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2 Policy, Legal and Institutional Framework

This section of the ESIA Study provides an overview of the applicable environmental legislative and regulatory framework which the proposed project will be required to comply with during its lifetime.

In addition to the corporate environmental and social policies developed throughout the lifetime of the project, APCL will be required to comply with the following:

a. Environmental and social legislation in Kenya (existing and emerging);

b. African Development Bank policies on coal power plants and environmental and social safeguards;

c. Environmental and Social Performance Standards of the World Bank Group and specifically the International Finance Corporation (IFC); and

d. International conventions and treaties associated with the proposed coal power plant project.

The policy, legal and institutional framework under which the project will be undertaken is outlined below.

2.1 Corporate Environmental and Social Policies

Amu Power Company Ltd. (APCL) is a special purpose vehicle whose sponsors are Gulf Energy Ltd. (Lead Sponsor) and Centum Investments Ltd. (Co-Sponsor).

As a legal entity undertaking the project, APCL shall develop and implement environmental and social policies, plans and programs that are applicable to their project in Lamu. In order to demonstrate their compliance, APCL is in the process of developing a formal environmental and social management system (ESMS) based on the Deming Cycle requirements of Plan Do Check Adjust.

Once developed, the company will implement the system throughout the lifetime of the project. It is imperative that the ESMS is in place prior to the commencement of the construction phase of the project.

APCL will be required to comply with relevant existing and emerging environmental laws and regulations in Kenya throughout the lifetime of the project. The relevant environmental laws and regulations are discussed in the sub-sections below.

2.2 Policy and Legal Framework

2.2.1 Constitution of Kenya, 2010

Environment and social sustainability is covered explicitly in the Constitution of Kenya, 2010. Article 42 under the Bill of Rights provides *inter alia* that every person has a right to a clean and healthy environment. Article 43 states that every person in Kenya has economic and social rights.

Chapter 5 of the Constitution on "Land and the Environment" provides for the sustainable management of land and the environment in Kenya. One of the principles of land policy is articulated in Article 60(1)(e) which requires sound conservation and protection of ecologically sensitive areas such as mangroves. Articles 69 – 72 deal with environmental management in Kenya.

Article 69 places obligations on the state to protect and conserve the environment and ensure ecologically sustainable development and use of natural resources.

Article 69(1)(f) of the Constitution requires the State to develop systems for environmental impact assessment. The State already has a system for environmental impact assessment in the form of the Environment Management and Coordination Act, 1999 (EMCA) and its subsidiary legislation titled Legal Notice 101: Environment (Impact Assessment and Audit) Regulations, 2003 (L.N. 101).

The proposed coal power plant will be undertaken in compliance with the requirements of the environmental and social safeguards provided under the Constitution of Kenya 2010.

2.2.2 The Energy Policy 2004

Kenya's existing Sessional Paper Number 4 of 2004 is the country's energy policy. This Sessional Paper recognizes that the success of socio-economic and environmental transformation strategies pursued by the Government at present and in the future is to a large extent dependent on the performance of the energy sector as an enabler of development.

Among several policy recommendations, Sessional Paper Number 4 of 2004 proposed the enactment of the Energy Act 2006 which subsequently replaced the previous Electric Power Act and the Petroleum Act into one statute. The Sessional Paper further recommended the formation of a single energy sector regulator which is today known as the Energy Regulatory Commission.

The Energy Policy 2004 discusses the development of various types of energy polices including coal. Among other things, the Coal Exploration and Utilization Policy within the Energy Policy advocates for the use of clean and efficient coal technologies.

As part of its integrated energy planning in Kenya, the Energy Policy 2004 contains a 20-year horizon Least Cost Power Development Plan (LCPDP) Policy. The LCPDP Policy is operationalized through a Least Cost Power Development Plan with the most recent version of the LCPDP being 2013 – 2033.

In the LCPDP, three demand scenarios were developed based on assumptions which were defined to reflect both current and future economic and social outlook in the vision 2030. The low GDP forecast reflected a pessimistic case while the high scenario gives an optimistic case based on the vision 2030 aspiration while the reference scenario was the middle ground between the two scenarios.

Based on the current and future economic and social outlook, the load forecast indicates a peak demand of about 1370MW in 2012 increasing to 8631MW (low scenario), 14,446MW (reference scenario) and 19,940MW (high scenario) in the year 2030 respectively.

The energy mix within this LCPDP includes several non-renewable and renewable sources of energy. According the Energy Regulatory Commission, the total installed capacity of electricity in Kenya as at December 31, 2014 was 2173MW. Of this installed capacity 1477.5MW (68%) was generated by renewable sources while 695.3MW (32%) was generated by non-renewable sources.

In September 2013, the Ministry of Energy and Petroleum developed a power generation program of 5000+MW of additional electricity capacity in 40 months beginning October 2013 in order to have the total electricity generation capacity from 1664MW to 6762MW by 2017. This capacity will mainly be developed from an energy mix of Geothermal – 1,646MW, Natural Gas – 1,050MW, Wind – 630MW and Coal – 1,920MW through Independent Power Producers (IPPs) under the Public Private Partnership (PPP) framework.

Given below is the Energy Act Number 4 of 2006 which will be applicable to the proposed coal fired power plant.

2.2.3 The Energy Act, 2006

The proposed coal fired power plant project must be compliant with relevant clauses of the Energy Act, 2006. Specifically, a license or permit issued by the ERC is required for generation of electrical energy. Clause 27 states that a license issued by the ERC is required for the generation of electrical power in excess of 3000kW (3MW).

Clause 28 of the Energy Act specifies the process steps required for application of an electric generation license. The proposed project will have to comply with the requirements of these clauses.

The Energy Act, 2006 is presently the primary legislation that contains provisions for the management of the energy sector. The subsidiary legislation to operationalize the Act is yet to be developed but is expected to stipulate HSE licensing requirements for all types of energy related activities such as the proposed project.

The Act which was promulgated in 2006 with an effective date of July 1st 2007 contains several HSE provisions for the environmentally sound management of projects in the energy sector. For example, Clause 30(1)(b) requires that an applicant should comply with the requirements of the Environment Management and Coordination Act, 1999 (EMCA) in order to be granted an electric power generation license. The requirements of the EMCA and its subsidiary legislation as it applies to the proposed project is outlined below.

2.2.4 Environment Management and Coordination Act, 1999

The proposed project will be undertaken in accordance with relevant sections of the Environment Management and Coordination Act, 1999 (EMCA), specifically Clauses 58 – 63 on Environment Impact Assessment. These sections of the Act are operationalized by subsidiary legislation promulgated under the Act and specifically L.N. 101: Environment (Impact Assessment and Audit) Regulations, 2003.

The EMCA is a framework environmental law in Kenya. This Act was assented to on January 14, 2000 in order to provide a structured approach to environmental management in Kenya. With the coming into force of the EMCA, the environmental provisions within the sectoral laws were not superseded; instead the environmental provisions within those laws were reinforced to better manage Kenya's ailing environment.

2.2.4.1 L.N. 101: EIA/EA Regulations, 2003

On June 13th 2003, the Minister for Environment and Mineral Resources promulgated Legal Notice (L.N.) 101: Environment (Impact Assessment and Audit) Regulations, 2003 as provided for under section 147 of the EMCA. These regulations provide the framework for undertaking EIAs and EAs in Kenya by NEMA licensed Lead Experts and Firm of Experts.

An EIA or EA Study in Kenya is to be undertaken by a Kenyan duly licensed by the NEMA. The EIA/EA Regulations also provide information to project proponents on the requirements of either an EIA or EA as required by the EMCA.

The proposed project is subject to relevant provisions of these regulations and subsequently, this ESIA Study has been undertaken in accordance with the appropriate requirements.

2.2.4.2 L.N. 120: Water Quality Regulations, 2006

This regulation was promulgated on September 4th 2006 and became effective on July 1st 2007. The regulation provides for the sustainable management of water used for various purposes in Kenya. For industries in Kenya, the regulation requires that Proponents apply for an "Effluent Discharge License" (EDL) annually for discharging process wastewater either into the environment, aquatic environment or public sewers.

For effluent discharges into the environment and aquatic environment, a Proponent needs to apply directly to the NEMA. For discharges into public sewers, a Proponent needs to apply for the license to the relevant county. The regulation contains discharge limits for various environmental parameters into public sewers and the environment.

These regulations will apply to the proposed project during the construction and operational phases respectively. The EPC contractor will be required to ensure that effluent from construction activities is treated in accordance with the above regulations prior to discharge into the aquatic environment. Sampling and analysis of wastewater from all discharge points shall be undertaken using a NEMA accredited laboratory. The parameters to be sampled will be in accordance with the Fourth Schedule of the EMCA. During the operational phase, the Operations and Maintenance Company shall annually apply for an EDL to NEMA.

2.2.4.3 L.N. 121: Waste Management Regulations, 2006

During the construction phase, the proposed project will generate various types of non-hazardous and hazardous wastes. For the most part, it is expected that the wastes will be non-hazardous in nature and can be disposed in accordance with the above regulations. If however any hydrocarbons used at the site in the form of petroleum fuels come into contact with soils, then the contaminated soils will be disposed in an environmentally sound manner (ESM) in accordance with the regulations.

The Waste Management Regulations were promulgated on September 4th 2006 and became effective on July 1st 2007. This regulation is comprehensive and covers the management of various kinds of waste in Kenya. Generally it is a requirement under the regulations that a waste generator segregates their waste (hazardous and non-hazardous) by type and then disposes the wastes in an environmentally acceptable manner.

Under the regulation, it is a requirement that waste is transported using a vehicle that has an approved "Waste Transportation License" issued by NEMA. Wastes generated in Kenya must be disposed in a licensed disposal facility. Such a facility will require annual environment audits to be undertaken by NEMA registered Lead Experts.

It is further a requirement under the regulation for a Proponent to install at their premises anti-pollution equipment for treatment of various types of wastes. The treatment options shall be approved by the NEMA in consultation with the relevant lead agency.

The regulation contains definitions of hazardous wastes in the Fourth Schedule. The regulation requires that prior to generating any hazardous waste, a Proponent shall undertake an EIA Study and seek approval from the NEMA.

Labeling of hazardous wastes is mandatory under the regulation and the specific labeling requirements are provided in Rule 18. The treatment options for hazardous waste provided in Rule 19 include incineration or any other option approved by the NEMA.

2.2.4.4 L.N. 61: Noise and Excessive Vibration Control Regulations, 2009

In May 2009, the Minister for Environment and Natural Resources promulgated the above regulations for management of noise and excessive vibration at workplaces. The general prohibition states that no person shall make or cause to be made any loud, unreasonable, unnecessary or unusual noise which annoys, disturbs, injures or endangers the comfort, repose, health or safety of others and the environment.

The regulations further provide factors that will be considered in determining whether or not noise and vibration is loud, unreasonable, unnecessary or unusual. For fixed installations, excessive vibration under these regulations is defined as any vibration emanating from the source and exceeds 0.5cm/s at 30m from the source.

Rules 13 and 14 of the regulations define the permissible noise levels for construction sites and are reproduced below. These noise limits will be applicable to the proposed project.

Table 2-1: Construction phase permissible noise levels

Facility	Maximum noise level permitted (L_{eq}) in dB(A)		
		Day	*Night*
i.)	Health facilities, educational institutions, homes for the disabled, etc.	60	35
ii.)	Residential	60	35
iii.)	Areas other than those in (i) and (ii) above	75	65

Time frame:

Day: 6.01 am – 8:00 pm (L_{eq}, 14 hours)

Night: 8:01 pm – 6:00 am (L_{eq}, 10 hours)

Rules 5 and 6 of the regulations define noise levels for various types of activities that generate noise during the operational phase of a project. The First Schedule to the regulations defines permissible noise levels to be complied with during the operational phase of a project and is reproduced below.

Table 2-2: Operational phase noise permissible levels

Zone		Sound Level Limits (dBA) (Leq, 14h)		Noise Rating Level (NR) (Leq, 14h)		Maximum allowable log equivalent (hourly measurements) in dB(A)	
		Day	Night	Day	Night	Day	Night
A.	Silent Zone	40	35	30	25	-	-
B.	Places of Worship	40	35	30	25	-	-
C.	Residential: Indoor Outdoor	 45 50	 35 35	 35 40	 25 25	55	45
D.	Mixed residential (with some commercial and places of entertainment)	55	35	50	25	-	-
E.	Commercial	60	35	55	25	70	70

Time frame:

Day: 6.01 am – 8:00 pm (L_{eq}, 14 hours)

Night: 8:01 pm – 6:00 am (L_{eq}, 10 hours)

The regulation further stipulates that a permit will be required during the construction and operational phase of a project if there will be equipment that will produce excessive noise or vibration during any of these two phases of the project.

The above regulations will be applicable to the proposed project during the construction and operational phases of the project respectively. For example, if any blasting is to be done, the EPC contractor shall apply for a noise permit from NEMA during the construction phase of the project. The fourth schedule of the regulations contains details of the application for a noise license while the fifth schedule provides a description of the noise permit that NEMA will grant the EPC contractor.

2.2.5 Occupational Safety and Health Act, 2007 (OSHA)

The proposed project will be undertaken in compliance with the OSHA during the construction and operational phases respectively. During the operational phase, there will be minimal activity along the transmission line corridor.

Specifically, the EPC contractor will be required to fully comply with the requirements of Legal Notice 40 titled: Building Operations and Works of Engineering Construction Rules, 1984 (BOWEC) during the construction phase of the project. The EPC contractor will develop and implement a construction health and safety plan for the construction phase in alignment with the BOWEC, OSHA and international health and safety best practices such as the IFC's "General EHS Guidelines" and "EHS Guidelines for Thermal Power Plants".

The OSHA was enacted to assure the health, safety and welfare of persons employed in workplaces, and for matters incidental thereto and connected therewith.

Part II of the Act provides the General Duties that the Occupier must comply with respect to health and safety in the workplace. Such duties include undertaking S&H risk assessments, S&H audits, notification of accidents, injuries and dangerous occurrences, etc. A number of sections under this part shall be applicable to the proposed project.

Part III of the Act provides the Administrative framework for supervision of the Act.

Part IV deals with the enforcement provisions that the DOSHS has been provided with under the Act. It discusses the instances when **Improvement** and **Prohibition Notices** can be issued as well as the powers of OSH officers. This part of the Act will be mandatory for the Occupier to comply with for the proposed project.

Part V of the Act requires all workplaces to be registered with the DOSHS. This part will be applicable for the proposed project as the Occupier will have to apply for registration of their project with the DOSHS on completion of the construction phase and before the operational phase of the project. During the construction phase, the EPC Contractor shall be required to register the project site as a construction site and be registered in the DOSHS database.

Part VI of the Act lists the requirements for occupational health provisions which include cleanliness, ventilation, overcrowding, etc. This part of the Act will apply to the Occupier during all phases of the project.

Part VII of the Act contains provisions for the safe operation of machinery and includes all prime movers and transmission equipment. Additionally this part includes the safe operation of cranes, chains, ropes, lifting tackles, pressure vessels and their statutory examination by DOSHS Approved Persons. This part of the Act will apply to the proposed project during the construction and operational phases respectively.

Part VIII of the Act contains provisions for general safety of a workplace especially fire safety. This part of the Act will apply to the proposed project during the design, construction and operational phases respectively of the project.

Part IX of the Act deals with Chemical Safety. This will be applicable to the proposed project as it will receive, store, handle and distribute materials such as petroleum fuels, lubricants, chemicals, etc. The Occupier will be required to have MSDS sheets for all hazardous materials handled in the workplace including labeling of all receptacles containing such hazardous materials.

Part X of the Act deals with the General Welfare conditions that must be present during the construction and operational phase of the project. Such conditions include first aid facilities, supply of drinking water, accommodation for clothing, ergonomics, etc. This section of the Act will be applicable to the proposed project.

Part XI of the Act contains Special Provisions on the management of health, safety and welfare. These include work permit systems, PPE requirements and medical surveillance. All sections of this part of the Act will be applicable to the proposed project during the construction and operational phase.

Part XII of the Act deals with Special Applications such as platforms erected over water and workplaces where steam boilers or hoists and lifts are used. This part of the Act will be applicable to the proposed project.

Part XIII of the Act stipulates various fines and penalties associated with non-compliance with the Act. It includes those fines and penalties that are not included in other sections of the Act and will be important for the Occupier to read and understand the penalties for non-compliance with S&H provisions.

Part XIV of the Act is the last section of the Act and contains miscellaneous provisions which are not covered elsewhere in the Act. Some sections under this part of the Act will be apply to the proposed project and it is in the interest of the Occupier to read, understand and ensure compliance with it.

Some of the important subsidiary legislation which operationalizes the Act and is applicable to the proposed project is described below.

2.2.5.1 L.N. 31: The Safety and Health Committee Rules 2004

These rules came into effect on April 28th, 2004 and require that an Occupier formalize a Safety and Health (S&H) Committee if there are a minimum of 20 persons employed in the work place. The size of the S&H Committee depends on the number of workers employed at the place of work.

For the Proponent and Contractor, the OSHA and the S&H Committee Rules 2004 are important during the construction and operational phases as they require compliance with the following measures:

- Posting of an Abstract of the Factories and Other Places of Work Act in key sections of each area of the factory or other workplace;
- Provision of first aid boxes in accordance with Legal Notice No. 160 of 1977;
- Ensuring that there are an appropriate number of certified first aiders trained by an approved institutions and that the certification of these first aiders is current;
- Provision of a General Register for recording amongst other things all incidents, accidents and occupational injuries;
- Appointment of a S&H Committee made up of an equal number of members from management and workers based on the total number of employees in the workplace;
- Training of the S&H Committee in accordance with these rules;
- Appointment of a S&H management representative for the Proponent;

The S&H Committee must meet at least quarterly, take minutes, circulate key action items on bulletin boards and may be required to send a copy of the minutes to the DOSHS provincial office.

Appropriate recordkeeping including maintenance of all current certificates related to inspection of critical equipment such as cranes, air compressors, lifts, pulleys, etc. Such inspections need to be undertaken by an approved person registered by the Director of the DOSHS.

2.2.5.2 L.N. 24: Medical Examination Rules 2005

These rules provide for Occupiers to mandatorily undertake pre-employment, periodic and termination medical evaluations of workers whose occupations are stipulated in the Second Schedule of the OSHA and the First Schedule of the above Regulation. Workers that fall under the above two schedules are required to undergo medical evaluations by a registered medical health practitioner duly registered by the DOSHS.

It will be incumbent on the EPC Contractor to ensure that Material Safety Data Sheets (MSDSs) for chemicals used in the construction phase are studied for toxicological and epidemiological information and workers trained on their safe handling, use and disposal. If any of these products present negative impacts to human health, the workers exposed to the chemicals will be required to undergo medical examinations in accordance with the above Rules.

During the operational phase, it will be the duty of the O&M Company to undertake medical examinations of those staff members that could potentially be exposed to diseases listed in the Second Schedule of the OSHA.

2.2.5.3 L.N. 25: Noise Prevention and Control Rules 2005

These rules were promulgated on March 10th 2005 for occupational noise exposures and apply to workplaces in Kenya. The regulation is applicable to the project as there will be noise potentially generated by construction equipment that may exceed the permissible noise levels given below.

The rules set the permissible level for occupational noise in any workplace (which includes construction sites) as follows:

- 90 dB(A) over an 8-hour TWA period over 24-hours; and
- 140 dB(A) peak sound level at any given time.

Additionally the rules set permissible limits for community noise levels emanating from a workplace as follows:

- 50 dB(A) during the day; and
- 45 dB(A) at night.

If noise levels exceed the above permissible levels, the Occupier is required to develop, rollout and implement a written hearing conservation program which should include the following sections as a minimum:

- Undertaking a Noise Level Survey;
- Education and training of persons affected by excessive noise;
- Engineering noise control methods;
- Hearing protection requirements;
- Posting of notices in noisy areas;
- Audiometric testing methods and frequencies for those exposed to high noises; and
- Annual program review.

The Proponent is to ensure that any equipment brought to a site in Kenya for use shall be designed or have built-in noise reduction devices that do not exceed 90 dB(A). The Proponent shall request the supplier of the machine or equipment for its noise characteristics.

There is also a requirement for a Proponent to medically examine those employees that may be exposed to continuous noise levels of 85 dB(A) as indicated in Regulation 16. If found unfit, the occupational hearing loss to the worker will be compensated as an occupational disease.

It is expected that during the construction and operational phases of the project respectively, there may be plant and equipment that exceed the threshold levels of noise stipulated under the Rules. It will therefore be incumbent on the EPC contractor and their sub-contractors to ensure that their equipment is serviced properly and/or use equipment that complies with the threshold noise values given above. If they are unable to comply with the noise limits, the EPC contractor will be required to develop, rollout and implement a written hearing conservation program during the construction phase.

2.2.5.4 L.N. 59: Fire Risk Reduction Rules, 2007

These rules were promulgated by the Minister for Labor on April 16th 2007 and apply to all workplaces. A number of sections of the rules apply to the proposed project as enumerated below.

Regulation 5 requires Proponents to ensure that fire resistant materials are used for construction of new buildings. A number of minimum specifications of materials are provided in the regulation which are defined as fire resistant materials.

Regulation 6 requires that all flammable materials be stored in appropriately designed receptacles.

Regulation 7 requires that all flammable storage tanks or flammable liquid containers be labeled with the words "Highly Flammable" in English or Kiswahili. It is therefore practical for the Proponent to use a system similar to the Hazardous Material Identification System (HMIS) of labeling their product containers. The regulation requires a Proponent to consult the product's MSDS for appropriate labeling requirements.

Regulation 8(3) requires a Proponent to have a Spill Prevention, Control and Countermeasures plan (SPCC). This may be important if there will be chemicals stored at the construction site.

Regulation 16 requires Proponents to ensure that electrical equipment is installed in accordance with the respective hazardous area classification system. It is also a requirement that all electrical equipment is inspected 6-monthly by a competent person and the Proponent is required to keep records of such inspections.

Regulation 22 provides a description of the functions of a fire-fighting team. Regulation 23 requires Proponents to mandatorily undertake fire drills at least once a year.

Regulation 33 requires Proponents to have adequate fire water storage capacity. As a minimum this regulation requires Proponents to have at least $10m^3$ of dedicated fire water storage capacity.

Regulation 34 requires Proponents to develop, rollout and implement a comprehensive written Fire Safety Policy. This policy should contain a Fire Safety Policy Statement signed by the CEO, a Fire Safety Policy Manual and a brief summary of the Fire Safety Policy of the company.

Regulation 35 requires a Proponent to notify the nearest OSH area office of a fire incident within 24 hours of its occurrence and a written report sent to the Director of DOSHS within 7 days.

This regulation will be mandatory for the proposed project and it is incumbent on the EPC Contractor and O&M Company to ensure that they comply with the above requirements during the construction and operational phases of the project respectively.

2.2.5.5 L.N. 60: Hazardous Substances Rules, 2007

These rules were promulgated by the Minister of Labor on April 16th 2007 and will apply to the proposed project if it will expose workers to chemicals that can potentially be hazardous to occupational health.

The Rules state that the Proponent shall ensure that where chemicals come into contact with employees, the exposure limits set out in the First Schedule of the Regulations are not exceeded. Where employees may be exposed to two or more chemicals in the workplace the Proponent shall work out the combined exposure using the narrative given in the Second Schedule of the Regulations. The Minister of Labor is empowered to change the exposure limits given in the First Schedule of the Regulations.

It is the responsibility of the Proponent to ensure that all employees exposed to chemicals in the workplace are protected adequately from exposure to hazardous substances that may be present using the hierarchy of hazard control methods. Such methods include elimination of the chemicals, substitution of the chemicals with less hazardous ones, engineering controls, administrative controls, use of PPE and emergency response planning. If engineering controls are applied, the Proponent will undertake the maintenance and testing of the engineering controls once every 24 months using a DOSHS approved Engineering Controls Examiner who will submit his report to the Director DOSHS within 30 days.

Regulation 12 – 15 requires Proponents to have a chemical safety program developed and implemented at their workplace if chemicals will be stored and handled. The Proponent is required to maintain an inventory of all MSDSs for the chemicals stored and handled in their workplace. As a minimum, the MSDS shall comply with the format indicated in the Third Schedule of the Regulations and will be disclosed fully to the employees handling the chemical. All unused, obsolete or expired chemicals must be disposed in an environmentally sound manner. All containers which store chemicals must be labeled appropriately as indicated in the MSDS for that chemical. Training of employees on the hazards associated with handling chemicals safely in the workplace will be provided at the Proponent's cost.

Regulation 16 requires the Proponent to monitor chemical exposure levels in the workplace annually by engaging a DOSHS registered Air Quality Monitor. The cost of the exposure monitoring survey will be borne by the Proponent. The Air Quality Monitor shall submit a report to the DOSHS Director within 30 days.

Regulation 19 requires Proponents that use hazardous chemicals in the workplace to subject those employees to medical examinations in accordance with the requirements of Legal Notice 24: The Factories and Other Places of Work (Medical Examination) Rules 2005.

2.2.6 The Land Act, 2012

The proposed project is being undertaken in an area where there are no Certificates of Title. Additionally, the land on which the project will be undertaken is currently farmed by communities that live on Pate Island and who do not have a permanent abode around the project site. Involuntary resettlement will be undertaken at the project site in accordance with Kenyan laws and international best practice guidelines such as those of the IFC and AfDB.

The Proponent will lease land from a state organ to construct and operate the proposed project. As there will be compensation paid out, it is important to comply with the requirements of the Land Act, 2012 which contains provisions for involuntary resettlement of people and subsequently it is necessary to coherently work with the following institutions:

- The Ministry of Energy and Petroleum;
- The National Land Commission;
- The County Government of Lamu;
- The County Assembly of Lamu;
- The County Commissioner of Lamu;
- The LAPSSET Authority;
- The Kenya Ports Authority; and

- The Proponent.

The Land Act 2012 is the substantive law governing management of land in Kenya. It provides for the legal regime that will govern *inter alia*, the administration and management of public land and private land; contracts over land, leases, charges, compulsory acquisition, easements and related rights. The state organ responsible for land matters in Kenya is the National Land Commission (NLC).

Part VIII of the Land Act 2012 (Articles 107 – 133) describes the process that needs to be followed for compulsory acquisition of interests in public land. This part of the Land Act will be followed for securing the land upon which the proposed coal power plant will be developed.

2.2.7 County Governments Act, 2012

The County Governments Act, 2012 was promulgated to provide for county governments' powers, functions and responsibilities to deliver services and for connected purposes.

Part IX of the Act (Articles 102 – 115) state the processes that shall be followed by a County Government with respect to planning in general. Article 104 and 105 places the onus of integrated planning for the county on the County Government. Article 107 outlines the various types of plans that need to be developed by a County. Article 108 requires the County Government to develop a 5-year County Integrated Development Plan (CIDP).

Article 114 of the Act discusses planning for nationally significant projects to be undertaken in a County. According to sub-section 1 of Article 114, public hearings are mandatory regarding a nationally significant project. Once the public hearings are concluded in several locations around the project area, the County Government will submit an application for consideration of the project to the County Assembly (Article 114 sub-section 2). This article will be applicable to the proposed project and shall be complied with.

Article 115 of the Act provides a mechanism for the public to provide their views and comments about nationally significant projects in their County. One method listed in the Act is through clear and unambiguous methods for delivery of an ESIA Study for the proposed project. For the coal power plant, this section of the Act shall be applicable and the findings of the ESIA Study will be shared with the communities living in the vicinity of the project area through public meetings.

2.2.8 Public Health Act, Cap 242

The Public Health Act was promulgated for securing the health of workers and communities working around projects. It came into force on September 6th, 1921 and has been revised several times with the latest revision being done in 1986.

Part IV-A: General Provisions of the Act deals with the prevention and suppression of infectious diseases and certain sections of this part will be applicable to the project.

Part IX of the Act deals with the governance of sanitation and housing associated with a project. Certain sections of this part will be applicable to the project during the construction phase of the project.

2.2.9 Physical Planning Act, Chapter 286

The Physical Planning Act was promulgated for the preparation and implementation of physical development plans and connected purposes. This Act which was promulgated in 1996 requires the Proponent of a Project to submit an ESIA Study to the respective local authority if in the opinion of the local authority the Project is anticipated to have adverse environmental impacts (Section 36 of the Act).

2.2.10 Water Act, 2002

Under the Water Act, the principle requirement for the Proponent will be to apply for a water abstraction permit from the County water services board and pay the requisite licensing fees. This will be applicable as the project will require water for construction purposes.

2.2.11 National Laws on Land Tenure

2.2.11.1 Kenya National Land policy 2009

The national land policy which was passed on 3rd of December 2009 provides a necessary and stronger framework for the governance of land and redress of historical injustices. It recognises the multiple roles of land including cultural heritage and the importance of protecting land which is definite for future generations. The national land policy acknowledges customary land rights and boldly recognises community land, and that ultimate ownership should vest in the community. The National Land Policy 2009 recognizes the multiple meanings and roles of land stating the following in section 29:

Land is not just a commodity that can be traded in the market. It represents the following multiple values which should be protected by both law and policy.

a) Land is an economic resource that should be managed productively;

b) Land is a significant resource to which members of society should have equitable access;

c) Land is a finite resource that should be utilized sustainably; and

d) Land is a cultural heritage which should therefore be conserved for future generations.

2.2.11.2 Land Tenure in the Kenyan Constitution 2010

This endorses a fundamental principle that all land in Kenya belongs to the people of Kenya collectively as a nation, as communities and as individuals'. The Constitution groups land into three categories: public, community and private. Community land is a new category of land ownership in the 2010 Constitution. Article 63 states that "community land shall vest in and be held by communities identified on the basis of ethnicity, culture or similar community interest" The Constitution recognizes community land as being inclusive of community forests, shrines and sacred natural sites.

Article 63 (2) goes on to say that community land comprises:

a) Land lawfully registered in the name of group representatives under provision of any law;

b) Land lawfully transferred to a specific community by any process of law;

c) Any other land declared to be community land by an act of parliament; and

d) Land that is-

- Lawfully held, managed or used by specific communities as community forests, grazing areas or shrines;
- Ancestral lands and lands traditionally occupied by hunter-gatherers communities or
- Lawfully held as trust land by the county government but not including any public land held in trust by the county government under article 62(2)

Further article 63(4) states that community land shall not be disposed of or otherwise used except in terms of legislation specifying the nature and extent of the rights of members of each community individually and collectively.

The legislation will also ensure that the investments in property benefit local communities (article 66 (2) of the Constitution of Kenya 2010).

2.2.12 National Laws on Culture

Culture is a central pillar to the 2010 Constitution.

The constitution recognises culture as the foundation of the nation and as the cumulative civilisation of the Kenyan people and nation and promotes respect for ethnic diversity and equality. (Chapter 4 bill of rights, particularly article 27 of the Constitution of Kenya 2010.)

The new Constitution explicitly recognises minority and marginalised groups as being inclusive of indigenous peoples. Article 260 has four definitions of marginalised communities"

a) A community that because of its relatively small population or for any other reason;

b) A traditional community that, out of a need or desire to preserve its unique culture and identity from assimilation, has remained outside the integrated social and economic life of Kenya as a whole;

c) An indigenous community that has retained and maintained a traditional life style and livelihood based on a hunter or gatherer economy; or pastoral persons and communities whether they are i) nomadic or ii) a settled community that because of its relative geographic isolation, has experienced only marginal participation in the integrated social and economic life of Kenya as a whole.

The Constitution recognises the right of communities to practice their culture and imposes duties on the state to protect and promote cultural rights of the peoples. Article 44 of the constitution states that:

a) Every person has the right to use the language, and to participate in the cultural life of the person's choice.

A person belonging to a cultural or linguistic community has the right, with other members of that community-

a) To enjoy the person's culture and use the person's language, or

b) To form, join and maintain cultural and linguistic associations and other organs of civil society

The Constitution in Article 11(1) recognizes culture as the foundation of the nation and as the cumulative civilization of the Kenyan people According to Article 11 (2)(a) states that the state shall promote all forms of national and cultural expression through literature, the arts, traditional celebrations, science, communication, information, mass media, publications, libraries and other cultural heritage

(2)(b) Continues to state that the state must recognise the role of science and indigenous technologies in the development of the nation and promote the intellectual property rights of the people of Kenya. (Parliament is empowered to enact legislation to ensure communities receive compensation or royalties for use of their cultures and cultural heritage and to recognise and protect the ownership of indigenous seeds and plant varieties, their genetic and diverse characteristics and their use by the communities of Kenya.

2.2.13 The National Museums and Heritage Act 2006

The National Museums and Heritage Act 2006 (revised in 2009) not only provides for the establishment, control, management and development of national museums but also provides for the identification, protection, conservation and transmission of natural and cultural heritage of Kenya.

The act defines "Cultural heritage" in section 2 as:

a) Monuments

b) Architectural works of monumental sculptures and paintings, elements or structures of an archaeological nature, inscriptions, cave dwellings and combinations of features which are of universal value from the point of view of history, art or science

c) Groups of separate or connected building which because of their architecture, there homogeneity or their place in the landscape are of outstanding value from the point of view of history, art, or science.

d) Works of humanity or the combined works of nature and humanity and areas including archaeological sites which are of outstanding value from historical aesthetic, ethnological or anthropological point of view; and includes objects of archaeological or paleontological interest objects of historical interest and protected objects

2.2.14 The Forest Act 2005

The Forest Act 2005 provides for the establishment, development and sustainable management including conservation and national utilisation of forest resources for the social economic development of the country. The act is applicable to all forests woodlands and state, local authority and private lands (section 2)

Section 33(4) recognises the need for the protection of sacred natural sites stating that

" sacred groves found in any state forest, nature reserve, local authority forest or private forest shall not be interfered with and any person who, without lawful authority fells cuts damages or removes any such grove or tree or regeneration thereof, or biodiversity therein or abets in the commission of any such act commits an offence"

All indigenous forests and woodlands are also required to be sustainably managed including conservation of water, soil, biodiversity and a habitat for wildlife, and for "cultural use and heritage" (section 41(1))

The act recognises a forest community as a group of persons who-

a) Have a traditional association with a forest for purpose of livelihood, culture and religion

b) Are registered as an association or other organisation engaged in forest conservation.

2.2.15 Fisheries Act

The Fisheries Act Cap 378 of the Laws of Kenya provides a legal framework for the management, exploitation, utilization and conservation of fisheries and other connected purposes. It regulates the landing of fish and provides for the management of fish landing areas. Article 4 of the Act empowers the director fisheries in cooperation with other appropriate agencies and other departments of government to promote the development of traditional and industrial fisheries, fish culture and related industries. The act recognizes the contribution of fishing to local livelihoods and gives fishermen rights to fish in the Kenyan fishery waters.

2.2.16 Other important legislation

The above sections highlight some of the principal Acts in Kenya that the proposed project will require to be in compliance with. The outline of legislation provided in the above sections is not exhaustive and it is possible that there may be other laws and regulations that the proposed project may need to comply with. Subsequently, the Proponent and Contractor must err on the safe side by ensuring that a legal risk assessment is carried out before commencement of the project to ensure that any Acts not listed above which are important are complied with and the necessary permits applied for prior to the construction phase of the project.

2.2.17 Legislation and guidelines that have informed the preparation of the ESIA report

The following legislation has informed the scope and content of this ESIA Study:

- Environment Management and Coordination Act, 1999
- Environment (Impact Assessment and Audit) Regulations, 2003
- Environment Management and Coordination (Water Quality) Regulations, 2006
- Environment Management and Coordination (Waste Management) Regulations, 2006
- Environment Management and Coordination (Noise and Excessive Vibration Pollution) Regulations, 2006
- Energy Act, 2006;
- County Governments Act, 2012
- Land Act, 2012
- Public Health Act;
- Water Act, 2002;
- Occupational Safety and Health Act, 2007 and its subsidiary legislation.

2.2.18 Kenya National Climate Change Response Strategy

The National Climate Change Response Strategy (NCCRS) 2010 was the first national policy document to fully acknowledge the reality of climate change. The NCCRS has been guiding policy decisions since its launch in 2010.The Strategy provides evidence of climate change impacts on different economic sectors and proposed adaptation and mitigation strategies. The purpose of this plan is to put in place robust measures needed to address most, if not all, of the challenges posed by climate variability and change. Kenya's GHG emissions are rising quickly and energy sector emissions are estimated to have increased by as much as 50% over the last decade. In order to achieve the goal of a low-carbon developed society, Kenya should pursue an energy mix that greatly relies on carbon-neutral energy sources such as geothermal and other renewables which will increase Kenya's energy security.

2.3 International Conventions, Treaties and Agreements

Kenya has ratified and domesticated several international conventions and treaties for the protection of the environment. The proposed coal fired power plant will comply with the requirements of the various conventions, treaties and agreements that Kenya has ratified. Table 3 gives the status of environmental treaties ratified by Kenya.

Table 2-3: Some of Treaties applicable to the proposed project

Topic	Treaty	Relevance of treaty to the proposed coal fired power plant	Date Treaty entered into force	Date of ratification/ accession in Kenya
Climate change and the ozone layer	United Nations Framework Convention on Climate Change (UNFCCC)	The Convention's objective is the stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. As the proposed coal fired power plant needs to implement clean coal technologies throughout the lifetime of the project in order to manage the emissions from the chimney	21/03/1994	30/08/1994
	Kyoto Protocol to the United Nations Framework Convention on Climate Change	The Kyoto Protocol (KP) operationalizes the UNFCC and Kenya is a state party to the KP. Subsequently, the proposed coal power plant will need to demonstrate that through clean coal technologies, it could reduce greenhouse gas emissions over the operational phase.	16/02/2005	25/02/2005
Biodiversity	African Convention on the Conservation of Nature and Natural Resources	The objectives of this Convention are to: 1. Enhance environmental protection; 2. Foster the conservation and sustainable use of natural resources; and 3. Harmonize and coordinate policies in these fields with a view to achieving ecologically rational, economically sound and socially acceptable development policies and programs. The proposed coal power plant aims to provide the most cost effective power to the people living in Kenya including rural areas where biomass is used for lighting purposes. By providing cheap electricity, it is hoped that deforestation will slow down thus enhancing environmental protection.	16/06/1969	12/05/1969

Topic	Treaty	Relevance of treaty to the proposed coal fired power plant	Date Treaty entered into force	Date of ratification/ accession in Kenya
	Convention on Biological Diversity (CBD)	This convention aims to ensure the conservation of biological diversity; the sustainable use of its components and the fair and equitable sharing of the benefits. The developer is in the process of planting one million new tree seedlings which will be planted in Lamu County.	29/12/1993	24/10/1994
Conservation	Convention for the Protection, Management and Development of the Marine and Coastal Environment of Eastern Africa Region (Nairobi Convention)	This convention requires all contracting parties to take appropriate steps to prevent, reduce and combat pollution of the Convention area and to ensure sound environmental management of natural resources. The convention is applicable to the proposed coal power plant as it aims to (i) prevent pollution by ships and barges that will ply the Manda Bay, (ii) prevent pollution caused by dumping solid or liquid wastes into the Manda Bay, (iii) prevent airborne pollution arising from power plant activities	10/05/1996	11/09/1990
Heritage	Convention For The Protection Of The World Cultural And Natural Heritage	The objective of this Convention is to ensure that effective and active measures are taken for the protection, conservation and presentation of the "cultural and natural heritage" on its territories. The Convention is applicable to the proposed coal power plant as there may be items of tangible or intangible cultural heritage within the project site or its environs. Secondly, the Developer should continue to support and promote the culture of the people in Lamu through cultural festivals in order to preserve this heritage. This initiative to continue sponsoring cultural festivals will assist in maintaining the outstanding cultural value of the Stone town in Lamu which is a World Heritage inscribed site	17/12/1975	05/06/1991

Topic	Treaty	Relevance of treaty to the proposed coal fired power plant	Date Treaty entered into force	Date of ratification/ accession in Kenya
Marine pollution	Convention On The Prevention Of Marine Pollution By Dumping Of Wastes And Other Matter	The objective of this Convention is to contribute to the international control and prevention of marine pollution by prohibiting the dumping of certain hazardous materials. The Convention will be applicable to the proposed coal power plant as it will prohibit "dumping" of wastes into the Manda Bay by the barges that will transport coal to the off-loading jetty. It will also prohibit anyone from deliberately dumping certain wastes from the jetty structure into the Manda Bay	30/08/1975	07/01/1976
	International Convention for the Prevention of Pollution from Ships (MARPOL)	This Convention is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. While it may not apply directly to the proposed coal power plant, it will apply to the ships that transport coal to the Manda Bay	02/10/1983	12/09/1975
Waste management and pollution	Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal	The overarching objective of the Basel Convention is to protect human health and the environment against the adverse effects of hazardous wastes. The principal aims of the Convention are (i) the reduction of hazardous waste generation and the promotion of environmentally sound management of hazardous wastes, wherever the place of disposal, (ii) the restriction of transboundary movements of hazardous wastes except where it is perceived to be in accordance with the principles of environmentally sound management, and (iii) a regulatory system applying to cases where transboundary movements are permissible.	05/05/1992	01/06/2000

Topic	Treaty	Relevance of treaty to the proposed coal fired power plant	Date Treaty entered into force	Date of ratification/ accession in Kenya
		This Convention may apply to the proposed coal power plant if there any "hazardous wastes" generated by it as defined in the Convention which need to be disposed in an environmentally sound manner.		

2.3.1 The African Charter on Human and Peoples Rights

The African Charter on Human and Peoples Rights (ACHPR) is the African continent human rights charter, which came into force on 21st October 1986 in Nairobi and was ratified by Kenya on 23rd January 1992.

The ACHPR recognises and protects the collective rights of people, including "the unquestionable and inalienable rights to self- determination (article 20(1) and "social and cultural development (article 22(1))

2.3.2 International Covenant on Economic, Social and Cultural rights, 1966 and international covenant on civil and political rights 1966.

These recognise the economic, social and cultural rights, including rights to self-determination, health and education, political and civil rights, including right to self-determination, to life freedom of religion speech and assembly.- Kenya acceded to these laws on the 1st of May 1972.

2.3.3 Ramsar convention on Wetlands (1971, amended in 1982 and 1987)

This convention came into force on 5th October 1990. It provides for conservation and wise use of wetlands and recognises the ecological and cultural importance of wetlands.

2.3.4 UNESCO, World Heritage Convention

This convention concerns the protection of world cultural and natural heritage 1972. The convention was ratified by Kenya on 5th of June 1991. It protects cultural and natural heritage of outstanding value, including natural sites and cultural landscapes formed through interaction between humans and nature

Duties of the State are to identify, protect, conserve, rehabilitate and transmit cultural and natural heritage to future generations, integrate heritage protection into regional planning, and refrain from activities that may damage heritage. States can nominate sites of importance for natural and cultural heritage on the world Heritage list, and threatened properties on the list of world heritage in danger. The convention establishes the world heritage fund for the protection of heritage and to provide technical assistance in developing management plans. States are encouraged to promote public participation through a participatory management scheme.

2.3.5 UNESCO Convention for safeguarding the intangible cultural heritage, 2003

This was ratified by Kenya on 24th of October 2007. It recognises and protects intangible cultural heritage including intergenerational knowledge, oral traditions, practices, rituals and places relating with nature and the universe (Article 2). It promotes the widest possible participation and requires free prior and informed consent of communities in nominating intangible heritage and involvement in heritage protection (e.g. Articles 119b) and 15).

State parties can register sites of intangible cultural heritage on a representative list, and those in need of urgent safe guarding.

2.3.6 UNESCO Convention on the protection and promotion of Diversity of Cultural expressions 2005.

Kenya ratified this on the 24th of October 2007. This convention protects and promotes cultural expressions of minority and indigenous people to protect cultural diversity (e.g. Article 2).

2.3.7 UN Declaration on the Rights of Persons belonging to National or Ethnic, religious and Linguistic Minorities (1992).

The law recognises and protects cultural and religious identity of minority groups (e.g. Article 1)

2.4 Kenya Government Institutional Framework

With the promulgation of the Constitution of Kenya 2010, two levels of Government were created namely the National Government and County Government. With respect to the proposed coal fired power plant, both levels of Government are important for the successful implementation.

2.4.1 Ministry of Energy and Petroleum (MoEP)

The Ministry of Energy and Petroleum (MoEP) is the implementing ministry for the proposed coal fired power plant. It has several responsibilities including (i) development of an energy policy, (ii) development of a diverse energy mix in Kenya, (iii) fossil fuel exploration and development, (iv) rural electrification and (v) oversight role in state owned statutory bodies and parastatals.

For the coal fired power project, the MoEP issued the tender for the development of the project in January 2014. The MoEP is the implementing ministry for the coal fired power plant and is leading the Resettlement Action Plan (RAP) for the project.

2.4.2 Energy Regulatory Commission (ERC)

The Energy Regulatory Commission (ERC) was established under the Energy Act Number 4 of 2006 as a single regulator for downstream oil and gas, power generation, transmission and distribution sub-sectors in Kenya. The ERC is responsible for economic and technical regulation of electric power, renewable energy, and downstream petroleum sub-sectors.

Among other things, the ERC's functions also include tariff setting, review, licensing, enforcement, dispute settlement and approval of power purchase and network service contracts.

2.4.3 Energy Tribunal

This quasi-judicial body was established under section 108 of the Energy Act, 2006. It came into operation in July 2007 to primarily hear appeals against the decisions of ERC. It also has jurisdiction to hear and determine all matters referred to it relating to the energy sector.

2.4.4 Kenya Power

Kenya Power is a State Corporation having a Government of Kenya shareholding of 50.1% and private shareholding of 49.9% as at June 2014. It purchases electrical energy in bulk from KenGen and other power producers and carries out transmission, distribution, supply and retail of electric power.

For the coal power plant, the Kenya Power will be the sole off-taker of the 981.5MW of electrical power generated by the power plant.

2.4.5 Kenya Electricity Transmission Company (KETRACO)

The Kenya Electricity Transmission Company (KETRACO) is a Government of Kenya wholly owned company established to be responsible for the development, maintenance and operation of the national transmission grid network whose capacity is greater than 132kV. It is also responsible for facilitating regional power trade through its transmission network.

For the coal fired power plant, KETRACO will develop the 400kV overhead transmission line between the power plant and Nairobi East at the National Control Center.

2.4.6 National Land Commission (NLC)

The National Land Commission (NLC) of Kenya is an independent government commission whose establishment was provided for by the Constitution of Kenya to amongst other things, (i) manage public land on behalf of the national and county governments, (ii) initiate investigations into present or historical land injustices and recommend appropriate redress, and (iii) monitor and have oversight responsibilities over land use planning throughout the country.

With respect to the coal fired power plant, the NLC is an important state organ as it will be responsible for implementing the applicable requirements of the Land Act 2012 including the resettlement action plan (RAP) for the project and paying compensation to the project affected persons (PAPs).

2.4.7 County Government of Lamu

According to the County Governments Act 2012, a county government shall be responsible for any function assigned to it under the Constitution or by an Act of Parliament. With regard to the proposed coal fired power plant, the County Government of Lamu is responsible for among other functions, the following:

- Acquire land for the proposed coal power plant (Article 6(2)(b));
- Submit the plans and proposals of the proposed coal fired power plant to the County Assembly of Lamu for consideration (Article 30(2)(f)).

2.4.8 County Assembly of Lamu

The County Assembly's principal function is to make laws at the County level. The County Assembly of Lamu has twenty members of the county assembly and the speaker.

Under Section 114 (2) of the County Governments Act, 2012, the County Assembly will be responsible for considering and approving the plans and proposals for the proposed coal fired power plant.

2.4.9 LAPSSET Authority

The LAPSSET Corridor Development Authority was created to plan, coordinate and manage the implementation of the Lamu Port-South Sudan-Ethiopia Transport Corridor. The LAPSSET Corridor Development Authority is domiciled in the Presidency in accordance with the Constitution of Kenya 2010.

Among other functions, the LAPSSET Corridor Development Authority is tasked with establishing an integrated implementation plan and oversee the implementation of projects including the proposed coal fired power plant.

2.5 International Policies, Guidelines and Standards

This following sub-section provides an overview of the international guidelines and standards that the proposed coal power plant will need to comply with in addition to HSE related legislation in Kenya.

The two key institutions whose environmental and social guidelines and standards will be used for the proposed coal power plant include the African Development Bank (AfDB) and the International Finance Corporation (IFC).

2.5.1 African Development Bank policies and guidelines

The African Development Bank (AfDB) Group has developed a set of policies for provision of support to the energy sector. Additionally, the AfDB has updated their existing environmental and social safeguards which are referred to as the Integrated Safeguards System (ISS). Given below is an overview of AfDB related policies that will be applicable to the proposed coal power plant.

2.5.1.1 Energy Sector Policy of the AfDB Group

The AfDB developed an Energy Sector Policy which was approved in September 2012 for provision of financial support to Regional Member Countries (RMCs) on development of modern, affordable and reliable sources of energy. Under the Policy, the AfDB further supports RMC's in the development of the energy sector in a socially, economically and environmentally sustainable manner.

According to the AfDB, the energy sector policy for coal fired power plants is based on the following framework:

1. **Development impact**: A proposed Greenfield or retrofit coal-fired power plant should have a strong developmental impact, contributing to poverty reduction and addressing national and/or regional energy security needs.
2. **Transitioning towards green growth**: Collaborate with Regional Member Countries (RMCs) to identify technologically and commercially feasible low-carbon and cost-effective strategy for energy resources.
3. **Environmentally responsible**: Take advantage of progress in technology to adequately mitigate negative environmental impacts, introducing efficient technologies, reduce GHG emissions, and diversify the energy mix.
4. **Technology**: Work closely with RMCs to ensure adoption of the most appropriate, commercially available and affordable technology for reducing GHG emissions. Assist in sourcing additional financing to invest in such technologies. Ensure that a desk-top assessment of the technical, economic and financial feasibility of abatement is undertaken, and will encourage assessment of the potential for readiness for relevant Carbon Capture and Storage technologies.
5. **Offsetting measures**: Seeks to promote United Nations Conventions on Climate Change. Ensures that its interventions comply with agreements and related standards that are ratified by its RMCs within the framework of climate-change negotiations in terms of GHG emissions, including offsetting measures. Support RMCs that express an interest in implementing offsetting measures in relation to these agreements, or on a voluntary basis.

Based on their Energy Sector Policy, the AfDB is committed to environmental and social sustainability and consequently, will help its clients to (i) assess different energy options against their ability to achieve such objectives; and (ii) gradually adopt a sustainable low-carbon growth path, underpinned by the three levers namely, renewable sources, energy efficiency and clean technologies.

The new Energy Policy is founded on nine guiding principles of which environmental and social responsibility is one of them. Under this principle, the AfDB advocates for a viable balance between economic, environmental and social considerations in a project life cycle. Under this principle, projects financed by the AfDB are required to comply with the bank's environmental and social standards as defined in the environmental and social integrated safeguards system.

Another guiding principle of the new Energy Policy is integrating responses to climate change. Under this guiding principle, the AfDB is committed to help RMCs move gradually towards environmentally friendly energy production and supply patterns. The bank will support individual African countries Bank to: (i) identify and implement low-carbon energy supply options that are technically, socially, financially and economically viable; (ii) build the requisite capacity and (iii) understand and take advantage of concessional climate financing options to increase access to cleaner energy.

The new Energy Policy envisages capacity building and knowledge management as critical success factors in enhancing energy access, security and sustainability. Towards this end the AfDB proposes to support Research-Development and Innovation in RMCs, in particular, through building and enhancing partnerships with regional and international research institutions.

Mainstreaming gender considerations is another guiding principle of the new Energy Sector Policy of the AfDB. Under this principle, the AfDB will ensure that (i) the gender implications are properly reflected in the energy-sector project cycle, and (ii) gender-related capacity building and training efforts are adequately integrated into its energy interventions.

The design of the proposed coal fired power plant in Lamu is aligned to the development objectives of the AfDB's energy sector policy in the following ways:

a) The proposed coal power plant is part of Kenya's diverse energy mix and is expected to provide the most cost effective power; this is expected to contribute towards greater economic growth and potentially, reduction in the use of biomass in the medium- to long-term;

b) The power plant will incorporate clean coal technologies such as electrostatic precipitators, wet flue gas desulfurization and low nitrous oxide burners;

c) The proposed coal power plant will utilize super-critical technology whose efficacy is higher than that of sub-critical technology; and

d) The Proponent has commenced a tree-planting campaign and about 300,000 seedlings are in the process of being planted.

2.5.1.2 AfDB Operational Guidelines for Coal Power Plants

The Operational Guidelines for Coal Power Plants were developed by the AfDB to complement its Energy Sector Policy and guide its future investments in coal. The guidelines are applicable to new coal-based power generation in Greenfield and associated transmission infrastructure for power evacuation.

Section 4 provides guidance to AfDB task teams on the approach for developing coal power plants during various stages throughout the lifetime of the project.

2.5.1.3 African Development Bank Gender Mainstreaming Policy

The AfDB Gender Policy (2001) provides a framework for action, through which the proponent will ensure equal access to women and men to project related opportunities and benefits.

The guiding principles present the key steps that are applicable for mainstreaming gender throughout the project cycle. The starting point for effective gender mainstreaming in infrastructure programs/projects is to undertake the required gender analysis.

Throughout the cycle, gender analysis will be applied in order to disaggregate women's and men's roles and responsibilities; time use and availability; resources, knowledge and capacity available to each and participation in decision making by each.

2.5.1.4 AfDB Integrated Safeguards Policy and Operational Safeguards

In 2013, the AfDB updated its environmental and social policies and developed an "Integrated Safeguards Policy" and five "Operational Safeguards". The objective of having the above tools is to enable the AfDB to be better equipped in addressing emerging environmental and social development challenges of Group funded projects.

To better articulate its safeguard policies while improving their clarity, coherence and consistency, the AfDB developed an Integrated Safeguards System (ISS). This system consists of four components namely:

a) Integrated Safeguards Policy Statement;

b) Operational Safeguards;

c) Environment and Social Assessment Procedures (ESAPs); and

d) Integrated Environmental and Social Impact Assessment (IESIA).

Currently, the AfDB has released items (a) and (b) above and will release items (c) and (d) in the near future.

With respect to the coal power plant, all five operational safeguards (OSs) will be applicable and the Proponent should demonstrate compliance with them throughout the lifetime. The table below provides a brief description of each OS.

Table 2-4: Description of AfDB's Operational Safeguards

Operational Safeguard	Description
1	This overarching safeguard governs the process of determining a project's environmental and social category and the resulting environmental and social assessment requirements.
2	This safeguard consolidates the policy commitments and requirements set out in the Bank's policy on involuntary resettlement, and incorporates a number of refinements designed to improve the operational effectiveness of those requirements.
3	This safeguard aims to conserve biological diversity and promote the sustainable use of natural resources. It also translates the commitments in the Bank's policy on integrated water resources management into operational requirements.
4	This safeguard covers the range of key impacts of pollution, waste, and hazardous materials for which there are agreed international conventions, as well as comprehensive industry-specific and regional standards, including greenhouse gas accounting, that other multilateral development banks follow.
5	This safeguard establishes the Bank's requirements for its borrowers or clients concerning workers' conditions, rights and protection from abuse or exploitation. It also ensures greater harmonization with most other multilateral development banks.

2.5.2 IFC Performance Standards

In addition to the AfDB ISS, the proposed coal fired power project will be evaluated against the latest International Finance Corporation (IFC) Environmental and Social (E&S)

Performance Standards (PSs) dated January 2012. There are eight E&S performance standards in IFC's sustainability framework as listed below.

Table 2-5: List of IFC Performance Standards

Performance Standard	Description
1	Assessment and Management of Environmental and Social Risks and Impacts
2	Labor and Working Conditions
3	Resource Efficiency and Pollution Prevention
4	Community Health, Safety, and Security
5	Land Acquisition and Involuntary Resettlement
6	Biodiversity Conservation and Sustainable Management of Living Natural Resources
7	Indigenous Peoples
8	Cultural Heritage

Given below is a short description of the applicable IFC PSs with respect to the proposed coal fired power plant.

Table 2-6: Applicable IFC Performance Standards-Proposed Coal Power Plant

Performance Standard	Description
1	This PS highlights the importance of managing environmental and social performance throughout the life of a project by developing and implementing an effective Environmental and Social management System (ESMS). It provides guidelines on the contents and process of developing an effective ESMS.
2	This PS stresses that the fundamental rights of workers should be protected throughout the project life cycle. It stresses the need for constructive worker-management relationships, treating workers fairly, and, providing a safe and healthy work environment. These ingredients will lead to higher productivity and efficiency among workers.
3	This PS outlines a project level approach to resource efficiency and pollution prevention and control in alignment with internationally disseminated technologies and practices. It expects that project Proponents will incorporate commercially available and feasible best available technologies (BAT) for minimization of pollution emanating from project related activities.
4	This PS addresses the client's responsibility to avoid or minimize the risks and impacts to community health, safety and security that may arise from project related activities.
5	This PS recognizes that in certain projects, land acquisition and involuntary resettlement may be necessary. In order to avoid long-term hardship and impoverishment of project affected persons (PAPs), environmental damage and adverse socio-economic impacts, involuntary resettlement should be minimized or appropriate mitigation measures should be carefully planned and implemented

Performance Standard	Description
	for PAPs and host communities through a documented Resettlement Action Plan (RAP).
6	This PS sets out requirements for conserving biodiversity, maintaining ecosystem services and sustainably managing living natural resources. The requirements within this PS are based on the Convention of Biological Diversity. This PS sets out the measures that a Proponent can take to manage and mitigate adverse impacts on biodiversity and ecosystem services.
7	Not applicable to coal power project
8	This PS aims to ensure that a Proponent protects cultural heritage in the course of project activities. This PS is aligned with the Convention Concerning the Protection of World Cultural and Natural Heritage and parts of the Convention on Biological Diversity.

The proposed coal fired power plant project is expected to receive funding from international sources. Subsequently, it is imperative for the environment and social assessment process to comply with the requirements of international policies and guidelines of Development Finance Institutions (DFIs).

In addition to the above requirements, the proposed coal power plant will subscribe to local and international environmental and social standards. A brief overview of the standards is given below.

2.6 ESIA Study alignment with international environmental standards

A review of this ESIA Study was undertaken to confirm that it is aligned with the environmental and social (E&S) requirements of multi-lateral finance institutions (MFIs) and development finance institutions (DFIs). The three common referenced E&S standards used are those developed by the IFC, AfDB and the Equator Principles Finance Institutions 3 (EPFI3).

Amu Power Company Limited (APCL) is a project development company that will develop and implement a formal ESMS for the project. They will incorporate the applicable E&S requirements of the above institutions. Table 1-5 shows how the ESIA Study for the Lamu coal power plant has addressed the E&S requirements of the IFC, AfDB and EPFI3 for the project. It should be noted that the EPFI3 defaults several principles to the IFC's E&S Performance Standards.

Table 2-7 : Evaluation of ESIA Study with MFI and DFI requirements

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
Assessment and Management of Environmental and Social Risks and Impacts			
Environmental and Social Management System	**Performance Standard 1: Paragraph 5** - states that the client, in coordination with other responsible government agencies and third parties to conduct a process of environmental and social assessment, and establish and maintain an ESMS appropriate to the nature and scale of the project.	**Operational Safeguard 1: Paragraph 5 –** states that appropriate and relevant environmental and social assessment tools to mainstream environmental and social considerations into Country Strategy Papers and Regional Integration Strategy Papers are applied.	**Principle 4:** states that the client is required to develop or maintain an Environmental and Social Management System (ESMS).
a) **ESMS Policy**	*Performance Standard 1: Paragraph 6* – states that the client is required to establish an overarching policy defining the environmental and social objectives and principles that guide the project to achieve sound environmental and social performance.	*Operational Safeguard 1: Paragraph 15 –* states the need for compliance with the relevant legislation and standards applicable in the local jurisdiction. Also considering national or regional-level programming documents that are under implementation or in preparation.	*Principles 3 and 8 – states that the a*ssessment process should first address compliance with relevant host country laws, regulations and permits that pertain to environmental and social issues.
b) **Identification of Risks and Impacts**	*Performance Standard 1: Paragraph 7-12 –* states that the client is required to establish and maintain a process for identifying the	*Operational Safeguard 1: Paragraphs 6-13.* - states that the clients are responsible for conducting the environmental and social	*Principle 2 –* states that the client is required to conduct an Assessment process to address the relevant environmental and social risks and

[1] International Finance Corporation Environmental and Social Performance Standards, 2012
[2] African Development Bank ISS
[3] Equator Principles III, June 2013

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	environmental and social risks and impacts of the project; the process should be consistent with good international industry practice, and should determine the appropriate and relevant methods and assessment tools.	assessment (Strategic Environmental and Social Assessment, or SESA, or Environmental and Social Impact Assessment, or ESIA) and for developing, as an integral part of project documentation, an appropriate plan for managing possible impacts.	impacts of the proposed Project. The Assessment should propose measures to minimize, mitigate, and offset adverse impacts in a manner relevant and appropriate to the nature and scale of the proposed Project.
c) **Management Programs**	*Performance Standard 1: Paragraphs 13-16. –* states that the client should establish management programs that, in sum, will describe mitigation and performance improvement measures and actions that address the identified environmental and social risks and impacts of the project. These programs may consist of a combination of operational procedures, practices, plans, and related supporting documents. The management programs will establish environmental and social Action Plans.	*Operational Safeguard 1: Paragraphs 14-21* – states that the mitigation hierarchy be applied: if avoidance is not possible, reduce and minimize potential adverse impacts; if reduction or minimization is not sufficient, mitigate and/or restore; and as a last resort compensate for and offset.	*Principle 4 –* states that an Environmental and Social Management Plan (ESMP) should be prepared by the client to address issues raised in the Assessment process and incorporate actions required to comply with the applicable standards.
d) **Organizational Capacity and Competency**	*Performance Standard 1: Paragraphs 17-19 –* states that the client is required to establish,	*Operational Safeguard 1: Paragraphs 18* – states that the client is required to develop a	*Principle 4 –* states that an Environmental and Social Management Plan (ESMP) should be

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	maintain, and strengthen as necessary an organizational structure that defines roles, responsibilities, and authority to implement the ESMS. The team implementing the ESMS should have the knowledge, skills, and experience necessary to perform their work.	comprehensive and implementable ESMP with a realistic timeframe, incorporating the necessary organizational capacity (including further training requirements) and financial resources to address and manage the environmental and social risks that may occur during the full project cycle.	prepared by the client to address issues raised in the Assessment process and incorporate actions required to comply with the applicable standards.
e) **Emergency Preparedness and Response**	*Performance Standard 1: Paragraphs 20-21. –* states that the client is required to establish and maintain an emergency preparedness and response system in collaboration with appropriate and relevant third parties to able to respond to accidental and emergency situations associated with the project.	*Operational Safeguard 1: Paragraphs 36 –* states that the client establishes adequate emergency preparedness and response plans so that it is prepared to respond to accidental and emergency situations that may pose a threat to local communities, and to provide affected communities with appropriate information about emergency preparedness and response activities, resources, and responsibilities.	*Principle 4 –* states that an Environmental and Social Management Plan (ESMP) should be prepared by the client to address issues raised in the Assessment process and incorporate actions required to comply with the applicable standards.
f) **Monitoring and Review**	*Performance Standard 1: Paragraphs 22-24 –* states that client is required to establish procedures to monitor and measure the effectiveness of the management program, as well as compliance with	*Operational Safeguard1: Paragraph 56 –* states that the client is responsible for the implementation of the ESMP and reports on key management or monitoring tasks set out in the ESMP.	*Principles 7 and 9-* states that an independent review by an independent environmental and social consultant is required for Projects with potential high risk impacts. To provide periodic reports in a

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	any related legal and/or contractual obligations and regulatory requirements.	Environmental and social mitigation measures contained in the ESMP, Resettlement Action Plan are jointly monitored and reported during project supervision missions.	format agreed with the EPFI prepared by in-house staff or third party experts documenting compliance with the ESMPs and Equator Principles Action Plans (where applicable), and compliance with relevant local, state and host country environmental and social laws, regulations and permits
How the element has been addressed in the ESIA Study	**The need for a documented ESMS has been discussed in section 2.6.1 of the ESIA Study. Section 7 of the ESIA Study discusses the potential environmental and social risks identified for the Lamu coal power plant project, and the mitigation measures to reduce the impacts to as low as reasonably practical (ALARP). Section 8.5.10 of the ESIA Study discusses specific management programs that should be developed for the project. The organizational capacity has been discussed in the Environment Management Plan in section 8.5.12. For emergency response, section 8.5.13 of the Environment Management Plan recommends that an Emergency Response Manual be developed for the project and the manual should include specific contingency plans for credible scenarios. For monitoring and review, tables 8-1 to 8-8 provide frequencies of review of the ESMS**		
Stakeholder Engagement	*Performance Standard 1: Paragraph 25* - Stakeholder engagement is an ongoing process that may involve the following elements: stakeholder analysis and planning, disclosure and dissemination of information, consultation and participation, grievance mechanism, and ongoing reporting to affected Communities.	*Operational Safeguard1:* *Paragraphs 45-48* - This section gives requirements on stakeholder identification; engagement process; disclosure of information and informed consultations and participation.	*Principles 5 –* This principle outlines the consultation and participation process with the affected communities and other stakeholders. *Principle 10 –* this is an addition to principle 5 and focuses on information disclosure and reporting.
a) **Stakeholder**	*Performance Standard 1:*	*Operational Safeguard1:*	*Principle 5 –* states that the client is

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
Analysis and Engagement Planning	*Paragraphs 26-28*- states that the client is required to develop and implement a Stakeholder Engagement Plan that is scaled to the project risks and impacts and development stage, and be tailored to the characteristics and interests of the affected Communities.	*Paragraphs 45-48-* The client is required to conduct a meaningful consultation based on stakeholder analysis and is preceded by disclosure of adequate project information and environmental and social information to ensure that participants are fully informed. Affected communities are given the opportunity to participate in key stages of project design and implementation and their views incorporated in various assessment reports.	required to demonstrate effective Stakeholder Engagement as an ongoing process in a structured and culturally appropriate manner with Affected Communities and, where relevant, Other Stakeholders.
b) **Disclosure of Information**	*Performance Standard 1: Paragraph 29-* states that the client is required to provide affected Communities with access to relevant information on: (i) the purpose, nature, and scale of the project; (ii) the duration of proposed project activities; (iii) any risks to and potential impacts on such communities and relevant mitigation measures; (iv) the envisaged stakeholder engagement process; and (v) the grievance mechanism.	*Operational Safeguard1: Paragraphs 49-54 –* states that the client is required to ensure maximum disclosure, enhanced access to information, and limited exceptions at key stages during the project cycle and making documents available to the public on request, through the Integrated Safeguards Tracking System (ISTS). Information is disclosed on the AfDB websites and in appropriate national and local settings under the direct responsibility and supervision of relevant national/local	*Principle 5 -* states that the client is required to commensurate to the project's risks and impacts, make the appropriate assessment documentation readily available to the Affected Communities, and where relevant Other Stakeholders, in the local language and in a culturally appropriate manner. Environmental or social risks and adverse impacts, disclosure should occur early in the assessment process and on an ongoing basis.

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
		authorities.	*Principle 10* – states that the client should ensure that, at a minimum, a summary of the ESIA is accessible and available online.
c) **Consultation**	*Performance Standard 1: Paragraph 30* – states that the client is required to undertake a consultation process that provides the affected Communities with opportunities to express their views on project risks, impacts and mitigation measures, and also allows the client to consider and respond to them.	*Operational Safeguard1: Paragraphs 45-48* The client is required to conduct a meaningful consultation based on stakeholder analysis and is preceded by disclosure of adequate project information and environmental and social information to ensure that participants are fully informed. Affected communities are given the opportunity to participate in key stages of project design and implementation and their views incorporated in various assessment reports.	*Principle 5* – states that during consultation and participation The client should tailor its consultation process to: the risks and impacts of the Project; the Project's phase of development; the language preferences of the Affected Communities; their decision-making processes; and the needs of disadvantaged and vulnerable groups. The process should be free from external manipulation, interference, coercion and intimidation.
d) **Informed Consultation and Participation**	*Performance Standard 1: Paragraph 31-* states that the client is required to conduct an Informed Consultation and Participation process which involves a more in-depth exchange of views and information	*Operational Safeguard1: Paragraphs 48* The client has identified vulnerable communities that would potentially be affected by the project, the borrower/client engages in	*Principle 5* – states that the client is required to conduct an Informed consultation and participation process if the projects potentially have significant adverse impacts on Affected Communities.

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	from various groups.	meaningful informed consultation and participation with the vulnerable communities, beginning as early as possible in the project cycle before the project is submitted for Board consideration and continuing throughout the project cycle.	
How the element has been addressed in the ESIA Study	**The Stakeholder Engagement Plan (SEP) – Appendix 09 of the ESIA Study developed for the Lamu coal power project includes the process and results used to undertake stakeholder identification and analysis (section 3.1). Section 3.2 discusses the methods of disclosing the information about the project and ESIA to the affected communities. Informed consultation and participation (ICP) is discussed in section 3.3 of the SEP**		
External Communications and Grievance Mechanism	*Performance Standard 1:* *Requirement 3* - This section outlines the requirements of a client in handling external grievances.	*Operational Safeguard1:* *Requirement 8.* *Paragraph 55* – states that the client should establish a grievance and redress mechanism that is accessible to the stakeholders at all times during the project cycle	*Principle 6* – states that the client is required to establish a grievance mechanism designed to receive and facilitate resolution of concerns and grievances about the Project's environmental and social performance.
a) **External Communication**	*Performance Standard 1:* *Paragraph 34* – states that the client is required to implement and maintain a procedure for external communications that includes methods to; i. receive and register external	*Operational Safeguard1:* *Paragraph 55* – states that the client should establish a credible, independent and empowered local grievance and redress mechanism to receive, facilitate and follow up on the resolution of affected people's grievances and concerns about the	*Principle 6* – states that the client is required to establish a grievance mechanism designed to receive and facilitate resolution of concerns and grievances about the Project's environmental and social performance with the affected community being

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	communications from the public; ii. screen and assess the issues raised and determine how to address them; iii. provide, track, and document responses, if any; and iv. adjust the management program, as appropriate.	environmental and social performance of the project. The local grievance mechanism needs to be accessible to the stakeholders at all times during the project cycle, and all responses to grievances are recorded and included in project supervision formats and reports.	the main user.
b) **Grievance Mechanism for Affected Communities**	*Performance Standard 1: Paragraph 35* - The grievance mechanism should be scaled to the risks and adverse impacts of the project and have affected Communities as its primary user. It should seek to resolve concerns promptly, using an understandable and transparent consultative process that is readily accessible, and at no cost and without retribution to the party that originated the issue or concern. The mechanism should not impede access to judicial or administrative remedies.	*Operational Safeguard1: Paragraph 55* - The local grievance mechanism needs to be accessible to the stakeholders at all times during the project cycle, and all responses to grievances are recorded and included in project supervision formats and reports.	*Principle 6* The grievance mechanism should be scaled to the risks and adverse impacts of the project and have affected Communities as its primary user. It should seek to resolve concerns promptly, using an understandable and transparent consultative process that is readily accessible, and at no cost and without retribution to the party that originated the issue or concern. The mechanism should not impede access to judicial or administrative remedies.

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
How the element has been addressed in the ESIA Study	**As part of the ESIA Study, a comprehensive Grievance Mechanism (GM) was developed for the Lamu coal power project. The GM is discussed in Appendix 10 of the ESIA Study**		
Ongoing Reporting to Affected Communities	*Performance Standard 1:* *Requirement 4* *Paragraph 36.* - The client is required to provide periodic reports to the affected Communities that describe progress with implementation of the project action Plans; management program changes to the affected Communities.	*Operational Safeguard1:* *Requirement 7.* *Paragraph 54-55* – states that after the establishment of a grievance mechanism, all responses to grievances are recorded and included in project supervision formats and reports.	*Principle 10* - states that the client should ensure that, at a minimum, a summary of the ESIA is accessible and available online.
How the element has been addressed in the ESIA Study	**The Stakeholder Engagement Plan (SEP) developed for the project includes a program of how ongoing communications with the community about the project should be undertaken; this is covered in section 9 of the SEP.**		
Labor and Working Conditions			
Working Conditions and Management of Worker Relationship	*Performance Standard 2:* *Requirement 1* This section includes the following topics: • Human Resources Policies and Procedures;	*Operational Safeguard 5:* *Requirement 1* This section includes the following topics: • Human Resources Policies and Procedures;	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	• Working Conditions and terms of employment; • Workers' Organizations; • Non-discrimination and equal opportunity; • Retrenchment; and • Grievance Mechanism	• Working Conditions and terms of employment; • Workers' Organizations; • Non-discrimination and equal opportunity; • Retrenchment; and • Grievance Redress Mechanism	
a) Human Resources Policies and Procedures	*Performance Standard 2:* *Paragraph 8-9:* states that the Client will adopt and implement human resource policies and procedures appropriate to its size and workforce. The Client will provide workers with documented information that is clear and understandable, regarding their rights under national labor and employment law and any applicable collective agreements.	*Operational Safeguard 5:* *Paragraphs 4-5:* states that the Client develops and implements a human resources policy and procedures appropriate to the nature and size of the project The Client should also provide all employees with documents that contain information on their employment terms, conditions and rights including national employment law.	
b) Working Conditions and Terms of Employment	*Performance Standard 2:* *Paragraphs 10-12:* states that the Client will provide workers with reasonable working conditions and terms of employment	*Operational Safeguard 5:* *Paragraphs 6-8:* states that the Client provides reasonable working conditions and terms of employment that, at a minimum comply with	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	They (Client) will identify migrant workers and engage them in terms equivalent to non-migrant workers carrying out similar work Where accommodation services are provided either directly or indirectly (through third parties), the Client will prepare and implement policies on the quality and management of the accommodation	national law and this OS Migrant workers should be employed on comparable terms as non-migrant workers Where the Client is providing residential or temporary accommodation to workers, facilities shall provide all basic services i.e. water and sanitation and in certain cases medical care	
c) Workers' Organizations	*Performance Standard 2:* *Paragraphs 13-14:* states that the Client should allow workers to form and join workers' organizations, bargain collectively, elect worker representatives even if the law substantially restricts The Client should also not discriminate against workers who participate in these organizations	*Operational Safeguard 5:* *Paragraphs 9-10:* states that the Client shall allow workers to form join and participate in worker's organizations. They shall allow workers to freely elect their own representatives and engage in collective bargaining	
d) Non-Discrimination and Equal Opportunity	*Performance Standard 2:* *Paragraphs 15-17:* states that the Client will not employ persons on the basis of personal characteristics unrelated to job requirements.	*Operational Safeguard 5:* *Paragraphs 11-13:* states that the Client should not make employment decisions on the basis of personal characteristics unrelated to job requirements. i.e. race, gender,	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	They should operate on the principle of equal opportunity and fair treatment which also applies to migrant workers. The Client should also comply with national law on non-discrimination in employment.	nationality, religion, disability, sexual orientation They should operate on the principle of equal opportunity and fair treatment which also applies to migrant workers. They should also take measures to address harassment, intimidation, and/or exploitation	
e) Retrenchment	*Performance Standard 2:* *Paragraphs 18-19:* states that the Client will carry out an analysis of alternatives to retrenchment. If no alternatives to retrenchment are identified, a retrenchment plan should be developed and implemented to reduce the adverse impacts on the workers being retrenched. The plan will operate on the principle of non-discrimination and will reflect Client's consultation with workers, their organization, and the government where appropriate Workers should receive notice of dismissal and severance payments in	*Operational Safeguard 5:* *Paragraph 14:* states that the Client will carry out an analysis of alternatives to retrenchment. If no alternatives to retrenchment are identified, a retrenchment plan should be developed and implemented to reduce the adverse impacts on the workers being retrenched. The plan will operate on the principle of non-discrimination and will reflect Client's consultation with workers, their organization, and the government where appropriate	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	a timely manner. All outstanding back pay and benefits should be paid on or before dismissal		
f) Grievance Mechanism	*Performance Standard 2:* *Paragraph 20:* states that the Client should provide an easily accessible grievance mechanism for workers to raise workplace concerns and the concerns addressed promptly. The grievance mechanism should allow for anonymous complaints to be raised and addressed and should not impede access to other judicial and administrative remedies available under the law.	*Operational Safeguard 5:* *Paragraph 15:* states that a workforce grievance mechanism should be provided permanently to workers (including workers supplied by third parties) and made known to them at recruitment The grievance mechanism should not impede access to other judicial and administrative remedies available under the law or through existing arbitration procedures	
How the element has been addressed in the ESIA Study	**Working conditions and management of worker relationship is covered by the labor laws in Kenya. Section 2.2.1 of the ESIA Study states that the proposed coal power plant will be developed in compliance with the requirements of the environmental and social safeguards provided under the Constitution of Kenya 2010. Subsequently, the onus is on the EPC contractor to ensure that no worker rights are violated at the project site. Subsequently, the following rights are already covered by the above statement and should be formalized by the EPC contractor: (i) Human Resources Policies and Procedures; (ii) Working Conditions and terms of employment; (iii) Workers' Organizations; (iv) Non-discrimination and equal opportunity; (v) Retrenchment; and (vi) Grievance Mechanism**		
Protecting the Work Force	*Performance Standard 2:* *Requirement 2:*	*Operational Safeguard 5:* *Requirement 2:*	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	This section includes the following topics: • Child Labor; and • Forced Labor	This section includes the following topics: • Child Labor; and • Forced Labor	
a) Child Labor	*Performance Standard 2:* *Paragraph 2:* states that the Client should not employ children (persons under the age of 18) in any manner that is economically exploitative. The Client will also follow national laws that have provisions for employment of minors	*Operational Safeguard 5:* *Paragraph 16:* states that the Client should not employ children in any manner that is economically exploitative or likely to interfere with the child's well-being (physical, mental, spiritual, moral or social health/development).	
b) Forced labor	*Performance Standard 2:* *Paragraph 22:* states that the Client should not employ forced labor which consists of any work or service not voluntarily performed.	*Operational Safeguard 5:* *Paragraphs 17-18:* states that the Client should not employ forced labor which consists of any work or service not voluntarily performed. They should also not employ trafficked persons	
How the element has been addressed in the ESIA Study	**The Kenyan Employment Act, 2007 in Clause 52 – 65 is explicit on the protection of children and child labor. The EPC contractor for the Lamu coal power plant shall comply with the requirements of the Employment Act in Kenya with respect to (i) child labor and (ii) forced labor**		
Occupational	*Performance Standard 2:*	*Operational Safeguard 5:*	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
Health and Safety	*Requirement 3:* *Paragraphs 23:* states that the Client will provide a safe and healthy work environment, taking into account basic risks and hazards in the client's work areas. These include physical, chemical, biological and radiological hazards and specific threats to women.	*Paragraphs 19-2:* states that the Client will provide a safe and healthy work environment, taking into account basic risks and hazards in the client's work areas. These include physical, chemical, biological and radiological hazards and specific threats to women. Within their ESMS, the Client should include a Health, Safety and Environmental Programme that includes plans or procedures to prevent accidents, injury and disease from work activities.	
How the element has been addressed in the ESIA Study	**Section 2.2.5. of the ESIA Study describes how the Occupational Safety and Health Act 2007 (OSHA) and its subsidiary legislation will apply to the Lamu coal power project. Additionally, occupational safety and health was covered as a potential social impact in this ESIA Study in section 7.8.12**		
Workers Engaged by Third parties	*Performance Standard 2:* *Requirement 4:* *Paragraphs 24-26:* states that the Client will ensure that the third parties who engage these workers are reputable and legitimate enterprises (have an appropriate ESMS). They will establish policies and	*Operational Safeguard 5:* *Paragraph 22:* states that the Client will ensure that the third parties who engage these workers are reputable and legitimate enterprises (have an appropriate ESMS). They will establish policies and procedures for managing and monitoring the performance of third	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	procedures for managing and monitoring the performance of third parties. Ensure that the contracted workers have access to a grievance mechanism	parties.	
How the element has been addressed in the ESIA Study	**Section 8.4 of the Environment and Social Management Plan (ESMP) of this ESIA Study provides a description of the roles and responsibilities of the EPC contractor in developing and implementing their ESMS for the Lamu coal power project. Section 8.5 provides a layout of the ESMP for the project to enable the EPC contractor develop a formal document**		
Supply Chain	*Performance Standard 2:* *Requirement 5:* *Paragraphs 27-29:* states that the Client will monitor its primary supply chain to identify any significant changes in its supply chain and new risks or incidents of child and/or forced labor and take steps to remedy them.	*Operational Safeguard 5:* *Paragraphs 23-24:* states that the Client will monitor its primary supply chain to identify any significant changes in its supply chain and new risks or incidents of child and/or forced labor and take steps to remedy them.	
How the element has been addressed in the ESIA Study	**This is covered in the environmental monitoring aspects of the ESMP in various tables.**		

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
Resource Efficiency and Pollution Prevention			
Resource Efficiency	*Performance Standard 3:* *Requirement 1:* *Paragraph 6 -*. The client is required to implement technically and financially feasible and cost effective measures for improving efficiency in its consumption of energy, water, as well as other resources and material inputs. Such measures will integrate principles of cleaner production mechanisms.	*Operational Safeguard 4: Paragraph 21 -* states that clients evaluate and, if appropriate, implement financially feasible and cost- effective measures for improving efficiency in the project's consumption of resources such as energy, water, raw materials, and other resources.	
Greenhouse gases	*Performance Standard 3: Paragraphs 5 and 7-8* - the client will consider alternatives and implement technically and financially feasible and cost-effective options to reduce project-related greenhouse gases emissions during the design and operation of the project. For projects that are expected to or currently produce more than 25,000 tons of CO_2 -equivalent annually, the client should quantify direct emissions from the facilities owned or controlled	*Operational Safeguard 4: Paragraph 15 –* states that greenhouse tracking will be done on a project-by-project basis in accordance with the provisions of the UNFCCC.	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	within the physical project boundary as well as indirect emissions associated with the off-site production of energy used by the project.		
Water consumption	*Performance Standard 3: Paragraph 9 –* states that the client should adopt measures that avoid or reduce water usage so that the project's water consumption does not have significant adverse impacts on others if the project is a potentially significant consumer of water.	*Operational Safeguard 4: Paragraph 21 -* states that clients evaluate and, if appropriate, implement financially feasible and cost- effective measures for improving efficiency in the project's consumption of resources such as energy, water, raw materials, and other resources.	
Pollution Prevention	*Performance Standard 3:* *Requirement 2:* *Paragraphs 10 - 11 -* The client is required to avoid the release of pollutants or, when avoidance is not feasible, minimize and/or control the intensity and mass flow of their release. This applies to the release of pollutants to air, water, and land due to routine, non-routine, and accidental circumstances with the potential for local, regional, and transboundary impacts.	When national legislation and regulations differ from the standards and measures presented in the EHS Guidelines, clients are normally required to achieve whichever is more stringent. However, if less stringent levels or measures are appropriate to specific project circumstances, the client is required to provide full and detailed justification for any proposed alternatives through the environmental and social assessment process. The client avoids or, where avoidance	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
		is not possible, controls and reduces the generation of pollutants at their source. The client is required to prevent the discharge of pollutants into the air, surface water and groundwater, land and soil during planned activities as well as unplanned events or emergencies that may result in local, regional, and transboundary impacts. If total prevention is not feasible, the client takes specific actions to reduce or minimize the effluents or volume of discharges.	
Wastes	*Performance Standard 3: Paragraphs 5 and 12 – 12 -* The client will avoid the generation of hazardous and non-hazardous waste materials. Where waste generation cannot be avoided, the client will reduce the generation of waste, and recover and reuse waste in a manner that is safe for human health and the environment. Where waste cannot be recovered or reused, the client will treat, destroy, or dispose of it in an environmentally	*Operational Safeguard 4: Paragraphs 12-14. – the* client is required to avoid or, where avoidance is not possible, controls and reduces the generation of hazardous and non-hazardous waste at source, in compliance with applicable international conventions. If waste cannot be recovered or reduced, the client adopts treatment measures and environmentally sound disposal practices. If significant production, use or generation of hazardous materials or	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	sound manner.	waste cannot be avoided, the client looks at opportunities to recycle waste and reuse material by preparing a recycling and reutilization plan identifying recyclable material and assessing the potential for reinjection of waste in the process. Where third parties are used for hazardous waste management and disposal, the client should evaluate their legitimacy and legality for conducting hazardous waste management activities and obtains the chain-of-custody documentation for accountability purposes.	
Hazardous Materials Management	*Performance Standard 3: Paragraph 13* - The client is required to avoid or, when avoidance is not possible, minimize and control the release of hazardous materials. Production, transportation, handling, storage, and use of hazardous materials for project activities should be assessed. The client should consider less hazardous substitutes where hazardous materials are intended to be used in manufacturing processes	*Operational Safeguard 4: Paragraph 16* - The client is required to determine the potential hazardous materials to be used or generated throughout the lifecycle of the project and considers alternatives that use or generate less hazardous materials at an early stage of the project. *The above requirement has been met under section……of the ESIA Study.*	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	or other operations.		
How the element has been addressed in the ESIA Study	**In terms of resource efficiency, Sections 3.5.4 and 3.5.5 discuss the selection of supercritical technology for the boilers and cooling water alternatives respectively for the Lamu coal power plant. The supercritical coal technology proposed for the Lamu coal power plant together with the burning of a higher specification of imported coal, will reduce the greenhouse gas emissions from the power plant. On water consumption, Lamu county is a water scarce area and APCL is investing in a sea-water reverse osmosis (SWRO) desalination plant for its uses as well as providing the community with a water connection just outside the fence line of the project.** **On pollution prevention, section 3.4.1. of this ESIA Study states that APCL will invest in clean coal technologies to significantly reduce the amount of air emissions discharged to the atmosphere.** **On waste management (which includes non-hazardous and hazardous), section 2.2.4.3 of the ESIA Study states that the proposed project shall comply as a minimum with the requirements of the Kenyan waste management regulations.**		
Community Health Safety and Security			
Community Health and Safety	*Performance Standard 4:* *Requirement 1* *Paragraph 5:* states that the Client will evaluate the risks and impacts to the health and safety of the Affected Communities during the project life-cycle and will establish preventive and control measures consistent with good international industry practice (GIIP) i.e. World Bank EHS Guidelines		

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
Infrastructure and Equipment Design and Safety	*Performance Standard 4:* *Paragraph 6:* states that the Client will design, construct, operate and decommission the structural elements or components of the project in accordance with GIIP, taking into consideration safety risks to third parties or Affected communities.		
Hazardous Materials Management and Safety	*Performance Standard 4:* *Paragraph 7:* states that where there is a potential for the public (including workers and their families) to be exposed to hazards, particularly those that may be life-threatening, the client will exercise special care to avoid or minimize their exposure by modifying, substituting, or eliminating the condition or material causing the potential hazards.		
Ecosystem Services	*Performance Standard 4:* *Paragraph 8:* states that the Client will implement mitigation measures for the project's direct impacts on priority ecosystem services which may result in adverse health and safety risks and impacts to Affected communities. The ecosystem services	*Operational Safeguard 3* *Paragraph 32-34:* states that the Client should perform an ecosystem services review to identify risks if it is determined that the project may affect ecosystem services. Strategies developed to	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	in this case are limited to provisioning and regulating services.	avoid/mitigate the impacts should be made in consultation with the protection agencies and local community representatives	
Community Exposure to Disease	*Performance Standard 4:* *Paragraphs 9-10:* states that the Client will avoid or minimize the potential for community exposure to water-borne, water based, water-related, and vector-borne diseases and communicable diseases that could result from project activity. They will also avoid or minimize transmission of communicable diseases that may be associated with the influx of temporary or permanent work force.		
Emergency Preparedness and Response	*Performance Standard 4:* *Paragraph 11:* states that the Client will assist and collaborate with the Affected communities, local government agencies and other relevant parties in their preparations to respond to emergency situations. The Client will document their emergency preparedness and disclose		

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	the information to the Affected communities and relevant parties.		
Security Personnel	*Performance Standard 4:* *Requirement 2* *Paragraph 12-14:* states that the Client will assess risks that their security arrangements pose to those within and outside project site. They will be guided by the principles of GIIP in relation to hiring, rules of conduct, training, equipping and monitoring of such workers and by applicable law. They will assess and document risks arising from the project's use of government security personnel deployed to provide security services. They will investigate all allegations of unlawful or abusive acts of security personnel, take action to prevent recurrence and report unlawful and abusive acts to public authorities.		
How the element has been addressed in the	**Section 7.8.11 of the ESIA Study discusses the assessment of community health and safety impacts and mitigation measures.** **On Infrastructure and Equipment Design and Safety, the Lamu coal power plant is being designed to the**		

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
ESIA Study	**latest engineering design standards for supercritical coal fired power plants. The design of the power plant will incorporate Kenyan, Chinese, Americana and European engineering design standards which can be listed on request.** **On Hazardous Materials Management and Safety and emergency preparedness and response, the EPC contractor and APCL will undertake a community awareness and outreach program** **On security personnel, APCL have already undertaken a security risk assessment which can be availed on request**		
Land Acquisition and Involuntary Resettlement			
General	*Performance Standard 5:* *Requirement 1*	*Operational Safeguard 2*	
Project Design	*Performance Standard 5:* *Paragraph 8*	*Operational Safeguard 2* *Paragraphs 12-14*	
Compensation and Benefits for Displaced Persons	*Performance Standard 5:* *Paragraph 9*	*Operational Safeguard 2* *Paragraphs 31-50*	
Community Engagement	*Performance Standard 5:* *Paragraph 10*	*Operational Safeguard 2* *Paragraphs 15-20*	
Grievance Mechanism	*Performance Standard 5:* *Paragraph 11*	*Operational Safeguard 2* *Paragraphs 24-25*	
Resettlement and Livelihood Restoration	*Performance Standard 5:* *Paragraphs 12-16*	*Operational Safeguard 2* *Paragraphs 21-23,26*	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
Planning and Implementation			
Displacement	*Performance Standard 5:* *Requirement 2* *Paragraphs 17-18*		
Physical Displacement	*Performance Standard 5:* *Paragraphs 19-24*	*Operational Safeguard 2* *Paragraph 3*	
Economic Displacement	*Performance Standard 5:* *Paragraphs 25-29*	*Operational Safeguard 2* *Paragraph 3*	
Private Sector Responsibilities Under Government-Managed Resettlement	*Performance Standard 5:* *Paragraphs 30-32*		
How the element has been addressed in the ESIA Study	**Land acquisition and involuntary resettlement for the Lamu coal power plant project is being led by the National Land Commission (NLC) who is the competent authority under the Lands Act 2012 for acquisition and resettlement of project affected persons (PAPs). Together with the NLC, the Ministry of Energy and Petroleum (MoEP) is undertaking a resettlement action plan (RAP) for the Lamu coal power project. APCL will provide technical support to the MoEP and NLC as required to ensure that the involuntary resettlement of PAPs is carried out in accordance with the requirements of AfDB's operational safeguard 2 and the IFC's Performance Standard 5.**		

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
Biodiversity Conservation and Sustainable Management of Living Natural Resources			
Protection and Conservation of Biodiversity	*Performance Standard 6:* *Requirement 1* *Paragraphs 9-10 -* defines a habitat as a terrestrial, freshwater, or marine geographical unit or airway that supports assemblages of living organisms and their interactions with the non-living environment. It also gives a classification of different types of habitats.	*Operational Safeguard 3:* *Requirement 2.* *Paragraph 12* - defines different types of habitats and further outlines the requirements of the client towards their conservation and protection.	
Modified Habitat	*Performance Standard 6: Paragraphs 11-12 -* Modified habitats are areas that may contain a large proportion of plant and/ or animal species of non-native origin, and/ or where human activity has substantially modified an area's primary ecological functions and species composition. The client should minimize impacts on modified biodiversity and implement mitigation measures as appropriate	*Operational Safeguard 3: Paragraphs 12, 14-15.* The client is required to incorporate the best available science and to engage internationally recognized biodiversity experts in conducting the impact assessment and in developing and implementing mitigation and management strategies.	
Natural Habitat	*Performance Standard 6: Paragraphs 13-15 -*The client is required not to significantly convert or	*Operational Safeguard 3: Paragraphs 12-15 and 17-18.* The client is required to incorporate	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	degrade natural habitats, unless there is no other viable alternatives within the region for development of the project on modified habitat; Consultation has established the views of stakeholders, including affected Communities, with respect to the extent of conversion and degradation; and any conversion or degradation is mitigated according to the mitigation hierarchy. Mitigation measures will be designed to achieve no net loss of biodiversity where feasible.	the best available science and to engage internationally recognized biodiversity experts in conducting the impact assessment and in developing and implementing mitigation and management strategies. If the project is to take place in or near a natural habitat the assessment considers the potential risks and impacts that may occur at the landscape or seascape level.	
Critical Habitat	*Performance Standard 6: Paragraphs 16-19.* The client is required not to implement any project activities unless all of the following are demonstrated: • No other viable alternatives within the region exist for development of the project on modified or natural habitats that are not critical; • The project does not lead to measurable adverse impacts on	*Operational Safeguard 3: Paragraphs 12, 14-15 and 19-20.* The client is required to incorporate the best available science and to engage internationally recognized biodiversity experts in conducting the impact assessment and in developing and implementing mitigation and management strategies.	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	those biodiversity values for which the critical habitat was designated, and on the ecological processes supporting those biodiversity values; • The project does not lead to a net reduction in the global and/or national/ regional population of any Critically endangered or endangered species over a reasonable period of time; • A robust, appropriately designed, and long-term biodiversity monitoring and evaluation program is integrated into the client's management program. The project's mitigation strategy will be described in a biodiversity action Plan and will be designed to achieve net gains of those biodiversity values for which the critical habitat was designated. Where biodiversity offsets are proposed as part of the mitigation strategy, the client must demonstrate through an assessment that the project's significant residual impacts		

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	on biodiversity will be adequately mitigated.		
Legally Protected and Internationally Recognized Areas	*Performance Standard 6: Paragraph 20 –* the client is required to demonstrate that the proposed development in such areas is legally permitted; act in a manner consistent with any government recognized management plans for such areas; Consult protected area sponsors and managers, affected Communities, Indigenous Peoples and other stakeholders on the proposed project, as appropriate; and Implement additional programs, as appropriate, to promote and enhance the conservation aims and effective management of the area.	*Operational Safeguard 3: Paragraphs 12, 15 and 22.* If the project is to take place in or near a legally protected or internationally recognized area the assessment considers the potential risks and impacts that may occur at the landscape or seascape level. The client should comply with national and local regulations for appropriate environmental management, and consult with relevant stakeholders during the preparation of management and mitigation measures. The client should ensure that any proposed development is consistent with the area's management plan or, in the absence of a management plan, with the objectives determined by the responsible natural resource, protected area, or wildlife agency. The client also determines whether the area is critical, natural or modified, and then implements the	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
		relevant requirements of OS 3. The client is required not to encourage the de-gazetting or downgrading of protected areas status.	
Invasive Alien Species	*Performance Standard 6: Paragraphs 21-23.* The client will not intentionally introduce any new alien species (not currently established in the country or region of the project) unless this is carried out in accordance with the existing regulatory framework; the client will not deliberately introduce any alien species with a high risk of invasive behavior regardless of whether such introductions are permitted under the existing regulatory framework. Where these species exist, the client should not spread them into areas in which they have not already been established, the client should take measures to eradicate them from natural habitats.	*Operational Safeguard 3: Paragraphs 23-24.* The client is required to take precautions to avoid introducing any potentially invasive alien species (that is, species not currently established in the country or region of the project) unless such an introduction is: • In accordance with any existing applicable regulatory framework undertaken by the relevant international organizations for such introduction; or • The introduction is subject to a risk assessment, which may be part of the environmental assessment, to determine the potential for invasive behavior. The client should assess the possibility of accidental or unintended introduction of invasive alien species,	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
		and identifies measures to minimize the potential for release. Where invasive alien species already exist in the area, the client should not undertake activities that may enhance their competitiveness in comparison with native/ indigenous species or promote their spread. The client may assess the feasibility and cost-effectiveness of eradicating the invasive alien species.	
Management of Ecosystem Services	*Performance Standard 6:* *Requirement 2* *Paragraphs 24-25.*	*Operational Safeguard 3:* *Requirement 9.* *Paragraph 32-34.* The client should perform an ecosystem services review to identify the risks and attempt to avoid adverse impacts on priority ecosystem services. If such impacts are unavoidable, the client should identify ways to reduce these impacts and implement restoration measures to maintain the value and functionality of those priority ecosystem services. These measures are included in the ESMP.	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
Sustainable Management of Living Natural Resources	*Performance Standard 6:* *Requirement 3* *Paragraphs 26-29.* The clients who are engaged in production of natural resources are required to manage living natural resources in a sustainable manner, through the application of industry-specific good management practices and available technologies.	*Operational Safeguard 3:* *Requirement 7.* *Paragraph 30.* The client is required to ensure the natural resources are managed and in a sustainable manner, with preference for internationally recognized systems of certification of sustainable management and use.	
How the element has been addressed in the ESIA Study	**Appendix 4 of the ESIA Study for the Lamu coal power plant is the Ecological Impact Assessment (EcIA) undertaken for the Lamu coal power project. It was undertaken by specialists working for the National Museums of Kenya. The EcIA Study discusses Protection and Conservation of Biodiversity, (ii) Modified Habitat (iii) Natural Habitat, (iv) Critical Habitat, (v) Invasive Alien Species, and (vi) Ecosystem Services.** **Appendix 4 addresses the above issues and further provides mitigation measures and an environment management plan for reducing the potential ecological impacts associated with the project**		
Cultural Heritage			
Protection of Cultural Heritage in Project Design and Execution	*Performance Standard 8:* *Requirement 1* *Paragraphs 6-7:* states that the Client will identify and protect cultural heritage by ensuring that internationally recognized practices for the protection, field-based study and documentation of cultural	*Operational Safeguard 1* *Paragraph 41;* states that the Client identifies and qualifies the cultural heritage likely to be affected by the project. Experienced experts assess the project's potential impacts on this	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	heritage are implemented. The risk identification process determines whether there is a chance of impact to cultural heritage. The client will retain competent professionals to assist in the identification and protection of cultural heritage.	cultural heritage.	
Chance Find Procedures	*Performance Standard 8:* *Paragraph 8:* states that the environmental and social risks and impacts identification process should determine whether the proposed location is in areas where cultural heritage is likely to be found either during the construction or operations phase. The Client will develop provisions for managing chance finds (tangible cultural heritage encountered during project construction or operations) through a chance find procedure. They should not disturb any chance find until an assessment by competent professionals is made.	*Operational Safeguard 1* *Paragraph 41* The Client is responsible for ensuring that project sites and designs avoid significant damages to cultural heritage, including both tangible and intangible cultural heritage.	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
Consultation	*Performance Standard 8:* *Paragraph 9:* states that the Client will consult with the Affected Communities to identify cultural heritage of importance and incorporate their views on decision making process on the cultural heritage. The consultation should also involve the relevant national and local regulatory agencies.	*Operational Safeguard 1* *Paragraph 41:* states that If the project is likely to affect the cultural heritage, the Client should consult with the communities that use/have used it and with relevant national regulatory agencies. The views of the communities should be incorporated into the decision-making process. Purpose of the consultation is to assess, present and agree with communities on acceptable financial and nonfinancial compensatory measures.	
Community Access	*Performance Standard 8:* *Paragraph 10:* states that in the event that the project site contains cultural heritage or prevents access to previously accessible cultural heritage sites being used/have been used by affected communities, the Client will allow continued access or will provide an alternative access route.		
Removal of Replicable	*Performance Standard 8:* *Paragraph 11:* states that where the	*Operational Safeguard 2* *Paragraph 42:* states that if project	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
Cultural Heritage	client has encountered tangible cultural heritage that is replicable and not critical, the client will apply mitigation measures that favor avoidance. If avoidance is not feasible, a mitigation hierarchy should be implemented. The hierarchy should be as follows: ➢ Minimize adverse impacts and implement restoration measures in situ that ensure maintenance of the value and functionality of the cultural heritage; ➢ Where restoration in situ is not possible, restore the functionality of the cultural heritage in a different location; ➢ Compensate for loss of tangible cultural heritage when minimization of adverse impacts and restoration to ensure maintenance of the value and functionality of that cultural heritage	is likely to have adverse impacts on cultural heritage, the Client identifies appropriate measures for avoiding or mitigating these impacts. These measures may include avoidance, full site protection and selective mitigation, including salvage documentation.	
Removal of Non-Replicable	*Performance Standard 8:*	*Operational Safeguard 2*	

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
Cultural Heritage	*Paragraph 12:* states that the Client will not remove any non-replicable cultural heritage since removal is likely to result in irreparable damage or destruction of the cultural heritage unless all of the following conditions are met: ➢ There are no technically or financially feasible alternatives to removal; ➢ The overall benefits of the project conclusively outweigh the anticipated cultural heritage loss from removal; and ➢ Any removal of cultural heritage is conducted using the best available technique.	*Paragraph 44:* states that the Client will not remove any non-replicable cultural heritage since removal is likely to result in irreparable damage or destruction of the cultural heritage unless all of the following conditions are met: ➢ There are no technically or financially feasible alternatives to removal; ➢ The overall benefits of the project conclusively outweigh the anticipated cultural heritage loss from removal; and ➢ Any removal of cultural heritage is conducted using the best available technique.	
Critical Cultural Heritage	*Performance Standard 8:* *Paragraphs 13-15;* states that critical cultural heritage consists of one or both of the following types of cultural heritage: ➢ the internationally recognized heritage of communities who use, or have used within living memory the cultural heritage for long-		

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	standing cultural purposes; or ➢ legally protected cultural heritage areas, including those proposed by host governments for such designation It also prohibits the Client from removing/altering/damaging critical cultural heritage except when the impacts are unavoidable, then they should use a process of Informed Consultation and Participation (ICP) of the affected communities. This process should be carried out and documented by external experts. If the project is located within a legally protected area, the Client: ➢ should comply with defined cultural heritage regulations; ➢ Consult local communities and other key stakeholders; and ➢ Implement programs to enhance conservation aims of the protected area		
Project's Use of Cultural Heritage	*Performance Standard 8:* *Requirement 2*		

Element Description	[1]IFC Performance Standards requirements	[2]AfDB Operational Safeguards requirements	[3]Equator Principles requirements
	Paragraph 16: states that if the project intends to use the cultural heritage, the Client will inform the communities of : ➢ their rights under national law; ➢ scope and nature of the project ➢ potential consequences of such developments The Client should not proceed unless it enters into a process of ICP and documents the process.		
How the element has been addressed in the ESIA Study	**Appendix 11 associated with the ESIA Study of the Lamu coal power plant, discusses the potential cultural heritage impacts arising from the construction and operational phases respectively.** **On project design and execution, two cultural heritage specialists from the National Museums of Kenya were retained for the cultural heritage impact assessment (CHIA) study. Based on their site surveys and consultation with the communities, they identified potential archaeological and cultural heritage impacts arising from the Lamu coal power project. They have proposed mitigation measures which are included in sections 7.9 and 7.10 of this ESIA Study.**		

2.7 Project Environmental and Social Standards

The coal power plant is being developed to have a lifetime of about 25 years. Subsequently, it will be developed in accordance with internationally recognized engineering standards. These engineering standards aim to eliminate to the extent possible, hazards associated with various project components from an HSE perspective. The coal fired power plant will also be designed, constructed and operated in accordance with local and international environmental and social (E&S) standards and guidelines which are enumerated below.

2.7.1 Environmental and Social Management System

In order to comply with Kenyan environmental regulatory requirements and multi-lateral finance institution requirements, APCL will develop and implement a formal Environment and Social Management System (ESMS) for the coal fired power plant. The ESMS for the coal power project will be required to be developed before commencement of the construction phase. The ESMS developed by APCL will be cascaded to the EPC contractor for compliance. The expectation is that the EPC contractor will develop and implement a similar ESMS for the construction phase of the project.

The ESMS will follow the "Plan-Do-Check-Adjust" cycle. The elements of the ESMS at a minimum, would include the items described below.

2.7.1.1 Policy & Planning (Planning phase)

- Management Leadership, Responsibilities & Accountability;
- EMS Risk Assessment & Management;
- Compliance & Other Requirements; and
- ESMS Management Planning & Programs.

2.7.1.2 Implementation & Operations (Do phase)

- Personnel, Training & Contractor Services
- Documentation & Communications;
- Facilities Design & Construction;
- Operations, Maintenance & Management of Change; and
- Community Awareness & Emergency Response.

2.7.1.3 Measurement & Checking (Check phase)

- EHS Performance Monitoring & Measurement;
- Incident Investigation, Reporting & Analysis; and
- EHS Management System Audit.

2.7.1.4 Management Review & Continual Improvement (Adjust phase)

- Management Review & Adjustment
- Implementation of ESMS corrective actions

2.7.2 Environmental and social standards for the project

The E&S standards that the proposed coal fired power plant will be subjected to during throughout the lifetime of the project are:

- Environment Management and Coordination Act, 1999 and its subsidiary legislation;
- Occupational Safety and Health Act, 2007 and its subsidiary legislation;
- The Public Health Act and its subsidiary legislation;
- The AfDB Integrated Safeguards System;
- The World Bank Group General Environmental, Health and Safety (EHS) General Guidelines;
- The World Bank Group EHS Guidelines for Thermal Power Plants; and
- Any other applicable HSE related standards and guidelines.

The IFC guidelines that the project will need to comply with are given in the following tables.

2.7.3 IFC: Environmental, Health and Safety General Guidelines

[4],[5]Table 2-8: WHO Ambient Air Quality Guidelines

Parameter	Averaging Period	Guideline value in mg/m^3
Sulfur dioxide (SO2)	24-hour	125 (Interim target-1) 50 (Interim target-2) 20 (guideline)
	10 minute	500 (guideline)
Nitrogen dioxide (NO2)	1-year	40 (guideline)
	1-hour	200 (guideline)
Particulate Matter PM10	1-year	70 (Interim target-1) 50 (Interim target-2) 30 (Interim target-3) 20 (guideline)
	24-hour	150 (Interim target-1) 100 (Interim target-2) 75 (Interim target-3) 50 (guideline)
Particulate Matter	1-year	35 (Interim target-1)

[4] Interim targets are provided in recognition of the need for a staged approach to achieving the recommended guidelines

[5] World Health Organization (WHO). Air Quality Guidelines Global Update, 2005. PM 24-hour value is the 99th percentile

Parameter	Averaging Period	Guideline value in mg/m^3
PM2.5	24-hour	25 (Interim target-2) 15 (Interim target-3) 10 (guideline) 75 (Interim target-1) 50 (Interim target-2) 37.5 (Interim target-3) 25 (guideline)
Ozone	8-hour daily maximum	160 (Interim target-1) 100 (guideline)

Table 2-9: Indicative Values for Treated Sanitary Sewage Discharges[a]

Pollutant	Units	Guideline Value
pH	pH	6 – 9
BOD	mg/l	30
COD	mg/l	125
Total nitrogen	mg/l	10
Total phosphorus	mg/l	2
Oil and grease	mg/l	10
Total suspended solids	mg/l	50
Total coliform bacteria	MPN[b] /100 ml	400[a]
Notes: [a]Not applicable to centralized, municipal, wastewater treatment systems which are included in EHS Guidelines for Water and Sanitation. [b]MPN = Most Probable Number		

[6]Table 2-10: Noise Level Guidelines

Receptor	One Hour LAeq (dBA)	
	Daytime 07:00 - 22:00	Nighttime 22:00 - 07:00
Residential; institutional;	55	45

[6] Guidelines values are for noise levels measured out of doors. Source: Guidelines for Community Noise, World Health Organization (WHO), 1999

Receptor	One Hour LAeq (dBA)	
	Daytime 07:00 - 22:00	Nighttime 22:00 - 07:00
educational		
Industrial; commercial	70	70

Table 2-11: Minimum Limits for Workplace Illumination Intensity

Location / Activity	Light Intensity
Emergency light	10 lux
Outdoor non-working areas	20 lux
Simple orientation and temporary visits (machine storage, garage, warehouse)	50 lux
Workspace with occasional visual tasks only (Corridors, stairways, lobby, elevator, auditorium, etc.)	100 lux
Medium precision work (simple assembly, rough machine works, welding, packing, etc.)	200 lux
Precision work (reading, moderately difficult assembly, sorting, checking, medium bench and machine works, etc.), offices.	500 lux
High precision work (difficult assembly, sewing, color inspection, fine sorting etc.)	1,000 – 3,000 lux

2.7.4 IFC: Environmental, Health and Safety General Guidelines for Thermal Power Plants

Table 2-12: Effluent guidelines

Parameter	mg/L, except pH and temp
pH	6 – 9
TSS	50
Oil and grease	10
Total residual chlorine	0.2
Chromium – Total (Cr)	0.5
Copper (Cu)	0.5
Iron (Fe)	1.0
Zinc (Zn)	1.0
Lead (Pb)	0.5

Parameter	mg/L, except pH and temp
Cadmium (Cd)	0.1
Mercury (Hg)	0.005
Arsenic (As)	0.5
Temperature increase by thermal discharge from cooling system	• Site specific requirement to be established by the EA. • Elevated temperature areas due to discharge of once-through cooling water (e.g., 1 Celsius above, 2 Celsius above, 3 Celsius above ambient water temperature) should be minimized by adjusting intake and outfall design through the project specific EA depending on the sensitive aquatic ecosystems around the discharge point.
Note: Applicability of heavy metals should be determined in the EA. Guideline limits in the Table are from various references of effluent performance by thermal power plants.	

Table 2-13: Emissions Guidelines for Boilers (in mg/Nm^3)

Combustion Technology / Fuel	Particulate Matter (PM)		Sulfur Dioxide SO_2		Nitrogen Oxides (NOx)		Dry Gas, Excess O_2 (%)
Boiler	**NDA**	**DA**	**NDA**	**DA**	**NDA**	**DA**	
Solid Fuels (Plant >50 MW_{th} to <600 MW_{th})	50	30	900 – 1,500[a]	400	510[c] Or up to 1,100 if volatile matter of fuel < 10%	200	6%

General notes:

- MWth = Megawatt thermal input on HHV basis; N/A = not applicable; NDA = Non-degraded airshed; DA = Degraded airshed (poor air quality); Airshed should be considered as being degraded if nationally legislated air quality standards are exceeded or, in their absence, if WHO Air Quality Guidelines are exceeded significantly; CFB = circulating fluidized bed coal-fired; PC = pulverized coal- fired; Nm3 is at one atmospheric pressure, 0 degree Celsius; MWth category is to apply to the entire facility consisting of multiple units that are reasonably considered to be emitted from a common stack. Guideline limits apply to facilities operating more than 500 hours per year. Emission levels should be evaluated on a one hour average basis and be achieved 95% of annual operating hours.
- a. Targeting the lower guidelines values and recognizing issues related to quality of available fuel, cost effectiveness of controls on smaller units, and the potential for higher energy conversion efficiencies (FGD may consume between 0.5% and 1.6% of electricity generated by the plant).
- c. Stoker boilers may require different emissions values which should be evaluated on a case-by-case basis through the EA process.

[7]Table 2-14: Typical Air Emission Monitoring Parameters / Frequency for Thermal Power Plants

Combustion Technology / Fuel	Emission Monitoring			Emission stack testing			
	Particulate Matter (PM)	Sulfur Dioxide (SO_2)	Nitrogen Oxides (NOx)	PM	SO_2	NOx	Heavy Metals
Boiler							
Solid (Plant >50 MW_{th} to <600 MW_{th})	Continuous or indicative	Continuous if FGD is used or monitor by S Content.	Continuous or indicative	Annual			
Note: Continuous or indicative means "Continuously monitor emissions or continuously monitor indicative parameters". Stack emission testing is to have direct measurement of emission levels to counter check the emission monitoring system.							

[7] Note: Detailed monitoring programs should be determined based on EA

Table 2-15: ICNIRP exposure limits for occupational exposure to electric and magnetic fields

Frequency	Electric Field (V/m)	Magnetic Field (μT)
50 Hz	10,000	500
60 Hz	8300	415
Source: ICNIRP (1998) : "Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz)		