



ECOF Kaduna Limited

Construction Environmental and Social Management Plan (C-ESMP)

Konexa 2.5MW Solar PV and Grid Network Upgrades, Kaduna State, Nigeria

Revisions and Version History

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Definitions and Glossary

CI1	Means Climate Investor One, a financing facility for renewable energy projects in emerging markets offering an integrated funding solution. “CI1 Funds” means the Development Fund and the Construction Equity Fund.
Community Development	The implementation of needs-based programmes designed to deliver positive and sustainable impact to project communities throughout the investment lifecycle; add to the enabling environment in which the Fund seeks to invest; enhance the profile of the Fund, create goodwill for the Fund, the Funds’ existing and future investments; lay the foundations for ongoing community engagement and development; and add to the resilience of the community to future climate and economic shocks.
Environmental and Social Action Plan	The environmental and social action plan agreed upon between the Fund and Project Company, defining actions, responsibilities, deliverables, compliance indicators, and a timeframe for the measures required to remedy the known non-compliances of the business activities of the Project Company with the Environmental and Social Requirements and for any other measure agreed upon, as amended from time to time.
Environmental and Social Impact Assessment	An assessment of potentially significant adverse environmental and social risks and impacts. The key process elements of an ESIA generally consist of (i) initial screening of the project and scoping of the assessment process; (ii) examination of alternatives; (iii) stakeholder identification (focusing on those directly affected) and gathering of environmental and social baseline data; (iv) impact identification, prediction, and analysis; (v) generation of mitigation or management measures and actions; (vi) significance of impacts (source: IFC PS 1).
Environmental and Social Management Plan	A document detailing the necessary measures and actions to be adopted in order to address the issues raised in the impact and risk assessment process, to comply with applicable national laws and regulations, and to meet the requirements of the applicable IFC PS and other applicable requirements. Typically an ESMP is produced as part of an Environmental and Social Impact Assessment process.
Environmental and Social Management System	Environmental and Social Management System: A system describing the governance, institutional, organisational and management arrangements for appropriately addressing the HSSE impacts and risks of an organisation or project.
Environmental and Social Requirements	The requirements applicable to and which must be adhered to by the Project and the Project Company and include: <ul style="list-style-type: none"> • Project ESIA Report, the ESMP and related plans. • The Project’s ESAP. • Host country regulatory framework. • Applicable permits and licences. • Contractual agreements and covenants. • IFC Performance Standards (2012). • Good International Industry Practice as set out in the World Bank Group Environmental, Health, and Safety General Guidelines (2007), the sector-specific World Bank Group Environmental, Health, and Safety Guidelines, etc. • ILO Core Labour Standards, the ILO Basic Terms and Conditions of Work, and the UN Guiding Principles on Business and Human Rights. • The requirements described in CFM’s ESMS.
Good International Industry Practice	The exercise of professional skill, diligence, prudence, and foresight that would reasonably be expected from skilled and experienced professionals engaged in the same type of undertaking under the same or similar circumstances globally or regionally. The outcome of such exercise should be that the Project Company employs the most appropriate technologies in the project-specific circumstances (source: IFC).

Grievance	A concern, complaint or feedback raised by any stakeholder either affected or interested in company operations. Both concerns and complaints can result from either real or perceived impacts of a company's operations.
Grievance Mechanism	A process for receiving, evaluating, and addressing project-related grievances from affected persons at the level of the company, or project and for these to be received and resolved appropriately and in accordance with Principle 31 of the UN Guiding Principles on Business and Human Rights. An internal grievance mechanism is a process implemented for responding to grievances raised by employees or members or the project workforce. An external mechanism should be established as a separate process for dealing with grievances raised by communities and other external stakeholders.
Human Rights	Human rights are inherent in all human beings, whatever their nationality, place of residence, sex, national or ethnic origin, colour, religion, language, or any other status. Every individual is entitled to enjoy human rights without discrimination. These rights are all interrelated, interdependent and indivisible. Human rights are often expressed and guaranteed by law, in the form of treaties, customary international law, general principles and other sources of international law. International human rights law sets out obligations on States to act in certain ways or to refrain from certain acts, so as to promote and protect the human rights and fundamental freedoms of individuals or groups. Business can impact all human rights both positively and negatively. Source: https://www.unglobalcompact.org/
IFC Performance Standards	The IFC Performance Standards on Social and Environmental Sustainability (including the technical reference documents known as IFC's Environmental, Health, and Safety Guidelines), as reflected on the IFC website.
Impact	An environmental or social impact is defined as any alteration of existing conditions, adverse or beneficial, caused directly or indirectly by a Project that results in a specific consequence to a resource/receptor.
Incident	An event or chain of events which caused or could have caused injury, illness, loss of assets or potential or actual damage to relationships or reputation.
International Finance Corporation	An international financial institution that offers investment, advisory, and asset-management services to encourage private-sector development in less developed countries. The IFC is a member of the World Bank Group.
Monitoring	In the context of this document, an umbrella term that includes various methods for evaluating performance including inspections and visual observations and measuring and testing to confirm performance against key performance indicators.
Project	Project (consisting of assets and activities) in which the CI1 Funds are or are going to be invested.
Project Company(ies)	This means any company, partnership or other entity in which a CI1 Fund holds an Investment (source: AOIC Annexure A).
Stakeholder	Persons or groups that are directly or indirectly affected by a project as well as those that may have interests in a project and/or the ability to influence its outcome, either positively or negatively. This can refer to shareholders, investors, employees, communities, governments, industries and (international) third parties.
Stakeholder engagement	An umbrella term encompassing a range of activities and interactions with stakeholders (two way communication) that are designated to promote transparent, accountable, positive, and mutually beneficial working relationships
UN Guiding Principles on Business and Human Rights	The United Nations Guiding Principles on Business and Human Rights were published in 2011 as the standard of responsibility for business with regard to human rights. The UNGP are founded on three pillars: (i) the State duty to protect human rights against abuse by third parties, including business, through appropriate policies, legislation, regulations and adjudication; (ii) the corporate responsibility to respect human rights, meaning to act with due diligence to avoid infringing on the rights of others and address adverse impacts with which they are involved; and (iii) the need for greater access to effective remedy, both judicial and non-judicial, for victims of

	business-related human rights abuse. The focus of the UNGP is on avoiding and addressing negative impacts. Source: https://www.unglobalcompact.org/
Vulnerable persons	Individuals or groups within the project area of influence who could experience adverse impacts more severely than others based on their vulnerable or disadvantaged status. This vulnerability may be due to an individual's or group's race, sex, language, religion, political, opinion, national or social origin, property, birth or other status. Other factors should also be considered including gender, ethnicity, culture, sickness, physical or mental disability, poverty or economic disadvantage, and dependence on unique natural resources

Abbreviations

AC	Affected Communities
CDP	Community Development Programme
C-ESMP	Construction Environmental and Social Management Plan
CFM	Climate Fund Managers
CI1	Climate Investor One
CLO	Community Liaison Officer
COD	Commercial Operations Date
E&S	Environmental and Social
ECOF	Energy Company of the Future
EPC	Engineering, Procurement and Construction
ESAP	Environmental and Social Action Plan
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESMS	Environmental and Social Management System
GIIP	Good International Industry Practice
GM	Grievance Mechanism
HR	Human Resources
HSSE	Health, safety, social and environmental
IFC	International Finance Corporation
IFC PS	International Finance Corporation Performance Standards
ILO	International Labour Organisation
KPI	Key Performance Indicator
LGA	Local Government Area
PC	Project Company
PPM	Planned Preventative Maintenance
PTW	Permit to Work
PV	Photovoltaic
SEP	Stakeholder Engagement Plan
SPV	Special Purpose Vehicle
UNGP	United Nations Guiding Principles on Business and Human Rights
WHO	World Health Organisation

1. Introduction and Purpose

1.1. Introduction

This document describes the Construction Environmental and Social Management Plan (C-ESMP) for the construction of a 2.5 MW solar photovoltaic (PV) plant and grid network upgrades in Kaduna State, Nigeria (“the Project”), by ECOF Kaduna Limited (referred to herein as “ECOF Kaduna” or “the Project Company”). The C-ESMP provides an overview of the key arrangements to be adopted for managing the health, safety, social and environmental (HSSE) issues, risks and impacts associated with the construction phase of the Project. It is intended to help ensure that the Project complies with all applicable environmental and social (E&S) requirements.

1.2. Objectives

The key objectives of this C-ESMP are to:

- Provide a single reference point for the key HSSE management and monitoring controls to be adopted during the construction phase of the Project.
- Provide input into the required content of more detailed and subject matter-specific management plans, where required.
- Provide the basis for the management controls that will be implemented through the Environmental and Social Management System (ESMS) to be developed for the Project.

1.3. Scope

This C-ESMP applies to all activities to be undertaken during the construction phase, including any detailed design, planning and pre-construction activities. It does not include operations, maintenance and decommissioning activities, which will be managed through the implementation of the Project ESMS.

The scope is limited to general HSSE aspects of the construction phase. As required by this C-ESMP, a number of detailed management plans have or will be developed and implemented for specific HSSE subject matter.

The requirements contained herein apply to the activities of ECOF Kaduna itself, and to all contractors, subcontractors, suppliers and service providers (i.e. third parties) conducting activities at the Project sites and/or on behalf of ECOF Kaduna. Whilst Konexa may not be directly responsible for the activities of subcontractors and third parties, it remains ultimately accountable for the HSSE aspects of works undertaken on its behalf.

1.4. Structure of This Document

This C-ESMP is structured as follows:

- Section 1 Introduction and Purpose
- Section 2 Project Standards
- Section 3 Project Description
- Section 4 Roles, Responsibilities and Competencies
- Section 5 Stakeholder Engagement and Communication
- Section 6 Management, Monitoring and Reporting
- Section 7 Construction HSSE Management and Monitoring Measures

1.5. Review

This C-ESMP and any associated documentation will be reviewed and revised as required so that it remains relevant to site practices and activities and to reflect:

- Additional requirements from the Project Environmental and Social Action Plan (ESAP), ESMS and/or any updates to or new E&S studies for the Project.

- Changes to Nigerian laws and regulations and/or applicable international standards.
- Changes in Project policies, plans and reporting procedures.
- Changes in Project activities and/or organisational structure.
- Lessons learnt from accidents or incidents and continual improvements identified through periodic reviews.

2. Project Standards

ECOF Kaduna and its contractors are required to comply with a range of legal and regulatory requirements relating to health, safety, social, security and environmental management. These requirements are enforced by law and are established through legislation, permits, licences, contracts and legislated standards. The Project is also required to meet a number of international standards and good international industry practices.

This C-ESMP is intended to help ensure that such standards are met. Where standards are inconsistent or contradictory, the most stringent standard shall apply be applied, unless otherwise justified to stakeholders.

All legal, statutory and other requirements relevant to the Project shall be identified and documented in a legal register which forms part of the Project ESMS.

2.1. Company Policies

Konexa will adopt an HSSE Policy which will apply to all activities carried out by or on behalf of the Project, including those by contractors.

2.2. National Laws, Regulations and Standards Applicable to the Project

The Project is subject to a range of legal and statutory requirements include those enshrined in acts, regulations, or standards/guidelines that are given regulatory status under the legislation and may be enacted at a local, regional, state, national or international level. E&S-related laws, regulations and standards applicable to the Project includes (but is not limited to):

- Environmental Impact Assessment Act (Cap E12 LFN)
- National Environmental Standards and Regulation Enforcement Agency Act
- Natural Resources Conservation Act (Cap 286 LFN)
- Harmful Waste (Special Criminal Provisions) Act (Cap 165 LFN 1990)
- Land Use Act (Cap 202 LFN 2004)
- Factories Act Cap. 126 LFN. 1990, Cap. F1 LFN. 2004
- Employee Compensation Act (2010)
- Labour Act (Cap L1 LFN)
- National Minimum Wage Act
- National Environmental Protection (Effluent Limitation) Regulations (S.I.8)
- National Environmental Protection (Pollution Abatement in Industries Generating Wastes) Regulations (S.I.9)
- National Environmental Protection (Management of Solid and Hazardous Wastes) Regulations (S.I.15)
- National Environmental (Electrical/Electronics Sector) Regulations S.I. No. 23.
- National Environmental (Noise Standards and Control) Regulations (S.I.35, 2009)
- National Guidelines and Standards for Environmental Pollution Control (1991)
- Environmental Impact Assessment Procedural Guidelines (1995)
- Environmental Impact Assessment Guidelines for Power Sector (2013)
- Kaduna Environmental Protection Authority (KEPA) Law, 2009

Various permits are required for the Project in terms of the applicable national and state regulations, which are issued by relevant Nigerian regulatory authorities. Contractors must ensure that all relevant E&S requirements of these permits are addressed and that any requirements arising from any revision/amendment of these permits are also applied.

2.3. International Standards

The Project is also required to comply with international standards relating to E&S management. The international standards to be applied to the Project are categorised as follows:

- IFC Performance Standards on Environmental and Social Sustainability and applicable guidelines.
- World Bank Group General Environmental, Health and Safety (EHS) Guidelines.
- International Labour Organisation (ILO) Core Labour Standards.
- United National (UN) Declaration on the Rights of Indigenous Peoples, UN Guiding Principles on Business and Human Rights and International Covenant on Economic, Cultural and Social Rights.

2.4. Other Requirements

The Project must also comply with various other requirements, including:

- The Environmental and Social Impact Assessment (ESIA) for the 2.5MV Solar PV and Grid Extension (EnvironQuest, 2021).
- Contractual obligations agreed with Project investors.
- Agreements with government authorities.
- Agreements with other external stakeholders e.g. community groups and non-governmental organizations.
- Any other additional Project-specific standards adopted for the Project.

3. Project Description

3.1. Overview

The Project entails the following key components:

- Constructing and operating a 2.5MW solar photovoltaic (PV) plant as an independent power producer (IPP).
- Refurbishing and expanding network distribution infrastructure, including medium voltage and low voltage distribution lines, injection substations, switchyards, etc.
- Deployment of smart metering infrastructure and a cutting-edge utility management system.

The Project will distribute power purchased from the nearby Gurara Hydropower Plant, supplemented with power generated by the embedded solar PV plant.

ECOF Kaduna also plan to construct and operate a number of solar mini-grids and associated distribution works to serve rural villages where grid extension and connection is not feasible, and to roll out solar home systems to smaller, remote settlements, but these activities fall outside of the scope of this C-ESMP.

3.2. Project Location

The Project is located within the State of Kaduna in and around the city of Kaduna (see Figure 3-1). Grid network upgrade and extension works are focused in two main areas within Kaduna City, namely Zaria Road in the Rigachikum area to the north (where the solar PV plant will also be located) and Kudenda in the south, south of the Kaduna River.

3.3. Project Sponsors

Energy Company of the Future Limited (ECOF), trading as Konexa, is a London-based company established to transform energy systems across Africa and provide reliable, affordable, and sustainable energy for all. Konexa has developed a unique, vertically integrated, renewable energy generation and distribution utility platform model. Through a sub-concession agreement with local distribution companies/utilities, Konexa makes long-term investments in order to (i) install embedded renewable generation and storage capacity where required, (ii) deploy off-grid technologies such as mini-grids and solar home systems, (iii) make network improvements, and (iv) deploy cutting edge smart metering infrastructure. Konexa established ECOF Kaduna under the laws of Nigeria as a special purpose vehicle (SPV) and has partnered with the Kaduna Electricity Distribution Company (KAEDCO) for the Project.

Climate Investor One (CI1) is a financing facility aimed at developing and financing renewable energy projects in emerging markets. CI1 comprises the Stichting Development Fund (DF) and Coöperatief Constructief Equity Fund UA (CEF), which are collectively referred to as the CI1 Funds. The CI1 Funds, as well as its fund manager Climate Fund Managers BV (CFM) are registered in the Netherlands. CFM, acting on behalf of the DF, acted as E&S advisor during Project development, and CEF is considering an equity investment in ECOF Kaduna.

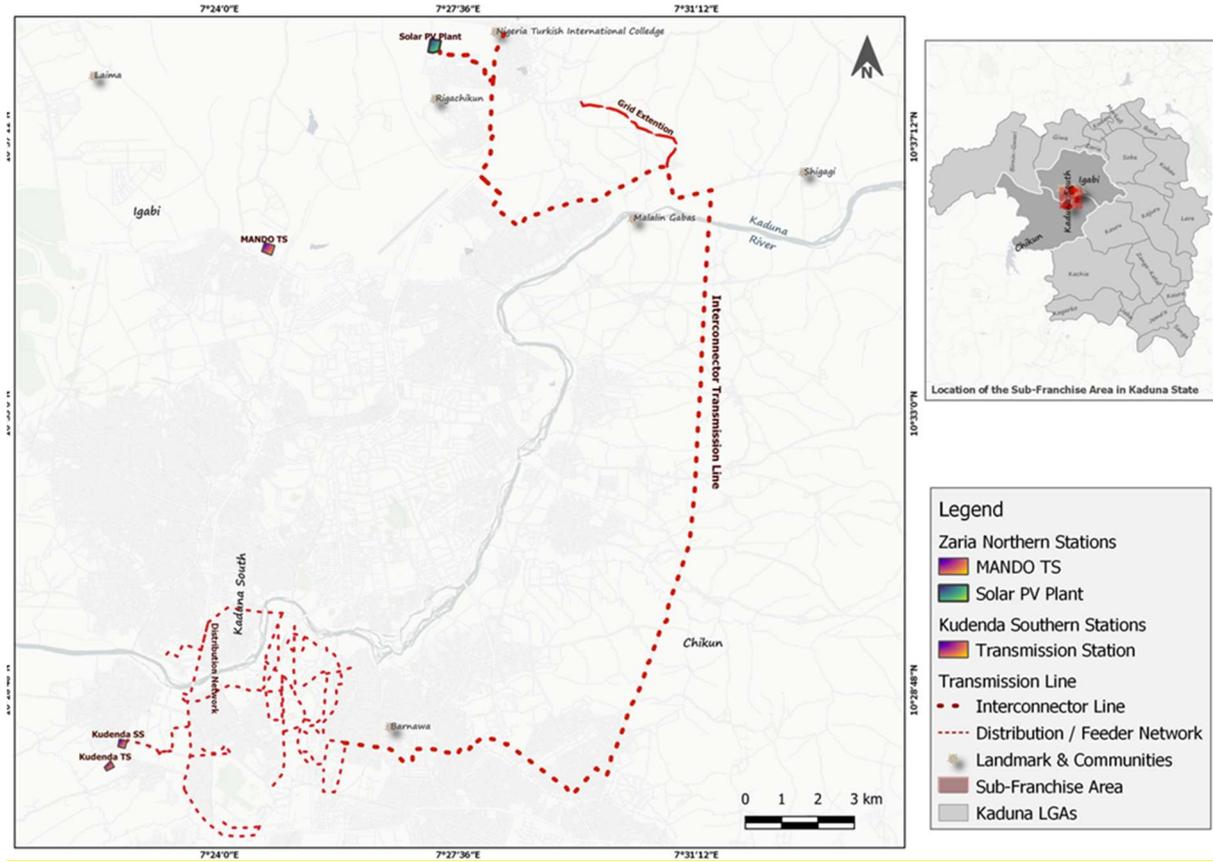


Figure 3-1: Map showing locations of key Project components (adapted from EnvironQuest, 2021)

4. Roles, Responsibilities and Competencies

Delivery of the project commitments referenced in this C-ESMP is the responsibility of Konexa, its subsidiaries and its contractors. Responsibilities for implementation of the specific Project requirements are detailed in the individual management plans.

4.1. Project Company

ECOF Kaduna is accountable for the HSSE performance of the Project and for the implementation of this C-ESMP. The Project Manager will be the designated management representative who has overall responsibility for the implementation of the C-ESMP and is appointed in this role by the Project Management Committee.

The Project Company's responsibilities include supervising the implementation of all required mitigation and monitoring measuring undertaken by the Engineering, Procurement and Construction (EPC) Contractor. If the Project Company directly engages other contractors (other than the EPC Contractor) it shall ensure that the mitigation and monitoring measures are implemented by these parties. The mitigation measures should be followed by all parties involved in the construction process.

ECOF Kaduna will appoint an HSSE Manager to co-ordinate with the EPC Contractor to ensure that the requirements of this C-ESMP are complied with. The HSSE Manager will report to the Project Manager.

All employees working for, or on behalf of, the Project have a responsibility to ensure that they carry out their work in such a way that protects the environment. All employees should be aware of the requirements of this C-ESMP and understand their role in implementing it.

4.2. EPC Contractor

The EPC Contractor is responsible for ensuring adequate and competent staffing is provided to effectively manage and implement all E&S mitigation and monitoring measures as defined in this C-ESMP and associated management plans. This shall be achieved through a competent HSSE team to be appointed by the EPC Contractor. Where the EPC Contractor has engaged subcontractors to carry out some of the scope of work, the EPC Contractor is responsible for ensuring that the subcontractors comply with the E&S Requirements.

Requirements for the EPC Contractor and the subcontractors shall be defined in the relevant articles of their contracts and associated mandatory annexes. All contractors shall develop a Project-specific HSSE management system appropriate to the nature and scale of their respective activities. The contractor's HSSE management system shall be submitted to the Project Company for approval, and each contractor shall be responsible for implementation of its own system.

In addition, each contractor is required to ensure that it meets all subject-specific requirements outlined in each management plan that is relevant to its scope of work. Contractors are also responsible for ensuring that any relevant subcontracted work meet these requirements.

4.3. Competency, Training and Awareness

Effective training is a key requirement for successful construction of the Project and contractor(s) will be required to identify staff training needs and provide appropriate training to all workers.

The EPC Contractor shall develop a training needs assessment and training plan identifying all competency, training and awareness requirements that are considered necessary to comply with the Project's requirements. This training plan and the proposed training materials shall be compliant with the requirements detailed in the Project ESMS and shall be shared with the Project Company if requested. Training records shall be kept by both Konexa and the contractor(s).

5. Stakeholder Engagement and Communication

5.1. Internal Communication

The requirements of this C-ESMP shall be communicated to all Konexa employees as well as to the EPC Contractor. All workers employed on the Project are required to adhere to the requirements this C-ESMP.

The EPC Contractor is responsible for communicating these requirements to its subcontractors. Third parties shall be responsible for communicating the relevant requirements to their own workforce.

5.2. External Communication

Arrangements for external communication are described in the Project SEP. The EPC Contractor shall support the Project Company in the implementation of this plan. The SEP provides for a programme of engagement activities to take place with external stakeholders during the construction phase. Requirements for monitoring and reporting are included.

5.3. Grievance Mechanisms

5.3.1 Internal Grievance Mechanism

The Project ESMS will include an Internal Grievance Mechanism for managing, handling responding and escalating any grievances received from Project workers.

The EPC contractor is required to establish its own Internal Grievance Mechanism. All subcontractors shall adopt the Internal Grievance Mechanism used by the EPC Contractor.

5.3.2 External Grievance Mechanism

The Project SEP includes an External Grievance Mechanism, which is to be followed by the Project Company to (i) receive and register grievances from external stakeholders, including Affected Communities; (ii) screen and assess the issues raised and determine how to address them; (iii) provide, track, and document responses; and (iv) provide access to remedy.

The EPC Contractor and all other (sub)contractors shall also adopt the External Grievance Mechanism.

6. Management, Monitoring and Reporting

6.1. HSSE Management

The Project is being designed, planned and constructed in accordance with all relevant legal requirements and international standards for HSSE management. General HSSE management and monitoring measures will be implemented, and specific, detailed HSSE management plans will be required to address specific E&S aspects, risks or impacts.

The Project Company will development and implement an ESMS that details the governance, organisational and management arrangements for appropriately addressing the HSSE impacts and risks of the Project.

The EPC Contractor will develop and implement its own Project-specific HSSE management system to address HSSE risks and impacts, including various detailed management plans and procedures that explain how the management, mitigation and monitoring actions will be implemented. The plans and procedures must provide detailed requirements on elements such as roles and responsibilities, equipment requirements, budget estimates, detailed monitoring parameters, monitoring methodology, monitoring dates/times (where applicable), monitoring frequency and monitoring locations, and reporting requirements.

The documentation comprising the HSSE management system and detailed management plans applicable to the construction phase of the Project is presented in **Error! Reference source not found.** below.

Table 6-1: Construction Phase HSSE Management.

	Project Company	EPC Contractor
Overarching HSSE management	Project ESAP ESMS HSSE Risk Assessment Procedure HSSE Monitoring and Reporting Construction ESMP	Project-specific HSSE Management System HSSE Risk Assessment Procedure HSSE Training Package Contractor Management
Social and Labour	Human Resources Policy Stakeholder Engagement Plan External Grievance Mechanism Community Development Programme Gender Action Plan	Human Resources Management Internal Grievance Mechanism Worker Accommodation Management Local Content Plan Chance Find Procedure
Health and Safety	Health and Safety Policy	Health and Safety Management COVID-19 Control and Prevention Security Management Traffic Management Noise and Vibration Management and Monitoring Emergency Preparedness and Response
Environmental	Environmental Policy	Hazardous Materials Management Waste Management Water Management Erosion and Sediment Control Water and Wastewater Management Air Quality Management and Monitoring

If the Project directly engages contractors other than the EPC Contractor, the Project Company shall ensure that the management and monitoring measures set out in this section are implemented appropriately. All measures shall be followed by all parties involved in the construction process.

Once the Project approaches the operation phase, the Project Company will take sole responsibility for the ongoing management and monitoring of HSSE compliance and performance. This C-ESMP does not include measures relating to the operating phase; these will be established separately as part of the Project ESMS.

6.2. HSSE Performance Monitoring

Monitoring is a means of verifying overall effectiveness of the management and mitigation measures contained within the management plans listed above. Key objectives of the monitoring process include:

- Verification of the effectiveness of management and mitigation measures.
- Compliance with Applicable Standards (i.e. Nigerian regulatory standards, IFC Performance Standards and associated guidelines).
- Development of adaptive management measures to account for changes in HSSE status, potential changes to the Project schedule and/or non-planned events.
- Monitoring the status of, and impacts on workers, the general public, and the environment.
- Provision of early warning that a control measure is ineffective or failing to achieve the desired performance so that changes can be implemented to address the issue.
- Provision of a basis for continual review and improvements.

6.3. Compliance Monitoring

The Project Company will audit contractor performance in line with audit procedures as outlined in the Project Company ESMS. In addition to contractor audits and the audits led by the Project Company, the Project will also be subjected to regulatory audits and lender compliance monitoring visits, and these may include an assessment of compliance with this C-ESMP and associated management plans.

All contractors shall document their approach to monitoring compliance with the requirements of this C-ESMP and associated management plans.

6.4. Key Performance Indicators

Key Performance Indicators (KPI) are quantitative or qualitative measurements used to gauge performance over time. They can be used to assess the effectiveness of control measures and demonstrate performance improvements during steady state operations. Relevant KPIs are presented in each management plan. Where appropriate, the Project Company shall set minimum E&S standards and associated threshold values (e.g. using legal standards and/or international standards) for measuring HSSE performance.

6.5. Non-Conformances and Corrective Action

Non-conformances and progress on associated corrective actions will be identified, recorded and managed in line with Project Company ESMS procedures and action tracking system.

6.6. Reporting

The Project Company and the EPC Contractor, as required, shall submit performance monitoring reports to shareholders in accordance with the requirements of the ESAP and the Project Company's ESMS.

7. Construction HSSE Management and Monitoring Measures

The HSSE management and monitoring measures for all HSSE aspects of the Projects are detailed in Table 7-1. These set the minimum requirements to be adopted for the key HSSE aspects to be considered in the planning, detailed design, pre-construction, and construction of the Project.

The EPC Contractor will be responsible for the implementation of most of these measures. Where the EPC Contractor engages subcontractors to undertake all or part of the work scope, the EPC Contractor shall ensure that the mitigation measures are implemented by these parties.

Table 7-1: Construction HSSE Management and Monitoring Requirements

Activity	Impact	Reference ¹	#	Management Measure	Responsibility	Means of Verification	Project Phase
1. Management Systems and Processes							
1.1 – Management of HSSE impacts and risks	Risk of non-compliances with legal and other requirements due to inadequate or lacking governance	IFC PS1	1.1.1	Develop and communicate to all staff, contractors and third parties an HSSE Policy that details Project commitments and arrangements for managing HSSE impacts and risks.	ECOF Kaduna	Management system manual	Design and planning
		IFC PS1	1.1.2	Develop and implement an ESMS / overarching HSSE management system for management of the Project’s HSSE impacts and risks.	ECOF Kaduna EPC Contractor	Audit and inspection reports	Design and planning
		IFC PS1	1.1.3	As part of the management system, develop a documented procedure for HSSE risk identification and assessment which includes among other aspects, provisions for human rights, gender equality and women’s empowerment, supply chain, indigenous peoples, biodiversity, and cultural heritage.	ECOF Kaduna EPC Contractor	Risk assessment and management procedure	Design and planning
		IFC PS1	1.1.4	Develop and implement a formal HSSE training programme that provides specific training requirements for all Project site workers in order to comply with local legislation and the requirements of this C-ESMP.	EPC Contractor	Training programme, training records	Project planning, Construction
		IFC PS1	1.1.5	Monitor compliance against the management system through periodic audits and inspections.	ECOF Kaduna EPC Contractor	Audit and inspection reports	Construction

¹ Reference standard or document. ESIA = Environmental and Social Impact Assessment for the 2.5MV Solar PV and Grid Extension (EnvironQuest, 2021)

Activity	Impact	Reference ¹	#	Management Measure	Responsibility	Means of Verification	Project Phase
2. Local Communities and Stakeholders							
2.1 - Stakeholder Engagement	Project activities may have adverse impacts on external stakeholders	IFC PS1	2.1.1	Develop and implement a Project Stakeholder Engagement Plan (SEP) and monitor compliance against it.	ECOF Kaduna	SEP, Monitoring records	Design and planning, ongoing
		IFC PS1	2.1.2	Provide Affected Communities with an understanding of the project activities and the possible impacts and risks as part of the engagement process.	ECOF Kaduna	Communication records	Construction
		IFC PS1	2.1.3	Develop and implement an External Grievance Mechanism and communicate this to affected communities.	ECOF Kaduna	Documented GM, grievance log	Construction
3. Labour and Working Conditions							
3.1 - Human Resources (HR) Management	Human rights violations associated with failure to comply with legal requirements and international labour standards	IFC PS2	3.1.1	Develop and implement a Human Resources Policy. This shall be communicated to all employees in a local language and through training.	ECOF Kaduna	Documented policy	Project design and planning
		IFC PS2	3.1.2	Clearly communicate the requirements regarding labour and working conditions to the EPC Contractor and include these in contract documentation.	ECOF Kaduna	Records of communication	Design and planning
		IFC PS2 ESIA	3.1.3	Include a commitment in the EPC contract requiring the use of local labour as well as other goods and services where possible.	ECOF Kaduna	EPC contract document	Design and planning
		ESIA	3.1.4	Conduct audits of subcontractors and suppliers with respect to compliance of utilising local labour and resources.	ECOF Kaduna	Audit records	Construction
		IFC PS2	3.1.5	Conduct due diligence assessments of the Project's primary suppliers of labour and materials prior to entering into contracts. This includes third party suppliers of agency staff; EPC contractors and their supply chain, and suppliers of equipment (e.g. PV panels) to check for risks associated with human rights, child labour and forced labour.	ECOF Kaduna	Documented assessments	Pre-construction
		IFC PS2	3.1.6	Develop and implement an Human Resources Management Plan in line with the HR Policy, which includes arrangements covering (but not limited to): (i) non-discrimination; (ii) working hours, overtime (if relevant) and rest periods; (iii) remuneration for normal working hours and overtime; (iv) annual leave; (v) employee benefits; (vi) rules regarding collective bargaining and association; (vii) promotion, probation and performance appraisals; (viii) training programmes; (ix) disciplinary process; and (x) dismissal, termination of employment, severance pay and special severance pay.	EPC Contractor	Documented management plan	Project design and planning

Activity	Impact	Reference ¹	#	Management Measure	Responsibility	Means of Verification	Project Phase
		IFC PS2	3.1.7	Prepare written contracts for all workers ² that reflect the provisions of the HR Management Plan and communicate to them the terms and conditions of their employment.	EPC Contractor	Written contracts, communication records	Pre-construction
		ESIA	3.1.8	Clearly communicate to workers that this will be short employment and specify the duration.	EPC Contractor	Communication records	Construction
		IFC PS2 ESIA	3.1.9	Implement an Internal Grievance Mechanism for all Project workers and communicate to workers how to access and use this.	EPC Contractor	Documented GM, communication records	Construction
		IFC PS2	3.1.10	Implement a Worker Accommodation Management Plan taking into account legal requirements and GIIP (e.g. IFC guidance document ³) and monitor compliance against it.	EPC Contractor	Documented plan, monitoring records	Design and planning, construction
		IFC PS2	3.1.11	Implement a Contractor Management Plan that details requirements regarding labour and working conditions to be met by all sub-contractors working for and on behalf of the Project.	EPC Contractor	Management plan	Design and planning
		IFC PS2	3.1.12	Monitor sub-contractors to detect any risks of non-compliance with the Project's E&S requirements applicable to labour and working conditions, as well as those of all applicable laws.	EPC Contractor	Monitoring records	Construction
3.2 – Employment of local/unskilled workers	Potentially vulnerable workers (e.g. unskilled) may be exposed to weakly enforced labour and working standards	IFC PS	3.2.1	Develop and implement a Local Content Plan for local recruitment and sourcing of local goods and services	EPC Contractor	Documented plan	Construction
		IFC PS2 ESIA	3.2.2	Communicate information about Project-related employment and business opportunities to local communities and prioritise employment of local people wherever feasible.	EPC Contractor	Communication records	Construction
		IFC PS2 ESIA	3.2.3	Work closely with local government agencies for the recruitment of local workers.	EPC Contractor	Recruitment plan	Construction
		IFC PS2	3.2.4	Provide capacity building activities including skills improvement training for local labour force to enable them to access future job opportunities.	EPC Contractor	Training records	Construction
	Risk of child labour on site, which can have	IFC PS2	3.2.5	Do not allow any under 18-year-old person to be engaged, employed directly or indirectly at any projects. Ensure this is communicated to all subcontractors.	EPC Contractor	Communication and monitoring records	Construction

² This includes full-time and part-time employees on permanent contracts, as well as fixed term and temporary workers.

³ Workers' Accommodation: Processes and Standards - A guidance note by IFC and the EBRD, 2009.

Activity	Impact	Reference ¹	#	Management Measure	Responsibility	Means of Verification	Project Phase
	serious health and safety impacts and reputation risks	IFC PS2	3.2.6	Obtain proof of age of all workers and maintain records, which shall be available for audit.	EPC Contractor	Worker ID documents	Construction
4. Occupational Health and Safety							
4.1 – Site-based construction activities	Exposure to health and safety risks during activities relating to vehicles and driving, working at height, manual handling, noise, vibration, electrical hazards	IFC PS2	4.1.1	Implement a Health and Safety Management Plan to prevent accidents, injury, illness and disease and monitor implementation by contractors.	EPC Contractor	Documented plan	Construction
		IFC PS2	4.1.2	Conduct all work in accordance with documented method statements which have been approved in advance by the Project Company.	EPC Contractor	Documented method statements	Construction
		IFC PS2 ESIA	4.1.3	Implement a permit to work (PTW) system for all high risk activities including but not limited to: (i) entry into confined space; (ii) working at height; (iii) lifting operations; (iv) hot work; (v) work on energized systems, and/or (vi) ground disturbance in locations where buried hazards may exist.	EPC Contractor	Documented PTW system, completed permits	Construction
		IFC PS2 ESIA	4.1.4	Provide all workers with training on health and safety management system and conduct regular refresher training, toolbox talks, and other communication campaigns to maintain awareness of health and safety risks and controls.	EPC Contractor	Training records	Construction
		IFC PS2 ESIA	4.1.5	Conduct ongoing monitoring of HSSE performance through daily site inspections.	EPC Contractor	Inspection records	Construction
		IFC PS2 ESIA	4.1.6	Ensure that all workers and visitors to project sites wear long legged trousers and provide the following PPE for all personnel and visitors: <ul style="list-style-type: none"> • Safety Boots – boots which extend above the ankle and which have a steel or composite toe and midsole. • Hard Hats – ANSI (American National Standards Institute), ISEA (International Safety Equipment Association) or similar rated construction hard hats. Construction hard hats must have a brim or lip extending above the eyes of the wearer. • High Visibility Vest – ANSI, ISEA or similar florescent vest or similar clothing. • Safety Goggles/Glasses – ANSI, ISEA or similar “wrap around” safety glasses which protect the eyes in all directions. 	EPC Contractor	Inspection records, inventory of PPE	Construction
		IFC PS2 ESIA	4.1.7	Provide the additional items of PPE as determined on the basis of a risk assessment and to comply with legal requirements for job-specific work activities:	EPC Contractor	Inspection records, inventory of PPE	Construction

Activity	Impact	Reference ¹	#	Management Measure	Responsibility	Means of Verification	Project Phase
				<ul style="list-style-type: none"> Hearing Protection – ANSI, ISEA or similar which will reduce audible noise levels to that prescribed by local (or international) prescribed levels. Dust Masks – To be worn in dusty atmospheres or working with airborne particulates. Sunscreen – To be used on exposed skin to protect against burns from UV (ultraviolet radiation). Fall Arrest Harness – Approved fall arrest harness and associated devices to be worn when persons are working at height or when there is a risk of fall. Face Shield – To be used when handling hazardous liquids such as caustic soda or acids or applying herbicides etc. or for grinding, cutting or welding. Flame Retardant Clothing/Aprons – To be used when cutting, grinding or welding. General Purpose/ Riggers Gloves – To be used where there is a risk of the hands being cut or receiving abrasions. Chemical Resistant Nitrile Gloves – To be used when where there is a risk of acid or caustic material splashing on hands. Life Jacket/Buoyant Work Vest – Approved life jacket or buoyant work vest device to be worn when persons are walking, working or being transported where the risk of drowning exists. 			
		IFC PS2	4.1.8	Develop and implement a COVID-19 Control and Prevention Plan with site safeguard protocols based on World Health Organisation (WHO) recommended preventative measures, including social distancing protocols, sanitation measures, training and awareness, site access controls and provisions for quarantine and isolation.	EPC Contractor	Documented plan, inspection records	Construction
5. Workplace Welfare and Fitness for Work							
5.1 – Provision of healthy work environment	Potential for ill health due to poor welfare facilities on site	IFC PS2	5.1.1	Provide clean and accessible sanitary facilities with handwashing facilities which include clean water and soap. Separate facilities shall be provided for males and females.	EPC Contractor	Inspection records	Construction
		IFC PS2	5.1.2	Provide unlimited safe drinking water to all workers of a quality that is certified to conform to WHO drinking water quality standard.	EPC Contractor	Inspection records, laboratory analysis	Construction

Activity	Impact	Reference ¹	#	Management Measure	Responsibility	Means of Verification	Project Phase	
		IFC PS2	5.1.3	In case water is sourced from regular taps, boreholes or an indirect source (e.g. by water tanker), ensure it is appropriately tested before consumption to confirm it meets the WHO quality standard for drinking water.	EPC Contractor	Laboratory analysis certificates	Construction	
		IFC PS2	5.1.4	If water is stored in bulk on site, monitor the water through regular sampling and analysis at recognized laboratories and obtain documented test reports.	EPC Contractor	laboratory analysis certificates	Construction	
		IFC PS2	5.1.5	Bulk water storage containers shall be cleaned every fourteen days to ensure the water quality remains acceptable. Maintain documented cleaning records and display these on the tank/receptacle.	EPC Contractor	Cleaning and inspection records	Construction	
		IFC PS2	5.1.6	Provide shaded areas where workers can rest and eat meals out of direct sunlight.	EPC Contractor	Inspection records	Construction	
	Fitness for Work	IFC PS2	5.1.7	Ensure a fitness for work programme for all workers which will detail the required measures for aspects such as drugs and alcohol; control of disease vectors; fatigue; medical assessment and surveillance; back to work rehabilitation, etc.	EPC Contractor	Documented programme	Construction	
		IFC PS2	5.1.8	Implement controls for remote site work including aspects such as travel; exposure to harmful flora and fauna; exposure to extreme high or low temperatures and altitudes, etc.	EPC Contractor	Monitoring records	Construction	
	6. Security Management							
	Presence of private or state security	Human rights violations against local communities and/or workers	IFC PS4	6.1.1	Develop and implement a Security Management Plan taking into account legal requirements and GIIP (e.g. IFC guidance document ⁴) and monitor compliance against it.	EPC Contractor	Documented plan, monitoring records	Design and planning
IFC PS2			6.1.2	Ensure security personnel are recruited, equipped, remunerated, managed and trained according to the security management plan.	EPC Contractor	Inspection records	Construction	
IFC PS4			6.1.3	Carry out background checks on all security personnel prior to recruitment to ensure that they have not been implicated in any previous crimes.	EPC Contractor	Personnel records	Construction	
IFC PS4 ESIA			6.1.4	Ensure that security personnel have received training regarding appropriate conduct, the principles of proportional response, and use of force towards workers and communities.	EPC Contractor	Training records, Grievance log	Construction	

⁴ IFC Good Practice Handbook (2017) Use of Security Forces: Assessing and Managing Risks and Impacts Guidance for the Private Sector in Emerging Markets

Activity	Impact	Reference ¹	#	Management Measure	Responsibility	Means of Verification	Project Phase
		IFC PS4 ESIA	6.1.5	Erect barricades and safety warning signs around the perimeter of construction areas to deter the public from entering.	EPC Contractor	Inspection records	Construction
7. Driving and Vehicle Safety							
7.1 – Activities involving driving of light goods and passenger vehicles	Risk of road traffic accident causing harm to driver, passengers and other road users, property damage	IFC PS1, 4 ESIA	7.1.1	Develop and implement a Traffic Management Plan which will also include the requirements detailed in other sections of Table 6-2 (including Section 8; 9; 10; 12) and will be based on best practice (refer to the IFC EHS Guidelines).	EPC Contractor	Documented plan	Construction
		IFC PS1, 4 ESIA	7.1.2	Restrict vehicle movements to defined access routes, and plan heavy vehicle movements to avoid busy times (e.g. when children are going to and from school and Friday prayer period from 1pm to 2pm) and to reduce traffic congestion and risk of accidents.	EPC Contractor	Inspection reports, grievance log	Construction
		ESIA	7.1.3	Limit vehicular movement near sensitive locations such as schools and hospitals.	EPC Contractor	Inspection reports, grievance logs	Construction
		IFC PS1, 4	7.1.4	Ensure that all vehicles used for the project are compliant with legal requirements and that seatbelts are fitted for the driver and all passengers.	EPC Contractor	Inspection records	Construction
		IFC PS1, 4	7.1.5	Ensure that all drivers working for or on behalf of the project undergo safe driver training.	EPC Contractor	Training records	Construction
		ESIA	7.1.6	Display proper signage at important traffic junctions along the vehicular access routes to be used by construction traffic. The signage will serve to prevent diversion from designated routes and ensure that proper speed limits are maintained near residential areas.	EPC Contractor	Inspection records	Construction
		ESIA	7.1.7	Provide temporary parking facilities within the work areas and the construction sites to avoid road congestion.	EPC Contractor	Inspection records	Construction
8. Noise and Vibration							
8.1 - Noise and Vibration associated with construction work	Exposure of workers to noise and vibration hazards	IFC PS2	8.1.1	Develop and implement a Noise and Vibration Management and Monitoring Plan and monitor compliance against it.	EPC Contractor	Documented plan, monitoring records	Construction
		IFC PS2 ESIA	8.1.2	Use modern, efficient vehicles and equipment, and implement a planned preventative maintenance (PPM) regime to keep vehicles and equipment in good working order.	EPC Contractor	PPM records	Construction
		IFC PS2	8.1.3	Ensure the noise emitted by equipment does not exceed 85 dB(A) at 1m from the source in line with international standards.	EPC Contractor	Noise monitoring records	Construction

Activity	Impact	Reference ¹	#	Management Measure	Responsibility	Means of Verification	Project Phase
		IFC PS2 ESIA	8.1.4	Use acoustic enclosures (e.g. soundproof encasements for diesel generators), mufflers, lubrication of equipment, etc. wherever feasible.	EPC Contractor	Inspection records	Construction
		IFC PS2	8.1.5	Ensure all workers and staff are educated/sensitised regarding exposure risks and reduction of noise and vibration.	EPC Contractor	Training records	Construction
	Noise nuisance impacts on neighbouring land users/communities	IFC PS4	8.1.6	Noise levels construction site boundaries shall not exceed whichever is the more stringent of either the legally defined limits or the IFC limits as defined in the General EHS Guidelines ⁵ or otherwise result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site.	EPC Contractor	Noise monitoring records, grievance log	Construction
		IFC PS4 ESIA	8.1.7	Project-related activities (including transport) shall be avoided during the IFC night-time hours (i.e. 22h00-07h00) and activities which generate elevated noise levels shall be avoided after 18h00.	EPC Contractor	Noise monitoring records, grievance log	Construction
		IFC PS4	8.1.8	Use broadband reverse alarms on mobile plant and vehicles (or alternative audible reverse warning systems that, whilst ensuring that they give proper warning, have a minimum noise impact on nearby sensitive receptors) instead of tonal reversing beepers.	EPC Contractor	Grievance log	Construction
		IFC PS4	8.1.9	Shut down machinery and other construction equipment when not in use and/or during non-work periods.	EPC Contractor	Inspection records, grievance log	Construction
		IFC PS4 ESIA	8.1.10	Vehicle horns shall only be used when necessary (i.e. to avoid accident).	EPC Contractor	Grievance log	Construction
		IFC PS4	8.1.11	Heavy vehicles shall be driven at a consistent low speed on local roads to avoid noise from heavy braking and revving.	EPC Contractor	Grievance log	Construction
9. Hazardous Materials							
9.1 – Transport of hazardous materials	Impacts to public health in the event of a spill on a public road; impacts to worker H&S,	IFC PS3	9.1.1	Include the transport of hazardous materials in a Traffic Management Plan and communicate this to drivers of vehicles contained hazardous materials.	EPC Contractor	Communication records, grievance log	Construction
		IFC PS3	9.1.2	The carriage of hazardous materials must be compliant with an approved H&S management plan which all transport workers/companies shall be made aware of.	EPC Contractor	Inspection reports	Construction

⁵ For reference the IFC limits are as follows: for land uses defined as residential, institutional or educational: 55 dB(A) (day time: 07:00-22:00) and 45 dB(A) (night time: 22:00-07:00) and for industrial or commercial land uses: 70 dB(A) (both day and night time).

Activity	Impact	Reference ¹	#	Management Measure	Responsibility	Means of Verification	Project Phase
	environmental impact	IFC PS2	9.1.3	Appropriate PPE (at a minimum safety boots or shoes) must be used when unloading hazardous materials from delivery vehicles. This also applies to third party delivery drivers.	EPC Contractor	Inspection reports	Construction
		IFC PS2	9.1.4	A list of approved materials shall be made available at the site and shall be checked in relation to all deliveries. No unapproved materials shall be accepted.	EPC Contractor	Approved materials list	Construction
		IFC PS2	9.1.5	Only trained and competent personnel shall be responsible for checking and accepting deliveries of hazardous materials to the Project site.	EPC Contractor	Training records	Construction
9.2 - Storage, handling, and use of hazardous materials	Impacts to worker H&S, soil and water contamination	IFC PS3	9.2.1	Implement a Hazardous Materials Management Plan and monitor compliance against it.	EPC Contractor	Inspection reports	Construction
		ESIA	9.2.2	Train personnel in hazardous materials handling to avoid poor handling and contamination from accidental spillage and surface runoff.	EPC Contractor	Training records, Inspection reports	Construction
		IFC PS3	9.2.3	Prepare risk assessments for the safe storage, handling and use of hazardous materials and communicate these to all workers as appropriate.	EPC Contractor	Risk assessments	Construction
		IFC PS3	9.2.4	Prepare an inventory of hazardous materials and their storage location(s) and keep this inventory up to date. Store incompatible substances separately from each other.	EPC Contractor	Inventory of materials	Construction
		IFC PS3	9.2.5	Designate a secure materials storage area into which access is restricted only to authorised (i.e. trained) personnel.	EPC Contractor	Inspection reports	Construction
		IFC PS3 ESIA	9.2.6	Ensure the storage area is located on an impervious surface with secondary containment, is sheltered from direct sunlight and sources of heat, protected from rain ingress, and adequately ventilated to prevent accumulation of gases, vapours.	EPC Contractor	Inspection reports	Construction
		IFC PS3 ESIA	9.2.7	Locate and use diesel generators and bowsers in bunded areas or provide another form of secondary containment to prevent spills or leaks onto the ground.	EPC Contractor	Inspection reports	Construction
		IFC PS3 ESIA	9.2.8	Check that hazardous material storage containers are suitable for the contents and are labelled with the contents and any hazard symbols.	EPC Contractor	Inspection reports	Construction
		IFC PS3	9.2.9	Provide project workers with training and information relating to the content of the risk assessments and the emergency response measures.	EPC Contractor	Training records	Construction
		IFC PS3	9.2.10	Conduct weekly site inspections, including on all storage locations, equipment, machinery, and fuel tanks (e.g. to check for leaks of fuel oil).	EPC Contractor	Inspection reports	Construction

Activity	Impact	Reference ¹	#	Management Measure	Responsibility	Means of Verification	Project Phase
10. Waste Management							
10.1 – Handling, storage and disposal of waste	Soil and water contamination; negative impacts to worker and public health, environmental harm	IFC PS3 ESIA	10.1.1	Develop and implement a Waste Management Plan, including a comprehensive waste inventory in order to identify, track and quantify major waste streams generated, and monitor compliance against it.	EPC Contractor	Documented plan, monitoring records	Construction
		IFC PS3 ESIA	10.1.2	Install adequate waste collection facilities at designated locations, e.g. colour-coded bins with weatherproof lids. Ensure frequent emptying of waste bins to prevent overflowing.	EPC Contractor	Inspection reports	Construction
		IFC PS3	10.1.4	Store all wastes in a designated area and in suitable containers that are covered to prevent the escape of waste.	EPC Contractor	Inspection reports	Construction
		IFC PS3 ESIA	10.1.4	Segregate hazardous (e.g. waste oil) and non-hazardous wastes into separate containers and clearly label each container.	EPC Contractor	Inspection reports	Construction
		IFC PS3 ESIA	10.1.5	Segregate non-hazardous wastes into recyclable and non-recyclable materials.	EPC Contractor	Inspection reports	Construction
		IFC PS3 ESIA	10.1.6	Ensure that no unauthorized dumping (either on or off site) of used oil and other hazardous waste is undertaken and immediately address any evidence of non-compliance.	EPC Contractor	Inspection reports, grievance log	Construction
		IFC PS3	10.1.7	Prohibit the burning of any waste on site.	EPC Contractor	Inspection reports, grievance log	Construction
		IFC PS3 ESIA	10.1.8	Arrange for waste to be collected and disposed of by suitably licensed contractors.	EPC Contractor	Copies of licences	Construction
		IFC PS3	10.1.9	Maintain a logbook detailing the types and volumes of waste generated and retain waste transfer records for all waste taken off-site for disposal.	EPC Contractor	Waste log	Construction
		IFC PS3	10.1.10	Conduct weekly site inspections of all waste storage areas to check that good housekeeping standards are maintained and to identify any leaks or spills needing to be addressed.	EPC Contractor	Inspection reports	Construction
11. Water and Wastewater Management							
11.1 – Site clearing, levelling and drainage system design	Changes to site topography and drainage patterns may increase erosion	ESIA	11.1.1	Avoid alteration of existing slopes and natural drainage patterns of the area and restore the natural topography (e.g. backfill holes/trenches) as much as possible.	EPC Contractor	Inspection reports	Construction
		ESIA	11.1.2	Avoid site clearance and excavation activities during the rainy season and ensure stockpiles of excavated material are sloped and/or covered to minimise erosion and runoff.	EPC Contractor	Inspection reports	Construction

Activity	Impact	Reference ¹	#	Management Measure	Responsibility	Means of Verification	Project Phase
	and sedimentation	ESIA	11.1.3	Install a stormwater drainage system around the solar PV and Konexa 3 IS sites.	EPC Contractor	Engineering design Inspection reports	Construction
11.2 - Water use for construction activities	Increased stress on water resources; possible impacts on other water users in the catchment	IFC PS3 ESIA	11.2.1	Incorporate water conservation measures into the project design e.g., rainwater harvesting. Identify methods of water reuse and recycling on site.	EPC Contractor	Engineering design	Design and planning
		IFC PS3	11.2.2	Implement a Water Management Plan and monitor compliance against it.	EPC Contractor	Documented plan, monitoring records	Construction
		IFC PS3	11.2.3	Only use water which is provided from authorised sources or suppliers.	EPC Contractor	Permit or licence	Construction
		IFC PS3 ESIA	11.2.4	Monitor water usage during all phases and minimise the amount used as much as possible.	EPC Contractor	Logbook of water use	Construction
11.3 – Disposal of wastewater	Unsafe discharge of wastewater may have negative impacts on environmental and human health	IFC PS3	11.3.1	Confirm legal requirements and obtain any necessary permits or licences for the safe discharge of wastewater to the drainage network and/or the environment.	EPC Contractor	Inspection reports	Construction
		IFC PS3	11.3.2	If the wastewater is known or suspected to be contaminated with any hazardous substances (e.g. solvents, paint thinners, oil) arrange for the wastewater to be disposed of as a liquid hazardous waste.	EPC Contractor	Waste log	Construction
		IFC PS3	11.3.3	Arrange for all sanitary wastewater to be disposed of by a licensed sanitary waste contractor.	EPC Contractor	Waste log	Construction
		ESIA	11.3.4	Regularly monitor the groundwater quality.	ECOF Kaduna	Monitoring records	Construction
12. Air Quality Management							
12.1 - Emissions from construction activities, from road transport, and from operation of plant and equipment	Adverse impact on local air quality; harm to worker and community health	IFC PS1, 4	12.1.1	Implement an Air Quality Management and Monitoring Plan and monitor compliance against it.	EPC Contractor	Documented plan, monitoring records	Construction
		ESIA	12.1.2	Apply dust suppression (water truck spray irrigation or non-environmentally hazardous chemical dust suppression) on all unsurfaced roads and bare soil areas during windy conditions.	EPC Contractor	Inspection reports, grievance log	Construction
		IFC PS1, 4	12.1.2	Use low sulphur fuels, in accordance with legal provisions in force and according to local availability, and modern equipment that uses low sulphur fuel and do not emit black smoke.	EPC Contractor	Inspection reports	Construction
		IFC PS1, 4 ESIA	12.1.3	Operate a PPM regime to keep vehicles and equipment in good working order.	EPC Contractor	Inspection reports	Construction

Activity	Impact	Reference ¹	#	Management Measure	Responsibility	Means of Verification	Project Phase
		IFC PS1, 4	12.1.4	Manage on-site vehicle movements in accordance with the Traffic Management Plan	EPC Contractor	Inspection reports	Construction
		IFC PS1, 4 ESIA	12.1.5	Use existing roads/tracks and limit the speed of vehicles on local unsurfaced roads/tracks to 15-20 km/hr to minimise dust generation.	EPC Contractor	Grievance log	Construction
		IFC PS1, 4 ESIA	12.1.6	Do not leave vehicles idling (stopped with the ignition turned on) and switch off machinery and equipment when not in use.	EPC Contractor	Inspection reports	Construction
		IFC PS1, 4 ESIA	12.1.7	All trucks carrying materials to/from the site shall be covered and overloading will not be allowed.	EPC Contractor	Inspection reports, grievance log	Construction
		IFC PS1,4 ESIA	12.1.8	Train workers and staff on the importance of minimising air pollutants and fugitive dust and the health risks related to exposure to air pollutants.	EPC Contractor	Training records	Construction
13. Unplanned Events							
13.1 – Unplanned events during construction	Unplanned events that have the potential to cause harm or injury to workers and/or the public and environmental damage	IFC PS1, 4 ESIA	13.1.1	Develop an Emergency Preparedness and Response Plan for all potential emergency situations (e.g. fire, environmental spills, H&S incidents/accidents relating to workers and/or the community).	EPC Contractor	Documented plan	Construction
		IFC PS1	13.1.2	Procure fire extinguishers and make sure these are readily accessible in work areas including near to where hazardous materials are stored/used.	EPC Contractor	Equipment inventory	Construction
		IFC PS1	13.1.3	Provide spill kits in areas where hazardous materials and hazardous wastes are stored for use in the event of an accidental spill or release. Ensure proper spill containment, treatment and removal.	EPC Contractor	Accident/ incident log	Construction
		ESIA	13.1.4	Soils contaminated by accidental spills or releases of hazardous materials must be stored and handles as hazardous waste.	EPC Contractor	Inspection records	Construction
		IFC PS1 ESIA	13.1.5	Establish and train an emergency response team for the key hazards such as: fire, first aid, environmental spill.	EPC Contractor	Training records	Construction
		IFC PS1	13.1.6	Conduct emergency response drills at least once per month.	EPC Contractor	Log of drills	Construction
		IFC PS1	13.1.7	Keep up to date information available in local language and using pictures to convey the key actions to take in an emergency, along with the emergency points of contact.	EPC Contractor	Inspection records	Construction

Activity	Impact	Reference ¹	#	Management Measure	Responsibility	Means of Verification	Project Phase
14. Land Acquisition / Resettlement							
14.1 – General construction activities	Non-compliance with Project requirements, reputation risk	ESIA	14.1.1	Ensure that compensation paid would enable poultry workers who are relocated to keep their jobs.	ECOF Kaduna	Compensation records, Grievance log	Design and planning
		ESIA	14.1.2	Ensure that documentation for payment to the poultry owner is made available and the compensation was not below market price.	ECOF Kaduna	Compensation records	Design and planning
15. Biodiversity							
15.1 – General construction activities	Loss of habitat and economic species, non-compliance with Project requirements, reputation risk	ESIA	15.1.1	Install bird flight diverters along the transmission line.	ECOF Kaduna	Inspection records	Construction
		IFC PS6 ESIA	15.1.2	Limit site clearing activities, avoid cutting down trees (especially economic trees utilised by local communities), utilise existing access roads and revegetate disturbed areas where possible.	EPC Contractor	Monitoring records	Construction
		ESIA	15.1.3	Retain topsoil for reuse during site revegetation as much as possible.	EPC Contractor	Monitoring records	Construction
		ESIA	15.1.4	Prohibit hunting/killing of animals and/or collecting of firewood or other natural resources on or around construction areas and ensure workers are trained in this regard.	EPC Contractor	Training records	Construction
16. Cultural Heritage							
16.1 – General construction activities	Adverse impact to tangible and/or non-tangible cultural heritage, non-compliance with Project requirements, reputation risk	IFC PS8	16.1.1	Develop and implement a cultural heritage Chance Finds Procedure and monitor ongoing compliance against it.	EPC Contractor	Documented procedure, monitoring records	Construction

Activity	Impact	Reference ¹	#	Management Measure	Responsibility	Means of Verification	Project Phase
17. Community Development							
17.1 – Community development programme	Failure to implement and comply with CDP results in loss of community support, reputation risk	Shareholders Agreement	17.1.1	Implement the Project Community Development Programme (CDP) and monitor ongoing compliance against it.	ECOF Kaduna	Monitoring records	Construction
18. Gender Mainstreaming							
18.1 – Gender mainstreaming	Failure to implement and comply with GAP results in loss of community support, reputation risk	Shareholders Agreement	18.1.1	Implement the Project’s GAP and monitor ongoing compliance against it.	ECOF Kaduna	Monitoring records	Construction