

This *Chapter* details the institutional and legislative framework for the ESIA associated with the proposed Project. National (Ethiopian) laws deemed relevant for the successful implementation of all environmental components of the proposed Project are presented in this *Chapter*. Furthermore, the proposed Project has committed to comply with international guidelines and standards (the Equator Principles, World Bank Group Operational Policies and the International Finance Corporation Performance Standards).

5.1 INSTITUTIONAL FRAMEWORK

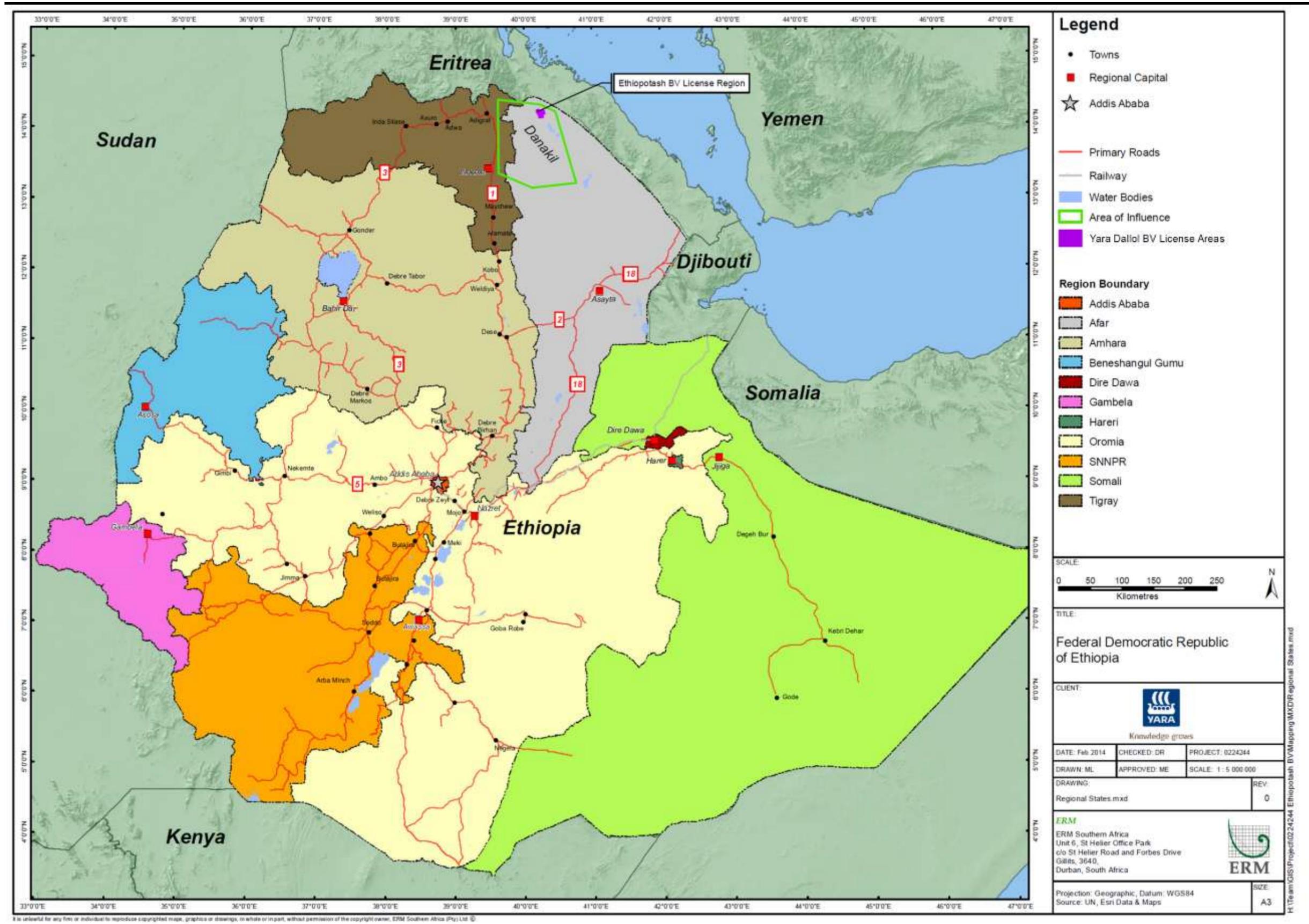
The current system of government in Ethiopia is constitutionally organized into a federal structure, comprised of a federal government and nine National Regional States governed by the parliamentary system, including (refer to *Figure 5.1*) –

1. Afar National Regional State;
2. Gambela People Regional State;
3. Amhara National Regional State;
4. Benshangul/Gumuz National Regional State;
5. Somalia National Regional State;
6. Harari People Regional State;
7. Oromia National Regional State;
8. The Southern Nations, Nationalities and Peoples Regional State; and
9. Tigray National Regional State.

There are two City Administrations in Ethiopia (Addis Ababa and Dire Dawa), which fall under the Federal Government. Ethiopia is further divided into 800 Woreda administrative divisions (or districts), which are managed by local government. These 800 Woredas are typically collected into Zones and consist of approximately 15,000 Kebeles, which are the smallest unit of local government in Ethiopia. The regional states are organized in such a way that major decisions are made at the Woreda level. The Project Area is located in the Afar National Regional State (ANRS) in the Dallol Woreda (*Figure 5.2*).

The political process of Ethiopia takes place in a framework of a federal parliamentary republic, whereby the Prime Minister is the head of government. Executive power is exercised by the government. The prime minister is designated by the party in power following legislative elections. The Council of Ministers, according to the 1995 constitution, is comprised by the Prime Minister, the Deputy Prime Minister, various Ministers and other members as determined and approved by the House of People's Representatives.

Figure 5.1 Federal Democratic Republic of Ethiopia



5.2 ORGANISATION AND ADMINISTRATIVE STRUCTURE

The organisation and administrative structure applicable to this ESIA study and the proposed Project is discussed in this Section.

5.2.1 Federal Government

Federal Ministry of Environment and Forestry

As per Proclamation 803 / 2013 (amendment), the Ministry of Environment and Forestry (MoEF) shall have the powers and duties to:

- Coordinate measures to ensure that the environmental objectives provided under the Constitution (refer to an overview of the Constitution of the Federal Democratic Republic of Ethiopia in *Section 5.3.1 on Page 5-7*) and the basic principles set out in the Environmental Policy (refer to the Environmental Policy of Ethiopia in *Section 5.3.2 on Page 5-9*) of Ethiopia are realised.
- Establish a system for environmental impact assessment of public and private projects, as well as social and economic development policies, strategies, laws and programmes.
- Prepare a mechanism that promotes social, economic and environmental justice and channel the major part of any benefit derived thereof to the affected communities to reduce emissions of greenhouse gases that would otherwise have resulted from deforestation and forest degradation.
- Coordinate actions on soliciting the resources required for building a climate resilient green economy in all sectors and at all governance levels as well as provide capacity building support and advisory services.
- Establish a system for the evaluation of the environmental impact assessment for investment projects submitted by their respective proponents. Evaluation will be undertaken by the concerned sectorial licensing organ prior to granting a permission for their implementation. Permission for implementation will be in accordance with the Environmental Impact Assessment Proclamation (refer to this Proclamation in *Section 5.3.3 on Page 5-10*).
- Prepare programmes and directives for the synergistic implementation and follow up of environmental agreements ratified by Ethiopia pertaining to – the natural resources base, desertification, forests, hazardous chemicals, industrial wastes and anthropogenic environmental hazards with the objective of avoiding overlaps, wastage of resources and gaps during their implementation in all sectors and at all governance levels.

- Take part in the negotiations of international environmental agreements and as appropriate, initiate a process of their ratification.
- Formulate or initiate and coordinate the formulation of policies, strategies, laws and programs to implement international environmental agreements to which Ethiopia is a party; and upon approval, ensure their implementation.
- Formulate environmental safety policies and laws on the production, importation, management and utilisation of hazardous substances or wastes, as well as on the development of genetically modified organisms and the importation, handling and utilisation of genetically modified and alien species, and ensure their implementation.
- Prepare or cause the preparation of environmental cost benefit analysis and formulate an accounting system to be used in development plans and investment programs and, as the case may be, monitor their application.
- Propose incentives to encourage best practices or disincentives to discourage practices that may hamper the sustainable use of natural resource or the prevention of environmental degradation or pollution.
- Establish an environmental information system that promotes efficiency in environmental data collection and proper use of collected data.
- Coordinate, and as may be appropriate carry out, research and technology transfer activities that promotes the sustainability of the environment and the conservation and use of forest as well as the equitable sharing of benefits accruing from them while creating opportunities for green jobs.
- In accordance with the provisions of the relevant laws, enter any land, premises or any other place that falls under the federal jurisdiction, inspect anything and take samples as deemed necessary with a view of ascertaining compliance with the requirements of environmental protection and conservation of forest.
- Prepare and disseminate a periodic report on the state of the country's environment and forest as well as climate resilient green economy.
- Promote and provide non-formal environmental education programs, and cooperate with the competent organs with a view to integrating environmental concerns in the regular educational curricula.

Federal Ministry of Mines

The Federal Ministry of Mines (MoM) is the lead government organ in the mining sector of Ethiopia, and are responsible for promotion and regulation of the mining, minerals and petroleum (oil and gas) development sector.

The MoM is mandated to:

- Generate the basic geosciences data of the country;
- Promote the mineral and petroleum and gas potentials of the country;
- Negotiate and issue licenses to investors; and
- Ensure that mineral and petroleum and gas operations are carried out in accordance with concession agreements.

Although the MoEF is mandated to drive environmental impact assessment processes in Ethiopia, the MoM has within its department MoEF representatives. As the proposed Project is mining related, the MoEF has delegated review and decision making authority to the MoEF delegates within the MoM.

Ministry of Water, Irrigation and Energy

The Ministry of Water, Irrigation and Energy is mandated and responsible for exploration, allocation and utilization of water resources in Ethiopia. Furthermore, the Ministry needs to ensure measures are put in place so as to prevent and control pollution to the country's water resources. The Ministry is also responsible for ensuring sustainable development in the energy sector.

Other relevant Federal Ministries and government authorities include:

- Ministry of Agriculture;
- Ethiopian Wildlife Conservation Authority (EWCA);
- Ethiopian Roads Authority;
- Ministry of Federal Affairs;
- Ministry of Finance and Economic Development;
- Ministry of Industry;
- Ministry of Trade;
- Ministry of Labor and Social Affairs;
- Ministry of Culture and Tourism;
- Ministry of Foreign Affairs;
- Ministry of Women's, Children and Youth Affairs; and
- Ministry of Health.

These Ministries and other government authorities are recognized as Key Federal Stakeholders and will be consulted during the entire ESIA process.

5.2.2 *Regional Government*

The Regional Governments Establishment Proclamation (41/1993) recognizes the right of nations, nationalities and peoples to self-determination and to determine their own affairs by themselves as affirmed by the Transition Period Charter of Ethiopia and later by the Constitution.

The Executive Organs of the regional governments constitute several line bureaus parallel to that of the Executive Organs of the Federal Government. This kind of regional political organizational structure underpins major transformation in undertaking environmental and development issues at district and grass root levels.

Proclamation 691/2010 - Definition of Powers and Duties of the Executive Organs of the Federal Democratic Republic of Ethiopia supports Proclamation 41/1993 in that it provides a definition of the powers and duties of the executive organs of the federal democratic republic of Ethiopia.

The following Afar National Regional State Governments (Bureaus) are recognised as Key Regional Stakeholders and will be consulted during the entire ESIA process:

- Bureau of Labour and Social Affairs;
- Bureau of Culture and Tourism;
- Bureau of Women, Children and Youth Affairs;
- Bureau of Finance and Economic Development;
- Bureau of Agriculture and Rural Development;
- Bureau of Water Resources;
- Bureau of Mines and Energy;
- Bureau of Health; and
- Bureau of Environmental Protection, Land Use and Administration.

5.3 *POLICY AND LEGAL FRAMEWORK IN ETHIOPIA*

5.3.1 *Constitution of the Federal Democratic Republic of Ethiopia (FDRE)*

The Constitution was adopted by Ethiopia in 1995 and provides guiding principles for environmental protection and management thereof in Ethiopia. The concept of sustainable development and environmental rights are enshrined in Article 43, 44 and 92 of the Constitution of FDRE.

Article 43: The Right to Development identifies peoples' right to:

- Improved living standards and to sustainable development; and
- Participate in national development and, in particular, to be consulted with respect to policies and projects affecting their community.
- The enhancement of their capacities for development and to meet their basic needs, are recognized.

Similarly, in Article 44: Environmental Rights, all persons have the right to:

- A clean and healthy environment; and
- Commensurate monetary or alternative means of compensation, including relocation with adequate state assistance when they have been displaced or whose livelihoods have been adversely affected as a result of State programs.

Article 51 (3): Powers and Functions of the Federal Government, states that Federal Government shall establish and implement national standards and basic policy criteria for public health, education, science, and technology as well as for the protection and preservation of cultural and historical heritage.

Moreover, in Article 92: Environmental objectives, it is identified that:

- The design and implementation of programs shall not damage or destroy the environment;
- People have the right to full consultation and to the expression of views in the planning and implementation of environmental policies and projects that affect them directly; and
- Government and citizens shall have the duty to protect the environment.

The basis of social legislation for Ethiopia is derived from the Constitution of the FDRE. To support this, Regulation No. 135/2007 (Payment of Compensation for Property Situated on Landholding Expropriated for Public Purposes Regulation [135/2007] - refer to *Section 5.3.19* on *Page 5-19*) is intended to address the shortcomings of earlier resettlement programs as a result of development. The consequences of these resettlement programs were impoverishment, family disintegration and marginalization.

The Environmental Policy of Ethiopia (*Section 5.3.2*) also makes provision for social aspects and provides for the protection of both natural and human environments. It also recognizes the importance of public participation in proposed developments.

However apart from the articles and policies mentioned above, Ethiopian legislation makes little provision for social aspects of any development.

Applicability to Project

A number of proclamations and supporting regulations contain provisions for the protection and management of the environment and put into effect the principles of the Constitution and the Environmental Policy. Environmental Impact Assessment Proclamation No. 299/2000 contains provisions designed to ensure sustainable development. Proclamation 299/2000 makes an environmental impact assessment mandatory not only for development projects but also for policies, plans and programs. As the proposed Project will result in emissions (*viz.* atmospheric emissions, noise emissions etc.) and socio-environmental impacts (both positive and negative), an Environmental and Social Impact Assessment (ESIA) for the various Project stages (pre-construction, construction, operation and decommissioning) has been undertaken (this study and associated report).

5.3.2 *Environmental Policy of Ethiopia (1997)*

The Environmental Policy of Ethiopia was approved by the Council of Ministers in April 1997 and contains elements that emphasise the importance of mainstreaming socio-environmental dimensions in development programs and projects. The goal of the Environmental Policy of Ethiopia is to improve and enhance the health and quality of life of all Ethiopians and to promote sustainable social and economic development through the sound management and use of resources and the environment as a whole so as to meet the needs of the present generation without compromising the ability of future generations to meet their own needs. For the effective implementation of the Environmental Policy of Ethiopia, the policy encourages creation of an organizational and institutional framework from federal to community levels. The Environmental Policy of Ethiopia provides a number of guiding principles that require adherence to principles of sustainable development; in particular the need to ensure that Environmental Impact Assessments -

- Consider impacts on human and natural environments;
- Provide for early consideration of environmental impacts in projects and programs design;
- Recognize public consultation;
- Include mitigation and contingency plans;
- Provide for auditing and monitoring; and
- Is a legally binding requirement.

Applicability to Project

Yara Dallol BV has contracted ERM to carry out a detailed ESIA for the proposed Project. The ESIA has been carried out in conformance to both the Ethiopian environmental legislation and International Finance Corporation (IFC) requirements (refer to *Section 5.9.3*).

5.3.3

Environmental Impact Assessment Proclamation (299/2002)

The Environmental Impact Assessment (EIA) Proclamation makes EIAs a mandatory requirement for the implementation of major development projects, programs and plans in Ethiopia. The Proclamation is a tool for harmonizing and integrating environmental, economic, cultural, and social considerations into decision making processes in a manner that promotes sustainable development. The law clearly defines:

- Why there is a need to prepare an EIA;
- What procedure associated with undertaking an EIA;
- The depth of environmental impact studies required in an EIA;
- Which projects require the undertaking of a full EIA study;
- Which projects need partial or no EIA study; and
- To whom the report has to be submitted.

Furthermore, impacts must be assessed based on the size, location, nature, cumulative effect with other concurrent impacts or phenomena, trans-regional effects, duration, reversibility or irreversibility or other related effects of the project.

An EIA report should contain the following:

- Nature of the project, including technology and processes to be used;
- Content and amount of pollutant that will be released;
- Source and amount of energy required for the operation;
- Information on potential trans-regional impacts;
- Characteristics and duration of all the estimated direct or indirect, positive or negative impacts;
- Measures proposed to eliminate, minimise or mitigate negative impacts;
- Contingency plan in case of accidents; and
- Procedures of self-auditing and monitoring during implementation and operation.

Applicability to Project

To date the Scoping Report (Terms of Reference for the ESIA) has been developed and submitted to the MoM. On 12 June 2014, the MoM acknowledged reviewing the Scoping Report and found that the report was in accordance with the aforementioned EIA proclamation. Furthermore, the MoM authorised the next stage of the overall ESIA process (refer to letter from the MoM in *Annex A, Part II* of this ESIA document). An ESIA report (this report) will be submitted to the determining authority (in this case the MoM) and has been made available for public comment. The authority shall ensure that public comments, in particular comments from potentially affected communities, are incorporated into the Final ESIA lodged with the determining authority. The environmental assessment process followed is outlined in *Chapter 1* of this ESIA.

Furthermore, it must be noted that this ESIA report describes the socio-environmental baseline in the Project Area and surrounds, the proposed Yara Dallol Potash Project (including alternatives), the likely impacts that can result during the construction operation and decommissioning phases of the proposed Project, measures to mitigate/manage these impacts, the likely residual impacts after mitigation and possible cumulative impacts that the proposed Project together with other impacts (including those from concurrent or planned future third party activities) can have on the social, physical and biological environment.

5.3.4 *Ethiopian Water Sector Policy (2001)*

The objective of the Water Sector Policy is to enhance and promote all national efforts towards the efficient, equitable utilisation of Ethiopian water resources. Furthermore, the policy aims for optimised utilisation that allows for sustainable socioeconomic development.

5.3.5 *Water Resources Management Proclamation (197/2000)*

The purpose of the Proclamation is to ensure that the water resources (both surface- and groundwater) of Ethiopia are protected and utilized for the highest social and economic benefits of the country's people. It addresses the requirement for environmental conservation and water resource protection measures to be incorporated into water resource planning and project development.

No person is allowed to supply water whether for his own use or for others without having obtained a permit from the Supervising Body (Ministry of Energy, Water and Irrigation or an organ delegated by it). An application for water use, release or discharge of waste, and waterworks construction permits shall be submitted to the Supervising Body. The Ministry of Energy, Water and Irrigation or an organ delegated by it shall issue the requested permit within sixty (60) days from the receipt of the application where the permit does not violate other person's legitimate interest or where the activity does not result in polluting or causing harmful effect on the water resource and the environment. A water use permit is issued for one year and renewable every year. The permit is also presumed to be cancelled if not renewed on time.

Applicability to Project

Yara Dallol BV will need to apply to the Ministry of Water, Irrigation and Energy to obtain the required water permits/licenses necessary for the successful implementation of the proposed Project.

Please Note - the application for water permits/licenses will not form part of the Scope of Work for this study

Furthermore, the proclamation defines Waste as any harmful matter introduced, released or discharged into any water body in any solid, liquid or gaseous form. Moreover, the proclamation defines Polluted Water as sewage and industrial effluents including toxic water.

Waste water discharge permits need to be obtained to (amongst others) release or discharge effluent into water resources unless otherwise provided for in the regulations.

Applicability to Project

Potential impacts to water resources (both surface- and groundwater) in the Project Area have been assessed as part of the ESIA study. Furthermore, a Water Management Plan has been developed (refer to *Annex G* in *Part III*) has been developed and includes mitigation/ management measures pertaining to the hydrological environment for the proposed Project.

Moreover, the liquid discharges proposed by Yara Dallol BV may be considered to be effluent, and as a result may potentially require a waste water discharge permit (this is elaborated on in *Section 5.3.7*).

5.3.6 *Water Resources Management Regulation (115/2005)*

The objective of this regulation is to provide detailed provisions for the effective implementation of its parent legislation, the Water Resources Management Proclamation (refer to *Section 5.3.5*). The regulation is mainly a further elaboration of the aforementioned Water Resources Management Proclamation, providing in detail the main requirements for the issuance of permits for different uses of water; construction works; waste water discharge as well as providing the conditions for the issuance, renewal, revocation etc. of such permits. Furthermore, the regulation provides provisions for fees associated with application or permits as well as the requirements of water charges to be paid for different uses of water. The amount of charges payable are left to be determined by the Council of Ministers and issued in a subsequent regulation (Article 31.4).

The proclamation also mentions that a waste water discharge permit is required for direct or indirect discharge of any treated industrial effluent or sewerage

effluent or any poisonous, noxious or polluting matter into surface or groundwater.

Applicability to Project

Yara Dallol BV is required by law to apply for and secure water use permits for land where water is intended to be used for the proposed Yara Dallol Potash Project. These applications will need to be submitted to the Federal Ministry of Water, Irrigation and Energy for consideration.

The Federal Ministry of Water, Irrigation and Energy will unlikely grant sole water rights to Yara Dallol BV or any other major water user in the area. Rather, the Ministry will (as part of their mandate) manage water use in a manner that ensure equitable distribution and does not give priority over and above any other user (users involve biophysical users, social users and industrial users).

Furthermore, Yara Dallol BV is currently expecting to discharge the following effluents to the environment –

- Sodium chloride brine - this brine will be discharged to a pit just outside of the evaporation ponds, where the water is expected to evaporate and form a salt crust.
- Magnesium chloride brine - will be injected into depleted caverns to force out the final production grade brine
- Potential run-off from salt tailings during rainfall events. The run-off of salt saturated rainwater will flow to the salt flats.

Based on the proclamation, the liquid discharges proposed by Yara Dallol BV would be considered to be effluent, and as a result would theoretically require a waste water discharge permit.

Only one specific Ethiopian regulation could be found relating to disposal of brine into brine caverns. The proclamation No. 52/1993 (A Proclamation to Promote the Development of Mineral Resources) states that - *“The license of brines may specify conditions of production and of extraction and disposal of minerals produced and of the use and disposal of minerals produced and of the use and disposal of the water remaining”*.

Yara Dallol BV would need to engage with the Ministry of Water, Irrigation and Energy to confirm the need and applicability for waste water discharge permits and licenses associated with solution mining for the proposed Project.

5.3.7

Water Resources Utilisation Proclamation (92/1994)

This proclamation regulates the use of of water resources, by requiring a government permit in respect of most water uses, with the exception of minor and traditional uses. The proclamation further lays down basic criteria for the permit-granting authorities to use in deciding on applications for permits.

Applicability to Project

Refer to **Applicability to the proposed Project** in *Section 5.3.6* earlier in this Section.

5.3.8

River Basin Councils and Authorities Proclamation (534/2007)

The objective of this proclamation is to promote and monitor the process of integrated water resources management for Ethiopia's river basins. The proclamation aims to use water resources in a way that allows for long-term sustainability of aquatic ecosystems and that promotes socio-economic welfare for the Ethiopian people. The proclamation allows federal level government to designate its powers to other entities such as the Basin High Councils and Authorities (Basin Authorities).

Ethiopia is subdivided into 12 river basins. Amongst other things, Basin Authorities are provided with the power to issue permits for water use in basins and is empowered to initiate policy measures, to ensure that projects, activities and interventions related to water in the basin are in line with the integrated water management process. Furthermore, the Basin Authorities collect water use charges from water users in their respective basins.

Applicability to Project

At this stage, the Danakil Basin Authority has not yet been established. Article 2 (1) and 3 of the River Basin Councils and Authorities Proclamation mentions that two or more Basin Authorities may be structured into a single Basin Authority; however, this has not yet been arranged in the Danakil River Basin. For this reason (and as is mentioned in *Section 5.3.6*) Yara would need to (if not informed differently) lodge water use permit applications to the Federal Ministry of Water, Irrigation and Energy for consideration.

5.3.9

Environmental Pollution Control Proclamation (300/2002)

The Proclamation advocates a "polluter pays" policy and the EPA or relevant regional environmental agency has the right to close or relocate any initiative if the activity being carried out poses a risk to human health or to the environment.

Complementary to the Environmental Policy of Ethiopia (*Section 5.3.2*) and the EIA Proclamation (*Section 5.3.3*) (which requires developmental activities to provide a number of guiding principles that require adherence to principles of sustainable development), the Pollution Control Proclamation requires ongoing activities to implement measures that would reduce their degree of pollution to a set limit or quality standard.

Applicability to Project

Activities associated with the proposed Project during the construction, operational and closure phases that have the potential to pollute the environment have been identified and suitable mitigation and management measures will be proposed.

Management of general and hazardous waste as a result of construction and operational activities of the proposed Yara Dallol Potash Project will need to be sufficiently dealt with in the overall Environmental and Social Management System (ES-MS). Waste management activities are associated with temporary onsite storage, recycling, transport and final disposal of waste. A Waste Management Plan has been developed (*Annex G of Part III*).

5.3.10 ***Prevention of Industrial Pollution Council of Ministries Regulation (159/2008)***

This regulation is directed to industry and in particular “factories”. The regulation does not provide a clear definition of “factories”; however, certain sections of the regulation can be deemed applicable to the proposed Yara Dallol Potash Project. These sections include the need for emergency response systems and the need for monitoring of environmental safety.

Applicability to Project

As part of the ESIA process a framework Emergency Response Plan has been developed for the Yara Dallol Potash Project (refer to *Annex D in Part III*). Furthermore, social and environmental monitoring systems have been developed for during construction, operation and decommissioning phases of the proposed Project.

5.3.11 ***Mining Operations Proclamation (678/2010) and amendment (802/2013)***

This Proclamation governs the conduct of all mining operations and related activities within the territory of the Federal Democratic Republic of Ethiopia. The objectives of this proclamation are to promote socio-economic growth in Ethiopia in ensuring that the country’s mineral resources are developed in a sustainable manner. The proclamation also promotes employment and an advance in the social and economic welfare of all Ethiopians. Furthermore, the proclamation provides for security of tenure for all investors in respect of exploration and mining operations.

The Ethiopian Government identifies that minerals are non-renewable resources and that the conservation and development of these resources needs to be ensured so as to ensure the socio-economic progress of all Ethiopians. It is also the obligation of the Government of Ethiopia to protect the environment or the benefit of present and future generations and to ensure ecologically sustainable development of the countries mineral resources.

Article 60 (Part 7) requires that an environmental impact assessment be submitted for mining license applications and that all the necessary approvals from the competent authority required by the relevant environmental laws of Ethiopia needs to be obtained. Article 60 also mentions that any holder of a license needs to allocate funds to cover the costs of rehabilitation of environmental impacts and participate (and allocate further funding) in community development of the people within the license area.

Article 61 (in Part 7 of the proclamation) requires that a licensee apply for a mine closure certificate upon - revocation of the license; termination of the mining operations; relinquishment of the whole or any portion of the license area; or, abandonment of the mine.

Applicability to Project

Yara Dallol BV currently has one exploration license for North Musley and Crescent (MOM/0130-0134/2000) and have submitted an application to the MoM for extension if exploration license for the Musley concession. Once mineral resources have been verified and feasibility concerning the proposed Project verified, Yara Dallol BV will apply for the mining rights for the area explored. As part of the proposed Project's community development plan, Yara Dallol BV will allocate funds to cover costs associated with rehabilitation at cessation of the operational phase of the mine and also for participation in community development projects for identified communities situated in the Danakil Depression.

5.3.12 *Mining Operations Council of Ministers Regulation, 182/1994*

This regulation provides a set of rules for large-scale and small-scale mining operations. These rules include, among other things -

- The issue, renewal or revocation of a prospecting licence or an exploration licence;
- Notice of discovery of minerals;
- Verification and certification of a discovery;
- Rights and obligations of licensees;
- Fees, royalties and other payments;
- Offences and sanctions;
- Dispute settlement; and
- Powers and duties of the Controller.

Of particular importance is Article 5 (Application for Mining License), which details the information that must accompany large scale mining applications.

This regulation was amended in 1998 and again in 2006 through enactment of the Mining Operations Council of Ministers (Amendment) Regulations (27/1998) and Mining Operations Council of Ministers (Amendment) Regulations (124/2006). These amendments were associated with certain definitions, objections against

the granting of licenses and payments around the provision of information to the Council of Ministries.

Applicability to Project

As is previously mentioned earlier in this Section, once mineral resources have been verified and feasibility concerning the proposed Project verified, Yara Dallol BV will apply for the mining rights for the area explored. This application will undertake in conformance to Article 5 of the proclamation.

5.3.13 *Wildlife Development, Conservation and Utilisation Council of Ministries Regulation (163/2008)*

Part 2 of this proclamation provides rules around the management of wildlife conservation areas (National Parks, Wildlife Sanctuaries and Wildlife Reserves) and the administration of these areas. Part 4 of the proclamation details the rules around the lawful and unlawful possession and trade of wildlife products.

Applicability to Project

This proclamation has been taken into account for the biodiversity study associated with the overall ESIA.

5.3.14 *Policy for Rural Development (2003)*

The Government of the Democratic Republic of Ethiopia has designed an economic programme to guide the future development of the country. The objective with respect to economic development in Ethiopia is to build a market economy in which - (i) a broad spectrum of the Ethiopian people are beneficiaries, (ii) dependence on food aid is eliminated; and (iii) rapid economic growth is assured.

Given the rural nature of most livelihoods in Ethiopia, fulfilling the above economic development objective requires a comprehensive rural development vision as well as practical action to realize it. Given, moreover, the dominance of agriculture in the Ethiopian economy, the rural development effort is presently associated with agricultural development. This, however, does not in any way imply that development effort in rural areas will be limited to agricultural development. Indeed, in order to facilitate agricultural development, there is a need to undertake rural infrastructure and social development programmes.

Applicability to Project

This policy has been taken into account for the socio-economic study associated with the overall ESIA.

5.3.15 *Tourism Development Policy (2009)*

This policy has been developed so as to consolidate the fragmented activities associated with the development of the tourism sector in Ethiopia, and ensure coordination of efforts by government, the private sector, communities (at the tourism destinations) and civil organisations, and to create a conducive environment for these entities to be able to discharge their respective responsibilities appropriately.

The focus of this policy is in –

- Guiding the tourism sector in a broad based development framework;
- Developing the existing and new tourism attractions and products;
- Expanding the infrastructure and tourist service that are vital for the growth of the sector;
- Ensuring that the country benefits from the sector by being sufficiently competitive in the international tourism market; and
- Solving the serious limitations in capacities which are apparent in the industry.

Applicability to Project

The Danakil Depression is a popular tourism area. As such, the socio-economic study associated with the ESIA has taken this policy into account.

5.3.16 *Labour Proclamation (377/2003)*

This proclamation requires that the employer takes the necessary measures to adequately safeguard the health and safety of their workers. In this proclamation the worker-employer relations are governed by the basic principles of rights and obligations with the goal to enable workers and employers to maintain industrial peace and work in the spirit of harmony and cooperation towards the all-round development of the country. The proclamation also provides requirements around normal working hours and overtime work.

This proclamation was amended in 2005 and again in 2006 by the Labour (Amendment) Proclamation (466/2005) and Labour (Amendment) Proclamation (494/2004). Amendments included amendment to government roles and responsibilities, labour entitlements and common offences and penalties.

Applicability to Project

The social Study associated with this ESIA carried out a gap analysis of Yara Dallol BV's existing worker/labour policies and has ensured that the socio-economic management plans have taken this proclamation into account.

5.3.17 ***Public Health Proclamation (200/2000)***

This proclamation disallows the discharge of untreated effluent waste generated from septic tanks, seepage pits and industries into water resource. It also prohibits the disposal of solid or liquid wastes or any other waste in a manner which contaminates the biophysical, physical or social environments. Furthermore, the proclamation details occupational health control and use of machinery by employees of any given company.

Applicability to Project

The Social Study associated with this ESIA carried out a gap analysis of Yara Dallol BV's existing health and safety policies and procedures and has ensured that the socio-economic management plans have taken this proclamation into account.

5.3.18 ***The Federal Democratic Republic of Ethiopia Rural Land Administration and Land Use Proclamation (456/2005)***

This proclamation applies to all rural land in Ethiopia. The proclamation aims to conserve and develop natural resources through the development of and implementation of sustainable land use planning. This will be achieved through the development of efficient systems for rural land administration that enhances and strengthens the land use rights of farmers and promotes the conservation and management of natural resources.

Applicability to Project

This proclamation has been taken into account during the socio-economic study associated with the overall ESIA.

5.3.19 ***Payment of Compensation for Property Situated on Landholding Expropriated for Public Purposes Regulation (135/2007)***

The purpose of this regulation is to provide a formal approach for the payment of compensation and to assist livelihood restoration for displaced persons.

Applicability to Project

The social study associated with the ESIA has taken into account the requirements set out in this regulation.

5.3.20 ***Rights to Employment of Persons with Disability Proclamation (568/2008)***

This proclamation is enactment of a new law that complies with the country's policy of equal employment opportunity. The proclamation highlights the rights of disabled persons to employment and necessitates the provision of reasonable accommodation for people with disabilities and lays out simple procedural rules that enable persons with disabilities to prove to any judicial organ on any form of discrimination encountered during employment.

Applicability to Project

The social study associated with the ESIA has taken into account the requirements set out in this regulation.

5.3.21 ***Accession to African Human and People's Rights Charter Proclamation (114/1998)***

This proclamation has been enacted so as to formalise the Ethiopian Governments support for regional and international efforts to achieve normative standards for basic human rights. The Ethiopian Government has accepted accession to the African Charter on Human and People's Rights on the 2nd June 1998.

Applicability to Project

The social study (and in particular management plans associated with worker management – refer to *Annex M in Part III*) have taken into account the requirements set out in the African Charter on Human and People's Rights.

5.3.22 ***Cultural Policy of Ethiopia (1997)***

Based on the Constitution, the Council of Ministers of Ethiopia endorsed the Cultural Policy of Ethiopia in October 1997. One of the policies main objectives is to enable the languages, heritage, history, handicraft, fine arts, oral literature, traditional lore, beliefs and other cultural features of the various nations, nationalities and peoples of Ethiopia to receive equal recognition. In addition the Cultural Policy's objective are to respect, preserve and conserve these and pass them over to future generations.

Applicability to Project

The cultural heritage study associated with the ESIA has taken this policy into account. Furthermore, the Ministry of Culture and Tourism has been identified as a Key Stakeholder in the ESIA process.

5.3.23

Research and Conservation of Cultural Heritage Proclamation (209/2000)

Research and conservation of Ethiopian cultural heritage are regulated by Proclamation No.209/2000. The proclamation defines 'Cultural Heritage' as anything tangible or intangible which is the product of creativity and labour of man, in either pre-historic or historic times, that describes and witnesses to the evolution of nature and which has a major value in its scientific, historical, cultural, artistic and handicraft contents. According to Proclamation 209/2000, Cultural Heritage is divided into tangible (immovable and movable) and intangible cultural heritage.

- **Tangible Cultural Heritage** - is defined as: *“cultural heritage that can be seen and felt and includes immovable or moveable historical and manmade cultural heritage”*.
 - **Immovable Cultural Heritage** - is defined as: *“cultural heritage attached to the ground with a foundation and which can be moved only by dismantling and shall include: sites where cultural heritage have been discovered, paleontological historic and pre-historic archaeological places; buildings, memorial places, monuments and palaces; remains of ancient towns, burial places, cave paintings, and inscriptions as well as church, monastery, mosque or any other places of worship”*.
 - **Movable Cultural Heritage** is defined as: *“cultural heritage not attached to the foundation and that can be moved from place to place easily and which are handed down from the past generation and shall include: parchment manuscripts, stone paintings and implements, sculptures and statues made of gold, silver, bronze, iron, copper or of any other mineral or wood, stone, inscriptions of skin, ivory, horn, archaeological and bone or earth or of any other material, and also paleontological remains; written and graphic documents or cinematographic and photographic documents or sound and video recordings; coins made of gold, silver, bronze, copper or of any other materials; and ethnographic implement, ornament or any other cultural object of nations, nationalities and peoples”*.
- **Intangible Cultural Heritage** - is defined as *“any Cultural Heritage that cannot be felt by hands or ears, and includes different kinds of performances and show, folklore, religious, belief, wedding and mourning ceremonies, music, drama, literature and similar other cultural values, traditions and customs of nations, nationalities and peoples”*.

Protection and conservation of cultural heritage from manmade and natural hazards is one of the duties and responsibilities of the Authority for Research and Conservation of Cultural Heritage (ARCCH). Article 42 of the same proclamation states:

- 1) *The Council of Ministers may, upon the recommendation of the Minister, declare any area as a reserved area and publish same in the Negarit Gazeta, where an assemblage of immovable Cultural Heritage is situated or where such an area is deemed to be an archaeological site.*
- 2) *Unless otherwise specifically decided by the Council of Ministers, no person may, without a permit issued by the Authority, carry out building or road construction, excavations of any type or any operation that may cause ground disturbance in an area declared reserved pursuant to Sub-Article (1) of this Article.*
- 3) *Any person who holds permit to conduct construction works in a reserved area and who discovers Cultural Heritage in the course of construction activities shall stop construction and shall forthwith report same in writing to the Authority.*

Applicability to Project

The proclamation indicates that the Authority has the power of issuing building permission for any work to be carried out in an area declared reserved by the Council of Ministers. It is also stated that the removal of any cultural heritage is to be carried out under strict supervision of the responsible authority, the ARCCH.

5.3.24

Convention for the Safeguarding of the Intangible Cultural Heritage Ratification Proclamation (484/2006)

This proclamation formalises the adoption of the Convention for the Safeguarding of the Intangible Cultural Heritage in Ethiopia at the General Conference of the United Nations Educational, Scientific and Cultural Organisation in Paris on 17 October 2003. The Ethiopian Government ratified the said Convention on 24 January 2006.

Applicability to Project

The cultural heritage study associated with the ESIA has taken this policy into account. Furthermore, the Ministry of Culture and Tourism has been identified as a Key Stakeholder in the ESIA process.

5.4 NATIONAL STRATEGIES AND PLANS

5.4.1 *Plan for Accelerated and Sustained Development to End Poverty*

Achieving broad-based accelerated and sustained economic growth to eradicate poverty has been the key objective of the Government of Ethiopia. The government has designed and implemented strategies, policies and plans to guide and manage the overall development of the country accordingly. To this end, the country's previous five-year development plan, which is known as the Plan for Accelerated and Sustained Development to End Poverty (PASDEP from 2005/06 to 2009/10) had a medium-term development perspective and aimed at achieving the Millennium Development Goal (MDG) targets. However, in order to build up on the accelerated economic growth that was realized during the PASDEP (2006-2010) implementation period, the government's has focused its from 2011 to 2016 strategy on sustaining economic growth and towards the realization of a longer term vision of becoming a middle income country by 2020-2023. Hence, the Government formulated the five year Growth and Transformation Plan (GTP 2010/11 - 2014/15) (refer to *Section 5.4.2*) to carry forward the important strategic directions pursued in PASDEP.

5.4.2 *National Growth and Transformation Plan*

The National Growth and Transformation Plan (GTP) (2010/11 to 2014/15) is a medium term (5 year) strategic framework which sets out growth and investment targets for Ethiopia. The GTP is directed to achieving Ethiopia's long term vision and sustaining the rapid and broad based economic growth experienced during the past several years.

In the context of the mining sector, the GTP aims to build up on the significant achievements registered during the PASDEP period, specifically the increased coverage of the country wide geological information including hydro-geological and engineering geology mapping and geophysical (gravity) studies. To this end, the GTP also aims to sustain the accomplishments of PASDEP in relation to:

- Increased identification and delineation of areas of mineral deposits; and
- Increased investment in the sector and consequently increment in revenue generated.

In relation to environmental sustainability the GTP has set clear direction for building a 'green economy'. Moreover, the strategy gives emphasis to environmental conservation and the continued implementation of the environmental laws of the country.

Applicability to Project

The proposed Project is aiding the Ethiopian Government in achieving broad based economic development, particularly in the mining sector.

5.4.3 *Ethiopia's Climate-Resilient Green Economy Strategy*

This strategy was developed through an initiative led by the Prime Minister's Office, the Environmental Protection Authority, and the Ethiopian Development Research Institute. The objective of the strategy is to identify green economy opportunities that could help Ethiopia reach its ambitious growth targets (which are stipulated in the Growth and Transformation Plan) while keeping greenhouse gas emissions low. The strategy (The Green Economy Strategy) is currently being implemented and will require a boost in Ethiopia's Agricultural productivity, strengthening the industrial base and fostering export growth.

Applicability to Project

The ESIA associated with the proposed Project has considered Ethiopia's Green Economy Strategy and mitigation/management measures have been structured in such a way that compliments and promotes the strategy.

5.5 **NATIONAL STANDARDS**

5.5.1 *Environmental Standards for Industrial Pollution Control in Ethiopia*

The Ethiopian Federal Government has developed a list of environmental standards for the purposes of preventing significant industrial pollution. These standards present pollution limits for emissions to (i) atmosphere, (ii) water resources and (iii) noise emissions.

Applicability to Project

These standards have been considered in the air quality, hydrological and noise studies that form part of the overall ESIA process.

Atmospheric Emissions

The national standards sets out emission limits for emissions to air from fertiliser production, which in the absence of any more relevant guidance has been adopted for this assessment. The document also sets out emission limits for other processes, including emission limits for total particulate matter and emission limits from combustion processes which are relevant to this study. Of particular relevance to this Project are NO_x emission limits for combustion sources of Fuel Oil: 1,000 mg/Nm³.

There are no standards enforced in Ethiopia through national legislation that are applicable to ambient air quality (as opposed to emissions, as set out above), and none relating to dust deposition. Therefore, the air quality guidelines advocated by the IFC and dust deposition guidelines from a number of sources, as discussed in *Section 5.9.3* will be used instead.

Water Resources

Effluent discharge in Ethiopia is controlled by the Environmental Standards for Industrial Pollution Control in Ethiopia. Standards are specified for a number of industrial sectors, including, among other, manufacture of fertilisers (phosphate and nitrogenous). In addition, there are general standards for all other industrial effluents to be discharged to inland waters.

The specified industries are not appropriate for the proposed Yara Dallol Potash Project; however, the general standards for effluent discharge clearly assume discharge to relatively fresh waters, as TDS limits are specified at 3,000 mg/L, chloride at 1,000 mg/L and magnesium at 100 mg/L, and are therefore equally inappropriate, given that water quality within the salt flats of the Project Area and within the salt caverns is within the brine range. However, this said, Yara Dallol BV would need to apply for a compliance exemption from these standards with the relevant Ministry.

Noise Emissions

The Environmental Standards in Ethiopia gives guidance on noise impacts for three receptor categories (industrial, commercial and residential) and for daytime and night time (*Table 5.1*).

Table 5.1 *Ethiopian Standards for Noise*

Area Code	Category of area	Noise Limits in dB(A) LAeq,15min	
		Daytime (06:00 - 21:00)	Night time (21:00 - 06:00)
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45

Furthermore, the Ethiopian standard for noise states that noise from the source activity (measured at the specified noise sensitive location) shall not give rise to sound pressure levels (Leq, 15 minutes), which exceed the limit value by more than 2 dB(A).

5.5.2

Gap Analysis of the Protected Areas System of Ethiopia (Vreugdenhil et al., 2012)

This document sets out the key considerations pertaining to the conservation of Biodiversity in Ethiopia.

The project for Sustainable Development of the Protected Areas System of Ethiopia (SDPASE), on behalf of the Ethiopian Wildlife Development Authority (EWCA) has contracted the study "Gap Analysis of the Protected Areas System of Ethiopia" (Vreugdenhil et al. 2012). The study systematically fills the gaps in knowledge about biodiversity based on scientific criteria and identifies areas needed to complete the Ethiopian Protected Areas System with a realistic representation of the country's still surviving biodiversity. The existing protected areas have been analysed on compliance with the international criteria on "Ecoregions" and "Hot Spot". Additionally, the study produced the "Ecosystems Map of Ethiopia" and updated the known knowledge on the distribution of "Species of Special Concern". The study also takes into consideration geomorphological highlights of international significance, important socio-economic criteria, such as water-based ecosystem services and tourism, each of which can contribute to employment and strengthen the economy. On the basis of various criteria more than 20 locations were identified that need to be added to the Protected Areas System of Ethiopia for it to be reasonably representative of the nation's biodiversity, one of these sites is the Proposed Afar National Park.

Applicability to Project

The Biodiversity Study associated with the overall ESIA has considered this gap analysis.

5.6

NATIONAL DIRECTIVES AND GUIDELINES

This Section details the applicable Ethiopian directives and guidelines that will need to be considered as part of the ESIA process.

- **EIA Directive No. 1/ 2008, A Directive to Determine Projects Subject to Environmental Impact Assessment:**

The directive lists the various activities that require the undertaking of an EIA prior to the commencement of that specific activity.

Applicability to Project

As the proposed Project is mining related it requires (and has undertaken) an EIA prior to the commencement of the Project.

- **Draft Guideline for Environmental Management Plan for the Identified Sectorial Developments in the Ethiopian Sustainable Development & Poverty Reduction Programme (ESDPRP), May 2004:**

The Ethiopian government has realised that integration of environmental considerations for key sectors development programmes and projects is essential, and have realised that this is only achievable by developing and implementing an umbrella EMP framework for effective environmental management and rehabilitation of these key sectors development activities of the programme. As such, the guideline outlines the necessary measures for the preparation of an Environmental Management Plan (EMP) for proposed developments in Ethiopia and the institutional arrangements for implementation of EMPs

- **EIA Guideline, July 2000:**

This guideline provides a background to environmental impact assessments and environmental management in Ethiopia. In essence the document aims at being a reference material to ensure effective environmental assessment and management practice in Ethiopia for all parties who engage in the process.

- **Draft Environmental Impact Assessment Guideline for Mineral and Petroleum Operation Projects, 2003:**

This guideline provides a guideline in terms of the EIA process and aims at assisting proponents and consultants in carrying out their environmental assessment activities in a way that is consistent with good practice. Furthermore, the guideline assists Interested and Affected parties (especially communities) in realising their environmental rights and roles.

- **The Federal Environmental Protection Authority, Environmental Assessment Reporting Guide, 2004, Addis Ababa:**

The guideline provides a standardised reporting framework for environmental assessments. It is however the responsibility of proponents and associated assessors to ensure that sufficient information is included in environmental assessments and that this information is forwarded onto all concerned and interested environmental agencies for review and consideration.

Applicability to Project

These guidelines have been taken into account throughout the ESIA process (particularly stakeholder engagement) and during the compilation of this ESIA report and associated Management Plans.

5.7 REGIONAL PLANS

Both of the national plans (GTP and PASDEP) focus on areas that are particularly pertinent to the ANRS. It is the responsibility of the respective regional bureaus to align to national development strategies, in this case the Afar Bureau of Finance and Economic Development. The five year Development Plan devised by the Afar Bureau of Finance and Economic Development aligns with the national development plans.

5.8 INTERNATIONAL CONVENTIONS, PROTOCOLS AND AGREEMENTS

Ethiopia is signatory to a number of international conventions and agreements relating to mining, environmental management and energy, and in certain cases these have influenced the development of policies, guidelines and regulations. The ESIA will need to consider these conventions and agreements and ensure compliance for during the planning, construction and operation phases of the proposed Project.

The following international conventions and protocols, to which Ethiopia is a signatory, will be considered:

- The Stockholm Convention on Persistent Organic Pollutants.
- Convention on Biological Diversity (CBD)
- Cartagena Protocol on Bio- safety
- The United Nations Framework Convention on Climate Change, 1992
- The United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa
- The United Nations Convention for the Safeguarding of the Intangible Cultural Heritage
- The United Nations Convention on the Protection and Promotion of the Diversity of Cultural Expressions
- The United Nations Convention Concerning the Protection of World Cultural and National Heritage
- The Vienna Convention for the Protection of the Ozone Layer
- Montreal Protocol on Substances that Deplete the Ozone Layer
- The Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade
- The Basel Convention on the Control of Trans-boundary Movements of Hazardous Waste
- Bamako Convention on the ban on the Import into Africa and the Control of Trans-boundary Movement and Management of Hazardous Wastes within Africa
- Libreville Declaration on Health and Environment in Africa
- The United Nations Convention on International Trade in Endangered Species (CITES) of Wild Fauna and Flora 1973

- The United Nations Convention on Biological Diversity (Rio Convention) 1992

During draft ESIA disclosure the Authority for Research and Conservation of Cultural Heritage (an authority in the Ministry of Culture and Tourism) noted that the draft ESIA did not make mention of the 1972 World Heritage Convention. This convention sets out a framework of active measure for the protection, conservation and presentation of internationally registered cultural or natural heritage resources. For these measures to be implemented, a cultural or natural resource must be included on the UNESCO World Heritage List of protected properties. Presently, the World Heritage List for Ethiopia does not contain any resources within or adjacent to the Danakil depression. Therefore, the active measures presented in the World Heritage Convention are not applicable to the cultural or natural heritage resources within the Project Area.

5.9 *INTERNATIONAL GUIDELINES AND STANDARDS*

The aim of following international guidelines and standards is to ensure all issues are considered and managed in line with international best practice. This *Section* describes the most relevant international guidelines and standards that aim to ensure that all environmental and social issues are considered and managed in line with international good practice. The ESIA has been undertaken in conformance to these international guidelines and standards.

5.9.1 *The Equator Principles*

The Equator Principles (EPs) are a risk management framework, adopted by financial institutions, for determining, assessing and managing environmental and social risk in projects and are primarily intended to provide a minimum standard for due diligence to support responsible risk decision-making. Equator Principle Financial Institutions (EPFIs) commit to implementing the EPs in their internal environmental and social policies, procedures and standards for financing projects and will not provide Project Finance or Project-Related Corporate Loans to projects where the client will not, or is unable to, comply with the EPs.

In order to facilitate potential access to funding for project development potential borrowing organisations need to consider the EPs and environmental and social risk management as part of the ESIA process.

These EPs, shown in *Box 5.1* require that Projects conduct an ESIA process in compliance with the IFC Performance Standards on Environmental and Social Sustainability (IFC PSs). The requirements of the IFC PSs are discussed in *Section 5.9.3*.

To date the EPs are adopted by approximately 79 financial institutions and were updated to version three in 2013.

Box 5.1 *The Equator Principles*

1. Review and categorisation
2. Social and environmental assessment
3. Applicable environmental and social standards
4. Environmental and Social Management System and Equator Principles Action Plan
5. Stakeholder Engagement
6. Grievance mechanism
7. Independent review
8. Covenants
9. Independent monitoring and reporting
10. Reporting and Transparency

5.9.2 *World Bank Group Operational Policies*

The World Bank projects and activities are governed by Operational Policies designed to ensure that the projects are economically, financially, socially and environmentally sound. For projects that are not seeking financing from the World Bank their policies and procedures serve as relevant standards for international good practice.

The World Bank has ten environmental and social Safeguard Policies that are used to examine the potential environmental and social risks and benefits associated with World Bank lending operations. These safeguard policies include the following (please note that the safeguard policies in **bold** are considered relevant to the proposed Project):

- 1. Environmental Assessment;**
- 2. Natural Habitats;**
3. Forestry;
4. Pest Management;
- 5. Cultural Property;**
- 6. Revised Draft Operational Policy 4.10: Indigenous People (replaces operational Directive 4.20 on Indigenous Peoples);**
- 7. Involuntary Resettlement;**
8. Safety of Dams;
9. Projects in International Waters; and
10. Projects in Disputed Areas.

Yara Dallol BV will strive to comply with these standards as well as the World Bank's Safeguard policies. The policies relevant to the proposed Project and associated ESIA Study include 1, 2, 5, 6, and 7 and are summarised as follows:

Environmental Assessment

Operational Policy 4.01 - Environmental Assessment (EA) evaluates a project's potential environmental risks and impacts in its area of influence; examines project alternatives; identifies ways of improving project selection, siting, planning, design, and implementation by preventing, minimising, mitigating, or compensating for adverse environmental impacts and enhancing positive impacts; and includes the process of mitigating and managing adverse environmental impacts throughout project implementation.

The EA Policy takes into account the natural environment (air, water, and land); human health and safety; social aspects (involuntary resettlement, indigenous peoples, and physical cultural resources); and transboundary and global environmental aspects.

Natural Habitats

Operational Policy 4.04 - Natural Habitats promotes the conservation of natural habitats. The World Bank therefore supports the protection, maintenance, and rehabilitation of natural habitats. The Bank encourages borrowers to incorporate into their development and environmental strategies analyses of any major natural habitat issues, including identification of important natural habitat sites, the ecological functions they perform, the degree of threat to the sites, and priorities for conservation.

The World Bank expects the views, roles, and rights of groups, including local non-governmental organizations and local communities, affected by any project involving natural habitats to be taken into account, and to involve such people in planning, designing, implementing, monitoring, and evaluating such projects. Involvement may include identifying appropriate conservation measures, managing protected areas and other natural habitats, and monitoring and evaluating specific projects.

Cultural Property

Operational Policy 4.11 - Cultural Property addresses physical cultural resources, which are defined as movable or immovable objects, sites, structures, groups of structures, and natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic, or other cultural significance. Physical cultural resources may be located in urban or rural settings, and may be above or below ground, or under water. Their cultural interest may be at the local, provincial or national level, or within the international community. Any project involving significant excavations, demolition, movement of earth, flooding, or other environmental changes are to take cognisance of this policy in the EA.

Indigenous People

Operational Policy 4.10 – Indigenous People **is not considered to apply to the Project, as the Afar are not widely considered to be an indigenous group as defined under this safeguard policy, but rather constitute the majority of the population (approximately 90%)⁽¹⁾ in the Afar State.**

Involuntary Resettlement

Operational Policy 4.12 - Involuntary Resettlement is triggered in situations involving involuntary taking of land and involuntary restrictions of access to legally designated parks and protected areas. The policy aims to avoid involuntary resettlement to the extent feasible, or to minimise and mitigate its adverse social and economic impacts.

It promotes participation of displaced people in resettlement planning and implementation, and its key economic objective is to assist displaced persons in their efforts to improve or at least restore their incomes and standards of living after displacement.

The policy prescribes compensation and other resettlement measures to achieve its objectives and requires that borrowers prepare adequate resettlement planning instruments prior to Bank appraisal of proposed projects.

5.9.3 *The International Finance Corporation*

The International Finance Corporation (IFC), a division of the World Bank Group that lends to private investors, has released a Sustainability Policy and set of Performance Standards on Social and Environmental Sustainability (January 2012). These Standards replace the previous July 2006 safeguard policies and are used to evaluate any project seeking funding through the IFC. It should be noted that even for Projects that do not anticipate seeking financing from the IFC; the IFC Performance Standards are typically applied as a benchmark of international good practice.

The Performance Standards are directed towards providing guidance on how to identify risks and impacts, and are designed to help avoid, mitigate and, manage risks and impacts as a way of doing business in a sustainable way, including stakeholder engagement and disclosure obligations of the client in relation to project-level activities. In the case of direct investments for the IFC (including project and corporate finance provided through financial intermediaries), the IFC requires that its clients apply the Performance Standards to manage environmental and social risks and impacts so that development opportunities are enhanced (IFC, 2012).

⁽¹⁾Source: IFC Draft ESRS # 29979 (March 2011)

The IFC Performance Standards are outlined in *Box 5.2* below.

Box 5.2

International Finance Corporation (IFC) Performance Standards

Performance Standards:

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

The Performance Standards are directed towards providing guidance on how to identify risks and impacts, and are designed to help avoid, mitigate and, manage risks and impacts as a way of doing business in a sustainable way, including stakeholder engagement and disclosure obligations of the client in relation to project-level activities. In the case of direct investments for the IFC (including project and corporate finance provided through financial intermediaries), the IFC requires that its clients apply the Performance Standards to manage environmental and social risks and impacts so that development opportunities are enhanced (IFC, 2012).

The IFC Performance Standards, and each of their applicability to the proposed Project and this ESIA, are outlined in *Table 5.2*.

Table 5.2 International Finance Corporation (IFC) Performance Standards

Performance Standards	Applicability to Project
<p>Assessment and Management of Environmental and Social Risks and Impacts Performance Standard 1 underscores the importance of managing environmental and social performance throughout the life of a project (any business activity that is subject to assessment and management).</p>	<ul style="list-style-type: none"> • To identify and assess environmental and social risks and impacts of the Project. • To adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimise, and where residual impacts remain, compensate/offset for risks and impacts to workers, Affected Communities, and the environment. • To promote improved environmental and social performance of clients through the effective use of management systems. • To ensure that grievances from Affected Communities (both directly or indirectly affected) and external communications from other stakeholders are responded to and managed appropriately. • To promote and provide means for adequate engagement with Affected Communities throughout the project cycle on issues that could potentially affect them and to ensure that relevant environmental and social information is disclosed and disseminated.
<p>Labour and Working Conditions Performance Standard 2 recognises that the pursuit of economic growth through employment creation and income generation should be accompanied by the protection of the fundamental rights of workers.</p>	<ul style="list-style-type: none"> • To promote the fair treatment, non-discrimination and equal opportunity of workers. • To establish, maintain and improve the worker management relationship. • To promote compliance with national labor and employment laws. • To protect workers, including vulnerable categories of workers such as children, migrant workers, workers engaged by third parties, and workers in the clients supply chain. • To promote safe and healthy working conditions, and health of workers. • To avoid the use of forced labour.
<p>Resource Efficiency and Pollution Prevention Performance Standard 3 recognises that increased economic activity and urbanisation often generate increased levels of pollution to air, water, and land and consume finite resources in a manner that may threaten people and the environment at the local, regional, and global levels.</p>	<ul style="list-style-type: none"> • To avoid or minimise adverse impacts on human health and the environment by avoiding or minimizing pollution from Project activities. • To promote more sustainable use of resources, including energy and water. • To reduce project-related greenhouse gas emissions.
<p>Community Health, Safety and Security Performance Standard 4 recognises that project activities, equipment, and infrastructure can increase community exposure to risks and impacts.</p>	<ul style="list-style-type: none"> • To anticipate and avoid adverse impacts on health and safety of the Affected Community during the Project life from both routine and non-routine circumstances • To ensure that the safeguarding of personnel and property is carried out in accordance with relevant human rights principles and in a manner that avoids or minimises risks to the Affected Communities.
<p>Land Acquisition and Involuntary Resettlement Performance Standard 5 recognises that project-related land acquisition and restrictions on land use can have adverse impacts on communities and persons that use this land.</p>	<ul style="list-style-type: none"> • To avoid, and when avoidance is not possible, minimise displacement by exploring alternative Project designs. • To avoid forced eviction. • To anticipate and avoid, or where avoidance is not possible, minimise adverse social and economic impacts from land acquisition or restrictions on land use by (i) providing compensation for loss of assets at replacement cost and (ii) ensuring that resettlement activities are implemented with appropriate disclosure of information, consultation, and the informed participation of those affected. • To improve, or restore, the livelihoods and standards of living of displaced persons. • To improve living conditions among physically displaced persons through the provision of adequate housing with security of tenure at resettlement sites.
<p>Biodiversity Conservation and Sustainable Management of Living Natural Resources Performance Standard 6 recognises that protecting and conserving biodiversity, maintaining ecosystem services, and sustainably managing living and natural resources are fundamental to sustainable development</p>	<ul style="list-style-type: none"> • To protect and conserve biodiversity. • To maintain the benefits from ecosystem services. • To promote the sustainable management of living natural resources through the adoption of practices that integrates conservation needs and development priorities.
<p>Indigenous Peoples * Performance Standard 7 recognises that Indigenous Peoples, as social groups with identities that are distinct from mainstream groups in national societies, are often among the most marginalised and vulnerable segments of the population.</p>	<ul style="list-style-type: none"> • To ensure that the Project process fosters full respect for the human rights, dignity, aspirations, culture, and natural resource-based livelihoods of Indigenous Peoples • To anticipate and avoid adverse impacts of the Project on communities of Indigenous Peoples, or when avoidance is not possible, to minimise and/or compensate for such impacts. • To promote sustainable development benefits and opportunities for Indigenous Peoples in a culturally appropriate manner. • To establish and maintain an ongoing relationship based on Informed Consultation and Participation (ICP) with the Indigenous Peoples affected by a project through the projects life-cycle. • To ensure the Free, Prior, and Informed Consent (FPIC) of the Affected Communities of Indigenous Peoples when the circumstances described in this Performance Standard are present. • To respect and preserve the culture, knowledge and practices of Indigenous Peoples

Performance Standards	Applicability to Project
<p>Cultural Heritage Performance Standard 8 recognises the importance of cultural heritage for current and future generations</p>	<ul style="list-style-type: none"> • Protect cultural heritage by ensuring that internationally recognised practices for the protection, field-based study, and documentation of cultural heritage are implemented. Where relevant this includes the retention of a competent professional to assist in the identification and protection of cultural heritage. • Develop provisions for managing chance finds, requiring any chance find to be undisturbed until an assessment by competent professional is complete and management actions are identified. • Consult with affected communities to identify cultural heritage of importance and to incorporate their views into the decision making process. This should involve national and local regulatory agencies. • Allow continued access to cultural heritage sites for communities that have used the sites within living memory for long-standing cultural purposes. • Avoid or minimize impacts to, or restore <i>in situ</i>, the functionality of replicable cultural heritage. • Not remove any non-replicable cultural heritage unless the following criteria are met: there are no technically or financially feasible alternatives, the overall benefit of the Project outweigh the anticipated cultural heritage loss from removal and the removal of cultural heritage is conducted using the best available techniques. • Should not remove, significantly alter, or damage critical cultural heritage. In exceptional circumstances where impacts are unavoidable, the Project will use a process of Informed Consultation and Participation (ICP).

* It must be noted that the Afar are not widely considered to be an indigenous group as defined under this safeguard policy, but rather constitute the majority of the population (approximately 90%) () in the Afar State.

The Environmental, Health and Safety (EHS) Guidelines are technical reference documents that address IFC's expectations regarding the industrial pollution management performance of its projects. They are designed to assist managers and decision makers with relevant industry background and technical information. This information supports actions aimed at avoiding, minimising, and controlling EHS impacts during the construction, operation, and decommissioning phase of a project or facility. The EHS Guidelines serve as a technical reference source to support the implementation of the IFC Performance Standards.

When host country (Ethiopia) regulations differ from the levels and measures presented in the EHS Guidelines, projects will be expected to achieve whichever is more stringent. If less stringent levels or measures are appropriate in view of specific project circumstances, a full and detailed justification for any proposed alternatives is required.

General EHS Guidelines exist which contain information on cross-cutting environmental, health, and safety issues potentially applicable to all industry sectors; these are listed in *Box 5.3*.

General EHS Guidelines**1. Environmental**

- 1.1 Air Emissions and Ambient Air Quality
- 1.2 Energy Conservation
- 1.3 Wastewater and Ambient Water Quality
- 1.4 Water Conservation
- 1.5 Hazardous Materials Management
- 1.6 Waste Management
- 1.7 Noise
- 1.8 Contaminated Land

2. Occupational Health and Safety

- 2.1 General Facility Design and Operation
- 2.2 Communication and Training
- 2.3 Physical Hazards
- 2.4 Chemical Hazards
- 2.5 Biological Hazards
- 2.6 Radiological Hazards
- 2.7 Personal Protective Equipment (PPE)
- 2.8 Special Hazard Environments
- 2.9 Monitoring

3. Community Health and Safety

- 3.1 Water Quality and Availability
- 3.2 Structural Safety of Project Infrastructure
- 3.3 Life and Fire Safety (L&FS)
- 3.4 Traffic Safety
- 3.5 Transport of Hazardous Materials
- 3.6 Disease Prevention
- 3.7 Emergency Preparedness and Response

4. Construction and Decommissioning

- 4.1 Environment
- 4.2 Occupational Health and Safety
- 4.3 Community Health and Safety

Where applicable, the abovementioned EHS Guidelines were applied to the Yara Dallol Potash ESIA Project; however, the Air Emission and Ambient Air Quality Guideline (1.1), Waste Water and Ambient Water Quality (1.3) and Noise Guideline (1.7) are of particular importance to this ESIA. These are discussed in more detail below.

IFC EHS Guidelines – 1.1 Ambient Emissions and Ambient Air Quality

This Guideline covers the general principles of assessing impacts to air quality. In addition to the air quality standards set out, emission limits and guidelines for specific technologies and operations are also specified.

The IFC cite ambient air quality standards based upon the World Health Organisation (WHO) Air Quality Guidelines for Europe 2000 and 2005 update. These are the principle air quality standards and guidelines utilised in this

ESIA in the absence of specific national standards (as is mentioned previously in *Section 5.5.1*). These are set out in *Table 5.3*.

Table 5.3 *Air Quality Standards and Guidelines*

Pollutant	Averaging Period	WHO Guideline Value ($\mu\text{g}/\text{m}^3$)
SO ₂	24-hour maximum	125 (Interim target-1) 50 (Interim target-2) 20 (guideline)
	10-minute maximum	500 (guideline)
NO ₂	1-year mean	40 (guideline)
	1-hour maximum	200 (guideline)
TSP	1-year mean	No guideline
	24-hour maximum	No guideline
PM ₁₀	1-year mean	70 (Interim target-1) 50 (Interim target-2) 30 (Interim target-3) 20 (guideline)
	24-hour assessed as the third highest 24 hour period (99 th percentile)	150 (Interim target-1) 100 (Interim target-2) 75 (Interim target-3) 50 (guideline)
PM _{2.5}	1-year mean	35 (Interim target-1) 25 (Interim target-2) 15 (Interim target-3) 10 (guideline)
	24-hour maximum	75 (Interim target-1) 50 (Interim target-2) 37.5 (Interim target-3) 25 (guideline)

The WHO air quality guidelines refer to guidelines for all pollutants. In addition, for PM₁₀, PM_{2.5} and SO₂ as the 24 hour mean, the WHO also refer to Interim Targets; within the assessment, the attainment of the Target-1 is considered to be the minimum attainment level, in order to confer a reasonable degree of protection to human health, with the guideline remaining aspirational.

With regards to dust deposition standards, there are several standards and guidelines published by various bodies. These are set out in *Table 5.4*.

Table 5.4 *Dust Deposition Nuisance Criteria*

Criteria definition	Measure of soiling ($\text{mg}/\text{m}^2/\text{day}$)	Data source
National Guidelines		
Possible Nuisance	350 (monthly mean)	TA-Luft (Germany)
Very Likely Nuisance	650	TA-Luft (Germany)
First Loss of Amenity	133 (monthly mean)	West Australia Nuisance Standard

Criteria definition	Measure of soiling (mg/m ² /day)	Data source
Unacceptable reduction in air quality	333	West Australia Nuisance Standard
Serious nuisance	200	UK recommended nuisance dust deposition rate
Nuisance dust deposition	133	Malaysia air quality standard
Evidence Based Guidelines		
Noticeable (urban)	95	Source 1
Possible complaint (rural)	119	Source 1
Objectionable	167	Source 1
Probable complaint	476	Source 1
Serious complaint	1191	Source 1

Note: Source 1: Cites:

- Hancock, R. P., Esmen, N. A., and Furber, C. P. (1976) "Visual Response to Dustiness", Journal of the Air Pollution Control Association, 26 (1), 1976, pp54 -57;
- Beaman, A. L. and Kingsbury, R. W. S. M. (1981) "Assessment of Nuisance from Deposited Particles Using a Simple and Inexpensive Measuring System". Clean Air, 11, 1981;
- Bate, K. J. and Coppin, N. J. (1991) "Dust impacts from mineral workings", Mine and Quarry, 20 (3), 1991, pp31 - 35;
- Hofschreuder, P. and Vrins, E. L. M. (1992) "Nuisance from coarse dust", Journal of Aerosol Science, 23 (S1), 1992, pp691 - S694;
- Quality of Urban Air Research Group. (1996) "Airborne Particulate Matter in the United Kingdom: Third Report of the Quality of Urban Air Review Group", prepared at the request of the Department of the Environment. University of Birmingham, Birmingham.

There is no clear consensus as to the level of dust deposition that is likely to result in nuisance issues, relating to the fact that nuisance is around perception rather than health based impacts. However, on the basis of pragmatic consideration of the various criteria set out in *Table 5.4*, the following **nuisance magnitude criteria** have been developed for this assessment relating to dust deposition:

- Negligible: < 120mg/m²/day
- Small: 120 - 200 mg/m²/day
- Medium: 200 - 350 mg/m²/day
- Large: > 350mg/m²/day

IFC EHS Guidelines – 1.3 Wastewater and Ambient Water Quality

IFC EHS Guideline 1.3 specifies that discharges should not result in contaminant concentrations in excess of local ambient water quality criteria or, in the absence of local criteria, other sources of ambient water quality. Receiving water use and assimilative capacity, taking other sources of discharges to the receiving water into consideration, should also influence the acceptable pollution loadings and effluent discharge quality.

The IFC approach is more suited to the receiving environment associated with the Yara Dallol Potash Project in that it would allow specification of site specific effluent discharge limits based on an understanding of background

water quality, water use (e.g. domestic use, agricultural use), ecological reserve determinations, other potential sources of impact, and potential impacts related to effluent discharge. A robust set of baseline water quality data will assist greatly in negotiating reasonable receiving water quality objectives with regulators.

IFC EHS Guidelines – 1.4 Water Conservation

Other than the need for water permitting, there is no specific Ethiopian legislation related to water use; however, mechanisms included in the water conservation guidelines include –

- The setting of targets for water use, and monitoring of water flows against these targets;
- Water reuse where possible; and
- Reducing leaks and making more efficient use of water within the water reticulation system.

Further mechanisms associated with water use and conservation are included in the Industry Specific EHS Guidelines for mining detailed on *Page 5-44*.

IFC EHS Guidelines – 1.7 Noise

IFC EHS Guidelines 1.7 Noise (IFC Noise 1.7) is an internationally recognised guideline document containing information for the assessment and management of noise. It also presents noise level criterion values applicable to sites such as the proposed Project.

The *IFC Noise 1.7* differentiates between two principal receptor categories, residential and industrial and are summarised in *Table 5.5*. They make reference to noise from facilities and stationary noise sources, and are commonly applied as design standards for industrial facilities, and whilst this may imply they relate to some threshold of noise effects in a general sense, the IFC has indicated that they are not directly applicable to transport or mobile noise sources. Measurements are to be taken at noise receptors located outside the project property boundary.

Table 5.5 *IFC/World Bank Noise Level Guidelines*

Receptor	Maximum Allowable Ambient Noise Levels, LAeq,1hr, dB(A) Free field	
	Daytime 07:00 – 22:00	Night-time 22:00 – 07:00
Residential, institutional, educational	55	45
Industrial, commercial	70	70

The *IFC Noise 1.7* guideline states that noise impacts should not exceed the levels presented in *Table 5.5* or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site.

In recognition that the *IFC 1.7 Noise* Guideline is purposely designed to be generic in nature such that it can be applied to a wide variety of projects, it does not explicitly state how the criteria should be applied; however, it does refer to the use of a trained specialist for determining appropriate measurement parameters.

There are elements of the *IFC 1.7 Noise* Guideline that are open to interpretation, and hence, the interpretation and application of the guidance presented in this methodology (refer to *Annex D* in *Part II*) is made in the interest of good industry practice and consideration of sustainable development principles.

It is clear that the *IFC 1.7 Noise* Guideline involves two assessment requirements – that is, to meet the allowable fixed noise levels at noise receptors or to not increase background noise levels by more than 3 dB at the nearest ⁽¹⁾ receptor location off-site.

Hence, there are two types of noise impacts that should be considered:

- **Intrusive / Disturbance Criteria** – these are fixed values and represent levels above which the site noise emission is likely to impact a noise sensitive receptor (for example to cause disturbance, annoyance or some possible health effect).
- **Amenity Criteria** – these are based on the measured existing background noise level at a receptor, and the increase representing a change in noise environment above which the noise emission from a project is likely to impact upon the amenity at the receptor.

The *IFC 1.7 Noise* Guideline also defines two types of noise receptors, the first is representative of residential, institutional or educational locations that are potentially more sensitive to noise, and the second is representative of industrial or commercial locations that are potentially less sensitive to noise. Noise criteria are provided for both daytime (07:00 to 22:00) and night time (22:00 to 07:00) assessment periods.

Furthermore, the *IFC 1.7 Noise* Guideline defines a point of reception or receptor as any point on the premises occupied by persons where extraneous noise and/or vibration are received. Examples of receptor locations may

¹ IFC 1.7 Noise states: “impacts should not exceed the levels presented, or result in a maximum increase in background levels of 3 dB at the nearest receptor location off-site”. However, it should be noted that although defined for the “nearest receptor location off-site”, it is standard acoustics practice to consider all potentially noise sensitive receptor locations. This approach is taken to ensure that changes in the noise environment are considered for all receptors, and importantly at the most affected locations, which may not be the closest receptors to the noise emission sources.

include: permanent or seasonal residences; hotels / motels; schools and day-cares; hospitals and nursing homes; places of worship; and parks and campgrounds.

To determine suitable noise impact assessment criteria (the noise impact assessment criteria is elaborated on in *Chapter 6* of this ESIA) and to develop an “amenity” criteria from a “background plus” approach, existing background noise levels need to be quantified. Therefore, a background noise level for assessment purposes must be determined for each receptor location. The ‘Assessment Background Level’ (ABL) is determined as the arithmetic average of the LA₉₀ statistics for each assessment period.

In addition to this, when assessing amenity impacts, where existing background noise levels are very low, typically below 30 dB LA₉₀, a minimum baseline background noise level should be adopted that is appropriate for the receiving environment, because it is unlikely people will complain at such low levels of noise, even if they increase below this level. Typically a minimum baseline of 30 dB LA₉₀ would be considered appropriate for most rural environments; however, where lower noise levels are experienced, this minimum baseline background noise level may need to be adjusted.

Therefore, this interpretation enables:

- The assessment of predicted LA_{eq} noise levels as LA₉₀ levels from a Project/ Facility would not be able to be predicted;
- Compliance with criteria developed from this approach would result in compliance with the original IFC Guideline objectives and IFC Performance Standards;
- A protection of the acoustic amenity of receptors, particularly in the critical night period, where ambient background levels are usually low; and
- An approach that aligns with the sustainability principles guidelines.

The Ethiopian noise standards and the IFC define noise limits with different time periods. The Ethiopian noise standard defines the daytime period from 06:00 to 21:00 and night time period from 21:00 to 6:00. Both, the Ethiopian noise standards and the IFC have the same allowable noise levels for daytime, 55 dB(A); and night time, 45 dB(A) although the Ethiopian standard is based on shorter time interval of 15 minutes.

The *IFC EHS Guidelines 1.7 Noise* criteria is developed in two parts, the first to assess potential “disturbance” noise levels that may be directly attributable to the site itself and the second to assess changes in background noise levels that may be attributable to an increase in the overall noise environment and which has the potential to impact on the acoustic amenity of the area as existing background levels are very low.

For the purpose of this ESIA, the Project specific noise criteria will be drawn from a combination of the Ethiopian and the *IFC EHS Guidelines 1.7 Noise* as follows:

- The daytime period will be defined as 6:00 to 21:00 and the night time period will be from 21:00 to 6:00, as the IFC performance standard gives precedence to local standards and guidelines.
- Disturbance criteria will be based on an LAeq,15min assessment period as the IFC performance standards give precedence to local standards and guidelines.
- Amenity criteria (expressed as LAeq,period) is determined by adding 3 dB to the existing baseline noise level or Assessment Background Level (ABL);
- Project Specific Noise Criteria (PSNC) will be determined by the most stringent of the IFC Disturbance and Amenity criterion; and the WHO Community Noise Guidelines (1999) values.

Additional Applicable EHS Guidelines

In addition to the Air Emission and Ambient Air Quality Guideline (1.1), Waste Water and Ambient Water Quality (1.3) and Noise Guideline (1.7) the following EHS Guidelines were considered as part of this ESIA (with reference to *Box 5.3*) –

- Hazardous Materials Management (1.5)
- Waste Management (1.6)
- Community Health and Safety (3 & 4.3)

Industry Specific EHS Guidelines

In addition to those EHS Guidelines presented above, further industry specific EHS guidelines applicable to the proposed Yara Dallol Potash Project are presented in *Box 5.4* below.

Industry Specific EHS Guidelines**1. EHS Guidelines for Mining**

The EHS Guidelines for Mining are applicable to underground and open-pit mining, alluvial mining, solution mining, and marine dredging. Extraction of raw materials for construction products are addressed in the EHS Guidelines for Construction Materials Extraction. Furthermore, the Guideline recommends the following practices for water management:

- Establishing a water balance for the mine, including the potential impacts of dewatering related to groundwater abstraction ⁽¹⁾.
- Developing a sustainable water supply management program. This is especially pertinent for Yara Dallol BV given the large volumes of relatively fresh water that are required in a highly water stressed environment.
- Considering reuse and recycling of process water where feasible.
- Consultation with key stakeholders to understand any conflicting water use demands, and communities' dependency on water resources and/or conservation requirements.

Effluent Guidelines are also provided under the EHS Guideline for Mining. These Guidelines specify discharge limits for pH, COD, BOD, oil and grease, As, Cd, Cr(VI), Cu, CN (total, free and WAD), total Fe, Pb, Hg, Ni, Zn, phenols and temperature. Despite the expected salinity of the effluent, the guidelines should be achievable as they do not specify TDS or major ion concentrations; however, if background concentrations are found to be in excess of the specified guideline values, the IFC does allow for establishment of site specific discharge levels based on the receiving water use classification.

2. EHS Guidelines for Water and Sanitation

The EHS Guidelines for Water and Sanitation include information relevant to the operation and maintenance of (i) potable water treatment and distribution systems, and (ii) collection of sewage in centralized systems (such as piped sewer collection networks) or decentralized systems (such as septic tanks subsequently serviced by pump trucks) and treatment of collected sewage at centralized facilities.

3. EHS Guidelines for Thermal Power Plants

The EHS Guideline for Thermal Power Plants includes information relevant to combustion processes fuelled by gaseous, liquid and solid fossil fuels and biomass and designed to deliver electrical or mechanical power, steam, heat, or any combination of these, regardless of the fuel type (except for solid waste which is covered under a separate Guideline for Waste Management Facilities).

5.9.4

Business and Biodiversity Offsets Programme (BBOP) Guidelines

BBOP is a collaboration between some 75 companies, government agencies, conservation organisations and financial institutions from around the world. Its aim is to develop shared views and experience of best practice on the application of the mitigation hierarchy, including biodiversity offsets.

(1) **Please Note** – abstraction is used to define the removal of groundwater for supply to the proposed Project. The word is defined by the Oxford Dictionary as – *the process of removing something, especially water from a river or other source: 'the abstraction of water from springs and wells'*

Drawing on experience of BBOP members and non-members from around the world, and from pilot projects with companies, BBOP has developed Principles and the Standard on Biodiversity Offsets, handbooks on offset design and implementation, a number of resource papers and case studies, which are described in this Glossary under BBOP outputs.

Applicability to Project

These guidelines have been considered in the Biodiversity Study associated with the ESIA

5.10

PROPONENT POLICIES, PLANS AND PROCEDURES

Yara International has compiled a Health, Environment, Safety, Quality and Product Stewardship Policy. The aim of this policy is to establish sustainable growth and commit to continuously improve and reach standards of excellence in Health, Environment, safety, Quality and Product Stewardship throughout its operations (including the proposed Yara Dallol Potash Project).

From an environmental perspective, Yara International will contribute to eco-efficiency by continuously improving energy consumption and reducing the amount of waste they produce. Where waste is generated, Yara International has committed to handling and disposing of this waste in a responsible manner. In terms of climate change, Yara International strives in having the lowest greenhouse gas emissions globally within their industry. This will be achieved through the implementation of energy efficient operations and the development and use of technology and services for reducing emissions in production and application of their products.

Furthermore, in parallel to the ESIA process Yara Dallol BV updated their social management procedures associated with the proposed Project. These included -

- **Security Management Procedure** - this procedure outlines the approach and procedures that Yara Dallol BV will adopt in managing security at the Yara Dallol Potash Project Site. Furthermore, the objective of the procedure is to identify and minimise human rights risks associated with its use of security and to maximise the benefits of responsible private and public security provision.
- **Contractor Management Procedure** - this procedure outlines the approach and procedures that Yara Dallol BV will adopt in managing EHS aspects of work carried out by contractors at the Yara Dallol Potash Project Site. Furthermore, the objectives of the procedure is to establish the key roles and responsibilities for contractor management; describe the contractor selection and appointment process in relation to Yara Dallol BV's Code of Conduct and all relevant Health, Safety, Environment, Quality and social considerations; and, establish the minimum requirements for the management of contractors throughout the duration

of their contracted scope of works including the period of responsibility after contract completion or termination as per the terms of the contract agreement.

- **Social Feedback and Grievance Procedure** – this procedure outlines the approach and procedures that Yara Dallol BV will adopt in accepting, assessing communicating, resolving and monitoring grievances from this affected by Yara Dallol BV’s activities including its contractors’ activities. This procedure is linked to the Stakeholder Engagement Programme (*Annex C in Part II*) as both involve interaction with Yara Dallol BV’s stakeholders. The procedure has been designed to meet the requirements of the IFC in relation to Performance Standards 1, 5 and 7.
- **Labor and Working Conditions Procedure** – this procedure outlines the approach and procedures that Yara Dallol BV will adopt in managing labour and working conditions for direct workers and contract workers associated with Yara Dallol BVs Project activities, facilities and operations. Moreover, this procedure has been designed to meet the requirements of the IFC in relation to Performance Standards 1 and 2. The main objectives of this procedure include – providing a standard procedural guideline for the management of Yara Dallol BV’s workforce including its contractors; ensuring labour management procedures are compliant with international best practice and national legislation, as well as with Yara International corporate policies; mitigating potential risks posed to the proposed Project due to poor labour management; creating a harmonious and enabling work environment at the operations site; and, promoting productive relationships and improve trust and respect with the workforce.