

NON-TECHNICAL SUMMARY (NTS)

ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT,
FOR THE DHOFAR II WIND IPP PROJECT
IN DHOFAR, OMAN

1. INTRODUCTION

Sembcorp and OQ Alternative Energy (OQAE), through a special purpose vehicle called Naseem Dhofar SAOC, are developing the Dhofar II Wind Independent Power Producer Project in Dhofar Governorate, Oman. The Project is a utility-scale 125-megawatt (MW) wind farm near Fatkhait in Wilayat Shaleem wa Juzor Al Hallaniyat and will supply renewable electricity to the national grid under a power purchase agreement with Nama Power and Water Procurement Company.

Five Elements Environmental Services LLC prepared the Environmental and Social Impact Assessment (ESIA). The report describes the existing environment, assesses risks, impacts and benefits during construction, operation and decommissioning, and defines mitigation and monitoring. This document is the Non-Technical Summary (NTS) of the ESIA and presents the main findings to be read as a summary rather than a replacement for the full ESIA.

PROJECT CATEGORISATION

Under Oman Environment Authority permitting requirements, the Project is treated as a **Category A** project requiring an ESIA. For international financing purposes, the Project is consistent with the definition of a **Category B** Project, as its potential adverse social or environmental impacts are limited in number, site-specific, largely reversible, and readily addressed through mitigation measures. The resulting environmental and social risks are therefore considered capable of being effectively managed through the mitigation and monitoring measures described in the ESIA.

2. PROJECT DESCRIPTION

Project Feature	Current ESIA Design Basis
Proponent / owner	Naseem Dhofar SAOC, developed by Sembcorp and OQ Alternative Energy
Technology and capacity	20 wind turbine generators, each 6.25 MW for up to 125 MW power output
Site	Approximately 12 km ² in PDO Block 6, Dhofar Governorate, near Fatkhait
Grid connection	33/400 kV Project substation and approximately 2.75 km of 400 kV overhead line to the OETC grid station
Construction	Approximately 15–18 months with peak workforce of around 300
Operation	Planned 25-year term with limited contractor-based staffing and periodic site visits for inspection and maintenance

PROJECT LOCATION AND SETTING

The Project is in Petroleum Development Oman's Block 6, Wilayat Shaleem wa Juzor Al Hallaniyat, approximately 65 km east of Thumrait and 100 km north-east of Salalah. Fatkhait is the closest settlement, about 6 km south-west; Brasis is about 17 km south-west and Wadi Banoot about 22 km north. Route 39 runs to the south and the existing Dhofar I Wind Farm lies immediately to the south-west. The 12 km² site is an open landscape through which Wadi Banoot runs and is used intermittently for grazing and accessing areas to the north.

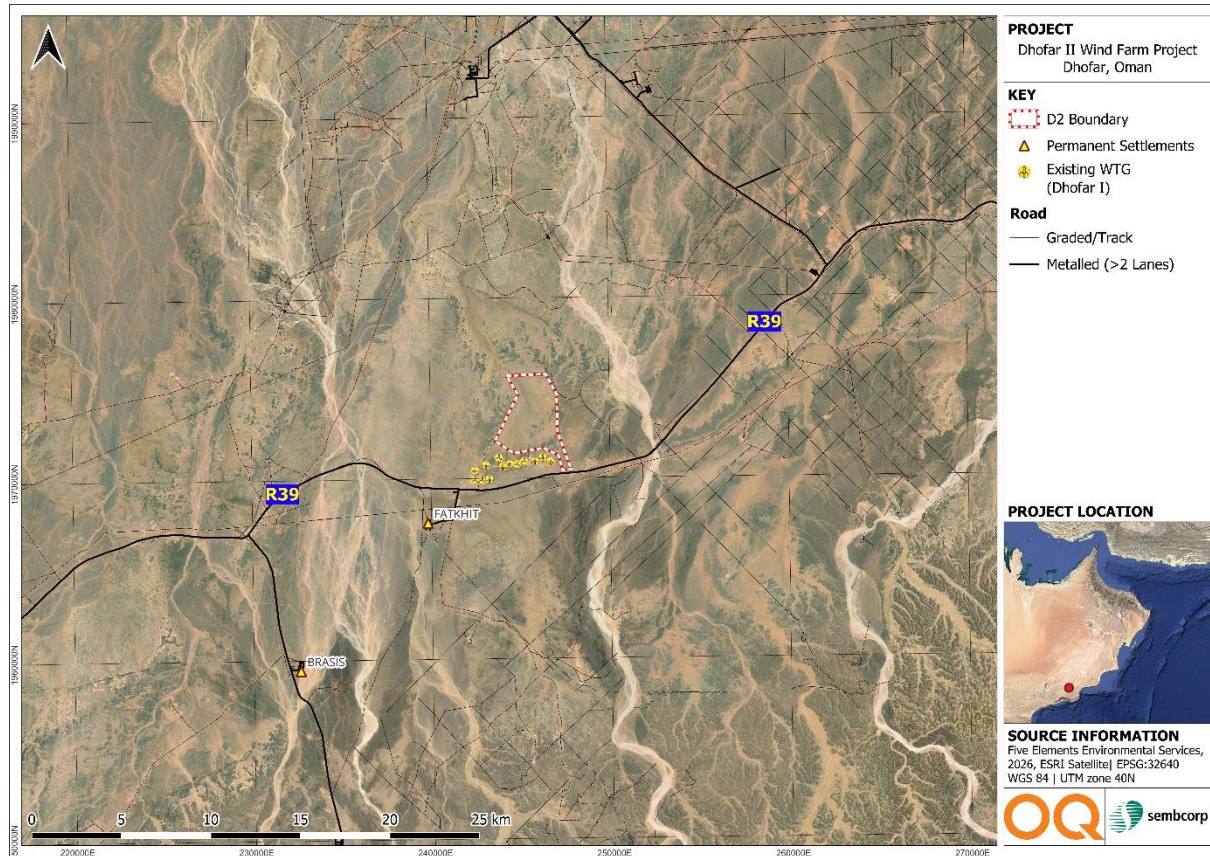


Figure NTS-1: Project Location

LAYOUT AND MAIN COMPONENTS

The design comprises 20 wind turbine generators (WTGs), each rated at 6.25 MW, connected through approximately 18 km of 33 kilovolt (kV) overhead collection lines to a 33/400 kV Project substation. Power will be exported through 2.75 km of 400 kV overhead line to an Oman Electricity Transmission Company (OETC) grid station. The grid station and line-in/line-out connections are considered associated facilities for the purposes of the assessment, but are outside Naseem Dhofar SAOC's direct control.

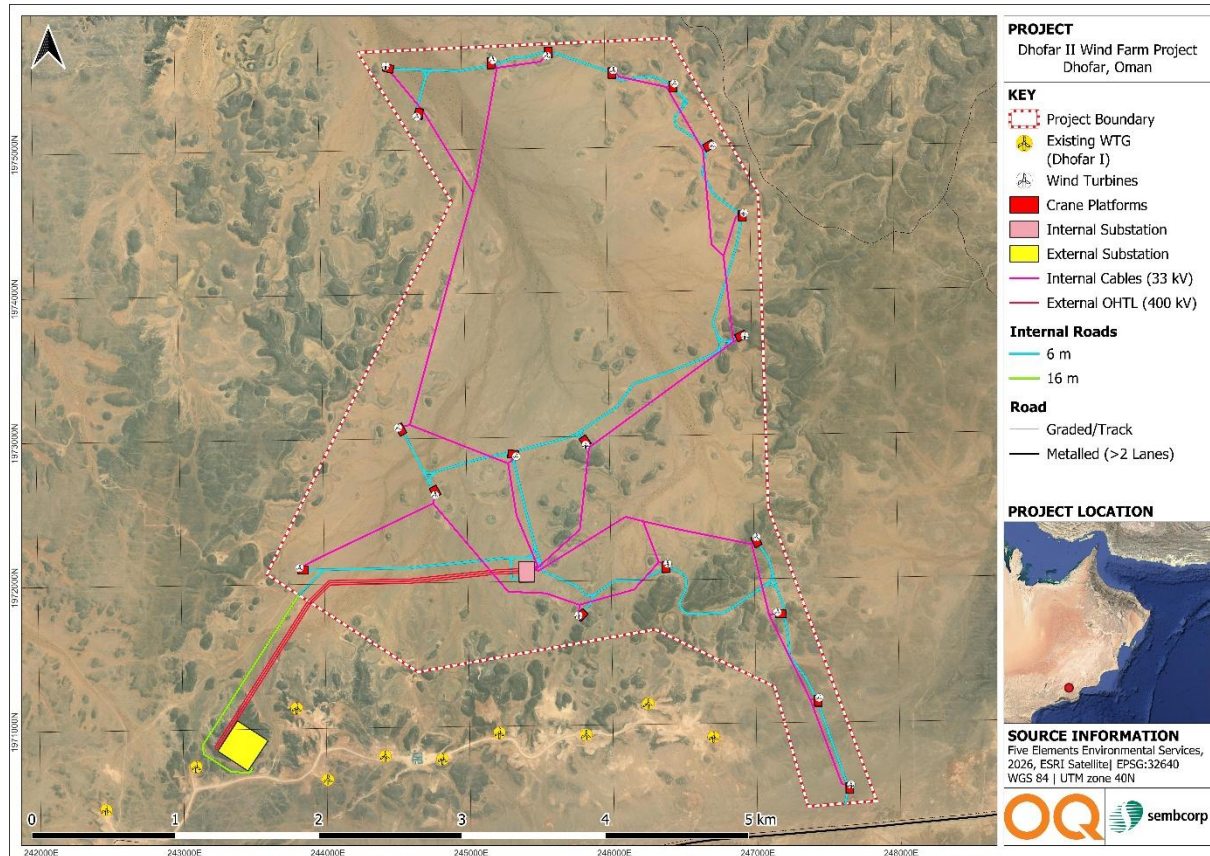


Figure NTS-2: Project Site Layout

WIND TURBINES AND CIVIL WORKS

Each turbine will have a hub height of 115 m, rotor diameter of 200 m with blade tips passing 15 m from the ground and reaching 215 m. Turbine blades are 98 m long. Each turbine will use a reinforced-concrete foundation roughly 25 m in diameter and 5.2 m deep, with excavation to about 6 m.

Each turbine requires an area of 4,200 m² of engineered ground for construction and maintenance to store materials and for heavy lift crane operations, totalling about 8.4 ha for the whole project. The Project also includes about 17.4 km of internal roads, substation and control facilities, warehouse, offices, welfare and firefighting facilities, drainage and an access road connecting with Route 39. The internal cable network will require 18 km of 33 kV overhead transmission lines.

ACCESS, LOGISTICS AND UTILITIES

Site access will be from Route 39. Components will travel about 547 km from the Port of Duqm through or near Haima, Nimr and Marmul. At least 200 abnormal-load deliveries are expected,

excluding return and supporting traffic. Details of the logistics are still being developed and will include route modifications, ROP escorts, and community notification of traffic disruption.

Construction power will mainly come from diesel generators. Water is expected to be delivered by tanker. Sewage will be contained and transferred to licensed treatment facilities. Fuel and hazardous materials will be stored in secure, impermeable, bunded areas.

CONSTRUCTION, WORKFORCE AND ACCOMMODATION

Construction will take approximately 15–18 months and include early works, site establishment, earthworks, roads and drainage, foundations, turbine erection, electrical and substation works, testing and commissioning. Temporary facilities include about 4.8 ha of storage yard, a 0.4 ha site office and 4.8 km of temporary roads, all intended for reinstatement once construction is complete.

The construction workforce will peak at about 300 for four to eight months. Most workers will live off-site, however, up to 22 may be accommodated temporarily on-site. Final accommodation must meet national and lender standards. Contractors must provide fair recruitment, written contracts, suitable welfare and safety, and a worker grievance mechanism.

OPERATION, DECOMMISSIONING AND SCHEDULE

Operation will involve remote monitoring, inspections, maintenance of roads and drainage, routine servicing of turbines and other project elements and occasional component replacement. Operational staffing will be limited and is expected to rely mainly on specialist contractors and periodic site visits, with the final staffing arrangement to be confirmed before operations begin. The planned operational life is 25 years.

Commissioning is planned for the third quarter of 2027. Decommissioning or repowering will follow at end of life. Decommissioning is expected to take 6–12 months and will prioritise removal, reuse and recycling, licensed disposal and reinstatement unless another approved use is selected. A detailed plan will be required closer to the time.

ALTERNATIVES

The ESIA considers the no action scenario, alternative generation technology, turbine size, and overhead versus buried transmission. The Project site was identified through the national renewable energy procurement process, which considered technical, grid-connection and

land-use constraints. The ESIA therefore focused on optimisation of Project design within the allocated site. Larger turbines could reduce foundations but increase bird risk and a buried export line could reduce visual impact and collision effects but would increase construction disturbance and technical constraints. Final micro-siting remains important for the internal cable network.

3. REGULATORY FRAMEWORK AND APPLICABLE STANDARDS

The Project will meet Oman's national environmental permitting requirements and international lender standards. The main legal and standards requirements include:

- National environmental laws, regulations, and environmental permit requirements;
- Oman Government Policies (Vision 2040, Energy Strategy, and Net Zero Strategy);
- International Standards (IFC and World Banks Standards; Equator Principles);
- Good international industry practice for wind energy projects.

REGULATORY ENVIRONMENTAL PERMIT

The Environment Authority confirmed acceptance of the regulatory ESIA subject to permit conditions in letter No. 5511/21/2022-22 dated 25 May 2026. These include implementing the ESIA and management plan, minimising cumulative grid-connection impacts, notifying the EA before tree removal or significant design changes, and transferring waste efficiently to approved facilities. Early site preparation work was separately approved by Shaleem Municipality in May 2026.

4. ENVIRONMENTAL AND SOCIAL BASELINE

The baseline draws on desktop studies, stakeholder engagement and field surveys undertaken mainly throughout 2025 and were completed in April 2026. Important limitations include the short duration of air-quality and noise monitoring, incomplete historical land-use information, reliance on some third-party data, and uncertainty regarding local bird population sizes and avoidance behaviour.

CLIMATE AND CLIMATE CHANGE

The site is hyper-arid, with an average annual rainfall of 48 mm and average annual temperature of more than 26°C. Historical analysis shows a warming trend, more days above 40°C and 45°C, highly variable rainfall concentrated in short events, and little change in average

wind speed. Climate change projections indicate further warming and longer heatwaves, while rainfall and wind changes are less certain. Heat, intense rain, dust storms, lightning, high winds and rare cyclones remain design and emergency risks.

AIR QUALITY

The remote area has few permanent combustion sources, with natural and traffic-raised dust dominating emission sources. Monitoring at one location from 22–24 February 2026 recorded particulate matter and gases below national limits. The short survey does not capture all seasons or dust events. No permanent residential receptor was identified within the 1 km air-quality area of influence.

NOISE AND VIBRATION

The noise environment is generally quiet, influenced by wind, Route 39 traffic, rural activity and Dhofar I infrastructure. Noise monitoring conducted in February 2026 at three locations were generally within industrial limits, with short exceedances of residential limits near the existing substation and Route 39. No permanent dwellings were identified within 1 km of the Project boundary with limited permanent buildings within 2 km, the majority of which are commercial buildings. Monitoring was short term and mainly within the Project area.

GEOLOGY AND SOILS

The site is an alluvial wadi plain with limestone hills and rocky outcrops. Soil is mainly silty-sand with pebbles and exposed rocky areas are highly weathered. A 40–50 m escarpment surrounds the centre of Project area on three sides. Earthquake risks are low and are taken into consideration during the engineering design process.

HYDROLOGY, FLOOD RISK AND GROUNDWATER

Wadi Banoot and smaller channels drain the site. The 1-in-100-year rainfall prediction indicates generally shallow, low-velocity flooding, with deeper and faster flows in Wadi Banoot. Wadis are sensitive because works could obstruct flow, increase erosion or transfer risk downstream. No groundwater was encountered within 20 m by the geotechnical survey and there are no wells in the Project area. Wells in the wider area important, and if groundwater is used during the construction process this would require separate testing, permitting and monitoring.

TERRESTRIAL ECOLOGY AND BIODIVERSITY

Biodiversity investigations included habitat mapping, vegetation surveys, camera trapping, seasonal bird and bat surveys, and targeted tree and Egyptian Spiny-tailed Lizard (*dhub*) surveys. Four bird vantage points covered about 93% of the array over four seasons in 2025. Jabal Samhan Nature Reserve is about 16 km away and the proposed Eastern Nejd Reserve less than 1 km away. Most habitat is sparse gravel, sand or rock and Wadi Bianut supports more vegetation and is used for grazing.

Surveys recorded 191 Egyptian Spiny-tailed Lizard burrows in the Project area, of which 47 are at risk, and about 90 potentially affected trees, mainly Acacia. Evidence of wildlife included Arabian gazelle and Arabian wolf. Bird activity was generally low but included Egyptian and Lappet-faced Vultures, Steppe Eagle and Eastern Imperial Eagle, which are species of conservation concern. One bat species was detected, with low levels of activity across all seasons.

About 6.3 ha of vegetated wadi habitat will be lost, and a habitat restoration plan needs to be developed. Grazing is the main activity that depends on natural resources in the Project area, which has livelihood and cultural value but the level of economic dependency on grazing is low.

WASTE AND WASTE INFRASTRUCTURE

Municipal waste generated in the area is disposed of at Thumrait landfill, about 70 km south-west, and will be used for the disposal of non-hazardous Project waste. Hazardous-waste treatment and disposal options are limited throughout Oman and require licensed specialist transfer. Existing livestock-carcass and organic-waste disposal may attract birds of conservation concern such as eagles and vultures which would increase the risk of their collision with operating wind turbines. Receiving-facility capacity and acceptance criteria, particularly for hazardous waste and future blades, require confirmation.

SOCIO-ECONOMIC CONDITIONS, LAND USE AND HUMAN RIGHTS

The Project lies in rural Dhofar near Fatkhait and adjacent to Route 39. Land uses include livestock keeping, small farms, wells, troughs and seasonal or recreational ezab. Surveys found 11 active ezab within 5 km and four farm plots in the wider area. No physical displacement or economic displacement has currently been identified in the Project area. Temporary or localised restrictions on grazing during the construction period, and livestock movement, access tracks and other informal uses remain possible. The applicability of additional IFC

Performance Standard 5 measures must be reviewed if the final design or access controls change significantly.

Local services are limited and construction will introduce temporary labour and abnormal-load traffic. Key labour and human-rights issues include fair recruitment, migrant-worker welfare, accommodation, health and safety, non-discrimination, access to remedy and equitable access to employment and procurement opportunities.

Engagement with local authorities and community representatives identified generally supportive views toward the Project, following discussions regarding land use, ezab, wildlife, seasonal drainage, employment, training, and community development needs. Stakeholders highlighted the importance of local employment, transparent communication, continued engagement with the Wali's Office and community representatives, and community investment initiatives must respond to local priorities.

ARCHAEOLOGY AND CULTURAL HERITAGE

No sensitive archaeological sites were found during a dedicated survey. The potential for chance finds during construction is low, but may occur particularly during excavating activities.

LANDSCAPE AND VISUAL AMENITY

The landscape character is a natural open desert with wadis, limestone hills, pastoral use and scattered settlements, together with Route 39, Dhofar I turbines, substations, transmission and oil-and-gas infrastructure elements. New turbines will be visually prominent within about 5 km but may be visible further away. Receptors include Fatkhait residents, ezab users and Route 39 traffic with aviation lighting and cumulative industrialisation also being relevant.

5. ENVIRONMENTAL RELEASES

Construction releases include dust and exhaust, noise and vibration, sewage, concrete washout, sediment-laden runoff during rain events, solid and hazardous waste, and unplanned spills. Controls include limiting disturbance, dust suppression, low speeds, equipment maintenance, covered loads, designated refuelling and concrete washout areas, banded storage, spill response, drainage and erosion controls, segregation, licensed collection and documented disposal.

Operation has no routine process emissions. Releases mainly comprise turbine noise, intermittent traffic dust and exhaust, small wastewater volumes, and oils, filters, batteries,

paint, packaging and scrap. Spill containment remains necessary. Any insulating gas used in switchgear must be recorded, maintained and included in leak prevention and greenhouse-gas reporting.

Decommissioning will produce steel, concrete, cables, equipment, aggregate and composite blades. Metals and other suitable material should be recycled. About 2,100 tonnes of blades are estimated, with limited local recycling options available in Oman currently. A future inventory and market review must identify reuse, specialist recycling, co-processing, storage or approved disposal routes.

6. ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

ASSESSMENT METHOD AND FOOTPRINT

The assessment covers construction, operation and decommissioning. Physical and biological significance combines impact magnitude with receptor value and sensitivity, duration, reversibility, certainty and baseline quality; residual terms are Positive, Slight, Minor, Minor/Moderate, Moderate, Moderate/Major and Major. Social and cultural risks use severity, likelihood and vulnerability, with Positive, Low, Medium, High and Critical. Mitigation follows avoidance, minimisation, restoration and compensation or offsetting, verified by monitoring.

The ESIA estimates a total direct-impact area of approximately 64.9 ha, equivalent to 5.52% of the Project boundary. This total includes the Project infrastructure and OETC associated facilities and a 10% contingency allowance. Temporary storage, the site office and temporary roads are intended for reinstatement. The final permanent and temporary footprints, overlaps and associated-facility areas will be confirmed through detailed design.

CLIMATE CHANGE

Manufacture, transport and construction create embodied emissions. The ESIA estimates about 49,400 tCO₂e and a carbon payback of approximately five months, subject to verifying final material inventory, freight, capacity factor and electrical grid data. Renewable power generation is considered to be sustainable development and will lead to a net reduction in GHG emissions over the Project's design life. In terms of physical climate change risks, the assessment has found that heat, intense rain, flood, dust, lightning, high winds and severe storms require climate-resilient design, setting operating limits, heat-stress controls, drainage, emergency response and periodic review.

AIR QUALITY

Temporary construction dust may affect workers, road users, pastoral users and vegetation while vehicle exhaust and volatile compounds are less important. Footprint control, suppression, covered loads, low speeds, maintained plant and complaint response are required, with daily checks and monitoring. Construction and intermittent operational effects are assessed as Slight.

NOISE AND VIBRATION

Noise from construction plant and traffic may temporarily affect workers and nearby users. Rock breaking at night is prohibited. Construction equipment must be maintained and silenced, idling limited and hearing protection used where necessary. Turbine noise modelling predicts the 40 dB(A) contour, the residential noise limit, beyond parts of the Project boundary but not at Fatkhait. Commissioning and complaint-triggered monitoring are required. Construction and operational residual effects are Slight and the cumulative noise from Dhofar 1 and Dhofar 2 are not predicted to exceed threshold noise limits at Fatkhait.

GEOLOGY, SOILS AND GROUNDWATER

Earthworks and construction activity could increase erosion risk, compact or contaminate soils and groundwater. Controls include minimising disturbance, reusing suitable excavated material, stabilising ground, bunding materials, spill response and prohibiting uncontrolled discharges. Residual soil and groundwater impacts and risks are Slight. Any abstraction (assumed to not be required) must be permitted and shown not to affect existing wells.

HYDROLOGY, DRAINAGE AND FLOOD RISK

Infrastructure could obstruct wadis, redirect flow or increase erosion and flood risk. Detailed design must avoid main channels where possible, maintain connectivity, size culverts, protect against scour, keep stockpiles out of flow paths and inspect drainage around rainfall. With erosion controls and emergency procedures, residual construction and operational effects are Slight.

TERRESTRIAL ECOLOGY AND BIODIVERSITY

Construction will remove habitat and may affect trees and active lizard burrows. Micro-siting, marked work areas, no off-road driving, 20 m active-burrow buffers, and an approved compensation plan are required. A habitat restoration plan will compensate for loss of

vegetated habitats. Residual terrestrial ecology impacts and risks are slight if controls and mitigation measures are applied effectively.

Turbines and overhead lines introduce bird collision and electrocution risk. Bird collision risk modelling predicts a very low collision risk for Steppe Eagles and Chestnut-bellied Sandgrouse based on the model assumptions and avoidance rates adopted in the assessment. Residual bird and bat impacts are Slight, subject to application of adaptive management measures (Tier 0, Tier 1 and Tier 2 measures).

Bird and bat mortality monitoring must begin at commissioning and correct for scavenger removal and searcher efficiency. Thresholds for escalation from Tier 0 to Tier 1, and from Tier 1 to Tier 2 are provided in the ESIA. Tier 0 (to be implemented before operations commence) manages bird attractants and prepares species-specific measures. Tier 1 applies targeted bird deterrents, diversion or avoidance measures, and Tier 2 would require shutdown on demand, if commercially and technically feasible, and agreed with relevant authorities and lenders. Fatality monitoring results, species status and lender or EA requirements will determine whether further measures are needed.

LANDSCAPE, VISUAL AMENITY AND SHADOW FLICKER

Construction cranes, lighting, dust and facilities will cause temporary visual change. Footprint control, clustering, minimal night work, directional lighting and lowered cranes reduce the residual risk to Low. Operational turbines and aviation lighting create long-term change. Dark-sky principles where compatible with safety, recessive finishes, engagement and grievances reduce landscape and visual risk from Medium to Low.

ARCHAEOLOGY AND CULTURAL HERITAGE

Known archaeological sites in the Project Area are to be marked and avoided. A Chance find procedure is to be implemented during the construction phase and workers must be made aware of these procedures. Residual risk is Low.

WASTE AND RESOURCE USE

Poor waste management could contaminate land, attract animals and burden existing facilities. The ESIA does not score waste significance but requires prevention, excavation reuse, source segregation, secure labelled storage, licensed transport, transfer records and approved disposal. Resource use must be tracked. Waste-service agreements and blade recycling/disposal options remain outstanding.

SOCIO-ECONOMIC, LABOUR AND COMMUNITY IMPACTS

Construction will create positive employment, training, procurement and spending impacts, although jobs are temporary or specialist. A Local Content and Local Employment Plan must disclose realistic opportunities, advertise locally, apply fair recruitment, prioritise capable suppliers and report outcomes. Labour controls must address contracts, fees, hours, accommodation, safety, non-discrimination and confidential grievances.

Adverse risks include access restrictions, effects on grazing and ezab, livestock injury, traffic, labour-community interaction and unmet expectations. Maintaining access for local land use to traverse the Project Area is important. With implementation of control measures land, livestock and traffic risks are Low.

Unmet expectations reduce from Medium to Low with realistic workforce disclosure, engagement and grievances. Noise, flicker and visual impact are Low social risks. A Community Needs Assessment is recommended for transparent social investment, not as a substitute for mitigation or compensation.

DECOMMISSIONING

Decommissioning will create construction-like traffic, dust, noise, soil, waste, safety and access effects. End of life composite turbine blades are the challenging waste stream that will require further consideration during decommissioning. A future plan must define legal requirements, land use, foundation removal, materials markets, hazardous components, transport and reinstatement. Significance cannot be finalised until the method is known and the final decommissioning plan will be subject to an assessment at the time.

CUMULATIVE IMPACTS

The cumulative assessment covers Dhofar I, OETC infrastructure, Route 39, roads, pipelines, oil and gas operations, quarries and possible future projects, and is qualitative because third-party data are limited. Dust and habitat effects are minor to negligible or Minor, and combined noise is not predicted to exceed residential thresholds at Fatkhait.

Key pathways are overlapping shadow flicker at Route 39, landscape industrialisation, access and livelihood interactions, community expectations, bird collision risk and requirement for waste management and disposal. The Dhofar I wind farm remains the most significant source of local noise and flicker, with Dhofar II having an incremental effect. Landscape perceptions remain uncertain, but likely to be insignificant. The ESIA recommends coordination among

proponents and authorities, compatible bird fatality monitoring, coordinated community engagement and a viable solution for management of end-of-life turbine blades.

7. FRAMEWORK ENVIRONMENTAL AND SOCIAL MANAGEMENT PLAN

The Framework ESMP converts mitigation into responsibilities, procedures, monitoring and records. Naseem Dhofar SAOC remains ultimately accountable and must include requirements in EPC, O&M and subcontract documents. Contractors must prepare detailed plans and method statements, appoint competent staff, train workers, inspect work areas, keep adequate records and correct non-conformances.

The system will include legal and permit registers, defined roles, contractor oversight, change management, emergency and spill response, monitoring, audits, incident and grievance investigation, corrective action, management review and reporting. Design changes must be screened before approval for new impacts, permits and consultation needs.

The ESIA expressly requires the following principal plans and procedures:

- Construction ESMP, Operational ESMP and Stakeholder Engagement Plan;
- Waste Management, Wastewater Management, Water Management, Efficient Resource Use, Air Quality and Dust, and Noise and Vibration Management Plans;
- Traffic and Transportation Management Plan and Emergency Preparedness and Spill Response Plan;
- Biodiversity Management Plan, Post-Construction Bird and Bat Mortality Monitoring Plan, Bird Collision Risk Management Plan, Habitat Restoration Plan, Spiny-tailed Lizard Management Plan;
- Archaeological Chance Finds Procedure; and
- Addressing all issues in the Commitments' Register.

Monitoring includes construction dust and housekeeping checks, drainage inspections around rainfall, waste and resource tracking, land-use, traffic and grievance records, commissioning and complaint-triggered noise checks, and bird/bat mortality monitoring from commissioning. Ineffective mitigation measures must trigger investigation, corrective action and escalation particularly of social and biodiversity aspects.

8. STAKEHOLDER ENGAGEMENT PLAN

A Stakeholder Engagement Plan (SEP) has been prepared for the Project to ensure that stakeholders are informed and have opportunities to participate throughout the Project lifecycle. The SEP identifies stakeholders, summarises engagement undertaken to date, and sets out how information will continue to be shared, how feedback will be received, and how grievances will be managed.

Stakeholder engagement undertaken during preparation of the ESIA included meetings with local representatives and community organisations to introduce the Project, collect baseline information and understand local issues and concerns. The feedback received has informed the ESIA and the Project design.

ESIA DISCLOSURE

The Non-Technical Summary (NTS) in English and Arabic will be made available to stakeholders and the public for a minimum period of 30 calendar days through an online disclosure portal. The full ESIA Report (Rev B) in English will be available to stakeholders upon formal request through the appropriate corporate communication channels during the disclosure period.

Stakeholders will be able to provide comments throughout the disclosure period by completing the feedback form, contacting **Naseem Dhofar SAOC** by phone or WhatsApp on **+968 9957 3090**, or by email at **PRO.NaseemDhofar@sembcorp.com**.

Anonymous feedback will also be accepted. All comments received during the disclosure period will be reviewed and considered before finalising the ESIA.

Contact Naseem Dhofar SAOC at:

- **Contact Person:** Qasim Al Jahdhami
- **Call or WhatsApp:** +968 9957 3090
- **Email:**
PRO.NaseemDhofar@sembcorp.com