



KVGGN SYNERGY PRIVATE LIMITED

# **ENVIRONMENT AND SOCIAL MANAGEMENT SYSTEM**

KVGGN SYNERGY PRIVATE LIMITED

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## Revision History

<b>Rev.</b>	<b>Date</b>	<b>Description</b>	<b>Prepared</b>	<b>Checked.</b>	<b>App</b>
1	20-11-2024	ESMS	A.K	V.S	K.K
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## **1. PURPOSE**

This Environment and Social Management System (ESMS) outlines KVGGN Synergy's approach to managing environmental and social risks through its integrated QHSE (Quality, Health, Safety, and Environment) management plan.

## **2. SCOPE**

This ESMS shall apply to all functions, departments, and locations of the organization, including KVGGN Synergy's SPVs, as well as contractors (with regard to labour relations and labour laws).

## **3. RESPONSIBILITY AND AUTHORITY**

**Implementation:** Contractor and Site managers

The Head of QHSE (HO) is responsible for reviewing this plan, auditing its compliance status, and updating it when legal requirements are revised or reviewed, ensuring it is issued for implementation.

KVGGN Synergy's team is responsible for the effective implementation of this ESMS and ensuring compliance.

Site managers at KVGGN Synergy will monitor the compliance of contractors and subcontractors.

Where applicable, contractors and subcontractors are responsible for the effective implementation of this plan and ensuring that the necessary infrastructure, as defined in the contract and within the scope of work, is available.

## **4. REFERENCE**

QHSE Manual	(Clause 7.5)
ISO 9001:2015	(Clause 7.5)
ISO 14001:2015	(Clause 7.5)
ISO 45001:2018	(Clause 7.5)
IFC PS.	
Indian Regulations	

## 5. DEFINITIONS

<b>QHSE</b>	<b>Quality Health Safety &amp; Environment</b>
<b>ESMS</b>	<b>Environment and Social Management system</b>
<b>HO</b>	<b>Head office</b>
<b>CDP</b>	<b>Community development programs</b>
<b>POSH</b>	<b>Prevention of Sexual Harassment</b>
<b>ESG</b>	<b>Environment &amp; Social Governance</b>
<b>E&amp;S</b>	<b>Environment &amp; Social</b>
<b>GHG</b>	<b>Green House Gas</b>
<b>EHS</b>	<b>Environment Health and Safety</b>
<b>IP</b>	<b>Indigenous people</b>

## 6. Procedure

### 6.1 Assessment and Management of Environment and Social Risks and Impacts.

The Environmental and Social Management System (ESMS) is similar to other financial or risk control systems in that it ensures the company makes risk-related decisions consistent with management’s direction. Simpler projects with lower risk will have a basic Environmental and Social Management Plan (ESMP), while larger, more complex projects will require a more robust and comprehensive ESMS.

Environmental and Social risk/impact assessments are conducted for all projects at KVGGN Synergy. The objectives of these risk/impact assessments are:

#### Objectives: -

- To identify and evaluate the environmental and social risks and impacts associated with the project.
- To adopt a mitigation hierarchy that anticipates and avoids risks, or where avoidance is not possible, minimizes them, and, where residual impacts remain, compensates or offsets the risks and impacts on workers, affected communities, and the environment.
- To promote improved environmental and social performance of the organization/project through the effective use of a management system.
- To ensure that grievances from affected communities and external communication from stakeholders are appropriately addressed by management.
- To promote and provide mechanisms for adequate engagement with affected communities throughout the project cycle, addressing issues that could potentially affect them, and ensuring that relevant environmental and social information is disclosed and disseminate.

## **Policy**

KVGGN Synergy has implemented the following policies, which are endorsed by the top management of the company. Roles and responsibilities have been clearly defined to ensure the effective implementation of these policies. A qualified QHSE team has been deployed to oversee their implementation, establish relevant procedures, and periodically review the policies and procedures to drive continual improvement. KVGGN Synergy's policies are designed to comply with IFC Performance Standards, ISO 9001, ISO 14001, ISO 45001, and applicable regulatory requirements. The management system is certified in accordance with these ISO standards.

### **List of Key ESG Policies:**

- QHSE Policy
- Labour and Working Conditions Policy
- Community Development Framework
- Whistleblower Policy
- Prevention of Sexual Harassment (POSH)
- Code of Conduct
- Anti-Bribery & Corruption Policy
- Stakeholder Engagement and Grievance Redressal Policy
- Other Relevant Policies

### **Identification of Risks and Impacts**

The company has a written procedure that outlines how it will assess environmental and social risks and impacts in accordance with PS1-PS8, ISO 45001, ISO 14001, and applicable national laws. ESG risks and impacts are identified for all KVGGN Synergy projects to ensure compliance with these standards and regulations.

### **Management Programs**

To ensure that all of these requirements are consistently met, KVGGN Synergy has established a management program for routine, ongoing environmental and social (E&S) requirements, as well as one-off, non-routine requirements arising from permits, legal agreements, public commitments, or mitigation measures.

The management program is a written system that ensures these requirements are completed on time.

### **Operational Capacity and Competency (ESG)**

The roles, responsibilities, and authorities for the implementation of the ESMS are clearly defined and communicated throughout the organization.

The company has a written job description outlining E&S responsibilities.



The organizational chart includes E&S staff under the Quality, Health, Safety, and Environment (QHSE) function, as well as under the Community Development Programme (CDP) function.

### **Emergency Preparedness and Response**

Operations at KVGGN Synergy are likely to generate impacts that could lead to emergency situations.

To address this, KVGGN Synergy has an updated Emergency Preparedness and Response Plan that accurately reflects the facility and its surroundings.

This plan is designed to respond to accidental and emergency conditions to prevent harm to people and the environment. The plan is reviewed and updated periodically to ensure its effectiveness.

KVGGN Synergy has trained its personnel to implement the Emergency Preparedness and Response Plan and conducts scheduled mock drills to ensure its effectiveness.

### **Monitoring and Review**

KVGGN Synergy has established written procedures to regularly monitor and measure the key characteristics and performance of the ESMS. These procedures outline how the management program will be assessed to determine if it is functioning effectively.

Additionally, the monitoring and measurement results are used to inform senior management of the program's performance.

KVGGN Synergy engages a third-party competent agency (external experts) to conduct audits and inspections of the ESMS, ensuring an objective assessment of its effectiveness and compliance.

Environmental and social performance information is periodically reported internally to senior management to ensure they are informed about the system's effectiveness and any necessary actions for improvement.

Senior management reviews the monitoring data and audit reports, and takes or recommends necessary actions based on the findings to ensure continuous improvement and compliance.

**Stakeholder Engagement** Stakeholder engagement is required when physical facilities may bring risk to or adversely impact Affected communities.

KVGGN Synergy has established a community engagement process (ARP-IMSP-32, MP for Stakeholder engagement and Grievance redressal) with appropriate (technical level, language, location, etc.) disclosure of assessment information to, and consultation with, affected communities been/or is being conducted in a timely and culturally appropriate manner.

The process ensures or will it ensure free, prior and informed consultation of the affected community, where applicable.

**External Communication and Grievance Management.**

The external communication mechanism is designed at the corporate level to address general public inquiries, while the grievance mechanism is specifically for the project-affected community and workers.

KVGGN Synergy has established a procedure (ARP-IMSP-32, MP for Stakeholder Engagement and Grievance Redressal) to receive and register external communication from the public. External communications can be directed to site managers, or communities can reach out to the head office via email, phone, or post. The contact details are prominently displayed on the KVGGN Synergy website.

Key features of the procedure are,

- Process for how to screen and assess the issues raised and to determine how to respond.
- There is a log / register to track incoming quarries and responses?
- Mechanism to receive and register concerns/ grievance from affected communities.

- A process for how to screen and assess the issues raised and to determine how to respond.

### 6.2 Labour and Working Conditions

The goal is to strengthen and enhance worker-management relations by promoting fair treatment, adhering to national labour laws, and ensuring safe and healthy working conditions. Additionally, it aims to protect children, migrant workers, third-party workers, and those within the organization's supply chain, while preventing forced labour.

#### Objectives: -

- To encourage fair treatment, non-discrimination, and equal opportunities for all workers.
- To establish, sustain, and enhance the relationship between workers and management.
- To ensure compliance with national employment and labour laws.
- To protect workers, including vulnerable groups such as children, migrant workers, third-party employees, and those within the organization's supply chain.
- To promote safe and healthy working conditions and safeguard workers' health.
- To prevent the use of forced labour.

#### Human Resources policies and procedures, working condition,

KVGGN Synergy has implemented a comprehensive human resources policy that is easily accessible to employees, clear and understandable, and provides information about their rights under national labour and employment laws.

KVGGN Synergy has documented and communicated the working conditions and terms of employment to all directly contracted workers. These terms and conditions comply with the relevant National and State laws.

#### Workers' Organization

KVGGN Synergy adheres to applicable National and State laws and does not prevent workers from forming or joining worker organizations, ensuring there is no retaliation or discrimination.

#### Non-Discrimination and Equal opportunity

KVGGN Synergy has established documented and transparent procedures, including those for recruitment, discipline, performance, and grievance management, to ensure that employment decisions are made based on job-related criteria and not personal characteristics.



**Retrenchment**

KVGGN Synergy does not anticipate retrenchment of employees.

**Grievance mechanism**

KVGGN Synergy has implemented a grievance/feedback mechanism that allows staff to raise concerns with management.

This system permits anonymous complaints and ensures that issues are addressed promptly through a clear and transparent process, providing timely feedback without retaliation.

The grievance procedures are communicated to all workers and are also accessible to contract workers.

**Protecting Labour & Forced child Labour workforce:**

KVGGN Synergy ensures that child labour (under the age of 18) is not used directly, through contractors, or within the supply chain.

The company verifies the age of all employees and ensures that young workers (aged 15-18) are not employed in hazardous work.

KVGGN Synergy is committed to preventing child labour within its supply chain and requires contractors and suppliers to adhere to the same policy.

Additionally, the company ensures that forced labour is not used directly or within its supply chain, and commits contractors and suppliers to refrain from using forced labour.

Furthermore, KVGGN Synergy ensures that unacceptable prison labour is not utilized.

**Supplier Diversity and Inclusion:**

KVGGN Synergy promotes diversity and inclusion within its supply chain by encouraging suppliers to create inclusive workplaces that provide equal opportunities regardless of gender, race, or other personal characteristics.

The company conducts thorough due diligence to ensure that its supply chain does not contribute to human rights abuses, including violations of workers' rights, discrimination, or exploitation.

## Occupational Health and Safety

KVGGN Synergy is committed to providing a safe and healthy work environment for its workers.

The company actively identifies potential hazards and takes steps to prevent accidents, injuries, and diseases by reducing risk factors.

Workers are trained in occupational health and safety, and the company maintains records of all occupational accidents, diseases, and incidents.

Furthermore, KVGGN Synergy has developed and implemented a comprehensive emergency prevention, preparedness, and response management plan.

## Workers engaged by third parties

KVGGN Synergy employs contracted workers through third parties and ensures that these third parties are reputable and legitimate. The company verifies that third parties have appropriate management systems in place to ensure compliance with labour and employment standards.

Additionally, KVGGN Synergy has established policies and procedures to manage and monitor the performance of third-party employers.

**Regular Safety Audits and Inspections:** KVGGN Synergy conducts regular safety audits and inspections to identify any hazards in the workplace and ensure compliance with health and safety regulations.

**Health and Wellness Programs:** KVGGN Synergy offers health and wellness programs to promote the physical and mental well-being of employees, including access to health check-ups and support for work-related stress management.

**First Aid Training:** The company provides first aid and emergency response training to designated employees, ensuring that they are prepared to handle medical emergencies effectively.

## Supply Chain

### **Supply Chain Requirements Triggered When:**

Supply chain requirements are activated when there is a high risk of child labour in the supply chain of goods or materials provided, which depends on country-specific and sectoral risks. These requirements apply when the risk is present in the primary supply chain.

The term *primary supply chain* refers to suppliers who provide goods and materials that are crucial for the core business processes of the project and on an ongoing basis. This implies a contractual relationship, allowing for leverage and influence over the supplier.

### **Child / Forced Labor:**

KVGGN Synergy has implemented policies and established systems to screen and monitor for child and forced labour within the primary supply chain.

If any instances of child or forced labour are identified, KVGGN Synergy will take appropriate steps to eliminate and address the issues, in alignment with its contractual obligations that prohibit such practices.

### **Significant Safety Issues:**

KVGGN Synergy ensures that primary suppliers and service providers take necessary steps to prevent or address life-threatening safety situations. The company works closely with these suppliers to guarantee that workplace safety standards are met and maintained, preventing any hazardous situations that could jeopardize workers' lives.

### **Transparent Supply Chain Practices:**

The company emphasizes the importance of transparency within the supply chain. Suppliers are required to provide clear information regarding their sourcing practices, labor conditions, and any social or environmental risks associated with their operations.

### **Supplier Audits and Compliance:**

The company conducts regular audits of its supply chain to ensure compliance with its environmental and social management policies. Non-compliance may result in corrective actions, and in extreme cases, suppliers may be removed from the supply chain.

### **Training and Capacity Building:**

KVGGN Synergy works with suppliers to provide training and capacity-building programs that improve their ability to meet environmental and social standards. This includes workshops on sustainable practices, health and safety protocols, and human rights education.

**Local Employment and Skill Development:**

KVGGN Synergy encourages its suppliers to prioritize local hiring and skill development programs in the communities where they operate, ensuring that renewable energy projects have a positive socio-economic impact.

**Community Engagement:**

Suppliers are encouraged to engage with local communities in the areas where they operate, ensuring that renewable energy projects bring tangible benefits to the surrounding communities, such as job creation, infrastructure development, and local capacity building.

KVGGN Synergy prioritizes ongoing communication with local communities before, during, and after the implementation of renewable energy projects. The company actively seeks input from local stakeholders, including residents, local authorities, and community leaders, to ensure that projects align with community needs and concerns.

KVGGN Synergy prioritizes ongoing communication with local communities before, during, and after the implementation of renewable energy projects. The company actively seeks input from local stakeholders, including residents, local authorities, and community leaders, to ensure that projects align with community needs and concerns.

KVGGN Synergy invests in building the skills of local workers and community members, offering training and educational opportunities related to renewable energy technologies, project management, and environmental sustainability. This fosters long-term community empowerment and prepares residents for future opportunities in the renewable energy industry.

### 6.3 Resource Efficiency and Pollution Prevention.

#### Objectives:

- To avoid or minimize adverse impacts on human health and the environment by avoiding or minimizing pollution from project activities.
- To Promote more sustainable use of resources, including energy and water.
- To reduce project-related GHG emission.

KVGGN Synergy complies with EHS (Environmental, Health, and Safety) guidelines, taking a proactive approach to health and environmental management. The company's projects, whether under construction or in operation, do not result in significant land or groundwater contamination. Additionally, these projects are not located in degraded airsheds (geographical areas where local topography and meteorology restrict the dispersion of pollutants) or ecologically sensitive regions. KVGGN Synergy ensures that the design and operation of its projects minimize the risk of accidental significant pollution releases, maintaining strong environmental protection standards.

#### **General- EHS**

KVGGN Synergy complies with EHS (Environmental, Health, and Safety) guidelines, taking a proactive approach to health and environmental management. The company's projects, whether under construction or in operation, do not result in significant land or groundwater contamination. Additionally, these projects are not located in degraded airsheds (geographical areas where local topography and meteorology restrict the dispersion of pollutants) or ecologically sensitive regions.

#### **Resource Efficiency**

Resource conservation and energy efficiency measures are integrated into the design of greenfield projects and applied during the operation of brownfield projects.

#### **Green House Gases**

KVGGN Synergy's business is renewable energy generation which results in significant GHG offset.

#### **Water Consumption**

KVGGN Synergy's projects are water consumers, and the company has implemented measures to reduce water consumption across its portfolio.

### **Pollution prevention**

Although KVGGN Synergy's projects have limited pollutant emissions, the company ensures that emissions are avoided or minimized through project-specific plans. With baseline assessments, KVGGN Synergy verifies that there is no historical land or groundwater pollution and evaluates potential impacts on ambient conditions through Environmental and Social Impact Assessments (ESIA). Measures are then implemented to safeguard health. Additionally, KVGGN Synergy ensures its projects are not located in degraded airsheds. If located in a degraded airshed, appropriate measures, such as selecting alternative locations or adopting new technologies, fuel emission offsets, or other strategies, are implemented to mitigate any negative health effects.

### **Wastes**

KVGGN Synergy has identified potential waste generated from its processes and applies a hierarchical approach to waste management, focusing on avoidance, reduction, recovery, reuse, and environmentally sound disposal of both hazardous and non-hazardous wastes. When hazardous waste disposal is handled by third parties, KVGGN Synergy ensures the use of reputable, licensed contractors approved by the relevant government regulatory agencies. Additionally, the company maintains proper chain-of-custody documentation to track the waste to its final destination.

### **Hazardous materials management**

KVGGN SYNERGY manages hazardous materials within the specific scope of its operations, including inputs and wastes generated during the construction and operation of its projects. This involves the transportation, handling, storage, and use of materials, with a focus on preventing, minimizing, and controlling any environmental impact.

### **Pesticide/ Herbicide use and management**

If pesticides or herbicides are used, their selection and management align with international best practices and are part of an integrated pest management and/or vector control strategy.

If chemicals are used, the company ensures they are the most appropriate choice and are not listed in the WHO Recommended Classification of Pesticides by Hazard Class Ia or Ib.

Furthermore, chemicals are stored, labeled, and disposed of properly, and employees receive appropriate training on their safe use.

#### **6.4 Community Health, Safety, and Security.**

##### **Objectives:**

- To proactively identify and prevent negative impacts on the health and safety of the affected community during all stages, including both routine and non-routine situations.
- To ensure that the protection of individuals and property is carried out in line with relevant human rights principles, while minimizing or avoiding risks to the affected communities.
- To engage with affected communities in a transparent and inclusive manner, ensuring their concerns are addressed in all stages of the project.
- To provide ongoing training and resources to employees and community members to enhance awareness and preparedness for potential health and safety hazards.
- To regularly monitor and assess the environmental and social impacts of project activities to ensure continued protection of the community's well-being.
- To establish grievance mechanisms for community members to report safety concerns or incidents, ensuring timely and effective resolution.
- To ensure that all project activities comply with national and international health, safety, and environmental standards to protect the community.

The goal is to minimize and manage health and safety risks to the community arising from project activities, equipment, and infrastructure. Communities already experiencing the effects of climate change, those vulnerable for other reasons, or those situated in conflict or post-conflict areas may face an inherently higher level of risk from these activities.

**Scope of Application:** - The applicability is determined during the process of identifying environmental and social risks and impacts, with subsequent actions implemented and managed in line with the Assessment and Management of Environmental and Social Risks and Impacts.

**Infrastructure and Equipment Design and Safety**

KVGGN Synergy ensures that when planning new projects, buildings, and structures, the design, planning, and construction processes incorporate:

- Consideration of public exposure to operational accidents and natural hazards.
- Adherence to accepted design standards.
- Compliance with national and international fire and life safety requirements.

Additionally, KVGGN Synergy ensures that structural elements and projects are designed and certified or approved by competent authorities or professionals.

For high-risk structural elements (such as wind turbines, electrical installations, and transmission lines) located in areas where failure could affect a community, the company either employs in-house experts or engages external professionals in design management.

Moreover, KVGGN Synergy takes measures to prevent incidents and injuries to the public during the movement of equipment and hazardous materials on public roads, implementing appropriate traffic management plans and ensuring compliance with local laws.

**Hazardous Material Management and Safety**

Although in negligible quantities, KVGGN Synergy ensures that public exposure to hazardous materials during deliveries to the project, as well as the transportation and disposal of hazardous waste through communities, is avoided and/or minimized.

**Ecosystem Services**

KVGGN Synergy during ESIA / ESDD ensures that provisioning and regulating ecosystem services are assessed and impacts are avoided.

**Community exposure to Disease,**

KVGGN Synergy ensures that project-specific assessments are conducted and appropriate mitigation plans are implemented to avoid or minimize community exposure to diseases, including waterborne, water-based, water-related, vector-borne diseases, and communicable diseases, particularly those arising from an influx of temporary or permanent



project labours.

### **Emergency Preparedness and Response**

In the event of emergency preparedness and response requiring community participation, KVGGN Synergy ensures that the community is actively involved, informed, and trained, with clear communication and coordinated efforts to effectively manage the situation and minimize risks.

KVGGN Synergy collaborates with government agencies and the community to help establish and maintain effective emergency preparedness. The company assesses any capacity gaps within government agencies to ensure they can adequately support the community in emergency response situations. Additionally, KVGGN Synergy ensures that relevant information is disclosed to affected communities, government agencies, and other relevant parties as necessary.

KVGGN Synergy conducts regular emergency response drills and training exercises in partnership with local authorities and community members to ensure readiness in case of an emergency.

The company develops and maintains a clear communication plan to quickly relay vital information to the community and stakeholders during emergencies.

KVGGN Synergy works with local healthcare providers to ensure medical resources and support are available during emergencies.

KVGGN Synergy establishes and maintains designated emergency response teams with specific roles and responsibilities to enhance coordination and response efficiency.

The company provides ongoing support for local community resilience-building programs to enhance long-term preparedness and response capabilities.

### **Security Personnel**

KVGGN Synergy hires security services for its projects and conducts due diligence on the proposed security service provider. The company incorporates specific requirements related to security arrangements into the contract specifications.

KVGGN Synergy has established a grievance mechanism that allows affected communities, if any, to raise concerns and receive a comprehensive response from the company regarding security-related issues.

The company ensures that any allegations of unlawful or abusive acts by security providers are thoroughly investigated. KVGGN Synergy does not utilize government security forces for project-related security.

## **6.5 Land Acquisition and Involuntary Resettlement.**

### **Objectives:**

- Avoid and minimize adverse social and economic impacts resulting from land acquisition or restrictions on land use.
- Avoid or minimize displacement.
- Explore alternative project designs to reduce impact.
- Prevent forced eviction.
- Work to improve or restore livelihoods and standards of living for affected communities.
- Enhance living conditions for displaced persons by providing:
- Adequate housing.
- Secure tenure.

### **Applicability**

- Land acquired through expropriation or other legal procedures.
- Land acquired through negotiation with property owners, where expropriation (the process by which the state or an authority takes property for public use or benefit) is a possible option.
- Involuntary restrictions on land use or access to natural resources where communities hold

usage rights.

- The company provides fair and timely compensation to landowners or users whose land is acquired or whose access to natural resources is restricted.
- Efforts are made to minimize disruption to the livelihoods of affected individuals or communities, with alternative livelihoods or support measures provided where necessary.
- In cases of land acquisition, KVGGN Synergy works closely with local authorities, legal experts, and community representatives to ensure that all transactions are carried out in a legally sound and socially responsible manner.
- Where applicable, the company ensures that displaced individuals or communities are provided with suitable relocation options and support for a smooth transition.
- A grievance mechanism is established to allow affected individuals or communities to raise concerns or disputes regarding land acquisition, and to ensure these issues are addressed in a timely and effective manner.
- KVGGN Synergy commits to conducting comprehensive social impact assessments prior to land acquisition to identify potential risks and mitigate negative consequences for affected communities.
- The company ensures that land acquisition processes respect the cultural heritage and traditional land rights of local communities, avoiding any harm to their social fabric.
- In instances where land access is restricted, KVGGN Synergy implements measures to ensure that affected communities are not deprived of their basic needs, including access to water, food, and shelter.
- KVGGN Synergy provides ongoing support for displaced individuals or communities to help them regain their social and economic stability post-relocation.
- Where feasible, KVGGN Synergy explores opportunities for land-sharing or co-management agreements that allow for continued use of land by affected communities while meeting project needs.

The applicability of these processes is determined during the environmental and social risks and impacts identification phase, and subsequent actions are managed in accordance with the Assessment and Management of Environmental and Social Risks and Impacts.

KVGGN Synergy acquires land on a willing seller and willing buyer basis, in full compliance with local laws, and does not permit or support any form of land transaction that may result in forced eviction. KVGGN Synergy involves land procurement that involves purely voluntary market transactions. KVGGN Synergy ensures that there are no involuntary physical or economic displacement.

**Consultation and Grievance mechanism**

KVGGN Synergy ensures full disclosure of all relevant information during consultations with land sellers, in compliance with applicable laws. The transaction is properly documented and registered with the appropriate government authority designated for such matters.

**Resettlement and Livelihood restoration planning and implementation**

A Resettlement and Livelihood Restoration Plan is not applicable to KVGGN Synergy, as land is acquired on a willing seller and willing buyer basis. Any associated impacts are assessed during the Environmental and Social Impact Assessment, conducted by a competent, independent agency.

**Physical Displacement/ Economic Displacement**

Land procurement for KVGGN Synergy projects is conducted on a willing seller and willing buyer basis, and as such, physical and economic displacement are not applicable to these projects.

**Private Sector responsibilities under Government managed Resettlement**

Where land acquisition and resettlement are the responsibility of the government (e.g., Solar Parks), KVGGN Synergy will collaborate with the relevant government agency, within the scope allowed, to ensure outcomes align with its policy. Furthermore, in cases where government capacity is limited, the company may assist in resettlement planning, implementation, and monitoring, as applicable.

**6.6 Biodiversity Conservation and Sustainable Management of Living Natural Resources.**

**Objectives:**

- 6.6.1 To protect and conserve biodiversity.
- 6.6.2 To maintain the benefits from ecosystem services,
- 6.6.3 To promote the sustainable management of living natural resources through the adoption of practices that integrate conservation needs and development priorities.

**Applicability:**

- 6.6.4 Applicable under three situations:
  - Projects located in modified, natural, and /or critical habitats.
  - Projects that potentially impact on or are dependent upon ecosystem services over which the company has direct management control or significant influence.
  - Project that includes the production of living natural resources (e.g. agriculture,

animal husbandry, fisheries, forestry)

- Projects that have the potential to disrupt biodiversity or affect endangered species in the area.
- Projects that involve the use or management of natural resources, such as water, soil, or forests, that may impact local ecosystems.
- Projects in areas that are subject to environmental regulations or conservation efforts, requiring careful management of environmental impacts.
- Projects that involve land use changes, such as urbanization, infrastructure development, or industrial activities, which may alter ecosystems and their services.
- Projects that could lead to soil degradation, water pollution, or other forms of environmental damage that may have long-term consequences for local ecosystems.
- Projects located in or near protected areas, such as national parks, wildlife reserves, or conservation zones, which require special environmental considerations.

### **Assessment and Management of Environmental and social risk**

#### 6.6.5 Assessment and Management of Environmental and Social Risks and Impacts

The applicability is determined during the environmental and social risk and impact identification process, with subsequent actions implemented and managed in accordance with Assessment and Management of Environmental and Social Risks and Impacts.

- The environmental and social risk and impact identification process involves a thorough evaluation of potential risks to local communities, ecosystems, and cultural heritage, ensuring that these aspects are addressed from the outset.
- Following the identification of risks and impacts, the company establishes specific mitigation and management measures that are integrated into the project's planning and execution phases.
- The process ensures that all environmental and social risks are regularly monitored and reassessed throughout the project lifecycle to ensure continuous compliance with PS1 standards.
- Stakeholder engagement is an essential part of the assessment process, ensuring that the views and concerns of affected communities are considered and incorporated into the mitigation strategies.
- The company commits to transparent reporting, sharing relevant information with stakeholders and regulatory bodies to ensure accountability in managing environmental and social impacts.
- In cases where unforeseen risks or impacts emerge, the company will take prompt corrective action to minimize harm and ensure the long-term sustainability of the project.

### **General**

KVGGN Synergy, during both internal and third-party assessment processes, evaluates whether a project is located in and may impact modified, natural, or critical habitats. The company retains competent professionals and engages third-party or independent experts to assist with these assessments.

Throughout the assessment, KVGGN Synergy ensures that its projects are not located in natural or critical habitats. If the project is suspected to be in such areas, or if previous assessments are deemed insufficient, the company works with qualified consultants contracted to perform a thorough review.

For projects located in modified habitats, such as agricultural areas, forest plantations, or reclaimed coastal zones/wetlands, the assessment process determines whether the modified habitat holds significant biodiversity value. If it does, KVGGN Synergy ensures that a project-specific management plan is developed and implemented, incorporating appropriate control measures to minimize impacts and protect the biodiversity of the area.

### **Legally Protected Area**

KVGGN Synergy ensures, through surveys, ground truthing, and Environmental and Social Impact Assessments (ESIA), that its projects are located in areas where they are legally permitted and that the company operates in alignment with any government-recognized management plans.

Consultations are held with protected area sponsors and managers, affected communities, indigenous peoples, and other relevant stakeholders, as applicable.

As needed, appropriate, additional, or acceptable programs are identified to promote and enhance the conservation objectives and ensure the effective management of the area.

### **Invasive Alien Species**

KVGGN Synergy's business does not involve the intentional or unintentional introduction of alien or non-native species through its activities.

As part of its community development program, native and common plant species are being planted during plantation drives.

If a major plantation initiative is undertaken, saplings will be sourced from the local forest department to ensure the use of locally appropriate species.

### **Management of Ecosystem services**

Ecosystem Services Include:

- Provisioning services (food, fresh water, timber, fibers, medicinal plants);
- Regulating services (surface water purification, carbon storage and sequestration, climate regulation, protection from natural hazards)
- Cultural services (natural areas that are sacred sites, areas of importance for recreation and aesthetic enjoyment);
- Supporting services (soil formation, nutrient cycling, primary production).

Priority ecosystem services are defined as:

Services on which project operations are most likely to have an impact which may result in adverse impacts to affected communities (Type 1); and,

Services on which the project is directly dependent for its operations (e.g. water) (Type 2)

KVGGN Synergy during ESIA ensures that the project assessment process determines if the project is likely to adversely impact Type 1 and Type 2 priority ecosystem services.

While conducting ESIA determination of priority ecosystem services are done.

Where impacts are unavoidable, the project demonstrates identification of mitigation measures that will result in maintaining the value and fictionality of priority services. E.g. Dry cleaning system as a replacement of wet cleaning system.

For the type 2 ecosystem services, KVGGN Synergy ensures resource efficiency measures.

## **6.7 Indigenous People.**

### **Objectives:**

- 6.7.1 To ensure that the development process respects the human rights and natural resource-based livelihoods of Indigenous peoples.
- 6.7.2 To anticipate and mitigate any adverse project impacts on Indigenous Peoples' communities.
- 6.7.3 To foster sustainable development benefits and opportunities that support the well-being of Indigenous peoples.
- 6.7.4 To establish informed consultation and active participation with Indigenous peoples throughout the project lifecycle.
- 6.7.5 To ensure the Free, Prior, and Informed Consent (FPIC) of affected Indigenous communities when the conditions outlined in this Performance Standard apply, and to respect their culture, knowledge, and practices.

### **Applicability:**

Apply to projects where there may be adverse impacts on affected communities of Indigenous peoples.

There is no universally accepted definition of “Indigenous Peoples,” and they may be referred to by different terms in various countries, such as “Indigenous ethnic minorities,” “aboriginal,” “hill tribes,” “minority nationalities,” “scheduled tribes,” “first nations,” or “tribal groups.”

Within KVGGN Synergy's system, the term “Indigenous Peoples” is used in a broad sense to refer to distinct social and cultural groups that possess the following characteristics to varying degrees:

A long-standing connection to specific territories or areas.

Distinct social, cultural, or economic practices that are different from the dominant society.

A desire to preserve and maintain their distinct cultural identity, language, traditions, and practices.

Vulnerability to marginalization or loss of rights and land due to development, social, or political factors.

A historical or ongoing struggle to assert and protect their rights, resources, and recognition.

6.7.1 Self-identification as members of a distinct indigenous cultural group and recognition of this identity by others.

6.7.2 Collective attachment to geographically distinct habitats or ancestral territories in the project area and to the natural resources in these habitats and territories.

6.7.3 Customary cultural, economic, social, or political institutions that are separate from those of the mainstream society or culture; or

6.7.4 A distinct language or dialect, often different from the official language or languages of the country or region in which they reside.

The applicability of is established during the environmental and social risks and impacts identification process and the resulting actions are implemented and managed in accordance with Assessment and Management of Environmental and Social Risks and Impacts.



### **General**

The KVGGN Synergy, through the Environmental and Social Impact Assessment (ESIA), identifies all Indigenous communities that could potentially be affected by the project and ensures that any adverse impacts are mitigated through the selection of alternative sites. No Indigenous communities within the project's area of influence have been identified as being at risk of potential impacts from the project.

If adverse impacts are unavoidable, the project shall apply the mitigation hierarchy (minimize, restore, and /or compensate) for those impacts and put those proposed mitigation measures into a time-bound plan.

### **Participation**

In the event that impacts are deemed unavoidable, KVGGN Synergy will implement a process of informed consultation and participation, incorporating the following key elements:

- Engaging representative bodies of Indigenous Peoples, along with the affected Indigenous communities.
- Allowing adequate time for Indigenous Peoples to make informed decisions in accordance with their customary decision-making processes.

### **Free, Prior and Informed Consent (FPIC)**

- In the event that impacts are deemed unavoidable, KVGGN Synergy will implement a comprehensive process of informed consultation and participation, which will include the following essential components:
- Involvement of representative bodies of Indigenous Peoples, alongside the affected Indigenous communities.
- Provision of sufficient time to enable Indigenous Peoples to make informed decisions, respecting their customary decision-making processes.
- If Free, Prior, and Informed Consent (FPIC) is required, the company shall take the necessary steps to ensure compliance with FPIC requirements, including:
- Documenting all alternatives considered to avoid or minimize the impact.

- Document the impact on Indigenous peoples' resource use or cultural heritage within the affected community.
- Ensure that the affected community is fully informed of their land rights as per national law.
- Provide the affected communities with appropriate compensation and ensure due process in the event of commercial development of their land and natural resources, including continued access where possible and an equitable sharing of benefits.
- Engage in good faith negotiations to establish an agreement between the company and the affected communities, and document both the negotiation process and the resulting agreement.

**Mitigation and Development Benefits**

If Indigenous Peoples (IP) are identified, KVGGN Synergy shall ensure that the mitigation measures proposed by the company are culturally appropriate and sustainable. These measures will be developed in collaboration with the affected community, considering their institutions, customs, goals, and preferences.

**Private sector responsibilities where Government is responsible for managing Indigenous Peoples issues**

KVGGN Synergy shall engage in close collaboration with the responsible government agency, in accordance with the agency's guidelines and limitations, to achieve outcomes that are fully aligned with the objectives set forth in this Plan. This collaboration will ensure that all actions and measures are consistent with both the local regulatory framework and international standards.

Furthermore, KVGGN Synergy shall prepare a detailed, comprehensive plan that, in conjunction with the relevant documentation provided by the government agency, comprehensively addresses the requirements outlined in IFC Performance Standard 7, as well as any applicable local laws and regulations. The plan will incorporate measures designed to protect the rights and interests of Indigenous Peoples, ensuring their full participation in the decision-making process, and will be tailored to the specific needs and context of the affected communities.

## **6.8 Cultural Heritage.**

### **Objectives:**

### **Protection and Preservation of Cultural Heritage**

#### **6.8.1 Promotion of Equitable Sharing of Cultural Heritage Benefits**

KVGGN Synergy is committed to the protection and preservation of cultural heritage, recognizing its significant value to Indigenous Peoples and local communities. In alignment with this commitment, the company will promote the equitable sharing of the benefits derived from cultural heritage. This will be achieved through transparent, inclusive processes that ensure all stakeholders, especially affected communities, have a fair opportunity to participate in and benefit from cultural heritage initiatives.

The company will work closely with local communities to identify and respect cultural heritage sites, ensuring that any development activities do not undermine their cultural value. Moreover, KVGGN Synergy will ensure that any economic or social benefits arising from the use or preservation of cultural heritage are shared in a manner that is fair and culturally appropriate, fostering mutual respect and positive relations between the company and the affected communities.

The promotion of these equitable practices will also align with relevant legal frameworks, international standards, and the customs, goals, and preferences of the Indigenous Peoples and local communities involved.

### **Applicability:**

6.8.1 This provision applies to projects that have the potential to affect tangible cultural heritage, as well as those that may impact the intangible cultural heritage of local communities, particularly when such heritage may be utilized for commercial purposes. KVGGN Synergy recognizes the significance of both tangible and intangible cultural assets and is committed to ensuring that any potential impacts on these heritage forms are carefully considered and managed in a culturally sensitive manner.

6.8.2 The applicability of this provision is determined during the process of identifying environmental and social risks and impacts. Based on this assessment, the appropriate actions to mitigate or address potential impacts on cultural heritage will be identified and implemented. These actions will be managed in accordance with the established protocols for the Assessment and Management of Environmental and Social Risks and Impacts, ensuring that the protection and preservation of cultural heritage are integrated into the overall project risk management framework.

**Protection of cultural heritage in project design and execution**

KVGGN Synergy ensures compliance with all relevant laws and obligations under the Convention Concerning the Protection of the World Cultural and Natural Heritage. During project surveys and Environmental and Social Impact Assessments (ESIA), the company identifies the presence of tangible cultural heritage within the project area.

If the risk assessment indicates potential impacts to cultural heritage, KVGGN Synergy hires qualified, independent consultants to support the identification, protection, and management of cultural heritage in line with best practices and regulations.

**Chance Find Procedure**

If the project assessment process determines that the project is located in and may be impacting cultural heritage that may not have been identified and protected during the assessment process, KVGGN Synergy has put in place a chance find procedure for unexpected discoveries of cultural heritage.

**Consultation**

The company shall consult with affected communities who have used potentially project-impacted cultural heritage within living memory to incorporate the views of those communities into the companies' decision-making process.

**Community Access**

Where the project site contains cultural heritage used by affected communities, the company allows access to that cultural heritage subject to overriding health, safety and security consideration

**Removal of Non-Replicable Cultural Heritage**

Where there is non-replicable cultural heritage whose removal may result in its destruction, KVGGN Synergy shall demonstrate that:

- a. There are no technically or financially feasible alternatives; and
- b. Overall project benefits conclusively outweigh the loss of the cultural heritage; and
- c. The removal of the cultural heritage

is conducted according to the best available technique.

*Nonreplicable cultural heritage may relate to the social, economic, cultural, environmental, and climatic conditions of past peoples, their evolving ecologies, adaptive strategies, and early forms of environmental management, where the (i) cultural heritage is unique or relatively unique for the period it represents, or (ii) cultural heritage is unique or relatively unique in linking several periods in the same site.*

### **Critical cultural heritage**

KVGGN Synergy avoids selecting project areas that include communities who have long used internationally recognized tangible cultural heritage for cultural purposes. This approach ensures the protection of such heritage and respects the cultural significance of these sites for local communities.

If unavoidable, and/or where the impacts are unavoidable, the company shall use a process of informed consultation and participation, leading to good faith negotiation that results in a document agreement on the measures to address the impacts on the critical cultural heritage

The company shall retain external experts to assist in the assessment and protection of the heritage

*Critical cultural heritage consists of one or both of the following types of cultural heritage: (i) the internationally recognized heritage of communities who use, or have used within living memory the cultural heritage for long-standing cultural purposes; or (ii) legally protected cultural heritage areas, including those proposed by host governments for such designation.*

### Legally Protected Areas

During the survey, ESIA KVGGN Synergy confirmed that the project area is not situated within a legally protected zone or an internationally recognized cultural heritage site.

During the survey, ESIA KVGGN Synergy conducted a thorough assessment and confirmed that the project area does not fall within any legally protected areas, including national parks, nature reserves, or other designated conservation zones.

Furthermore, the site is not located within an internationally recognized cultural heritage area, such as UNESCO World Heritage sites or areas of significant historical or archaeological value.

This finding ensures that the proposed project will not interfere with or impact any protected environmental or cultural resources, aligning with environmental and regulatory compliance requirements.

### Projects use of cultural Heritage

KVGGN Synergy has no intention of commercially exploiting any intangible cultural heritage of local communities, such as traditional knowledge related to medicine, or techniques associated with plants, fibres, or metals.

The company is committed to respecting and preserving the cultural heritage of the local communities and ensuring that any project activities do not infringe upon or misappropriate such intangible resources.

For conducting Environmental and Social Impact Assessment (ESIA) and Due Diligence, KVGGN Synergy ensures a comprehensive approach to the selection of service providers, in addition to leveraging its own robust in-house capacity. Key attributes considered in the selection process include:

6.8.1 **E&S External Expert(s):** The involvement of experienced external experts with specialized knowledge in environmental and social assessments.

6.8.2 **Diverse E&S Expertise:** The team possesses a wide range of environmental and social expertise, drawn from their experience across multiple projects in various sectors.

6.8.3 **In-depth Knowledge of IFC PSs:** The team has

extensive knowledge of the specific technical areas covered by the International Finance Corporation's Performance Standards (IFC PSs) that are relevant to the project.

**6.8.4 Experience in Similar Projects:** The team has prior experience working on projects of a similar nature, ensuring a deep understanding of the unique challenges and requirements specific to the project at hand.

The service providers must demonstrate prior experience working on projects of a similar scale and nature.

This experience ensures that the team is familiar with the potential challenges and opportunities specific to the project's environmental and social context.

It also highlights the provider's capacity to apply lessons learned from previous projects to optimize the approach for the current initiative

By selecting service providers with these attributes, KVGGN Synergy ensures that the ESIA and Due Diligence processes are conducted with the highest level of professionalism, technical expertise, and a deep understanding of local and global standards.

This approach mitigates risks and enhances the likelihood of positive environmental and social outcomes throughout the lifecycle of the project, ultimately contributing to its long-term sustainability.

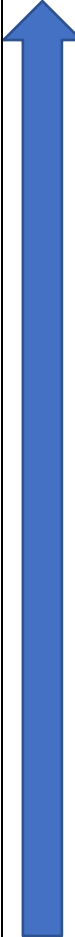
A key element in the selection process is the provider's expertise in the specific technical areas of the IFC Performance Standards (PSs) that apply to the project.

The team's deep understanding of these standards ensures that the project aligns with international best practices for managing social and environmental risks.

This knowledge is critical in ensuring that the project meets the expectations of both investors and affected communities

An international /regional E&S consulting firm is usually required to provide the range of appropriate skill and experience mix, however; they often partner with a local consultancy or add individual local consultants to their team to bring the required country knowledge or language skill.

**6.9 Stakeholder Engagement Hierarchy Adopted by KVGGN SYNERGY,**

Level of Risk/Impact	Stakeholders	Company's Responsibilities
	<b>Significant</b> Indigenous people under these circumstances. <ol style="list-style-type: none"> <li>Impact on Land/ Natural Resources</li> <li>Resettlement of IPs;</li> <li>Impact on critical cultural heritage, including commercial use of cultural heritage</li> </ol>	Free, Prior, and Informed Consent (FPIC) Faith Negotiation where by company documents mutually accepted process, and evidence of agreement*
	Impact on critical cultural heritage, including use for commercial purposes involving Non-IP Affected community	The company integrates Informed Consent Protocols (ICP) with Good Faith Negotiations (GFN), ensuring transparent, respectful dialogue and documented agreements that address community concerns.
	<ol style="list-style-type: none"> <li>Adversely affected indigenous People,</li> <li>Potentially significantly adversely affected communities</li> </ol>	Informed Consultation and Participation (ICP) extends consultation by incorporating affected communities' views into decision-making, ensuring a more in-depth process and thorough documentation of community feedback and actions taken.
<b>Moderate</b>	Adversely affected communities and stakeholders.	Consultation involves disclosure, facilitating two-way dialogue, implementing a grievance mechanism, and developing a stakeholder engagement plan. It includes ongoing reporting to communities on the company's relevant action plans.
<b>All investment /Project Activities</b>	General Public	External communication involves the client implementing procedures to receive, register, screen, and address public communications. Responses are documented, and the management program is adjusted accordingly.
(*) It is expected that company's responsibilities regarding stakeholder engagement activities are additive at each stage from bottom to top.		

**6.10 Occupational Health and Safety (OHS)**

OHS hazards during the construction, operation, and decommissioning of onshore and offshore wind energy facilities and solar projects are similar to those found in most large industrial and infrastructure projects.



KVGGN Synergy has developed and implemented an OHS Management plan considering the following key aspects at minimum:

- 6.9.1 Hazard Identification and Risk Assessment (HIRA)/ Job Safety Analysis (JSA) considering physical, chemical, biological, radiological hazards and special hazard environment.
- 6.9.2 Working at Height and protection from falling objects and working on height on poles and structures,
- 6.9.3 Working in a remote location,
- 6.9.4 Lifting operation,
- 6.9.5 Working in confined space,
- 6.9.6 Working with rotating machinery,
- 6.9.7 OHS factors in general facility design and operation
- 6.9.8 Communication and training,
- 6.9.9 Personal protective equipment,
- 6.9.10 Monitoring,
- 6.9.11 General Hazardous material Management (Hazardous material transfer)
- 6.9.12 Reaction, Fire and Explosion, prevention,
- 6.9.13 Change Management procedure,
- 6.9.14 Compliance audit, inspection,
- 6.9.15 Incident reporting and investigation,
- 6.9.16 Contractor OHS management,
- 6.9.17 Training and employee participation,
- 6.9.18 Work Permit System.
- 6.9.19 Start review/ Induction,
- 6.9.20 Emergency Preparedness and Response.
- 6.9.21 Material Storage, handling, and Transportation,
- 6.9.22 OHS Management for working on Live Power Lines,
- 6.9.23 Electrical OHS Plan,
- 6.9.24 Electromagnetic field EMF OHS Plan,
- 6.9.25 Traffic and Transportation Safety Management Plan
- 6.9.26 Management plan for risks as identified in HIRA, JSA, etc.

#### 6.11 Community Health and Safety

Community health and safety hazard during the construction, operation and decommissioning of onshore and off shore wind energy facilities are like those of most large industrial facilities and infrastructure project.

The organization considers in its community health and safety management plan at minimum,

- **Blade Throw**
- Set back (acceptable) distance between wind turbine and adjacent sensitive receptor, (The minimum set back distance is 1.5 x turbine height (tower + rotor radius).
- Minimize probability of blade failure by selecting WTG that have been subject to independent design verification/ certification (e.g. IEC 61400-1).
- Company ensures that lightning protection system are properly installed and maintained, carry out periodic blade inspections and repair for any defects that could affect blade integrity and equip turbines with vibration sensors that

Set back distance same as above.

Develop suitable management plan if risk of ice throw is identified.

Electromagnetic interference and radiation.

Wind turbines could potentially cause electromagnetic interference with telecommunication systems (e.g. Microwave, television, and radio). The nature of the potential impacts depends primarily on the location of the wind turbine relative to transmitter and receiver, characteristics of the rotor blades, signal frequency characteristics, and radio wave propagation characteristics in the local atmosphere. For Telecommunication and Television electromagnetic interference, has project identified any impact and are management plans identified to mitigate adverse impact if any.

This table provides general area sizes (the “consultation zones”) around specific equipment that would require consultation between a potential developer and the appropriate agency.

<b>Point-to-Point Systems:</b> Microwave Hops	For proximity reasons, the radius of the consultation zone around both the transmit and receive locations should be at least 1.0 km, plus
<b>Over-the-Air Reception</b> (off-air pickup and broadcast receivers)	<b>FM:</b> For proximity reasons, the radius of the consultation zone around an FM transmitter should be at least 2.0 km
<b>Cellular type network:</b>	For proximity reasons, the radius of the consultation zone around a cellular tower should be at least 1.0 km.
<b>Satellite Systems</b> DTH Satellite Ground Stations	For proximity reasons, the radius of the consultation zone around a satellite transmit/receive location should be at least 1.0 km
<b>Land Mobile Networks</b>	For proximity reasons, the radius of the consultation zone around a land mobile radio tower site should be at least 1.0 km
<b>Seism acoustic Monitoring Equipment</b>	The radius of the consultation zone around a Natural Resources Canada monitoring array should be at least 50 km, and at least 10 km around a single monitoring station
<b>Air Defense Radars, Vessel Traffic Radars and Air Traffic Control Radars</b>	<ol style="list-style-type: none"> <li>1) The radius of the consultation zone around any DND Air Defense Radar should be at least 100 km</li> <li>2) The radius of the consultation zone around any DND or Nav Canada Air Traffic Control Search Radar should be at least 60 km</li> <li>3) The radius of the consultation zone around any Canadian Coast Guard Vessel Traffic Radar System should be at least 60 km</li> <li>4) The radius of the consultation zone around a major military or civilian airfield should be at least 10 km</li> </ol>
<b>Weather Radars</b>	The radius of the consultation zone around an Environment Weather Radar should be at least 80 km

For Details, please refer **RABC CANWEA Guidelines - June08**

**Indian Regulation: -**

The Aircraft Act,1934 empowers the Central Government to impose restrictions on the construction of buildings and other structures within a radius of 20 km from the ARP of all aerodromes.

No Wind Turbine Generators (WTGs) shall be installed within a distance of 10 km from the Radar Antenna of all Static Air Defense Radars and within 8 km from the ATS Radar Antenna/VOR

WTG blade tips, at their highest point, can reach up to 200 meters and, in the future, may exceed this height. If located near airports, military low-flying areas, or known flight paths, they may impact aircraft safety directly through potential collisions or alteration of flight paths.

The company considers any airport, air defense establishment, radar station, or airstrip identified near a wind turbine facility. The company consults with relevant aviation authorities before installation, in accordance with air traffic safety y Anti-collision lighting and marking systems on towers and/or blades (including met-masts) are installed, in line with the requirements of relevant aviation authorities.

**Aviation Radar (Is there an aviation radar within 8- 20 KM of sites?)**

- Wind energy facilities located near radar may impact the operation of aviation radar by causing signal distortion, which may cause loss of signal, masking real targets and/ or erroneous signals on the radar screen, creating flight safety issues. These effects are caused by the physical structures of the tower/ turbine and rotating blades. Proximity to existing energy facilities should also be considered in relation to cumulative impacts on radar.
- The following actions shall be considered as control measures:
- Consultation should be undertaken with the relevant aviation authorities to determine prevention and control measures.
- Consider wind energy facility design options, including geometric layout, location of turbines, and change to air traffic routes.
- Consider radar design alterations, including relocation of the affected radar, radar blanking on the affected area, or use of alternative radar systems to cover the affected area.

**Marine Navigation Safety (if Applicable)**

As with aviation safety, if located near ports, harbors, or known shipping lanes, an offshore wind turbine may impact shipping safety through potential collisions, alteration of vessel traffic, or pollution risks associated with collisions.

The following should be considered:

- Offshore turbines, cable routes, and other associated infrastructure require careful consideration in terms of siting to account for factors such as anchorage areas, seabed conditions, archaeological sites, existing cable or pipeline routes, and fishing grounds, while minimizing impact where possible.
- Radar operations used for shipping navigation

**Public access:**

Safety issues may arise with public access to wind turbines (e.g., unauthorized climbing of wind turbines, which may result in electrocution, falls from height, etc.) or to the wind energy substation.

The project implements prevention and control measures to manage public access, such as locked doors, warning signage, anti-climb devices, and security deployment.

**Abnormal load transportation (Traffic management plan),**

The main challenge with respect to wind energy facilities lies in the transportation of oversized or heavy wind turbine components (blades, turbine tower sections, nacelles, and transformers), as well as cranes, to the site.

The organization considered the logistics, traffic, and transportation impacts on existing off-site roadways, bridges, culvert crossings, overpasses/underpasses, overhead power lines, turning radius, and utilities. It also evaluated whether surface replacement, upgrades, or resettlement were required and ensured that the impact on other road users was minimized. To manage this, the organization scheduled deliveries outside peak hours, used approved access routes, and provided a traffic management plan or escort service when necessary.

### 6.12 Performance Indicator Monitoring

#### **Environment Monitoring:**

- Wind energy facilities do not normally generate process emissions or effluents during their operation. However, the following shall be monitored:
- Ambient water, air, and noise quality, as well as solid waste generation related to construction and decommissioning activities.
- Waste generation monitoring

#### **Operation Phase Biodiversity Monitoring. (Site specific)**

- Confirming the predicted bird or bat mortality and recording unexpected mortality.
- Enabling adaptive management of the wind energy facility.
- Better predicting the impact of additional turbines in the same geographical area.
- Advancing scientific knowledge for future wind energy development.
- Assessing the rate and taxonomic composition of bird and bat fatalities and the effectiveness of mitigation measures.
- Conducting post-construction carcass searches.
- Monitoring carcass detection and removal by scavengers, etc.
- Surveying the use and movement patterns of birds and bats through the project area to supplement data gathered by carcass searches.
- If multiple wind farms are located in the same area close to regions of high biodiversity value, a cumulative assessment can be conducted.
- Offshore wind energy facilities should be monitored both temporally and spatially for parameters, including benthic organisms, mammals, fish, sand eels (indicator species of change to sediment characteristics), birds, bats, and marine mammals.

#### **Safety monitoring**

- Recording all incidents, including near misses.
- Conducting workplace and worker audits.
- Facilitating worker consultation and feedback through safety meetings.
- Comparing organizational data with other similar industries.
- Identifying and managing occupational hazards.
- Maintaining records of occupational accidents, diseases, and dangerous occurrences.

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#### **Accident and Fatality Rates**

- Benchmarking incident indicators against the performance of similar facilities.
- Aiming to reduce and eliminate accidents that could result in lost work time, disability, or fatality.



7. **Documentation:** - As applicable in the ESMS.

8. **Attachment:** - Nil