

# NON-TECHNICAL SUMMARY (NTS)

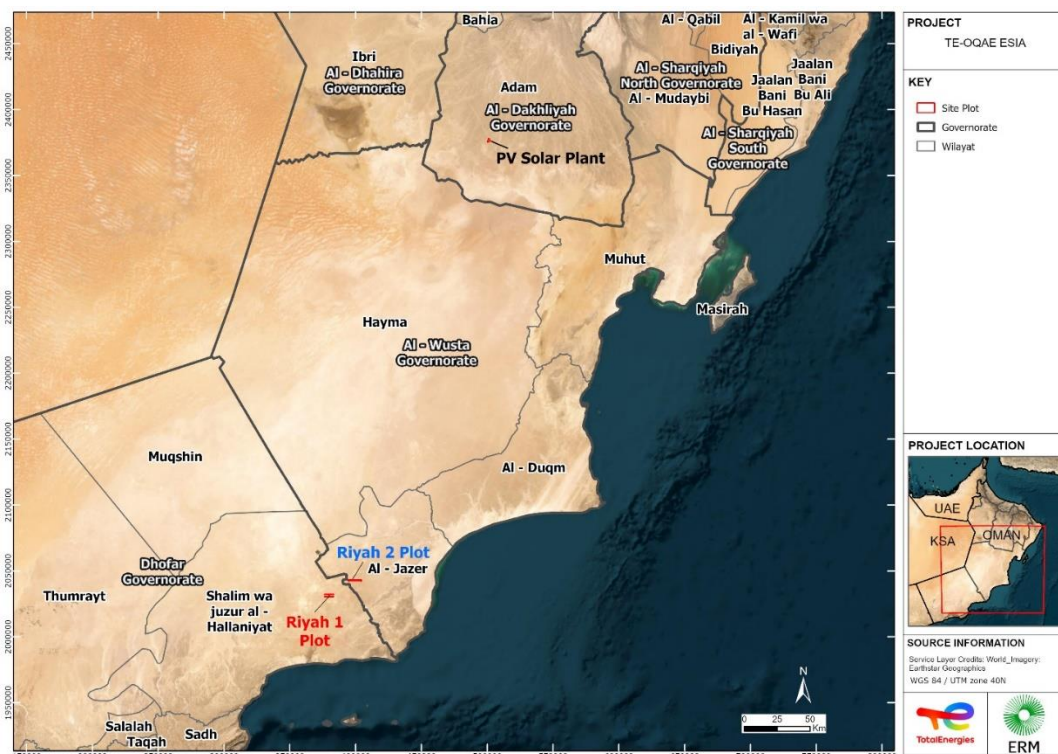
## INTERNATIONAL ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT (ESIA B) REPORT FOR THE RIYAH 1 WIND FARM PROJECT, SULTANATE OF OMAN

### 1 INTRODUCTION

TotalEnergies Renewables Development Middle East LLC (TTE) and OQ Alternative Energy LLC (OQAE) are working together to develop the proposed Riyah 1 Windfarm Project, to be located in the Wilayat of Shaleem wa Juzur Hallaniyat, Governorate of Dhofar, Sultanate of Oman. These two companies, referred to as the "Project Proponent" or "Project Company," will form a joint venture (JV) registered in Oman (name to be confirmed) that will manage the development of the Project (see Figure 1-1).

The Project will include an onshore windfarm of 18 turbines, with an installed capacity of 117 MW. Other project components will include an underground cabling network, a step-up construction and operation facilities. Generated electricity from the windfarm will be evacuated to the grid of Petroleum Development Oman LLC (PDO, the "Off-taker"). Therefore, power evacuation from the Project's step-up substation to the existing PDO's Amin-2 substation will require a 132 kV interface yard and a transmission line of about 10 km long. Power evacuation components are not part of the Project' scope, but are considered associated facilities; their design, construction, operation, and decommissioning will be carried out by PDO as a separate transmission project, with the corresponding environmental assessment and permitting process.

**FIGURE 1-1 PROJECT LOCATION**



Source: ERM, 2024

A local Environmental Impact Assessment (EIA) that complies with Omani regulations, known as "ESIA A," was prepared by Five Oceans Environmental Services (5OES) and followed the requirements outlined in the Scoping Report. Local ESIA A was approved by the Environmental Authority (EA) in June 2024 and the corresponding EA's local permit conditions were issued in July 2024. It is noteworthy that this initial set of permit conditions was modified following a discussion about their applicability between the Project Proponent and EA on 23rd September 2024; being the final version of these permit conditions issued on 17th October 2024.

The current document is the Non-Technical Summary (NTS) of the International Environmental and Social Impact Assessment Report, referred to as "ESIA B," which was developed by Environmental Resources Management (ERM) in collaboration with 5OES. ESIA B is focused on meeting international standards for potential international financing. It also considers the permit conditions issued by the Environmental Authority (EA) in October 2024 as a result of the local ESIA A approval.

Finally, it is important to note that ESIA B will be updated later by ERM/5OES, under the name "ESIA C," to include the outcomes of social disclosure events and latest biodiversity surveys.

## 2 LEGISLATION CHAPTER

Environmental protection within Oman is primarily governed by the "Law for the Conservation of the Environment and the Prevention of Pollution" (Royal Decree 114/2001) which is managed by the Environmental Authority (EA), formerly known as the Ministry of Environment and Climate Affairs (MECA). The environmental permitting process is regulated by Authority Decision 107/2023, issued in August 2023.

In accordance with national legislation (MD 48/2017), the Project is classified as a Category 'A' activity and requires an Environmental Impact Assessment (EIA). The EIA (also known as ESIA A) received approval from Oman's Environmental Authority in July 2024, along with the associated permit conditions.

Since international financing is necessary for the Project to proceed, the guidelines set by the International Finance Corporation (IFC) regarding Environmental, Health, and Safety (EHS) standards and the Equator Principles (EP4) will be followed. As part of this process, three key studies have been prepared, among others: a screening Physical Climate Change Risk Assessment (CCRA), which assesses potential physical climate-related risks; a Human Rights Risk Assessment (HRRA), which evaluates potential human rights risks; and a screening Critical Habitat Assessment (CHA), which assesses if there are potential critical habitats that need to be considered by the Project.

TotalEnergies' corporate standards will also be implemented in the development of the ESIA.

## 3 PROJECT DESCRIPTION

The Project involves an onshore windfarm with an installed capacity of 117 MW, and maximum delivered capacity of 111 MW. The production will be met through the installation of 18 turbines, with a capacity of 6.5 MW.

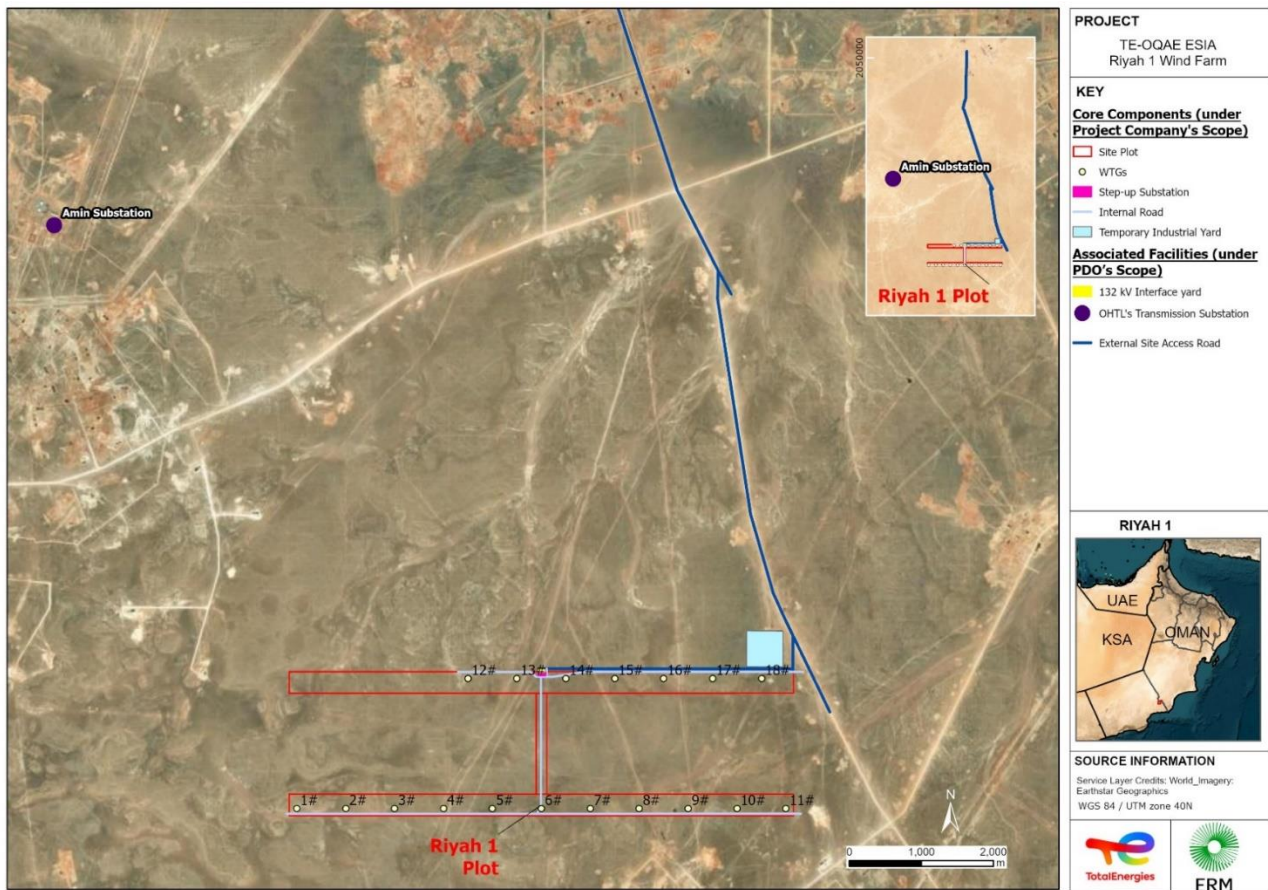
Electricity from the turbines will travel through buried cables to a step-up substation, located in the north centre of the windfarm, where it will be transformed to meet PDO's requirements. To connect to PDO's Amin-2 substation, a 132 kV transmission line will be constructed, although these elements are part of a separate project to be managed directly by PDO.

The Project site plot will occupy 445 hectares of leased land in the Wilayat of Shaleem wa Juzur Hallaniyat, Dhofar Governate, with elevations between 237 m and 250 m. The flat desert site is home to scattered shrubs.

The Project is located within PDO’s Block 6 concession area and close to PDO’s Nimr and Amal camps, at approximately 18.1 km and 17.6 km, respectively. The nearest well is approximately 1.2 km away and the closest airport (Marmul) is about 72.5 km southeast.

The location of the Project Site and key components of the project are shown in Figure 3-1.

**FIGURE 3-1 PROJECT LAYOUT**



Source: ERM, 2024.

The Project comprises the construction and operation of an onshore windfarm and associated infrastructure. Key Project components are summarised in Table 3.1.

**TABLE 3.1 KEY PROJECT COMPONENTS**

Element	Details
Wind turbine generators (WTG) and foundations	<ul style="list-style-type: none"> <li>• 18 turbines, each with a capacity of 6.5 MW.</li> <li>• Each turbine consists of a tower, a nacelle (which houses the equipment), and three large blades.</li> <li>• The turbines will stand about 200 meters tall at their highest point, with a hub height of 108 meters and blade length of around 90 meters.</li> <li>• Each turbine will sit on a circular foundation roughly 23 meters wide.</li> <li>• Each turbine will have a transformer to step-up the voltage from 1.14 to 33 kV.</li> </ul>

Element	Details
Crane hardstandings and auxiliary crane areas for crane assembly and blade laydown	<ul style="list-style-type: none"> <li>• A firm, flat area next to each turbine (about 726 square meters or 0.07 hectares) will be used for crane operations during construction.</li> <li>• Additional temporary flat areas (around 0.39 hectares) will be set up nearby for assembling cranes and laying down turbine blades.</li> <li>• Together, the main and auxiliary crane areas for each turbine will cover about 0.466 hectares.</li> </ul>
External site access road (Associated facility)	<ul style="list-style-type: none"> <li>• A new road (approximately 23.9 kilometres long) will connect the site to Road 39. This road will be built separately and is not part of this Project's construction.</li> </ul>
Internal roads	<ul style="list-style-type: none"> <li>• Within the site, about 14 kilometres of new roads will be built to connect the turbines and facilities.</li> <li>• These roads will be about 6 meters wide, including a small shoulder on each side.</li> </ul>
On-site electrical connections and step-up substation	<ul style="list-style-type: none"> <li>• Underground cables will connect the turbines to a central substation within the wind farm site.</li> <li>• This substation will increase the voltage of the electricity to 132 kV, preparing it for delivery to the grid.</li> </ul>
Interface yard and overhead Transmission line (OHTL) (Associated facilities)	<ul style="list-style-type: none"> <li>• A small interface yard and a 10-kilometer overhead transmission line will connect the wind farm to the existing Amin-2 substation. This work will be done by a partner organization and is outside this Project's scope.</li> </ul>
Temporary industrial yard	<ul style="list-style-type: none"> <li>• During construction, a temporary industrial yard (about 25 hectares in size) will be used for storage and operations.</li> </ul>
Met masts	<ul style="list-style-type: none"> <li>• Two permanent met masts will be installed on the site. These will help measure weather conditions and test turbine performance. The exact location and height are yet to be determined.</li> </ul>

The Project schedule comprises of the following three phases:

***Construction, pre-commissioning and commissioning phase (Phase 1):***

This includes site preparation; construction of temporary industrial yard and of internal roads & drainage system; vehicle movement; influx of workers; construction of crane hardstanding; blade laydown areas and turbine foundations; installation of transformers, step-up substation, met masts, wind turbines, electrical infrastructure and signa cables; excavation of trenches for cable laying; enhancement works to the public road network (if required); resource consumption (water, energy, etc.); waste and wastewater management; removal of construction equipment and temporary facilities and reinstatement; and commissioning of site equipment. The Project's construction and commissioning phase is expected to start in Q1 of 2025 and last for 20 months.

During the peak of construction, it is expected there will be about 600 workers on the Project site. The Project will source locally based construction workers where feasible (e.g. low-skilled labourers). The Project will adhere to applicable Omani labour regulations and Omanisation quotas. Working schedule will be 10 hours per day with overtime of 2 hours for some sections. Work will be implemented on a rotation or shift system basis.

Internationally recognized and local worker conditions, health, safety, and environment standards for workers will be applied. These will include full-time doctors and paramedics employed to provide 24-hour medical cover by direct presence or on call.

The project will utilize existing facilities and infrastructure in the area, such as the PDO accommodation camp and roads, with minor modifications made to some roads to access the site.

***Operations and maintenance phase (Phase 2):***

This includes workers management, vehicle movement, routine inspections and site maintenance, resource consumption, waste and wastewater management, remote monitoring and activation of turbines during excessive winds. The Project's operational lifetime will be 18-20 years.

During operation, the Project will require up to five full-time staff to keep the facility maintained and working and about 15 site engineers/technicians to be outsourced from local third parties for schedule maintenance.

***Decommissioning phase (Phase 3):***

At the end of the planned operational lifetime, the operation of the assets will either be repowered or decommissioned. Decommissioning will involve the removal and reuse / recycling / disposal of surface structures and the reinstatement and restoration of the affected sites.

## 4 ASSESSMENT OF ALTERNATIVES

The site selection process was part of PDO's scope, considering the potential wind resource and their demand/load centres. Post-assessing the feasibility study, PDO identified the Project site for further development with defined capacity (in Mega Watts) and released the Bid documents accordingly. Minimum Functional Specifications (MFS) and certain design limits were also set by PDO as part of their bidding process for this renewable energy project. The Project Proponent participated in the bidding process and proposed the Project layout and design subject of this study.

The option of not proceeding with the development is discarded when considered against the benefits of establishing a new renewable energy source and against national strategies and global tendencies.

## 5 STAKEHOLDER ENGAGEMENT

The preparation of a Stakeholder Engagement Plan (SEP) is crucial for sustainable development and the Environmental and Social Impact Assessment (ESIA) process. This plan involves engaging those who are interested in or affected by the proposed project to identify opportunities, risks, and concerns. Effective engagement and public consultation are essential for successful project development. TTE/OQAE is dedicated to engaging with stakeholders throughout the project's lifecycle.

The SEP outlines the project's stakeholders, previous engagement activities, and the commitments of the Project Proponent regarding stakeholder engagement and addressing grievances as the project progresses.

The main goals of stakeholder engagement are to:

- Maintain openness and transparency.

- Be accountable for potential impacts associated with the project.
- Foster a relationship based on listening, dialogue, trust, and commitment.
- Respect stakeholders' interests and ensure safe participation.
- Collaborate with stakeholders to find solutions that benefit everyone.
- Respond promptly to stakeholders' needs and concerns.
- Act proactively to anticipate information needs or potential issues.
- Ensure fair treatment of all stakeholders and consider their concerns based on equal rights.
- Be accessible to stakeholders, making sure they feel heard and informed.
- Include all relevant stakeholders in the engagement process.

## 5.1 ENGAGEMENT PROCESS TO DATE

The Project has identified stakeholders who may be directly or indirectly affected by the Project, positively or negatively, or may influence how it is carried out. These stakeholders include individuals and organisations with an interest in the Project, those who could be impacted by it, or those who can share valuable feedback and concerns about its development.

Engagement activities were conducted as part of the baseline process for preparing the ESIA report. These activities took place from July 9<sup>th</sup> to 10<sup>th</sup>, 2024, and were led by the Project Team, with fieldwork conducted by 5OES.

The main goals of this engagement were to:

- Collect local-level socioeconomic health data; and
- Make initial contact with key stakeholders and introduce the Project

Meetings were held in July 2024 with the Walis of Al Jazer and Saleem, along with other local government representatives. These meetings aimed to share basic information about the Project, gather feedback, and request baseline data.

Initial stakeholder feedback was largely positive, with recognition of the benefits the Project would bring to PDO, a leading exploration and production company with a 60% government stake. Stakeholders noted the potential impacts but did not raise any major concerns. Many referenced other wind and solar projects in the region, agreeing that these had not resulted in significant negative impacts.

Discussions primarily focused on the potential benefits of the Project. While there is a general expectation for oil and gas companies operating in the region to invest in local communities, it was acknowledged that these companies often have their own standards and strategies for social investment, which may not always align with community expectations.

Employment was highlighted as a priority for the region, with each Wilayah focused on reducing the number of registered jobseekers. This remains an important consideration for all involved in the Project.

## 5.2 ESIA DISCLOSURE

EIA Rev A was disclosed with relevant stakeholders in July 2024. Details about how the feedback of the ESIA disclosure process has shaped this version B of the ESIA are included in Section 5 of the Stakeholder Engagement Plan, and in Appendix G to the ESIA. The feedback provided by stakeholders is summarised below:

**TABLE 5.1 OVERVIEW OF THE KEY FEEDBACK RECEIVED DURING THE ESIA DISCLOSURE PHASE HELD IN JULY 2024**

<b>Subject</b>	<b>Al-Wusta</b>	<b>Dhofar</b>
Project's perception	<ul style="list-style-type: none"> <li>• Overall positive welcoming of the project</li> <li>• Query regarding location selection rationale</li> </ul>	<ul style="list-style-type: none"> <li>• Overall positive welcoming of the project</li> <li>• Query regarding the expected start date of construction phase</li> <li>• Reference and comparison to a similar recent existing wind project (Harweel)</li> </ul>
Local economy and livelihoods	<ul style="list-style-type: none"> <li>• Locals are employed various sectors, including freelance business and the private sector with PDO and contractors</li> <li>• High number of jobseekers, most with high school certificates and some with bachelor's degrees.</li> <li>• Many locals are involved in animal rearing and fishing.</li> <li>• Oil and gas companies use a centralized system for employment which does not enable prioritization for local employment</li> </ul>	<ul style="list-style-type: none"> <li>• Locals are employed mostly in the government and private sector with PDO and contractors</li> <li>• High number of jobseekers, most with high school certificates and some with bachelor's degrees.</li> <li>• Many locals are involved in animal rearing and fishing.</li> <li>• Oil and gas companies do prioritise local employment however the opportunities are limited</li> </ul>
Community land uses (e.g., grazing, access rights)	<ul style="list-style-type: none"> <li>• Shaybun and Wadi Shaybun are located in the Wilayat of Al Jazer and are areas used for grazing during and after rains</li> </ul>	<ul style="list-style-type: none"> <li>• Shaybun and Wadi Shaybun are located in the Wilayat of Shaleem wa Juzor Al Hallaniyat and were abandoned in the 1990's, only used for grazing since</li> <li>• A worker accommodation for a local company is located in Shaybun</li> </ul>
Community health, safety and development needs	<ul style="list-style-type: none"> <li>• No severe diseases are common in the area</li> <li>• Health services are sufficient</li> </ul>	<ul style="list-style-type: none"> <li>• Traffic accidents on current roads occur frequently</li> </ul>
Unique regional culture and heritage (e.g., language, traditions of local tribes, handicrafts)	<ul style="list-style-type: none"> <li>• Al Mehri root</li> </ul>	<ul style="list-style-type: none"> <li>• Al Mehri and Al Shahri languages</li> </ul>
Environmental, Health and Social Impacts	<ul style="list-style-type: none"> <li>• Safeguarding animals during construction phase it is suggested the project site be completely fenced.</li> <li>• Safeguarding groundwater reserves, a dedicated drainage system is suggested</li> </ul>	<ul style="list-style-type: none"> <li>• Query regarding employment opportunities whether they would be temporary or permanent</li> <li>• Concern raised regarding potential impact on grazing activities</li> </ul>
Project Social Investment	<ul style="list-style-type: none"> <li>• Emphasis on the importance of focusing on social and</li> </ul>	<ul style="list-style-type: none"> <li>• Emphasis on the importance of focusing on social and economic</li> </ul>

Subject	Al-Wusta	Dhofar
and Responsibility	economic returns/benefits to the Wilayah, with priority to locals and LCCs	returns/benefits to the Wilayah, with priority to locals and LCCs <ul style="list-style-type: none"> <li>• Extending the project's output supply to serve the nearby settlements is suggested</li> </ul>
Grievance mechanism	<ul style="list-style-type: none"> <li>• No Feedback received</li> </ul>	<ul style="list-style-type: none"> <li>• Adding Municipal Council Representative to the mechanism was suggested</li> </ul>

The final International ESIA B Report in English language along with a Non-Technical Summary in Arabic language, will be made available to stakeholders and general public for a period of 30 calendar days. The disclosure will be facilitated through electronic access via a link.

Other means by which stakeholders will be able to provide feedback include:

- Using feedback forms which will be available via the same link where the ESIA B and the Non-Technical Summary in Arabic language will be uploaded.
- Calling to the phone number: 00968 92120082, during the entire ESIA disclosure period;
- Electronic communication, via email at [NOS.Grievance@oq.com](mailto:NOS.Grievance@oq.com), during the entire disclosure period.

Anonymous feedback will be also accepted.

## 6 PROJECT BASELINE CONDITIONS

### 6.1 PHYSICAL ENVIRONMENT

The climate in Oman is extremely dry, with significant temperature changes throughout the year. The region where the Project is located experiences the effects of the Indian monsoon, which starts in May, peaks in June, and tapers off by mid-September. Temperatures range from an average low of 12.3°C in January to an average high of 42.7°C in July. Rainfall is rare and unpredictable, with an annual average of about 42 mm. Winds are consistent, with speeds exceeding 10 km/h almost daily.

There are no permanent sources of air pollution at the Project site, although some oil and gas infrastructure may release emissions. Air quality in the area is within the acceptable limits set by both international and Omani standards.

Noise levels at the Project site are generally below the standard limits for industrial areas (70 dB), with wind being the primary source of sound. Some brief exceedances of the noise threshold were recorded but are attributed to natural wind conditions, given the site's remote location.

The site is part of the central desert plateau, consisting of flat sand and gravel plains. The surface layer is mostly loose sand with some gravel, underlain by layers of gypsum and bedrock formations. The soil has a natural layer of gravel that protects it from further wind erosion. No signs of soil contamination were found.

The project will not draw directly on groundwater as groundwater abstraction to supply water is not considered as part of the Project activities at this stage. The Project overlaps slightly with the Wadi Rawnab wellfield protection zone, where certain activities are restricted to



protect groundwater. The main aquifer below the site is located about 100 meters underground and is separated from the surface by limestone.

There are no permanent bodies of water on the site, though during heavy rainfall, water can collect in shallow depressions on the land.

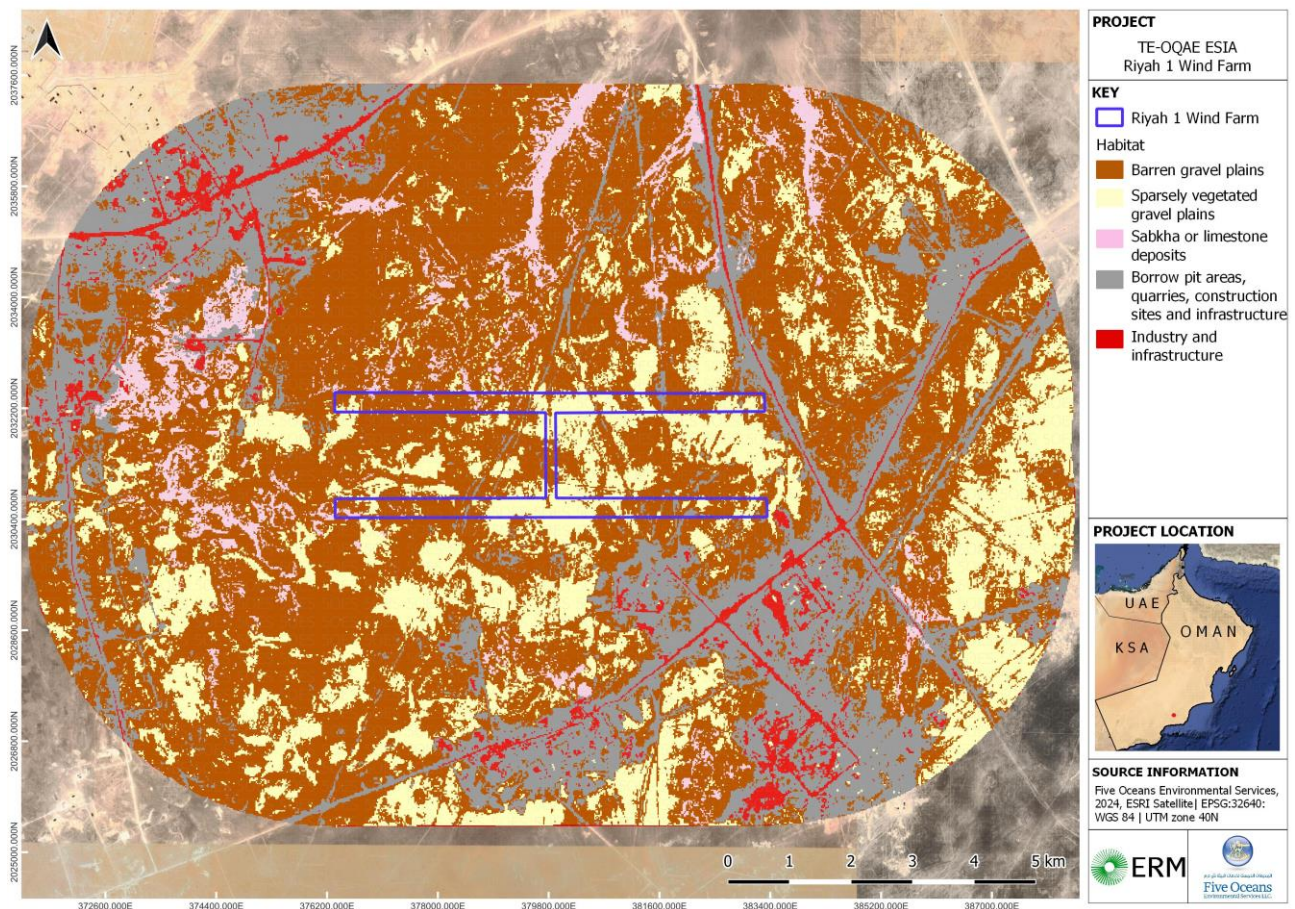
The landscape is largely flat and barren, with no significant features, and it is not part of any designated national landscape area.

## 6.2 TERRESTRIAL ECOLOGY

The Project site is not located in or near a National Nature Reserve (NNR) or other level of protection or interest that would indicate that the site has specific conservation value. The closest Natural Reserve to the Project site is Jebal Samhan NNR, 121 km to the south-west, and the nearest IBAs are located further than 50 km away: Jiddat al Harasis (50 km to the northeast), Khawr Ghawi (80 km to the east) and Jabal Samhan (75 km to the south-west). In addition, there are no World Heritage Sites, or Alliance for Zero Extinction sites within a 50 km radius of the project site.

The distribution of habitats in the 5 km includes five types five habitat types, with barren gravel plains and sparsely vegetated gravel plains being the two most common habitat types found on the project site.

FIGURE 6-1 HABITAT DISTRIBUTION IN THE TERRESTRIAL ECOLOGY AOI (5KM)



Source: 5OES, 2024.

A Critical Habitat Assessment (CHA) has been prepared and is specifically intended to address the requirements of IFC Performance Standard 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources ("IFC PS6"). IFC PS6 requires that projects identify the presence and extent of **modified, natural and/or critical habitat** (as defined by the standard) in the Project's Area of Influence. The assessment concludes that two plants *Hyoscyamus gallagheri* and *Salvia* sp. nov. likely trigger Criterion 1 although there is a moderate degree of uncertainty associated with this finding since i) population estimates for these species are not available, ii) the extents of occurrence have not been well defined and more botanical research is required to confirm them, and iii) the range of environmental and ecological factors that define the habitats in which they occur is not well known. In addition, future drive-over surveys are required to confirm if *Uromastyx thomasi* (Omani Spiny-Tailed Lizard, IUCN EN, Local VU) is present in the AOI, with search effort directed to rocky outcrops present in and around the Riyah 1 development area in particular, which has areas of rocky desert habitat within its AOI. Given the nature of open gravel desert habitat in which these species are found it is recommended that these biodiversity features are managed at the species level rather than at the habitat level. Finally, other critical habitat criteria were not met.

The plant life in the area consists of hardy shrubs suited to dry conditions, such as *Searsia gallagheri* and *Ochradenus harsusiticus*. While the overall number of plant species is low, this area is home to some plants found only in Oman or the Arabian Peninsula.

No invasive species were found on the Project site itself. However, *Prosopis juliflora* (a known invasive species) was spotted along the route of the future power line connecting the Project to a nearby substation.

Four species of lizards were observed in the project area: Carter's Rock Gecko and Yellow-spotted Agama, both of which are native to the Arabian Peninsula and are not of conservation concern; Small Semaphore Gecko; and Small-scaled Egyptian Spiny-Tailed Lizard, which is considered vulnerable. Larger mammals such as the Arabian Fox and Arabian Gazelle are also likely to be present but are not of conservation concern.

No bat calls were detected at the ultra-sonic bat call detector and static bat call detectors deployed at project site. No flying mammals of conservation concern have been identified at the project site.

The project area is not considered high-value habitat for birds due to its low vegetation and lack of water sources. However, migratory birds may pass through the site on their way to or from other areas, particularly during the migration seasons. No bird species of conservation concern have been observed at the site, though further surveys during autumn and winter may provide more information on migratory species.

### 6.3 SOCIOECONOMICS

The Project is situated in Block 6, an oil and gas concession area in central and southern Oman operated by PDO. The site is undeveloped, lacking permanent structures or utilities, and the surrounding areas have been used for PDO's hydrocarbon production activities.

While the oil and gas industry operate in these regions, its contribution on local employment is limited. The industry primarily supports the local economy through the procurement of services from local businesses rather than direct employment.

The area of influence (AoI) for Riyah 1 extends 15 km around the site, located in the Wilayat of Shaleem (in the Dhofar Governate), with a small portion extending towards the northeast into the Wilayat of Al Jazer (in the Al Wusta Governorate). Unemployment is an issue of concern in both the Wilayat of Shaleem and the Wilayat of Al Jazer.

There are no settlements, residential areas, or accommodation camps within 5 km of the Project site. The nearest localities are Shaybun, approximately 14.6 km away, and Wadi Shaybun, about 13.7 km from the site. Shaybun consists of a walled compound with commercial buildings, an accommodation block, and a small agricultural plot. Wadi Shaybun is a scattered collection of *azbah*.

There are only a few dwellings within the social AoI, with the sole example being a walled compound at Shaybun, which houses a small number of labourers. Other than labourers occupying the walled compound at Shaybun, there are no permanent inhabitants in this area, as confirmed by the Wali offices of Wilayat Al Jazer and Shaleem.

The livelihood and income-generating activities in the Project's social AoI and areas beyond, include:

- **Small Businesses:** Small business ownership is an important source of income, with activities ranging from retail and tailoring to restaurants.
- **Employment in Public and Private Sectors:** Employment opportunities in both the public and private sectors are key income sources.
- **Livestock Husbandry:** Some households rely on animal husbandry, particularly the raising of camels, goats, and sheep. Livestock not only provides income and sustenance but also holds significant social and cultural importance, especially camels and goats.

The Project site and surrounding concession area have traditionally been used by local communities for pastoral grazing, with herders traveling long distances to bring their livestock when conditions are favourable.

Livestock, including camels, graze extensively across the desert rangelands, particularly in the more vegetated wadis within and near the Project site. Given the region's variability in rainfall, supplementary feeding is often necessary, adding significant costs for herders. Some herders may also use informal seasonal structures called *azbah* for camel husbandry; these are not permanent residences and do not have legal rights associated with them.

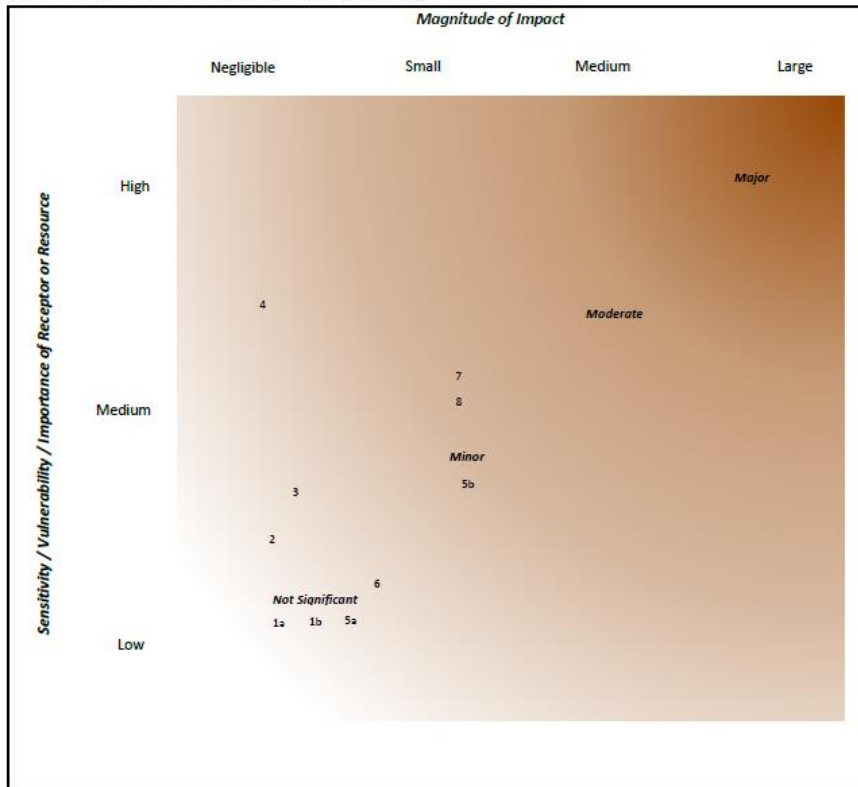
Within 200 meters of the Project site boundary, there is a single *azbah* that appears to have been abandoned for several years, though its actual use at the time of this report remains unconfirmed.

## 7 IMPACT ASSESSMENT

Visual summaries of the impact assessment results, shown in Figure 7-1 and Figure 7-2, illustrate the residual impact significance after implementing mitigation and management measures. All impacts are deemed tolerable following the application of appropriate mitigation measures.

FIGURE 7-1 SUMMARY OF RESIDUAL IMPACTS FOR PROJECT CONSTRUCTION/ DECOMMISSIONING / REPOWERING

1. Windfarm Riyah 1 – Construction/ Decommissioning/Repowering

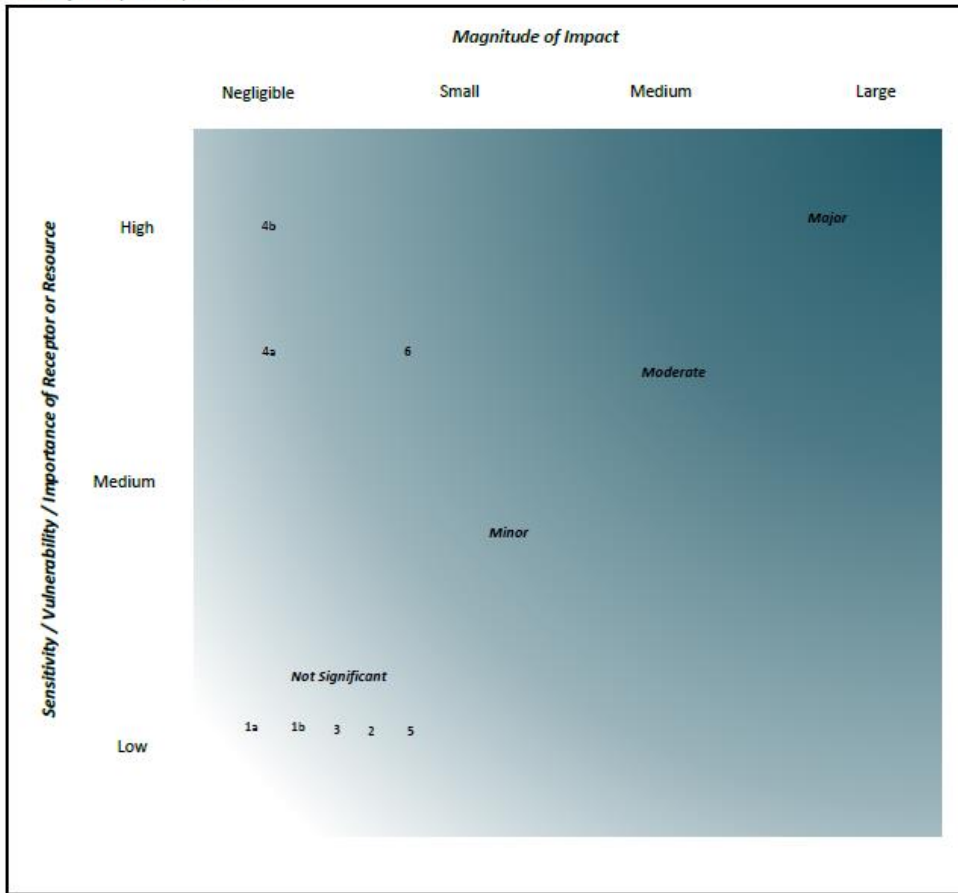


ID	Receptor	Impact
1a.	Geology and soils	Increase of soil compaction and decrease of soil quality
1b.	Geology and soils	Minor spills/leaks
2.	Hydrology	Changes to drainage and surface water flows during construction
3.	Air quality	Dust from construction activities and emissions from construction related traffic
4.	Terrestrial habitats, flora, and fauna (excluding birds)	Site Clearance Resulting in Loss and Fragmentation of Habitats Loss of Ecosystem Services (Grazing) Impacts to Plants of Conservation Concern Impacts to Uromastix Introduction of Invasive Alien and Pest Species Accidental Leaks/Spills Resulting in Degradation of Habitat
5a.	Landscape and visual	Aesthetic alterations
5b.	Landscape and visual	Turbines visibility
6.	Public infrastructure and services	Increased traffic volume
7.	Community health and safety	Increased incidence of communicable or infectious diseases during construction
8.	Labour and working Conditions	Impacts associated to labour rights and working conditions (vulnerable workers)

Impact significance	Definition
Not significant	A resource/receptor (including people) will not be affected by a particular activity, or the predicted effect is deemed to be 'imperceptible' or is indistinguishable from natural background variations.
Minor	A resource/receptor will experience a noticeable effect, but the impact magnitude is sufficiently small (with mitigation) and/or the resource/receptor is of low sensitivity/ vulnerability/ importance. In either case, the magnitude will be well within applicable standards.
Moderate	Has an impact magnitude that is within applicable standards but falls somewhere in the range from a threshold below which the impact is minor, up to a level that might be just short of breaching a legal limit.
Major	An accepted limit or standard may be exceeded, or large magnitude impacts occur to valued/sensitive resource/receptors.

FIGURE 7-2 SUMMARY OF RESIDUAL IMPACTS FOR PROJECT OPERATION

2. Windfarm Riyah 1 - Operation



ID	Receptor	Impact
1a.	Geology and soils	Increase of soil compaction and decrease of soil quality
1b.	Geology and soils	Minor spills/leaks
2.	Surface water	Changes to drainage and surface water flows during operation
3.	Acoustics	Noise from Operation of the windfarm
4a.	Terrestrial habitats, flora, and fauna (excluding birds)	Loss of Ecosystem Services (Grazing) Impacts to <i>Uromastix</i> Introduction of Invasive Alien and Pest Species Accidental Leaks/Spills Resulting in Degradation of Habitat
4b.	Birds	Bird Collision Risk to Raptors Bird Collision Risk to Sandgrouse
5.	Landscape and visual	Turbines visibility
6.	Community health and safety	Increased incidence of communicable or infectious diseases during construction

Impact significance	Definition
Not Significant	A resource/receptor (including people) will not be affected by a particular activity, or the predicted effect is deemed to be 'imperceptible' or is indistinguishable from natural background variations.
Minor	A resource/receptor will experience a noticeable effect, but the impact magnitude is sufficiently small (with mitigation) and/or the resource/receptor is of low sensitivity/ vulnerability/ importance. In either case, the magnitude will be well within applicable standards.
Moderate	Has an impact magnitude that is within applicable standards but falls somewhere in the range from a threshold below which the impact is minor, up to a level that might be just short of breaching a legal limit.
Major	An accepted limit or standard may be exceeded, or large magnitude impacts occur to valued/sensitive resource/receptors.

## 8 ENVIRONMENTAL AND SOCIAL MANAGEMENT AND MONITORING FRAMEWORK

The Framework Environmental and Social Management and Monitoring (ESMM) Framework is a key component of the ESIA Report, serving as a foundation for developing a detailed Environmental and Social Management and Monitoring Plan (ESMMMP) for the Project.

The ESMM Framework enables the identification, assessment, and management of environmental and social risks, including community health and safety, throughout the construction and operational phases. It helps TTE/OQAE comply with relevant authorizations, legal requirements, and International Project Standards systematically.

Developed to meet the requirements of IFC Performance Standard 1 (PS1), the framework integrates various management and mitigation measures identified in the ESIA, as well as the IFC General Environmental, Health, and Safety Guidelines, the Equator Principles 4, and TTE's EHS requirements. It also incorporates conditions from the Environmental Authority's permit.

The ESMM Framework outlines specific management plans that will be operational before Project activities commence to address potential environmental and social impacts. A Design Change Management procedure will also be implemented to identify and manage impacts of any changes effectively.

Following the ESIA stage, the following specific management plans will be developed:

- Traffic Management Plan
- Pollution Prevention and Control Plan
- Waste Management Plan
- Hazardous Materials Management Plan
- Water and Wastewater Management Plan
- Climate Change Risk Management Plan
- Stakeholder Engagement Plan (including an updated community grievance mechanism)
- Human Resources Policy
- Local Content and Procurement Policy
- Workers' Management Plan (including a Code of Conduct and Camp Management Procedure)
- Occupational Health and Safety Plan
- Community Health and Safety Management Plan
- Emergency Preparedness and Response Plan
- Decommissioning Management Plan

Environmental, social, and health management activities will occur throughout the Project's lifecycle. Monitoring guidelines will be established in the CEMMP and OEMMP to evaluate the effectiveness of environmental management plans and identify areas for improvement, aiming to minimize significant negative impacts.