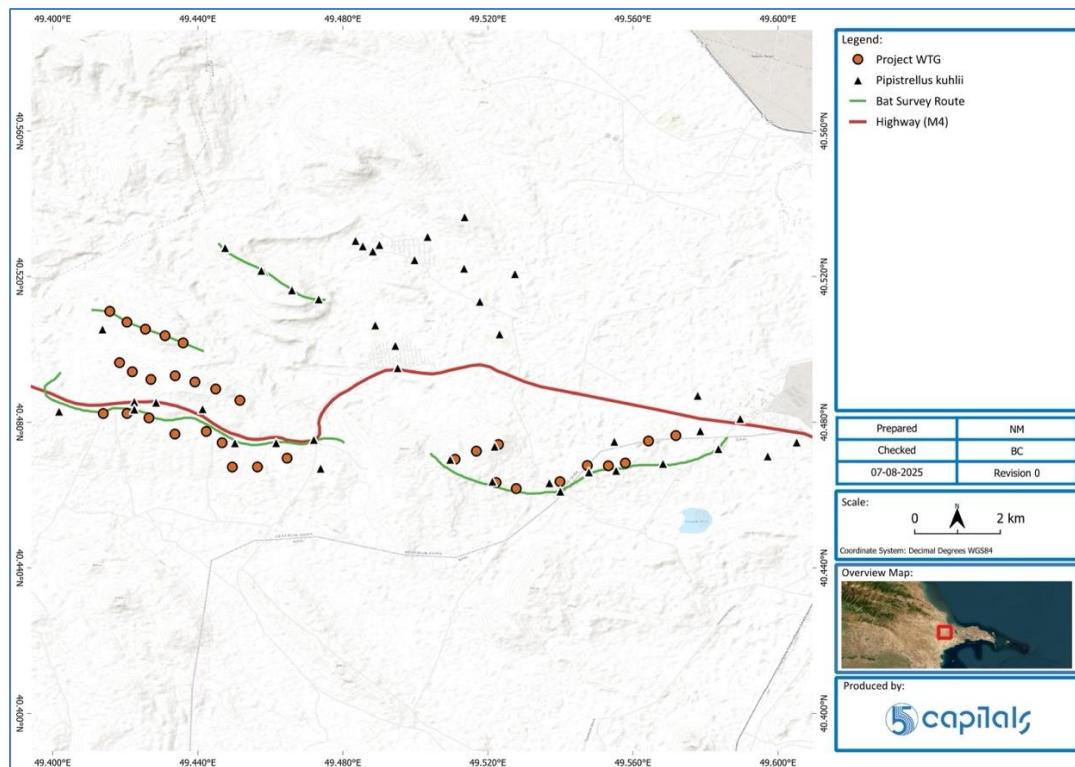


Figure 10-18 Locations of *Pipistrellus kuhlii* records

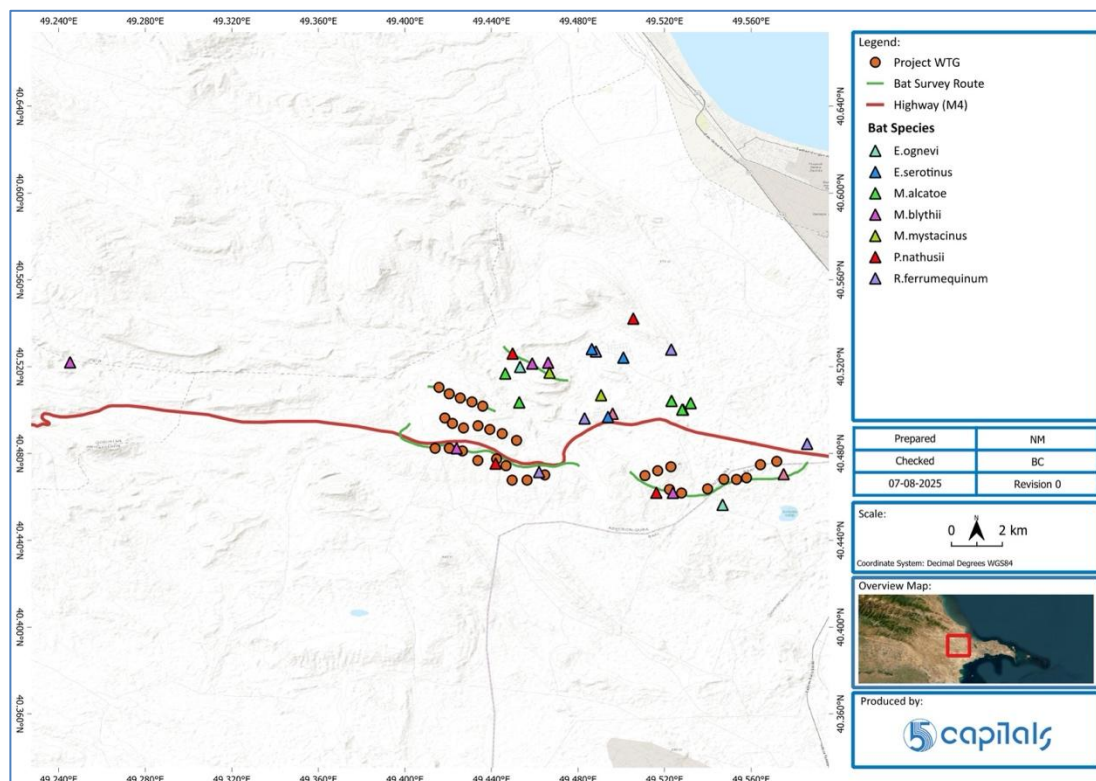


Figure 10-19 Locations of other bat species observed

A summary of the BAI results for the 2025 active season is shown in the following table. Full bat survey results, including those of the 2024 season, are provided in the appended ecology reports.

Table 10-7 2025 BAI Values

POINT	MIN	MAX	AVERAGE	ACTIVITY LEVEL / DESCRIPTION
Mast 1- GL	0.02	25.13	1.7	Regular bat activity, indicating consistent local movement and possible foraging.
Mast 1 - UP	0.02	33.06	1.6	Comparable mean activity to GL but with high episodic peaks, suggesting intensive use of upper airspace during specific nights (e.g. commuting or migration).
MAST 1 FULL	0.02	33.06	2.0	Highest overall bat activity among all masts, with strong vertical use and occasional extreme activity events.
Mast 2- GL	0.02	3.17	0.5	Limited bat activity, indicating low habitat attractiveness or transit use.
Mast 2- UP	0.02	1.68	0.2	Very limited use of upper airspace by bats.
MAST 2 FULL	0.02	3.17	0.59	Lowest overall bat activity of all masts, with weak vertical and horizontal bat movement.
Mast 3- GL	0.02	10.07	0.85	Moderate bat activity with occasional peaks, suggesting localized foraging or movement.
Mast 3- UP	0.02	3.74	0.3	Low bat activity aloft, indicating limited vertical use compared to ground level.
MAST 3 FULL	0.03	13.82	0.93	Moderate activity is dominated by ground-level bat movements, with limited upper-airspace use.

The following figures depict the 2025 BAI results.

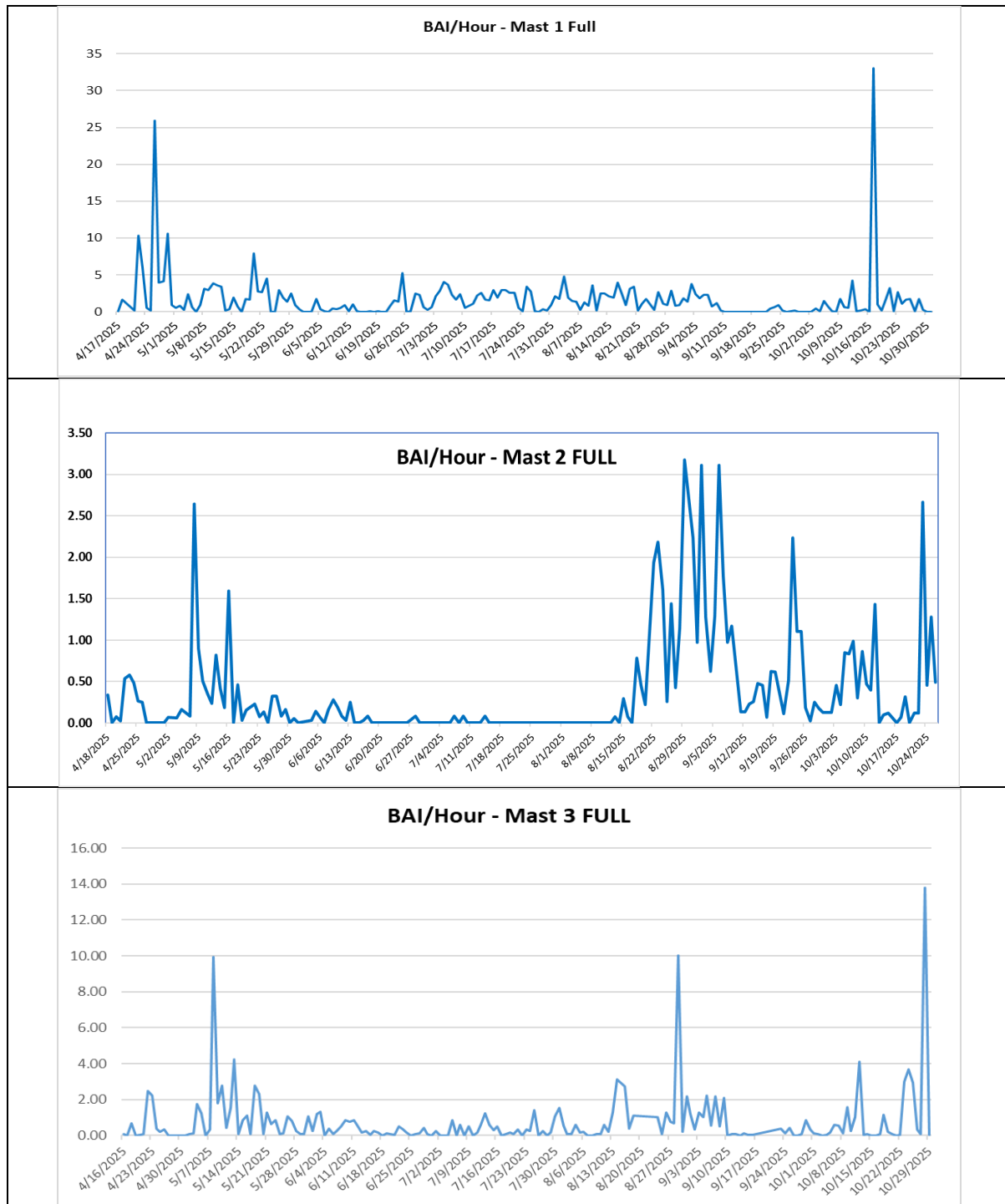


Figure 10-20 2025 BAI results for each mast (GL and UP detectors combined)

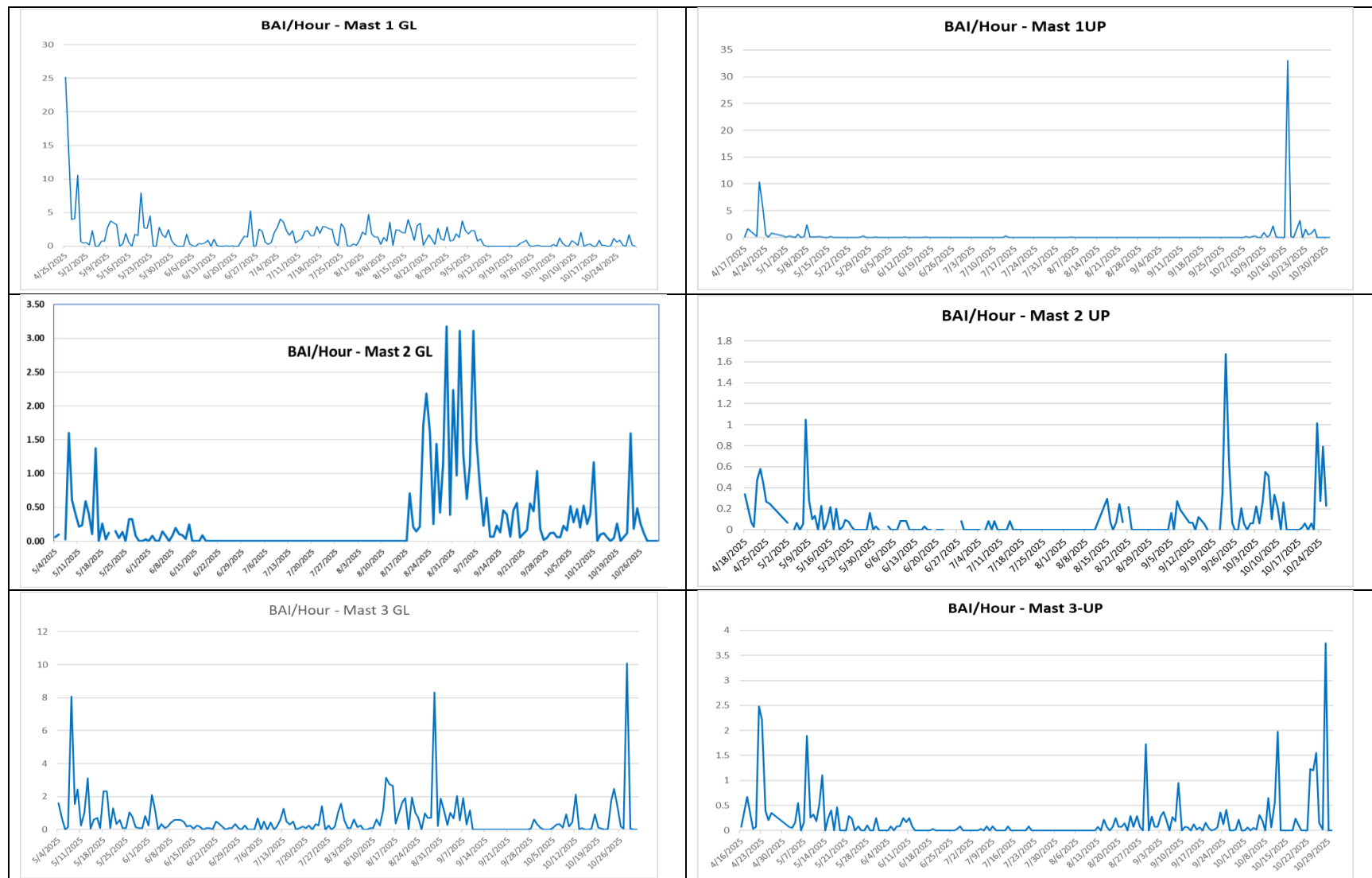


Figure 10-21 2025 BAI based on recordings of individual detectors on masts

BAT-WIND ANALYSIS

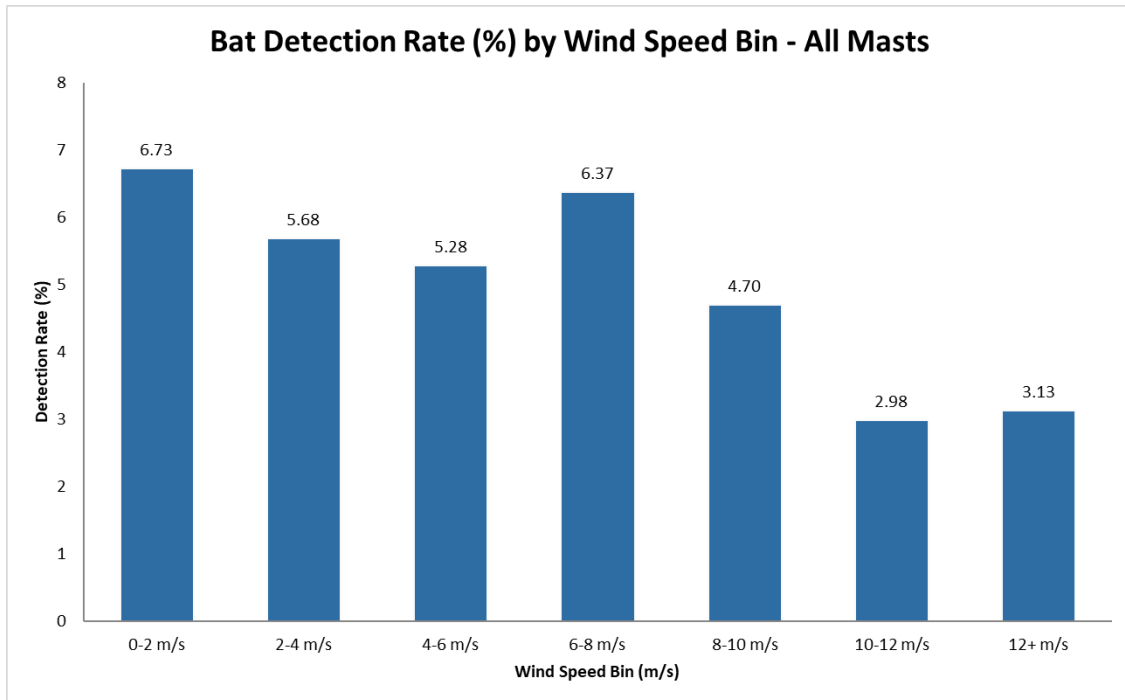
The correlation between bat activity and wind speed was assessed by comparing acoustic monitoring data from the upper-level detectors with wind speed data recorded at all three met masts. Bat activity was expressed as the presence-absence (0/1) and aligned with wind speed data for each 10-minute interval. The analysis focused on the night-time window (18:00-08:00), when bats are active. Wind speeds were grouped into discrete bins (e.g., 0-2, 2-4, 4-6 m/s, etc.) to evaluate patterns in activity across increasing wind classes. The analysis was undertaken for all masts combined, as well as individually for each mast, to identify any location-specific patterns.

Overall, the results show that bat activity tends to be higher at lower wind speeds and decreases gradually as wind speed increases, although the relationship is not strong. Bats remained active across a range of wind conditions, but activity was more concentrated under calmer conditions, particularly below approximately 4-6 m/s. At higher wind speeds, activity became more sporadic and generally lower. This indicates that while wind influences bat activity, it may not be the only controlling factor.

Table 10-8 Bat Detection Rate according to the Wind Speed – All Masts

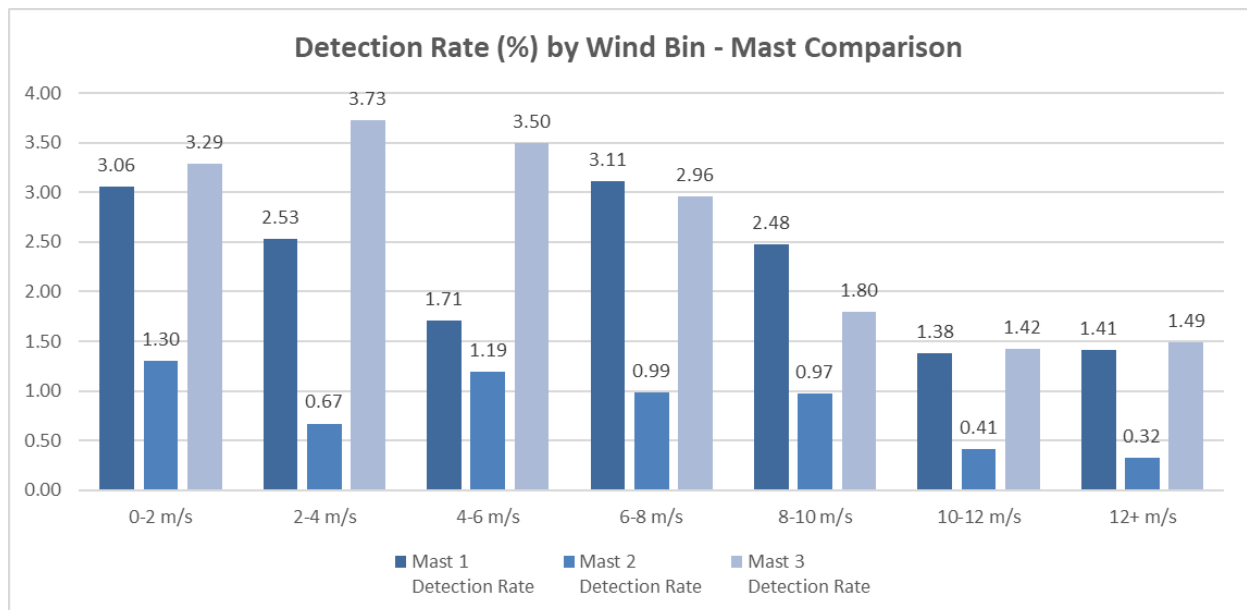
WIND SPEED BIN	TOTAL WINDOW INTERVALS	ACTIVE INTERVALS	DETECTION RATE (%)
0-2 m/s	1308	88	6.73
2-4 m/s	2094	119	5.68
4-6 m/s	2688	142	5.28
6-8 m/s	2636	168	6.37
8-10 m/s	2785	131	4.70
10-12 m/s	2180	65	2.98
12+ m/s	4032	126	3.13
Total/Mean	17723	839	4.73

As indicated in the above table, the 'Total Window Intervals' represent the total number of 10-minute periods within the defined night-time window for which both bat and wind data were available. 'Active Intervals' refer to those intervals where at least one bat pass was recorded. Detection Rate was calculated as the proportion of active intervals relative to total intervals, expressed as a percentage.



A similar pattern is observed across all three masts. Mast 1 shows the clearest reduction in activity with increasing wind speed, reflecting its higher overall levels of bat activity. Mast 3 shows a comparable but slightly more variable pattern, while Mast 2 exhibits weaker trends. Despite these differences, the overall response to wind speed is consistent across the site, with no mast showing a distinctly different pattern.

The chart below shows the comparison between the detection rate across the masts:

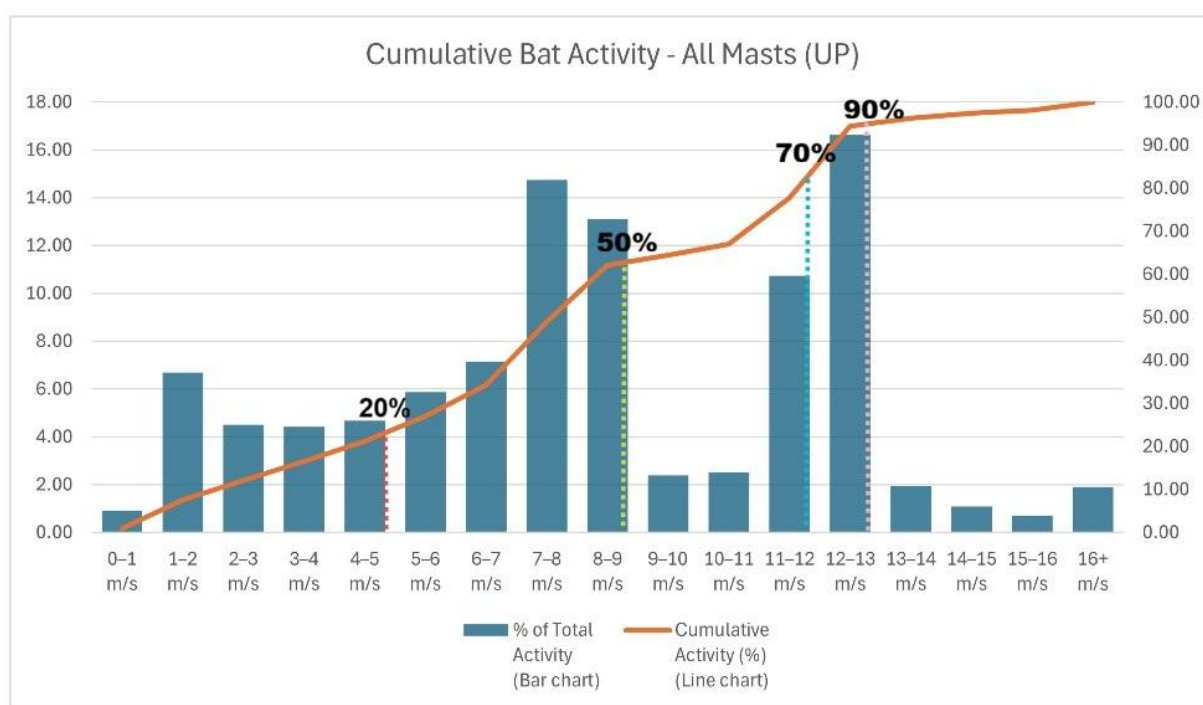


CUMULATIVE ACTIVITY DISTRIBUTION

The cumulative distribution of bat activity across wind speeds was analysed alongside the proportion of total detections within each 1 m/s wind speed class. At Mast 2, approximately

20% of all bat activity was recorded at wind speeds of 3m/s and below, 50% at wind speeds of 7 m/s or below, 75% at or below 9 m/s, and 90% at or below 11 m/s. These thresholds are notably lower than the all-mast combined values (approximately 20% $\leq$ 4-5m/s, 50% $\leq$ 9 m/s; 75% $\leq$ 12 m/s; 90% $\leq$ 13 m/s), indicating that the Mast 2 bat assemblage is more concentrated at lower wind speeds. The activity at Mast 2 UP was dominated mainly by four species viz. *N. leisleri*, *P. kuhlii*, *P. nathusii* and *V. murinus*.

In the figures below, the orange line represents cumulative bat activity, while the blue bars indicate the proportion of total detections within each 1 m/s wind speed class; dashed vertical lines denote the wind speeds at which 20%, 50%, 75%, and 90% cumulative activity thresholds are reached.



The following table outlines the bat species recorded (including within literature) in the Project area.

Table 10-9 Bat species in the Project Area

SN	SPECIES	MAST 1 GL	MAST 1 UP	MAST 2 GL	MAST 2 UP	MAST 3 GL	MAST 3 UP	2024 SURVEYS	FIELD VERIFIED	LITERATURE - WITHIN 50 KM	COLLISION RISK*	ARB	IUCN STATUS
		STATIC ACOUSTIC SURVEY - 2025											
1	<i>Rhinolophus mehelyi</i>									+	Low	EN C2a(ii)	VU
2	<i>R. ferrumequinum</i>							+	+	+	Low	-	LC
3	<i>R. hipposideros</i>					+					Low	CR C2a(i)	LC
4	<i>Pipistrellus kuhlii</i>	+	+	+	+	+	+	+	+	+	High	-	LC
5	<i>P. nathusii</i>	+	+	+	+	+	+	+	+	+	High	-	LC
6	<i>P. pygmaeus</i>							+			High	-	LC
7	<i>P. pipistrellus</i>	+		+				+		+	High	-	LC
8	<i>Hypsugo savii</i>	+	+	+	+	+	+	+		+	High	-	LC
9	<i>Nyctalus leisleri</i>	+	+	+	+	+	+	+	+		High	-	VU
10	<i>Nyctalus lasiopterus</i>	+	+	+	+	+	+	+			High	-	VU
11	<i>Nyctalus noctula</i>	+	+	+	+	+	+	+			High	VU D1	LC
12	<i>Eptesicus serotinus</i>	+	+	+	+	+	+	+		+	Med	-	LC
13	<i>Eptesicus ognevi</i>	+	+	+	+	+		+	+	+	Med	VU D1	LC
14	<i>Plecotus auritus</i>	+		+		+		+			Low	-	LC
15	<i>Myotis emarginatus</i>							+			Low	-	LC
16	<i>Myotis nattereri</i>									+	Low	-	LC
17	<i>Myotis alcatoe</i>					+		+	+		Low	-	LC
18	<i>Myotis daubentonii</i>					+					Low	-	LC
19	<i>Myotis blythii</i>							+	+	+	Low	-	LC
20	<i>Myotis mystacinus</i>							+	+	+	Low	-	LC
21	<i>Vespertilio murinus</i>	+	+	+	+	+	+	+	+	+	High	-	LC
22	<i>Barbastella caspica</i>	+		+		+	+	+		+	Med	VU D1	NE
23	<i>Tadarida teniotis</i>	+	+	+	+	+	+				High	DD	
Total		13	10	13	10	15	10	18	9	13			

*https://www.eurobats.org/sites/default/files/documents/publications/publication_series/pubseries_no6_english.pdf

MAMMALS (NON-VOLANT)

Mammal surveys were conducted along three designated transects within the Project area, chosen for their similar habitat characteristics (Refer to the following figure). Surveys were carried out both during the day and at night between March and October 2024, across specific dates. The day surveys involved walking a total of around 17 km to detect indirect signs of mammal activity, while around 40 km were driven at night to observe nocturnal species directly.

Each transect varied in length (4.0 – 7.1 km), and data were collected through a combination of direct (visual sightings) and indirect (tracks, burrows) observations. Night-time detection was enhanced using vehicle headlights and high-powered lights. Rodent abundance was estimated via burrow counts. For key species such as wolves and gazelles, in addition to the sign and drive through surveys some information was also collected from local community and herders. The river-associated habitats were assessed through opportunistic surveys and/or random walkover.

The baseline surveys recorded 13 mammal species (excluding bats), confirmed through both direct sightings and indirect evidence such as tracks, droppings, and burrows. These species were distributed across diverse habitats including semi-desert shrublands, cereal-grass fields, wetlands, eroded soils, agricultural lands, and settlement surroundings. A further six species were considered potentially present in the region, based on the literature, historical records. Overall, mammal diversity was modest but well-represented across functional groups: insectivores (03), rodents (07), lagomorphs (01), and carnivores (02). Most recorded and reported species are classified as Least Concern by the IUCN and are not nationally protected, with the exception of the Goitered Gazelle (*Gazella subgutturosa*), which is listed as Vulnerable both globally and within Azerbaijan. However, the Goitered Gazelle was only occasionally reported by locals and was not recorded during site surveys at the Project area. This species (around 10 individuals) has been reintroduced in this region in 2010, and sighting of just one individual was observed by locals in the area between Pirekeshkul and Jangi villages in 2020.

Common and abundant species included the Libyan Jird, Small Five-toed Jerboa, European Hare, and Red Fox, all well-adapted to the region's conditions. In contrast, species such as the Long-eared Hedgehog, Gueldenstaedt's Shrew, and Grey Dwarf Hamster were present but occurred in low densities. Carnivores were represented mainly by the widespread Red Fox and the moderately present Golden Jackal, with possible but unconfirmed presence of species like the Grey Wolf and Marbled Polecat.

Rodents, particularly those from the *Meriones* and *Allactaga* genera, may play an important ecological role in this landscape due to their abundance, serving as a key food source for several predatory bird species as well as higher trophic-level carnivores.

A summary of mammal species recorded in various habitats within the Project area during the 2024 baseline surveys, along with their abundance is provided in the following table.

Table 10-10 Mammal species recorded within the Project area

SN	SPECIES - SCIENTIFIC NAME	IUCN STATUS	NUMBER
1	<i>Erinaceus concolor</i>	LC	4
2	<i>Hemiechinus auritus</i>	LC	7
3	<i>Crocidura guldenstaedti</i>	LC	2
4	<i>Lepus europeus</i>	LC	14
5	<i>Hystrix indica</i>	LC	1
6	<i>Allactaga elater</i>	LC	31
7	<i>Cricetulus migratorius</i>	LC	1
8	<i>Meriones libycus</i>	LC	58
9	<i>Microtus socialis</i>	LC	4
10	<i>Mus musculus</i>	LC	4
11	<i>Sylvaemus witerbyi</i>	LC	1
12	<i>Canis aureus</i>	LC	5
13	<i>Vulpes vulpes</i>	LC	23
Total			155

Note: The reported number of records/abundances includes data from the northern area, which was part of the previous layout. However, no unique species were recorded exclusively from that area

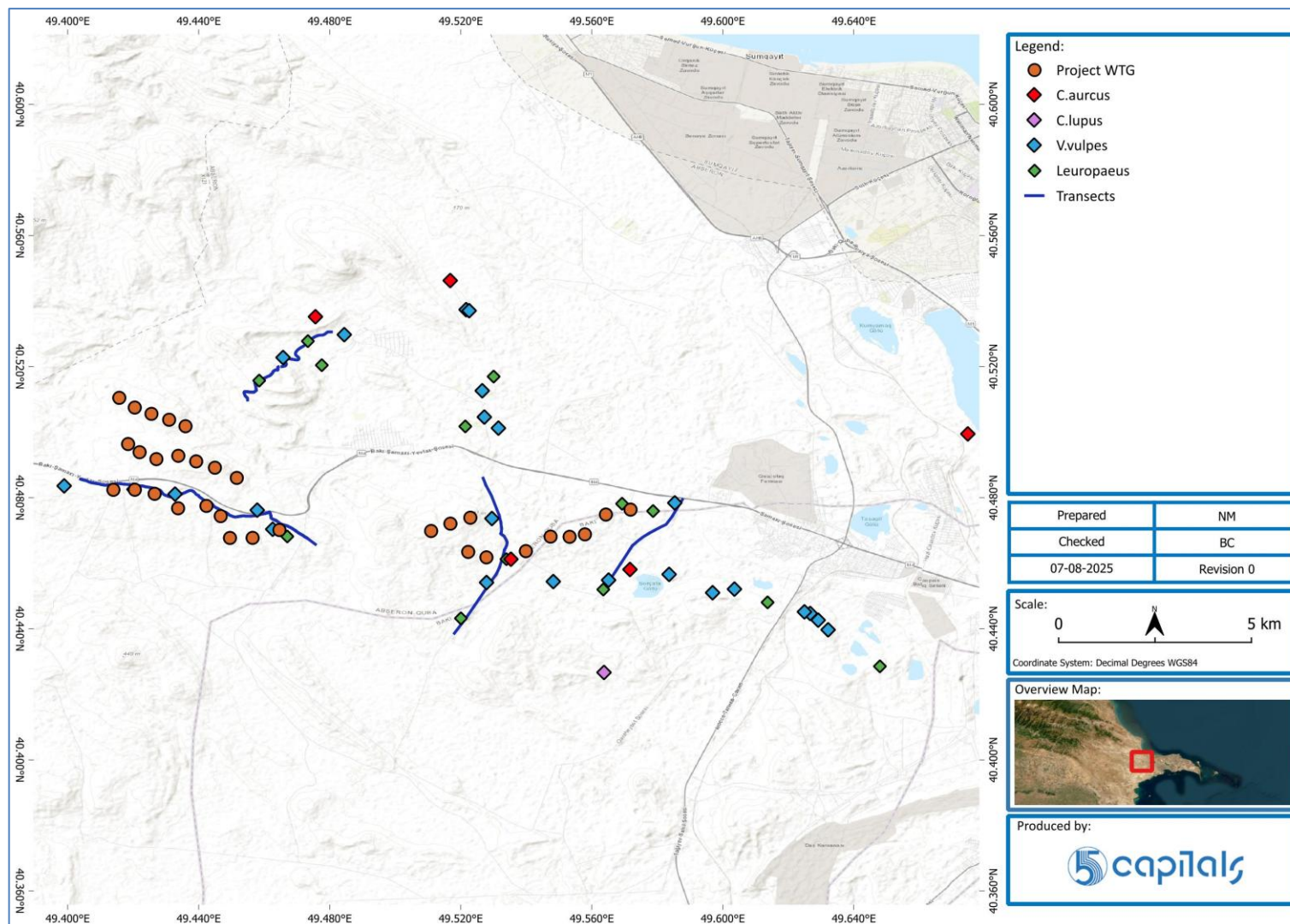


Figure 10-22 Locations of the carnivores and lagomorphs recorded

10.2.4 Ecosystem Services

Ecosystems provide services that result in beneficial human impacts. A decline or loss of any of these services and their benefits can result in socio-economic impacts that extend beyond environmental damages (World Resources Institute, 2013).

Ecosystem services are divided into four categories (World Resources Institute, 2013 and also consistent with the four types outlined in IFC PS6):

- “Provisioning services are the goods or products obtained from ecosystems, such as food, timber, fibre, and freshwater.
- Regulating services are the contributions to human well-being arising from an ecosystem’s control of natural processes, such as climate regulation, disease control, erosion prevention, water flow regulation, and protection from natural hazards.
- Cultural services are the nonmaterial contributions of ecosystems to human well-being, such as recreation, spiritual values, and aesthetic enjoyment.
- Supporting services are the natural processes, such as nutrient cycling and primary production, that maintain the other services.”

IFC PS6 outlines that ecosystem services valued by humans are often underpinned by biodiversity, and hence impacts to biodiversity can adversely affect the delivery of ecosystem services.

IFC PS6 also states that “Priority ecosystem services are two-fold: (i) those services on which project operations are most likely to have an impact and, therefore, which result in adverse impacts to Affected Communities; and/or (ii) those services on which the project is directly dependent for its operations (e.g., water)’.

The socioeconomic survey (refer to Section 14.2) indicated that some households collect seasonal natural resources such as medicinal plants, wild fruits, and firewood in the general vicinity of the Project area. These resources are used solely for household consumption and are not sold. The collection activities typically occur in open fields located within the broader project surroundings. This is further discussed and assessed within the Archaeology and Cultural Heritage Chapter (Chapter 14) and the Socioeconomic Chapter (Chapter 14) of this Report. Following review of the four categories of ecosystem services, it has been determined that no other priority ecosystem services are applicable to the Project.

10.2.5 Critical Habitat and Priority Biodiversity Feature Assessment

Preliminary screening for any triggers of a CH or PBF determination was conducted following the most recent guidance for such issued by IFC²³ and EBRD²⁴. The Project area does not have any highly unique or threatened ecosystem types or distinctive evolutionary processes that could result in a CH determination under IFC CH criteria 4 or 5 (roughly equivalent to EBRD CH criteria 1 and 5, respectively), hence the CH/PBF screening was then accordingly limited to species, and multi-species groupings of biological taxa. A master list of potential CH/PBF trigger species was first compiled by reviewing the IBAT report²⁵, the IUCN red list of threatened species²⁶, the eBird database²⁷, and the national redlist²⁸. From this master list, species falling into the following categories were considered to have negligible likelihood of being affected by the Project, and were eliminated:

- species that are extinct from the country/region;
- species that occur in Azerbaijan only as extreme rarities (i.e. vagrants or accidentals);
- species that occur in Azerbaijan only in the pelagic or coastal environments of the Caspian Sea;
- Species with no geographic and/or ecological overlap with the Project area.

For the final CHA, the list of potential CH/PBF trigger species was revised and updated, based on the results of baseline biodiversity surveys and additional research. Then, a set of distinct Ecologically Appropriate Area of Analyses (EAAAs) were developed for different potential CH/PBF trigger species, based on their ecology, movement patterns, and use of space, per IFC guidance. These EAAAs are described in detail in the CHA report.

With the EAAAs defined, all of the data from baseline surveys and desk-based materials was reviewed against the specific CH and PBF definitions and criteria in IFC PS6 and EBRD ESR6, including the most recent EBRD and IFC Guidance Notes, to make final determinations of which species or other biodiversity features triggered a CH or PBF determination under IFC or EBRD biodiversity policies.

The description and justification of the different EAAAs used in the assessment is provided in Table 10-11, the results of the assessment are presented in Table 10-12.

²³ International Finance Corporation (IFC), 2019. Guidance Note 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. June 27, 2019, World Bank Group, Washington, DC.

²⁴ European Bank of Reconstruction and Development (EBRD), 2022. EBRD Performance Requirement 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources: Guidance Note. September, 2022.

²⁵ IBAT PS6 & ESS6 Report. Generated under licence 630-58078 from the Integrated Biodiversity Assessment Tool on 08 February 2024 (GMY). www.ibat-alliance.org

²⁶ <https://www.iucnredlist.org/> accessed 16 February, 2024

²⁷ <https://ebird.org/home> accessed 16 February, 2024

²⁸ Republic of Azerbaijan (in prep.). Red Book of the Republic of Azerbaijan. (note, draft national redbook update provided 19 February, 2024 by Elchin Sultanov).

Table 10-11 Description and Justification of the EAAAs

EAAA #	APPLICABLE SPECIES	DESCRIPTION	RATIONALE
1	Mute Swan, Little Bustard, European Honey-Buzzard, Short-toed Snake-Eagle, Eurasian Sparrowhawk, Eurasian Goshawk, Hen Harrier, Black Kite, Common Buzzard, Peregrine Falcon, other migratory waterbird species, other migratory upland bird species	Entire Project area buffered by 500m.	Used for all water-associated birds except water-associated raptors. For migratory waterbirds, upland migrant birds, Little Bustards, and raptors/vultures in this category that use the area strictly during migration, the EAAA is defined as a project-specific local area, rather than encompassing their entire migratory routes or year-round ranges, following typical practice for CHA and recent EBRD guidance ²⁹ . We note that the selection of a 500m buffer to define the EAAA for mobile waterbirds expressly excludes the spatial scale of many species' daily "commuting" movements, and is, instead, directed at the spatial scale of habitat selection for these species. This is justified by the guidance in paragraph GN59 of IFC GN6 ³⁰ which states, "For some wide-ranging species, critical habitat may be informed by areas of aggregation, recruitment, or other specific habitat features of importance to the species."
2	Lesser Kestrel, Eurasian Kestrel, Merlin, Eurasian Hobby, Western Marsh Harrier, Rough-legged Hawk, Long-legged Buzzard, bats, Common Tortoise, Goitered Gazelle	Entire Project area buffered by 5 km.	This EAAA is used for species that are resident within the Project region for at least one season of the year (wintering, breeding, or year-round) with intermediate dispersiveness or home-range size. It includes smaller raptor species that either breed (kestrels, hobby, Western Marsh Harrier, Long-legged Buzzard) or winter (Merlin, Rough-legged Hawk, Western Marsh Harrier). This EAAA was also used for bats, whose movement patterns are not well-characterized for many species, and Common Tortoise, based on intermediate dispersiveness, and Goitered Gazelle in line with its average annual home range size of around 73 km ² ³¹ .
3	Egyptian Vulture, Cinereous Vulture, Eurasian Griffon, Steppe Eagle, Imperial Eagle, Golden Eagle, Lanner Falcon	Entire Project area buffered by 10 km.	This EAAA is used for species that are resident within the Project region for at least one season of the year (wintering, breeding, or year-round) with high dispersiveness or home-range size. It includes one vulture that breeds within the region (Egyptian Vulture) and two that are present year-round (Cinereous Vulture, Eurasian Griffon). This EAAA was used for Lanner Falcon, a potential breeder in the region, due to its potentially larger home range size, relative to smaller falcons. This EAAA was also used for three species of eagles in the genus, Aquila, because even though these three species are primarily present in the region only during migration, they may also overwinter in the region.

²⁹ European Bank for Reconstruction and Development (EBRD) 2023. Memorandum: Determining biodiversity management requirements related to airspace around wind energy facilities. June 26, 2023.

³⁰ International Finance Corporation (IFC), 2019. Guidance Note 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources. June 27, 2019, World Bank Group, Washington, DC, paragraph GN59.

³¹ Sarukhanova, S., Babayev, E., Askerov, E., Rizayeva, A., Babaliyeva, A., & Zazanashvili, N. (2025). Home range size of the goitered gazelle (*Gazella subgutturosa subgutturosa* Gldenstdt, 1780) in the steppes of the Iori-Mingachevir ecological corridor. *Journal of Life Sciences and Biomedicine*, 80(1), 17-36

EAAA #	APPLICABLE SPECIES	DESCRIPTION	RATIONALE
4	<i>Astragalus geminus</i> , <i>Iris acutiloba</i> , <i>Dianthus schemachensis</i> , <i>Ferula caspica</i>	Entire Project area buffered by 1 km	This EAAA, defined to include only the actual footprint of the Project site, plus a small (1 km) buffer, reflects the sessile nature of plants. This is intended to include all areas in which these species could be impacted by permanent or temporary soil/vegetation disturbance or alteration, as a result of the construction and operation of the Project

Table 10-12 CH and PBR Assessment

FEATURE ³²	HIGHER TAXON	IUCN GLOBAL STATUS ^{33,34}	AZERBAIJAN STATUS ³⁵	APPLICABLE CH/PBF CRITERION ³⁶			EAAA (TABLE 10-11)	IUCN MINIMUM GLOBAL POPULATION ESTIMATE ³⁷	DETERMINATION ³⁸	RATIONALE
				THREATENED/ VULNERABLE SPECIES	RANGE-RESTRICTED SPECIES	MIGRATORY/ CONGREGATORY SPECIES				
Mute Swan (<i>Cygnus olor</i>)	Bird		CR (breeding)/ NT (non-breeding)	X		X	1	598,000	PBF	EAAA not likely to contain ≥ 1% of the global population at any point in species' life cycle, nor to contain nationally important concentration
Little Bustard (<i>Tetrax tetrax</i>)	Bird	NT	NT			X	1	260,000	PBF	EAAA not likely to contain ≥ 1% of the global population at any point in species' life cycle

32 The ecosystems and habitats potentially affected by the Project did not meet any of the criteria for "priority ecosystems," including "threatened ecosystems," "highly threatened or unique ecosystems" (IFC CH criterion 4 = EBRD CH criterion i), "areas associated with key evolutionary processes" (IFC/EBRD CH criterion 5), or "threatened habitats" (PBF criterion i) as defined in EBRD PR6 and the associated Guidance Note 6. Neither were the criteria met for any "significant biodiversity features identified by a broad set of stakeholders or governments" (PBF criterion iii), or "ecological structure and functions needed to maintain the viability of priority biodiversity features" (PBF criterion iv), hence the only biodiversity features included in this table are species (and their habitats) that met one or more of the species-specific CH or PBF criteria/thresholds, as described in the table.

33 <https://www.iucnredlist.org/> accessed 8 August, 2025

34 For plants, classifications in parentheses are from Kew Gardens Plants of the World On Line Database, <https://powo.science.kew.org/> accessed 8 August, 2025

35 Ministry of Ecology and Natural Resources of the Republic of Azerbaijan, (in prep.). Red Book of the Republic of Azerbaijan (Draft provided 19 February, 2024 by Elchin Sultanov).

36 Azerbaijan is neither a member of the EU, nor a Bern Convention signatory, hence the specific CH/PBF criteria relating to habitats and species that receive special protection under EU nature legislation are not considered applicable, per EBRD GN6. An X in this column is only checked if the species is a possible CH/PBF trigger

37 <https://www.iucnredlist.org/> accessed 8 August, 2025

38 PBF = Priority Biodiversity Feature, per EBRD PR6

FEATURE ³²	HIGHER TAXON	IUCN GLOBAL STATUS ^{33,34}	AZERBAIJAN STATUS ³⁵	APPLICABLE CH/PBF CRITERION ³⁶			EAAA (TABLE 10-11)	IUCN MINIMUM GLOBAL POPULATION ESTIMATE ³⁷	DETERMINATION ³⁸	RATIONALE
				THREATENED/ VULNERABLE SPECIES	RANGE-RESTRICTED SPECIES	MIGRATORY/ CONGREGATORY SPECIES				
Egyptian Vulture (<i>Neophron percnopterus</i>)	Bird	EN	EN	X		X	3	12,400	PBF	EAAA not likely to contain ≥ 0.5% of global population and is not likely to contain ≥ 1% of the global population at any point in species' life cycle
European Honey-Buzzard (<i>Pernis apivorus</i>)	Bird		CR	X		X	1	290,000	PBF	EAAA not likely to contain ≥ 1% of the global population at any point in species' life cycle, and does not contain a nationally important concentration
Cinereous Vulture (<i>Aegypius monachus</i>)	Bird	NT	EN	X		X	3	16,800	CH	Triggers IFC CH criterion 1c due to presence of a nationally important concentration of a nationally EN species. Criterion 3 not triggered because 1% of global population not likely to occur within EAAA at any point in species' life cycle
Eurasian Griffon (<i>Gyps fulvus</i>)	Bird		VU			X	3	80,000	PBF	EAAA not likely to contain ≥ 1% of the global population at any point in species' life cycle
Short-toed Snake-eagle (<i>Circaetus gallicus</i>)	Bird		EN	X		X	1	50,000	PBF	EAAA not likely to contain ≥ 1% of the global population at any point in species' life cycle, and does not contain a nationally important concentration
Steppe Eagle (<i>Aquila nipalensis</i>)	Bird	EN	EN	X		X	3	50,000	PBF	EAAA not likely to contain ≥ 0.5% of global population at any point in species' life cycle
Imperial Eagle	Bird	VU	EN	X		X	3	16,000	PBF	EAAA not likely to contain ≥ 1% of the global population at

FEATURE ³²	HIGHER TAXON	IUCN GLOBAL STATUS ^{33,34}	AZERBAIJAN STATUS ³⁵	APPLICABLE CH/PBF CRITERION ³⁶			EAAA (TABLE 10-11)	IUCN MINIMUM GLOBAL POPULATION ESTIMATE ³⁷	DETERMINATION ³⁸	RATIONALE
				THREATENED/ VULNERABLE SPECIES	RANGE-RESTRICTED SPECIES	MIGRATORY/ CONGREGATORY SPECIES				
(<i>Aquila heliaca</i>)										any point in species' life cycle, and does not contain a nationally important concentration
Golden Eagle (<i>Aquila chrysaetos</i>)	Bird		VU			X	3	85,000	PBF	EAAA not likely to contain ≥ 1% of the global population at any point in species' life cycle
Eurasian Sparrowhawk (<i>Accipiter nisus</i>)	Bird					X	1	2,000,000	PBF	EAAA not likely to contain ≥ 1% of the global population at any point in species' life cycle
Eurasian Goshawk (<i>Astur gentilis</i>)	Bird		VU			X	1	234,000 European	PBF	EAAA not likely to contain ≥ 1% of the global population at any point in species' life cycle
Western Marsh Harrier (<i>Circus aeruginosus</i>)	Bird					X	2	600,000	PBF	EAAA not likely to contain ≥ 1% of the global population at any point in species' life cycle
Hen Harrier (<i>Circus cyaneus</i>)	Bird					X	1	330,000	PBF	EAAA not likely to contain ≥ 1% of the global population at any point in species' life cycle
Black Kite (<i>Milvus migrans</i>)	Bird		VU (breeding)/ CR (wintering)	X		X	1	4,000,000	PBF	EAAA does not contain ≥ 1% of the global population at any point in species' life cycle, and does not contain a nationally important wintering concentration
Rough-legged Hawk (<i>Buteo lagopus</i>)	Bird					X	2	350,000	PBF	EAAA not likely to contain ≥ 1% of the global population at any point in species' life cycle
Common Buzzard (<i>Buteo buteo</i>)	Bird					X	1	2,000,000	PBF	EAAA not likely to contain ≥ 1% of the global population at any point in species' life cycle

FEATURE ³²	HIGHER TAXON	IUCN GLOBAL STATUS ^{33,34}	AZERBAIJAN STATUS ³⁵	APPLICABLE CH/PBF CRITERION ³⁶			EAAA (TABLE 10-11)	IUCN MINIMUM GLOBAL POPULATION ESTIMATE ³⁷	DETERMINATION ³⁸	RATIONALE
				THREATENED/ VULNERABLE SPECIES	RANGE-RESTRICTED SPECIES	MIGRATORY/ CONGREGATORY SPECIES				
Long-legged Buzzard (<i>Buteo rufinus</i>)	Bird					X	2	100,000	PBF	EAAA not likely to contain $\geq 1\%$ of the global population at any point in species' life cycle
Lesser Kestrel (<i>Falco naumanni</i>)	Bird					X	2	80,000	PBF	EAAA not likely to contain $\geq 1\%$ of the global population at any point in species' life cycle
Eurasian Kestrel (<i>Falco tinnunculus</i>)	Bird					X	2	4,300,000	PBF	EAAA not likely to contain $\geq 1\%$ of the global population at any point in species' life cycle
Merlin (<i>Falco columbarius</i>)	Bird					X	2	250,000	PBF	EAAA not likely to contain $\geq 1\%$ of the global population at any point in species' life cycle
Eurasian Hobby (<i>Falco Subbuteo</i>)	Bird		VU			X	2	900,000	PBF	EAAA not likely to contain $\geq 1\%$ of the global population at any point in species' life cycle
Lanner Falcon (<i>Falco biarmicus</i>)	Bird		CR	X		X	3	67,000	PBF	EAAA unlikely to contain $\geq 1\%$ of the global population at any point in species' life cycle, and does not contain a nationally important concentration
Peregrine Falcon (<i>Falco peregrinus</i>)	Bird		EN			X	1	100,000	PBF	EAAA not likely to contain $\geq 1\%$ of the global population at any point in species' life cycle
Other migratory waterbird species	Bird	NT or lower	VU or lower			X	1	$\geq 100,000$ (per species)	PBF	No species for which EAAA likely to contain $\geq 1\%$ of the global population at any point in species' life cycle.
Other upland migratory bird species	Bird	NT or lower	VU or lower			X	1	$\geq 100,000$ (per species)	PBF	No species for which EAAA likely to contain $\geq 1\%$ of the global population at any point in species' life cycle.

FEATURE ³²	HIGHER TAXON	IUCN GLOBAL STATUS ^{33,34}	AZERBAIJAN STATUS ³⁵	APPLICABLE CH/PBF CRITERION ³⁶			EAAA (TABLE 10-11)	IUCN MINIMUM GLOBAL POPULATION ESTIMATE ³⁷	DETERMINATION ³⁸	RATIONALE
				THREATENED/ VULNERABLE SPECIES	RANGE-RESTRICTED SPECIES	MIGRATORY/ CONGREGATORY SPECIES				
Giant Noctule (<i>Nyctalus lasiopterus</i>)	Bat	VU		X		X	2	unknown	PBF	Project not likely to result in species' up-listing to globally CR/EN, nor to contain ≥ 1% of the global population at any point in species' life cycle
Ognev's Serotine (<i>Eptesicus ognevi</i>)	Bat		VU			X	2	Unknown	PBF	EAAA not likely to contain ≥ 1% of the global population at any point in species' life cycle
Eastern Barbastelle (<i>Barbastella caspica</i>)	Bat		VU			X	2	Unknown	PBF	EAAA not likely to contain ≥ 1% of the global population at any point in species' life cycle
Other bats	Bat	NT or lower	No elevated status			X	2	Population sizes for most species poorly known	PBF	No species for which EAAA likely to contain ≥ 1% of the global population at any point in species' life cycle.
Goitered Gazelle (<i>Gazella subgutturosa</i>)	Mammal	VU	VU	X			2	42,000	PBF	Project not likely to result in species' up-listing to globally CR/EN
Common Tortoise (<i>Testudo graeca</i>)	Turtle	VU	NT	X			2	unknown	PBF	Project not likely to result in species' up-listing to globally CR/EN
<i>Astragalus geminus</i>	Plant	EN (Threatened)	EN	X	X		4	EOO 370 km ²	CH	Triggers CH under IFC criterion 1a, 1c, and 2, as Project's EAAA is ca 40.7km ² , which is greater than 10% of species' EOO (using areal extent as proxy for population size), and as 4 occurrences on site constitutes nationally important concentration

FEATURE ³²	HIGHER TAXON	IUCN GLOBAL STATUS ^{33,34}	AZERBAIJAN STATUS ³⁵	APPLICABLE CH/PBF CRITERION ³⁶			EAAA (TABLE 10-11)	IUCN MINIMUM GLOBAL POPULATION ESTIMATE ³⁷	DETERMINATION ³⁸	RATIONALE
				THREATENED/ VULNERABLE SPECIES	RANGE- RESTRICTED SPECIES	MIGRATORY/ CONGREGATORY SPECIES				
<i>Iris acutiloba</i>	Plant	(not threatened)	EN	X			4		PBF	EAAA not likely to contain a nationally important concentration
<i>Dianthus schemachensis</i>	Plant	(not threatened)	EN	X			4		PBF	EAAA not likely to contain a nationally important concentration
<i>Ferula caspica</i>	Plant	(not threatened)	EN	X			4		PBF	EAAA not likely to contain a nationally important concentration

CONCLUSION OF CRITICAL HABITAT

In conclusion, the CHA identified a set of 36 Priority Biodiversity Features (PBF) for the Project, of which two species: Cinereous Vulture and *Astragalus geminus* trigger a Critical Habitat determination.

10.3 Area of Influence and Receptors

10.3.1 Area of Influence

The Area of Influence (Aoi) is the area within which project activities may affect receptors. Since each impact type may extend across different spatial ranges, the Aoi varies accordingly, for example, with regards to habitat loss or displacement, the direct impact would pertain to species that currently occupy the Project's footprint with indirect secondary impacts on adjacent territories via increased competition for resources.

Impacts related to direct mortality would be generally confined to the entire construction and operational footprint of the project, including associated infrastructure and the airspace above the wind farm (in the case of birds and bats).

Disturbance impacts, however, may extend well beyond the immediate footprint of the project. The extent of such impacts depends on the behavioural sensitivity of affected species. For instance, raptors and other shy birds nesting nearby may be disturbed by human activity or vehicle movement at distances of several hundred meters.

Impacts related to the introduction or spread of invasive species may extend from several hundred meters to several kilometres beyond the project footprint, potentially affecting the wider landscape.

10.3.2 Receptors

The following table groups the ecological receptors into distinct receptor groups for use in the impact assessment, however, it is important to highlight that an assessment of Project impacts is also conducted on each PBF independently. For the purpose of this impact assessment, receptor sensitivity for individual PBFs has not been conducted.

Table 10-13 Terrestrial Ecology and Avifauna Sensitive Receptors

RECEPTOR	SENSITIVITY	JUSTIFICATION
Habitats and Flora	Medium	Botanical baseline surveys recorded a total of five nationally threatened (AZRB Red List) plant species, including one species listed as Endangered by the IUCN, present within the Project area.

RECEPTOR	SENSITIVITY	JUSTIFICATION
Reptiles and Mammals (excluding bats)	Medium	One reptile species with an elevated conservation status (IUCN Vulnerable) was recorded during the baseline survey and is likely introduced and not part of a stable population. The Goitered Gazelle (IUCN VU) has been reported within the landscape; however, its presence was not confirmed during the baseline surveys.
Bats	High	18 species of bats were recorded within the Project area during baseline surveys. Out of which, four species have national and two species have IUCN redlist status. In addition, 10 of the recorded species are considered to have a high collision risk.
Avifauna	Very High	Significant bird activity was recorded across the Project site during VP surveys, with vultures dominating the observations. A total of at least 13 avifaunal species under national red list (VU/EN/CR) and/or IUCN threatened were recorded.

10.4 Potential Impacts, Mitigation, Management & Residual Impacts

The following subsections describe the potential impacts and their magnitude. Refer to Table 10-13 for the receptor sensitivity. A summary of the impacts, their magnitude, receptor sensitivity and therefore significance, and proposed mitigation measures, is provided in Table 10-16

10.4.1 Construction Phase

10.4.1.1 Loss of Habitat and Flora

The initial stages of construction such as clearing, excavation and other earthworks result in direct habitat loss. Site clearance and construction will result in the direct loss of existing habitats across the project footprint, including areas designated for internal roads, turbine foundations, crane pads, and permanent infrastructure such as offices.

In addition to permanent losses, temporary habitat degradation is expected due to the establishment of lay-down areas, temporary facilities (e.g. worker accommodation). While some of these impacts are reversible, they may still contribute to short-term habitat disturbance and fragmentation.

The Project landscape is generally barren and sparse desert vegetation covering much of the site. Impacts of grazing activities were observed on the local vegetation during the field surveys, however, the vegetation remains entirely composed of native species and continues to support essential ecological functions. Thus, the area better fits the definition of Natural Habitat under IFC PS6. Moreover, five nationally threatened (AZRB Red List) plant species, including one IUCN Threatened species were recorded in the Project area. Pre-construction

surveys will be conducted for threatened and CH trigger floral species within the impact zone to optimize project design, avoid impacts to individual plants, where feasible and minimize the residual impacts on the species.

The construction footprint of the Project will be limited to approximately 30.6 hectares of permanent infrastructure, including turbine pads (8.5 ha, based on 50×50 m per turbine), the substation area (3.28 ha), and internal/access roads (18.83 ha). Considering the scale of disturbance, the impact is considered to be of **minor** magnitude.

10.4.1.2 Direct Mortality of Fauna

Construction activities pose a risk of direct mortality to fauna, particularly species with limited mobility. Sedentary and fossorial animals such as burrowing rodents and reptiles are especially vulnerable, as they may be crushed during earthworks or suffer stress-related mortality due to disturbance. Although more mobile species are generally able to avoid active construction zones, some fatalities may still occur, particularly resulting from vehicular traffic.

Small mammals and reptiles are considered the most susceptible to this impact due to their size, behaviour, and reliance on ground-level or subsurface habitats. One IUCN Vulnerable (VU) reptile species was recorded at the project site; however, it is considered likely to be an introduced specimen and not part of a stable population. Substantial activity of burrowing and small mammal species such as Libyan Jird, Small Five-toed Jerboa, European Hare, etc. was recorded. However, no IUCN-listed threatened mammal species were confirmed during primary surveys.

The impact is expected to be restricted to the construction footprint, and the magnitude of impact is considered as **minor**.

10.4.1.3 Disturbance

Disturbance and other indirect impacts can arise from the presence of humans and construction equipment, construction noise, air emissions, dust generation, lighting and soil/water contamination.

Construction noise and vibration can cause acoustic masking, disturbance and displacement, and general reduction in survivorship and reproductive success in a variety of fauna.

Construction activities can cause significant disturbance to breeding birds, potentially leading to nest abandonment, reduced reproductive success, or the desertion of nesting colonies. Species with strong fidelity to specific nesting sites are especially vulnerable if construction occurs during their breeding season.

An active nest of the Lesser Kestrel was identified approximately 200 meters north of the easternmost proposed wind turbine location. While this species is not currently threatened and is relatively common in the region, construction activities during the breeding period could still lead to localized disturbance to these individuals.

Night-time lighting can impact nocturnal wildlife behaviour. It can act as an attractant, which can cause congregation and higher predation rates or change movement and behaviour; act as a repellent which causes displacement or interfere with the circadian cycle and cause lower survivorship and reproductive success. However, lighting will be required only at specific work areas and not across the wider area or along access roads, thereby limiting lighting to relatively small areas, and only when and where night work is required.

Disturbance impacts are typically temporary in nature, primarily affecting the construction boundaries and its immediate surroundings, though some effects may extend beyond these areas. The impacts are considered to be of **minor** magnitude for the fauna of the site.

10.4.1.4 Poaching

The presence of site workers can lead to increased hunting and poaching, as well as persecution of certain species. Flora and vegetative matter may be gathered for consumption or for fuel. Other potential activities may include the collection of eggs from nesting birds, particularly vulnerable species such as ground-nesting birds like lapwings, plovers, etc. and the poaching of species such as hares, ground-nesting birds, for consumption or domestic trade. Also, persecution of raptors, snakes, and carnivores could potentially take place.

The impact is considered to be of **minor** magnitude due to the relatively low likelihood and frequency of this impact occurring, as well as the flora and fauna present in the Project area.

10.4.1.5 Introduction of Invasive Species

Soil imports, intentional or via previously used excavation and earthworks equipment, may contain pathogens that can spread and infect native vegetation and fauna that do not have natural defence mechanisms.

Although no invasive species were recorded within the Project area during the baseline surveys, exotic seeds in soil imports or through transport vehicles can allow the spread of invasive, weedy species which can outcompete native species within the Project landscape. Secondary impacts may occur on wildlife which utilise the reduced native vegetation for foraging or shelter. Thus, the impact is considered to be of **moderate** magnitude.

10.4.2 Operations Phase

10.4.2.1 WTG Collisions – Birds

Wind farms pose a unique risk to avian species, primarily due to the potential for collisions with moving turbine blades. Evidence from existing wind farms globally has shown that such collisions can lead to bird mortality. However, the magnitude and significance of this impact are highly dependent on several factors, including the wind farm's location and landscape context, spatial layout, turbine height and specifications, and the diversity and abundance of bird species in the area.

To assess potential collision risks at this site, a dedicated bird collision risk assessment was carried out. This assessment was species-specific, location-specific, and seasonally informed. Quantitative analysis was conducted using data from seasonal VP surveys, analysed through a CRM based on the Scottish Natural Heritage (SNH) guidelines and the predictive modelling approach developed by Band et al.

The VP surveys recorded notable raptor activity, particularly involving vulture species. Additionally, raptor nest surveys identified around 12 active nest sites within a 5 km radius of the Project site.

As noted in earlier sections, the initial VP surveys and CRM were based on the original project layout. Following a design revision, the northern WTGs have been removed from the current layout. The CRM has been updated accordingly to reflect these changes. The collision rates from the revised CRM are provided in the following table.

Table 10-14 Collision rates as per updated CRM

ENGLISH COMMON NAME	USING LOWER BOUND CA VALUES FOR EACH SEASON		USING MOST REALISTIC CA VALUES FOR EACH SEASON	
	COLLISIONS/YEAR	YEARS TO 1 COLLISION	COLLISIONS/YEAR	YEARS TO 1 COLLISION
Lesser Kestrel	37.2	<1 year	9.09	<1 year
Eurasian Griffon	5.85	<1 year	2.93	<1 year
Cinereous Vulture	3.94	<1 year	1.97	1
Eurasian Kestrel	3.36	<1 year	0.82	1
Unidentified Large Vulture	1.03	1	0.515	2
Little Bustard	0.765	1	0.153	7
Steppe Eagle	0.466	2	0.103	10
Egyptian Vulture	0.152	7	0.0638	16
Imperial Eagle	0.234	4	0.0518	19

Project Lifecycle

ENGLISH COMMON NAME	USING LOWER BOUND CA VALUES FOR EACH SEASON		USING MOST REALISTIC CA VALUES FOR EACH SEASON	
	COLLISIONS/YEAR	YEARS TO 1 COLLISION	COLLISIONS/YEAR	YEARS TO 1 COLLISION
Long-legged Buzzard	0.226	4	0.0513	19
Black-bellied Sandgrouse	0.159	6	0.0318	31
Black Kite	0.0753	13	0.0301	33
Western Marsh Harrier	0.0727	14	0.0145	69
Unidentified Harrier	0.0569	18	0.0114	88
Unidentified Eagle	0.0482	21	0.0107	93
Unidentified Kestrel/Falcon	0.0325	31	0.0079	127
Eurasian Goshawk	0.0136	74	0.0067	149
Golden Eagle	0.0185	54	0.0041	244
Hen Harrier	0.0188	53	0.0037	270
Short-toed Snake-Eagle	0.0121	83	0.0026	385
Unidentified Small Raptor	0.0102	98	0.0025	400
European Honey-buzzard	0.0088	114	0.002	500
Rough-legged Buzzard	0.0088	114	0.002	500
Unidentified Buzzard	0.0076	132	0.0017	588
Eurasian Sparrowhawk	0.0028	357	0.0014	714
Lanner Falcon	0.002	500	0.0008	1250
Common Buzzard	0.0029	345	0.0006	1667
Merlin	0.0015	667	0.0006	1667
Mute Swan	0.0019	526	0.0004	2500
Northern Lapwing	0.0046	217	0.0004	2500
Peregrine Falcon	0.001	1000	0.0004	2500
Eurasian Hobby	0.0007	1429	0.0002	5000

The results of the CRM, using the most realistic Collision Avoidance (CA) values from the literature, indicate that several bird species are predicted to experience collisions with wind turbine blades over the operational lifecycle of the Project. Notably, species such as the Lesser Kestrel, Eurasian Griffon, and Cinereous Vulture show the highest predicted collision rates, with estimates of 9.09, 2.93, and 1.97 collisions per cycle, respectively. The Eurasian Kestrel is also expected to experience approximately 0.82 collisions per cycle). These results highlight a relatively high collision risk for certain raptor species, particularly those with frequent flight activity over the Project area.

However, it is important to note a significant reduction in overall collision risk compared to the previous project layout. A comparison of the CRM results between the original and revised project layouts indicates that predicted bird collisions are expected to reduce by around 65.3%. This reduction is attributed to the exclusion of the northern WTGs, which were identified as bird activity hotspots based on VP survey findings.

Among the species with the highest predicted collision rates (c.1 collision per annual cycle), Lesser Kestrel and Eurasian Kestrel are not listed as threatened under the Azerbaijan Red Book or the IUCN Red List, and the Lesser Kestrel is considered common in the region. In contrast, the Cinereous Vulture and Eurasian Griffon are classified as Endangered and Vulnerable, respectively, in the Azerbaijan Red Book, although neither species is currently listed as threatened on the IUCN Red List. Among the other species with at least 1 collision predicted in entire project lifecycle, Steppe Eagle, Egyptian Vulture, Eastern Imperial Eagle and Black Kite are nationally redlisted or IUCN threatened.

The impact is considered to be of **moderate** magnitude as the total number of bird collisions predicted for the Project is approximately 16 per year, based on the CRM. These fatalities will be irreversible and represent a permanent loss of individual birds. While not expected to significantly affect overall populations, the impact will still be ecologically meaningful.

10.4.2.2 WTG Collisions – Bats

Bat fatalities from wind turbine collisions are documented world-wide. These impacts can lead to direct mortality, particularly during migration and high-activity foraging periods. The risk is often elevated for species that fly at rotor-swept height.

Based on the baseline surveys, the Project area supports notable bat diversity, with 18 species recorded. Importantly, 10 species observed in the area are considered to have a high collision risk with wind turbines. Some of these are common and abundant in the landscape such as *Pipistrellus kuhlii*, *P. nathusii*, and *Nyctalus noctula*. Conversely, species with lower collision risk, such as *Rhinolophus* and *Myotis spp.*, were either rare or infrequently detected, thus reducing their likelihood of being impacted. The overall bat activity recorded during baseline surveys was higher at ground level and there were fewer detections at height. Masts 2 and 3 were dominated by ground-level activity, with limited and infrequent upper-level use, indicating a lower collision risk, primarily during short-duration peak events. However, Mast 1 showed episodic but significantly higher upper-level activity (up to 33.06 BAI/hr), driven by high-flying migratory species. These events represent periods of elevated rotor-height collision exposure, despite moderate average activity levels.

The surveys revealed no major bat roosts or colonies within the immediate Project footprint, with most roosts associated with man-made structures outside the area, the nearest confirmed

bat roost is 450 m from the nearest WTG. Four species listed in the Azerbaijan Red Data Book (*E. ognevi*, and *B. capsica*, *P. hipposiderous*, *N. noctula*), and two IUCN Vulnerable species (*N. lasiopterus* and *N. leisleri*) were recoded within the Project area, although the occurrence of majority of them in the area was rare.

The collision risk assessment identifies 10 bat species as high-risk due to their frequent use of the rotor-swept airspace, alongside 3 medium-risk and 3 low-risk species. Mast 1 exhibited the highest level of upper-height activity, indicating the greatest turbine-relevant collision exposure. Across all three masts, bat activity was overwhelmingly dominated by high-risk species (approximately 93–98.7%), with negligible contribution from low-risk species, indicating a substantial collision potential that varies slightly by mast/areas and vertical height. This elevated risk is primarily driven by the high abundance of collision-prone species, while species with lower collision susceptibility are relatively rare within the study area.

Bat activity analysis against wind speed shows that bat activity is generally higher at lower wind speeds and gradually declines as wind speed increases, with most activity occurring below 4–6 m/s, although the relationship is not strongly defined. Cumulative bat activity analysis indicates that a significant proportion of bat activity occurs at relatively low wind speeds, particularly at Mast 2, where activity is more concentrated under calmer conditions compared to the overall site.

Considering species-specific sensitivity and flight behaviour, with higher-risk species driving the overall significance rating, the overall magnitude of the impact is considered to be **moderate**.

10.4.2.3 Disturbance

Vehicles and operational workforce will be present during the operations and maintenance phase of the Project, although on a significantly reduced scale to that of the construction phase. Therefore, there is still the potential for disturbance and indirect impacts, although these are considered to be of **negligible** magnitude.

10.4.2.4 Habitat Fragmentation

Development and operation of large-scale and associated linear features may fragment the landscape's existing habitats, reducing overall ecosystem connectivity and function. This in turn may impact the ability for vegetation recruitment and wildlife movement between habitat patches.

Considering that the wind farm will not be fenced, there will be no physical barriers to movement of faunal species present in the landscape. However, turbines may deter some migratory birds and bats who exhibit macro-scale avoidance behaviour.

The impact is considered to be of **minor** magnitude.

10.4.3 Cumulative Impacts

10.4.3.1 Cumulative Impacts on Birds and Bats

From the development of the Project and the adjacent Area 1 wind farm, the impact of greatest cumulative significance is considered to be direct mortality for birds and from collision with the turbines.

BIRDS

The primary additive impact pathway identified for birds across the two projects is turbine-collision mortality during the operational phase. CRMs were conducted for both projects, and the resulting predictions under the most realistic scenario were assessed for the avian species recorded at both the wind farms and with the collision predicted within the entire project lifecycle. A comparison of the predicted collision rates for these species is presented in the following table.

Table 10-15 CRM Comparison of Area 1 and the Project

SPECIES	AREA 1 WIND FARM		ABSHERON WIND FARM	
	COLLISIONS/ YEAR	YEARS TO 1 COLLISION	COLLISIONS/ YEAR	YEARS TO 1 COLLISION
Lesser Kestrel	69.4	<1	9.09	<1 year
Eurasian Kestrel	2.12	<1	0.82	1
Unidentified Vulture	1.4	<1	0.515	2
Eurasian Griffon	0.601	1	2.93	<1 year
Cinereous Vulture	0.428	2	1.97	1
Long-legged Buzzard	0.403	2	0.0513	19
Little Bustard	0.236	4	0.153	7
Steppe Eagle	0.0743	13	0.103	10
Total	74.6623		15.6323	

Based on the above comparison, around 82% of cumulative pre-mitigation collision risk is attributable to Area 1 project. The additional mortality contributed Absheron WF project is around 15.6 birds/year, approximately 18%.

The predicted cumulative collision mortality of around 90 birds/year across the two projects represents the unmitigated modelling output. Through the implementation of the Collision Risk Management Plan (CRMP), and shutdown on demand, actual mortality will be substantially reduced.

BATS

Total 12 bat species have been identified in the Area 1 Wind Farm on the basis of acoustic and roost surveys of which two are listed in national red list. An upfront experimental curtailment (raised cut-in speed) has been considered for the project. The Area 1 Wind Farm operates under an adaptive Collision Risk Management Plan whereby species-specific annual fatality thresholds derived from Potential Biological Removal (PBR) analysis are monitored through post-construction carcass searches. If thresholds are approached or exceeded, adaptive management is triggered for the relevant turbines and seasons.

The Project baseline monitoring recorded total 18 bat species. The surveys recorded higher bat activity in the eastern areas of the site and confirmed the presence of the four species listed in Azerbaijan Redlist and two IUCN Vulnerable species. Activity peaks during mid to late season, coinciding with migratory movements, juvenile dispersal, and peak foraging activity.

Considering the proximity of the two projects, the cumulative collision risk for bats, pre-mitigation is considered to be significant, however, this will be substantially reduced following the implementation of mitigation measures at both projects.

10.4.3.2 Cumulative Impacts on Other Fauna

Potential impacts of wind farm development on other faunal species, including habitat loss, habitat fragmentation, and displacement, can be cumulative at a regional scale. However, for the Project, the likelihood of significant cumulative impacts is considered low for the following reasons:

- Habitat loss is anticipated to be limited in extent due to the relatively small footprint of the wind farms. As such, the significance of habitat loss is not considered to be substantial.
- Faunal displacement associated with active construction works is expected to be temporary, with sufficient suitable adjacent habitats available to accommodate displaced species during periods of disturbance.
- Habitat fragmentation is not anticipated, as the wind farms will not be fenced and will therefore not restrict the physical movement of fauna across the landscape.

Other construction-phase impacts, such as incidental mortality, noise and visual disturbance, and emissions-related effects, are expected to be localized and short-term in nature. These impacts are not anticipated to act additively.

Based on the above, no significant cumulative impacts on other faunal receptors are anticipated.

10.4.3.3 Cumulative Impacts on Flora

A total of four IUCN or nationally threatened species of plants have been recorded in common at both Area 1 and Absheron wind farms.

- *Astragalus albanicus*
- *Iris acutiloba*
- *Dianthus schemachensis*
- *Ferula persica*

From the direct development of both the projects, the impacts of greatest significance for flora include direct vegetation clearing.

To minimise additive impacts, pre-construction surveys will be undertaken for threatened floral species within the Absheron Wind Farm. Where such species occur within the construction footprint, specimens will either be avoided and retained *in situ* or translocated, as appropriate. In addition, seeds and/or tubers will be collected for propagation and use in post-construction habitat restoration. The similar mitigation measures have been implemented for Area 1.

Ultimately, the additive cumulative effects of mitigated impact on threatened flora are considered to adequately managed and the residual cumulative impact is not considered to be of significance.

10.4.4 Project Impacts on PBFs

Although the determination and assessment of CH and PBF under IFC PS6 and EBRD ESR6 does not take into account the level of impact, the potential for a Project to impact biodiversity receptors is factored into the delineation of EAAA for the CH/PBF assessment, and furthermore, it is also pertinent to the assessment of risk to each of the potentially affected biodiversity receptors for the purpose of this ESIA.

The potential for Project impacts on PBFs is provided within the standalone CHA.

A Project-specific Biodiversity Management Plan has been drafted alongside the ESIA. Mitigation and management measures within the BMP include those listed in the following table but additional measures have also been developed as part of the BMP.

Table 10-16 Terrestrial Ecology and Avifauna Impact Significance, Mitigation Measures and Residual Impacts

POTENTIAL IMPACT	MAGNITUDE	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACT
Construction						
Loss of Habitat and Flora	Minor Negative	Habitats and Flora	Medium	Minor	- Pre-construction surveys will be conducted for threatened and CH trigger floral species within the impact zone to optimize project design, avoid impacts to individual plants, where feasible and minimize the residual impacts on the species. - Construction effort shall be limited to the Project footprint - All construction activities will be restricted to demarcated construction zones within the project site and designated access roads. - Construction vehicles will utilise designated access routes. - Excavated soil will be stockpiled and preserved within dedicated sites to enable its seedbank to be reused in habitat restoration of temporary laydown areas and landscaping as part of site rehabilitation post the completion of construction works. - Any observation of notable ecological species i.e PBF, CH or IUCN Red data book species will be logged and reported to the Environmental and Social Manager for necessary protective actions. - Cleared areas no longer required for construction activities will be rehabilitated to re-establish floral biodiversity that was present pre-clearance. - A pre-construction NH survey will be undertaken to establish baseline conditions and inform reinstatement and restoration measures to achieve NNL over the life of the project. The survey will be conducted in spring 2026 and will be used to guide restoration planning and long-term habitat outcomes.	Negligible
Direct Mortality of Fauna	Moderate Negative	Reptiles and mammals (excluding bats)	Medium	Moderate	- Construction effort shall be limited to the Project footprint. - All drivers will receive training on the species that might be encountered (mammals, reptiles, birds etc) and the measures required to minimise injury or fatalities due to collision with vehicles. Any collisions must be logged and reported to E&S Manager for any further preventative measures to be implemented. - Strict speed limits will be monitored and enforced by EPC HSE and Security teams, (e.g by use of speed gun). Exceedances will be reported and repeat offenders may risk suspension of driving on site. All incidents to be logged for necessary corrective actions.	Negligible

POTENTIAL IMPACT	MAGNITUDE	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACT
					- Ban against driving outside of delineated access roads and restricting driving and machinery operation to daylight hours, to the extent possible. There may be situations in which this is required for example emergency situations or critical path activities. - Site clearance for delineated construction zones within the project sites will be progressed in a unidirectional manner, to facilitate self-dispersion of various resident fauna, including burrowing mammalian and reptilian species. - Removal of any road-kill carcasses immediately upon observation (after logging species and location) to at least 10 meters away from the access roads. - The collection or harvesting of any plants or hunting of animals is strictly prohibited. A 'no tolerance' policy will be adopted. - Should any animals get trapped or be harmed in any way, the Environmental and Social Manager must be informed.	
Disturbance	Minor Negative	Reptiles and mammals (excluding bats)	Medium	Minor	- Stated mitigation measures for air, noise, lighting, soils, surface and groundwater will be implemented (refer to relevant chapters of this report) to minimise disturbance. - Strict speed limits will be monitored and enforced by EPC HSE and Security teams, (e.g. by use of speed gun). Exceedances will be reported to HSSE Manager and repeat offenders may risk suspension of driving on site. All incidents to be logged for necessary corrective actions. - Ban against driving outside of delineated access roads and restricting driving and machinery operation to daylight hours, to the extent possible. There may be situations in which this is required for example emergency situations or critical path activities. - Site clearance for delineated construction zones within the project sites will be progressed in a unidirectional manner, to facilitate self-dispersion of various resident fauna, including burrowing mammalian and reptilian species. - Work will be carried out in such a manner as to reduce disturbance as far as practicable, for example, acoustic covers on machine engines to remain closed at all times (as applicable). - Construction light spill and glare will be controlled by adopting best practice (e.g. lighting facing inwards from site boundary towards work activity and angled downwards to prevent glare and light spill beyond the work area.. Lighting will be fit for purpose and duration of lighting to be controlled and minimized as much as possible. - Lights will be shielded to minimise skyglow. - Construction vehicles will utilise designated access routes. - Provision of Identification Guides, and Chain-of-command protocol which should be followed by all site works should any "Species or Ecological Element of Concern" be	Negligible

POTENTIAL IMPACT	MAGNITUDE	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACT
					identified within the construction footprint. Monitoring and enforcement of compliance to be undertaken by EPC HSE	
Poaching collection /	Minor Negative	Habitats and Flora	Medium	Minor	- Induction training to all workers on the legal protection of fauna and flora on and off site and the consequences for breaking the law or guidelines which might include fines, formal proceedings or dismissal for gross misconduct. - Pre-construction check for rare plants in area of impact. - Monitoring and reporting of any wilful gathering, poaching or otherwise disturbance of any flora or fauna on site, - A no tolerance approach will be adopted. This will be enforced by the HSE team. - Periodic staff training such as toolbox talks will be undertaken to ensure that chance finds are managed appropriately to protect fauna and flora.	Negligible
		Reptiles and mammals (excluding bats)	Medium	Minor		
		Avifauna	Very High	Moderate		
Introduction of Invasive Species	Moderate Negative	Habitats and Flora	Medium	Moderate	- Construction effort shall be limited to the Project boundaries. - Excavated soil will be stockpiled and preserved within dedicated sites to enable its reuse in backfilling excavations and landscaping as part of site rehabilitation post the completion of construction works. - Plant and machinery will require an HSE certificate of inspection, issued by the EPC, before coming onto site and this will include necessary cleaning / washing to reduce risks of importing invasive species in mud or soil. - Any soil imports will be taken from local quarry or borrow pit as close to the site as reasonably practical to avoid risk of foreign seeds and invasive species. - Invasive species surveys will be carried out during and after construction.	Negligible
		Reptiles and mammals (excluding bats)	Medium	Moderate		Negligible
Operation						
WTG Collisions	Moderate Negative	Avifauna	Very High	Major	- Removal of northern WTGs will avoid avian collisions (notably raptors) in the most sensitive area reducing predicted number of collisions by approximately 60%. - Shutdown on Demand using either Automated Shutdown on Demand or Observer Led Shutdown on Demand to reduce collision risk to priority bird species populations. Strategy to be developed prior to construction and described in an Annex to the BMP. - Post-construction Fatality Monitoring (PCFM) for birds and bats will be implemented in accordance with the site PCFM Study Plan, which is in conformance with the 2022 IFC, EBRD and KfW authored Good Practice Handbook for PCFM. Study plan included as Annex to the BMP. - A livestock carcass management plan will be prepared to ensure timely removal and proper disposal of animal carcasses around the WTG sites to reduce attraction of scavenging birds and minimise the risk of bird collisions.	Minor
		Bats	High	Moderate		Minor

POTENTIAL IMPACT	MAGNITUDE	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACT
					- Carcass management: removal of any carcasses (road-kills or other) by designated trained personnel immediately upon observation to a designated area outside the project area. All carcasses and their removal actions will be photographed and actions documented for semi-annual reporting. - Adaptive management measures shall be triggered in case mortality exceeds agreed limits. - Due to Project layout revisions, blanket curtailment is not warranted as an upfront requirement for bats. However, it will be retained as an adaptive management measure to be informed and guided by PCFM outcomes.	
Disturbance	Negligible Negative	Reptiles and mammals (excluding bats)	Medium	Negligible	- Stated mitigation measures for air, noise, soils, surface and groundwater will be implemented (refer to relevant chapters of this report) - Work will be carried out in such a manner as to keep any disturbance from noise to a minimum. - Acoustic covers on machine engines to remain closed at all times (as applicable). - Where practical, electrically powered plant will be preferred to mechanically powered alternatives. - Lighting spill will be managed to ensure excessive lighting and light spill is minimised. - Vehicles will utilise designated access routes. - Any identified notable ecological species will be reported to the Environmental and Social Manager.	Negligible
Habitat Fragmentation	Minor Negative	Reptiles and mammals (excluding bats)	Medium	Minor	Micrositing of access roads to avoid sensitive habitats, use of existing access tracks where possible and restoration of habitats in temporary construction areas immediately post-use.	Negligible
		Avifauna	Very High	Moderate	- Fences will not be established. - Optimisation of the Project layout, including removal of the northern turbine string, to reduce exposure of vultures and other soaring birds to fragmentation-related impacts.	Minor
		Bats	High	Minor	Habitat management measures, including carcass removal, to reduce attractants for vultures and other scavenging birds.	Negligible

10.5 Monitoring

A Project-specific BMP has been prepared alongside this ESIA. Monitoring and reporting requirements within the BMP include those listed in the following table, but additional measures have been developed as part of the BMP.

Table 10-17 Terrestrial Ecology and Avifauna Monitoring Requirements

MONITORING	PARAMETER	FREQUENCY & DURATIONS	MONITORING LOCATION	RESPONSIBILITY
Pre-construction				
Pre-construction surveys for the presence of rare and CH trigger plants and Spring surveys to optimize project design and micro-siting	Rare and CH trigger plants in area of impact	In Spring 2026/ Once prior to construction;	All construction areas	EPC Contractor
Construction				
Construction limits	Construction activity is to be limited to within demarcated areas within the Project boundary and access roads	During formal site walkdown as part of HSE inspections. General observations during day-to-day activities	Throughout the site.	EPC Contractor
Ecological chance find / mortality	Fauna mortality / injury / collision with construction equipment / vehicle			
Operation				
Post-Construction Fatality Monitoring (Bird and bat)	Avifauna and bat mortality / injury / collision	As per the PCFM plan	Throughout the site.	O&M Company
Natural Habitat reinstatement and restoration monitoring	Success of habitat reinstatement, vegetation cover, species composition, and erosion signs	As per Habitat Restoration Plan	All reinstated and restored areas within the Project site	O&M Company

11 LANDSCAPE AND VISUAL AMENITY

11.1 Applicable Requirements & Standards

11.1.1 National Requirement

Specific legislation regarding landscape and visual impacts is not known to exist in Azerbaijan, however, Azerbaijan is a signatory member of the European Landscape Convention of 2000, which promotes the protection, management, and planning of the landscapes, and organises international co-operation on landscape issues. Azerbaijan ratified the convention in 2011.

11.1.2 Lender Requirements

IFC

While landscape and visual impacts are not explicitly defined, Performance Standard 1 requires identification and assessment of all potential environmental and social impacts, including those affecting community well-being and amenity. Performance Standard 8 applies where visual changes may affect culturally significant landscapes or heritage settings.

AIIB

ESS 1 requires assessment of environmental impacts, including those affecting the quality of life, landscape character, and ecosystem services.

EBRD

ESR 3 defines “pollution” broadly to include not just air, water, and land contamination, but also explicitly visual impacts, including light. In addition, ESR 8 makes reference to the potential for impacts upon cultural landscapes.

EHS GUIDELINES FOR WIND ENERGY (2015)

The EHS Guidelines for Wind Energy outline that *‘preparing zones of visual influence maps and preparing wire-frame images and photomontages from key viewpoints is recommended to inform both the assessment and the consultation processes.’*

‘Consideration should also be given to the proximity of turbines to settlements, residential areas, and other visual receptors to minimize visual impacts and impacts on residential amenity, where possible. All relevant viewing angles should be considered when considering turbine locations, including viewpoints from nearby settlements.’

11.1.3 Guidelines

The Landscape and Visual Impact Assessment methodology will be based on current good practice, guidelines and guidance from the following sources:

- 'Guidelines for Landscape and Visual Impact Assessment', Landscape Institute and Institute of Environmental Management and Assessment, Third Edition, 2013; and
- 'An Approach to Landscape Character Assessment', Natural England, 2018.

11.2 Baseline Conditions

11.2.1 Landscape Character

Landscape character could be defined as "a distinct, recognisable and consistent pattern of elements, be it natural (soil, landform) and/or human (for example settlement and development) in the landscape that makes one landscape different from another, rather than better or worse" (Natural England, 2014).

LANDSCAPE CHARACTER AREAS

Through a combination of desktop study and fieldwork surveys, the landscape is classified into units of distinct and broadly homogenous characteristics referred to as Landscape Character Areas (LCAs). Within the study area, there are four distinct LCAs and these are shown in the following table and figure.

As is evident from the figure, the Project is to be developed in an area of undeveloped semi-desert landscape. Although it is in proximity to agricultural areas and a number of more developed areas to the northwest.

Table 11-1 Landscape Character Areas

ID	NAME	DESCRIPTION	VALUE	SENSITIVITY
LCA 1	Semi-desert Landscape	Mostly undeveloped and undisturbed semi-desert landscape. It is a relatively featureless landscape interspersed with areas of anthropogenic disturbance, such as herder structures and other small facilities.	The area lacks any recognised features of local or national value and has no distinctive characteristics.	Low
LCA 2	Water Bodies Landscape	Towards the north of the project site lies a meandering river tributary around 1 km from the nearest WTG. There are a few small ponds located to the southeast of the Project	The meandering river located 1 km from the site is in a distinct landscape feature and is of some local importance as a water source.	Medium

ID	NAME	DESCRIPTION	VALUE	SENSITIVITY
LCA 3	Developed Areas	Within the immediate vicinity of the site, there are several communities or other infrastructure. Most notable are the residential areas of Gobustan, Pirekeshkul and Ashagi Guzdak. A sizeable commercial poultry farm is also within 700m of the WTG.	The landscape has been modified to allow for the construction of residential and commercial areas. In addition, the area lacks any recognised features of local or national value and has little distinctive characteristics, as such, it is of low value	Low
LCA 4	Agricultural Areas	To the northeast of the site, several agricultural fields and farming settlements were identified from a review of satellite imagery.	Very little natural vegetation remains as the area is predominantly under agricultural use.	Low

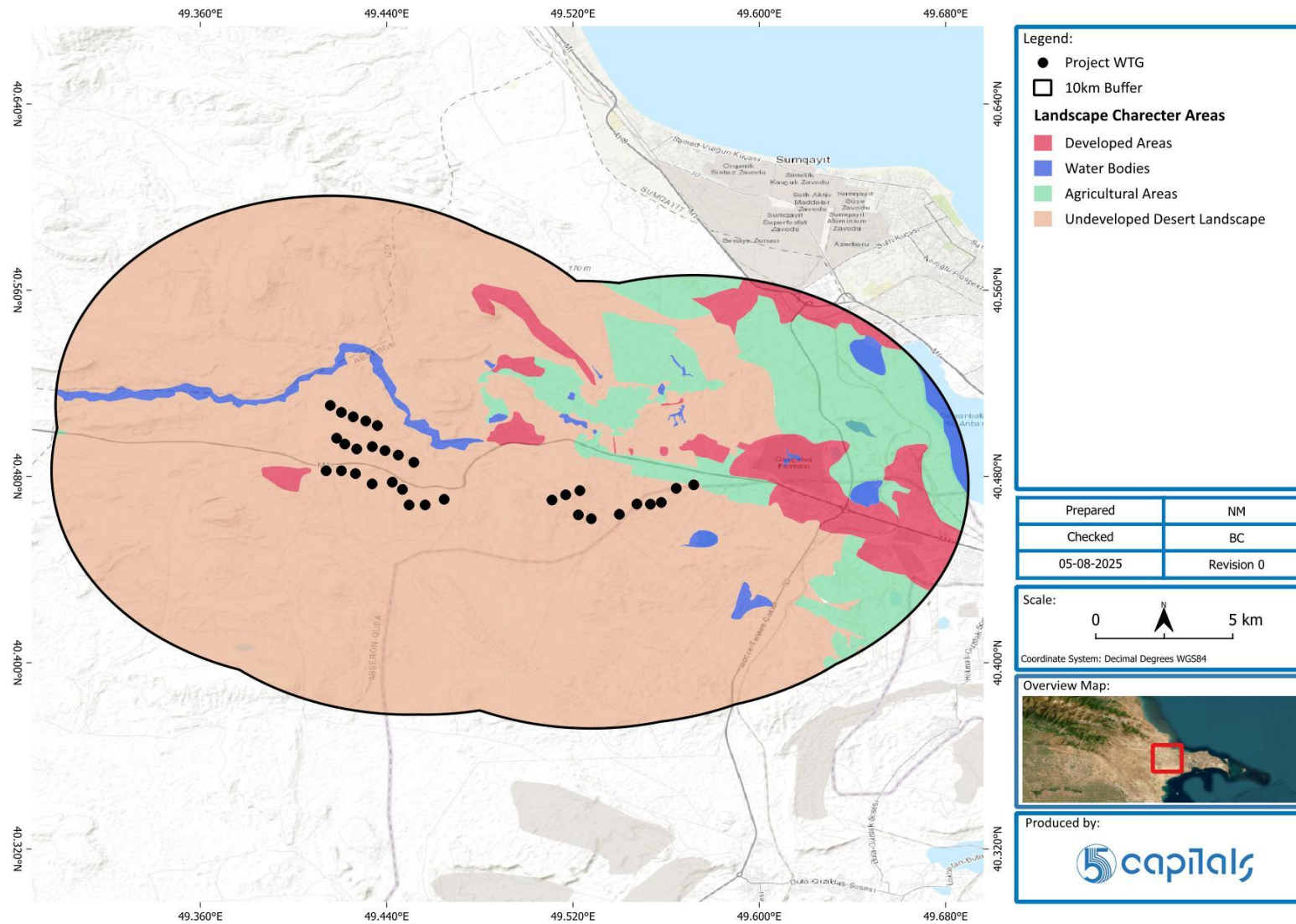


Figure 11-1 Landscape Character Areas

11.2.2 Visual Amenity Baseline

METHODOLOGY

During desktop study of the Project area, a Geographic Information System (GIS) was used to conduct a Zone of Theoretical Visibility (ZTV) Assessment of the project site. The assessment provides an accurate geographical representation of the project site and the surrounding areas where visibility may be impacted. With the data collected by the ZTV, it is possible to highlight the areas from which the WTGs are most likely to be visible. Using the ZTV data, seven locations, were chosen for a landscape and visual assessment as shown in the following table & figure. The chosen locations represent the view of the proposed site as seen from potential receptors in the area.

The visual amenity of the study area was surveyed from the selected locations (LV1 to LV7) determined using ZTV data to be representative of the varying views and receptor types likely to be impacted by the Project. Views from a variety of distances, aspects, elevations, and extents were considered. Receptor types include communities, poultry farms, schools; main transport routes; and the range of landscape character types within the study area.

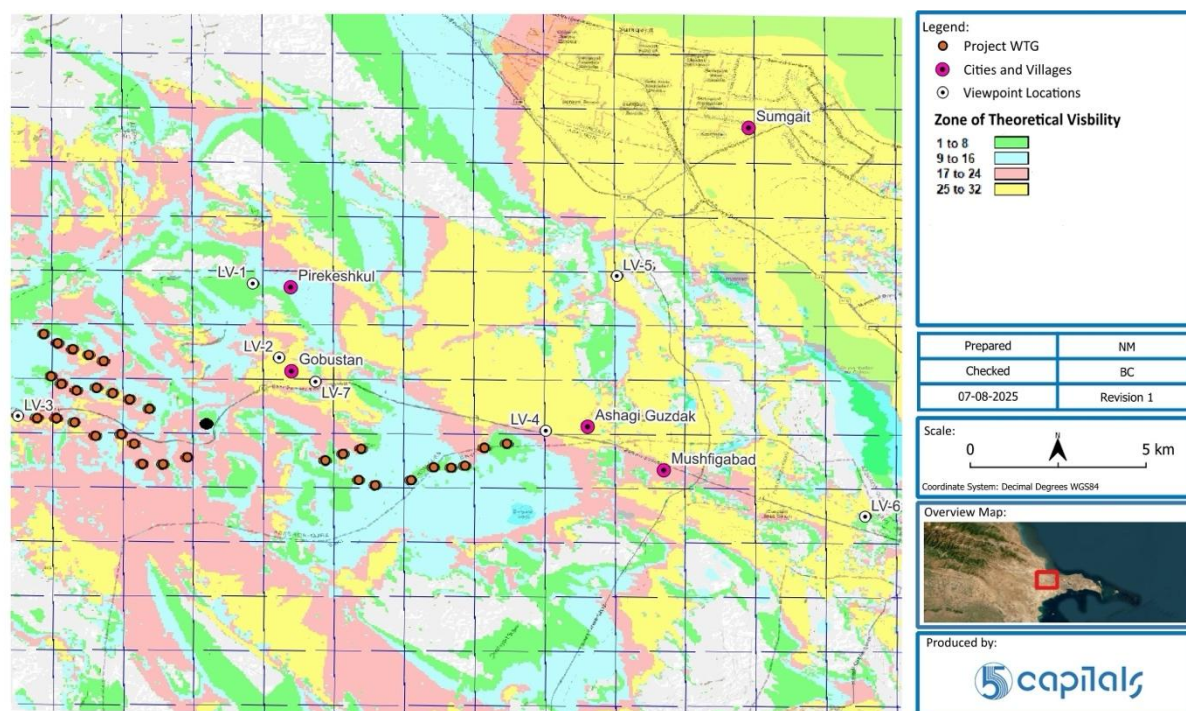


Figure 11-2 ZTV and Viewpoint Locations

Table 11-2 Viewpoint Locations and Receptors

VIEWPOINT ID	COORDINATES	DESCRIPTION	RECEPTORS	SENSITIVITY
LV1	49.4856165215 40.5283991526	This viewpoint is just west of Pirekeshkul Village and represent the views of the project as observed from the village. In addition, if the residents of Pirekeshkul look to the north then they would see the Area 1 wind farm.	Residents of Pirekeshkul	High
LV 2	49.4949003716 40.5038355481	This viewpoint represents the view of the Project as seen from the northern edge of Gobustan.	Residents of Gobustan	High
LV3	49.4075146122 40.4829787026	This viewpoint represents the visual amenity impact as observed from the nearby Poultry Farm on the western edge of the project site.	Poultry farm workers	Low
LV4	49.5847793921 40.4808857234	This view represents schools located approximately 1.4 km to the northeast of the Project. In addition, views from Ashagi Guzdak will be similar to this viewpoint.	School children	Medium
			Residents of Ashagi Guzdak	High
LV5	49.6078319216 40.5328478390	This viewpoint represents the views as observed from further away adjacent to a farming homestead located on a hill with clear unobstructed views of the project area, as well as the Area 1 wind farm.	Farmers	Low
LV6	49.6924609046 40.4539178445	This viewpoint represents the views as seen from more than 10 km away to the east, towards Baku.	Local community	High
LV7	49.5072095812 40.4960130639	This viewpoint represents the view of the projects as seen from the southern edge of Gobustan.	Residents of Gobustan	High

11.3 Potential Impacts, Mitigation, Management & Residual Impacts

The following subsections describe the potential impacts and their magnitude. Refer to Table 11-1 and Table 11-2 for the receptor sensitivity. A summary of the impacts, their magnitude, receptor sensitivity and therefore significance, and proposed mitigation measures, is provided in Table 11-3.

11.3.1 Construction Phase

11.3.1.1 Change in Landscape Character

The construction of a new development, particularly those on a large scale have the potential to result in changes to the landscape character of a locality through land use and topographical changes or other factors. In situations where the visual horizon is disturbed by a development, such impacts may include the anthropogenic intrusion of the landscape by

buildings/structures where no intrusion previously existed; or the change in the landscape character of an area, which could arise from new/out of place development or from changes in the land use.

One of the first stages of construction activities will result in the levelling, grading and preparation at specific WTG locations prior to the commencement of construction. The proliferation of these activities throughout the Project site will eventually result in land use changes at the WTG area that will spread out in the landscape over the construction period. Also, the subsequent construction of administrative buildings and erection of WTGs will transform the landscape into a 'semi-desert with wind turbines' landscape character as large-scale vertical rotating features will be added into the landscape.

The impact magnitude on the semi-desert landscape is considered to be **moderate**.

11.3.1.2 Reduction in Visual Quality

The movement of heavy construction vehicles such as trailers, dump trucks, graders, excavators, loaders, tower and vehicle cranes to and from the Project site and earthworks on sandy surfaces can potentially result in dust generation and a resulting temporary haze causing disturbance to the current visual envelope of receptors. However such dust generation will be limited to the WTG area and will be temporary & for a short duration. As such, it is not anticipated to result in changing the visual amenity and/or blocking the views of receptors. The installation of towers, turbines, and the shape or colour will result in visual intrusion at receptor location in proximity to WTG areas.

The impact magnitude on visual receptors is considered to be **moderate**.

11.3.2 Operation Phase

11.3.2.1 Change in Landscape Character

The change in landscape character would commence in the construction phase and would be continuous throughout the operation phase, until decommissioning. The impact magnitude on the semi-desert landscape is considered to be **moderate**.

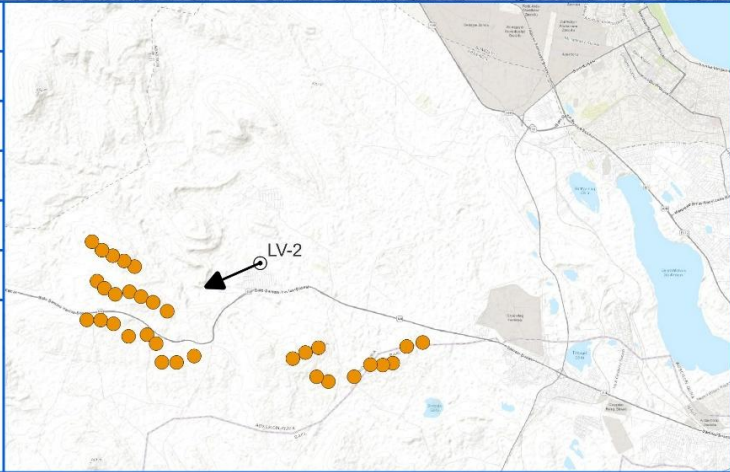
11.3.2.2 Visual Amenity Impacts

It is important to note that there are few landscapes in which a wind farm will not introduce a new and distinctive feature. Wind turbines are typically required to be tall and are frequently located in open or elevated landscapes, as is this case for this Project, this means that they are often highly visible and incongruent with existing landscape character.

The impact of the completed works would persist during the operational life of the Project. The Project will remain fundamentally unchanged throughout the duration of its operational life. No changes in this period would be expected from mitigation or normal operation.

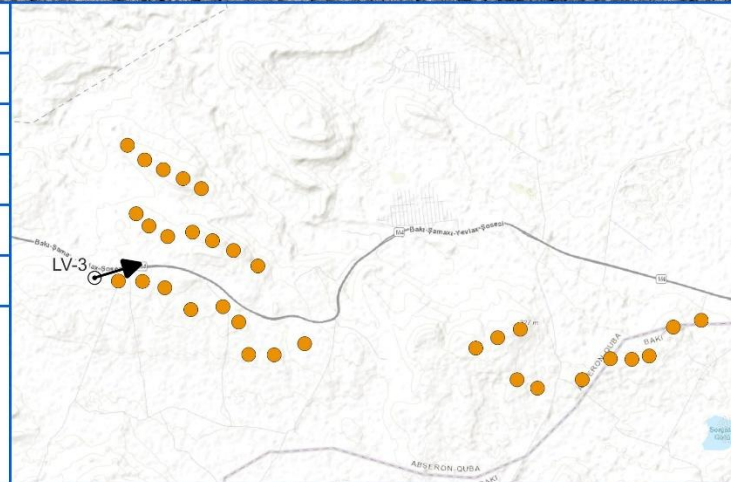
Operational visual effects are generally considered to be partially reversible / long-term temporary as, if decommissioned and not transferred, the turbines can be removed alongside the infrastructure at the end of the operational phase, and the land is restored to similar condition as to pre-construction. The following figures outline visual impacts on the aforementioned visual receptors.

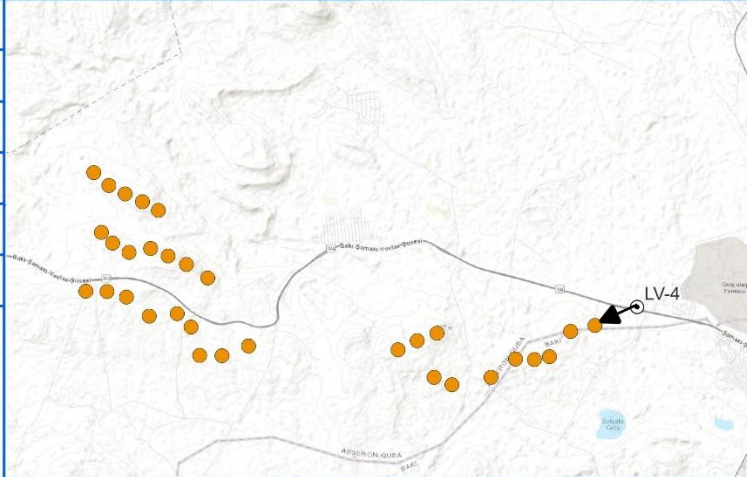
VISUAL RECEPTORS, SENSITIVITY AND IMPACT MAGNITUDE		DESCRIPTION OF VIEW
LV1		
Residents of Pirekeshkul Sensitivity: High Magnitude: Minor	This viewpoint is just west of Pirekeshkul Village, close to a community cemetery, and represents the views of the project as observed from the village.	
Distance From Nearest Turbine	Approximately 5.1 Km	
Survey Date	1st July 2025	
Orientation	175 Degrees South	
Prepared	NM	
Checked	BC	
29-08-2021	Revision 0	

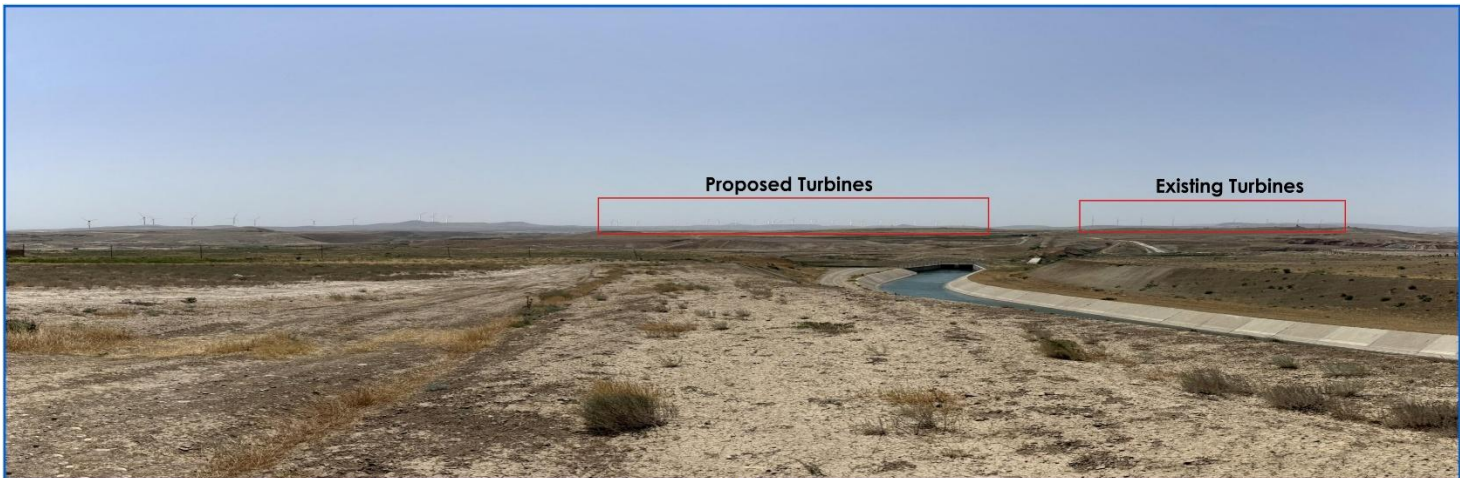
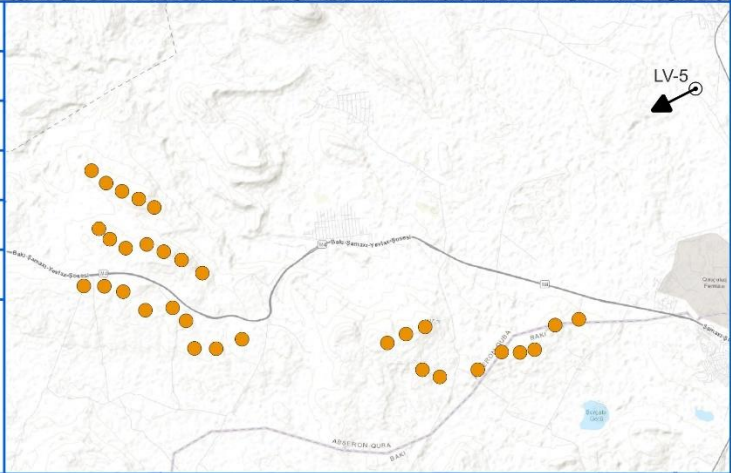
VISUAL RECEPTORS, SENSITIVITY AND IMPACT MAGNITUDE		DESCRIPTION OF VIEW
LV2		
Residents of Gobustan Sensitivity: High Magnitude: Minor		This viewpoint represents the view of the Project as seen from the northern edge of Gobustan, close to a community cemetery.
		
Distance From Nearest Turbine	Approximately 4.1 Km	
Survey Date	30th June 2025	
Orientation	245 Degrees West	
Prepared	NM	
Checked	BC	
29-08-2021	Revision 0	
		

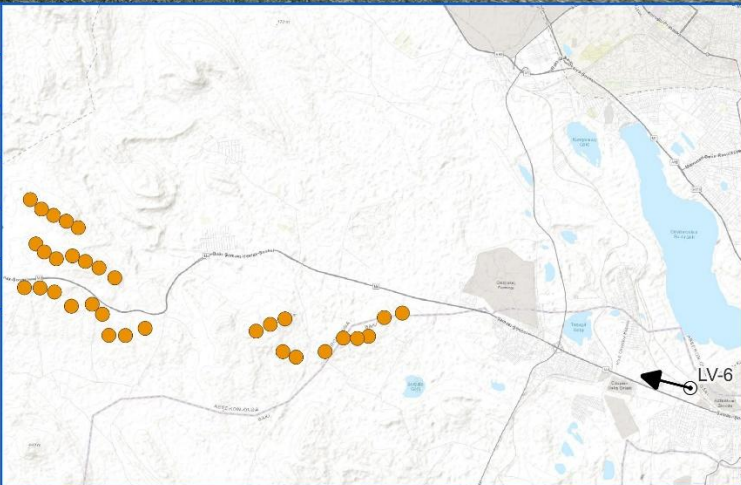
A wide-angle photograph of a wind farm in a dry, hilly landscape under a blue sky with scattered clouds. Numerous white wind turbines are visible across the horizon, with a prominent one in the foreground on the right.

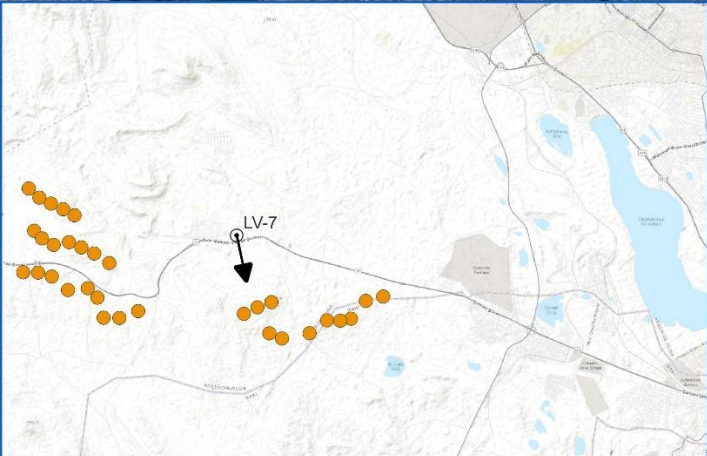
Distance From Nearest Turbine	Approximately 500 m
Survey Date	30th June 2025
Orientation	75 Degrees East
Prepared	NM
Checked	BC
29-08-2021	Revision 0



VISUAL RECEPTORS, SENSITIVITY AND IMPACT MAGNITUDE		DESCRIPTION OF VIEW	
LV4			
School children, residents of Ashagi Guzdak Sensitivity: Medium and High Magnitude: Minor		This view represents schools located approximately 1.4 km to the northeast of the Project. In addition, views from Ashagi Guzdak will be similar to this viewpoint.	
			
Distance From Nearest Turbine		Approximately 1.2 km	
Survey Date		30th June 2025	
Orientation		60 Degrees West	
Prepared		NM	
Checked		BC	
29-08-2021		Revision 0	
			

VISUAL RECEPTORS, SENSITIVITY AND IMPACT MAGNITUDE		DESCRIPTION OF VIEW												
LV5														
Farmers Sensitivity: Low Magnitude: Negligible	This viewpoint represents the views as observed from further away adjacent to a farming homestead located on a hill with clear unobstructed views of the project area, as well as the Area 1 wind farm.													
 <table><tr><td>Distance From Nearest Turbine</td><td>Approximately 6.9 km</td></tr><tr><td>Survey Date</td><td>30th June 2025</td></tr><tr><td>Orientation</td><td>250 Degrees West</td></tr><tr><td>Prepared</td><td>NM</td></tr><tr><td>Checked</td><td>BC</td></tr><tr><td>29-08-2021</td><td>Revision 0</td></tr></table>  			Distance From Nearest Turbine	Approximately 6.9 km	Survey Date	30th June 2025	Orientation	250 Degrees West	Prepared	NM	Checked	BC	29-08-2021	Revision 0
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Survey Date	30th June 2025													
Orientation	250 Degrees West													
Prepared	NM													
Checked	BC													
29-08-2021	Revision 0													

VISUAL RECEPTORS, SENSITIVITY AND IMPACT MAGNITUDE		DESCRIPTION OF VIEW
LV6		
Local community Sensitivity: High Magnitude: Negligible		This viewpoint represents the views as seen from more than 10 km away to the east, towards Baku.
		
Distance From Nearest Turbine	Approximately 10.5 km	
Survey Date	1st July 2025	
Orientation	295 Degrees West	
Prepared	NM	
Checked	BC	
29-08-2021	Revision 0	
		

VISUAL RECEPTORS, SENSITIVITY AND IMPACT MAGNITUDE		DESCRIPTION OF VIEW
LV7		
Residents of Gobustan Village Sensitivity: High Magnitude: Moderate		This viewpoint represents the view of the projects as seen from the southern edge of Gobustan.
		
Distance From Nearest Turbine	Approximately 2.8 km	
Survey Date	30th June 2025	
Orientation	170 Degrees South	
Prepared	NM	
Checked	BC	
29-08-2021	Revision 0	
		

11.3.3 Cumulative Impacts

As the construction of the Area 1 wind farm will be complete before the start of Project construction, cumulative visual impacts during the construction phase are not expected.

During operation, the land in the Project area will change from semi-desert landscape due to the intrusion of vertical turbine structures. While WTGs are already an existing feature of the landscape, adding more will intensify their visual dominance, potentially altering the region's perceived character. The repetition of turbine structures could extend the visual footprint, affecting local viewpoints, particularly from Gobustan and Pirekeshkul communities. These cumulative impacts are shown in the previous figures, where relevant. The contrast between the modern infrastructure and the traditional environment may become more pronounced.

While herders and local communities may already be accustomed to the presence of wind energy infrastructure due to the operation of the Area 1 wind farm, additional turbines could further fragment visual openness, resulting in a significant change to the visual amenity.

The establishment and erection of the associated transmission lines will also result in cumulative landscape and visual impacts.

11.3.4 Decommissioning Phase

Decommissioning the wind farm will have both positive and negative landscape and visual impacts. The removal of turbines, substations, and other infrastructure will gradually restore the openness of the land, reducing the industrial presence and allowing the landscape to return to a more natural or agricultural state. This could improve visual aesthetics for local communities and herder who may prefer an unobstructed horizon. However, the process itself, particularly the dismantling of large structures, transportation of materials, and potential ground disturbances may create temporary visual clutter and disruption, especially if heavy machinery and waste materials remain on-site for extended periods.

The mitigation & management measures outlined for the construction phase in relation to landscape and visual impacts at the site, will be applicable to the decommissioning phase as well.

Table 11-3 Landscape and Visual Impact Significance, Mitigation Measures and Residual Impacts

POTENTIAL IMPACT	MAGNITUDE	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACT
Construction						
Change in Landscape Character	Moderate Negative	Semi-desert landscape	Low	Minor	- Construction activities will be limited to the areas required. - Only designated access roads will be used. - Good housekeeping will be implemented across the site. - Lighting will be managed to avoid light spill.	Negligible
Reduction in Visual Quality	Moderate Negative	Herders, residents of local communities	High	Moderate		Negligible
		School children	Medium	Minor		Negligible
		Farmers, poultry farm workers	Low	Negligible		Negligible
		Operation				
Change in Landscape Character	Moderate Negative	Semi-desert landscape	Low	Minor	- Only designated access roads will be used. - Good housekeeping will be implemented across the site. - Lighting will be managed to avoid light spill.	Minor
Visual Amenity Impacts	Minor Negative	Residents of Pirekeshkul (LV1)	High	Minor		Minor
	Minor Negative	Residents of Gobustan (LV2)	High	Minor		Minor
	Moderate Negative	Poultry Farm Workers (LV3)	Low	Minor		Minor
	Minor Negative	School children (LV4)	Medium	Minor		Minor
		Residents of Ashagi Guzdak (LV4)	High	Minor		Minor
	Negligible Negative	Farmers (LV5)	Low	Negligible		Negligible
	Negligible Negative	Local community (LV6)	High	Minor		Minor
	Moderate Negative	Residents of Gobustan (LV7)	High	Minor		Minor

11.4 Monitoring

No monitoring is proposed for landscape and visual impacts, however, any grievances will be covered on a case-by-case basis through the HSSE-MS.

12 SHADOW FLICKER

This chapter assesses the effect of shadow flicker on nearby sensitive receptors during the operation of the Wind Farm.

Shadow flicker is the effect of the sun shining through the rotating blades of a wind turbine and casting a shadow on the window of neighbouring properties under certain wind & light conditions.

The shadow is perceived as a “flicker” due to the rotating blades repeatedly casting an intermittent shadow over neighbouring properties. Shadow flicker occurs only when the wind turbines are operating during sunny conditions and when the sun passes behind the hub of a wind turbine. It is most likely to occur early and late in the day when the sun is at a low angle in the sky. The frequency of shadow flicker is a function of the number of blades making up the wind turbine rotor and rotor speed and the intensity of shadow flicker is influenced by the location/distance of neighbouring properties to the wind turbine.

12.1 Applicable Requirements & Standards

12.1.1 National Regulations

There are no regulations or standards in Azerbaijan that provide requirements for assessing shadow flicker from wind turbines.

12.1.2 Lender Requirements

EHS GUIDELINES FOR WIND ENERGY (2015)

The EHS Guidelines for Wind Energy outline requirements for the modelling of shadow flicker to determine the duration and timing of shadow flicker occurrence under real weather conditions at specific receptors located within the zone of potential shadow flicker impact.

The guidelines require the model to predict flicker based on an astronomical worst-case scenario, which is defined as follows:

- There is continual sunshine and permanently cloudless skies from sunrise to sunset.
- There is sufficient wind for continually rotating turbine blades.
- Rotor is perpendicular to the incident direction of the sunlight.
- Sun angles less than 3 degrees above the horizon level are disregarded (due to likelihood for vegetation and building screening).

- Distances between the rotor plane and the tower axis are negligible.
- Light refraction in the atmosphere is not considered.

The IFC criteria for acceptability of flicker is:

- Not more than a combined 30 hours of flicker per year, and no more than 30 minutes of flicker on the worst-case day of the year.

12.2 Baseline Conditions

There is no baseline information on shadow flicker in the Project area. The Project is located near the Area 1 wind farm, which has installed all of its WTGs at the time of writing. Similar to this Project, the Area 1 wind farm is expected to generate shadow flicker, however, its shadow flicker zone does not overlap with the Project and will be confined to the areas specified in its respective ESIA.

The shadow flicker modelling for the Project considered potential cumulative impacts.

12.3 Area of Influence and Receptors

12.3.1 Area of Influence

According to the Ireland Wind Energy Development Guidelines (2006), the potential for shadow flicker at distances greater than 10 rotor diameters from a turbine is very low. In the instance of this Wind Farm, the rotor diameter of the WTGs is 182 m and therefore the area of influence for shadow flicker is 1820 m from the nearest WTG.

However, in order to cover a larger area and account for worst case scenario the shadow flicker assessment has assessed the impact of shadow flicker at identified receptors and communities extending up to 6 km in certain cases.

12.3.2 Receptors

The list of sensitive receptors considered for the Shadow Flicker Assessment are presented in **Appendix G**. The general receptor groupings are shown in the following table.

Table 12-1 Shadow Flicker Assessment – Receptors

RECEPTOR	SENSITIVITY	JUSTIFICATION
Herder Structures	Medium	Herder structures are used seasonally and are considered to have medium sensitivity to shadow flicker effects.
Communities	High	Residents of villages will be vulnerable to shadow flicker effect.

RECEPTOR	SENSITIVITY	JUSTIFICATION
Schools	High	Schools will be particularly vulnerable to shadow flicker impacts.
Industrial / Commercial Receptors (Poultry Farms, Izotop Plant, Azercosmos, Commercial enterprises along the highway)	Low	Industrial / commercial receptors are less sensitive to shadow flicker impacts, and in addition, are typically closed when shadow impacts are present.

12.4 Potential Impacts, Mitigation and Management Measures and Residual Impacts

The following subsections describe the potential impacts and their magnitude. Refer to Table 12-1 for the receptor sensitivity. A summary of the impacts, their magnitude, receptor sensitivity and therefore significance, and proposed mitigation measures, is provided in Table 12-5.

12.4.1 Shadow Flicker Modelling

12.4.1.1 Methodology

Turbine shadow flicker was modelled using 'WindPRO', an industry-leading software package for the design and planning of wind energy projects. The model software considers the sun's path with respect to every turbine location during every minute over a complete year. Any shadow flicker caused by each turbine is then aggregated for each receptor for the entire year.

The input parameters for the model include:

- the turbine locations and dimensions;
- the receptors' location;
- the size of windows on each receptor and the direction that the windows face; and
- the topography model obtained from the (Space) 'Shuttle Radar Topography Mission', (SRTM), at 30m resolution.

The relevant turbine data is presented in the following table. It is noted that the hub height may change though the modelled hub height of 105 m represents a worse-case scenario.

Table 12-2 WTG Details

TURBINE MODEL	ROTOR DIAMETER (M)	HUB HEIGHT (M)	ROTOR TIP HEIGHT (M)	ROTOR SWEEP AREA (M ²)
Envision EN 182-80	182	105	196	25,759 ³⁹

³⁹ The swept area is provided by the manufacturer

In order to determine the number of hours shadow flicker might occur at receptor location, the modelling study considered two scenarios:

- a conservative worst-case approach based on the requirements outlined in IFC EHS Guideline for Wind Energy; and
- a more realistic approach to consider actual site conditions (e.g., long term average sunshine hours rather than the worst-case IFC scenario of constant sunshine).

The conservative worst-case scenario assumed the following:

- There is continual sunshine and permanently cloudless skies from sunrise to sunset (i.e. there is clear sky 365 days per year);
- There is sufficient wind for continually rotating turbine blades (i.e. the turbine blades are rotating for 365 days per year);
- Sun angles less than 3 degrees above the horizon level are disregarded (due to likelihood for vegetation and building screening);
- The receptor is occupied at all times;
- No screening (from either trees or man-made obstacles) is taken into account; and
- All receptors have a 2m x 2m window facing directly towards the turbine. Note: WindPro utilises the concept of 'Green House' mode which allows for shadow flicker effects to be evaluated for each receptor in every direction for the

These assumptions result in a robust but conservative estimation, due to:

- unlikely to have clear skies all year around;
- screening (structures, trees or any other obstacle that may obstruct sight lines between the turbines and the receptor) can mask shadows from the turbines;
- all the turbines may not be operational all year (calm conditions/maintenance etc);
- turbine blades will not face the shadow receptor all year (as blades will face the direction of wind to be fully efficient);
- There may not be a window directly facing the turbine;
- receptors may not be occupied during a shadow flicker event; and
- the intensity of any shadow flicker event will be diminished by the intervening distance.

For a more realistic consideration, long term weather conditions were obtained from Tbilisi⁴⁰ meteorological dataset and the sunshine probability used for the model is set out in the

⁴⁰ There is no data available for Baku in the Windpro database. Discussions with Windpro indicate that the Baku data is not complete or validated

following table. Other meteorological sites in the immediate vicinity do not have a complete set of the required data.

Table 12-3 Sunshine Hours for Realistic Scenario

SUNSHINE HOURS											
JAN	FEB	MAR	APR	MAY	JUN	JULY	AUG	SEP	OCT	NOV	DEC
3.44	3.27	4.38	5.96	6.98	8.31	8.56	7.84	6.99	5.15	3.29	3.09

As the geographical extent of the study is large, screening (trees or man-made obstacles) has not been considered for the realistic scenario.

12.4.1.2 Results

A summary of the modelling results is presented in Table 12-4, with the full modelling report provided in **Appendix G**. While the full assessment includes a broad range of receptors (residential, industrial, commercial, etc.), this impact assessment focuses on residential and educational receptors, including M1 (the military facility, where residential occupation occurs), in line with GIIP.

No shadow flicker impacts are predicted at Gobustan or Pirekeshkul villages. Predicted shadow flicker levels at Ashagi Guzdek Settlement and Mushfigabad are also well within applicable IFC guideline limits.

Exceedances are predicted at the residential and educational receptors Edu-1, H-1, H-3 and H-4, under the worst-case modelling scenario. Under the realistic scenario, exceedances at human receptors are limited to H-1 and H-4.

Additional exceedances are also noted at non-residential receptors of lower sensitivity, including Azercosmos, the two gas stations (neither of which are operational), a restaurant (C4), the Isotope Plant, and a poultry farm (P2). Given their land use and sensitivity, these non-residential receptors are not considered further in the assessment.

Further details on exceedances at the residential and educational receptors⁴¹ are provided in the sections below.

Edu-1

Under both the worst-case and realistic scenarios, Edu-1 does not exceed the IFC guideline for annual shadow flicker duration. A marginal exceedance of the IFC daily limit (by one minute on a single day, 21st February) is predicted under the worst-case scenario only. Predicted realistic shadow flicker exposure remains within guideline limits.

Shadow flicker at this receptor is attributable only to WTGs 01-01 and 01-03 and is limited to short seasonal periods (10th February – 2nd March, and 11th October – 1st November), occurring

consistently between approximately 17:00–18:00. It is understood that the school closes at 16:00 and therefore no exposure of students or staff is expected during predicted shadow flicker periods.

Taking into account the absence of annual exceedance, the marginal nature of the daily exceedance and the fact that the school is not occupied during shadow flicker hours, no significant impact is anticipated at Edu-1, and mitigation is not required.

H-1, H-3 AND H-4

Under the worst-case modelling scenarios, H-1, H-3 and H-4 exceed both the annual (30 hours per year) and the daily (30 minutes per day) IFC shadow flicker guideline thresholds.

H-3 records 37 hours and 14 minutes per year under the worst-case scenario, and 47 minutes on the maximum day, exceeding both the annual (30 hours) and daily (30 minutes) IFC limits. Under the realistic scenario, H-3 experiences 17 hours and 10 minutes annually, which is within acceptable levels.

H-1 presents greater exceedances, with 120 hours and 35 minutes annually and 1 hour and 6 minutes on the worst-case day. Even under the realistic scenario, shadow flicker at H-1 remains high at 64 hours and 30 minutes annually, more than double the IFC threshold.

H-4 also exceeds both the annual and daily IFC shadow flicker thresholds under both modelling scenarios.

These receptors are herder structures that are subject to intermittent and seasonal occupation. Notwithstanding this, exceedances predicted under realistic conditions indicate the potential for shadow flicker effects and the impact magnitude is considered to be **moderate**.

Table 12-4 Shadow Flicker Occurrence at Residential/Educational Receptor⁴¹

RECEPTOR	RECEPTOR CLASSIFICATION	DISTANCE (M)	IFC WORST-CASE SHADOW HOURS PER YEAR (H/YEAR)	IFC MAX SHADOW HOURS PER DAY (H/DAY)	REALISTIC SHADOW HOURS PER YEAR (H/YEAR)
Edu-1	Educational Facility	1,397	15:45	00:31	06:05
Edu-2	Educational Facility	1,739	08:38	00:24	03:31
M1	Military	1,437	04:42	00:15	01:33
H-3	Herder Structure	671	37:14	00:47	17:10
H-1	Herder Structure	663	120:35	01:06	64:30
H-5	Herder Structure	1,222	06:34	00:14	03:40
H-4	Herder Structure	383	131:06	01:10	63:46
H-12	Herder Structure	2,112	06:26	00:20	02:52
H-13	Herder Structure	2,487	04:49	00:17	02:00
Ashagi Guzdek Settlement	Human Settlement	1,287	04:45	00:17	01:58
Mushfigabad	Human Settlement	2,199	03:06	00:13	01:34

⁴¹ To keep the report concise, non-residential/educational receptors and receptors that did not receive any shadow hours under the realistic and the worst-case scenarios were not presented in this table or assessed any further.

12.4.2 Cumulative Impacts

The shadow flicker modelling considered the cumulative effects of the Project as well as the consented 'Area 1 Wind Farm' located north of the Absheron WF. The cumulative modelling determined that there will be no cumulative impact. The Area 1 WF will result in limited shadow flicker impacts at Pirekeshkul, and there are no Project shadow impacts at Pirekeshkul.

The following figures depict the modelling results for shadow hours per year, worst-case and maximum minutes per shadow day, respectively.

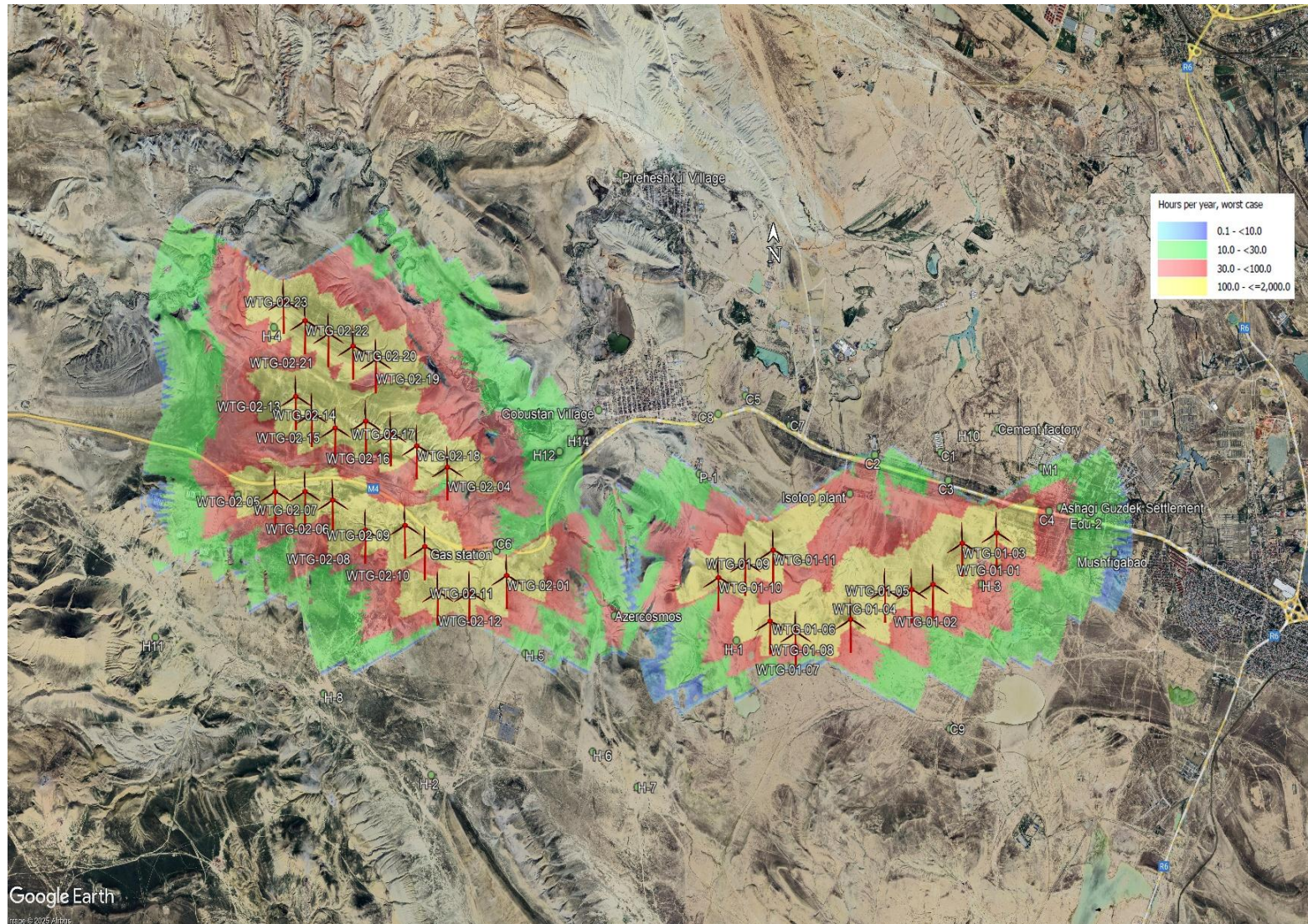


Figure 12-1 Shadow Hours per Year, Worst-case

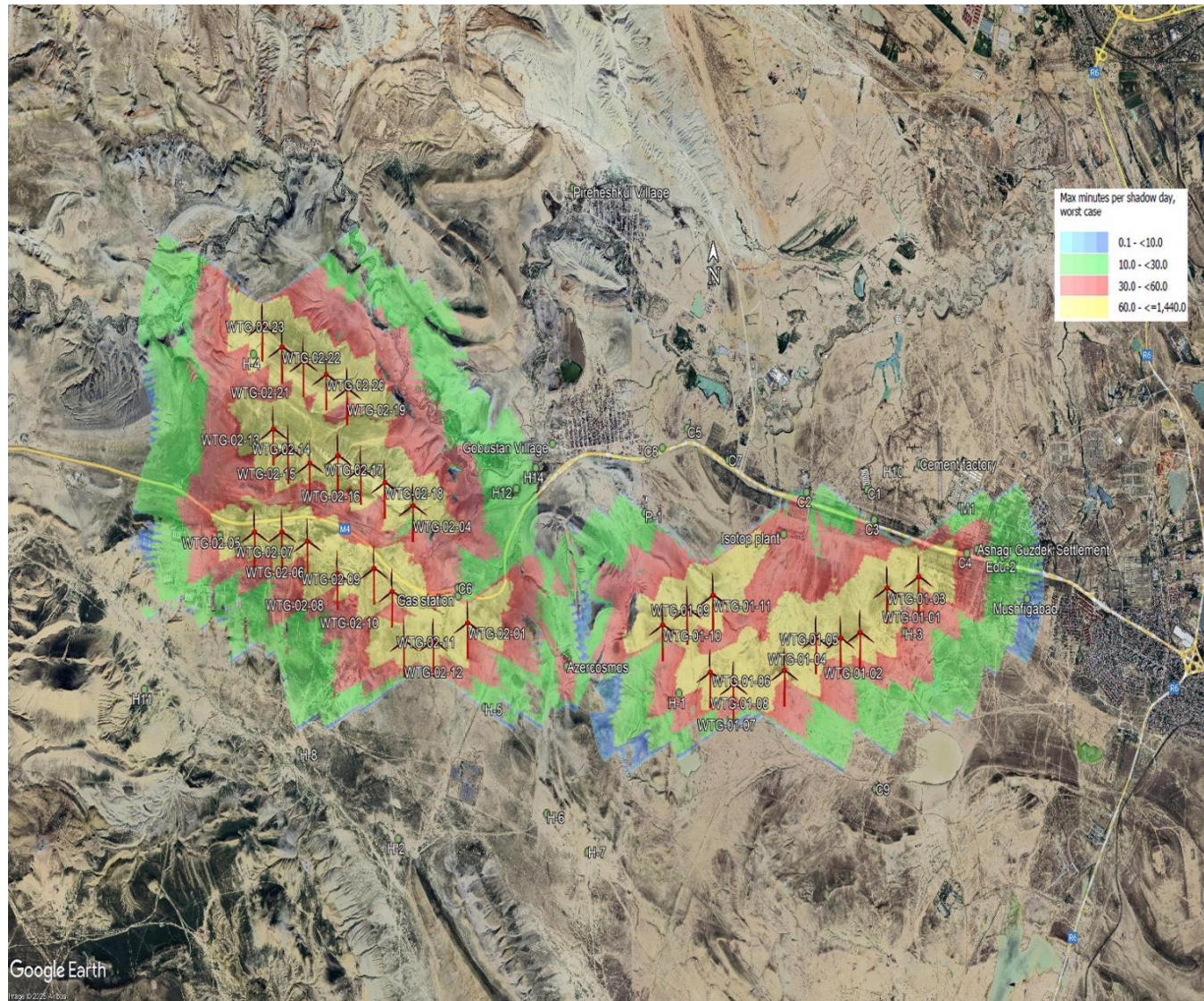


Figure 12-2 Max Minutes per Shadow Day, Worst-case

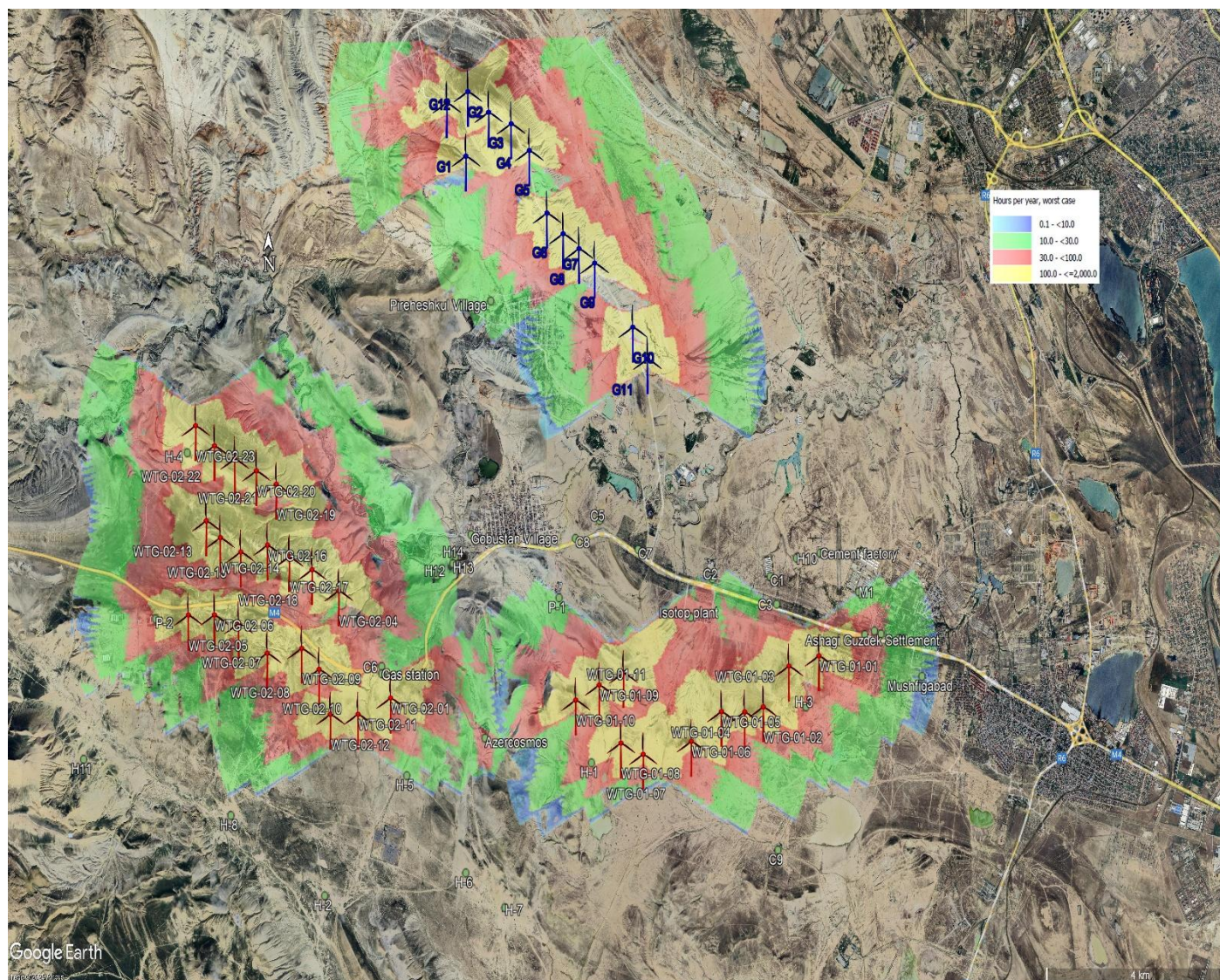


Figure 12-3 Absheron and Area 1 Cumulative WF Shadow Hours per Year, Worst-case

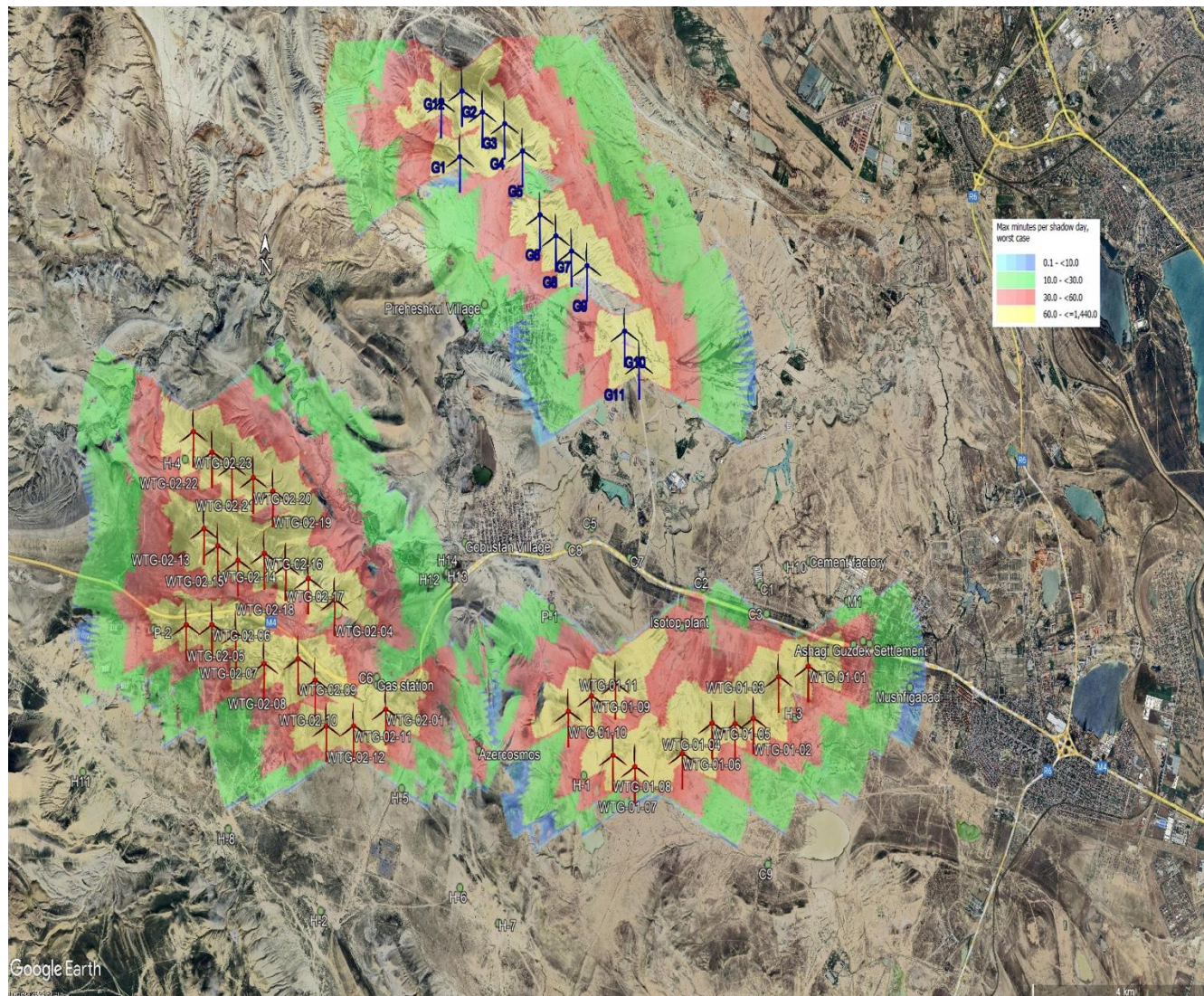


Figure 12-4 Absheron and Area 1 Cumulative WF Max Minutes per Shadow Day, Worst-case

Table 12-5 Shadow Flicker Impact Significance, Mitigation & Management Measures and Residual Impacts – Operation

POTENTIAL IMPACTS	MAGNITUDE OF IMPACT	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACTS
Wind Turbines Operational Shadow Flicker	Moderate Negative	H-1, H-3, and H-4	Medium	Moderate	• A Shadow Flicker Management Plan will be prepared. • impacted herder structures will be consulted throughout the Project, including prior to the start of operations and will have access to the grievance mechanism. • If a grievance is submitted, dedicated monitoring procedures will be initiated. These procedures are intended to assess the nature of the grievance and determine the most suitable response to the issue at hand. • If complaints are substantiated, a range of adaptive mitigation measures are available to resolve the identified issues, including: ○ Installation of internal blinds, curtains, or shutters to block sunlight and reduce flicker perception. ○ Use of tinted or anti-glare window films to minimize light fluctuations. ○ Orientation of living spaces or windows away from the predominant shadow flicker path. ○ Planting of trees or shrubs outside windows to block sunlight in affected areas. ○ Modify landscaping or build external screens to reduce direct sunlight penetration.	Minor

12.5 Monitoring

The O&M Company will undertake shadow flicker monitoring as outlined in the following table.

Table 12-6 Shadow Flicker Monitoring Requirements - Operation

MONITORING	PARAMETER	FREQUENCY	MONITORING LOCATION
Grievances related to shadow flicker	Number of grievances	Ongoing	n/a
Shadow flicker from WTGs	Shadow flicker	In the period of impact, as per modelling	If complaints are received from receptors regarding WTG flicker, monitoring will be undertaken at complainant's locations.

13 SOLID WASTE AND WASTEWATER MANAGEMENT

13.1 Applicable Requirements & Standards

13.1.1 National Regulations

- Law No. 514-IQ on Waste (1998, amended by Law No. 928-VIQD in 2023) — Primary national waste management law. Defines state policy for preventing the harmful effects of waste on human health and the environment, reducing hazards, promoting recycling, and ensuring ecological balance. The 2023 amendment removed the terms “industrial and domestic” from the title and scope and introduced phased updates effective from 1 February and 1 September 2024.
- Ministerial Decrees Nos. 41 (2003), 13 (2008), 185 (2008), 228 (2016) — Cover hazardous waste permitting, inventory, collection, and storage.
- Law No. 723-IQ on Water Supply and Effluent Wastewater (1999) — Governs water supply and wastewater discharge, licensing, and service provider responsibilities, and sets water quality and effluent treatment standards.
- Law No. 159-IIQ on Water Economy of Municipalities (2001) — Establishes roles and regulations for municipal wastewater systems and watershed protection zones.
- Law No. 677-IQ on Ecological Safety (1999) and Law No. 678-IQ on Environmental Protection (1999) — Provide overarching environmental safety principles relevant to wastewater and waste management.
- Basel Convention (ratified by Azerbaijan in 2001) — Governs transboundary movements of hazardous waste and underpins national hazardous waste regulations.

13.1.2 Lender Requirements

AIIB

ESS1 – Environmental and Social Assessment and Management: Point 38 states the need to *‘Minimize and manage waste generation, including through waste reduction and recycling, and release of hazardous materials from production, transportation, handling and storage.’*

EBRD

EBRD ESR3 on Resource Efficiency and Pollution Prevention and Control establishes general requirements with regards to:

- The Project shall prioritize avoiding or minimizing the generation of hazardous and non-hazardous waste and seek to reduce its harmfulness to the environment and human health wherever practicable.
- Where waste generation is unavoidable, the Project shall promote reuse, recycling, recovery, or energy recovery of waste materials. Waste that cannot be reused or recovered shall be treated and disposed of in an environmentally sound manner consistent with Good International Practice (GIP).
- For hazardous waste, the Project shall identify and implement technically and financially feasible options for safe disposal, taking into account any applicable restrictions on transboundary movement.
- When waste management activities are outsourced, the Project shall ensure that contractors are licensed, reputable, and operate in compliance with regulatory requirements, and maintain chain-of-custody documentation to confirm final waste destination. The Project shall also assess disposal site compliance with environmental and safety standards, and consider alternative solutions, including on-site treatment or disposal facilities if necessary.
- The Project shall implement measures to minimize water use and reduce wastewater generation. Where feasible, the reuse and recycling of effluents should be incorporated into project design to promote resource efficiency and reduce environmental impacts.

IFC

PS3 on Resource Efficiency and Pollution Prevention and Control requires projects to manage waste in a manner that protects human health and the environment. This involves minimizing waste generation where feasible and prioritizing the reuse, recycling, and recovery of waste materials. Hazardous wastes must be handled, transported, treated, and disposed of following recognized international guidelines and applicable national regulations. Projects must also ensure that any third-party waste contractors are licensed and operate according to Good International Practice (GIP), with appropriate documentation and monitoring in place to verify environmentally sound management and disposal. Additionally, the efficient use of water and management of wastewater through reduction, reuse, and treatment measures is encouraged to minimize environmental impacts.

EHS GUIDELINES

Section 1.6 of “General EHS Guidelines” is entitled Waste Management and is applicable to all projects that generate, store or handle any quantity of waste; whilst Section 1.5 of the IFC EHS Guidelines covers Hazardous Materials Management. The waste management guidelines state that facilities that generate and store wastes should practice the following:

- Establish waste management priorities at the outset of activities;
- Identify EHS risks and impacts and consider waste generation and its consequences;

- Establish a waste management hierarchy that considers prevention, reduction, reuse, recovery, recycling, removal and finally disposal of wastes;
- Avoid or minimize the generation of waste materials, as far as practicable;
- Identify where waste generation cannot be avoided but can be minimized or where opportunities exist for, recovering and reusing waste; and
- Where waste cannot be recovered or reused, identify means of treating, destroying, and disposing of it in an environmentally sound manner.

13.2 Baseline Conditions

13.2.1 National Context

Waste and wastewater management remain significant environmental challenges in Azerbaijan, despite past efforts and international support. World Bank-funded initiatives have aimed to improve solid waste infrastructure and environmental conditions, yet systemic shortcomings persist across the country, particularly outside of Baku. In many rural areas, fundamental waste management services, such as collection, transportation, and disposal, are largely absent.

To address environmental concerns in the Absheron region, the Government of Azerbaijan adopted the “Complex Plan of Measures for the Improvement of the Environmental Situation in the Republic of Azerbaijan for 2006–2010.” In line with this plan, Tamiz Shahar Open Joint Stock Company (OJSC) was established by Presidential Decree in 2008, with a mandate to manage the placement and disposal of household waste in Baku. Although waste collection and transportation in the capital remained under the Baku City Executive Power, Tamiz Shahar JSC began operations in 2009 to implement modern waste management systems. Its responsibilities were expanded in 2021 and 2022 to cover territories liberated from occupation.

In parallel, wastewater management is also limited. Only a small proportion of the country's total wastewater is treated, resulting in pollution of inland waters and the Caspian Sea (ZOI Environment, 2013). Azersu OJSC, established in 2004 by Presidential Order, is responsible for organizing the collection, transportation, treatment, and disposal of wastewater nationwide.

13.2.2 Regional and Project Area Conditions

WASTE MANAGEMENT

At the regional level, formal waste management services in Absheron and surrounding areas remain limited. Although Tamiz Shahar oversees municipal waste disposal in Baku, its reach does not comprehensively extend to smaller towns and rural settlements. An existing landfill

near Sumgayit City, in the Haji Zeynalabdin settlement, is located approximately 14 km northeast of the Project area and serves as the closest formal disposal site.

The Balakhany Sorting Facility, approximately 28 km from the Project, includes a Material Recovery Facility (MRF) with a processing capacity of 200,000 tonnes per year. This facility supports household waste segregation and the recycling sector by sorting paper, glass, plastics, and metals, and separating hazardous materials such as batteries and e-waste. In addition, it includes a waste-to-energy plant capable of processing up to 500,000 tonnes per year of municipal waste, thereby reducing landfill volumes and generating energy.

Hazardous waste generated during the construction and operation phases of the Project will be collected, classified, and transported to licensed hazardous waste treatment facilities in Baku. Disposal will follow national regulations and hazardous waste codes applicable to each waste stream.

WASTEWATER MANAGEMENT

There is currently no centralized wastewater network serving Gobustan and Pirekeshkul Villages. Wastewater is typically discharged into excavated pits or managed through septic systems.

The nearest wastewater treatment infrastructure includes:

- Sumgayit WWTP: Approximately 16 km northeast of the Project, with a capacity of 100,000 m³/day.
- Pirshagi/New Absheron WWTP: Situated approximately 28 km from the Project area, this biological treatment facility serves northeastern Absheron settlements.
- Hovsan WWTP: Located approximately 40 km east of the Project, this is the largest municipal treatment plant in Azerbaijan, handling around 60% of Baku's wastewater.

COMMUNITY LEVEL CONDITIONS

Solid Waste

According to KII data from Ashagi Guzdak municipality representatives and survey data, both Pirekeshkul and Gobustan do not have access to formal solid waste management services, leading households to resort to burning solid waste.

Approximately 96% of the surveyed households in Mushfigabad have access to the centralized solid waste management system, and the remaining 4% burn or bury their solid waste. According to the outcome of the KII, the solid waste from Mushfigabad is transported to a waste site at Gizildash settlement of Garadagh District, located 20 km from Mushfigabad.

Wastewater

According to Ashagi Guzdak municipality representatives, none of the households in Pirekeshkul and Gobustan are connected to a central sewage system. The surveyed households in Pirekeshkul and Gobustan reported that they rely on septic tanks for wastewater disposal. Almost all surveyed households in Mushfigabad (99%) reported that they are connected to the centralized sewage system, and the remaining 1% use septic tanks.

The lack of structured services in villages like Pirekeshkul and Gobustan poses environmental and health risks due to informal waste and wastewater disposal.

13.3 Area of Influence and Receptors

13.3.1 Area of Influence

In the context of waste, the Project area of influence is the site level for construction workers and neighbouring land-users and it extends up to the regional level when considering the wider assimilative capacity of waste management infrastructure or systems.

13.3.2 Receptors

Interfaces between planned Project activities and relevant valued receptors represent potential Project impacts. The following table provides a descriptive list of receptors pertaining to waste and wastewater management within the Project's areas of influence.

Note: this section considers the management of solid waste and wastewater and not its impacts to environmental receptors (such as soil, groundwater, ecology etc.).

Table 13-1 Waste Receptors

RECEPTOR	SENSITIVITY	JUSTIFICATION
Existing waste infrastructure	Medium	The waste and wastewater management infrastructure and facilities are still developing in Azerbaijan in general and are limited in the Project area. Therefore, the Project will add pressure to the selected waste and sewage management facilities in other areas.

13.4 Potential Impacts, Mitigation, Management & Residual Impacts

The following subsections describe the potential impacts and their magnitude. Refer to Table 13-1 for the receptor sensitivity. A summary of the impacts, their magnitude, receptor sensitivity and therefore significance, and proposed mitigation measures, is provided in Table 13-2.

13.4.1 Construction Phase

13.4.1.1 Strain on Existing Waste Infrastructure Due to the Generation of Construction Wastes

Construction activities such as site preparation, civil works, electrical and mechanical works, materials delivery will generate construction, domestic and hazardous waste streams in both solid and liquid form.

The Project's construction phase will last for a total period of 24 months and employ a maximum of approximately 400 personnel during peak construction.

Waste streams associated with the construction phase of the Project are as follows:

NON-HAZARDOUS SOLID WASTE

- Packaging wastes which primarily include:
 - Cardboard
 - Wooden pallets
 - Plastic wraps. including plastic bags
- Concrete waste;
- Metal;
- Glass;
- Food wastes; and
- General refuse.

With proper waste management practices in place these types of waste are generally manageable, with a large component that is either reusable on-site (e.g., excavated materials to be used for backfilling, where applicable) or recyclable (e.g., packaging wastes) at designated facilities.

Non-hazardous construction waste is typically inert and does not pose a significant threat to human health or the environment. However, inappropriate handling, storage, transport and/or disposal of these solid non-hazardous waste types during construction can pose the potential to pollute the surrounding environment (i.e., soil and groundwater and surface water resources), cause odour and visual nuisance, encourage pests or result in occupational health and safety issues.

Due to the magnitude of waste generated, the impact is considered to be of **moderate** magnitude.

HAZARDOUS WASTES

Construction Hazardous Wastes

Due to the nature of the project and the construction works being undertaken, there will be limited hazardous materials used. Such materials may result in fuel containers waste, oily residues, paints, paint cans, chemical drums, used spill kits, replacement parts from vehicles, plant and equipment and wastes from chemical cleaning products.

Hazardous wastes require segregation from the non-hazardous waste and suitable storage facilities on-site prior to collection for off-site disposal. While hazardous waste is commonly generated in much smaller quantity than non-hazardous waste, the environmental risk associated with its storage and disposal is considered to be significantly greater. Inappropriate management, storage, handling, transferring or transportation through lack of personnel training on site may lead to accidental spills or leaks to the soil or groundwater resulting in environmental impacts and potential health risk to workers.

The potential impact of spills and leaks of hazardous wastes on soils, surface and groundwater is assessed within Section 9.4.1.2.

Due to the volume of hazardous waste generated, the impact is considered to be of **negligible** magnitude.

WASTEWATER

The following are the key components of wastewater anticipated during the Project construction:

- Domestic sewage (sanitary wastewater) from toilets;
- Liquid hazardous waste such as fuels, chemicals, paints, lubricants, solvents, waste oil, hydraulic fluid, resins, waste solvents and thinners, etc.;
- Equipment washing; and
- Concrete washout.

The construction site will have on-site temporary sanitation facilities for construction workers, expected to be toilets, basins and ablution facilities with collection septic tanks. These facilities will require regular emptying and removal from the project site to a sanitary water treatment plant by an authorized contractor.

Concrete washout will be generated during civils activities. Concrete washout is caustic and has high pH. the inappropriate disposal or other exposure to soils can result in impacts to soil quality and can potentially affect surface and groundwater quality. Concrete washout will be collected in a lined, pit and periodically removed by a licensed contractor and disposed of at an appropriate facility.

Due to the magnitude of wastewater generated, the impact is considered to be of **negligible** magnitude.

13.4.2 Operation Phase

The operation phase will generate minimal amounts of waste, primarily arising from domestic wastes from the operational workforce, and limited amounts of waste from day-to-day maintenance activities of administration / control facilities.

Hazardous wastes will be limited, but may include:

- Used chemical containers and drums;
- Soil contaminated by potential spills and leaks of hazardous materials/liquids and used spill kits and clean up materials;
- Miscellaneous wastes such as batteries, waste cables, oily rags, etc.;
- General clean-up materials and solvents from general maintenance of on-site plant and machinery; and
- Waste fuels, paints, lubricants, solvents etc.

Due to the limited workforce required on a wind farm project during operation, generation of sanitary and other liquid wastewater will be very limited, generated from toilets and hand wash facilities, which will be removed by a licensed wastewater disposal contractor from septic tanks when required.

The impact of operational waste management on existing waste management facilities is considered to be of **negligible** magnitude, due to the fact that limited waste will be generated, and the vast majority will be domestic.

13.4.3 Cumulative Impacts

The project's waste and wastewater management impacts primarily relate to increased pressure on existing waste management facilities, particularly due to the generation of recyclable and hazardous waste. This is not ideal, as it reduces landfill capacity and poses environmental risks. Additionally, improper handling, storage, transport, or disposal of waste during construction and operation could lead to soil and groundwater contamination.

However, since the nearby Area 1 wind farm will be completed before the start of Project construction, no significant cumulative waste impacts are expected during the construction phase.

Additionally, given the relatively small waste volumes generated during operation, cumulative impacts with other projects are also not anticipated to be significant.

13.4.4 Decommissioning Phase

During decommissioning, there is a potential for inert demolition waste and materials such as steel reinforced bars, broken concrete, cabling, to contaminate soils.

Decommissioning turbines and disposing of blades remains a challenge, however, the decommissioning of the wind farm provides significant opportunity for resource efficiency and material re-use/recycling. All demolition work will be carried out with reference to IFC EHS Guidelines 1.6 Waste Management, IFC EHS Guidelines 1.5 Hazardous Materials Management, IFC PS3 on Resource Efficiency and Pollution Prevention.

Table 13-2 Solid Waste and Wastewater Management Impact Significance, Mitigation Measures and Residual Impacts

POTENTIAL IMPACT	MAGNITUDE	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACT
Construction						
Generation of solid waste during construction	Moderate Negative	Existing Waste Management Infrastructure	Medium	Moderate	- Waste during construction will be managed in accordance with the Hazardous Materials and Waste Management Plan within the Project HSSE-MS, which sets out monitoring and control measures consistent with GILP. - Collection of waste to its final disposal location will be through the licensed waste collector. The licensed waste collector will be responsible for project waste management and act as a waste contractor and transport the waste to authorized recycling/recovery and /or final disposal facilities that are licensed according to national regulations. - A project specific construction stage Waste Management Plan will be prepared prior to commencement of works. - Prior to start of construction works, there will be coordination with waste receiving facilities to ensure sufficient capacity is available for receiving construction wastes. - The EPC contractor will promote and implement a hierarchy of controls in managing wastes which include prevention, reuse, recycling, recovery and disposal in order of most preferred to least preferred option. - Domestic solid wastes to be segregated and identified from the other waste streams into separate waste containers/skips clearly to facilitate recycling. - Waste containers/skips will be clearly labelled and placed in designated waste storage locations. Labels will be waterproof, securely attached, and written in English and other languages as required. - Waste containers will have lids in order to mitigate wind dispersed waste. - For litter (food waste, domestic waste), an adequate number of covered bins will be strategically placed throughout the site at locations where construction workers and staff consume food. These will be regularly collected and taken to the main waste storage area. - Food waste will be stored within a sealed metal or plastic skip or bin to prevent pests from gaining access. - Ongoing housekeeping training will be provided to all staff on the importance of the need to avoid littering.	Minor
Generation of hazardous wastes and wastewater during construction	Negligible Negative	Existing Waste Management Infrastructure	Medium	Minor	- Technical characteristics of hazardous waste storage area will be filled in Hazardous Material Storage Inspection form [MP 14 – F4], and referred to in relevant register: [MP 14 – REG 06: Hazardous Material Storage Register] - The procedure shall be followed [MP14- P2: Hazardous Materials Storage Procedure.] - Hazardous waste collection will be determined on a case-by-case basis.	Negligible

POTENTIAL IMPACT	MAGNITUDE	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACT
					- Hazardous waste should not remain within the storage facility for more than 3 months. - For liquid hazardous wastes, all liquid bins and containers will be leak-proof and sealed. In addition, secondary containment will be implemented to prevent any hazardous liquid escaping – e.g. to soil/ground. Secondary containment must be provided with a capacity of 110% of the largest storage bin/container or 25% of the total storage capacity. - All Hazardous waste must be labelled and a waste manifest completed when arranging collection and safe disposal. - All waste collection vehicles must be supplied with a spill kit. - Develop and maintain a hazardous waste inventory to document and track hazardous wastes generated, segregated, reused and consignments. - Segregate and identify hazardous waste from the other waste streams into separate signed and labelled waste containers/skips. - Store hazardous waste in allocated impervious hard standing areas in sealed containers stored with impermeable bases, sufficient containment and separation capacity, sun/rain shelter, separate drainage system, good ventilation and equipped with spill kits & spill response procedures. This area will be placed away from any sources of ignition. - The hazardous waste storage area will be constructed away from the drainage system. - Provide training and ready information on chemical compatibility to employees in order to ensure wastes are appropriately handled and stored. - Only licensed waste transporters and waste management facilities will be engaged for wastes. - Sanitary wastewater tanks to be properly maintained and inspected to ensure tanks do not overflow. - Site inspections will be carried out regularly by the EPC contractor to ensure that all wastewater generated is properly managed, and no leakages or spill occur. In the event of a spill or overflow, immediate action will be taken per spill containment procedures and clean up procedures.	
Operation						
Operational waste generation	Negligible Negative	Existing Waste Management Infrastructure	Medium	Minor	- Prior to start of operation of the plant, the O&M Company will coordinate with the local municipality and waste receiving facilities to ensure sufficient capacity is available for receiving wastes. - The O&M Company will identify waste management companies who can accept and handle PV panel waste with a focus on material recovery and recycling. - Domestic solid wastes to be segregated and identified from the other waste streams into separate waste containers/skips clearly to facilitate recycling.	Negligible

POTENTIAL IMPACT	MAGNITUDE	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACT
					- Waste containers/skips will be clearly labelled and placed in designated waste storage locations. Labels will be waterproof, securely attached, and written in English and other languages, as required. - For litter (food waste, domestic waste), an adequate number of covered bins will be strategically placed throughout the site at locations where operational staff consume food. These will be regularly collected and taken to the main waste storage area. - Food waste will be stored within a sealed metal or plastic skip or bin, to prevent pests from gaining access. - Only licensed waste transporters and waste management facilities will be engaged, and copies of the waste management licenses will be maintained on site. - Completed waste manifests will be maintained to show the chain of custody of the waste generated on-site, its transportation and treatment/disposal. All records will be maintained on-site. - Sanitary wastewater will be collected by a licensed contractor and taken to a wastewater treatment plant. - Develop and maintain a hazardous waste inventory to document and track hazardous wastes generated, segregated, reused and consignments. - Segregate and identify hazardous waste from the other waste streams into separate waste containers/skips signed and labelled. - Store hazardous waste in allocated impervious hard standing areas in sealed containers stored with impermeable bases, sufficient containment and separation capacity, sun/rain shelter, separate drainage system, good ventilation and equipped with spill kits & spill response procedures. This area will be placed away from any sources of ignition. - Waste containers will be marked with appropriate warning labels to accurately describe their contents and detailed safety precautions. Labels will be waterproof, securely attached, and written in English and other languages as required. Wherever possible, chemicals will be kept in their original container.	

13.5 Monitoring

Table 13-3 Waste Management Monitoring

MONITORING	PARAMETER	FREQUENCY	MONITORING LOCATION
Inspect and monitor proper handling and storing of waste materials	Check storage areas containment and control procedures as per HSSE-MS	Daily	Storage areas at the site
Inspect and monitor third party waste contractors and disposal facilities	Ensuring engaged contractors, their vehicles and waste management facilities have applicable registrations/licenses at time of procurement	At procurement and annually thereafter	Contractors, transport vehicles and waste management facilities
Waste Transfers	Record keeping of waste transfer notes	On-going	As waste is transferred during construction and operational phases.

14 ARCHAEOLOGY AND CULTURAL HERITAGE

14.1 Applicable Requirements & Standards

14.1.1 National Regulations

Cultural heritage, archaeological remains, and artefacts are legally protected in the Republic of Azerbaijan by national legislation which is supported by the various international conventions and recommendations ratified and/or acceded by the Republic. These include the Convention on Protection of World Cultural and Natural Heritage (Paris, 1972), the European Convention on the Protection of the Archaeological Heritage (Valletta, 1992), and UNESCO Convention on the Protection and Promotion of the Diversity of Cultural Expressions.

The Ministry of Culture and Tourism of the Republic of Azerbaijan is responsible for the cultural heritage and safeguarding of intangible cultural heritage at national level. The following laws are relevant to the protection of cultural heritage in Azerbaijan:

- Ministerial Decree No. 266 on approval of the rules regarding protection, restoration and use of cultural heritage; and
- List of Immovable Historical and Cultural Monuments of National Importance, approved by the Resolution of the Cabinet of Ministers of the Azerbaijan Republic dated 02.08.2011 No. 132.

Article 14, Archaeological Studies on the Territories of New Construction Development of the Law on 'Protection and Utilization of the Cultural and Historical Monuments' requires the promoter of a new project to apply to the adequate governmental bodies at the stage of feasibility studies and provide the investigation of the archaeological monument at its own expense. In cases where archaeological features are encountered it is prohibited to carry out the construction without the adequate scientific measures and permission from the adequate governmental bodies.

The legislative arrangement has recently been altered to ensure that the Ministry of Culture is responsible for issuing permits for the excavation of archaeological and heritage sites. Decisions on granting such permissions are approved by the Ministry of Culture following expert feedback from the Institute of Archaeology and Ethnography.

Restoration of architectural monuments may only be carried out following the issuance of a license by the Ministry of Culture.

The international and regional treaties and conventions ratified by the Republic of Azerbaijan include:

- Convention for Protection of Cultural Heritage in the Event of Military Conflicts. May 14, 1954, The Hague. Ratified by Milli Medjlis (Parliament of Azerbaijan Republic) in April 21, 1993;
- UNESCO Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property. November 14, 1970, Paris. Ratified by Milli Medjlis (Parliament of Azerbaijan Republic) in September 30, 1997;
- UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage. November 16, 1972, Paris. Ratified by Milli Medjlis (Parliament of Azerbaijan Republic) in December 16, 1993;
- UNIDROIT Convention on Stolen or Illegally Exported Cultural Objects. July, 1995, Roma. Ratified by Milli Medjlis (Parliament of Azerbaijan Republic) in March 2, 2000;
- The Second Protocol of the Hague Convention on Protection of Cultural Property in the Event of Military Conflicts. March 26, 1999. Ratified by Milli Medjlis (Parliament of Azerbaijan Republic) on December 12, 2000; and
- Revised European Convention on Protection of Archaeological Heritage. January 16, 1992. Ratified by Milli Medjlis (Parliament of Azerbaijan Republic) in October 20, 1999.

14.1.2 Lender Requirements

AiIB

AiIB's ESF outlines the requirement to conserve and avoid impacts on cultural resources. The Framework further states *"when avoidance of impacts on cultural resources is not feasible, prepare a cultural resources management plan to mitigate and monitor these impacts."*

EBRD

EBRD Environmental and Social Requirement 8 (ESR8) recognises the vital importance of both tangible and intangible cultural heritage for present and future generations. ESR8 aims to protect cultural heritage by guiding clients to identify, avoid, and, where avoidance is not possible, mitigate or compensate for adverse impacts associated with their projects. Clients are expected to adopt a precautionary and inclusive approach to the management and sustainable use of cultural heritage, ensuring meaningful engagement with affected communities and stakeholders, and integrating cultural heritage considerations throughout the project lifecycle.

IFC

Performance Standard 8 – Cultural Heritage aims to protect the adverse impacts of project activities and support its preservation and to promote equitable sharing of benefits from the use of cultural heritage. Cultural heritage in this standard refers to:

- Tangible forms of cultural heritage, such as tangible moveable or immovable objects, property, sites, structures, or groups of structures, having archaeological (prehistoric), paleontological, historical, cultural, artistic, and religious values;
- Unique natural features or tangible objects that embody cultural values, such as sacred groves, rocks, lakes, and waterfalls; and
- Certain instances of intangible forms of culture that are proposed to be used for commercial purposes, such as cultural knowledge, innovations, and practices of communities embodying traditional lifestyles.

14.2 Baseline Conditions

14.2.1 UNESCO World Heritage Sites

There are three UNESCO World Heritage Cultural sites within relative proximity of the Project:

- The Walled City of Baku with the Shirvanshah's Palace and Maiden Tower⁴², is approximately 25 km east of the Project.
- Gobustan Rock Art Cultural Landscape⁴³, which covers three areas of a plateau of rocky boulders and has more than 6,000 rock engravings bearing testimony to 40,000 years of rock art. This heritage site is located approximately 40 km south of the Project site and therefore will not be impacted by the development of the Project.
- The cultural Landscape of Khinalig People and “Köç Yolu” Transhumance Route⁴⁴ is approximately 28 km west of the Project: the village of Khinalig is home to the semi-nomadic Khinalig people, whose culture and lifestyle are defined by the seasonal migration between summer and winter pastures, and who retain the ancient way of long-distance vertical transhumance. The organically evolved network including ancient routes, temporary pastures and camping sites, mausoleums, and mosques illustrates a sustainable eco-social system adapted to extreme environmental conditions

The relative location of these and the Project is shown on the following figure.

⁴² <https://whc.unesco.org/en/list/958>

⁴³ <https://whc.unesco.org/en/list/1076>

⁴⁴ <https://whc.unesco.org/en/list/1696>

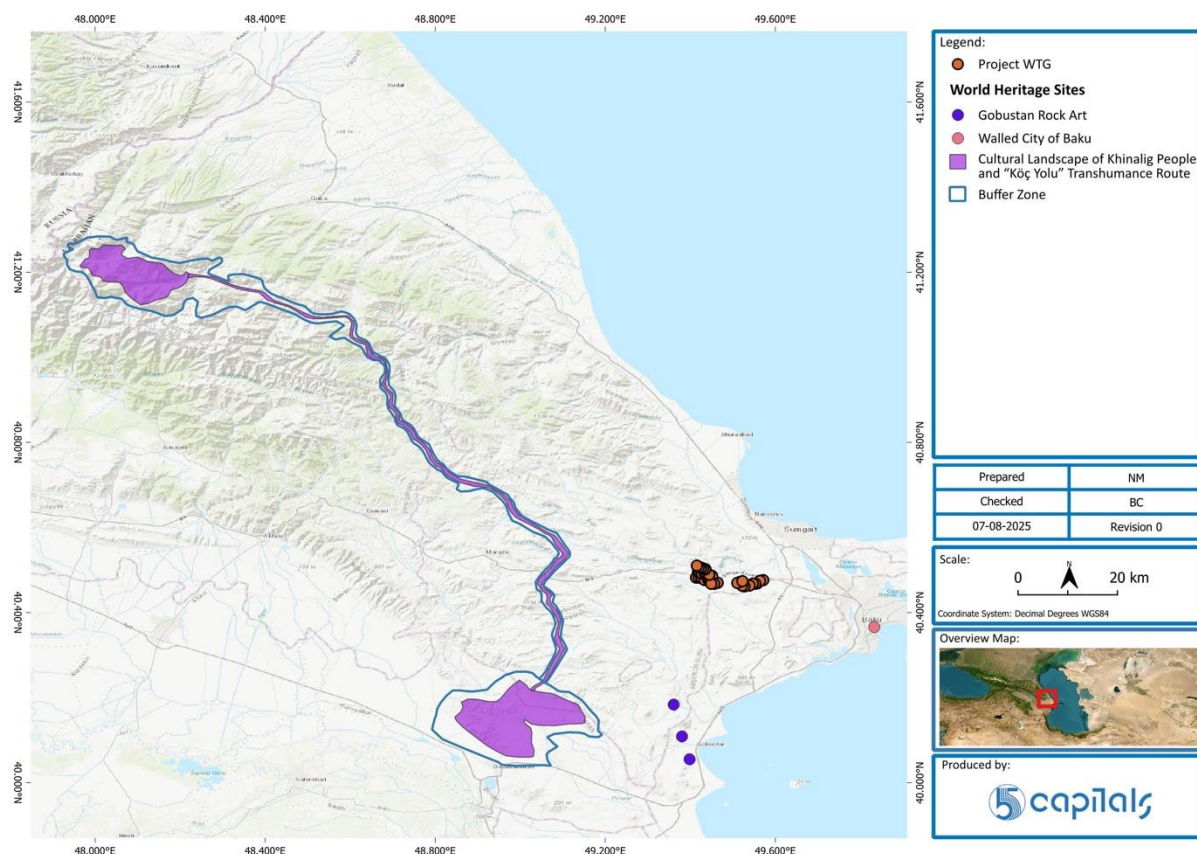


Figure 14-1 UNESCO Heritage Sites

14.2.2 Intangible Cultural Heritage

AZERBAIJANI INTANGIBLE CULTURAL HERITAGE

Intangible heritage is defined as the practices, representations, expressions, as well as the knowledge and skills (including instruments, objects, artefacts, cultural spaces), that communities, groups and, in some cases, individuals recognise as part of their cultural heritage. It is sometimes called living cultural heritage and it includes oral traditions and expressions, including language performing arts, social practices, rituals and festive events, knowledge and practices concerning nature and the universe, and traditional craftsmanship (UNESCO, 2003).

Azerbaijan has the following elements of intangible cultural heritage listed by UNESCO.

Table 14-1 Intangible Cultural Heritage in Azerbaijan

ELEMENT	DESCRIPTION	RECOGNISED REGION
Craftsmanship and performing art of balaban/mey	Balaban (in Azerbaijan) or Mey (in Türkiye) is a centuries-old woodwind instrument made up of three parts: a body, a wide and flat double reed and a clip.	Azerbaijan and Türkiye
Craftsmanship of mother of pearl inlay	Mother of pearl inlay is the practice of inserting mother of pearl pieces into wooden objects such as Koran cases, desks, chests, chairs, mirrors, jewel cases and musical instruments.	Azerbaijan and Türkiye

ELEMENT	DESCRIPTION	RECOGNISED REGION
Art of illumination	Illumination is a centuries-old decorative art practised on the pages of manuscripts, calligraphic texts and miniatures.	Azerbaijan, Iran, Tajikistan, Türkiye and Uzbekistan
Iftar and its socio-cultural traditions	Iftar is observed by Muslims at sunset in the month of Ramadan (the ninth month in the lunar calendar), upon completion of all religious and ceremonial rites.	Azerbaijan, Iran, Türkiye and Uzbekistan
Culture of Çay (tea), a symbol of identity, hospitality and social interaction	Tea culture in Azerbaijan and Türkiye is an important social practice that shows hospitality, builds and maintains social ties, and is used to celebrate important moments in the lives of communities.	Azerbaijan and Türkiye
Pehlevanliq culture: traditional zorkhana games, sports and wrestling	Pehlevanliq culture in Azerbaijan includes games and sports, such as wrestling, and individual performances.	Azerbaijan
Telling tradition of Nasreddin Hodja/ Molla Nesreddin/ Molla Ependi/ Apendi/ Afendi Kozhanasyr Anecdotes	The Telling Tradition of Nasreddin Anecdotes refers to the social practices and festivals around the telling of anecdotes attributed to Nasreddin, a philosopher and wiseman recognized for his wisdom and humorous analyses and representations of society and life experiences.	Azerbaijan, Kazakhstan, Kyrgyzstan, Tajikistan, Türkiye, Turkmenistan and Uzbekistan
Sericulture and traditional production of silk for weaving	In sericulture and the traditional production of silk for weaving, farmers care for the silkworms through their entire lifecycle, growing the mulberry trees that provide leaves upon which the worms feed and produce silkworm eggs.	Afghanistan, Azerbaijan, Iran, Türkiye, Tajikistan, Turkmenistan and Uzbekistan
Nar Bayrami - traditional pomegranate festivity and culture	Inscribed in 2020 on the Representative List of the Intangible Cultural Heritage of Humanity. <i>'Nar Bayrami is an annual festival in October/November in Azerbaijan's Goychay region that celebrates the pomegranate and its traditional uses and symbolic meaning. Pomegranate culture is a set of practices, knowledge, traditions, and skills related to the cultivation of the fruit, which is used not only in a range of culinary contexts, but is also referred to in crafts, decorative arts, myths, storytelling and other creative outlets.'</i>	Azerbaijan's Goychay region
Art of Miniature	A type of two-dimensional artwork that involves the design and creation of small paintings on books, papier-mâché, rugs, textiles, walls, ceramics, and other items using raw materials such as gold, silver, and various organic substances.	Azerbaijan, Iran, Turkey, and Uzbekistan
Yalli (Kochari, Tenzere), traditional group dances of Nakhchivan	Traditional group dance typically performed in a circle, chain, or line involving elements of games, pantomime (bird or other animal imitations), physical exercises, and movements.	Across Azerbaijan
Heritage of Dede	This includes folk tales and music of Dede Qorqud/Korkyt Ata/Dede Korku. They are based on twelve heroic legends, stories, and tales, and thirteen traditional musical compositions shared and transmitted across the generations through oral expressions, performing arts, cultural codes, and musical composition. The element encompasses social, cultural, and moral values, and contains profound knowledge about the history and culture of Turkic-speaking communities.	Azerbaijan, Kazakhstan, and Türkiye

ELEMENT	DESCRIPTION	RECOGNISED REGION
Dolma making	Set of knowledge and skills relating to the preparation of the traditional meal 'dolma', which takes the form of small fillings (containing meat, onion, rice, peas, and spices) wrapped in fresh or pre-cooked leaves, or stuffed in fruits and vegetables.	Across Azerbaijan
Art of crafting and playing with Kamantcheh/Kamancha	Kamantcheh is a bowed string musical instrument which has existed for over 1,000 years. In Iran and Azerbaijan it constitutes a major element of classical and folkloric music, and performances occupy a central place in a wide number of social and cultural gatherings.	Azerbaijan and Iran
Novruz	This marks the beginning of new year on 21st March when a variety of rituals, ceremonies, and other cultural events take place for a period of approximately two weeks. It includes spending time with family, friends, exchanging gifts, street performances, public rituals, and traditional sports etc. These practices are passed through generations by observation and participation.	Afghanistan, Azerbaijan, India, Iran (Islamic Republic of Iran), Iraq, Kazakhstan, Kyrgyzstan, Uzbekistan, Pakistan, Tajikistan, Turkmenistan, and Türkiye
Flatbread making and sharing culture: Lavash, Katyrma, Jupka, Yufka	This includes making and sharing flatbread which carries social functions that have enabled it to continue as a widely practiced tradition. This involves family members (at least 3 people) and also neighbours.	Azerbaijan, Iran (Islamic Republic of Iran), Kazakhstan, Kyrgyzstan, and Türkiye
Copper craftsmanship of Lahij	Copper craftsmanship of Lahij is the traditional practice of making and using copperware concentrated in the Lahij community in the Caucasus. It's a tradition transmitted within families.	Azerbaijan - Lahij
Traditional art and symbolism of Kelaghayi - making and wearing women's silk headscarves	A tradition found along the Silk Road that consists of several stages: fabric weaving, dyeing, and woodblock decoration. <i>'The art of Kelaghayi making is transmitted through non-formal apprenticeship only and is primarily a family occupation. Each family has its own stylistic features and patterns of decoration. The traditional practice of making and wearing headscarves is an expression of cultural identity and religious traditions and a symbol of social cohesion, reinforcing the role of women and strengthening the cultural unity of Azerbaijani society.'</i>	Azerbaijan: - City of Sheki - Basgal settlement
Chovqan, a traditional Karabakh horse-riding game in the Republic of Azerbaijan	It is a traditional horse-riding game played on a flat, grassy field by two competing teams of players mounted on Karabakh horses.	Across Azerbaijan
Craftsmanship and the performance art of the Tar, a long-necked string musical instrument	The Tar is a long-necked plucked lute, traditionally crafted and performed in communities throughout Azerbaijan. The making of the Tar and performance play a significant role in shaping the cultural identity of Azerbaijanis.	Across Azerbaijan
Traditional art of Azerbaijani carpet weaving	The carpet patterns are characteristic of Azerbaijan's many carpet-making regions	Across Azerbaijan

ELEMENT	DESCRIPTION	RECOGNISED REGION
Art of Azerbaijani Ashiq	It combines poetry, storytelling, dance, and vocal and instrumental music into a traditional performance art that stands as a symbol of Azerbaijani culture.	Across Azerbaijan
Azerbaijani Mugham	A traditional musical form, characterized by a large degree of improvisation. The Mugham, though a classical and academic art, draws upon popular bard melodies, rhythms, and performance techniques and is performed in many venues throughout the country.	Across Azerbaijan

LOCAL INTANGIBLE CULTURAL HERITAGE

Key informant interviews (KIIs) were conducted with representatives from Ashagi Guzdek and Mushfigabad Municipalities, as well as the Absheron and Garadagh Executive Powers, to collect information on intangible cultural practices in the project affected communities. Additionally, socioeconomic household surveys were administered to a sample of 264 households within the local communities to gather further information.

Interviews and surveys asked specific questions to interviewees regarding cultural values, practices and traditions within the study area. Specific questions were raised with regards to mud volcanoes, shrines, graves and customs and traditions practiced and the locations of these in the communities/region.

The representative from Mushfigabad Municipality stated that various customs and traditions are practiced at the settlement's community centre, in schools, and within the community. Pirekeshkul has a craftsmanship club that gathers for craftmaking activities.

The findings from the interviews and household surveys revealed the presence of the following intangible cultural heritage practices in the local communities:

- Eid al-Fitr,
- Eid al-Adha,
- Iftar,
- Novruz,
- Flatbread making,
- Culture of Çay (tea drinking) at tea rooms (chaykhana), and
- Folk dancing.

It is important to note that none of the above activities or celebrations occur within the Project site, but rather within the communities. The household survey determined that there are no Project area specific spiritual or cultural practices reported.

Collection of Natural Resources

According to survey respondents, the collection of natural resources is typically undertaken in areas with little to no livestock grazing activity. This is because grazing activities have degraded soil conditions and livestock trampling damages herbs and edible plants. As a result, the areas identified for the collection of natural resources are generally located away from the project site facilities and from areas leased and actively used by herders for grazing.

Further consultations with the Ashaghy Guzdak Municipality on 20th February 2026 confirmed that residents from Gobustan and Pirekeshkul villages collect edible plants, including field spinach, primarily along the Sumgayit River. These areas also serve as watering points for livestock when grazing in surrounding pastures.

Based on the information collected through consultations and mapping exercises none of the areas of collection of natural resources areas fall within the proposed project footprint. Refer to the LRP for further details.

14.2.3 Site Specific Cultural Heritage and Archaeology

STATE SERVICE FOR CULTURAL HERITAGE PROTECTION, DEVELOPMENT AND RESTORATION VISIT AND CONSULTATION

The State Service for Cultural Heritage Protection, Development and Restoration under the Ministry of Culture, conducted a site visit and inspection alongside Masdar representatives and following the inspection issued a letter on the 20th August 2024 to Masdar in which the Ministry of Culture confirm that the absence of archaeological and cultural heritage items within the site. The letter also outlines the requirements to be followed in the event of a chance find.

ARCHAEOLOGICAL SURVEY

Subsequently, 5 Capitals commissioned two archaeologists from the Azerbaijan Academy of Sciences (ANAS), Institute of Archaeology and Anthropology, to undertake a seven-day field survey between 15th and 21st March 2025 to document features of archaeological significance in the area.

Archaeological prospecting work was carried out on the basis of parallel visual observations and walked transects, photo observations and the taking of coordinates of any features of interest. All results and archaeological features were documented. The surveyed areas included the WTGs, the internal roads connecting them, internal transmission line route, access roads to the Project area, and substation location.

As stated by the State Service for Cultural Heritage Protection, Development and Restoration in their consultation letter, the archaeologists from the ANAS highlighted that there are no known state-registered archaeological monuments or potential archaeological sites in the vast lowland and foothills area (Absheron district, Pirekeshkul-Chaily area) where the proposed

Project is located. During the seven-day walkover and visual archaeological prospecting works, limited potential sites were identified based on fragments coming from various parts of pottery vessels from the Late Middle Ages. The report states that *"it should be noted that these pottery findings do not give grounds for assessing the Project Area as an area of archaeological risk"*. Further, no burial sites are found in the area.

The pottery fragments observed were collected and taken to the laboratory of the Institute of Archaeology and Anthropology of ANAS for comparative analysis. Differential-thermal analyses of some of the pottery samples were conducted, and the clay composition was determined. The ceramic samples found at the site are characteristic of the Late Middle Ages and date back to the 17th-18th centuries.

Eight to ten pieces of ceramics were found randomly in the areas WTG 01-01---WTG 01-11. These represent the parts of the same clay vessel.

As stated in Chapter 3 'Project Alternatives', the areas where ceramics were most commonly found was in the zone of the northern turbines (previously labelled 03-01- WTG 03-06), which have been removed from the layout.

The production technology and style suggest that these ceramic samples were produced in the Baku-Absheron pottery centres.



Ceramic Found Near WTG 02-15



Ceramic Found Near the Substation

Figure 14-2 Examples of Ceramic Finds

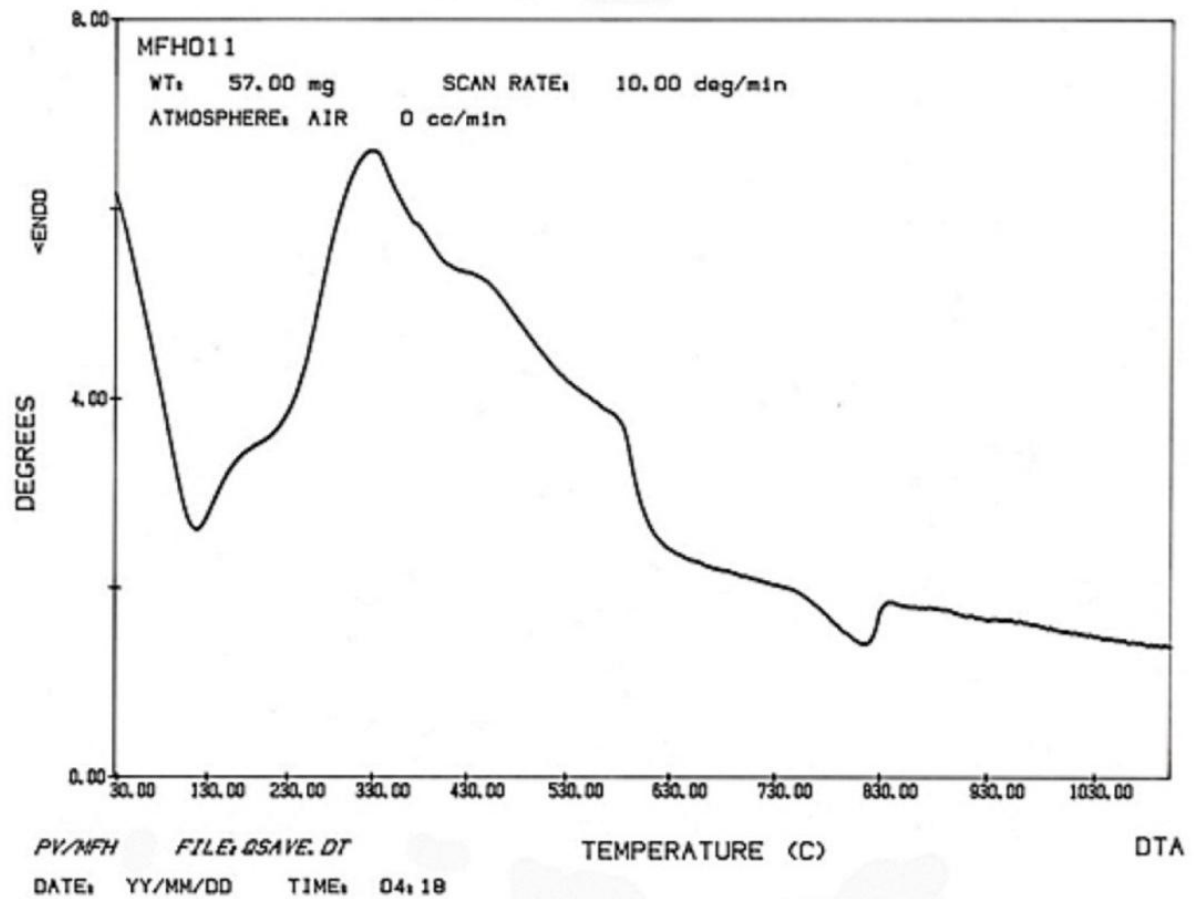


Figure 14-3 Differential-thermal analysis indicator of two ceramic fragments found near WTG 01-02. Analy. No: ANAS-RI-PX-247/52

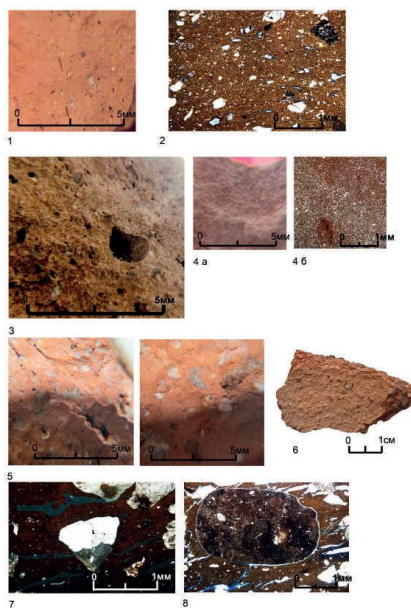


Figure 14-4 Clay content indicator of two ceramic fragments found near WTG 02-04 Analy. No: ANAS-RI-PX-251/74

The survey report concludes that there are no known archaeological monuments of significant importance in and near the WTGs, the access and connecting roads and road junctions, and substation, and no such monuments were observed during the exploration work. The area as a whole (where the WTGs will be installed and their immediate surroundings) is not an archaeological risk zone.

The archaeologists' report has also been shared with the Institute of Archaeology and Anthropology of ANAS and the Ministry of Culture in Azerbaijan.

The following figure depicts locations of ceramic finds.

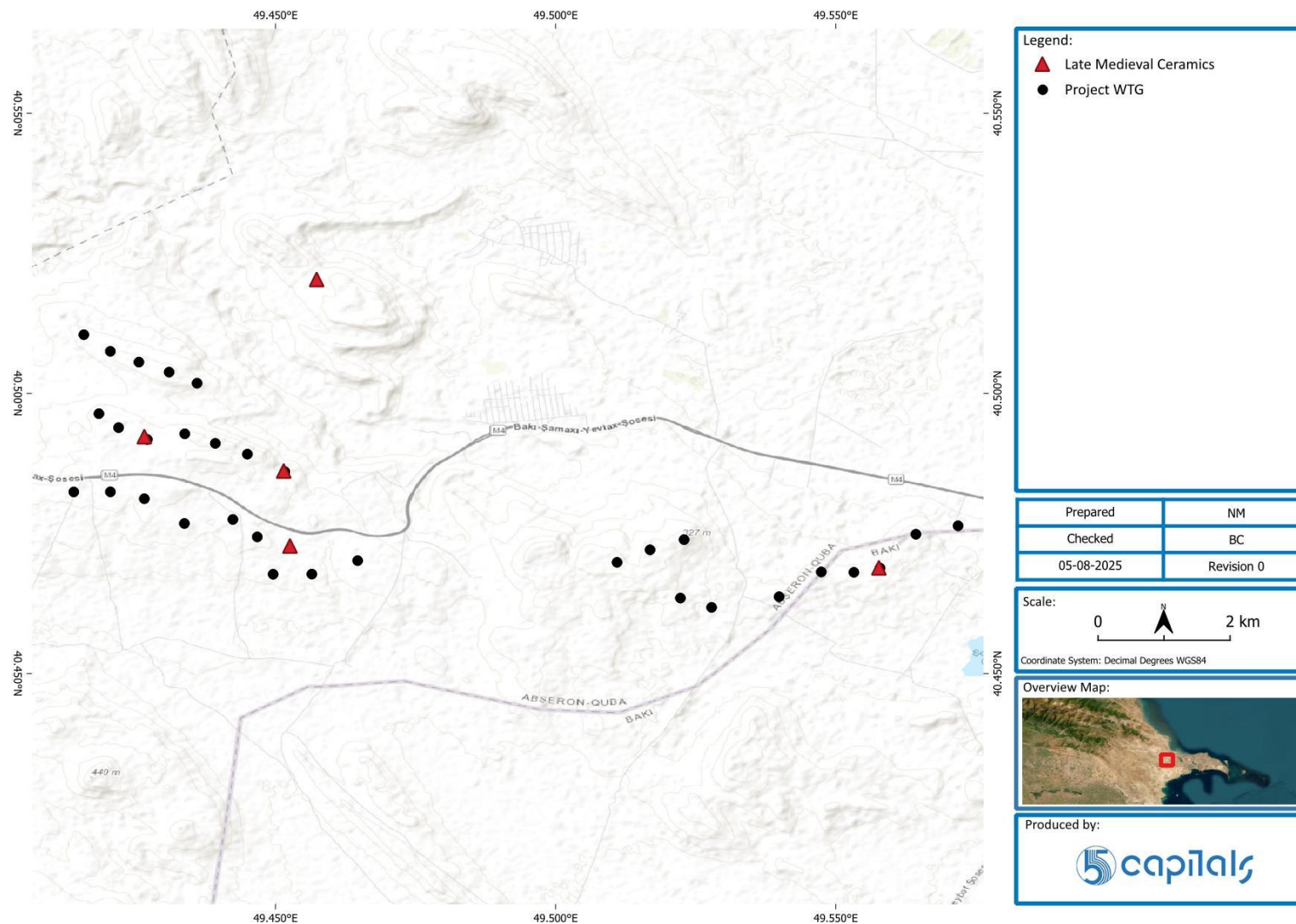


Figure 14-5 Ceramic Locations

14.3 Area of Influence and Receptors

14.3.1 Area of Influence

The area of influence of archaeological impacts is the areas in which construction activities will be undertaken, primarily those involved with earthworks.

With regards to intangible cultural heritage, the area of influence includes the local communities in which certain elements are practiced.

Visual impacts, including those upon cultural objects and community cemeteries are covered within Chapter 11, specifically under visual assessment locations LV1 and LV2.

14.3.2 Receptors

Table 14-2 Archaeology & Cultural Heritage – Receptors

RECEPTOR	SENSITIVITY	JUSTIFICATION
Pottery Fragments	Low	Ceramic samples found at the site are characteristic of the Late Middle Ages and date back to the 17 th -18 th centuries. The layout has been changed, avoiding the location in which the majority of fragments were found. The local archaeologists state the finds are not of significance.
Unknown items of cultural or archaeological significance	Low	Given the location of the Project in an area of known archaeological & cultural importance as identified during the archaeological surveys, unknown items of cultural & archaeological importance are likely to be present especially because only surface excavations were conducted during the surveys conducted by the Institute of Archaeology.
Intangible cultural heritage	High	The Proposed project site is located in proximity to a number of local communities that have highlighted a number of intangible cultural heritage practices. These are important elements and part of a national identity that has also been recognised by UNESCO.

14.4 Potential Impacts, Mitigation, Management & Residual Impacts

The following subsections describe the potential impacts and their magnitude. Refer to Table 14-2 for the receptor sensitivity. A summary of the impacts, their magnitude, receptor sensitivity and therefore significance, and proposed mitigation measures, is provided in Table 14-3.

14.4.1 Construction Phase

14.4.1.1 Impact on Surface Pottery Fragments

Construction workers may come across fragments of surface ceramics in the field. Local archaeologists have highlighted that ceramic samples found in the field are not insignificant but are considered minor finds.

If construction personnel do not receive appropriate training and are not made aware of the potential of these finds, there is the potential that the ceramics, although minor finds, are destroyed. The impact is considered of **minor** magnitude.

14.4.1.2 Direct Impact to Unknown Buried Archaeology

Although the State Service for Cultural Heritage Protection, Development and Restoration under the Ministry of Culture and the Project appointed archaeologists have concluded that the Project area is not an archaeological risk zone, excavation and earthwork activities during construction can result in damage and destruction of undiscovered archaeological artefacts, most likely to occur mainly during the initial stages of construction.

Therefore, a Chance Find Procedure will be established into the HSSE-MS, detailed as follows:

- Any worker or staff member (from EPC Contractor, subcontractor, security personnel, or other) who encounters any archaeological or cultural resources during the construction phase or suspected remains will immediately notify the EPC Contractor E&S Manager while taking immediate action to stop all construction activities within this area.
- The EPC Contractor E&S Manager will notify the Company E&S Manager immediately.
- The Company E&S Manager and the EPC Contractor E&S Manager will inspect the site and confirm whether the findings could potentially be an archaeological and cultural heritage site and/or a suspected site.
- The discovered area (along with the 20 m radius) will be delineated and marked using flags/ stakes and/or mesh plastic fence as appropriate.
- At this point, the Company E&S Manager shall inform Masdar Clean Energy ESG Team within 24 hours.

In addition to the Chance Finds Procedure, appropriate archaeological supervision will be implemented, as required.

Considering the area is not an archaeological risk zone, the impact magnitude is considered to be **minor**.

14.4.1.3 Impact on Intangible cultural Heritage

Intangible cultural heritage does not have a fixed location, or discrete boundaries and it is embedded in traditional residential and economic patterns and widely shared. Intangible culture can also be subject to loss under changing socio-economic conditions and if there is an influence from another culture.

In consideration of this, the Project could potentially induce social change and introduce new cultural influences especially from the workforce recruited from outside of Azerbaijan. This could result into tensions between the workers and locals.

However, this impact is expected to be **negligible** because the interaction between the workers and local communities will be limited and a code of conduct will be implemented to guide worker interaction with the local communities. In addition, the intangible culture elements are practiced across several areas of Azerbaijan and for many generations and the construction period is unlikely to change this.

The Project will also employ a portion of its workforce from Azerbaijan who will likely also practice some of these elements within their communities.

14.4.2 Operational Phase

The operational phase will not result in further impacts to archaeology, as the site will be static and further excavations will not be required. Impact to intangible cultural heritage is also not anticipated during the operations phase due to the limited workforce and the fact that the majority of the workforce will be Azerbaijani.

14.4.3 Cumulative Impacts

Project impacts in relation to archaeology and cultural heritage would primarily be those related to the excavation, earthworks and clearance of the Project site and the potential for encountering unknown buried archaeological remains. These impacts are contained within site boundaries and therefore, it is not envisaged that cumulative impacts will take place.

In addition, the Area 1 wind farm has already been constructed and therefore the Area 1 construction workforce does not overlap with Project construction and therefore there is not the risk of cumulative impacts on intangible cultural heritage.

14.4.4 Decommissioning Phase

In general, it is anticipated that direct impacts during the decommissioning phase will be limited to occur only if new ground works are required beyond the areas disturbed during the construction phase of the Project.

As such, at the time of decommissioning, further consultations, and potentially site visits, will be conducted with the relevant Institutes and Ministry in order to determine the mitigation measures to be implemented.

Table 14-3 Archaeology and Cultural Heritage Impact Significance, Mitigation Measures and Residual Impacts

POTENTIAL IMPACT	MAGNITUDE	RECEPTOR	SENSITIVITY	POTENTIAL IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACT
Construction						
Impact on Surface Pottery Fragments	Minor Negative	Pottery Fragments	Low	Minor	- Any finds of surface ceramics (for buried archaeology refer to the following impact assessment and mitigation), will be highlighted to the EPC Contractor E&S Manager. - The E&S Manager will collect and inventorise the findings. - The finds will then be handed over to the local municipality or museum.	Negligible
Direct Impact to Unknown Buried Archaeology	Negligible Negative	Unknown items of cultural or archaeological significance	Low	Minor	- Appropriate archaeological supervision will be implemented, as required.. - A Chance Find Procedure will be established into the HSSE-MS, detailed as follows: - Any worker or staff member (from EPC Contractor, subcontractor, security personnel, or other) who encounters any buried archaeological or cultural resources during the construction phase or suspected remains will immediately notify the EPC Contractor E&S Manager while taking immediate action to stop all construction activities within this area. - The EPC Contractor E&S Manager will notify the Company E&S Manager immediately. - The Company E&S Manager and the EPC Contractor E&S Manager will inspect the site and confirm whether the findings could potentially be an archaeological and cultural heritage site and/or a suspected site. - The discovered area (along with the 20 m radius) will be delineated and marked using flags/ stakes and/or mesh plastic fence as appropriate. - At this point, the Company E&S Manager shall inform Masdar Clean Energy ESG Team within 24 hours. - Subsequently, the Project team will inform the Institute of Archaeology and Anthropology.	Negligible
Impact on Intangible Cultural Heritage	Negligible Negative	Intangible cultural heritage	High	Minor	- The workers Code of Conduct will include measures regarding respect of beliefs, customs, rituals of local communities. - Interaction between the workers and the local communities will be kept to a minimum in order to avoid misunderstandings or conflict. - The EPC Contractor will demonstrate that all efforts have been put in place to recruit workers from local communities and region i.e., advertising job opportunities locally, using local registered employment agencies etc.	Negligible

14.5 Monitoring

Table 14-4 Archaeology and Cultural Heritage - Monitoring Requirements

MONITORING	PARAMETER	FREQUENCY & DURATIONS	MONITORING LOCATION
Construction			
Surface Ceramic Inventory	Surface ceramic finds	Throughout construction	The Project area
Archaeological Resources & Artefacts	Archaeological remains within the Project site	Daily continued visual observations by site staff involved in excavations and the archaeologist on site during excavations	The Project area requiring excavations, earthworks or grading during construction.

15 SOCIOECONOMICS

15.1 Applicable Requirements & Standards

15.1.1 National Requirements

Key legislative and regulations addressing socioeconomics, land ownership, land acquisition and resettlement in the Republic of Azerbaijan include:

- The Constitution of the Republic of Azerbaijan (Adopted on 12 November 1995, revisions made on 18 March 2009);
- The Land Code (Adopted on 25 June 1999, last revisions made on 20 April 2012);
- The Civil Code (Adopted on 28 December 1999, last revisions made on 20 April 2012);
- The Land Acquisition Law (April 2010);
- Law on valuation activity (25 June 1998, last revisions made on 20 April 2012);
- Law on "Land Lease" (11 December 1998, № 587-IQ);
- Decree of the President on additional activities regarding to implementation of the Law on "Acquisition of Lands for State Needs" (15 February 2011);
- Decree of the President on ensuring the execution of the law No. 506-3 QD dated 7 December 2007 on —Amendments and Additions to the Civil Code of the Azerbaijan RepublicII (26 December 2007);
- Resolution of the Cabinet of Ministers on approving of guidelines for preparation of Resettlement Plan and Resettlement Guideline No. 45 dated 24 February 2012;
- Resolution of the Cabinet of Ministers on approving the guidelines for selection of a person or entity to prepare Resettlement Plan or Resettlement Guideline No. 55 (21 April 2011);
- Resolution of the Cabinet of Ministers No. 42 On Some Normative and Legal Acts Relating to the Land Code (15 March 2000);
- Law of Azerbaijan Republic on Municipality Area and Lands (07 December 1999, No: 771-IQ); and
- Law on Management of Municipality Lands (29 June 2001, No: 160-IIQ).

15.1.2 Lender Requirements

AIIB

ESS2 addresses impacts of Project-related land acquisition, including restrictions on land use and access to assets and natural resources, which may cause physical displacement (relocation, loss of land or shelter), and/or economic displacement (loss of land or assets, or restrictions on land use, assets and natural resources leading to loss of income sources or other means of livelihood)

Section D 'Social Coverage' outlines the requirement for social assessment, including, but not limited to, vulnerable groups and discrimination, gender, gender based violence, land and natural resource access, loss of access to assets or resources or restrictions on land use.

EBRD

ESR 1 outlines the need to assessing social impacts as part of ESIA. The ESR1 objectives in relation to social assessment are as follows:

- "identify and assess [...] social risks and impacts of and to the project",
- "address [...] social risks and impacts from project activities on workers [and] affected communities",
- "integrate human rights risks and impacts into the assessment and management process", and
- "implement an ESMS commensurate with the [...] social risks and impacts of the project".

ESR 5 on land acquisition, restrictions of land use, and involuntary resettlement addresses impacts of project-related land acquisition, including involuntary resettlement as both physical displacement (relocation or loss of shelter) and economic displacement (loss of land, assets or restrictions on land use, assets and natural resources leading to loss of income sources or other means of livelihood).

IFC

Several of the IFC Performance Standards have elements that relate to socioeconomics. Key requirements for the assessment of socio-economic impacts are outlined in PS1, whilst PS5 on Land Acquisition and Involuntary Resettlement has important requirements relating to projects that acquire land or will necessitate physical or economic displacement, including compensatory measures.

15.2 Baseline Conditions

15.2.1 Regional Overview

The Project is located approximately 30 km west of Baku. WTGs are located across two districts, the Absheron District of the Absheron-Khizi Economic Region and Garadagh District in the Baku Economic Region.

ABSSHERON DISTRICT

Absheron is one of Azerbaijan's largest districts in terms of both area and population, known for its strong industrial and agricultural sectors.

According to Absheron Executive Power⁴⁵, the district covers an area of 1,970 km² and had a population of 432,800 as of January 1, 2024. The majority of Absheron's workforce is employed in industrial enterprises in Baku and Sumgayit, as well as in sectors such as trade, public services, catering, and individual entrepreneurship.

The district comprises 16 administrative-territorial units, including Khirdalan city; the settlements of Saray, Mehdiabad, Jeyranbatan, Gobu, Guzdak, Hokmali, Digah, Ashaghi Guzdak, Shafag; and the villages of Mammadli, Novkhani, Masazir, Fatmayi, Goradil, Pirekeshkul, and Gobustan.

According to the State Statistical Committee reports⁴⁶, as of January 1, 2024, the number of employed residents reached 189,300. This includes 10,400 employed in industry, 23,300 in construction, 10,300 in public institutions, 17,900 in education, 1,700 in healthcare, and 125,700 in other sectors.

In 2024, Absheron district's total production output reached AZN 2.69 billion. The distribution by sector was as follows: 35.7% from industry, 10.6% from agriculture, forestry and fishing, 33.4% from construction, 1.9% from transport and warehousing, 1.1% from information and communications, and 17.3% from trade and vehicle repair (State Statistical Committee, 2024).

GARADAGH DISTRICT

Garadagh is one of the 11 administrative districts of Baku city, covering an area of 1,080 km² with a population of 117,000 as of January 1, 2024. Garadag Executive Power reports⁴⁷ that the district is renowned as one of Azerbaijan's major oil and gas industrial hubs. It hosts several

⁴⁵ Absheron District Executive Power. Official website. Accessed at: <https://absheron-ih.gov.az/>.

⁴⁶ State Statistical Committee of the Republic of Azerbaijan. Official website. Accessed at: <https://azstat.gov.az>.

⁴⁷ Garadagh District Executive Power. Official website. Accessed at: <https://garadagh-ih.gov.az>.

key facilities, including two oil and gas production units, a gas processing plant, Baku Deepwater Jackets Factory, Baku Shipyard, Norm and Holcim cement plants, the Garadagh Metal Structures Plant, and numerous other industrial enterprises.

According to data from Garadagh District Executive Power, as of early 2024, the district employed 25,500 people across various sectors: 2,900 in agriculture, 2,700 in mining, 3,900 in construction, 7,800 in manufacturing, 1,200 in tourism, 3,900 in education, and 3,100 in healthcare.

The district includes 11 settlements: Lokbatan, Sahil, Mushfigabad, Gobustan, Alat, Sanagachal, Korgoz, Cheyildagh, Puta, Umid, and Gizildash.

15.2.2 Methodology

This section presents the socioeconomic baseline of the communities near the Project site. The Project's social Aol includes the residential communities of Pirekeshkul, Gobustan as well as the settlement of Ashagi Guzdak, all located in Absheron District, and Mushfigabad, which is in Garadagh District. The Aol was established based on proximity to the site, and the considered likelihood of potential direct and direct impacts. Their relative proximity is shown in the following figure.

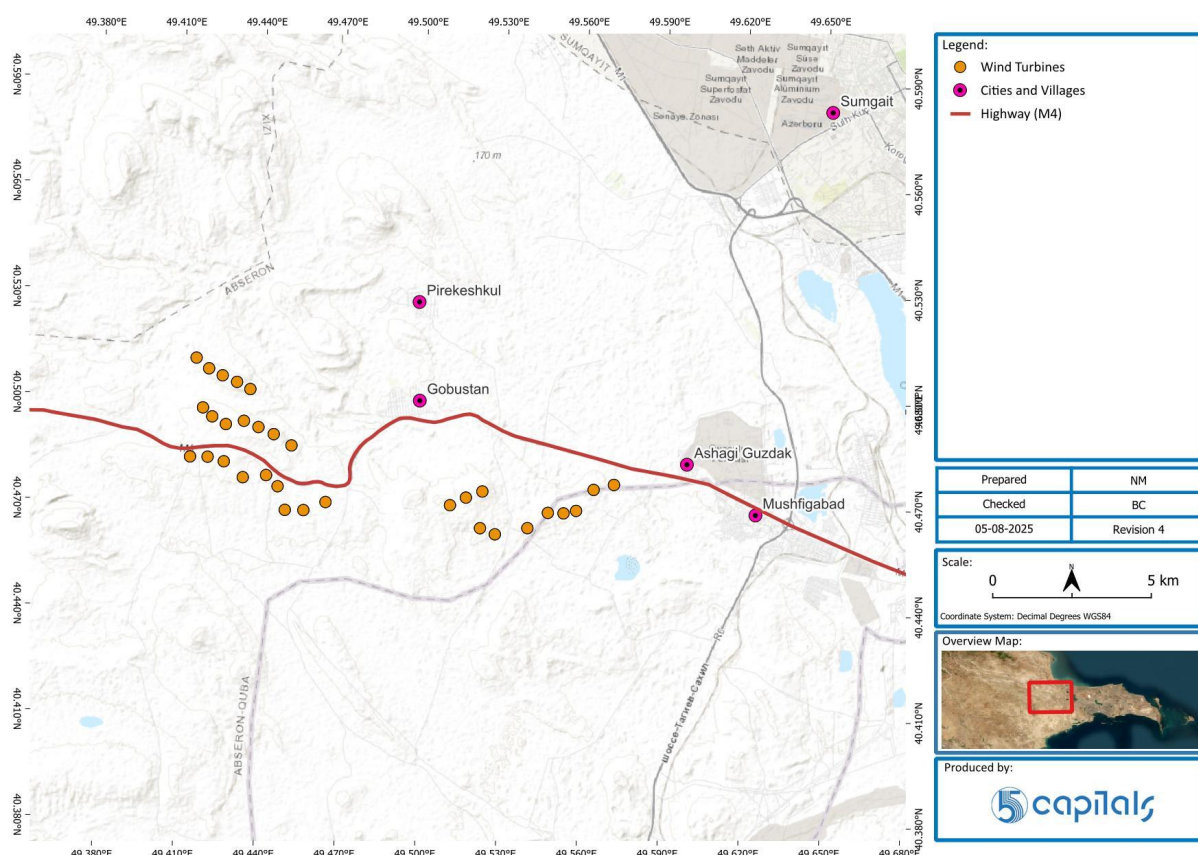


Figure 15-1 Local communities near the Project site

The socioeconomic baseline data presented was gathered through a combination of desktop research and social surveys, including key informant interviews (KIs), public meetings, and a household socio-economic survey.

Comprehensive details on the survey methodologies and a summary of stakeholder inputs during the Scoping and ESIA phase consultations are provided in Section 6 and the appended SEP.

Eight KIs were conducted with representatives from Absheron and Garadagh Executive Powers, Ashagi Guzdak Municipality and Mushfigabad Municipality. Separate public meetings, six in total, were held with men and women from Pirekeshkul, Gobustan and Mushfigabad.

According to KI data from the Mushfigabad Municipality, there are a total of 3,026 households within the local communities near the Project area.

The socioeconomic household survey was administered in May 2025 to a sample of 264 households (approximately 10%⁴⁸), comprising a total number of 1,111 people, as shown in the table below. The table presents the total number and percentage of surveyed households per local community, and the surveyed population, disaggregated by sex.

Table 15-1 Number of surveyed households

	PIREKESHKUL	GOBUSTAN	MUSHFIGABAD	TOTAL
Total no. households	419	419	2,188	3,026
Total surveyed households	42	42	180	264
Total surveyed household members	184	226	701	1,111
No. of household surveyed members that are male	107 representing 58%	126 representing 56%	374 representing 53%	607 representing 55%
No. of household surveyed members that are female	77 representing 42%	100 representing 44%	327 representing 47%	504 representing 45%

Out of 264 household heads (HHs), 216 (82%) are male-headed and 48 (18%) are female-headed.

It is noted that it was not possible to conduct household surveys in Ashagi Guzdak settlement as the Municipality did not grant the Project permission to undertake the surveys. According to them, they do not consider the settlement as part of their jurisdiction, and it is not a

⁴⁸ EBRD, 2017. "Socio-economic survey". *Resettlement Guidance and Good Practice*. London: EBRD. In: https://www.ebrd.com/content/dam/ebd_dxp/assets/pdfs/environment---sustainability/Implement-performance-requirements/prs/pr5/Resettlement-Guidance.pdf.

registered settlement (see section 14.2.13 for more details). Based on the inability to undertake surveys and hold public consultation meetings in Ashagi Guzdak, the Project team visited the settlement on 2nd June 2025 where they distributed 20 Project brochures. It is noted that the distribution of any more brochures would have required authorisation from the municipality. Data on Ashagi Guzdak is provided in the sections below, where available.

15.2.3 Population and Demographics

The current population of Azerbaijan is 10.40m people⁴⁹, while the number of households is estimated to be 2.14m in 2025. According to data from the KIs and State Statistical Committee (2024), Absheron District has a larger population and households than Garadagh District. Both districts show a balanced gender ratio, with a slight male predominance.

⁴⁹ Statistica. 2025. "Socioeconomic indicators – Azerbaijan". Available in: <https://www.statista.com/outlook/co/socioeconomic-indicators/azerbaijan>.

Table 15-2 Demographics by District in 2024

	ABSSHERON	GARADAGH
Total population	432,800	117,000
Male	218,900; 51%	58,900; 50.3%
Female	213,900; 49%	58,100; 49.6%
Urban	319,012; 73.7%	117,000; 100%
Rural	113,804; 26.3%	N/A
No. of villages	7	-
No. of households	108,204	31,455
Average household size	4	4-5

Data source: State Statistical Committee, 2025

Both districts are predominately composed of youth and middle-aged adults. This suggests the availability of a potential workforce. Garadagh has a notably high child population aged 0-9 years, accounting for 20%. Furthermore, the proportion of elderly residents (aged 60 and above) is similar for both Garadagh (13%) and Absheron (12%).

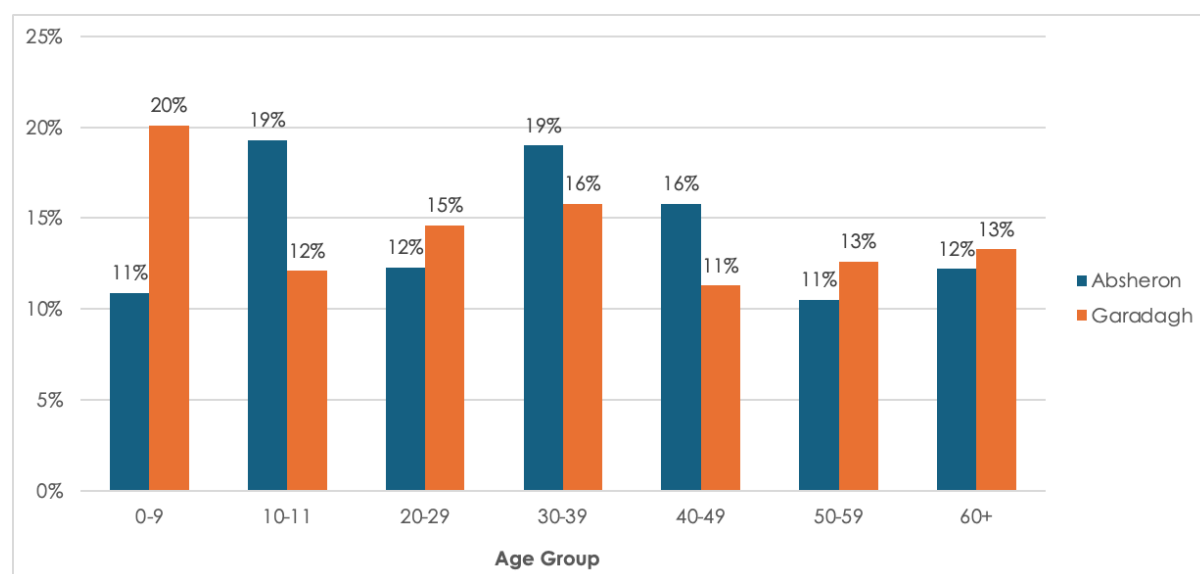


Figure 15-2 Age Distribution by District (%) in 2024

Data source: State Statistical Committee, 2025

The total population of the communities near the Project site is approximately 15,053⁵⁰. Mushfigabad is the most populous community, accounting for over 72% of the total population of the surveyed communities. The gender distribution across the local communities shows a slight male majority, with males accounting for approximately 53% of the population.

⁵⁰ State Statistical Committee. 2025. "Demography".
<https://www.stat.gov.az/source/demography/?lang=en>.

The Law of the Republic of Azerbaijan (2007) on “Youth policy” categorizes the youth as persons aged 14-29 years old⁵¹. Data from the *State Statistical Committee (2025)* shows that as of 1st January 2024, the majority population in the local communities above fall within the ages of 20-35 years old and some of which are classified as the youth.

15.2.3.1 Age of surveyed household heads

The following graph presents the age data of surveyed household heads (HHs) by sex. Survey results indicate that male household heads (MHHs) are predominantly middle-aged, with an average age of 53 years (ranging from 24 to 80). There is a notable presence of elderly household heads among both sexes in Mushfigabad. Most FHHs in Mushfigabad fall within the 56-66 (33%), and 46-55 (26%) age groups.

There are no child-headed households in the surveyed local communities.

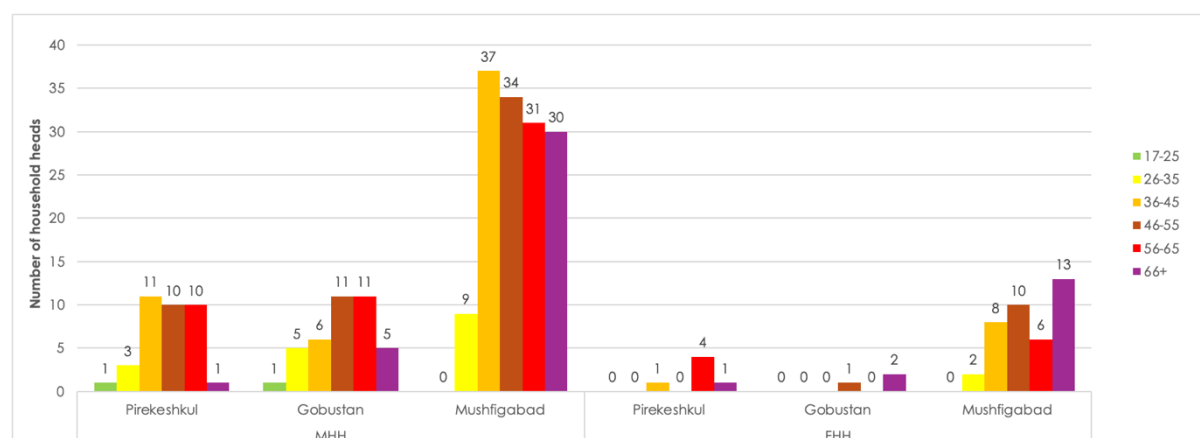


Figure 15-3 Surveyed MHH and FHH by age group, 2025

15.2.3.2 Surveyed household members by age group and sex

The following figure presents surveyed household members' age data by age category and sex. The 0–16 age category is the largest among both male (29%) and female (26%) household members, indicating a high proportion of young children.

⁵¹ State Statistical Committee. 2025. “Population: demographic indicators of Azerbaijan”. Available in: <https://www.stat.gov.az/source/demography/?lang=en>.

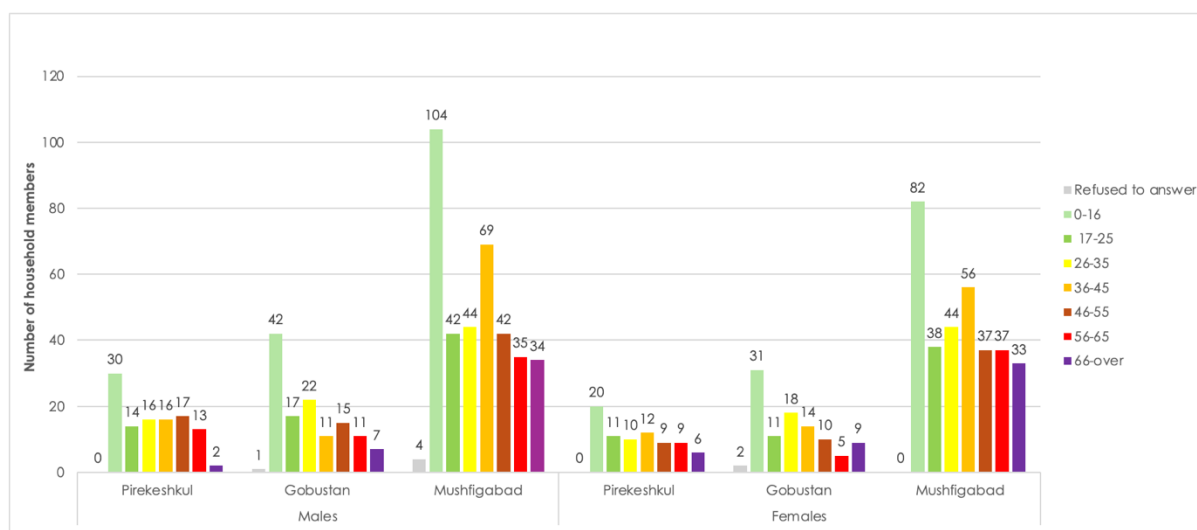


Figure 15-4 Surveyed household members by age category and sex, 2025

15.2.3.3 Marital status of surveyed household heads

The majority of HHs are married (78%). Approximately 13% of the HHs were recorded to be widowed. Among these, 24% are male (8 individuals), and 75% are females (25 individuals).

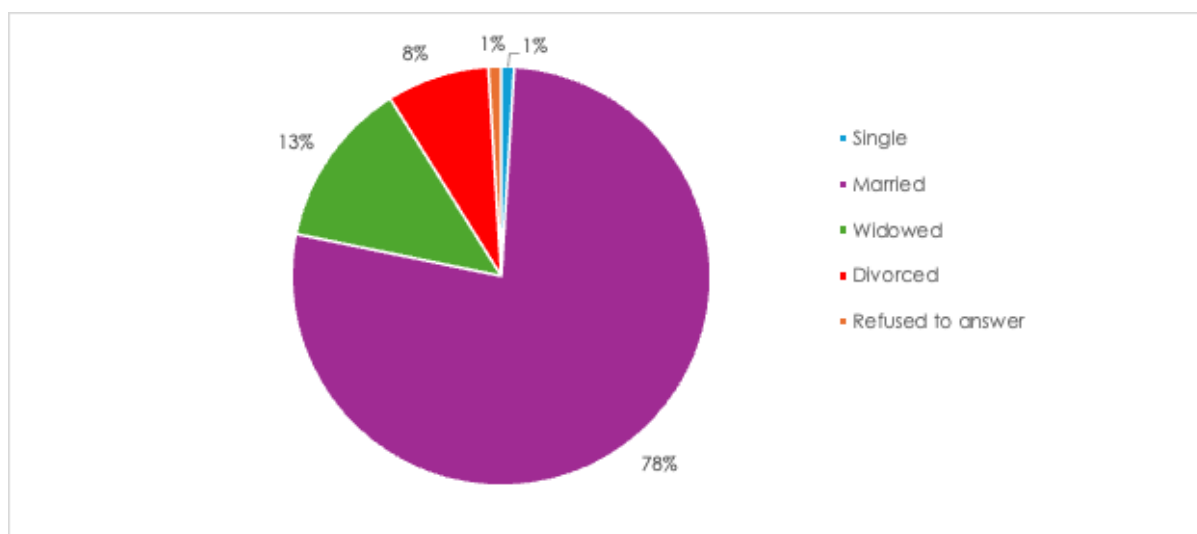


Figure 15-5 Surveyed household heads by marital status, 2025

15.2.4 Language and Ethnicity

A majority (95%) of the national population are Azerbaijani⁵². The Azerbaijanis' native language is Azerbaijani (also known as Azeri). Minority groups include Lezgins (1.7%), Talyshs

⁵² State Statistical Committee. 2024. "Population: demographic indicators of Azerbaijan". Available in: <https://www.stat.gov.az/source/demography/?lang=en>.

(0.9%), and Russians (0.7%). Additionally, 5.7% of the population speaks Russian, while 1.3% speaks English (State Statistical Committee, 2024).

In relation to the surveyed households, approximately 98% reported that they identify as Azerbaijani. Three respondents reported that they identify as Lezgins, one as Tatar, while one declined to respond. Azeri is commonly spoken by all the surveyed households.

15.2.4.1 Indigenous Peoples

According to the data reviewed from the International Work Group for Indigenous Affairs (IWGIA)⁵³, there are no Indigenous Peoples (IPs) or vulnerable ethnic groups in the region and the Project area. Additionally, consultations with the municipalities and District Executive Powers indicated that no IPs are presented within the districts and local communities near where the proposed Project will be located.

The assessment against the lenders requirements for Indigenous Peoples demonstrates that none of the four criteria are met, as shown in the following table.

⁵³ International Work Group for Indigenous Affairs. 2025. "Countries," *The Indigenous World*. Available in: <https://iwgia.org/en/countries.html>.

Table 15-3 Indigenous Peoples screening of the communities near the Project site

IFC PS 7: INDIGENOUS PEOPLE	EBRD ESR 7: INDIGENOUS PEOPLE	CHARACTERISTICS OF LOCAL COMMUNITIES	TRIGGERED?
<i>Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others</i>	<i>Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others.</i>	The members of the households in the local communities identify themselves as Azerbaijanis. Based on the outcome of the socio-economic survey, 98% of the households identify as ethnically Azerbaijani and no household reported to belonging to a distinct cultural group.	No
<i>Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories.</i>	<i>Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories.</i>	The local communities have no attachment to the land allocated to the proposed project. This land is designated for grazing purposes by the State. In addition, the characteristic of the land (habitat) allocated to the project is like majority of state land designated as grazing land in Azerbaijan. It is noted that there are no structures within the Project footprint.	No
<i>Customary cultural, economic, social, or political institutions that are separate from those of the mainstream society and culture.</i>	<i>Customary cultural, economic, social, or political institutions that are separate from those of the dominant society and culture.</i>	The communities identify as Azerbaijani and therefore are part of the mainstream cultural, economic, social, and political institutions.	No
<i>A distinct language or dialect, often different from the official language or languages of the country or region of which they reside.</i>	<i>A distinct language, often different from the official language of the country of region.</i>	Azerbaijani language is the commonly spoken language in the local communities and is the official language in the Republic of Azerbaijan.	No

15.2.5 Religion

The question of religion was not included in the socio-economic survey due to the sensitivity of this topic within the Project area. However, through secondary data, it is estimated that most people of Azerbaijani nationality are Muslims.

15.2.6 Accommodation, Living Conditions and Household Amenities

15.2.6.1 Housing in the surveyed households

In Gobustan, all surveyed households (100%) live in private houses, and 91% of the households in Pirekeshkul live in private houses. However, fewer households in Mushfigabad live in private houses (64%), leaving state provided housing at 26% for IDPs, and rented accommodation at 9%.

15.2.6.2 Access to drinking water

Approximately 99% of the surveyed households reported that they have access to centralized piped water.

A very small proportion of the surveyed households in Mushfigabad (1%) reported reliance on purchased water delivered by tanker trucks. The average monthly expense for water is AZN 16.8, and the highest monthly expense is AZN 80.

15.2.6.3 Access to central sewage system

According to Ashagi Guzdak municipality representatives, none of the households in Pirekeshkul and Gobustan are connected to a central sewage system. The surveyed households in Pirekeshkul and Gobustan reported that rely on septic tanks for wastewater disposal. Almost all surveyed households in Mushfigabad (99%) reported that they are connected the centralized sewage system, and the remaining 1% use septic tanks.

15.2.6.4 Access to solid waste management system

According to KII data from Ashagi Guzdak municipality representatives and survey data, both Pirekeshkul and Gobustan do not have access to formal solid waste management services, leading households to resort to burning solid waste.

Approximately 96% of the surveyed households in Mushfigabad have access to the centralized solid waste management system, and the remaining 4% burn or bury their solid waste. According to the outcome of the KII, the solid waste from Mushfigabad is transported to a waste site at Gizildash settlement of Garadagh District, located 20 km from Mushfigabad.

15.2.6.5 Access to centralized heating system

More than half of the surveyed households in Mushfigabad (61%) have access to the centralized heating system provided through Azerigaz and SOCAR, while the remaining 39% use alternative sources including stoves and combi boilers.

None of the surveyed households in Pirekeshkul and Gobustan have centralized heating. These households also use stoves and combi boilers for heating.

15.2.6.6 Household amenities

Data on household amenities provides valuable insight into the economic status, living conditions, and access to information and communication technology (ICT) within households. The following figure illustrates the various household amenities owned by the surveyed households. Television ownership is widespread in Pirekeshkul, Gobustan and Mushfigabad, at 98%, 100%, and 98% respectively. Additionally, nearly all surveyed households in Pirekeshkul, Gobustan and Mushfigabad have internet access through their cell phones, at 95%, 100%, and 89% respectively.

Computer ownership is notably low across all the surveyed communities, with only 9% having ownership. Computer ownership is slightly higher in Mushfigabad, at 13%.

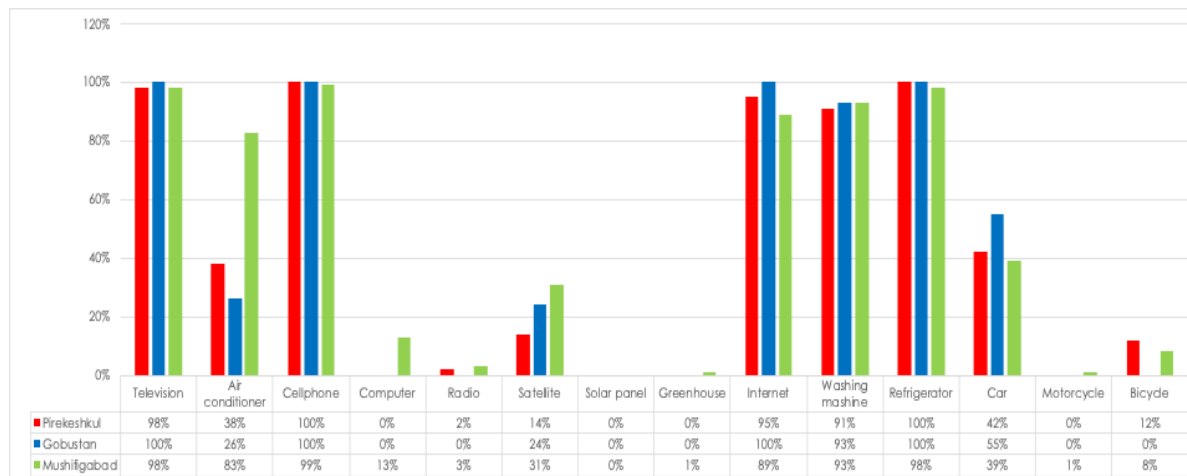


Figure 15-6 Surveyed households' ownership of household amenities, 2025

Approximately 42% of the surveyed households' primary mode of transport is walking. The internal road system in the local communities consists of gravel roads maintained by the municipalities. Internal road conditions were however reported to be poor by 41% of households in Mushfigabad, 88% in Gobustan, and 76% in Pirekeshkul.

15.2.7 Economy and Employment

Since gaining its independence in 1991, Azerbaijan has gradually progressed to the status of an upper-middle-income country⁵⁴. The economy is dependent on natural resources, in particular, the oil and gas sector, accounting for 48% of the GDP and over 91% of the export revenue⁵⁵. A summary of Azerbaijan's most recent economic data is presented in the following table.

Table 15-4 Summary of Azerbaijan Economic Data (Statistica, 2025 & State Statistical Committee, 2024)

CRITERIA	DATA (2025 ESTIMATES UNLESS OTHERWISE STATED)
GDP (Official Exchange)	AZN 134.08 billion
GDP (Purchasing Power Parity)	AZN 388.62 billion
GDP per Capita	AZN 12,972.45
GDP Real Growth Rate	4%
Industrial Production Growth Rate	-2.2%
Labour Force	Total workforce: 5,249,700 (2023) Female: 2,535,000; 48% Male: 2,714,700; 52%
Employment Rate	65.23%
Unemployment Rate	Total unemployed: 286,400; 5% (2023) Female: 159,400; 3.59% Male: 127,000; 4.66%
Exports	AZN 45.13 billion (2024)
Imports	AZN 35.79 billion (2024)

The country is actively working to diversify its economy beyond hydrocarbons by expanding sectors such green energy, agriculture, logistics, tourism, and information communication technology sectors (International Trade Administration, 2023). On 4th April 2025, President Ilham Aliyev emphasized the country's commitment to clean energy, signing contracts with investors on solar and wind power⁵⁶. The country intends to increase renewable power capacity to 30% by 2030 and diversify its existing energy system to become a leader in green energy.

⁵⁴ World Bank Group. 2024. "Economies: Azerbaijan". Human Capital Project. Available in: <https://humancapital.worldbank.org/en/economy/AZE>.

⁵⁵ International Trade Administration. 2023. "Azerbaijan: Country Commercial Guide". U.S. Department of Commerce. Available in: <https://www.trade.gov/country-commercial-guides/azerbaijan-market-overview>.

⁵⁶ Turbandazada, T. "President Ilham Aliyev: Azerbaijan's Electric Energy Capacity to Almost Double in 5 Years." Report.az, 26 April 2025 <https://report.az/en/energy/president-ilham-aliyev-azerbaijan-s-electric-energy-capacity-to-almost-double-in-5-years>.

The following figure shows that the sector with the highest workforce in 2023 was agriculture, forestry and fishing, at 1,777,400 people (36%). This was followed by trade and the repair of vehicles (14%), construction (8%), and manufacturing (6%).

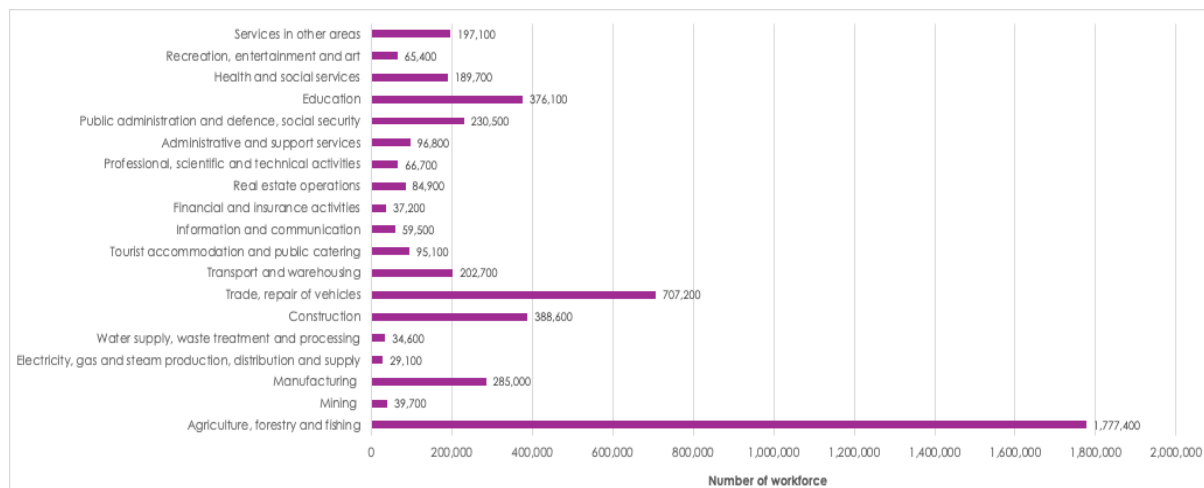


Figure 15-7 Workforce by Sector in 2023, Azerbaijan

Data source: State Statistical Committee, 2024

Workforce by sector data provided by the State Statistical Committee (2024) is shown in the following figure. The data indicates, in Absheron, the population of working age is 200,591, with an employed population of 189,300, resulting in a low unemployment rate of 6%. Absheron district's workforce distribution indicates a diverse economy, with notable contributions from the construction sector (23,300), alongside industry (10,400) and education (17,900). The "other" category, comprising 125,700, suggests a substantial informal sector or varied unclassified employment opportunities. In comparison, Garadagh district has a labour age population of 42,640, with 40,508 individuals employed, leading to a lower unemployment rate of 5%. The employment sectors in Garadagh are more concentrated in agriculture (2,900) and mining (2,700), with construction and tourism also playing significant roles.

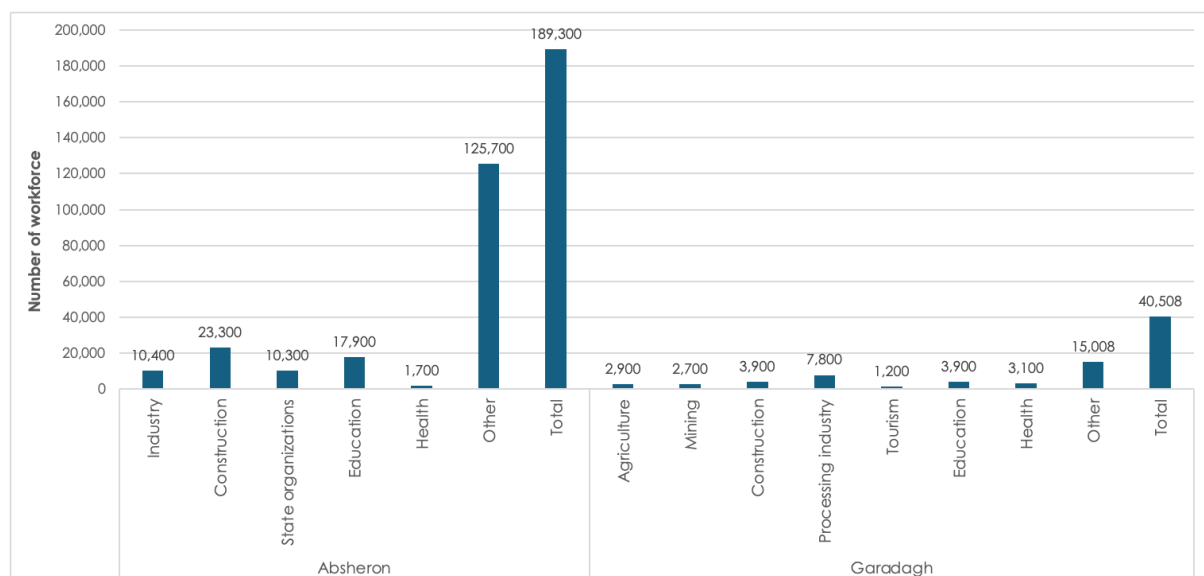


Figure 15-8 Workforce by District and Sector in 2024

Data source: State Statistical Committee, 2024

15.2.7.1 Occupation status of surveyed household heads

A notable share of the surveyed household heads are unemployed, with 11% working occasionally⁵⁷, 15% not working at all and 22% identify as pensioners. Pirekeshkul shows the highest employment rate among household heads (67%). Gobustan and Mushfigabad have lower employment rates at 57% and 47%, respectively.

The following table presents the employment status of surveyed household heads and their spouses.

Table 15-5 Surveyed Household heads' and Spouses' employment status, 2025

EMPLOYMENT STATUS	PIREKESHKUL	GOBUSTAN	MUSHFIGABAD	TOTAL
Employed HHH	67%	57%	47%	52%
Employed HHHs spouses	50%	13%	31%	30%

Pirekeshkul has a higher proportion of employed spouses, at 50%, primarily working in government departments or private businesses. In contrast, the proportion of employed spouses in Gobustan is notably lower, at 13%. Approximately 31% of the spouses in Mushfigabad are employed.

According to the KII data, women have equal rights with men and there are no significant challenges for women to access employment. However, during KIIs, municipality representatives reported that women are more often engaged in domestic and childcare activities. During a FGD discussion in Pirekeshkul, women reported that their lack of relevant education prevents them from accessing job opportunities.

Approximately 26% of all household heads reported that they are employed in government institutions or local authorities. A majority of these are males, with the highest concentration in Pirekeshkul at 50%. Across the surveyed communities 10 FHHs (21% of the total FHHs) work as government employees. Another 9 FHHs (19%) work in private businesses, all from Mushfigabad.

The low proportion of self-employed household heads (6%) suggest limited entrepreneurial activity in the local communities.

⁵⁷ Occasional work was explained to refer to both seasonal work and irregular day labour.

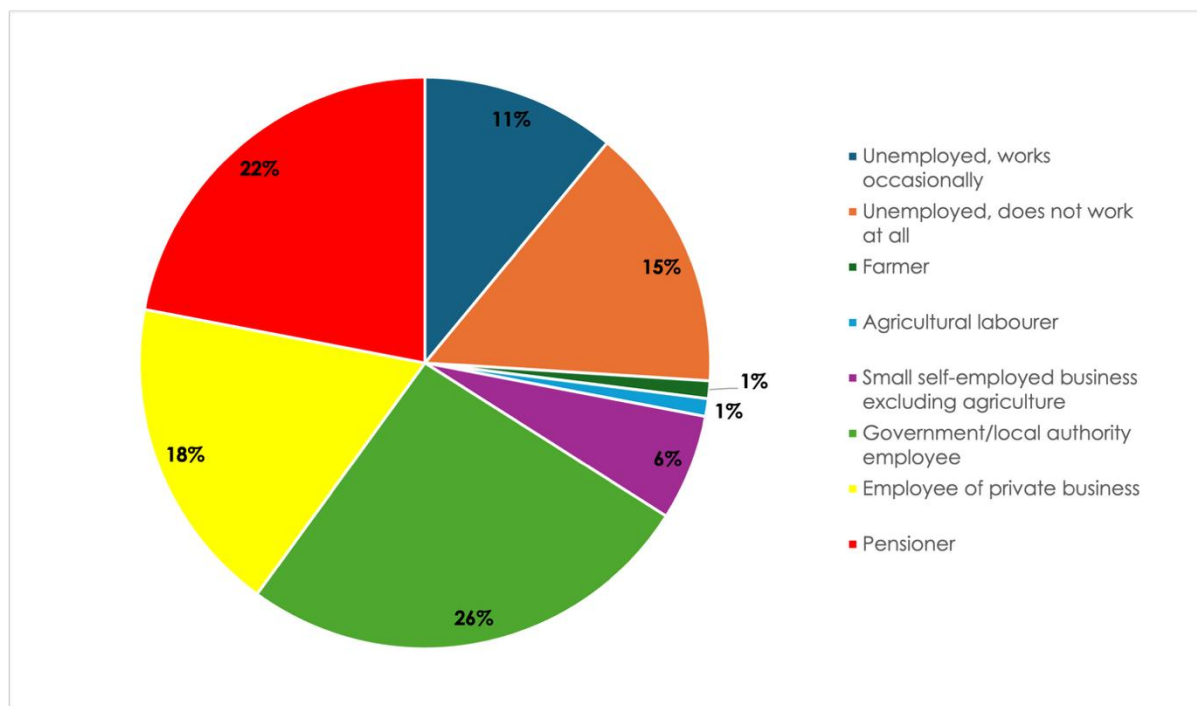


Figure 15-9 Occupation of surveyed household heads, 2025

15.2.8 Income and Expenditure

15.2.8.1 Income

According to the State Statistical Committee (2024) the average monthly income and wage for women and men in Azerbaijan was AZN 735.70 and AZN 1,069.30 respectively⁵⁸. It is noted that high income sectors such as the mining, oil and processing industries raise the average wage data. Average income and wage data therefore does not accurately reflect the lived experiences of most people, and the absence of data hinders a comprehensive understanding of income inequality⁵⁹. Effective 1st January 2025, the minimum wage for employees was set at AZN 400⁶⁰.

According to 2020 data presented by the World Population Review (2025), the median monthly income for Azerbaijan was AZN 2,368.10. The cost of living in Azerbaijan for one person

⁵⁸ State Statistical Committee. 2025. "Average monthly nominal wages by economic activity and sex". Accessed at: <https://www.stat.gov.az/source/labour/?lang=en>.

⁵⁹ Baku Research Institute. 2025. "Economy: What are the median incomes and wages in Azerbaijan?". Baku Research Institute website. Available in: <https://bakuresearchinstitute.org/en/what-are-the-median-incomes-and-wages-in-azerbaijan/>.

⁶⁰ Ministry of Labour and Social Protection. 2024. "Minimum wage for employees cannot be less than 400 manats starting from January 1, 2025". Republic of Azerbaijan. Available in: <https://sosial.gov.az/en/media/news/the-minimum-wage-for-employees-cannot-be-less-than-400-manats-starting-from-january-1-2025>.

is AZN 1,218 per month⁶¹. Approximately 1 million Azerbaijani are migrant workers that send an average of 15% of their earnings as remittances to their families and relatives in Azerbaijan (UN Azerbaijan, 2020). In 2019, remittances had a 2.3% share of the GDP (AZN 1.87 billion).

Most of the surveyed households reported that they rely primarily on employment income, with Pirekeshkul showing the highest dependence at 83%. The average monthly employment income of the surveyed households is AZN 667.25. The average monthly employment income of male- and female-headed households is AZN 683.64 and AZN 550.41, respectively. Only two households in Mushfigabad reported receipt of remittances as household income.

The following figure presents income sources reported by the surveyed households.

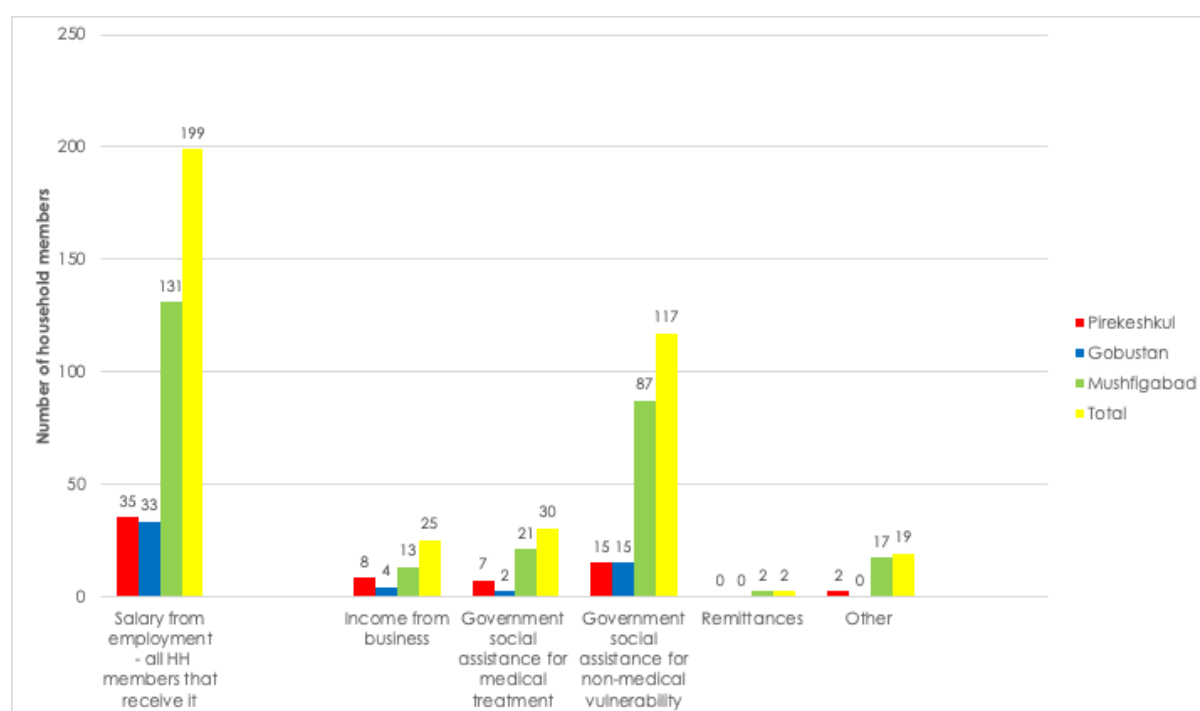


Figure 15-10 Sources of income in surveyed households, 2025

The average total monthly income from all sources (including business income and monthly social grants in cash) in the surveyed households is AZN 807, while the median income is AZN 700. The total average income from all income sources for male-headed and female-headed households is AZN 835.61 and AZN 715.26 respectively.

A total of 32 of the surveyed households' monthly income falls below the national minimum wage. Twenty-four (75%) of the 32 households are male-headed, and eight (25%) are female-headed. Fifteen of the surveyed households whose monthly income falls below the minimum

⁶¹ Living Cost. 2023. "Cost of living in Azerbaijan". Available at: <https://livingcost.org/cost/azerbaijan>.

wage reported that they do not receive any government assistance or social grants. Out of these 15 households, 12 are male-headed, and three are female-headed.

15.2.8.2 Surveyed households' access to social grants

The government of Azerbaijan has established various social grants to support its citizens⁶². These grants relate to age, disability, childcare, low-income families etc. The breakdown of social grants received in each surveyed community is as follows:

- A total of 87 (48%) households out of 180 households in Mushfigabad receive social grants.
- 15 (36%) out of 42 households in Pirekeshkul.
- 15 (36%) out of 42 households in Gobustan.

Non-medical social grants are commonly received across all surveyed communities, at approximately 33% (87 of 264 households). The least commonly received support is medical grants, 11% (30) receive medical grants.

15.2.8.3 Surveyed households' expenditure

The following table presents the average monthly cost of household goods and utilities reported by the surveyed households.

Table 15-6 Average monthly amount (AZN) of household goods/utilities as reported by surveyed households, 2025

Good/UTILITY	AVERAGE MONTHLY AMOUNT (AZN)
Food	382
Public transport	75
Gas/fuel for own car	137
Education	103
Clothing	54
Medical	90
Taxes	0
Loan repayment	298
Total monthly cost of basic needs (excluding loan repayments)	841

The total monthly cost of basic needs (excluding loan repayments) is AZN 841. The average household income from all sources is AZN 807, while the median income is AZN 700.

⁶² Ministry of Labour and Social Protection of Population. 2025. "Monthly social benefits". Accessed at: <https://dost.gov.az/en/page/ayliq-sosial-muavinetler>.

Nearly half the surveyed households (49%) reported rising expenses in the past year. A small proportion of households (4%) reported decreased costs, while 47% said that their expenses have remained the same.

The following figure illustrates surveyed households' assessment of their income. A total of 53 households (20%) reported that their income is not enough for food. It is important to note that among these, 10 households (4%) have a total income below the national minimum wage of AZN 400. Of these, four are female-headed and six are male-headed households.

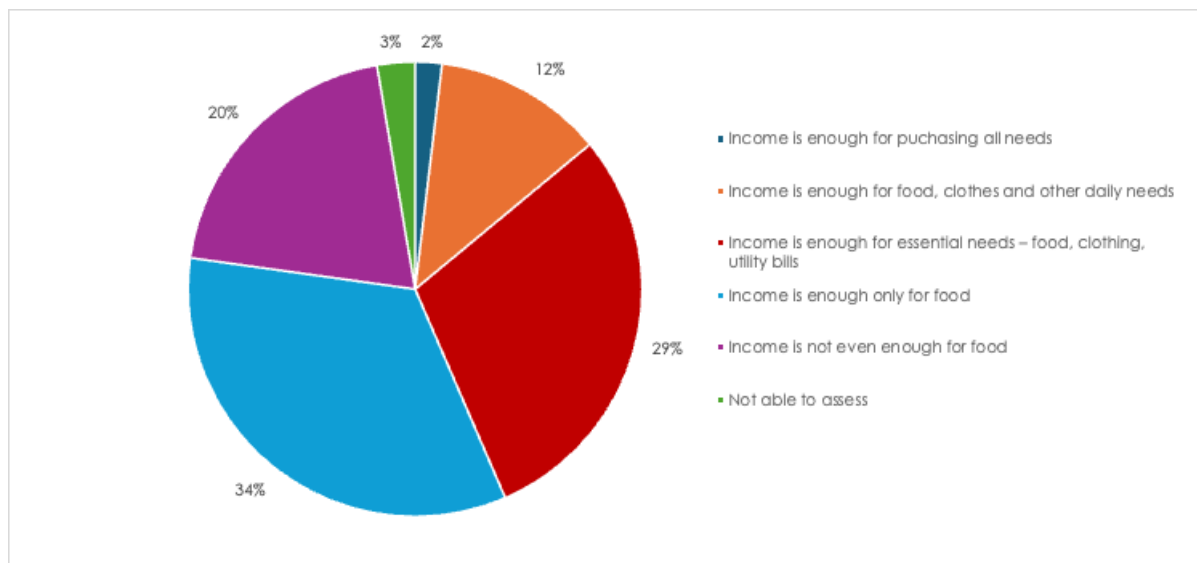


Figure 15-11 Surveyed households' assessment of income, 2025

15.2.8.4 Loans

Approximately 51% of the surveyed households reported that they obtain loans through formal banking institutions. Reliance on family, friends, or informal lenders is minimal among the surveyed households.

The average loan amounts vary by source:

- Bank loans: AZN 7,689,
- Family friends: AZN 4,000, and
- Informal sources: AZN 1,653.

Of the 134 surveyed households that took out loans, only five reported repayment difficulties due to financial hardship.

Among households that do not access to loans, 10% reported that the reasons they cannot access loans is age or their lack of formal employment, while others reported that they either had no borrowing need or were concerned about their ability to repay.

15.2.8.5 Savings

Seven surveyed households (3%) reported that they have savings, while the remaining 97% do not have savings, stating challenges such as low income and pension and the high cost of living. Three of the households with savings are male-headed, while four are female-headed. The minimum amount of savings is AZN 300, while the maximum is AZN 5,000. Male-headed households have higher savings compared to female-headed households.

15.2.9 Agricultural and Livestock Grazing Activities

Agriculture is not only a key sector of the economy in Azerbaijan, but also a primary source of livelihood for many people. Data from the Food and Agriculture Organization (2022) shows that more than 4.8 million hectares (55%) of the territory of Azerbaijan is agricultural land⁶³. The state owns 41.2% of agricultural land, while 34.9% and 23.8% is municipal-owned and privately-owned, respectively (FAO, 2022). Small-scale farmers in rural areas are engaged in agricultural activities for subsistence purposes (FAO, 2022).

The following table presents livestock ownership in the surveyed communities. Poultry is most commonly owned in the local communities, reported by 17% households, followed by cows and bulls at 12%, and sheep at 4%. 32 households reported ownership of cows and bulls, this was most common in Gobustan, where 21 households reported ownership. Approximately 55% of the households that own livestock reported feeding their livestock in their yards. Sheep and goat ownership is most common in Pirekeshkul and Gobustan, while none of the surveyed households in Mushfigabad own them.

⁶³ FAO. 2022. "National gender profile of agriculture and rural livelihoods – The Republic of Azerbaijan". Country Gender Assessment Series. Accessed at: <https://doi.org/10.4060/cc2041en>.

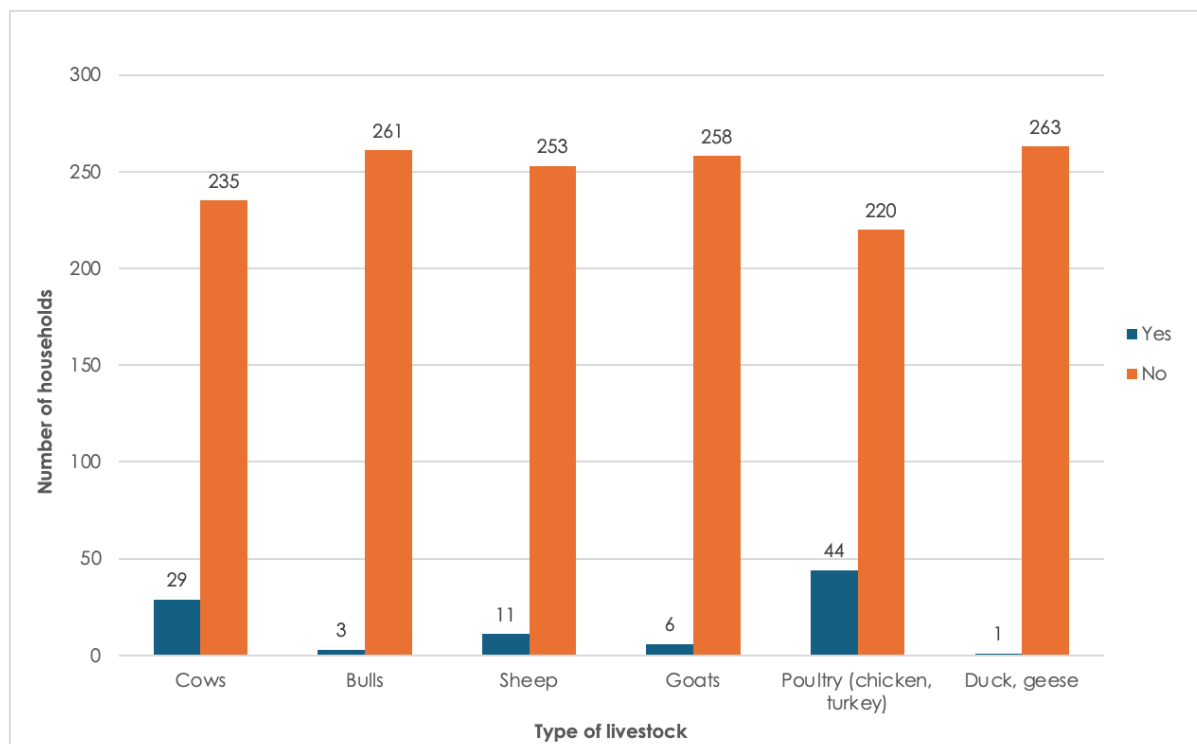


Figure 15-12 Livestock ownership in the surveyed households, 2025

The socio-economic survey also revealed that the sale of livestock and their products contributes a small fraction of income for the surveyed households if any. This is because a lot of this is used for household consumption.

15.2.10 Land Use

The land allocated for the development of the Project WTGs does not include any structures or other permanent land use. With regards to structures closest to the Project, the closest is a herder structure approximately 400 m away from a WTG, two other herder structures are located approximately 650 m from the nearest WTG. In addition, there are other herder structures in the surrounding lands. The structures are used to support winter grazing activities.

As identified within this report, the affected structures are subject to noise and shadow flicker impacts (refer to Chapter 8 and Chapter 12). Ownership and land use verification is provided in the LRP. The preferred approach is to undertake monitoring and engagement (including access to the grievance mechanism), with the implementation of adaptive mitigation measures if grievances are received and substantiated, in order to avoid relocation of structures.

Additionally, the socioeconomic survey indicated that some households collect seasonal natural resources such as medicinal plants, wild fruits, and firewood in the general vicinity of the Project area. These resources are used solely for household consumption and are not sold.

The collection activities typically occur in open fields located within the broader project surroundings. Further consultations were conducted as part of the LRP to confirm whether any of these collection areas fall within the defined Project footprint. Additional information on user groups involved and the relative importance of natural resources is included within the LRP.

15.2.11 Education

The adult national literacy rate in Azerbaijan is high, and between 2007 and 2023 it marginally increased by 0.1%⁶⁴. Males' literacy rate was marginally higher than their female counterparts in both 2007 and 2023.

Table 15-7 National Adult Literacy Rate (%) by Sex in 2007 and 2023

YEAR	TOTAL	MALE	FEMALE
2007	99.6	99.8	99.4
2023	99.78	99.84	99.73

Data source: Statistica, 2025

15.2.11.1 Surveyed household heads' education level by sex

The following figure presents the education levels of household heads by sex. A significant proportion (46%) of MHHs have 'completed secondary education', while 16% have obtained 'specialized secondary or technical vocational training'. A total of 31 (14%) MHHs have obtained university education, with the 26 out of the 31 MHHs residing in Mushfigabad.

A slightly lower proportion of FHHs have 'completed secondary education' compared to their male counterparts (40%). Conversely, a higher proportion of FHHs reported that they have obtained 'specialized secondary or technical vocational', compared to males, at 19%. Only 10% of the FHHs have tertiary education, with 4 out of these 5 individuals residing in Mushfigabad.

⁶⁴ Statistica. 2025. Literacy rate in Azerbaijan 2023. Accessed at: <https://www.statista.com/statistics/572577/literacy-rate-in-azerbaijan/>.

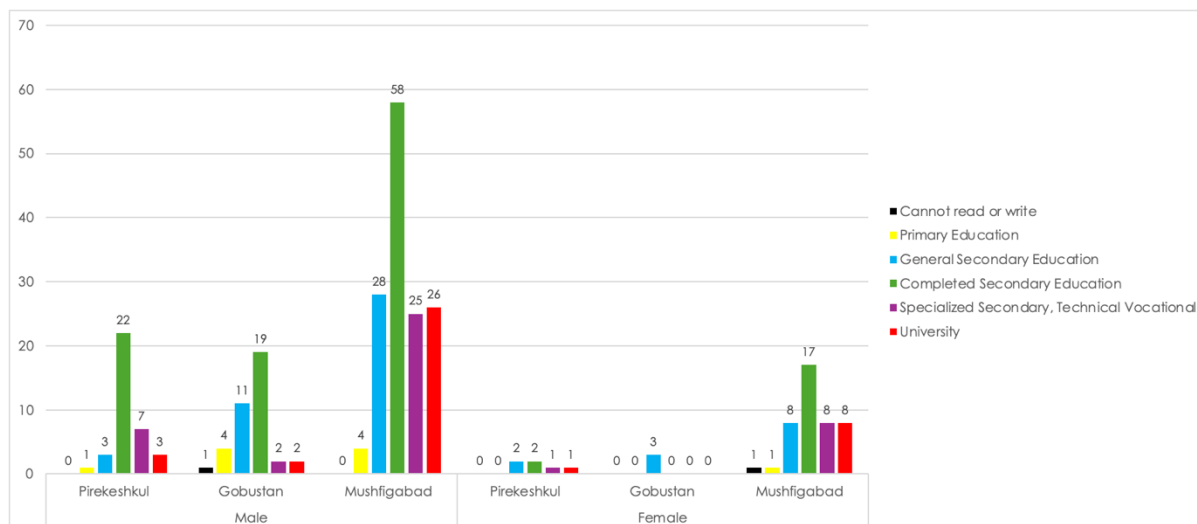


Figure 15-13 Household heads' education level by sex, 2025

Only 1 of the MHH and 1 of the FHHs are illiterate. These figures closely reflect national adult literacy rates, indicating a high adult literacy level and minimal gender disparity.

15.2.11.2 Educational level of surveyed household members

Males and females have equal representation in university education at 11% of the surveyed household members. With regards to both males and females, Mushfigibad had a higher percentage receiving university education (14%), compared to that of Gobustan and Pirekeshkul. 38% of surveyed males had completed secondary education, compared to females which was 36%, again representing similar representation.

Generally, the surveyed households reported that the educational facilities were fair or good. 54% of all surveyed households rated secondary education facilities as good, with 35% rating them as fair. From the surveyed households, 26% said the university was fair, 65% reported good and 9% stated excellent.

15.2.12 Health

15.2.12.1 Health care facilities

At the beginning of 2024, Absheron district had a low physician-to-population ratio, with only 96 physicians per 100,000 people, compared to 310 physicians per 100,000 in Garadagh district, and 330 physicians per 100,000 people nationally (State Statistical Committee, 2025).

Table 15-8 Healthcare facilities and personnel by location at the beginning of 2024

LOCATION	PHYSICIANS	NO. OF PHYSICIANS PER 100,000 PEOPLE	NUMBER OF HOSPITALS	NUMBER OF HOSPITAL BEDS	NO. OF HOSPITAL BEDS PER 100,000 PEOPLE	NO. OF AMBULANCE-POLYCLINIC SERVICE ORGANIZATIONS	CAPACITY OF OUT-PATIENT PER 100,000 PEOPLE
Azerbaijan	33,645	330	338	38,172	37.5	1,665	105.6
Absheron	417	96	4	451	10.4	19	32.7
Garadagh	363	310	8	335	28.6	11	122.2

Data source: State Statistical Committee, 2025

Nearly half (49%) of surveyed households reported that they use public clinics, while 36% use public hospitals, and 8% reported use of pharmacies. Only 4% of the surveyed households use private hospitals.

On the quality of the health care facilities, 55% of the surveyed households reported that the public health facilities are “good”, 30% said that they are “fair”. Surveyed households from Pirekeshkul reported the lowest satisfaction levels at 21%.

15.2.12.2 National health profile

In 2023, the national life expectancy at birth for women and men was 77.13 years and 71.56 years respectively⁶⁵. Over the past decade, the life expectancy rates for both sexes have increased significantly, with women consistently having a higher life expectancy than men. According to 2024 data from the State Statistical Committee, the top five causes of morbidity for populations over the age of 30, in order of highest prevalence were respiratory diseases, circulatory diseases, certain infectious and parasitic diseases, digestive diseases, and urogenital diseases (State Statistical Committee, 2024).

15.2.12.3 Health Profile of surveyed households

The following figure presents the disease prevalence rates in the surveyed communities. Females were more affected than males in all communities. The most prevalent household condition is hypertensive heart disease, with 20% of surveyed households (52) reporting it. This was most prevalent in Pirekeshkul (33%), whereas in Gobustan and Mushfigabad it was 16% and 17% respectively. Diabetes was the second most reported condition at 17%, and again Pirekeshkul had the highest percentage of households reporting it. Pirekeshkul also reported the highest levels of physical disability, mental disability and “other”. Reports of cancer was

⁶⁵ Statista. 2023. “Azerbaijan: Life expectancy at birth from 2013 to 2023, gender”. Available in: <https://www.statista.com/statistics/970407/life-expectancy-at-birth-in-azerbaijan-by-gender/>.

low across all communities. Very few cases of mental disability were reported, indicating either low prevalence or stigma affecting reporting.

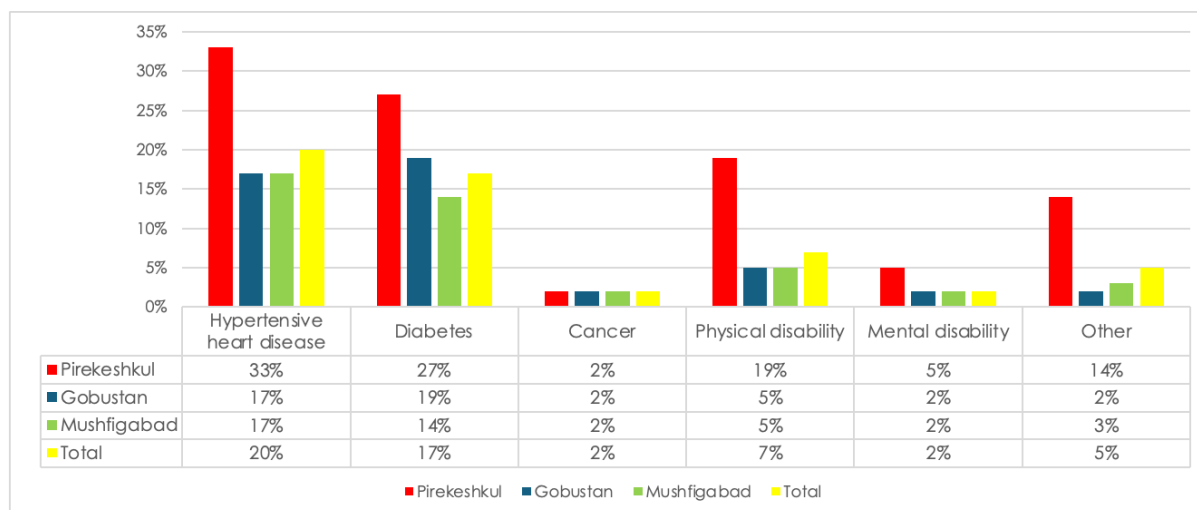


Figure 15-14 Disease prevalence among surveyed households, 2025

In relation to challenges experienced in accessing medical care, 27 households reported that members of their households do not seek medical care due to the high cost associated with medical services.

15.2.13 Internally Displaced Peoples (IDPs)

Azerbaijan has one of the highest concentrations of IDPs globally, comprising 6% of the country's population⁶⁶. There are approximately 700,000 individuals and 175,034 families that have been living in displacement since the first Nagorno-Karabakh war from 1988 to 1994, and the Second Karabakh War in 2020 (World Bank, 2023; JIPS, 2023). A significant proportion of the IDP population is considered among the country's most vulnerable groups as they live in poor housing conditions and lack financial resources due to their limited access to stable employment and high-income professions⁶⁷.

Since 1998, the Government of Azerbaijan and the World Bank have partnered to improve living conditions of IDPs, resulting in the Social Fund for the Development of Internally Displaced Persons (SFDI). Many IDP families continue to rely heavily on government support for housing and grants. A 2022 household survey of 2,000 IDPs, 87% of households receiving allowances ranked IDP allowance among their top two most important income sources, underscoring its

⁶⁶ JIPS. 2023. "Strengthening the data systems and capacities of the IDP Committee in Azerbaijan". Available in: https://www.jips.org/news/strengthening-the-data-systems-and-capacities-of-the-idp-committee-in-azerbaijan/#_ftn1.

⁶⁷ World Bank. 2023. "Internally Displaced Persons in Azerbaijan: Livelihoods, Services and Intentions". Washington, DC: World Bank.

critical role in their livelihoods. Additionally, IDPs often remain segregated from the host population in terms of access to various public services, including education, highlighting ongoing challenges in integration of equality of opportunity (World Bank, 2023).

In 2022, The State Programme on the Great Return was launched, assigning key responsibilities to the State Committee for the Affairs of Refugees and Internally Displaced Persons. These include managing the IDP register, coordinating a three-phased return process of IDPs to the liberated territories in Karabakh and East Zangezur, and supporting the development of resilient and sustainable IDP communities⁶⁸. By the end of 2026, the first phase of the programme aims to resettle 140,000 IDPs across 100 newly established settlements.

15.2.13.1 Communities near the Project Area

The household survey findings revealed that four IDP households in Pirekeshkul and 45 households in Mushfigabad identify as IDPs. Out of these 49 households, four are female HH. These households have integrated into these communities, and they identify as Azerbaijani.

The government provides housing needs of IDPs through the “State Program on improving living conditions and increasing the employment of refugees and Internally Displaced Persons” which approved by Decree No. 298 in 2004⁶⁹. Housing provision consists of multi-storey apartments. According to the survey data, 82% of IDPs in Mushfigabad live in state provided housing and one IDP household (25%) in Pirekeshkul lives in state provided housing. The rest of the households live in privately owned or rented houses.

The median income among the 38 IDP households who are employed is AZN 725. Of these, 19 households earn above these amounts while the rest fall under the median income. The lowest earning household is from Pirekeshkul and earns AZN 250 per month with six households earning below 400 AZN which is considered as the minimum wage Azerbaijan.

In relation to how many households can meet their basic needs, 17 (35%) households assessed their income as “only enough for essential needs”, 15 (31%) as “only enough for food”, 8 (16%) as “not enough for food”, and 7 (14%) as “only enough for food, clothes and other daily needs. One household (2%) household reported having “enough for purchasing all needs”, while another household (2%) was unable to make an assessment.

In addition to the above the following was determined:

⁶⁸ Azerbaijan – State information portal. “Great Return”. Available in: <https://azerbaijan.az/en/information/911>.

⁶⁹ State Committee for Affairs of Refugees and Internally Displaced Persons of the Republic of Azerbaijan. 2025. “About the works done by the State Committee for Affairs of Refugee and Internally Displaced Persons”. Accessed at: <https://idp.gov.az/en/law/105/parent/15>.

- Four households receive medical social assistance, averaging AZN 257.50 per month. Out of these, two HH are not employed and the other two are employed and earn a monthly income above the minimum wage.
- Thirteen households in Mushfigabad and Pirekeshkul have household members living with a disability or chronic illness. Of these, only one household receives medical social assistance.
- 28 households receive non-medical social assistance, averaging AZN 364.11. The state provides 'targeted state social assistance' in the form of cash or in kind to support low-income families in meeting their household needs⁷⁰. Out of the 28, 23 households have a monthly employment income while the rest do not.
- Eleven HHs from Mushfigabad are elderly-headed households (aged 60 and above). All four households in Pirekeshkul are headed by individuals under the age of 60.

Consultations undertaken with local government also revealed that Ashagi Guzdek settlement consists of Internally Displaced Persons (IDPs). As the municipality could not support the Project team in undertaking data collection in this settlement, a letter was sent to the State Committee of the Republic of Azerbaijan for Affairs of Refugees and IDPs in June 2025 requesting them to provide details of the settlement. However, no response has been received as of the writing of this ESIA.

15.2.14 Vulnerable People

Based on the socio-economic data collected in the surveyed households, the determination of vulnerable households has been undertaken using the following criteria:

- Households with a monthly income that is below the national minimum wage of AZN 400.
- Households with female headship.
- Households with child headship.
- Households with one or more members living with physical and/or mental disability.
- Households with one or more chronically ill members.
- Households with IDPs
- Illiterate heads of the households

The following table presents the vulnerable groups by criteria among the surveyed households.

⁷⁰ Ministry of Labor and Social Protection of Population of the Republic of Azerbaijan. 2025. "What is targeted social assistance?". Accessed at: <https://dost.gov.az/en/page/unvanli-dovlet-sosial-yardimi-nedir>.

Table 15-9 Vulnerable Groups

No	VULNERABILITY CRITERIA	PIREKESHKUL	GOBUSTAN	MUSHFIGABAD	TOTAL NUMBER OF HOUSEHOLDS
1	Households with a monthly income that is below the national minimum wage of AZN 400	4	0	28	32
2	Households with female headship	6	3	39	48
3	Households with child headship	0	0	0	0
4	Households with one or more members living with a physical and/or mental disability	10	3	12	25
5	Households with one or more chronically ill members	27	16	61	104
6	Households with internally displaced persons (IDPs)	4	0	45	49
7	Illiterate heads of households	0	1	1	2

Data source: Household survey results of local communities, 2025

15.2.15 Gender Equality

Since Azerbaijan's 2015 commitment at the United Nations Global Leaders' Meeting on Gender Equality and Women's Empowerment, the government has been active in mainstreaming gender quality in state programmes and legislation. It has also implemented initiatives focused on stakeholder and public education in areas such as combating violence against women and girls, protecting women and children with disabilities, human trafficking prevention, promotion of women's reproductive health, and improving women's economic participation.

Additionally, the Government has set up the State Committee for Family, Women and Children Affairs as the executive body mandated to implement and regulate state policy on the family, women's and children's issues under the Cabinet of Ministers⁷¹.

Despite these efforts, challenges remain, results of a survey conducted in 2018 "International Men and Gender Equality Survey" revealed that Azerbaijan is a patriarchal society, sustained by gender and social norms⁷². Respondents stated their preference for a greater number of

⁷¹ State Committee for Family, Women and Children Affairs of Azerbaijan. "About Us". Available in: <https://family.gov.az/en/pages/hagqimizda>.

⁷² UNFPA. 2023. "Fact sheet: Azerbaijan". *Every Girl Counts: Addressing Son Preference and Daughter Aversion*. Available in: https://eeca.unfpa.org/sites/default/files/pub-pdf/unfpa_azerbaijan_factsheet_3.pdf.

sons than daughters as sons are seen as custodians of the family lineage, primary providers of financial support for parents in old age, and key role players in family ceremonies. Additionally, men in Azerbaijan are traditionally viewed as primary breadwinners in households, and women have the primary responsibility of caregiving and day-to-day domestic tasks. However, there are men who share in the household chores⁷³.

Women have also been recorded to have limited decision-making power on important matters that affect them and lack economic agency in the household. Men make majority of decisions on large household purchases and dictate when their wives can visit their family and relatives (UNFPA, 2023). In some instances, women do not have the final say on decisions about their own health (UNFPA, 2023; UN Azerbaijan, 2020).

15.2.15.1 Communities near the Project

In relation to the communities near the project site, the representatives of Ashagi Guzdak Municipality stated during KII that while they encourage gender equity in the electoral processes, they are not engaged in other initiatives. The representatives from Mushfigabad Municipality noted that cultural norms influence gender roles, with women primarily engaged in housework and child-care, while men are responsible for earning income and supporting the family. In addition, they stated that they do not currently implement initiatives aimed at promoting gender equality. According to the Gender Focal Point from Pirekeshkul Village Administration, under the Head of Absheron District Executive Power, they do not see any cultural barriers that impact gender equality.

When posed with a similar question, majority of the surveyed respondents (76%) reported that they believe that men and women are treated equally in their communities and workplaces, with Gobustan reporting the highest level of perceived equality (88%). However, 21% of respondents, particularly in Mushfigabad, indicated that gender inequality persists, suggesting that perceptions of equality are not uniformly shared across all communities.

The household surveys also revealed that the head of the family, typically male, is the main income earner, though joint financial contributions and decision-making from both spouses are notably higher in Pirekeshkul. Only a small percentage of households (3%) reported that the spouse alone makes financial decisions.

Around 76% household heads reported that men and women are treated equally in the communities and workplaces. Several respondents also noted that 'women often work more and are respected for their efforts', signalling a recognition of their contributions both at home

⁷³ Promundo, et. al. 2018. "Gender equality and gender relations in Azerbaijan: current trends and opportunities". Findings from the Men and Gender Equality Survey (IMAGES). Baku: UNFPA, Baku, Azerbaijan.

and in the workforce. Approximately 96% of survey respondents reported that women (mothers, wives, daughters, and daughters-in-law) are primarily responsible for childcare and domestic chores, reflecting a traditional division of labour. A small number noted that male household heads or sons also share these responsibilities. Milking was the most commonly reported livestock-related role for women, particularly in Pirekeshkul and Gobustan, where 70% survey respondents identified it as a key activity.

In conclusion, the survey data suggests that a significant portion of those surveyed believe in gender equality, particularly in Gobustan. However, the persistence of traditional gender roles—especially regarding domestic responsibilities and income generation—points to underlying societal norms that continue to shape everyday life.

15.2.16 Existing Infrastructure at the Project site

Site visits and consultations undertaken with Aztelecom LLC, Azerishig LLC, and Azercosmos revealed that they have existing infrastructure within the Project Aol. Aztelekom provides telecommunications services, while Azerishig is responsible for electricity distribution, and Azercosmos is the Space Agency of the Republic of Azerbaijan. The outcomes from these consultations are provided below, and further expanded in Chapter 6 and the SEP:

- Aztelecom LLC: Confirmed that they have two optic cables FO-96 and FO-20 potentially intersecting within the Project area. However, they did not provide the location of these cables in relation to the proposed Project facilities.
 - Aztelecom requires the Project to obtain technical specifications from them to ensure that the cables are protected. As such additional consultations will be undertaken by the Project once the design of the access roads is finalized.
- Azerishig LLC: Confirmed the existence OHTL within the Project area. Azerishig LLC also stated during the site visit undertaken in May 2025 that some of the OHTL are under Azerenergy LLC. The potential risk to the OHTL lines relates to the transportation of Project machinery and materials along the Project access roads.
 - As such, Azerishig LLC requested the Project to undertake further consultations with them once the design of the access roads has been confirmed so that they can determine the technical requirements (if any).
- Azercosmos: Revealed that they have water, electricity and communication lines within the general area of the Project site. This includes a 10kV power line leading to the Main Terrestrial Satellite Control Center (MTSC), a 159mm steel water pipeline and a fiber optic line. Additionally, there is also a 1GW transmission line.
 - Based on the above, additional consultations will be required between the Project and Azercosmos once the access road design is finalized.

In addition, Azerenerji transmission lines are present within the Aol, however, Azerenerji have not responded to project consultation.

15.2.17 Anticipated Impacts

Of the total households that were surveyed, 24% expressed concerns about the Project in relation to biodiversity impacts and those related to land use. Other concerns were also raised in relation to dust (6% in Mushfigabad) and noise (4% in Gobustan).

Additionally, some residents, particularly in Gobustan (13%) expressed concern about radiation from wind turbines. To address these concerns and others raised during the ESIA phase consultations, a Project brochure including frequently asked questions (such as radiation, employment etc) was prepared and posted in strategic areas in the local communities. The brochure also included the details of the Project grievance redress mechanism.

15.3 Area of Influence and Receptors

15.3.1 Area of Influence

The area of influence for socioeconomic impacts varies depending on the nature of the Project impacts, with some confined to the local level, others extend to the district level, and some have broader-regional implications. The established areas of influences established are shown below.

Table 15-10 Project defined Aol

IMPACT	AREA OF INFLUENCE
Employment and economics	Absheron and Garadagh Districts; other parts of Azerbaijan for non-local and foreign workers.
Training and dissemination of skills	The Project districts of Garadagh and Absheron, and further afield including other areas in Azerbaijan from which workers are recruited.
Purchase of construction materials and food products locally	Absheron and Garadagh Districts
Workers accommodating facilities	The facilities and community in which the Project is located.
Disruption of local customs	Within Absheron and Garadagh Districts and within local communities near the Project site– dependent on where workforce is accommodated.
Disproportionate impacts on vulnerable groups	Same AOIs as above, where relevant
Impact on existing infrastructure	This includes any areas where the Project facilities especially the access road overlap with existing infrastructure.

IMPACT	AREA OF INFLUENCE
Land use change	Formal and informal land users within the Project footprint.

15.3.2 Receptors

Table 15-11 Socioeconomic Receptors

RECEPTOR	SENSITIVITY	JUSTIFICATION
Employment Market	Medium	The development of the Project is expected to generate employment opportunities for local and regional communities, particularly during construction. It will also facilitate skills development and knowledge transfer, contributing to long-term workforce capacity in the region.
Welfare of local population / Project-affected communities	Medium	Any change to infrastructure, population or regional inputs is likely to have effects on the welfare of the local population in the villages close to the Project site, who rely upon local services as evidenced by the baseline data collection.
Local/Regional Economy	High	The proposed WF Project is likely to generate economic benefits for local and regional businesses. This includes not only local contractors directly involved in the construction, but also local commercial operations such as food suppliers and service providers. There is also the potential that the local providers may not have the capacity to compete or be able to meet the required standards
Local rental market	High	The location of the workers accommodation has not been finalised. However, location of such facilities in the communities near the Project site may leave the residents particularly vulnerable to an increase in rental increase.
Vulnerable groups & women	High	Vulnerable groups & women are particularly vulnerable and can experience disproportionate impacts from the Project compared to other groups.
Existing infrastructure	High	Impact on existing infrastructure may significantly impact the services provided by Azetelecom, Azerishig LLC, Azerenerji and the work undertaken by Azercosmos if the Project does not obtain the appropriate technical specifications and implement them. This could lead to service disruption of local communities.
Land users	High	Consultations undertaken to date reveal that the land allocated to the Project including the general areas is potentially used for grazing activities and collection of natural resources. As such, the leaseholders and users (formal & informal) are particularly vulnerable to land take impacts that may affect their livelihoods.

15.4 Potential Impacts, Mitigation, Management & Residual Impacts

The following subsections describe the potential impacts and their magnitude. Refer to Table 15-11 for the receptor sensitivity. A summary of the impacts, their magnitude, receptor

sensitivity and therefore significance, and proposed mitigation measures, is provided in Table 15-12.

15.4.1 Construction Phase

15.4.1.1 Employment and Economics

The primary economic impact during construction is likely to result from limited project timeline centric employment creation. This Project is expected to create employment opportunities during the construction phase for unskilled and applicably skilled workers. Local workers will be hired where possible to reduce risk of socio-cultural conflict due to influx of people to the Project area based on their skill set and Project requirements.

In addition to the direct monetary uplift to the families of those employed, money paid to workers may also stimulate the local economy via the multiplier effect, whereby money earned on the Project expended locally re-circulates within the local economy.

During the ESIA phase consultations, the local communities expressed interest in the availability of employment opportunities under the proposed Project. It is noted that the Project workforce will comprise approximately 400 – 500 workers. As a result, employment opportunities may be more limited compared to larger-scale projects that typically require a greater number of personnel especially during the peak period. Therefore, the Project will need to manage the local communities' expectations and ensure the implementation of a transparent recruitment process. This process will clearly define the various jobs roles, including the required skill sets and qualifications including how to apply.

Additionally, some of the workforce will come from other countries and this could result in the repatriation of wages and a reduction in the benefit to the local economy of wage expenditure. The magnitude of this impact is therefore determined to **minor positive**.

15.4.1.2 Training and Dissemination of Skills

In addition to the direct monetary benefits of construction-phase employment, the Project has potential to facilitate skills transfer from expatriate workers to the local labour force. This skill transfer will help enhance local skill sets.

This skill dissemination is expected to significantly boost the future employability of local workers, equipping them with qualifications and experience that increase their chances of securing similar employment opportunities after the project's construction phase concludes. This capacity building can contribute to long-term economic development by expanding the local talent pool and improving workforce readiness for future projects. It is, however, important to note the scale and duration of local employment, with a relatively small

workforce and short duration. The magnitude of this impact is therefore determined to be **minor positive**.

15.4.1.3 Purchase of Construction Materials and Food Products Locally

Additional secondary economic impacts are expected from spending on local and imported goods and services during the construction phase. Due to the nature of the Project and the specialised nature of WTGs, most equipment will be sourced internationally, apart from construction materials (e.g. concrete, aggregate, etc.), which will be sourced locally, supporting local suppliers. This local sourcing is expected to benefit local suppliers and contribute positively to the regional economy.

There is also potential for purchase of food products locally to boost the local economy, as locals may supply vegetables and daily products to the construction workforce. However, this increased demand may have a downside. If the purchasing power of the workforce drives up prices at local shops, it could lead to inflationary pressure on basic commodities. This price increase could negatively impact local households, particularly those with fixed or lower incomes, by making essential goods more expensive and less accessible. In addition, some suppliers' may not be able to meet required standards and therefore would be unable to benefit from opportunities. Overall, the magnitude of this impact is therefore determined to be **minor positive**.

15.4.1.4 Workers Accommodation Facilities

It is understood that the Project will consider accommodation options in larger towns, such as Sumgayit. This was the approach taken on the adjacent ACWA Power wind project, as evidenced by their consultation. This will reduce the risk of increasing local rental prices due to heightened demand from the Project workers including those under sub-contractors, which could make housing less affordable for residents. Due to the size of the construction workforce and the size of Sumgayit this impact is considered to be of **negligible negative** magnitude.

15.4.1.5 Disruption of Local Customs

The arrival of workers and migrants to the Project site may introduce new habits and practices that differ from the established local culture. This cultural divergence could potentially lead to conflicts between incoming workers and residents, or a decline in social cohesion within the local communities.

However, the risk of this impact is reduced by several factors. The construction workforce is relatively small, with a workforce estimated at 400 - 500 individuals. Moreover, the Project site is situated at a considerable distance from the local communities. In addition, it is understood that the workforce will be housed in a larger city. These conditions significantly reduce the

likelihood of meaningful disruption to local customs and social dynamics. Therefore, the anticipated impact magnitude on local customs and social cohesion is expected to be **negligible negative**.

15.4.1.6 Disproportionate Impacts to Vulnerable Groups & Women

EMPLOYMENT AND ECONOMIC OPPORTUNITIES

The socio-economic survey identified that 19% of households in Pirekeshkul include persons with physical disabilities. Women and persons with disabilities in the Project communities may face unequal access to employment opportunities due to gender norms and discrimination during recruitment processes. Cultural expectations, as reflected in the household survey, indicate that women are generally expected to remain homemakers, which may further limit their participation in the Project's workforce.

GENDER-BASED VIOLENCE, HARASSMENT (GBVH), AND COMMUNITY SAFETY

The influx of Project workers may increase the risk of gender-based violence and harassment (GBVH), as well as other labour-related violations, particularly for women and children. These risks are associated with the temporary presence of non-local workers in nearby settlements. Reference Chapter 15 Community Health, Safety and Security, Chapter 16 Labour & Working Conditions for more details.

CHILDREN AND SAFETY RISKS

Children in local communities may face safety risks related to increased traffic and the movement of heavy machinery. These risks may be heightened by children's curiosity and attraction to large equipment and transported materials. However, the risk is assessed as low since the Project will not use community access roads.

BARRIERS TO CONSULTATION AND PARTICIPATION

The household survey identified that some community members are illiterate, which may limit their ability to fully understand written Project materials, express concerns, or access the GRM.

IDPs AND INFORMAL SETTLEMENTS

Consultations confirmed the presence of IDPs in the settlements of Pirekeshkul, Mushfigabad, and Ashagi Guzdek. Due to its unregistered status, household-level data collection could not be undertaken in Ashagi Guzdek. Despite this, the Project distributed informational materials, including GRM brochures, to residents. The unregistered and informal status of this settlement may discourage residents from seeking Project-related employment or raising grievances. Furthermore, the settlement may attract migrant workers seeking job opportunities, creating potential risks linked to worker influx.

The magnitude of this impact is considered to be **minor negative**.

15.4.1.7 Impact on Existing Infrastructure

The presence of infrastructure within the Project Aol presents a potential risk of unintentional damage, service disruption, and safety hazards during the construction phase of the Project. This is especially in relation to the transportation of heavy, wide and high equipment and Project components along the internal access roads. Additionally, as the exact locations of some infrastructure assets are currently unknown, there is a risk of accidental damage during excavation and groundworks. The magnitude of this impact is **moderate negative**

15.4.1.8 Change in Land Use

The construction and operational phases of the Project will result in both temporary and permanent impacts on winter grazing land. These impacts will be limited to the actual Project footprint rather than the entire Project area.

Temporary impacts during the construction phase are expected to arise from the construction of the laydown areas, but the impacted land will be restored at the end of the construction phase. The permanent impact on land will arise from the footprint of the Project facilities which will require permanent land take. This impact is expected to be minimal and no additional land take will be required during the operational phase of the Project.

Consultations undertaken to date revealed that the land allocated to the project and the surrounding areas is used for various seasonal purposes such as grazing, natural resources etc. As such, additional consultations and surveys are currently being undertaken to determine the following:

- Boundaries of land leased to herders in the project area in relation to the project facilities to determine the significance of impact on seasonal grazing land.
- Presence of informal and/or communal seasonal land use for seasonal grazing purposes.
- Mapping of herders' structures within the Project Aol including such as those that will potentially be impacted by operational noise, shadow flicker etc.
- Seasonal use of natural resources within the project Aol i.e., herbs, medicinal plants, wild fruits etc.
- Access road(s) restrictions and/or disruptions etc.

The potential impacts outlined above are assessed in the Project's LRP which has been prepared in accordance with the requirements of the lenders. Furthermore, no impacts will occur until the corresponding entitlements have been established and compensation has been paid (as applicable).

15.4.2 Operation Phase

At a strategic level the operation of the Wind Farm is a proactive measure towards a low carbon transition for Azerbaijan's economy harnessing the wind resources in the country. This project will also support the continued growth of the national economy through the provision of sufficient power supply.

As with the construction phase, an economic impact during operation will result from any local employment created by the Project. The operational phase will however require significantly fewer staff than during construction. Besides management and technical operator positions, the Project will also require support-staff.

Whilst the size of the required workforce is significantly smaller, the type of work and the increased timescales involved offer an opportunity for greater dissemination of skills. A targeted system of local recruitment and investment in the human capital of the local workforce will enhance this process and consequently increase the benefit to the local economy.

Impacts relating to operational phase such as labour issues, security are discussed under Community Health, Safety & Security and Labour & Working Conditions chapters.

15.4.3 Cumulative Impacts

As highlighted in Section 2.4.3, two wind farms are being developed to the north of the Project: the Area 1 Wind Farm and the Khizi 3 Wind Farm. Area 1 is located approximately 5.2 km from the nearest Project WTGs, while Khizi 3 is approximately 19 km away.

It is important to note that the construction phases of these wind farms do not overlap. The potential for cumulative impacts would be greatest if construction activities were to occur concurrently.

Although the wind farms are in relatively close proximity, significant negative cumulative impacts are not anticipated. This is due to the separation distance between the projects, their distinct footprints, and the non-overlapping construction schedules. The distance between the wind farms is sufficient to avoid cumulative impacts on grazing activities, and none of the PAPs identified are affected by more than one wind farm project.

A positive cumulative social impact is anticipated in relation to employment, as well as the training and transfer of skills. Local workers will be employed where possible, and the combined construction and operation of three wind farms in the area is expected to enhance these benefits.

Table 15-12 Socio-Economics Impact Significance, Mitigation & Management Measures and Residual Impacts- Construction and Operational Phases

POTENTIAL IMPACT	MAGNITUDE OF IMPACT	RECEPTOR	SENSITIVITY	IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACTS
Construction						
Employment Opportunities	Minor Positive	Employment Market	Medium	Minor Positive	- Local employment/recruitment management plan will be prepared and implemented as part of the Labour & Working Conditions Management Plan (LWCMP). This plan will include clear targets for employment under EPC and sub-contractors. - The Project Company will implement a Project Human Resource Policy in line with the Masdar's Corporate HR Policy. This policy will be conveyed to all the Project workers including contractors & sub-contractors. - The EPC Contractor will seek to employ local workers including women. This will be done in consultation with the local administration and community leaders in the communities near the Project site i.e., (Absheron and Garadag districts). - EPC Contractor to undertake local community consultation during recruitment process in order to consider equitable job opportunity distribution among the locals to avoid conflict between the local people. - The EPC Contractor will give priority to the local people while employing unskilled and semiskilled labor forces from the Project area. - The EPC Contractor will provide equal employment opportunities to women and preferences will be given to local women for unskilled and semi-skilled labour positions.	Minor Positive
Training & dissemination of skills	Minor Positive	Local/Regional Economy	High	Minor Positive	- All project employees and contracted workers will have equitable access to relevant on-the-job trainings, which will enable the dissemination of specialist and transferable skills within the Project's construction phase. - All workers will receive training in regard to health and safety in line with the Occupational Health & Safety (H&S) Management Plan. - Toolbox talks will be conducted before work on each day to ensure workers are reminded of key topics. - Cultural awareness training for all foreign workers and those coming from other regions in Azerbaijan as applicable.	Minor Positive

POTENTIAL IMPACT	MAGNITUDE OF IMPACT	RECEPTOR	SENSITIVITY	IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACTS
Purchase of construction materials and food products locally.	Minor Positive	Local/Regional Economy	High	Minor Positive	- The EPC Contractor will purchase goods and materials from the local/regional economy where available. - The EPC Contractor will purchase some of the food products such as meat, milk from the suppliers. - The EPC Contractor will ensure that the influx in workers does not lead to an increase in retail prices of basic commodities by providing the workers with food or giving them transportation to larger towns where they can buy food and non-food items. - Establish market network between the Project workers and the local people in consultation with the community leaders.	Minor Positive
Impact from workers' accommodation facilities	Negligible Negative	Local Rental Market	High	Minor Negative	- Consultations will be undertaken with relevant stakeholders before workers accommodation facilities are located in local communities near the Project site. This will also include the assessment of potential impacts on rental prices and mitigate any related labour influx risks. - The Project will implement a Grievance Redress Mechanism which local communities can use to express their concerns or comments in relation to the location of workers accommodation facilities. - Implement a Worker's Accommodation Management Plan compliant with the applicable IFC/EBRD Guidelines.	Minor Negative
Disruption of local customs	Minor Negative	Welfare of Local Communities	Medium	Minor Negative	- The HSSE Management System will address worker influx risks including those related to misconduct of workers, disruption of local customs etc. - The Project Company will ensure that the EPC Contractor prioritises the recruitment of local workforce for both skilled and unskilled positions. - Cultural awareness training for all foreign workers and those coming from other regions in Azerbaijan as applicable. - Local communities and other stakeholders will be informed of the existence of the GRM, how to access it, the resolution timelines etc in accordance with the SEP.	Negligible
Disproportionate impacts on vulnerable groups & women	Minor Negative	Vulnerable groups including IDPs & women	High	Moderate Negative	- Implementation of the SEP including the engagement and consultations of vulnerable groups during the implementation of the project. - The Project will implement engagement approaches such as oral presentations, use of visual materials and the option for	Minor Negative

POTENTIAL IMPACT	MAGNITUDE OF IMPACT	RECEPTOR	SENSITIVITY	IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACTS
					verbal submission of grievances etc, in accordance with the SEP. - The HSSE Management System will address worker influx risks including those related to misconduct of workers, disruption of local customs etc. - Continued engagement with the local government authorities to identify appropriate methods of disseminating project-related information and promotion of the use of the GRM among the IDPs especially in Ashagi Guzdek. - Implementation of the Project-specific SEP. - Develop and implement a Gender Management Plan that will outline the requirements for training to all the responsible personnel in the Project Company, EPC and its subcontractors. - Assign a suitably qualified female employee(s) to execute of the Gender Management Plan, stakeholder engagement, and grievance management for female members of the communities near the Project site. - Undertake a Transport Study which will inform the Traffic & Transport Management Plan.	
Impact on existing infrastructure	Moderate Negative	Existing infrastructure within the Project Aol	High	Moderate Negative	- The EPC will undertake additional consultations with the operators of the infrastructure on site (Azerishig LLC, Aztelecom LLC, Azerenerji and Azercosmos etc) once the design of the Project facilities has been finalised and before the start of the construction phase. - Implement the technical conditions including the required buffer zones (if any) based on the outcome of consultations. - Obtain the required permits (if any) - The EPC will develop and implement a construction phase Occupational Health and Safety Management System including an Occupational Health Management Plan.	Minor Negative
Operational Phase						
Employment	Minor Positive	Employment market	Medium	Negligible Positive	The Project will develop & implement a Project Human Resources Policy & Management System in line with the Masdar's Corporate HR Policy and Lenders' labour requirements.	Negligible Positive

POTENTIAL IMPACT	MAGNITUDE OF IMPACT	RECEPTOR	SENSITIVITY	IMPACT SIGNIFICANCE	MITIGATION AND MANAGEMENT MEASURES	RESIDUAL IMPACTS
					Workers will be encouraged to develop their careers and maybe provided with opportunities to attend relevant training and other career development processes.	
Sustainable energy supply	Moderate Positive	National grid	High	Moderate Positive	Ensure the appropriate operation and maintenance of the WF to enable a secure supply of renewable energy to the national grid.	Moderate Positive

15.5 Monitoring

Table 15-13 Socioeconomic Monitoring Requirements – Construction and Operation

MONITORING	PARAMETER	PROJECT PHASE	FREQUENCY & DURATIONS
Land use change	Project Affected People	Based on construction & operational phase impacts	As per the LRP
Local procurement	% of project goods/services sourced from local suppliers	Construction	Quarterly based on the procurement records, vendor list
Local Employment	Number of persons employed from the communities near the Project site (gender disaggregated) Number of skilled/unskilled local Workers	Construction and Operational	Ongoing based on HR database
Third Party Grievances	Number of the grievances received, response period, close-outs	Construction and Operational	Ongoing

16 COMMUNITY HEALTH, SAFETY, AND SECURITY

16.1 Applicable Requirements & Standards

16.1.1 National Requirements

The law of the Azerbaijan Republic on the Protection of Public Health No. 360-IQ sets the regulations for public health protection and the health care system. The law stipulates the liability and compensation requirements in the event of damage to health that results from a polluted environment.

16.1.2 Lender Requirements

AIIB

ESS1 – Environmental and Social Assessment and Management: Point 8.1 outlines the need to consider community health and safety in the impact assessment, further stating *“this would include, as appropriate, risks related to pandemics and other forms of transmission of communicable diseases.”*

The Social Coverage section outlines the requirement for social assessment, including, but not limited to, vulnerable groups and discrimination, gender, gender-based violence, etc.

EBRD

ESR 4 on Health, Safety and Security recognizes the importance of managing project-affected communities and consumers associated with project activities.

The objectives of ESR4 are:

- “to protect and promote the health, safety and security of project workers by ensuring safe, healthy and security working environments and implementing a management system appropriate and proportionate to the risks associated with the Project” and
- “to identify, assess and manage health, safety and security risks to project-affected communities and consumers during the project lifecycle from both routine and non-routine activities and to incorporate health and safety at the earliest opportunity into the project design”.

ESR4 requires clients to adopt measures to identify hazards, assess risks and prevent accidents, injury and ill-health to project workers and project-affected communities due to project activities. Clients are also required to prepare and implement preventative and protective measures and plans proportionate to health and safety risks in accordance with the hierarchy of risk controls and in accordance with good international practice. In addition, the client is

required to cooperate with the relevant authorities and put in place arrangements as measures to avoid or mitigate impacts of the project on community health and safety may be the responsibility of relevant public authorities.

IFC

IFC Performance Standard 4 establishes requirements to safeguard local communities from potential risks associated with the Project including impacts associated with introduction of communicable disease, site access and operation, material use etc. The key objectives of PS4 are:

- To anticipate and avoid adverse impacts on the health and safety of the Affected Community during the project life from both routine and non-routine circumstances.
- To ensure that the safeguarding of personnel and property is carried out in accordance with relevant human rights principles and in a manner that avoids or minimizes risks to the Affected Communities.

World Bank Good Practice Note on Addressing Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) in Investment Project Financing Involving Major Civil Works

The World Bank GPN is structured around three key steps that cover project preparation and implementation. These steps include:

- Identifying and assessing the risks of SEA/SH, including social and capacity assessments.
 - Undertaking social risk assessment of community-level risks.
 - Assess capacity and availability, safe and ethical services of survivors.
 - Review ability of the client to respond to SEA/SH risks.
 - Rate project for overall risk using several Bank tools including the SEA/SH Risk Assessment Tool.
 - Establish procedures to review and update risk assessment during the project implementation.
- Establishment of mitigation, reporting and monitoring measures.
 - Based on risks identified, identify the corresponding mitigation measures and implement actions suggested to mitigate project related risks of GBV in the project area.
 - Monitor effectiveness of the mitigation measures and adapt as appropriate.
- Project response actions for GBV cases.
 - Provide essential services for survivors.
 - Report case through the GM as appropriate keeping survivor information confidential and anonymous.
 - Document and close cases brought through the GM.

IFC, EBRD and CDC Group⁷⁴ Guidance on Gender Based Violence and Harassment (GBVH)

According to the guidance, addressing GBVH can build relationships and provide a Project with a social license to operate in communities. This can result from regular dialogue to understand and track project GBVH risks as well as the effective use of measures to prevent and respond to GBVH. In addition, it broadens the pool of potential workers that companies can draw upon, including women workers from nearby communities because of lower perceived risk of GBVH.

IFC Guidance on Gender Based Violence and Harassment (GBVH) in the Construction Sector

The assessment, prevention, monitoring and response measures in regards to GBVH should be underpinned by the following principles:

- **Survivor Centred:** The rights of GBVH survivors need to be consistently prioritised and used as the starting point for all decisions on efforts to assess, prevent, monitor and respond to GBVH.
- **Safe:** Survivors, witnesses and those who report and seek to address GBVH can be at risk of retaliation, including threatening and violent behaviour, often from those who do not like their position of power being challenged. Companies should prioritise the safety of those who have experienced, witnessed and reported GBVH.
- **Context specific:** All measures need to be rooted in a thorough understanding of the local context. Investors and companies should understand the legal and social context and identify the support mechanisms that are in place.
- **Collaborative:** Companies should seek inputs from a range of internal and external stakeholders to increase the likelihood of broader buy-in and make GBVH prevention more effective.
- **Inclusive:** Companies should recognise the heightened risks of GBVH faced by certain groups who are subject to discrimination and marginalisation. High risk groups often include people with disabilities, single parents, migrants and ethnic minorities and sexual and gender minorities. The system should also account for illiterate or non-literate people who may not be able to access written information on GBVH reporting mechanisms.
- **Integrated:** Processes, efforts to assess, prevent, monitor and respond to GBVH needs to be integrated as much as possible into existing processes and management systems, such as occupational health safety, security management systems, ESMS and human resources (HR) policies and procedures.
- **Non-discriminatory:** All survivors need to be listened to and treated equally and promote diversity in the work place.

⁷⁴ CDC Investment Group has formally renamed as "British International Investment (BII)" on 4th of April 2022. BII's mission is to support the building of businesses throughout Africa and South Asia, to create jobs, and to make a difference to people's lives in some of the world's poorest places.

- Well-informed: Companies should draw on relevant expertise when developing prevention and response measures. The grievance mechanism and investigation procedures should be set up to ensure they are appropriate, relevant and safe in the local context.

According to the guidance, the benefits of addressing GBVH include:

- Improves workers' physical and emotional wellbeing and strengthens occupational health and safety.
- Avoids reputational damage, financial risks and legal liabilities for companies, investors and construction contractors.
- Builds relationships and social license to operate in communities. This can result from regular dialogue to understand and track project GBVH risks as well as the effective use of measures to prevent and respond to GBVH.
- Broadens the pool of potential workers that companies can draw upon, including women workers from nearby communities because of lower perceived risk of GBVH.

Note: A standalone Human Rights Risk Assessment (HRRRA) has been prepared for the Project, providing a detailed discussion of the relevant human rights regulations and applicable lender standards. This also includes a gap analysis between Azerbaijan regulations and the International Covenant on Civil & Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR)⁷⁵ including the Labour Organisation (ILO) conventions.

16.2 Baseline Conditions

16.2.1 Community Health

As discussed in the socio-economic chapter above, the most prevalent health conditions in the surveyed households include hypertensive heart disease and diabetes. Additionally, some respondents reported that they are not able to seek medical care due to the high cost.

In relation to the existing facilities, there are health centres available in Pirekeshkul, Mushfigabad and Gobustan. However, the respondents in Pirekeshkul reported that their health facilities are in poor condition.

16.2.2 Gender-based Violence, Harassment & Exploitation

Azerbaijan has implemented initiatives focused on stakeholder and public education in areas such as combating violence against women and girls, protecting women and children with

⁷⁵ This is in accordance with the UN Human Rights Guiding Principles on Business & Human Rights.

disabilities, human trafficking prevention, promotion of women's reproductive health, and improving women's economic participation. This is in accordance with its 2015 commitment at the United Nations Global Leaders' Meeting on Gender Equality and Women's Empowerment.

The State Committee for Family, Women and Children Affairs (SCFWCA) serves as a coordinating body for the National Action Plan to Combat Domestic Violence. SCFWCA works closely with the United Nations Population Fund (UNFPA) in implementing the GBVH related programs⁷⁶. According to the UNFP draft Country Programme document for Azerbaijan (2021-2025), a gender equality survey conducted in 2018 showed that approximately one in three men (32.5%) reported perpetrating and almost a similar number of women reported experiencing (32.1%) physical violence. The report also notes that the patriarchal social norms contribute to multiple forms of violence and discrimination against women. Additionally, UNFPA notes that there is an underdeveloped multisectoral cooperation and coordination frameworks and the lack of institutional capacities to prevent or respond to GBV.

In relation to the districts where the Project is located, the statistics show a total of 124 domestic violence incidences were recorded, with women accounting for 86% of the victims with few incidences against minors.

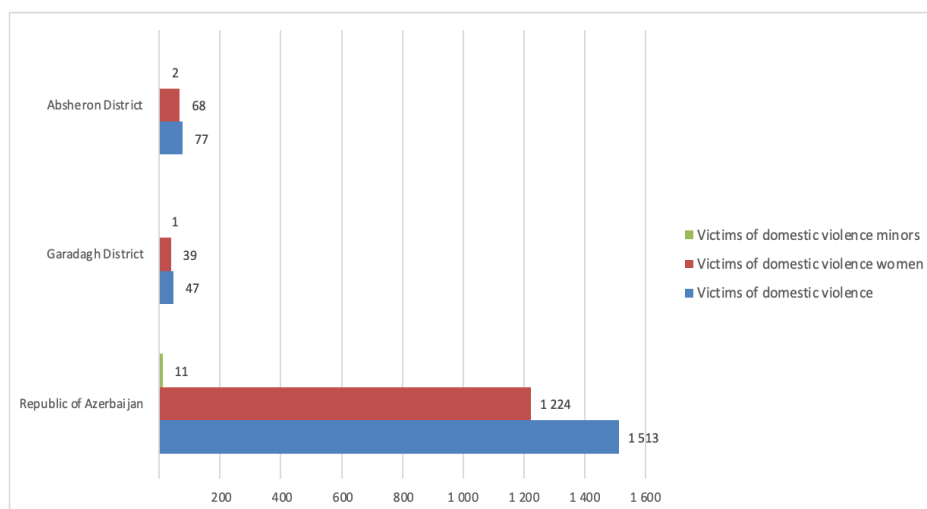


Figure 16-1 Victims of domestic violence recorded in 2023 (State Statistical Committee, 2024)

Data collected as part of the ESIA through KII revealed that there are infrequent cases of GBVH that are reported. The research and KII findings did not identify specific sub-groups of women as being at heightened risk. A police representative is present at the settlements, and an

⁷⁶ <https://www.unfpa.org/azerbaijan-cpd-2021-2025-dpfpacpdaze5>

anonymous drop box is available for victims to submit complaints or report incidents. Additionally, cases can be reported by calling the police emergency line at '102'.

16.2.3 Crime & Security

Azerbaijan's primary law enforcement body is the Ministry of Internal Affairs (MIA), responsible for public order, criminal investigation, and general population safety. MIA oversees the police force who are present across the communities in Azerbaijan.

Article 10 of the Law on Police encourages local public institutions and citizens to assist the police particularly in reporting crimes or preventing antisocial behaviour. Citizens can also be recruited on a voluntary basis to support community safety efforts, organised through "social councils".

Based on the KII, the representatives from the communities near the Project site stated that they do not have statistics of crimes in the areas. However, they stated that they have not experienced an increase in crime over the past few years. It was also determined that there is a police station in Mushfigabad, however there is not in Gobustan and Pirekeshkul. In these two communities, the government has assigned a police officer who visits the areas every day or based on an established schedule and/or request from the members of the community.

16.2.4 Recreational Activities Near the Project Site

Initial mapping analysis identified two locations marked on *Google Earth* as a paragliding site and a go-kart track, located approximately 300 m from WTG-01-05 and 350 m from WTG-02-05, respectively. However, numerous site visits conducted throughout 2024 and 2025, including dedicated site visits to these locations, found no evidence of ongoing recreational activities at these locations.

Further validation was undertaken through consultations with local authorities, including the Absheron and Garadag Executive Powers and the Mushfigabad municipality, who reported no awareness of any such activities in the area. Additionally, correspondence with the State Tourism Agency and the Ministry of Youth and Sports of the Republic of Azerbaijan similarly revealed no records or official recognition of these recreational activities. Efforts to contact the potential paragliding service provider identified via Facebook, including through email, WhatsApp and multiple phone calls, were unsuccessful.

16.3 Potential Impacts

16.3.1 Construction Phase

16.3.1.1 Worker Influx, Community Health and Crime

The construction phase of the Project will require a dedicated workforce, contractors, as well as the use of specialist and sub-contractors. This will therefore lead to an increase in the population on-site during construction.

At present, it is estimated that the Project workforce will comprise of 400 – 500 workers who will require accommodation. As discussed in Chapter 14, the location of the accommodation facilities is still being determined, however, it is considered likely that the workers will be housed in Sumgayit.

Interactions between workforce and the local communities have the potential to give rise to social and cultural tensions, especially where difference in customs and beliefs exist. These risks may further be exacerbated by increased disposable income among workers, which can influence behaviours such as drug use, gambling or engagement in informal commercial activities. To mitigate these risks, all project personnel will receive cultural awareness training about local customs, norms and acceptable behaviours. This training will provide guidance on appropriate conduct and support respectful engagement with communities.

The workers and communities' interactions may also lead to the spread of communicable diseases, including STIs, respiratory infections such as tuberculosis affecting both workers and nearby communities. This may lead to an increased burden on the existing health facilities and services. However, it is anticipated that the EPC Contractor will have an on-site clinic and make arrangements with other regional hospitals so that the health services in the local communities are not undermined.

Additionally, the socio-economic survey revealed that crime is relatively low in the local communities. However, the construction of the Project may potentially attract immigrant workers from other parts of Azerbaijan looking for employment. This may potentially lead to a spike in petty crime especially in the unregistered community of Ashagi Guzdek.

It is noted that the risks associated with worker influx are expected to be minimal as the Project will only employ approximately 400 – 500 workers and be required to implement the mitigations detailed in this ESIA. Additionally, the Project will implement a Recruitment Procedure as part of the Labour & Working Conditions Management Plan to maximise the opportunities for local communities.

16.3.1.2 Public/Community Safety

The construction phase poses potential risks relating to public safety, particularly about the use of high-powered equipment, heavy construction machinery, excavations and transportation. In addition, risks relating to fire and pollution releases are possible, however, are considered unlikely due to the nature of the Project and the distance between the Project and local communities.

Public risks during construction have the potential to result in isolated incidents if a person or group of people are inadvertently exposed to hazards. In the absence of appropriate management measures, receptors along the M4 highway, including local communities and road users, may be subject to increased risks associated with traffic incidents and accidents.

As such, risks associated with hazardous material or chemical storage will be suitably managed in the construction phase through the implementation of a robust HSSE-MS and an Emergency Preparedness and Response Plan (EPRP). The EPRP will cover works on the project site and along the access road.

In addition, there will be an increased safety risk associated with the increased traffic due to transportation of Project materials and equipment as discussed further in Section 15.3.1.5.

16.3.1.3 Public/ Community Security

The construction phase of the project will require site-based security to safe-guard the Project equipment, machinery and offices and to prevent the public from trespassing into construction areas. This is so as to minimize the potential for construction site incidents or damage of construction machinery. The site-based security will not be armed.

There is also a risk that the security personnel who are mandated with providing protection to the workers can abuse their position of power and status and become perpetrators of GBVH either to the members of the workforce or the community thus violating their human rights.

A Security and Human Rights Management Plan for the Project will be developed by the EPC Contractor following the suitable security risk assessment. It is noted that the security arrangements will be guided by UN Code of Conducts for law enforcement officials, the IFC's Good Practice Handbook on the *Use of Security Forces: Assessing and Managing Risks and Impacts* IFC's and the *Voluntary Principles on Security and Human Rights*. In addition to this, security personnel will receive internal training about receiving grievances, reporting such grievances and how to interact with any members of the local communities.

16.3.1.4 Gender-Based Violence, Harassment, and Sexual Exploitation & Abuse (GBVH/SEA)

The construction workers are likely to be predominantly young males coming from other regions of Azerbaijan and outside the country. These workers will be away from their families and usual social environments for extended periods. If not appropriately managed, such conditions can increase the risk of inappropriate behaviour, including harassment or other forms of gender-based violence and harassment (GBVH), affecting local women, young girls and boys, or women within the Project workforce. These risks may include exploitative or transactional relationships, unwanted advances and harassment, which could adversely affect individuals and, in some cases, contribute to social tensions or household disruption within affected communities. Due to the location of the Project site with local communities, the associated community risks should be closely managed and monitored based on the mitigation measures in this report.

In addition, income earning opportunities for women through direct employment during the construction phase or through indirect employment may have the potential to increase household tensions and expose women to harassment and violence in their homes or communities. This is because some men may feel threatened when the women in their lives are more economically empowered and independent.

Some of the male workers who will be transporting Project machinery, equipment and goods will also be involved in long distance travel which in some cases will be between different countries, for example the WTG components will likely be delivered from China. Such transport activities may give rise to risks of GBVH and sexual exploitation and abuse (SEA) along transport routes and at associated rest stops, including locations outside the immediate Project footprint, if not appropriately managed.

As such, the EPC Contractor will undertake a GBVH risk assessment before the start of the construction phase. This assessment will be led by the Project's GBVH focal point, with support from a gender expert familiar with the local context. The findings of the assessment will inform the development of appropriate mitigation measures, which will be integrated into and implemented through the Project's Gender Management Plan.

16.3.1.5 Transportation & Access

TRANSPORTATION OF PROJECT COMPONENTS, CONSTRUCTION MATERIALS AND EQUIPMENT

The major components for the construction of the Project are the WTG components (blades, heavy turbine tower sections, transformers, nacelle, etc.) that can only be assembled at the

site and as such they will have to be transported to the site individually. Turbine components are likely to be transported by specialised turbine transportation vehicles that will be oversize.

It is understood from Masdar that a dedicated transportation study will be commissioned for the Project as the equipment and construction materials will be delivered by road. In addition, the internal access roads will also need to be constructed/upgraded to facilitate the movement of the vehicles and machinery especially during the construction phase.

If routes are not carefully planned and managed, the trailers hauling the heavy Project components may potentially damage or cause structural faults on existing highways, utilities such as electricity, storm water etc. and other road infrastructure such as signages. Additionally, this may also disrupt the movement of local communities who stated that they rely on the M4 highway to access services and other areas in Azerbaijan such as Baku. It is important to note that, due to the Project location, there is not the need for construction vehicles or equipment to pass through local communities.

The EPC Contractor will be required to apply for the relevant permits from road transport authorities in Azerbaijan and any other transit country (if applicable) to transport the Project components, equipment and machinery on local roads.

SAFETY OF RESIDENTS

The proposed Project site will be accessed via the M4 highway which is also used by the local communities in Pirekeshkul, Mushfigabad, Gobustan, Ashaghi Guzdak and other road users in the region. Additionally, there are some local businesses located near the access roads that will branch off to the site i.e., near WTG 02-01.

The socio-economic survey revealed that most households access public infrastructure and services within their communities on foot, using local roads that will not be affected by the Project. In addition, residents and business along the highway are likely accustomed to the relatively high traffic volumes on the M4 and they have also previously experienced increased traffic during the construction of the nearby wind farm developed by ACWA Power.

Nevertheless, the anticipated rise in vehicle movements associated with the proposed Project may increase the risk of road accidents particularly along the M4 highway where the vehicles will have to make a turn into the site.

In addition, access to some of the track routes within Project footprint may temporarily be disrupted especially during the construction phase of the Project. This will mostly be to ensure the safety of the herders and their livestock including any other users. It is anticipated that the users will likely use alternative routes in the Project's vicinity which consists of several paths. These alternative routes are unpaved and will provide access to other areas outside the

project site including access to unimpacted grazing sites. As such, such disruption is expected to be minimal.

16.3.1.6 Recreational Activities

As discussed in the baseline section above, potential recreational activities (paragliding and go-karting) were identified in proximity to the Project site through satellite imagery (*Google Earth*). However, their current operational status could not be confirmed during numerous site visits and consultations with relevant stakeholders.

In the unlikely event that these activities are still ongoing in the area, there may be significant safety risks to individuals involved. For example, the erection of the WTGs could pose a physical barrier along potential paragliding flight paths, increasing the risk of serious injury or fatality. Similarly, go-karting activities could present a safety risk if participants access active construction zones or use the Project's access roads.

To mitigate these risks, the Project will adopt a precautionary approach. This will include the installation of warning signage at the locations identified via *Google Earth* and ongoing monitoring of any recreational activity during both the construction and operational phases. Should any of these activities be confirmed as active, a risk assessment will be conducted, and appropriate safety protocols will be developed and implemented in coordination with the relevant authorities.

16.3.1.7 Potential for Asbestos Containing Materials

Only one herder structure is proposed for relocation (refer to the LRP for further details). There is potential for the structure to contain asbestos-containing materials. Disturbance of these materials during relocation could result in the release of asbestos fibres, posing a risk to human health.

16.3.2 Operation Phase

The Project will carry various risks that could result in impacts to public safety and security during the operation phase. Such reasonably foreseeable situations are discussed below.

16.3.2.1 Public/Community Safety

ICE THROW

The EHS Guidelines for Wind Energy (2015) reference the following link for establishing setback distances for ice throw, International Energy Agency, "Wind Expert Group Study on Recommended Practices: 13," Wind Energy Projects in Cold Climates, 1st Edition, (2011).

Within this reference, there is a screening formula, called the Seifert Formula, which establishes the maximum distance for ice throw from a rotating wind in flat terrain. The formula is as follows:

$$d = 1.5(D+H)$$

where d is the maximum throwing distance of ice (m), D is the rotor diameter (m), and H is the hub height (m).

Therefore, for the selected WTG, the formula is $d = 1.5(182 + 105)$, therefore $d = 430.5$ m.

The reference further states that this estimated is considered to be conservative, and the maximum observed ice throw distance known to IEA Wind Task 19 is roughly 2/3 of the Seifert Formula. This would give approximately 287 m as the maximum expected ice throw distance, should it occur.

It is noted that the nearest herder structure (H-4) is within 400 m of the nearest turbine and therefore would be within the range of the Seifert Formula, however, this structure is located outside of the maximum expected ice throw distance of 287 m.

Blade Throw

The EHS Guidelines for Wind Energy (2015) establish the minimum setback distance for blade throw as 1.5 x turbine height (tower + rotor radius), therefore for this Project and the selected WTG it would be $1.5(105 + 91) = 294$ m. There are no receptors within this zone.

It does, however, further highlight that modeling suggests that the theoretical blade throw distance can vary with the size, shape, weight, and speed of the blades, and the height of the turbine. It is therefore recommended that the minimum setback distances required to meet noise and shadow flicker limits be maintained with respect to sensitive residential receptors to provide further protection.

TRAFFIC

Traffic along the internal access roads could potentially impact the land users (i.e., herders and their livestock) in case of accidents. However, traffic impacts are expected to be negligible considering that during operation limited number of trips will be required for patrol, maintenance, as well as transporting operation employees etc. This impact is considered negligible and not discussed further.

16.3.2.2 Public/Community Security

The Project will constitute a facility of high importance due to the generation of electricity. As such, it is expected that it will include a security team who are not expected to be armed.

As with the construction phase, there is also the risk that the security personnel responsible for protecting project workers may abuse their position of authority, which could result in incidents of GBVH, affecting members of the workforce or the surrounding community, thereby constituting a violation of human rights.

As is consistent with the construction phase, the O&M Contractor will undertake a security risk assessment to determine the appropriate level of security. The security arrangements will be guided by UN Code of Conduct for Law Enforcement officials, UN Basic Principles on the Use of Force and the Voluntary Principles on Security and Human Rights. The specific Project requirements will be detailed in the Security and Human Rights Management Plan.

16.3.2.3 Gender-Based Violence, Harassment, and Sexual Exploitation & Abuse (GBVH/SEA)

Even though there will be reduced workforce during the operational phase of the Project, the risk of GBVH/SEA will remain especially towards women and children. There will still be a limited level of interaction between the operational phase team and the local communities. As a result, measures will be put in place to ensure that exploitative sexual relationships and unwanted aggressive advances and harassment are prevented and addressed.

16.4 Mitigation and Management Measures

Table 16-1 Community Health, Safety and Security Mitigation & Management Measures – Construction Phase

POTENTIAL IMPACT	MITIGATION AND MANAGEMENT MEASURES
Workers Influx	- Develop and implement a Recruitment Procedure as part of the Labour & Working Conditions Management Plan (LWCMP) to promote the recruitment of local workforce. - The LWCMP will also include the relevant HR policy and a code of conduct which the workers will be provided with in the language most understandable to them. This will also include the explicit prohibition of any form of harassment, violence including GBVH. - Develop and implement a Workers Accommodation Plan which is compliant with the EBRD and IFC Workers' Accommodation: Processes and Standards. - Workers will be provided with mandatory cultural sensitisation training programmes regarding engagement with local communities. - The EPC Contractor will provide recreational facilities within accommodation areas to minimise the need for workers to use local community facilities. - EPC Contractor will provide regular substance abuse prevention and management programs. Regular and sporadic site checks with regards to substance abuse will also be conducted at accommodation camps whilst respecting workers' freedom of movement rights. - EPC Contractor will undertake campaigns and awareness training on sexually transmitted illnesses to workers and local communities in coordination with local officials (in a culturally appropriate manner).

POTENTIAL IMPACT	MITIGATION AND MANAGEMENT MEASURES
	During construction, staff will have access to medical professionals and suitable medical facilities, which will aim to prevent the spread of diseases internally and externally. Site personnel will only be cleared for work with a medical fitness certificate from an authorised medical centre.
Public/Community Safety	- Community Health, Safety and Security aspects are addressed throughout the plans in the HSSE-MS. - The EPC will develop and implement an Emergency Preparedness and Response Plan which will include details of the emergency scenarios, response protocols, training requirements, roles & responsibilities, internal and external communication protocols etc. The EPRP will also be communicated to all the relevant stakeholders. - All high-risk areas including fuel storage areas will be secured with internal fencing and will be patrolled by security throughout the day. - Smoking will be prohibited at chemical and fuel storage areas.
Public/Community Security	- The EPC Contractor will prepare a Security & Human Rights Management Plan will be prepared for the Project to include the procedures on conducting a security risk assessment, screening of security personnel, code of conduct, type of training to be provided, process of investigating security incidents, GRM to submit grievances about security personnel etc. - All security personnel will be required to sign the Code of Conduct before they are engaged by the Project. - Project personnel will only be provided access to the construction site with valid ID cards and permits to work in line with HSE requirements. - The security personnel will be regularly trained on GBVH/SEA/SH code of conduct including how to handle grievances related to GBVH/SEA/SH from the community. - All vehicles entering the site will require pre-approved clearance and will need to be registered. Project security will record all instances of incoming vehicles. - CCTV will be installed at key locations around the site and at gatehouses. - Appropriate lighting will be provided at gatehouses for security personnel to prevent unauthorized access.
GBVH/SEA	- A GBVH risk assessment will be undertaken before the start of the construction phase. - A Gender Management Plan will be developed & implemented by the Project. This Plan will include the provisions for GBVH safeguards and it will be disclosed to the employees, security personnel and contractors. - Develop and implement a GBVH incident reporting procedure, training materials and implement a confidential GRM for making reports (including anonymously) on sexual harassment and violence. - The Project will engage a third-party competent gender/GBVH advisor prior to the start of the main construction works to provide training on GBVH issues and how to address any cases. - Assign and train a GBVH focal points (including women) to deal with GBVH incidents and grievances. Based on the training, these focal point persons will be required to establish a referral system for GBVH cases. - Develop the support mechanisms for survivors such as referral to support services etc.
Transportation & access including	The EPC Contractor will undertake a Transport Study which will inform the Traffic & Transport Management Plan (TTMP). This Plan will be developed in consultations with the relevant authorities.

POTENTIAL IMPACT	MITIGATION AND MANAGEMENT MEASURES
safety concerns	- Communicate key elements of the TTMP to local communities, land users identified in the LRP and local business near the Project site. - The Project CLO will undertake awareness campaigns at local schools to create awareness on the potential risks associated with the movement of vehicles and machinery and basic safety precautions they can take. - Construction access roads into the site will be clearly signposted. - Delivery of construction materials will be coordinated to reduce congestion on local roads and to reduce the waiting time for drivers. - Where applicable, the EPC will obtain the relevant permits to transport heavy loads into the Project site and adhere to the stipulated conditions (i.e., delivery routes, timings etc). - All traffic incidents and near misses will be recorded and investigated with any necessary corrective actions taken including reporting to the local police. - Compensation of any livestock injured by project vehicles will be conducted in coordination with community leaders and local officials. - Suitable alternative routes will be identified before the commencement of the construction phase or delivery of project materials. - The disruption in access to existing access roads within the Project Aol will be communicated to all land users one week before such closures or diversions occur. - The Project activities will not encroach on any land access routes outside the project boundaries.
Recreational activities	- Install warning signs at the locations identified via Google Earth. - Ongoing monitoring of any recreational activity during the construction phase. - Should any of these activities be confirmed as active, a risk assessment will be conducted, and appropriate safety protocols will be developed and implemented in coordination with the relevant authorities.
Potential for Asbestos Containing Materials	- Prior to relocation, as appropriate, survey for asbestos should be conducted to survey all structures for removal to identify the presence of asbestos-containing materials. - Only suitably experienced asbestos removal contractors should be engaged to handle the identification, removal, and disposal of asbestos containing materials, and the workforce should have all necessary PPE. The company should use appropriate containment and enclosure methods to prevent the spread of asbestos fibres to surrounding areas.
Grievance Mechanism	- The Project will implement an appropriate system to allow external parties to raise grievances in regard to the Project. - The Grievance Mechanism will be clearly defined, transparent and accessible to identified stakeholders at no cost or risk of retaliation. - EPC Contractor will appoint a community liaison officer preferably from the local community who will maintain communication with the local leaders and community members. - Implement a confidential GRM for making reports (including anonymously) on sexual harassment and violence.

Table 16-2 Community Health, Safety and Security Mitigation & Management Measures – Operational Phase

POTENTIAL IMPACT	MITIGATION AND MANAGEMENT MEASURES
Public/Community safety	Blade and Ice Throw - In order to minimize the likelihood of blade failure, wind turbines that have been subject to independent design verification/certification (e.g., IEC 61400-1), and surveillance of manufacturing quality will be selected in accordance with IFC EHS Guideline on Wind Energy. - In accordance with IFC EHS Guideline on Wind Energy, the final selected WTG specification will ensure a minimum setback distance of 500m between the turbines and local population. - Periodic blade inspections will be carried out and any defects that could affect blade integrity will be repaired immediately. - Wind turbines will be equipped with vibration sensors that can react to any imbalance in the rotor blades and shut down the turbine if necessary - In accordance with IFC EHS Guideline on Wind Energy, wind turbines will be equipped with ice detectors that shut down the turbine to an idling state when ice is present. - Where wind turbines are required to operate in icing conditions, warning signs will be posted at least one rotor diameter from each wind turbine in all directions. - Training to be provided on procedures for shutting down wind turbines before O&M personnel access the site during icing conditions. - Wind turbines will be equipped 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; the blade surface finish may also affect the efficiency of heating systems. Other measures - An Emergency Preparedness & Response Plan (EPPRP) will be developed and implemented for the operational phase. The EPRP will also be communicated to all the relevant stakeholders. - The O&M will develop and implement a standalone Community Health & Safety Management Plan or as part of the HSSE MS which will include measures to avoid or limit risks to, and impacts on health safety and security of the local communities during the operation phase of the Project.
Public/Community security	- A Security & Human Rights Management Plan will be prepared for the Project to include the procedures on conducting a security risk assessment, screening of security personnel, code of conduct, type of training to be provided, process of investigating security incidents, GRM to submit grievances about security personnel etc. - The security personnel will be regularly trained on GBVH/SEA/SH code of conduct including how to handle grievances related to GBVH/SEA/SH from the community. - All security personnel will be required to sign the Code of Conduct before they are engaged by the Project.
GBVH/SEA	- A GBVH risk assessment will be undertaken before the start of the operation phase. - A Gender Management Plan will be developed & implemented by the Project. This Plan will include the provisions for GBVH safeguards and it will be disclosed to the employees, security personnel and O&M staff.

POTENTIAL IMPACT	MITIGATION AND MANAGEMENT MEASURES
	- Develop and implement a GBVH incident reporting procedure, training materials and implement a confidential GRM for making reports (including anonymously) on sexual harassment and violence. - The Project will engage a third-party competent gender/GBVH advisor prior to the start operation phase to provide training on GBVH issues and how to address any cases. - Assign and train a GBVH focal points (including women) to deal with GBVH incidents and grievances. Based on the training, these focal point persons will be required to establish a referral system for GBVH cases. - Develop the support mechanisms for survivors such as referral to support services etc.
Recreational activities	- Install warning signs at the locations identified via Google Earth. - Ongoing monitoring of any recreational activity during the operational phase. - Should any of these activities be confirmed as active, a risk assessment will be conducted, and appropriate safety protocols will be developed and implemented in coordination with the relevant authorities.
Grievance Mechanism	- The Project Company will implement an appropriate system to allow external parties to raise grievances in regard to the Project. - The Grievance Mechanism will be clearly defined, transparent and accessible to identified stakeholders at no cost or risk of retaliation. - Implement a confidential GRM for making reports (including anonymously) on sexual harassment and violence.

16.5 Monitoring

Table 16-3 Community Health, Safety and Security Monitoring Measures

INDICATOR	MEANS OF VERIFICATION	FREQUENCY
Number & nature of trainings on GBVH/SEA	Training materials, records & attendance sheets	As per the GBVH training plan during construction & operation
Number of GBVH/SEA grievances handled through a survivor centred approach	GBVH GRM Log	Ongoing the life of the Project
Number of conflicts (including type) between the workers and community members including any cases relating to sexual harassment	GRM log	Daily during construction and quarterly during operation
Record of incidents/accidents and near misses (involving external parties)	Records from daily monitoring procedures on site	Ongoing the life of the Project
Number of grievances closed out, average time for grievance processing and close out and trends, grievance topics	GRM Log	Quarterly during construction & bi-yearly during operation
Number and type of security incidences including how these are closed out	Security reports GRM Log	Ongoing the life of the Project
Record of any communicable diseases on site that could pose a risk to the local communities. This will include: No of cases recorded	Project site clinic or HSE personnel	Ongoing the life of the Project

INDICATOR	MEANS OF VERIFICATION	FREQUENCY
Type of disease Action taken		
Number of community engagements and sensitization on road safety.	MoMs and attendance sheets .	Before the delivery of project materials/equipment can start and thereafter if there is a considerable change to the delivery schedule
Permits & licenses in relation to transportation of Project materials, components & equipment	Validity and renewal of permits & licenses	As required by law
Record keeping in case of accidents or incidents or in case of any complaints from local communities. Incidents involving livestock will also be recorded (including number, corrective action taken etc) Record of notifications on access disruption to grazing areas and alternatives identified	GRM Log HSSE records	Construction and Operation phases
Number of recreational activities identified in the project area i.e., paragliding, go-karting	Observation records Consultations records	Construction and Operation phases

17 LABOUR AND WORKING CONDITIONS

17.1 Applicable Requirements & Standards

17.1.1 National Requirements

LABOUR AND WORKING CONDITIONS

Pursuant to Article 35 of the Constitution of the Republic of Azerbaijan, labour is the basis of individual and public welfare. Every person has the right to freely choose an activity, profession, occupation, and place of work on the basis of their skills and abilities.

The Labour Code of the Republic of Azerbaijan (1999), as amended on 28-06-2024, and effective on 12-08-2024, is the main legislation in the Country that governs employment relationships between workers (employees) and employers. It also governs other legal relations between employees and employers and established minimum requirements in regards to labour rights of persons and the implementation of these rights.

The Labour Code authorises the following:

- 'Employment, social and economic rights of employees and employers in the sphere of labour relations on the basis of the appropriate legal norms and a minimum level of proper guarantees relating to said rights'.
- 'Employment, social and economic rights of employees and employers in the sphere of labour relations on the basis of the appropriate legal norms and a minimum level of proper guarantees relating to said rights'.
- 'Principles and procedures ensuring the right to employment, rest and work under safe and healthy conditions and to other basic human rights and freedoms as stipulated in Section Two of the Constitution of the Republic of Azerbaijan'.

The labour code also specifies:

- Rights to work, rest, work in safe and healthy conditions, and other basic rights and human freedom.
- Termination of employment relationships and the protection of the rights of participants of these relations according to the international treaties signed by the Azerbaijan Republic which is the International Labour Organization Conventions and other international precepts of law.

HUMAN RIGHTS

The rights of people are guaranteed by the Constitution of Azerbaijan under Chapter III 'Basic Rights and Liberties of a Person and Citizen' which lists the main principles of these rights. The constitution states that *"The state guarantees equality of rights and liberties of everyone,*

irrespective of race, nationality, religion, language, sex, origin, financial position, occupation, political convictions, membership in political parties, trade unions and other public organizations. Rights and liberties of a person, citizen cannot be restricted due to race, nationality, religion, language, sex, origin, conviction, political and social belonging."

Azerbaijan ratified the Convention for the Protection of Human Rights and Fundamental Freedoms (ECHR) on 15 April 2002. Human right treaties ratified by Azerbaijan include (Treaty Body Database, 2020):

- Convention against Torture and Other Cruel Inhuman or Degrading Treatment or Punishment (ratified 16 August 1996);
- Optional Protocol of the Convention against Torture (ratified 28 January 2009);
- International Covenant on Civil and Political Rights (ratified 13 August 1992);
- Second Optional Protocol to the International Covenant on Civil and Political Rights aiming to the abolition of the death penalty (ratified 22 January 1999);
- Convention for the Protection of All Persons from Enforced Disappearance (signed 6 February 2007);
- Convention on the Elimination of All Forms of Discrimination against Women (ratified 10 July 1995);
- International Convention on the Elimination of All Forms of Racial Discrimination (ratified 16 August 1996);
- International Covenant on Economic, Social and Cultural Rights (ratified 13 August 1992);
- International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (ratified 11 January 1999);
- Convention on the Rights of the Child (ratified 13 August 1992);
- Optional Protocol to the Convention on the Rights of the Child on the involvement of children in armed conflict (ratified 3 July 2002);
- Optional Protocol to the Convention on the Rights of the Child on the sale of children child prostitution and child pornography (ratified 3 July 2002); and
- Convention on the Rights of Persons with Disabilities (ratified 28 January 2009).

17.1.2 Lender Requirements

AIIB

ESS1 – Environmental and Social Assessment and Management: Point 8.1 outlines the need to consider worker health and safety in the impact assessment. Section F covers Labour and Working Conditions, including labour management relationships, child and forced labour,

EBRD

Labour and Working Conditions:

ESR2 is applicable to Labour and Working Conditions and it recognises that for clients and their businesses activities, the workforce is a valuable asset, and that good human resources management, workforce diversity and sound worker-management relationship based on respect for workers' rights, including freedom of association and the right to collective bargaining, as well as non-discrimination, are key ingredients of the sustainability of business activities.

ESR2 also sets out the specific requirements with respect to workers who are employed or engaged by suppliers and sub-suppliers who provide goods, equipment or materials essential to the project (supply-chain workers) including where these goods, equipment or materials are procured by contractors.

The ESR sets out the following key objectives:

- Respect and protect the fundamental principles and rights of workers;
- Promote the decent work agenda, including fair treatment, non-discrimination and equal opportunities of workers;
- Establish, maintain and improve a sound worker-management relationship;
- Promote compliance with any collective agreements to which the client is a party, national labour and employment laws;
- Protect and promote the safety and health of workers, especially by promoting safe and healthy working conditions; and
- Prevent the use of forced labour and child labour (as defined by the ILO) as it relates to project activities.

Requirements relating to occupational health, safety and security based on the right to a safe and healthy working environment are set out in ESR 4. ESR4 states that:

"The client will provide all project workers with a safe and healthy working environment, taking into account inherent and foreseeable risks in its particular sector and specific classes of hazard that may be present, and also considering working conditions (including excessive or erratic work hours and overtime) that contribute to a safety risk. The client will identify the safety and health hazards, assess risks and implement preventative control measures appropriate to the stage, size and nature of the project, in accordance with relevant substantive EU occupational safety and health standards & GIP. The client will undertake an assessment commensurate with the level of risk and develop a project specific OHS plan, where appropriate, that will be integrated into the ESMS. This plan will be in place prior to the start of any work and periodically reviewed to evaluate its effectiveness to confirm it remains appropriate to addressing related risks."

Concerning dedicated accommodation, compliance is required with:

- IFC & EBRD Workers Accommodation: Processes and Standards (2009).

IFC

IFC Performance Standard 2 relates to Labour and Working Conditions, in accordance with the Standard there is a requirement to align with the following conventions:

- ILO Convention 29 on Forced Labor.
- ILO Convention 87 on Freedom of Association and Protection of the Right to Organize.
- ILO Convention 98 on the Right to Organise and Collective Bargaining.
- ILO Convention 100 on Equal Remuneration.
- ILO Convention 105 on the Abolition of Forced Labor.
- ILO Convention 111 on Discrimination (Employment and Occupation).
- ILO Convention 138 on Minimum Age (of Employment) which sets the minimum age specified as 15 years)
- ILO Convention 182 on the Worst Forms of Child Labor.
- UN Convention on the Rights of the Child, Article 32.1.

Note: A standalone Human Rights Risk Assessment (HRRRA) has been prepared for the Project, providing a detailed discussion of the relevant human rights regulations and applicable lender standards. This also includes a gap analysis between Azerbaijan regulations and the International Covenant on Civil & Political Rights (ICCPR) and the International Covenant on Economic, Social and Cultural Rights (ICESCR)⁷⁷ including the Labour Organisation (ILO) conventions.

17.2 Baseline Conditions

17.2.1 Labour in Azerbaijan

According to the State Statistical Committee of Azerbaijan⁷⁸, the labour market and the efficient use of the workforce have become key priorities of Azerbaijan's recent socio-economic policy.

⁷⁷ This is in accordance with the UN Human Rights Guiding Principles on Business & Human Rights.

⁷⁸ State Statistical Committee. Labour statistics. Accessed: <https://www.stat.gov.az/source/labour/?lang=en>.

As of 2023, the labour force in Azerbaijan reached 5.25 million people, an increase of 662.3 thousand compared to 2010. Of these, 4.96 million were employed in economic sectors, while 286.4 thousand were unemployed.

Reforms, especially the privatization of state-owned enterprises, led to notable shifts in employment distribution. In 2010, 26.4% of employed individuals worked in the state sector. By 2023, this figure had decreased to 21%, reflecting a 1.2-fold increase in non-state sector employment over the same period.

In 2023, 2.55 million people (52%) were employed in production sectors such as agriculture, fishing, industry, and construction, while 2.41 million (49%) worked in services. Employees (i.e., wage earners) accounted for 1.75 million people, or 35% of the total employed population, with the majority working in medium and large enterprises.

The Presidential Decree on “*Continuing Measures for Improving the Social Welfare of the Population*” issued in December 2024, raised the minimum wage in Azerbaijan from AZN 345 in 2024 to 400 AZN starting from January 2025.

17.2.2 Forced and Child labour

Azerbaijan Labour Code sets the minimum working age at 15 years though persons under the age of 18 years are prohibited from conducting hazardous work. This is in alignment with ILO Convention No. 182. Additionally, the government has committed towards the “Strategy for Children of the Republic of Azerbaijan, 2020-2030” which strengthens child protection systems and helps prevent child labour through education, reintegration and social support programs.

In relation to forced labour, Articles 35 of the Constitution, Section 17 of the Labour Code and Article 144 of the Criminal Code prohibits forced labour in Azerbaijan.

Despite the on-going efforts, the U.S Department on Labour reported that in 2023, Azerbaijan made only limited progress in eliminating the worst forms of child labour. While the number of labour inspectors increased, and awareness efforts were expanded, including training law enforcement and distributing educational materials, key enforcement gaps remain. The report noted that a moratorium on worksite inspections limits the ability to proactively detect violations, and reliance on desk reviews in response to complaints is insufficient. Additionally, pressure to meet agricultural production targets may encourage the use of exploitative labour, including children. In some cases, authorities treat child street labour as a domestic issue, preventing proper legal action.

In relation to the communities living near the Project site, consultations with the Mushfigabad, Gobustan and Pirekeshkul municipalities revealed that no cases of child labour and/or forced labour have been reported or recorded in the area.

17.2.3 Access to Employment and Wage Gaps

Women are active in the labour force; however, they experience higher rates of unemployment and earn less than their men counterparts, in part due to a preference for flexible part-time jobs that enable them to manage household roles⁷⁹.

In rural Azerbaijan, the agricultural sector is one of the largest sources of informal employment, with men comprising the majority of the workforce. Informal work also constitutes unpaid work performed by family members, occurring in family farms and other enterprises for subsistence purposes (Guliyev, F. 2015). The scale of informal activities is difficult to determine due to the hidden nature of these activities and the unreliability of official statistics⁸⁰. Women represent two-third of all contributing family workers, as compared with other categories of workers, across all sectors (FAO, 2022). Despite their involvement, women receive minimal remuneration and remain economically dependent on male relatives.

Gender pay gaps persist across all economic activities, with women earning lower wages and salaries than men, except within the education sector, where women earn more than their male counterparts. This is clearly demonstrated in the table below as per the State Statistical Committee (2024).

Table 17-1 Average monthly wages and salaries of employees by types of economic activity and sex in Azerbaijan, 2023 (State Statistical Committee, 2024)

ECONOMIC ACTIVITY	AVERAGE MONTHLY WAGES AND SALARIES, MANAT		AVERAGE MONTHLY WAGES OF WOMEN AS PERCENT TO AVERAGE MONTHLY NOMINAL WAGES AND SALARIES OF MEN (%)
	WOMEN	MEN	
Agriculture, forestry and fishing	477.10	583.80	81.7
Mining	2,790.6	3,427.60	81.4
Manufacturing	583.0	933.20	62.5
Electricity, gas and steam production, distribution and supply	840.70	980.80	85.7
Water supply, waste treatment and disposal	584.30	777.90	75.1
Construction	798.40	1,083.90	73.7
Trade; repair of transport means	545.60	665.90	81.9
Transportation and storage	943.30	1,346.8	70.0

⁷⁹ ADB. 2019. "Azerbaijan: Country Gender Assessment". Available in: <https://www.adb.org/sites/default/files/institutional-document/546166/azerbaijan-country-gender-assessment-2019.pdf>.

⁸⁰ Guliyev, F. 2015. "The informal economy in Azerbaijan". In *Caucasus Analytical Digest*, No. 75, pp. 7-10. Available in: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2633425.

ECONOMIC ACTIVITY	AVERAGE MONTHLY WAGES AND SALARIES, MANAT		AVERAGE MONTHLY WAGES OF WOMEN AS PERCENT TO AVERAGE MONTHLY NOMINAL WAGES AND SALARIES OF MEN (%)
	WOMEN	MEN	
Accommodation and food service activities	600.20	779.2	77.0
Information and communication	1,267.4	1,614.8	78.5
Financial and insurance activities	1,600.1	2,751.5	58.2
Real estate activities	733.3	990.1	74.1
Professional, scientific and technical activities	1,032.7	2,001.2	51.6
Administrative and support service activities	481.0	606.8	79.3
Public administration and defence; social security	1,210.0	1,411.4	85.7
Education	684.5	793.8	86.2
Human health and social work activities	736.4	1,050.0	70.1
Art, entertainment and recreation	645.3	838.3	77.0
Other service activities	788.9	1,274.7	61.9
Total	735.7	1,069.3	68.8

In relation to the communities living near the Project site, KII discussions with the representatives from the municipalities revealed that women earn an average monthly salary of AZN 300 which is below the minimum wage compared to men who earn approximately AZN 450. Based on this, it will be critical for the Project to ensure equal wages for women and men holding the same positions and undertaking similar work.

17.3 Area of Influence

As different aspects carry differing spatial extents, the Aol varies considerably. The Aol is the area within which project activities, including workers' accommodation may affect workers and staff. The scope of influence on labour and working conditions impacts encompasses the Project activity areas, workers' accommodation and working environments, and the supply chain.

17.4 Potential Impacts

17.4.1 Construction Phase

The nature of construction work means that construction workers (especially unskilled, semi-skilled workers) will potentially be impacted by the Projects based on the working conditions they will be exposed to. The potential impacts are as discussed in the sections below, while the implications of these impacts on the workers' rights are detailed in the HRRA.

17.4.1.1 Occupational health & safety

Common activities undertaken during construction such as the movement of heavy machinery, excavation, handling of chemicals, works undertaken at height etc. can potentially introduce significant risk to the health and safety for the associated workforce. Risks are more likely for those who are not familiar with the type of works undertaken and the associated hazards.

The type of hazards attributable to a construction site will vary significantly depending on the construction methods employed and the degree of control implemented by the EPC and affiliated sub-contractors. As a wind farm project there are specific impacts relating to work at height and transportation of large components. In addition, the Project is located within a region of military activity. While no direct military installations have been identified within the immediate Project footprint, the potential for impacts on Project workers is recognised. It will therefore be critical that the EPC and sub-contractors demonstrate consideration of health and safety risks as part of their chosen construction methods for the Absheron WF and that these risks are appropriately mitigated.

17.4.1.2 Forced Labour

According to Article 35 of the Constitution of Azerbaijan, everyone has the right to freely choose to work on the basis of the type of activity, profession, occupation and place of employment. Article 9 of the Azerbaijan Labour Code states that workers have the right to sign employment contract freely choosing type of labour activity and place of employment according to qualification, specialty and profession. It also states that workers have the right to work in safe and healthy conditions and to request for change of conditions of the employment contract or its termination. Article 13 states that foreigner and stateless persons have all the labour rights on an equal basis with citizens of Azerbaijan. In addition, Azerbaijan has ratified the ILO Convention on Forced Labour.

In relation to the Project, there will be approximately 400 – 500 workers during the construction phase. It is expected that qualified local workforce will be encouraged to apply for the open

positions. The potential risks in relation to forced labour may occur within the workforce and the supply chain where people are forced to work, or where their recruitment/intermediary agencies put them under financial debt by requiring payment of recruitment fee etc. upon their start of work. In addition, foreign workers may potentially have their passport confiscated which would prevent them from leaving their jobs and impede their freedom of movement.

However, the risk of use of forced labour in the Project is expected to be low due to the Human Resources and Supply Chain Management Systems that Masdar employs including in all its Projects across the world. These requirements will be passed through to the EPC Contractor, sub-contractors and suppliers to implement during the construction phase. Additionally, the EPC Contractor will be required to develop a screening procedure if they use intermediary agencies to recruit workers to ensure compliance with the lender's requirements.

17.4.1.3 Child Labour

The Project's construction phase will introduce employment opportunities, including in the supply chain, some of which will require minimum skill and wages. Jobs of this nature, particularly those offered on an informal basis, for example jobs in the supply chain such as loading/unloading materials at storage areas or transport depots or manual handling or packaging of construction materials are likely to attract and qualify unemployed and out-of-school minors (i.e., individuals below the age of 18 years). According to PR2, young people below the age of 18 years should not be employed for hazardous work. This is in line with Azerbaijan (Article 250 of Labour Code) and ILO requirements.

There is a potential for child labour to be present within supply chain companies to be used by the EPC Contractor and their subcontractors. In order to assess this risk, Masdar and the EPC Contractor will evaluate potential supply chain in line within the Supply Chain Management System.

17.4.1.4 Supply Chain Risks

The engagement of suppliers will present potential risks relating to labour and working conditions such as:

- Child labour, forced labour, gender- based violence and sexual abuse, exploitation and harassment.
- Lack of written contracts for workers.
- Labour rights violations including poor working conditions and poor terms of agreement for female employees, overtime work without pay etc.
- Occupational health & safety risks
- Risks associated with the use of migrant labour and ethnic minorities and other vulnerable groups.

- Risks to freedom of movement e.g. being able to leave worker accommodation.
- Impact on the environment relating to pollution of water supplies, soil and air.

In full acknowledgement of the above risks, Masdar will undertake supply chain processes and potential risks assessment outside of this ESIA. Masdar conducts an in-depth due diligence on every entity that it works with and ensures that suppliers and contractors adhere to TAQA's Code of Ethics and Business Code of Conduct. In addition to including the necessary contractual protections/covenants in the EPC contract and supply agreements, Masdar also has a supply chain management system that includes the relevant policies (e.g., a sourcing policy, a supplier code of conduct), responsibilities, practices, monitoring procedures and resources for developing, implementing, achieving, reviewing and maintaining compliance. A Subcontractor and Supplier Management Plan will also be prepared with the objective of ensuring that subcontractors and suppliers comply with relevant HSSE requirements.

17.4.1.5 Inadequate working conditions

COMPULSORY OVERTIME AND EXCESSIVE WORKING HOURS

Article 9, 89 & 90 of the Labour Code states that workers have the right to work in the working hours established by law which is no more than 8 hours a day and 40 hours per week with a working week set at five working days and two days off. In certain industries, the employer may impose a six-day working week; in such situations, the daily working time limits may not exceed 7 hours (if the weekly total is 40 hours), 6 hours (if the weekly total is 36 hours), or 4 hours (if the weekly total is 24 hours) a day. In addition, according to Article 99 overtime work may only be allowed with the consent of the employee. The amount of salary/wages/remuneration paid cannot be below the minimum amount established by law.

As such, the Project Company and the EPC Contractor will ensure that all workers, regardless of rank, gender or religious affiliation etc. are paid a fair wage and equal remuneration for work of equal value without discrimination. In addition, remuneration must be enough for workers to be able to live a decent life. In addition, any overtime hours will be agreed with the employee and compensated in accordance with the provisions in Article 165.

Job security for construction workers will only be for the period when construction is undertaken, and workers will be employed on contractual basis and as such no retrenchment is expected to occur. The Project Company and the EPC Contractor will ensure that all workers are informed on their rights under the law, nature of their contracts, duration so that they understand the start and end period.

LACK OF ACCESS TO WORKERS' GRIEVANCE MECHANISM

Workers engaged by the EPC Contractor and its sub-contractors may face barriers to freely raising concerns regarding working conditions or seeking remedy. These barriers may include limited awareness of the worker grievance mechanism, uncertainty regarding its operation, or fear of retaliation.

17.4.1.6 Provision of Inadequate Accommodation Facilities

The EPC Contractor will provide accommodation facilities to the Project workforce, and it is noted that there will be requirements for workers to be accommodated in alignment with the benchmarks outlined in the IFC & EBRD Workers Accommodation: Processes & Standards (2009).

There is a potential risk that accommodation facilities may be inadequate vs. the aforementioned guidelines. Key risk areas are likely to be during the commencement of construction where accommodation camps may not be fully established, and all amenities may not be in place at the camp(s). This has the potential to include a lack of relevant facilities, welfare provisions on-site such as clean drinking water, hygienic and ample toilet facilities, hand basins (with soaps/hand wash), temporary rest areas, food and other amenities necessary to the workers.

In the event that there are female workers, there is a potential risk that accommodation facilities may not fully meet requirements for separate and appropriate living and welfare arrangements..

17.4.1.7 Lack of Worker Representation and Restrictions on Trade Unions

Workers (both local & migrant workers) will be allowed to be involved in labour unions, public associations, organisations or labour collective in accordance with Article 19 and Article 25 of the Labour Code. The Project Company, EPC Contractor and associated subcontractors will not prevent workers from forming associations or joining trade unions depending on their preferences.

In addition, collective bargaining and freedom of association is allowed in Azerbaijan under Law No. 792 of 24 February 1994 on Trade Unions. The law allows organisation of unions and their fundamental rights including the right to conclude collective agreements and the right to hold mass events.

In order to ensure that the right to form and/or join trade unions or elect representatives is guaranteed, the Project Company and the EPC Contractor will include a clause in their Human Resources Policies and Procedures that allow workers to form or join a union and/or elect worker representatives without discrimination or risk of retaliation and the same

communicated to workers during induction. It will also be permissible for workers to raise collective grievances via the Project's grievance mechanism.

17.4.1.8 Potential Gender Risks Associated with the Project

GENDER BASED VIOLENCE & HARASSMENT

During the construction phase, workers may be vulnerable to various forms of harassment, exploitation and abuse, particularly within a predominantly male working environment. Risks of gender-based violence and harassment and sexual exploitation, abuse and harassment (GBVH/SEA/SH) may arise from interactions with co-workers or supervisors and may be influenced by prevailing gender norms or stereotypes affecting female workers. In addition, income earning opportunities for women through direct employment during the construction phase or through indirect employment (workers' employment) may have the potential to increase household tensions and expose women to harassment and violence in their homes or communities. This is because some men may feel threatened when the women in their lives are more economically empowered and independent.

There is a potential risk that Project security personnel may use disproportionate force during their interactions with their workers, which could include physical and/or verbal abuse. As such, the Project will require to implement a Security & Human Rights Management Plan to manage such risks.

Additionally, some of the male workers who will be transporting Project machinery, equipment and goods will also be involved in long distance travel which in some cases will be between different countries. Such activities may give rise to risks of gender-based violence and harassment and sexual exploitation, abuse and harassment (GBVH/SEA/SH) along transport routes and at associated truck stops, including locations outside the Project boundary, if not appropriately managed.

GBVH/SEA/SH IN ACCOMMODATION FACILITIES

Accommodation will be provided for Project workers. Mixed-gender accommodation environments can present safety, privacy, and welfare risks, particularly for women workers, if appropriate provisions are not in place. These risks may relate to the use of shared spaces such as cafeterias or sanitation facilities. The EPC Contractor will ensure safeguards such as secure accommodation areas, lockable rooms, separate sanitation facilities, and the option of separate accommodation compounds where necessary. In recognition of local cultural and religious practices, separate social and prayer facilities will also be provided for men and women.

WAGE DISCRIMINATION BASED ON GENDER

In 2006, the Azerbaijani Parliament passed a law on the 'Guarantee of Gender Equality (men and women). According to the Law, women and men are granted equal rights and responsibilities in respect of recruitment, promotion and wage remuneration (Articles 7–9). Further, to promote wage parity between men and women, the government of Azerbaijan ratified ILO's Convention No. 100 (Equal Remuneration for Men and Women Workers for Work of Equal Value). However, the issue remains that women tend to be concentrated in low-status sectors which leads to low-wage jobs. In addition, the construction industry is predominantly male, and women may only be offered low-paying jobs such as cooks, cleaners etc.

As such, the EPC Contractor and its sub-contractors will be required to provide equal access to recruitment opportunities for men and women based on their qualifications and also provide equal salaries. In addition, a policy of equal pay will be included in the Labour and Working Conditions Management Plan (LWCMP).

DISCRIMINATION BASED ON EMPLOYMENT BENEFITS & GUARANTEES

Traditional norms in Azerbaijan associate women roles to caregivers, especially in rural areas. Women who seek to pursue careers may continue to be expected to balance employment responsibilities with family obligations, which can influence career progression and employment outcomes. In addition, employers may potentially prefer to employ men over women because most of the employment family benefits and guarantees are associated to women. For instance, according to Article 125 of the Labour Code women employees are entitled to a full paid maternity leave for a period of 126 days. This includes 70 days given before the expected birth of the child and 56 days after the birth. In case of abnormal or multiple births, women will be granted a total of 140 days which are split equally before and after birth. Depending on the industry the women work, the total number of maternity leave day and the leave days before childbirth and after childbirth varies. Although men may be eligible for partially paid social leave as a single parent or when directly caring for a child, childcare (especially in rural areas) is still seen as a woman's job.

As such, women of childbearing age may face potential discrimination during the recruitment process because the EPC Contractor and its sub-contractors may want to avoid providing the benefits and guarantees relating to maternity or childcare. To mitigate this, the EPC Contractor and sub-contractors will be required to include the benefits and guarantees for both men and women in the LWCMP with a clear commitment to non-discrimination during the recruitment process.

17.4.2 Operation Phase

17.4.2.1 Occupational Health and Safety

The risk associated with the operational phase of the project is anticipated to be significantly lower than during the construction phase due to reduced site activity and reduced requirements for heavy plant and machinery.

There will be occupational health and safety risks attributable to the operational phase associated with maintenance and inspection requirements. Maintenance and inspection will also require the use of site vehicles and activities that pose risks to human health and safety.

During operation of the wind farm, there will be potential risks associated with working at height to undertake maintenance works. Workers may also be required to work in confined spaces such as the nacelle (the wind turbine component that contains the electrical components) and other sections of the tower to conduct inspection, maintenance, replacement or repairs. As such, there is a risk that O&M workers will be exposed to electrical hazard (electrical shock etc) during maintenance works.

As such, the O&M Company will develop a Project-specific Occupational Health and Safety (OHS) Management System including an operational phase OHS Management Plan (OHSMP) to manage these risks.

Additionally, a structured Grievance Redressal Mechanism will be implemented at the Project level in multiple languages anonymously (online and hardcopy) so that workers have access to express their concerns.

17.4.2.2 Labour Risks to Workers

FORCED LABOUR AND CHILD LABOUR

As the vast majority of staff will be direct employees of the Project Company and/or the O&M Company, the potential risks associated with worker exploitation are expected to be limited due to consistent processes in place as part of the respective HR management systems. This is contingent on such systems being appropriately designed, resourced and effectively implemented.

However, where agency or contracted labour is engaged, there may be comparatively higher risks of labour exploitation, including forced or child labour, which will require additional due diligence and oversight.

PROVISION OF INADEQUATE ACCOMMODATION FACILITIES

No long-term accommodation requirements are anticipated for the operational phase of the Project. However, as with construction, operational activities will need to plan for and enforce just and fair treatment of operation and maintenance staff (including any engaged sub-contractors) in accordance with lender requirements and relevant Azerbaijan national requirements.

17.4.2.3 Potential Gender Risks

Even though there will be reduced workforce during the operational phase of the Project, the risk of gender issues relating to GBHV/SEA/SH, wage discrimination and access to employment benefits will remain. However, as with construction, operational activities will need to plan for and enforce just and fair treatment of operation and maintenance staff (including any engaged sub-contractors) in accordance with lender requirements and relevant Azerbaijan national requirements.

Gender needs will be considered for welfare facilities including sanitation, rest, recreational and medical facilities. Mitigation and management measures addressing gender-related risks during the construction phase will also apply during the operational phase of the Project. In addition, the Project Company and the O&M Company will be required to develop and implement a Gender Management Plan.

17.5 Mitigation and Management Measures

Table 17-2 Labour and Working Conditions Mitigation & Management Measures – Construction

POTENTIAL IMPACT	MITIGATION AND MANAGEMENT MEASURES
Occupational health & safety	- The EPC will develop and implement a construction phase Occupational Health and Safety Management System including an Occupational Health Management Plan. The provisions will include as a minimum: - Risk assessments - Activities & method statements register - HSE training matrix - Safety assessment. - Task specific toolbox talk topics - Controls for hazardous activities - Use of mobile and heavy construction equipment - Reporting unsafe acts and/or conditions - Stop work policy - Fire safety - Provision and enforcement of personal protective equipment (PPE) usage for all employees etc. - Ensure that all the requirements within the OHS MS and OHSMP are applied to all project workers including sub-contractors. - The EPC will develop and implement an Emergency Preparedness and Response Plan which will include details of the emergency scenarios, response protocols, training requirements, roles & responsibilities, internal and external communication protocols etc. The EPRP will also be communicated to all the relevant stakeholders. - The EPC will conduct regular planned and unplanned inspections of their sub-contractors to ensure construction activities are in line with the OHS MS and the OHSMP. - Access to the site will only be allowed to the employees with approved access cards.
Forced Labour	- Develop and implement a Labour and Working Conditions Management Plan (LWCMP) which will also include explicit prohibition of forced labour. - The Project Company will implement the Supply Chain Management System which will be used to identify, manage, and remedy supply chain risks. - A Human Rights Policy will be prepared for the Project or as part of the HSSE MS. The Policy will align with the lenders' requirement and include a commitment to respecting and safeguarding the rights of the right holders. This Policy will be cascaded down to the EPC & their sub-contractors. - The EPC Contractor (and sub-contractors) will be required to develop a screening procedure if they use intermediary agencies to recruit workers to ensure they are compliant with the lenders' requirements. Additionally, the Project Company will undertake regular audits on these agencies to ensure compliance. - The Project Company will ensure that the EPC identifies the legal employer of all project workers and ensure compliance with the HSSE MS and the LWCMP. - The Project Company will develop and implement a Project GRM for all workers and maintain a GRM log. Additionally, the Project Company will ensure the same is cascaded down to the EPC and sub-contractors.

POTENTIAL IMPACT	MITIGATION AND MANAGEMENT MEASURES
	The Project Company will ensure that a HR data base will be established for the Project where the EPC and their sub-contractors will provide details of their workers including all official documentation such as work permits/visas, signed employment contracts, employee age, signed code of conduct, confirmations to work overtime etc.
Child Labour	- Develop and implement a LWCMP which will also include explicit prohibition of child labour - The Project Company will implement the Supply Chain Management System which will be used to identify, manage, and remedy supply chain risks. - A Human Rights Policy will be prepared for the Project or as part of the HSSE MS. The Policy will align with the lenders' requirement and include a commitment to respecting and safeguarding the rights of the right holders. This Policy will be cascaded down to the EPC & their sub-contractors. - The Project Company will ensure that regular labour audits are undertaken to ensure compliance with the lenders' labour requirements. - A HR data base will be established for the Project where the EPC and their sub-contractors will provide details of their workers including all official documentation such as work permits/visas, signed employment contracts, employee age, signed code of conduct, confirmations to work overtime etc. - Access to the site will only be allowed to the employees with approved access cards.
Supply chain risks	- The Project Company will implement the Supply Chain Management System which will be used to identify, manage, and remedy supply chain risks. - Develop and maintain a Sub-contractor and Supplier Management Plan.
Inadequate working conditions	- The Project Company will develop and implement a Project specific Human Resource (HR) Policy and Management System in line with Masdar's HR Policy and lenders' labour requirements. This will also be cascaded to the EPC Contractor and sub-contractors and will include a commitment to the following: - Equal employment opportunities - Non-discrimination - Equal wages for equal work performed between men and women - Workers benefits - Zero tolerance to retaliation against workers, sexual harassment and GBVH. - Fundamental principles related to workers' rights to form and join workers' trade unions/collective bargaining. - Conditions for contract termination i.e., misconduct, incapacity to meet their duties etc. - GRM - Develop and implement a LWCMP which will among other things include working hour provisions as specified in the Azerbaijan law. - Explicit consent will be documented for workers who work overtime including an outline of the compensation as per the Labour Code. - All workers will be provided with information about their labour rights under the law, nature of their contracts, duration of contract etc. - The Project Company will develop and implement a Project GRM for all workers and maintain a GRM log. Additionally, the Project Company will ensure the same is cascaded down to the EPC and sub-contractors.

POTENTIAL IMPACT	MITIGATION AND MANAGEMENT MEASURES
	- The Project Company will ensure that a HR data base will be established for the Project where the EPC and their sub-contractors will provide details of their workers including all official documentation such as work permits/visas, signed employment contracts, employee age, signed code of conduct, confirmations to work overtime etc. - The workforce will be informed about the Workers' Grievance Mechanism during their site induction training, in employee handbooks and on posters across the site and in accommodation places. The implementation of the workforce Grievance Mechanism will be in accordance with the Project-specific SEP. - For the workers' grievance mechanism to be successfully implemented, it will be necessary to ensure that competent and trained staff are in place who can fully implement provisions, whilst ensuring compliance with the procedures and maintaining full integrity and privacy to the grievant
Inadequate accommodation facilities	- Develop and implement a Workers Accommodation Plan which is compliant with the EBRD and IFC Workers' Accommodation: Processes and Standards. This will also include an accommodation and welfare audit plan. - The Project Company will ensure that regular audits are undertaken for the accommodation facilities.
Lack of workers representation and restrictions on trade unions	- The Project Company will develop and implement a Project specific Human Resource (HR) Policy and Management System in line with Masdar's HR Policy and lenders' labour requirements. This will be cascaded to the EPC Contractor & sub-contractors. - Workers will be informed of their right to join/form trade unions (or committees) during their induction. - Workers will have the right to submit collective grievances through the workers' GRM without intimidation and/or risk of retaliation.
GBVH	- A GBVH risk assessment will be undertaken before the start of the construction phase. - A Gender Management Plan will be developed & implemented by the Project. This Plan will include the provisions for GBVH safeguards and it will be disclosed to the employees, security personnel and contractors. - Develop and implement a GBVH incident reporting procedure, training materials and implement a confidential GRM for making reports (including anonymously) on sexual harassment and violence. - The Project will engage a third-party competent gender/GBVH advisor prior to the start of the main construction works to provide training on GBVH issues and how to address any cases. - Assign and train a GBVH focal points (including women) to deal with GBVH incidents and grievances. Based on the training, these focal point persons will be required to establish a referral system for GBVH cases. - Develop the support mechanisms for survivors such as referral to support services etc. - The code of conduct and the reporting channels for grievances and GBVH contact information will be provided to workers during the induction and thereafter during on-going trainings. - A Security & Human Rights Management Plan will be prepared for the Project to include the procedures on conducting a security risk assessment, screening of security personnel, code of conduct, type of training to be provided, process of investigating security incidents, GRM to submit grievances about security personnel etc. - All security personnel will be required to sign the Code of Conduct before they are engaged by the Project.

POTENTIAL IMPACT	MITIGATION AND MANAGEMENT MEASURES
GRM	- The Project Company will develop and implement a Project GRM for all workers and maintain a GRM log. Additionally, the Project Company will ensure the same is cascaded down to the EPC and sub-contractors. - Implement a confidential GRM for making reports (including anonymously) on sexual harassment and violence.

Table 17-3 Workers' Condition & Occupational Health and Safety Mitigation & Management Measures – Operational Phase

POTENTIAL IMPACT	MITIGATION AND MANAGEMENT MEASURES
Occupational Health and safety	- Develop and implement an Occupational Health and Safety Management System including an Occupational Health Management Plan for the operational phase. - An Emergency Preparedness & Response Plan (EPPRP) will be developed and implemented for the operational phase. The EPRP will also be communicated to all the relevant stakeholders.
Forced & child labour including working conditions	- Develop and implement a Labour and Working Conditions Management Plan (LWCMP) which will also include among other things explicit prohibition of forced labour, child labour, discrimination, GBVH or any other form of harassment etc. - A Human Rights Policy will be prepared for the Project or as part of the HSSE MS. The Policy will align with the lenders' requirement and include a commitment to respecting and safeguarding the rights of the right holders. This Policy will be cascaded down to the O&M Company. - The Project Company will develop and implement a Project specific Human Resource (HR) Policy and Management System in line with Masdar's HR Policy and lenders' labour requirements. This will include a commitment to the following: - Equal employment opportunities - Non-discrimination - Equal wages for equal work performed between men and women - Workers benefits - Zero tolerance to retaliation against workers, sexual harassment and GBVH. - Fundamental principles related to workers' rights to form and join workers' trade unions/collective bargaining. - Conditions for contract termination i.e., misconduct, incapacity to meet their duties etc. - GRM - A HR data base will be established for the Project where the O&M Company will provide details of their workers including all official documentation such as work permits/visas, signed employment contracts, employee age, signed code of conduct, confirmations to work overtime etc. - Explicit consent will be documented for workers who work overtime including an outline of the compensation as per the Labour Code. - All workers will be provided with information about their labour rights under the law, nature of their contracts, duration of contract etc.
GBVH	- A GBVH risk assessment will be undertaken before the start of the operation phase. - A Gender Management Plan will be developed & implemented by the Project. This Plan will include the provisions for GBVH safeguards and it will be disclosed to the employees, security personnel and O&M staff. - Develop and implement a GBVH incident reporting procedure, training materials and implement a confidential GRM for making reports (including anonymously) on sexual harassment and violence. - The Project will engage a third-party competent gender/GBVH advisor prior to the start operation phase to provide training on GBVH issues and how to address any cases.

POTENTIAL IMPACT	MITIGATION AND MANAGEMENT MEASURES
	- Assign and train a GBVH focal points (including women) to deal with GBVH incidents and grievances. Based on the training, these focal point persons will be required to establish a referral system for GBVH cases. - Develop the support mechanisms for survivors such as referral to support services etc. - A Security & Human Rights Management Plan will be prepared for the Project to include the procedures on conducting a security risk assessment, screening of security personnel, code of conduct, type of training to be provided, process of investigating security incidents, GRM to submit grievances about security personnel etc. - All security personnel will be required to sign the Code of Conduct before they are engaged by the Project.
GRM	- The Project Company will develop and implement a Project GRM for all workers and maintain a GRM log. Additionally, the Project Company will ensure the same is cascaded down to the O&M Company. - Implement a confidential GRM for making reports (including anonymously) on sexual harassment and violence.

17.6 Monitoring

Table 15-3 Labour and Working Conditions Key Monitoring indicators

MONITORING	PARAMETER	FREQUENCY & DURATIONS	MONITORING LOCATIONS
Construction & Operations			
Worker Contracts & HR	Records of contracts, payments, receipt of benefits, leave entitlements, consent of overtime etc	On-going	Construction & Operation HR data base
Women employed in the Project	Number of women employed Positions held Pay parity compared to male counterparts	On-going	Construction & Operation HR data base
Workers' accommodation	Based on IFC, EBRD Guidance Note on Workers' accommodation	Quarterly during construction	At all such facilities on-site
GBVH/SEA/SH trainings	Number & type of trainings Participant attendance	As per the GBVH training plan	Training materials, records, & attendance sheets etc.
Training of security personnel	Induction and refresher training on the code of conduct, use of force, human rights etc.	During induction & refresher training as per the Security & Human Rights MP	Training materials, records, & attendance sheets etc.
Security incidences	Number and type of security incidences Resolution & close out measures	On-going	Security reports GRM

MONITORING	PARAMETER	FREQUENCY & DURATIONS	MONITORING LOCATIONS
Grievances including those relating to GBVH/SEA/SH	Number & type of GRMs received including those relating to GBVH Resolution timelines	On-going	GRM Log
Workers' ability for collective bargaining and trade union	Number of workers who are union members Presence of collective union agreements Number & type of workers collective GRMs on working conditions.	Bi-annually	HR data base records GRM log Workers interviews
OH&S, Emergency Situations and Incidents	As per the requirements established in the OHS MS and the OHSMP including the ERMP		

18 ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

Volume 3 of this ESIA package is a Framework for E&S Management which is intended to guide the Project parties in establishing structures for the management of E&S risks, impacts, opportunities and compliance. The framework outlines the institutional arrangements and management programmes that will be used to structure the respective construction and operation phase HSSE-MS. Masdar has developed a template HSSE-MS in line with GILP and IFI requirements.

The environmental and social mitigation measures and monitoring requirements set out in the tables for each baseline topic in this ESIA will provide the basis for the ESMPs which will be developed in accordance with the E&S management framework in Volume 3 and the HSSE-MS. In addition, a Biodiversity Management Plan is to be developed prior to any works commencing on the ground.

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