

Nova Solar Farm

Non-Technical Summary (NTS) of the Nova Solar 5 Farms Ltd Environmental and Social Impact Assessment (ESIA) and ESIA Addendum



June 2017

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FINAL REPORT

Client: Nova Solar 5 Farms Limited

Non-Technical Summary (NTS) of the Nova Solar 5 Farms Ltd Environmental and Social Impact Assessment (ESIA) and ESIA Addendum

Reference/Project Number: 0381947

For and on behalf of
Environmental Resources Management

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Revision Number: v1.0

Date: 19 June 2017

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1. Introduction and Background

Nova Solar 5 Farms Limited ('Nova Solar') intends to develop the Nova Solar Farm in Katsina State, Nigeria ('the Project').

An Environmental and Social Impact Assessment (ESIA) is a process through which the positive and negative changes (impacts) that will result from the Project are identified, assessed and managed. The ESIA for the Nova Solar Farm was conducted by Fugro Nigeria Limited as part of the application and permitting process for developing the Project. This permitting process is overseen by the Government of Nigeria to ensure that the Project manages its impacts to the environment and people well and in accordance with Nigerian law. The ESIA was recently supplemented by additional studies (contained in a document called an ESIA Addendum), developed by Environmental Resources Management Limited (ERM) in order to meet international lender requirements. This document is the overarching Non-technical Summary for the Project, and summarises the key information from both these documents.

1.1 The Project

The Nova Solar Farm Project will contribute to Nigeria's growing power needs by developing a solar plant in Kankiya Local Government Area located in Katsina State with the ability to generate 100 MW of electricity which will supply the national grid. Additionally, solar power is a form of clean energy that is less harmful to the environment. Nigeria has an excellent supply of sunlight that can be converted into electricity through solar panels.

The Project site is located approximately 3 km northwest of Kankiya, in the Kankiya Local Government Area (Figure 1). The solar panels will be installed using aluminium or galvanized steel poles, part of which will be buried beneath the ground surface. The Project will require around 200 ha of land.

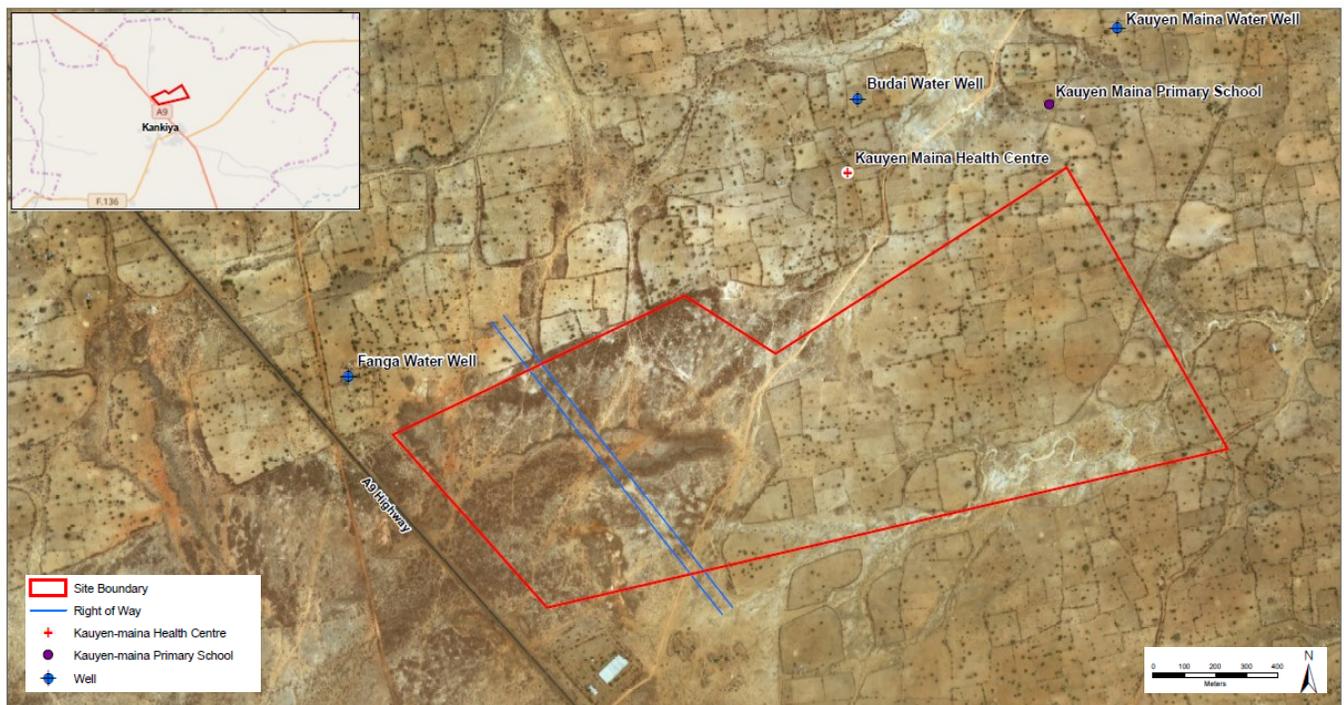
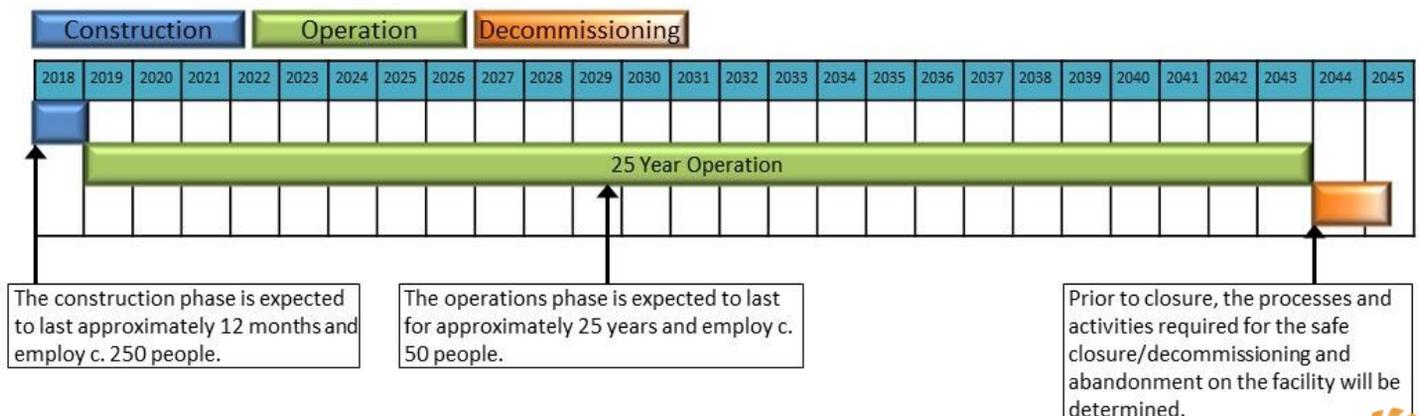


Figure 1: Location Area

The Project will have four main phases: pre-construction (including site preparation), construction and installation, operation and decommissioning. The timeframe for each phase is presented in Figure 2 below.



Glossary

- **Area of Influence** – the project's area of influence includes all areas and communities that may potentially be impacted by it. This includes directly and indirectly affected households (see definitions below).
- **Baseline Data** - data gathered during the ESIA and ESIA Addendum used to describe the existing conditions of the Project, such as physical (e.g. soil), biological (e.g. wildlife), socio-economic (e.g. livelihoods), and labour conditions. This is done before Project-related changes occur.
- **Cumulative Impact** - the combined changes from a Project alongside other planned or proposed projects or activities in the area.
- **Directly Affected Households** - households located within the Project footprint who experience a direct loss of land or livelihoods.
- **Economic Displacement** - loss of assets or access to land that leads to loss of income or livelihood means.
- **Enhancement Measure** - an action used to increase potential positive changes which may result from the Project.
- **Environmental and Social Impact Assessment (ESIA)** - a process through which the positive and negative changes (impacts) that will result from the Project are identified, assessed and managed.
- **EPC Contractor** – engineering procurement and construction company that will be contracted by Nova Solar to build the solar project. The EPC Contractor will be supervised by Nova Solar.
- **Impacts** - the positive and negative changes which may result from the Project.
- **Indirectly Affected Households** - households who are affected by the project but are not located within the project footprint, or use land within the project footprint as part of their livelihoods.
- **Grievance** - a concern, complaint or feedback raised by any stakeholder either affected or interested in the Project.
- **Grievance Mechanism** - a process through which complaints and grievances can be reported to Nova Solar and resolved. A worker grievance mechanism is a process for workers to raise reasonable workplace concerns.
- **Management Plan** - a description of the mitigation and enhancement measures identified to address the environmental and social impacts of a Project.
- **Mitigation Measure** - measures used to reduce negative impacts which may result from the Project.
- **Physical Resettlement** - moving people who live within the project footprint area due to loss of shelter / housing.
- **Project footprint** – the land covered by the physical components of the Project.
- **Stakeholder** - people or groups that are affected by the Project (directly or indirectly) as well as those that may have an interest in it. Stakeholders may include local communities, employees, lenders, and the Federal or State Government.



2. ESIA Methodology

An ESIA was undertaken by Fugro Nigeria Limited as part of the application and permitting process for developing the Project following the process below.

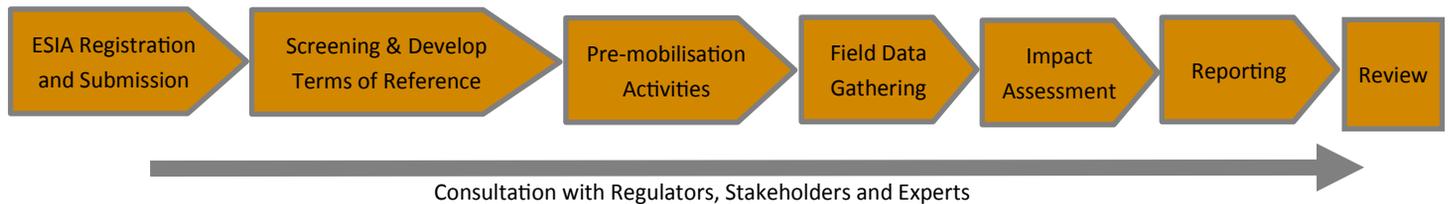


Figure 3: ESIA Methodology

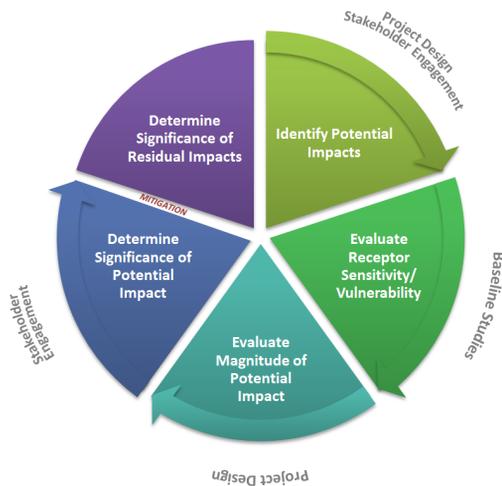


Figure 4: ESIA Addendum Methodology

The impact assessment process identifies what changes the Project will cause to people and the environment, and whether these changes are likely to have positive or negative impacts.

To determine the importance of each impact a standardised process was employed. This process helped identify any measures to be taken to reduce negative impacts and increase positive impacts. The significance of the impacts was assessed again, taking into account these measures and the likely impact significance after they had been implemented. For negative impacts, the significance of the potential impacts has been described as either Minor, Moderate or Major.

To meet international standards, ERM developed an ESIA Addendum to supplement certain aspects of the ESIA. In order to assess the potential impacts an iterative method was used.

3. Administrative and Legal Framework

The ESIA and ESIA Addendum have been developed to meet both national regulations and international lender requirements.

3.1 Key Nigerian Regulations

The following Nigerian Government Authorities and associated regulations are relevant to the ESIA process:

- **Federal Ministry of the Environment:** charged with the responsibility of all matters concerning the nation's environment and its biodiversity. Key relevant policies, guidelines and regulations of the ministry include the National Environmental Protection Regulations, Environmental Impact Assessment Act and Nigerian Content Act.
- **National Environmental Standards and Regulations Enforcement Agency (NESREA):** responsible for enforcing all environmental laws, guidelines, policies, standards, and regulations in Nigeria through the **NESREA Act (2007)**.
- **Nigerian Electricity Regulatory Commission (NERC):** NERC is the independent regulatory body for the regulation of the electric power industry in Nigeria. The **Electric Power Sector Reform (EPSR) Act (2005)** details the consultations required before land can be legally expropriated from person and communities.
- **Katsina State Ministry of Environment:** ensure sustainable development based on pragmatic management of the environment within the State. The **Katsina State Environmental Protection Agency (KSEPA) Edict (1988)** sets out the functions of the Agency.

3.2 International Conventions

In addition to the national laws/regulations, Nigeria is signatory to several international conventions which must be complied with during the planning, construction and operation of the Project including the United Nations (UN) Convention on Biological Diversity (1992), United Nations Educational, Scientific and Cultural Organisation (UNESCO) World Heritage Convention (1972), Montreal Protocol on Substances that Deplete the Ozone Layer and African Convention on Conservation of Nature and Natural Resources (1968).

3.3 International Best Practice Guidelines and Standards

Nova Solar and its sponsors are seeking to secure international financing to develop the Project. A gap analysis of the ESIA developed by Fugro was undertaken against International Finance Corporation (IFC) Performance Standards, selected for their widespread application in similar Projects and as benchmark for best practice adopted by the Project sponsors. An ESIA Addendum was then developed to address gaps identified with these standards.

4. Baseline Data

Nova Solar undertook a large number of studies to understand the area in which the Project will be developed (to understand and describe the area, also called 'baseline conditions'). These studies have and will continue to help Nova Solar to effectively manage the changes that will result from the Project's development. The baseline conditions of the Project area are summarised below.

Aspect	Baseline Status
Climate	<p>The Project area is within the tropics, it is dominated by two contrasting seasons, the dry and wet (rainy) seasons. The highest temperatures were recorded in April with a mean maximum temperature of 44.5°C and minimum of 39.4°C. The lowest mean temperatures were recorded in January with a mean maximum of 30.1°C and minimum of 13.8°C.</p> <p>Mean monthly rainfall recorded in Katsina was 0 mm from November through to March, with the highest rainfall recorded in August (214.8mm). The area is water stressed and drought-prone. The lowest mean monthly relative humidity (10.0%) was recorded in March, with the highest (61.0%) recorded in August.</p> <p>Historic wind speed data was reviewed for the period 1990-2009. The highest recorded wind speeds, of up to 7.2 metres per second (m/s), were found between January and July. The lowest wind speed recorded (4.6m/s) was in November.</p>
Air Quality	Ambient air quality monitoring of Particulate Matter, nitrogen oxides (NO _x), hydrogen sulphide (H ₂ S), carbon monoxide (CO) and sulphur dioxide (SO ₂) found concentrations to be below regulatory limits.
Noise	Noise levels recorded at the proposed plant site ranged from 25.3 to 48.7dB, below international guideline values.
Geology	Katsina State forms part of the extensive plains known as the High Plains of Hausaland. The south and central parts of the state are underlain by crystalline rocks of the Basement Complex (from Funtua to DutsimMa). In the northern parts of the state cretaceous sediments overlay the crystalline rocks.
Soil	Soil characteristics were consistent across the study area. The pH value ranged between 4.95 and 7.92 (dry season).
Groundwater	Physio-chemical characteristics of groundwater were consistent across the study area sample stations and within the World Health Organization (WHO) limits for drinking water. pH values ranged from 6.18 to 6.8 (dry season) indicating a slightly alkaline groundwater.
Vegetation	Vegetation type in the area is the Sudan Savannah Vegetation and consists largely of shrubs, short grasses with a few scattered wooded savanna trees.
Wildlife	The area is characterised with abundant number of fauna composition. Fauna discussed include mammal, reptile and birds. Livestock comprised the majority of mammals present.
Livelihoods	<p>The primary livelihood activities of directly affected households within the Project footprint are farming and livestock keeping.</p> <p>Farming: Directly affected communities farm on land acquired through family inheritance, purchase and sometimes rental. Farming is carried out on a subsistence basis, with surplus sold in local markets. The most common crops include millet, guinea corn, maize, beans, groundnut, soya bean and sesame. Farmland also includes economic trees such as shea, mango, kalago, gawo, kuka and goruba. Farmland is mostly rain-fed and non-mechanised. Farming activities such as land clearing, tilling, ridging and harvesting are largely carried out by men. All other activities such as threshing, winnowing, milling, storage management are typically carried out in the home by women. Women are also involved in food processing activities.</p> <p>Livestock Rearing: The keeping of livestock is one of the most common livelihood activities among Project-affected households. The livestock kept include cattle, sheep, goats, camels, rams and poultry. Livestock such as cattle, goat, sheep and rams are mainly kept to be sold at market. Poultry such as chickens, ducks and guinea fowl are kept for both household consumption and to be sold at market. Water for cattle and livestock is drawn from either hand-pumped boreholes, wells within the communities or dams. Grazing routes and fields are located within and outside the communities.</p>
Traffic	<p>Kankiya can be accessed via one of three main paved access routes, the A9 Kano Katsina Highway, Kankiya-Dutsama Road and Kankiya-Ingama Road. The Project is located close to Kankiya along the Kankiya – Katsina stretch of the A9 Highway. Local communities not connected by the main access roads are connected by unpaved roads, which may be damaged by flooding. Based on field observations, overall traffic volumes in the Project area, including traffic volumes on the A9 Highway, are very low.</p> <p>Residents of Kankiya and nearby communities often walk short distances within the community, typically less than 3 km. For longer journeys private and commercial motorcycles, tricycles and cars are used. Donkeys and camels are often used to carry produce from the farms.</p> <p>The WHO reports that the road traffic fatality rate in Africa is higher than in any other region of the world, with the fatality rate in Nigeria higher than the global average. Federal Road Safety Corps (FRSC) data shows that the number of traffic collisions in Katsina State were below the national average. however, though lower than the national average the severity of injuries and fatalities appears to be above the state average.</p>

4. Baseline Data

Aspect	Baseline Status
Infrastructure (roads, schools, health, water, sanitation, and electricity)	<p>Schools: Local primary schools typically report they are under-staffed and have inadequate physical infrastructure and shortage of learning materials. The closest secondary school for directly affected communities is in Kankiya, where there is also a technical institute that specialises in provision of training in lifelong technical skills.</p> <p>Health: There is a health centre in Kauyen Maina providing basic primary health care services, although it is reportedly under-equipped to operate effectively. Patients in need of more advanced, or emergency-type, level of care such as deliveries and minor surgery are transferred to the General Hospital in Kankiya.</p> <p>Water: The dams in closest proximity to the Project are Zobe and Kankiya Dams. It is understood that these dams help to recharge shallow groundwater. Domestic and potable water for about 75% of the population of Kankiya LGA also comes from hand dug wells. Water for farming and cattle is commonly taken from dams built along streams to retain water in a reservoir in the rainy season.</p> <p>Sanitation: Domestic waste, from cleaning and sweeping, is disposed of by throwing it away on farmland and sometimes open burning.</p> <p>Although almost all households indicated that they have their own toilet facilities, or access to a toilet facility in the form of pit latrines, there is evidence of open defecation and poor wastewater management.</p> <p>Electricity: The communities in the Project area do not have access to electrical power.</p>
Security	Outbreaks of violence in Katsina State are rare and are usually due to localised conflicts - land disputes often associated with friends and family related controversies and conflicts. Despite localised conflicts of this nature, the security situation in Katsina and Kankiya is considered to be stable when compared to other parts of the country.
Vulnerable Groups	<p>Key vulnerable groups identified:</p> <ul style="list-style-type: none"> • Females and female-headed households - Women are less able to access formal employment on account of their inferior educational and literacy achievement. Having fewer economic means makes them less able to access replacement land of their own, if they had any to begin with. • Project-affected households without alternative/multiple plots – households who do not have alternative land across which they can rotate cultivation. • Disabled and elderly - who are less able to support themselves through land-based livelihoods requiring physical ability and less able to adapt to the changes brought about by economic displacement.

4.1 Project Land Acquisition

The Project covers an area of around 200 hectares of land. Approximately one third of the Project area is part of a larger and largely deforested gazetted forest reserve. The rest is private land used for farming and livestock grazing. The deforested area of the forest reserve forms part of a transit route for taking livestock to water at the Kankiya Dam.

Katsina State Government conducted a compensation process for the privately held land, providing cash compensation for land, crops, economic trees and physical structures. Nova Solar worked with its contractors to modify the site boundary to avoid the need for resettlement of households. As a result no physical resettlement is needed, however some agricultural land will be lost (e.g. crops, economic trees, livestock grazing areas).

Nova Solar is conducting surveys of people affected by the loss of land due to the Project, to identify alternative plots of land held by them. This work is ongoing.



5. Potential Impacts

The following table presents a summary of impacts that are likely to result from the Project, and their significance before and after Nova Solar uses mitigation measures to manage them. Impacts have been grouped by phase: Pre-Construction (PC), Construction and Installation (C&I), Operation (O), Decommissioning (D).

Phase	Activities / Aspects	Potential Impacts	Ranking Before Mitigation	Mitigation / Enhancement Measures	Ranking After Mitigation
PC		Employment opportunities arising from recruitment of workers	<i>Beneficial</i>	Ensure early stakeholders' engagement sessions will be held, and all agreed issues properly documented and signed. Make transparent communication on hiring policies amongst local communities. Wherever possible, maximise local community participation in the workforce.	<i>Beneficial</i>
		Business opportunities for local contractors through sub-contracting activities		Ensure local suppliers and contractors implement local employment and local procurement policies to the benefit of host community. Continually encourage local contractors through the award of contracts, according to their competence levels. Carry out periodic review of jobs, supplies and contract awards. Ensure consultation throughout Project life span.	
		Skill acquisition and enhancements to locals and future workforce Improvement in quality of life for adequately compensated individuals		Ensure employed staff are trained to develop local workforce capacity. Make sure payment, royalties etc. are paid to eligible, and benefiting individual as appropriate.	
			<i>Major</i>	Ensure early stakeholders' engagement sessions are held, and all agreed issues properly documented, signed, and implemented in timely manner. Engage in due consultation with relevant groups within host community at all phases of the Project Ensure that its workers are briefed on the socio-cultural norms and sensitivity of the host communities. Explore ways of encouraging goodwill and friendly relationship between its workers/ service contractors and members of the community. Establish, implement, and publicise grievance management procedure.	<i>Minor</i>
	Permitting Community engagement	Conflicts/ community agitations over employment issues (quotas and methods)			
	Land acquisition		<i>Moderate</i>	In the future, promptly construct infrastructural facilities in the area to ease pressure on the existing amenities/ infrastructure. Encourage personnel to participate in community development affairs. Ensure that workers are educated on health issues	<i>Minor</i>
	Recruitment Mobilisation to site	Influx of people (migrant workers, sub-contractors and suppliers) and increased pressure on existing social infrastructure			
	Land preparation and clearing	Increase in social vices (like theft, prostitution) resulting from increased number of people in the area			
		Dust particles and vehicular emissions from increased movement	<i>Moderate</i>	Ensure site preparation and clearing are conducted in favourable weather conditions, when risk of dust is low. Maintain all its work equipment at optimal operating conditions Minimise venting from vehicle and equipment through the use of venturi or impingement scrubbers to control particulate matter emissions	<i>Negligible</i>
		Generation of wastes such as scrap metal, wood, sand, concrete, paper, domestic waste etc.	<i>Major</i>	Make sure all waste generated are separated at source to enhance efficiency in waste handling and disposal Ensure personnel working at site are trained in the handling and management of wastes Treat and discharge all effluents (wastewater, sewage) in accordance to regulatory requirements and in line with NSF waste management procedure/ plan	<i>Negligible</i>

5. Potential Impacts

Phase	Activities / Aspects	Potential Impacts	Ranking Before Mitigation	Mitigation / Enhancement Measures	Ranking After Mitigation
PC, C&I	Land acquisition	Project land-take triggers economic displacement	Major	1. Undertake a post-compensation baseline survey to establish a basis on which to monitor livelihoods and vulnerability of those affected by Project land acquisition over time. 2. Develop and implement a life-of-Project Community Development Plan (CDP) that incorporates a livelihoods restoration programme for directly affected people to mitigate socio-economic impacts and enhance livelihoods. 3. Roll out a Grievance Mechanism in the Project Area. 4. Conduct regular stakeholder engagement and consultation activities in line with the Nova Solar Stakeholder Engagement Plan. 5. Nova Solar will expand its team to ensure that the people responsible for implementation of the three mitigations above are suitably qualified.	Moderate but reducing to Minor Once the CDP livelihoods enhancement programmes are implemented in full and operating as intended
	Land preparation and clearing	Potential for Dispute Over Land Take and Compensation Loss of access to ecosystem services			
PC, C&I, O, D		Presence of external workforce during construction with potential for external impacts on community health and well-being	Moderate	<i>Contractor selection process:</i> Nova Solar will apply selection criteria, and review policies and procedures, related to the Contractor's past performance, and ensure the Contractor's performance and approach aligns with Nova Solar's <i>Labour Policy</i> and <i>Labour Management Plan</i> . <i>Contractor Management System:</i> The Contractor shall have appropriate internal processes and procedures, aligned with the Nova Solar ESMS, which govern worker behaviour. <i>Labour Policy & Management Plan:</i> The <i>Labour Policy and Management Plan</i> shall outline the entire workforce management process from selection and training to expected behaviours, supervision and disciplinary action. <i>Supervision:</i> Nova Solar shall ensure it has sufficient visible presence on site to supervise the Contractor and its workforce, enabling it to influence the behaviour of its personnel. Roll out a <i>Community Grievance Mechanism</i> . The Community Liaison Officer (CLO) will be the primary liaison between the Project and the community. <i>Camp Management Plan:</i> The Contractor shall purpose-build a camp that is self-contained to accommodate its external workforce.	Minor
		Poor working conditions and terms of employment for direct and contracted workers, impact on their fundamental rights	Moderate	<i>Contractor selection process</i> <i>Camp Management Plan</i> <i>Supervision and Engagement of Contractor:</i> From time to time Nova Solar shall review Contractor performance on site in relation to its workforce labour and housing conditions, and worker grievance process. Any issues will be discussed with the Contractor and a plan put in place to resolve them and followed through to completion. <i>Worker Grievance Mechanism</i> will be implemented	Minor
		Road-traffic accident involving Project vehicle and community member(s)	Moderate	<i>Traffic Management Plan:</i> Nova Solar and Contractor shall have in place a Traffic Management Plan that minimises the risk of road traffic accidents to as low as reasonably practicable. <i>Drug and Alcohol Policy:</i> The Contractor shall enforce a Drug and Alcohol Policy that aligns with Nigerian law, to include alcohol breathalyser tests and disciplinary action for drivers found under the influence of alcohol or drugs during working hours. <i>Community Grievance Mechanism</i> will be implemented. <i>Stakeholder engagement</i> will be undertaken.	Minor
C & I	Foundation works Piling, trenching, etc. Plant component erection	Risks of injury/ death and loss of assets resulting from accident associated with road transportation to and from construction site	Major	Develop and maintain an effective journey management schedule. Ensure its drivers observe road traffic and speed limits. Make sure vehicle drivers undergo and pass competency training on driving, and identification of road signs and traffic codes before mobilisation. Use road signs at strategic points, sirens and public announcements where necessary to warn people of on-coming heavy duty vehicles. Ensure all its vehicles are certified roadworthy and in good maintenance state. Ensure night movement are avoided.	Minor
	Fabrication, carpentry, painting and coating Transportation & logistics Waste generation	Workplace accidents leading to injury or fatalities from burns, cuts, bruises, trips, falls from objects at height			

5. Potential Impacts

Phase	Activities / Aspects	Potential Impacts	Ranking Before Mitigation	Mitigation / Enhancement Measures	Ranking After Mitigation
C & I	Plant foundation works	Potential collapse of power plant structures as a result of unsuitable geotechnical conditions	Major	Carry out a comprehensive geotechnical study of the Project site before construction works. Ensure geotechnical report provide all strength values and settlement potential required for adequate foundation design. Make use of experts with requisite experience in plant design and construction.	Negligible
	Piling, trenching, etc.	Hazards from construction of base camp and electric evacuation lines	Major	Ensure personnel wear appropriate PPE (eye goggles, nose masks etc). Make use of competent and well trained personnel for construction works.	Minor
	Plant component erection	Cement dust and toxic fumes inhalation by on-site workers during foundation works and welding of plant components		Ensure personnel wear appropriate PPE (eye goggles, nose masks etc). Make use of competent and well trained personnel for construction works. Ensure periodic medical checks are carried out on personnel.	
	Fabrication, carpentry, painting and coating	Risk of electrocution and burns during welding	Major	Ensure strict adherence to standard work operations including the use of PPE (nose masks, hand gloves, etc) are maintained as stated in the company's HSE policy. Ensure all electrical and welding equipment are maintained at optimal working conditions. Make sure first aid facility are in place at construction site.	Minor
	Transportation and logistics	Noise nuisance (including impulsive noise) from construction activities (e.g. piling, digging) resulting to temporary migration of mammals and rodents	Moderate	Make sure machinery, vehicles and equipment that produce high levels of noise are avoided. Personnel working with machinery, vehicles and instruments that produce high levels of noise should be supplied with ear plugs and ear muffs. Ensure construction works are avoided at night time.	Negligible
	Waste generation				
D		Loss of employment, business opportunities and decreased economic activity	Moderate	Plans are developed to integrate disengaged workers from the plant into other Projects (if any). That host communities are informed prior to decommissioning.	Minor
		Reduced power generation to national grid and low power supply	Moderate	Plans are made for another plant to continue generating electricity.	Minor
	Mobilisation of personnel and equipment	Risk of accident and injury to workers during demolition of structures	Major	Ensure that HSE briefings are conducted prior to demolition activities. Ensure personnel wear adequate PPE while carrying out demolition. Encourage employees to maintain good housekeeping within work site. Make sure trees or shrubs are re-grown on Project site to restore its original form.	Minor
	Power plant decommissioning	Increased dust and vehicular emissions from decommissioning activities	Moderate	Ensure demolition activities are conducted after sprinkling of water to prevent dust build up. Ensure personnel wear adequate PPE (i.e. dust mask) while carrying out demolition. Maintain all its vehicles at optimal working conditions.	Negligible
	Abandonment/ restoration	Availability of land for alternative uses	Beneficial	Develop a detailed Decommissioning /Abandonment Plan ensure alignment of all stakeholders (state, local, community). Clean all excavations to acceptable limits and have then back-filled. Remove all wall fences and structures as advised by the abandonment team. Clean contaminated soils to acceptable limit.	Beneficial
		Loss of site aesthetic qualities due to abandoned and dilapidated structures	Moderate	Available structures and building not demolished should be used for other beneficial purposes to prevent decay.	Negligible

5.1 Cumulative Impacts

Potential Cumulative Impact	Other Project, Activity or Natural Event	Impact Significance	Mitigation	Residual Significance
Land and economic displacement	Pan Africa Solar	Major	Nova Solar shall ensure the continuation of its close and positive working relationship with Pan Africa Solar. Alignment of community development and livelihoods restoration initiatives.	Potential for Positive impacts through active collaboration between Nova Solar and Pan Africa Solar on livelihoods enhancement Projects.

6. Management Plans

A series of management plans have been developed by Nova Solar, which will be used and expanded on by their contractors for managing negative impacts and enhancing benefits related to the construction phase of the Project. An Environmental and Social Management System (ESMS) will be used to ensure systematic management of environmental and social risks and implementation of commitments.

Management plans include:

- Environmental and Social Management
- Environmental Monitoring
- Emergency Response
- Water and Wastewater Management
- Local Employment and Local Content
- Stakeholder Engagement
- Community Development
- Worker Grievance Mechanism
- Camp Management
- Occupational Health and Safety
- Traffic Management
- Waste Management
- Inspection and Maintenance
- Regulatory Compliance
- Decommissioning



6.1 Community Development Plan

Nova Solar will address any negative impacts to the livelihoods of the directly affected people as a result of land acquisition for the Project and create shared value through sustained community investment and collaboration with interested parties throughout the life of the Project.

The Community Development Plan (CDP) builds on an understanding of the Project context and community needs/ challenges, as identified through consultation with these communities. It focuses on areas where needs have been identified: water security, farming and livestock, primary health and support to local business. The CDP will be implemented in partnership with non-governmental organisations (NGOs), selected on the basis of their experience and capacity to deliver the Projects.

The key development and support packages contained in the CDP are to be focused on achieving two key objectives:

- restoring and enhancing the livelihoods of directly affected households; and
- once objective 1 has been achieved, long-term sustainable community development.

Restoration of agriculture-based livelihoods for those whose livelihoods are affected (objective 1), will emphasise increasing the productivity of the plots of land currently used/owned, as well as in particular increasing water accessibility for villagers, farmers and herdsmen directly affected. In addition, it will enhance and diversify the skills and resource capacity of affected persons to improve livelihoods and coping mechanisms.

The CDP will be implemented throughout the Project lifecycle. It represents a key mitigation for the main socio-economic impacts of the Project and is intended to deliver additional long term socio-economic benefits to the population in the Project area.

7. Stakeholder Engagement

Stakeholder engagement is required as part of the ESIA process under Nigerian law. International guidelines (e.g. IFC Performance Standards) require regular engagement throughout the life of the Project.

The Project will take care to ensure it maintains a balanced approach to engagement that offers the opportunity to participate in engagement to all stakeholders at a local, federal and national level. In line with local custom, the Project will engage separately with men and women. All stakeholder engagement activities will be documented in line with the Stakeholder Engagement Plan.

Nova Solar has conducted stakeholder engagement activities at key stages of the Project. The table below summarises both completed and planned engagement activities.

Broad groups of Project stakeholders include, but are not limited to:

- Federal Government and line ministries;
- State Government and District Authorities;
- Customary leadership, including the District Council;
- Communities, including women, youth and elderly; and
- Local community-based organisation and businesses.

Project Stage	Completed/Planned
ESIA engagement	
Stage 1: Scoping/Draft ESIA Engagement	Completed - 2015
Stage 2: ESIA Disclosure	Completed – December 2015
Stage 3: Follow-on data collection and stakeholder engagement for ESIA Addendum and CDP	Completed – December 2016 and January 2017
Stage 4: Ongoing engagement (monthly and <i>ad hoc</i>)	Ongoing/Monthly – Q1 2017
Community Development Plan engagement	
Stage 5: CDP project prioritisation	Completed – May 2017
Stage 6: CDP implementation	Timescale to be defined.
Project execution	
Stage 7: Pre-engineering	Consultation to be carried out by the Project Community Liaison Officer.
Stage 8: Construction	
Stage 9: Operation	
Stage 10: Decommissioning	
	Timescale to be defined.

8. Grievance Mechanism

The Grievance Mechanism shall ensure that all grievances that exist are reported and recorded, assigned to the correct person or team and resolved in a timely manner.

The Community Liaison Officer (CLO) is the main person responsible for recording and managing grievances, and ensuring grievances are fed through or escalated to the appropriate person in the Project Management Team where required. Where a stakeholder wishes to report a grievance anonymously, or through an intermediary, the following additional grievance reporting options are available:

- Communicating the grievance through the Hakimi or District Council or other trusted person;
- Submitting a confidential letter to a designated point, e.g. the Project office;
- Sending a text message to a designated phone number.

Contact information

Attention:	Mr Dade Adio Moses
Address:	69 MacPherson Avenue, Ikoyi, Lagos, Nigeria.
Email:	dadiomoses@azurapower.com

Attention:	Mr Najim Animashaun
Address:	10, Adamu Chiroma Crescent, Jabi District, Abuja, Nigeria
Email:	najim.animashaun@novapower.ma